Online Processing Library

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Online Processing Library Namespace List

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Online Processing Library Class Hierarchy

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- class **Cognois::AcquisitionCible**
  Find a calibration pattern in an image.

- class **Cognois::AcquisitionSurDisque**
  Export grabbed images to files.

- class **Cognois::AcquisitionSurEcran**
  Display of grabbed images.

- struct **Cognois::Ball**
- class **Cognois::Calibration**
- class **Cognois::CalibrationClient**
  Read and write calibration data on the server.

- class **Cognois::CameraClientController**
  Get the current mode from the server and use the appropriate processing object.

- class **Cognois::CameraModel**
  ***Calibration** (p.46) parameters of n cameras in a stereo environment.*

- class **Cognois::CounterOCR**
  Optical character recognition of the 5 digits of the HP 5214L Preset Counter.

- class **Cognois::EvaluationDeQualite**
- class **Cognois::Exception**
  ***Exception** (p.121) class for COGNOIS.*

- class **Cognois::ExtractionDeCible**
  Extraction des des points d'une cible de calibrage dans une image. La cible est formee // de cercles et son modele est connu.

- class **Cognois::FrameCounter**
  Count grabbed frames according to their time stamp.

- class **Cognois::FrameSetClient**
  Read and write blob information on the COGNOIS server.

- class **Cognois::MakeAVI**
  Export grabbed images to an AVI movie.

- class **Cognois::MilGarbageCollector**
- class **Cognois::NoopToServer**
  Perform a sequence of nothing, but keep the server informed of the current frame ID.

- class **Cognois::OCRFontCreator**
  Optical character recognition of the 5 digits of the HP 5214L Preset Counter.

- class **Cognois::OfflineProcessing**
  Processing of images from AVI files.

- class **Cognois::OnlineProcessing**
  Online processing of images.

- class **Cognois::PlanarToPacked**
  Transform a MIL planar buffer to a MIL packed buffer.

- class **Cognois::ProcessingObject**
  Virtual class for user-supplied processing objects.

- class **Cognois::SequentialProcessing**
  Perform a sequence of image processing.

Typedefs

- typedef struct Cognois::Ball **Ball**

Detailed Description

Cognois-related resources.

Master header file for COGNOIS. Include this file to use the COGNOIS Server, COGNOIS Exceptions and COGNOIS data types.

Typedef Documentation

typedef struct Cognois::Ball Cognois::Ball

Cognois::SpaceCarving Namespace Reference

Compounds

- class **Cognois::SpaceCarving::SCVolume**
  Volume for space carving.

EspaceCalibrage Namespace Reference

Compounds

- struct **EspaceCalibrage::Point**
- struct **EspaceCalibrage::PointXYZ**

Typedefs

- typedef float **DataType**
- typedef **std::vector**<**Point**> **VPoints**
- typedef **std::vector**<**VPoints**> **MPoints**
- typedef **std::vector**<**PointXYZ**> **VPointsXYZ**
- typedef **std::vector**<**VPointsXYZ**> **MPointsXYZ**
- typedef **std::vector**<double> **VDoubles**
- typedef **std::vector**<**VDoubles**> **MDoubles**

Functions

- int **operator==** (const **Point** &, const **Point** &)
- int **operator==** (const **PointXYZ** &, const **PointXYZ** &)
- std::ostream& **operator<<** (std::ostream &out, const **Point** &)
- std::ostream& **operator<<** (std::ostream &out, const **PointXYZ** &)
- void **CalculerAngles** (const **VDoubles** &parExt, double &Rx, double &Ry, double &Rz, double &altRx, double &altRy, double &altRz)
- void **CalculerAngles** (const **Matrice** &inParExt, double &Rx, double &Ry, double &Rz, double &altRx, double &altRy, double &altRz)
- void **CalculerMatrice** (**VDoubles** &parExt, const double &Rx, const double &Ry, const double &Rz)
- void **CalculerMatrice** (**Matrice** &parExt, const double &Rx, const double &Ry, const double &Rz)
- **Matrice MatriceProduitVectoriel** (const **Matrice** &x)

Typedef Documentation

typedef float EspaceCalibrage::DataType

typedef std::vector< VDoubles > EspaceCalibrage::MDoubles<VDoubles>

typedef std::vector< VPoints > EspaceCalibrage::MPoints<VPoints>

typedef std::vector< VPointsXYZ > EspaceCalibrage::MPointsXYZ<VPointsXYZ>

typedef std::vector< double > EspaceCalibrage::VDoubles<double>

typedef std::vector< Point > EspaceCalibrage::VPoints<Point>

typedef std::vector< PointXYZ > EspaceCalibrage::VPointsXYZ<PointXYZ>

Function Documentation

void EspaceCalibrage::CalculerAngles (const Matrice & *inParExt*, double & *Rx*, double & *Ry*, double & *Rz*, double & *altRx*, double & *altRy*, double & *altRz*)

void EspaceCalibrage::CalculerAngles (const VDoubles & *parExt*, double & *Rx*, double & *Ry*, double & *Rz*, double & *altRx*, double & *altRy*, double & *altRz*)

void EspaceCalibrage::CalculerMatrice (Matrice & *parExt*, const double & *Rx*, const double & *Ry*, const double & *Rz*)

void EspaceCalibrage::CalculerMatrice (VDoubles & *parExt*, const double & *Rx*, const double & *Ry*, const double & *Rz*)

Matrice EspaceCalibrage::MatriceProduitVectoriel (const Matrice & *x*)

std::ostream & EspaceCalibrage::operator<< (std::ostream & *out*, const PointXYZ & *pt*)

std::ostream & EspaceCalibrage::operator<< (std::ostream & *out*, const Point & *pt*)

int EspaceCalibrage::operator== (const PointXYZ & *a*, const PointXYZ & *b*)

int EspaceCalibrage::operator== (const Point & *a*, const Point & *b*)

std Namespace Reference

Online Processing Library Class Documentation

Acquisition Class Reference

```
#include <Acquisition.h>
```

Public Methods

- **Acquisition** ()
  DÉFINITION DES MÉTHODES ////////////

- int **mMilBufferDernier**
- int **mMilBufferProchainDernier**
- int **mMilBufferBarre**
- HANDLE **mMilBufferAcces**
- MIL_ID **mMilDigitizer**
- MIL_ID **mMilSysteme**
- MIL_ID **mMilApplication**
- HANDLE **mMilAcces**
- int **mGrabEnCourt**
- HANDLE **mEndGrabEvent**
- int **mGrabStartHookSucceed**
- int **mGrabEndHookSucceed**
- int **mFrameStartHookSucceed**
- int **mFrameEndHookSucceed**
- int **mFieldEndHookSucceed**
- int **mFieldOddEndHookSucceed**
- int **mFieldEvenEndHookSucceed**
- LARGE_INTEGER **mCompteurDebut**
- LARGE_INTEGER **mCompteurFrequence**
- double **mTemps** [6]
- int **mCount**

Friends

- long MFTYPE **GrabStartHookHandler** (long HookType, MIL_ID EventId, void MPTYPE *UserDataPtr)
  DÉFINITION DES PROCÉDURES ////////////

Acquisition::~Acquisition () `[virtual]`

Member Function Documentation

void Acquisition::Arreter ()

int Acquisition::Demarrer ()

void Acquisition::EcrireBits (int *pBit*, int *pDonnee*)

int Acquisition::Fermer ()

void Acquisition::FieldEndHookHandler () `[private]`

void Acquisition::FieldEvenEndHookHandler () `[private]`

void Acquisition::FieldOddEndHookHandler () `[private]`

void Acquisition::FrameEndHookHandler () `[private]`

void Acquisition::FrameStartHookHandler () `[private]`

void Acquisition::GrabEndHookHandler () `[private]`

void Acquisition::GrabStartHookHandler () `[private]`

int Acquisition::LibererDerniereImage ()

void Acquisition::LireBits (std::vector< int > *pBit*, std::vector< int > & *pDonnee*)

void Acquisition::LireBits (int *pBit*, int & *pDonnee*)

int Acquisition::LireDimensions (int & *pLargeur*, int & *pHauteur*)

int Acquisition::LireEvenement (HANDLE & *pEvent*)

void Acquisition::LireSysteme (MIL_ID & *pApplication*, MIL_ID & *pSysteme*, MIL_ID & *pDigitizer*)

int Acquisition::Ouvrir (double *pImageScale* = 0.5, bool *pOutputVD* = false)

int Acquisition::ReserverDerniereImage (MIL_ID & *pId*, LARGE_INTEGER & *pTempsDebut*, LARGE_INTEGER & *pTempsFin*)

int Acquisition::ReserverDerniereImage (char *& *pAdresse*, double & *pTempsDebut*, double & *pTempsFin*)

Friends And Related Function Documentation

long MFTYPE FieldEndHookHandler (long *HookType*, MIL_ID *EventId*, void MPTYPE * *UserDataPtr*) `[friend]`

long MFTYPE FieldEvenEndHookHandler (long *HookType*, MIL_ID *EventId*, void MPTYPE * *UserDataPtr*) `[friend]`

long MFTYPE FieldOddEndHookHandler (long *HookType*, MIL_ID *EventId*, void MPTYPE * *UserDataPtr*) `[friend]`

long MFTYPE FrameEndHookHandler (long *HookType*, MIL_ID *EventId*, void MPTYPE * *UserDataPtr*) `[friend]`

long MFTYPE FrameStartHookHandler (long *HookType*, MIL_ID *EventId*, void MPTYPE * *UserDataPtr*) `[friend]`

long MFTYPE GrabEndHookHandler (long *HookType*, MIL_ID *EventId*, void MPTYPE * *UserDataPtr*) `[friend]`

long MFTYPE GrabStartHookHandler (long *HookType*, MIL_ID *EventId*, void MPTYPE * *UserDataPtr*) `[friend]`

DÉFINITION DES PROCÉDURES ////////////

Member Data Documentation

LARGE_INTEGER Acquisition::mCompteurDebut `[private]`

LARGE_INTEGER Acquisition::mCompteurFrequence `[private]`

int Acquisition::mCount `[private]`

HANDLE Acquisition::mEndGrabEvent `[private]`

int Acquisition::mFieldEndHookSucceed `[private]`

int Acquisition::mFieldEvenEndHookSucceed `[private]`

int Acquisition::mFieldOddEndHookSucceed `[private]`

int Acquisition::mFrameEndHookSucceed `[private]`

int Acquisition::mFrameStartHookSucceed `[private]`

int Acquisition::mGrabEnCourt `[private]`

int Acquisition::mGrabEndHookSucceed `[private]`

int Acquisition::mGrabStartHookSucceed `[private]`

int Acquisition::mImageHauteur `[private]`

int Acquisition::mImageLargeur `[private]`

int Acquisition::mImageLongueur `[private]`

HANDLE Acquisition::mMilAcces `[private]`

MIL_ID Acquisition::mMilApplication `[private]`

AcquisitionImageListe Acquisition::mMilBuffer `[private]`

HANDLE Acquisition::mMilBufferAcces `[private]`

int Acquisition::mMilBufferAttente `[private]`

int Acquisition::mMilBufferBarre `[private]`

int Acquisition::mMilBufferCourant `[private]`

int Acquisition::mMilBufferDernier `[private]`

int Acquisition::mMilBufferNombre `[private]`

int Acquisition::mMilBufferProchainDernier `[private]`

MIL_ID Acquisition::mMilDigitizer `[private]`

MIL_ID Acquisition::mMilSysteme `[private]`

int Acquisition::mOuvert `[private]`

double Acquisition::mTemps `[private]`

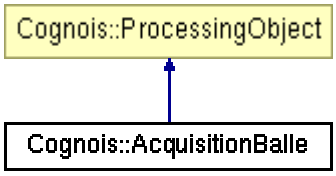
The documentation for this class was generated from the following files:

- **Acquisition.h**
- **Acquisition.cpp**

Cognois::AcquisitionBalle Class Reference

`#include <AcquisitionBalle.h>`

Inheritance diagram for Cognois::AcquisitionBalle:



Public Methods

- **AcquisitionBalle** (int inArgc, char **inArgv, float inFacteurX, float inFacteurY, int inResX, int inResY)
- **~AcquisitionBalle** ()
- void **Process** (MIL_ID &_milImage, unsigned long &_frameID, unsigned long &_timeStamp)
  Process an image with know frameID and timeStamp.

Private Attributes

- ColorAnalysis* **ac** [100]
- **Ball*** **ball** [100]
- BlobExtractor* **bem**
- int **compteur**
- float **facteurX**
- float **facteurY**
- int **blobCount**
- BackgroundSub **bg**
- OpticalFlow* **of**
- IplImage* **imageTraitee**
- IplImage* **background**
- IplImage* **mask**
- IplImage* **imageDest**
- int **mIterator**
- int **mBlocCount**
- **Cognois::FrameSetClient*** **transmission**
- LARGE_INTEGER **start**
- LARGE_INTEGER **stop**
- LARGE_INTEGER **frequency**

Constructor & Destructor Documentation

AcquisitionBalle::AcquisitionBalle (int *inArgc*, char ** *inArgv*, float *inFacteurX*, float *inFacteurY*, int *inResX*, int *inResY*)

AcquisitionBalle::~AcquisitionBalle ()

Member Function Documentation

void AcquisitionBalle::Process (MIL_ID & *milImage*, unsigned long & *frameID*, unsigned long & *timeStamp*) `[virtual]`

Process an image with know frameID and timeStamp.

Parameters:

inMilImage is a MIL image identifier.
inFrameID is the frame identifier associated with the image.
inTimeStamp is the time, in milliseconds, associated with the image.

Reimplemented from **Cognois::ProcessingObject** (*p.350*).

Member Data Documentation

ColorAnalysis * Cognois::AcquisitionBalle::ac `[private]`

IplImage * Cognois::AcquisitionBalle::background `[private]`

Ball * Cognois::AcquisitionBalle::ball `[private]`

BlobExtractor * Cognois::AcquisitionBalle::bem `[private]`

BackgroundSub Cognois::AcquisitionBalle::bg `[private]`

int Cognois::AcquisitionBalle::blobCount `[private]`

int Cognois::AcquisitionBalle::compteur `[private]`

float Cognois::AcquisitionBalle::facteurX `[private]`

float Cognois::AcquisitionBalle::facteurY `[private]`

LARGE_INTEGER Cognois::AcquisitionBalle::frequency `[private]`

IplImage * Cognois::AcquisitionBalle::imageDest `[private]`

IplImage * Cognois::AcquisitionBalle::imageTraitee `[private]`

int Cognois::AcquisitionBalle::mBlocCount `[private]`

int Cognois::AcquisitionBalle::mIterator `[private]`

IplImage * Cognois::AcquisitionBalle::mask `[private]`

OpticalFlow * Cognois::AcquisitionBalle::of `[private]`

LARGE_INTEGER Cognois::AcquisitionBalle::start `[private]`

LARGE_INTEGER Cognois::AcquisitionBalle::stop `[private]`

Cognois::FrameSetClient * Cognois::AcquisitionBalle::transmission `[private]`

The documentation for this class was generated from the following files:

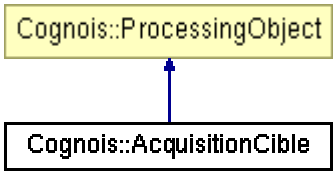
- **AcquisitionBalle.h**
- **AcquisitionBalle.cpp**

Cognois::AcquisitionCible Class Reference

Find a calibration pattern in an image.

`#include <AcquisitionCible.h>`

Inheritance diagram for Cognois::AcquisitionCible:



Public Methods

- **AcquisitionCible** (const VPoints &inPattern, **CalibrationClient** *inCognoisServer=0)
  Constructor with a calibration pattern and a cognois server interface.

- **AcquisitionCible** (const MPoints &inPatterns, **CalibrationClient** *inCognoisServer=0)
  Constructor with multiple calibration patterns and a cognois server interface.

- void **Process** (MIL_ID &inMilImage, unsigned long &inFrameID, unsigned long &inTimeStamp)
  Find a calibration pattern in an image.

Private Attributes

- **ExtractionDeCible mPatternFinder**
  Calibration *(p.46) pattern finder.*

- **CalibrationClient* mCognoisServer**
  Cognois *(p.2) server interface.*

Detailed Description

Find a calibration pattern in an image.

Constructor & Destructor Documentation

Cognois::AcquisitionCible::AcquisitionCible (const VPoints & *inPattern*, CalibrationClient * *inCognoisServer* = 0) `[inline]`

Constructor with a calibration pattern and a cognois server interface.

Cognois::AcquisitionCible::AcquisitionCible (const MPoints & *inPatterns*, CalibrationClient * *inCognoisServer* = 0) `[inline]`

Constructor with multiple calibration patterns and a cognois server interface.

Member Function Documentation

void Cognois::AcquisitionCible::Process (MIL_ID & *inMilImage*, unsigned long & *inFrameID*, unsigned long & *inTimeStamp*) `[virtual]`

Find a calibration pattern in an image.

Reimplemented from **Cognois::ProcessingObject** (*p.350*).

Member Data Documentation

CalibrationClient * Cognois::AcquisitionCible::mCognoisServer `[private]`

Cognois (*p.2*) server interface.

ExtractionDeCible Cognois::AcquisitionCible::mPatternFinder `[private]`

Calibration (*p.46*) pattern finder.

The documentation for this class was generated from the following files:

- **AcquisitionCible.h**
- **AcquisitionCible.cpp**

AcquisitionImage Class Reference

`#include <AcquisitionImage.h>`

Public Methods

- **AcquisitionImage** ()
  DÉFINITION DES MÉTHODES
  *////////////

Member Function Documentation

int AcquisitionImage::Creer (MIL_ID *pMilSysteme*, int *pImageLargeur*, int *pImageHauteur*)

char * AcquisitionImage::GetAdd ()

MIL_ID AcquisitionImage::GetId ()

LARGE_INTEGER AcquisitionImage::GetTempsDebut ()

LARGE_INTEGER AcquisitionImage::GetTempsFin ()

void AcquisitionImage::SetTempsDebut (LARGE_INTEGER *pTemps*)

void AcquisitionImage::SetTempsFin (LARGE_INTEGER *pTemps*)

Member Data Documentation

MIL_ID AcquisitionImage::mMilBuffer `[private]`

char * AcquisitionImage::mMilBufferAdd `[private]`

MIL_ID AcquisitionImage::mMilBufferBand `[private]`

LARGE_INTEGER AcquisitionImage::mTempsDebut `[private]`

LARGE_INTEGER AcquisitionImage::mTempsFin `[private]`

The documentation for this class was generated from the following files:

- **AcquisitionImage.h**
- **AcquisitionImage.cpp**

AcquisitionImageListe Class Reference

`#include <AcquisitionImageListe.h>`

Public Methods

- **AcquisitionImageListe** ()
  DÉFINITION DES MÉTHODES
  *////////////

Member Function Documentation

int AcquisitionImageListe::CreerListe (int *pLongueur*, MIL_ID *pMilSysteme*, int *pImageLargeur*, int *pImageHauteur*)

void AcquisitionImageListe::EffacerListe ()

char * AcquisitionImageListe::GetAdd (int *pIndex*)

MIL_ID AcquisitionImageListe::GetId (int *pIndex*)

LARGE_INTEGER AcquisitionImageListe::GetTempsDebut (int *pIndex*)

LARGE_INTEGER AcquisitionImageListe::GetTempsFin (int *pIndex*)

void AcquisitionImageListe::SetTempsDebut (int *pIndex*, LARGE_INTEGER *pTemps*)

void AcquisitionImageListe::SetTempsFin (int *pIndex*, LARGE_INTEGER *pTemps*)

Member Data Documentation

int AcquisitionImageListe::mImageHauteur `[private]`

int AcquisitionImageListe::mImageLargeur `[private]`

AcquisitionImage ** AcquisitionImageListe::mListe `[private]`

int AcquisitionImageListe::mLongueur `[private]`

MIL_ID AcquisitionImageListe::mMilSysteme `[private]`

The documentation for this class was generated from the following files:

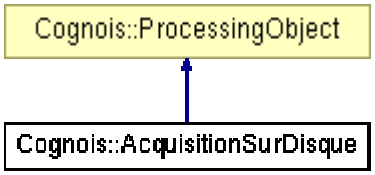
- **AcquisitionImageListe.h**
- **AcquisitionImageListe.cpp**

Cognois::AcquisitionSurDisque Class Reference

Export grabbed images to files.

`#include <AcquisitionSurDisque.h>`

Inheritance diagram for Cognois::AcquisitionSurDisque:



Public Methods

- **AcquisitionSurDisque** (unsigned long _queueLength, const char *_fileNameBase)
  Constructor with a maximum number of files to write and a base filename.

- **~AcquisitionSurDisque** ()
  Destructor.

- void **Process** (MIL_ID &_milImage, unsigned long &_frameID, unsigned long &_timeStamp)
  Export an image to a file.

Private Attributes

- unsigned long **compteur**
  Current file number.

- unsigned long **queueLimit**
  Maximum number of files.

- char* **fileName**
  Base filename.

Detailed Description

Export grabbed images to files.

Constructor & Destructor Documentation

Cognois::AcquisitionSurDisque::AcquisitionSurDisque (unsigned long *_queueLength*, const char * *_fileNameBase*)

Constructor with a maximum number of files to write and a base filename.

Parameters:

__queueLength is the maximum number of files to save
_fileNameBase is the base file name. Files will be named [_fileNameBase]000000.bmp

Cognois::AcquisitionSurDisque::~AcquisitionSurDisque ()

Destructor.

Member Function Documentation

void Cognois::AcquisitionSurDisque::Process (MIL_ID & *_milImage*, unsigned long & *_frameID*, unsigned long & *_timeStamp*) `[virtual]`

Export an image to a file.

Reimplemented from **Cognois::ProcessingObject** (*p.350*).

Member Data Documentation

unsigned long Cognois::AcquisitionSurDisque::compteur `[private]`

Current file number.

char * Cognois::AcquisitionSurDisque::fileName `[private]`

Base filename.

unsigned long Cognois::AcquisitionSurDisque::queueLimit `[private]`

Maximum number of files.

The documentation for this class was generated from the following files:

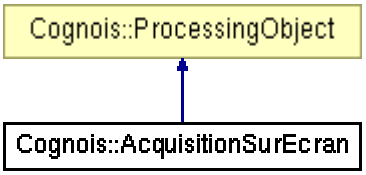
- **AcquisitionSurDisque.h**
- **AcquisitionSurDisque.cpp**

Cognois::AcquisitionSurEcran Class Reference

Display of grabbed images.

`#include <AcquisitionSurEcran.h>`

Inheritance diagram for Cognois::AcquisitionSurEcran:



Public Methods

- **AcquisitionSurEcran** (const **MILSys** &inNewMilSys)
  *Constructor with a reference to the **MILSys** (p.276) of the **OnlineProcessing** (p.292) object.*

- **~AcquisitionSurEcran** ()
  Destructor.

- void **Process** (MIL_ID &inMilImage, unsigned long &inFrameID, unsigned long &inTimeStamp)
  Display a grabbed image.

Private Attributes

- **MILSys MilSys**
  MIL identifiers; contains a display.

- MIL_ID **MilBufferDisplay**
  A display buffer.

- MIL_ID **mMilDisplay**

Detailed Description

Display of grabbed images.

Constructor & Destructor Documentation

Cognois::AcquisitionSurEcran::AcquisitionSurEcran (const MILSys & *inNewMilSys*)

Constructor with a reference to the **MILSys** (*p.276*) of the **OnlineProcessing** (*p.292*) object.

Parameters:

_newMilSys the MIL identifiers of a **OnlineProcessing** (*p.292*) object

Cognois::AcquisitionSurEcran::~AcquisitionSurEcran ()

Destructor.

Member Function Documentation

void Cognois::AcquisitionSurEcran::Process (MIL_ID & *inMilImage*, unsigned long & *inFrameID*, unsigned long & *inTimeStamp*) `[virtual]`

Display a grabbed image.

Reimplemented from **Cognois::ProcessingObject** (*p.350*).

Member Data Documentation

MIL_ID Cognois::AcquisitionSurEcran::MilBufferDisplay `[private]`

A display buffer.

MILSys Cognois::AcquisitionSurEcran::MilSys `[private]`

MIL identifiers; contains a display.

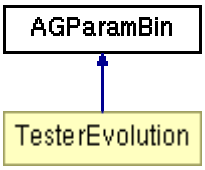
MIL_ID Cognois::AcquisitionSurEcran::mMilDisplay `[private]`

The documentation for this class was generated from the following files:

- **AcquisitionSurEcran.h**
- **AcquisitionSurEcran.cpp**

AGParamBin Class Reference

Inheritance diagram for AGParamBin:



The documentation for this class was generated from the following file:

- **TesterEvolution.hpp**

alist Struct Reference

```
#include <F2C.H>
```

Public Attributes

- **flag aerr**
- **ftnint aunit**

Member Data Documentation

flag alist::aerr

ftnint alist::aunit

The documentation for this struct was generated from the following file:

- **F2C.H**

Cognois::Ball Struct Reference

```
#include <AcquisitionBalle.h>
```

Public Attributes

- double **centerX**
- double **centerY**
- int **offsetX**
- int **offsetY**
- int **width**
- int **height**
- unsigned char* **array**

Member Data Documentation

unsigned char * Cognois::Ball::array

double Cognois::Ball::centerX

double Cognois::Ball::centerY

int Cognois::Ball::height

int Cognois::Ball::offsetX

int Cognois::Ball::offsetY

int Cognois::Ball::width

The documentation for this struct was generated from the following file:

- **AcquisitionBalle.h**

BitmapImage Class Reference

```
#include <bitimage.h>
```

Public Types

- enum { **RedOffset** = 2, **GreenOffset** = 1, **BlueOffset** = 0 }
- enum { **RowRounding** = 4 }

Public Methods

- **BitmapImage** ()
- **BitmapImage** (const BitmapImage &)
- virtual **~BitmapImage** ()
- BitmapImage& **operator=** (const BitmapImage &)
- void **SetSize** (unsigned int cc, unsigned int bits, unsigned int ww, unsigned int hh)
- **ColorMapEntry**& **ColorMap** (unsigned int index)
- **ColorMapEntry ColorMap** (unsigned int index) const
- **UBYTE1*** **operator[]** (unsigned int) const
- void **Clear** ()
- **UBYTE1*** **ImageData** ()
- unsigned int **Width** () const
- unsigned int **Height** () const
- unsigned int **BitCount** () const
- unsigned int **ColorCount** () const
- void **GetRGB** (unsigned int row, unsigned int col, **UBYTE1** &red, **UBYTE1** &green, **UBYTE1** &blue) const
- void **EightBitQuantization** (const BitmapImage &)
- void **SetProgressFunction** (**IMAGEPROGRESSFUNCTION**, void *)
- unsigned int **BytesPerRow** () const

Protected Methods

- void **Initialize** ()
- void **DoCopy** (const BitmapImage &)

Private Methods

- void **ClearData** ()
- int **LargestColorRange** (**ColorArea** &area)
- void **AddColor** (**UBYTE1** red, **UBYTE1** green, **UBYTE1** blue)
- void **SplitAreaInHalf** (unsigned int depth, unsigned int retrydepth, unsigned int area, unsigned int splitcolor)
- void **CreateColor** (unsigned int color)
- **ColorUsage*** **FindColor** (**UBYTE1** red, **UBYTE1** green, **UBYTE1** blue)
- void **FindColorUsage** (const BitmapImage &image)
- void **FreeColorQuantizationData** ()
- unsigned int **QuantizedColor** (**UBYTE1** red, **UBYTE1** green, **UBYTE1** blue)
- void **QuantizeSourceImage** (const BitmapImage &image)
- void **CallProgressFunction** (unsigned int, unsigned int, unsigned int)

Private Attributes

- unsigned int **row_width**
- unsigned int **bit_count**
- unsigned int **image_width**
- unsigned int **image_height**
- unsigned char* **image_data**
- unsigned int **color_count**
- **ColorMapEntry* color_map**
- **ColorUsageTable* color_usage**
- **ColorArea* color_areas**
- unsigned int **color_area_count**
- **IMAGEPROGRESSFUNCTION progress_function**
- void* **progress_data**

Member Enumeration Documentation

anonymous enum

Enumeration values:

RedOffset
GreenOffset
BlueOffset

anonymous enum

Enumeration values:

RowRounding

Constructor & Destructor Documentation

BitmapImage::BitmapImage ()

BitmapImage::BitmapImage (const BitmapImage & *source*)

BitmapImage::~BitmapImage () `[virtual]`

Member Function Documentation

void BitmapImage::AddColor (UBYTE1 *red*, UBYTE1 *green*, UBYTE1 *blue*) `[private]`

unsigned int BitmapImage::BitCount () const `[inline]`

unsigned int BitmapImage::BytesPerRow () const `[inline]`

void BitmapImage::CallProgressFunction (unsigned int *percent*, unsigned int *pass*, unsigned int *passcount*) `[private]`

void BitmapImage::Clear ()

void BitmapImage::ClearData () `[private]`

unsigned int BitmapImage::ColorCount () const `[inline]`

BitmapImage::ColorMapEntry BitmapImage::ColorMap (unsigned int *index*) const

BitmapImage::ColorMapEntry & BitmapImage::ColorMap (unsigned int *index*)

void BitmapImage::CreateColor (unsigned int *color*) `[private]`

void BitmapImage::DoCopy (const BitmapImage & *source*) `[protected]`

void BitmapImage::EightBitQuantization (const BitmapImage & *image*)

BitmapImage::ColorUsage * BitmapImage::FindColor (UBYTE1 *red*, UBYTE1 *green*, UBYTE1 *blue*) `[private]`

void BitmapImage::FindColorUsage (const BitmapImage & *image*) `[private]`

void BitmapImage::FreeColorQuantizationData () `[private]`

void BitmapImage::GetRGB (unsigned int *row*, unsigned int *col*, UBYTE1 & *red*, UBYTE1 & *green*, UBYTE1 & *blue*) const

unsigned int BitmapImage::Height () const `[inline]`

UBYTE1 * BitmapImage::ImageData () `[inline]`

void BitmapImage::Initialize () `[protected]`

int BitmapImage::LargestColorRange (ColorArea & *area*) `[private]`

void BitmapImage::QuantizeSourceImage (const BitmapImage & *src*) `[private]`

unsigned int BitmapImage::QuantizedColor (UBYTE1 *red*, UBYTE1 *green*, UBYTE1 *blue*) `[private]`

void BitmapImage::SetProgressFunction (IMAGEPROGRESSFUNCTION *function*, void * *data*)

void BitmapImage::SetSize (unsigned int *cc*, unsigned int *bits*, unsigned int *ww*, unsigned int *hh*)

void BitmapImage::SplitAreaInHalf (unsigned int *depth*, unsigned int *retrydepth*, unsigned int *areaid*, unsigned int *splitcolor*) `[private]`

unsigned int BitmapImage::Width () const `[inline]`

BitmapImage & BitmapImage::operator= (const BitmapImage & *source*)

UBYTE1 * BitmapImage::operator[] (unsigned int *xx*) const `[inline]`

Member Data Documentation

unsigned int BitmapImage::bit_count `[private]`

unsigned int BitmapImage::color_area_count `[private]`

ColorArea * BitmapImage::color_areas `[private]`

unsigned int BitmapImage::color_count `[private]`

ColorMapEntry * BitmapImage::color_map `[private]`

ColorUsageTable * BitmapImage::color_usage `[private]`

unsigned char * BitmapImage::image_data `[private]`

unsigned int BitmapImage::image_height `[private]`

unsigned int BitmapImage::image_width `[private]`

void * BitmapImage::progress_data `[private]`

IMAGEPROGRESSFUNCTION BitmapImage::progress_function `[private]`

unsigned int BitmapImage::row_width `[private]`

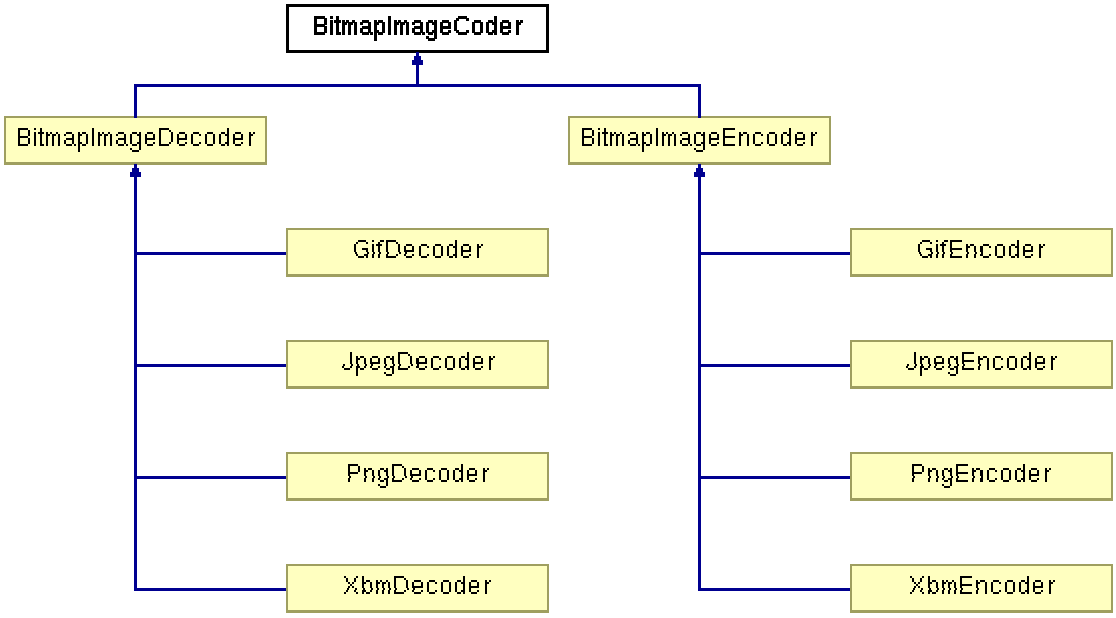
The documentation for this class was generated from the following files:

- **bitimage.h**
- **bitimage.cpp**

BitmapImageCoder Class Reference

`#include <bitimage.h>`

Inheritance diagram for BitmapImageCoder:



Public Methods

- **BitmapImageCoder** ()
- **BitmapImageCoder** (const BitmapImageCoder &source)
- virtual **~BitmapImageCoder** ()
- BitmapImageCoder& **operator=** (const BitmapImageCoder &source)
- void **SetProgressFunction** (**PROGRESSFUNCTION**, void *)
- virtual void **UpdateImage** ()

Protected Methods

- void **Initialize** ()
- void **DoCopy** (const BitmapImageCoder &source)

Protected Attributes

- **PROGRESSFUNCTION progress_function**
- void* **progress_data**

Constructor & Destructor Documentation

BitmapImageCoder::BitmapImageCoder () `[inline]`

BitmapImageCoder::BitmapImageCoder (const BitmapImageCoder & *source*) `[inline]`

BitmapImageCoder::~BitmapImageCoder () `[inline, virtual]`

Member Function Documentation

void BitmapImageCoder::DoCopy (const BitmapImageCoder & *source*) `[inline, protected]`

void BitmapImageCoder::Initialize () `[protected]`

Reimplemented in **GifDecoder** (*p.170*), **GifEncoder** (*p.175*), **JpegDecoder** (*p.214*), **JpegEncoder** (*p.234*), **PngDecoder** (*p.317*), **PngEncoder** (*p.328*), **XbmDecoder** (*p.374*), and **XbmEncoder** (*p.377*).

void BitmapImageCoder::SetProgressFunction (PROGRESSFUNCTION *func*, void * *data*) `[inline]`

void BitmapImageCoder::UpdateImage () `[inline, virtual]`

Reimplemented in **GifDecoder** (*p.171*), and **JpegDecoder** (*p.216*).

BitmapImageCoder & BitmapImageCoder::operator= (const BitmapImageCoder & *source*) `[inline]`

Member Data Documentation

void * BitmapImageCoder::progress_data `[protected]`

PROGRESSFUNCTION BitmapImageCoder::progress_function `[protected]`

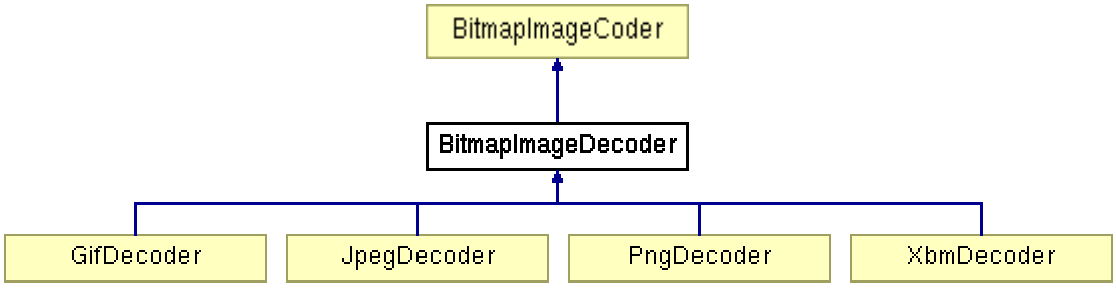
The documentation for this class was generated from the following file:

- **bitimage.h**

BitmapImageDecoder Class Reference

`#include <bitimage.h>`

Inheritance diagram for BitmapImageDecoder:



Public Methods

- virtual **~BitmapImageDecoder** ()
- virtual void **ReadImage** (istream &, **BitmapImage** &)=0

Constructor & Destructor Documentation

BitmapImageDecoder::~BitmapImageDecoder () `[inline, virtual]`

Member Function Documentation

void BitmapImageDecoder::ReadImage (istream & *strm*, BitmapImage & *image*) `[pure virtual]`

Reimplemented in **GifDecoder** (*p.170*), **JpegDecoder** (*p.215*), **PngDecoder** (*p.318*), and **XbmDecoder** (*p.374*).

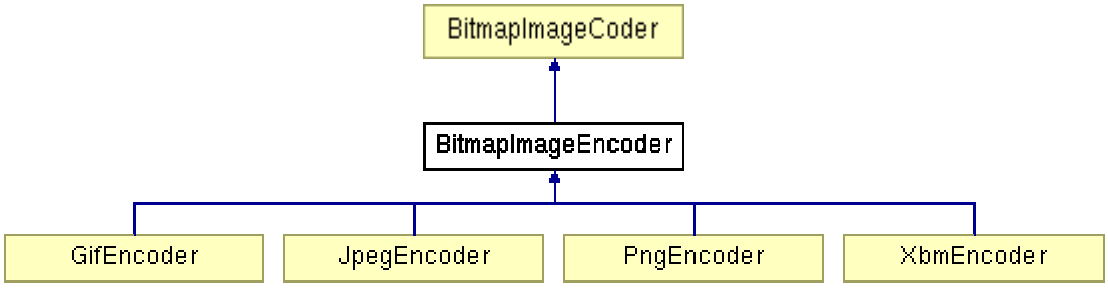
The documentation for this class was generated from the following file:

- **bitimage.h**

BitmapImageEncoder Class Reference

`#include <bitimage.h>`

Inheritance diagram for BitmapImageEncoder:



Public Methods

- virtual **~BitmapImageEncoder** ()
- virtual void **WriteImage** (ostream &, **BitmapImage** &)=0

Constructor & Destructor Documentation

BitmapImageEncoder::~BitmapImageEncoder () `[inline, virtual]`

Member Function Documentation

void BitmapImageEncoder::WriteImage (ostream & *strm*, BitmapImage & *timage*) `[pure virtual]`

Reimplemented in **GifEncoder** (*p.175*), **JpegEncoder** (*p.236*), **PngEncoder** (*p.330*), and **XbmEncoder** (*p.377*).

The documentation for this class was generated from the following file:

- **bitimage.h**

BlobColoring Class Reference

`#include <BlobColoring.h>`

Public Methods

- **BlobColoring** ()
- virtual **~BlobColoring** ()
- int **Process** (unsigned char *InputPict, unsigned int PictWidth, unsigned int PictHeight, unsigned int *Output, unsigned char BackgroundColor=0)
- int **CollectBlobInfo** (unsigned int *BlobImage, unsigned int ImWidth, unsigned int ImHeight, unsigned int BlobInfoArraySize, **BlobInfo** *BlobInfoArray)
- unsigned int **GetNbBlob** ()

Private Methods

- int **Blob** ()
- void **Propagate** (int CurPos, int CurPosX, int CurPosY, int CurBlob)
- void **FillOffsetTable** ()

Private Attributes

- int **PWidth**
- int **PHeight**
- int **PSize**
- unsigned char* **InPict**
- unsigned int* **OutPict**
- unsigned char **BackgrndColor**
- int **OffsetTable** [8]
- int **OffsetTableX** [8]
- int **OffsetTableY** [8]
- unsigned int **NbBlob**
- int* **PositionStack**
- short* **PositionXStack**
- short* **PositionYStack**
- unsigned char* **NgbrStack**

Constructor & Destructor Documentation

BlobColoring::BlobColoring ()

BlobColoring::~BlobColoring () `[virtual]`

Member Function Documentation

int BlobColoring::Blob () `[private]`

int BlobColoring::CollectBlobInfo (unsigned int * *BlobImage*, unsigned int *ImWidth*, unsigned int *ImHeight*, unsigned int *BlobInfoArraySize*, BlobInfo * *BlobInfoArray*)

void BlobColoring::FillOffsetTable () `[private]`

unsigned int BlobColoring::GetNbBlob () `[inline]`

int BlobColoring::Process (unsigned char * *InputPict*, unsigned int *PictWidth*, unsigned int *PictHeight*, unsigned int * *Output*, unsigned char *BackgroundColor* = 0)

void BlobColoring::Propagate (int *CurPos*, int *CurPosX*, int *CurPosY*, int *CurBlob*) `[private]`

Member Data Documentation

unsigned char BlobColoring::BackgrndColor `[private]`

unsigned char * BlobColoring::InPict `[private]`

unsigned int BlobColoring::NbBlob `[private]`

unsigned char * BlobColoring::NgbrStack `[private]`

int BlobColoring::OffsetTable `[private]`

int BlobColoring::OffsetTableX `[private]`

int BlobColoring::OffsetTableY `[private]`

unsigned int * BlobColoring::OutPict `[private]`

int BlobColoring::PHeight `[private]`

int BlobColoring::PSize `[private]`

int BlobColoring::PWidth `[private]`

int * BlobColoring::PositionStack `[private]`

short * BlobColoring::PositionXStack `[private]`

short * BlobColoring::PositionYStack `[private]`

The documentation for this class was generated from the following files:

- **BlobColoring.h**
- **BlobColoring.cpp**

BlobInfo Struct Reference

```
#include <BlobColoring.h>
```

Public Attributes

- float **CentreX**
- float **CentreY**
- int **NbPixels**
- short **MinX**
- short **MaxX**
- short **MinY**
- short **MaxY**

Member Data Documentation

float BlobInfo::CentreX

float BlobInfo::CentreY

short BlobInfo::MaxX

short BlobInfo::MaxY

short BlobInfo::MinX

short BlobInfo::MinY

int BlobInfo::NbPixels

The documentation for this struct was generated from the following file:

- **BlobColoring.h**

FormatBMP::bmpHeader Struct Reference

```
#include <FormatBMP.hpp>
```

Public Attributes

- **UBYTE4 width**
- **UBYTE4 height**
- **UBYTE4 nbBitsPerPixel**
- **UBYTE4 compressionType**
- **UBYTE4 imageSize**
- **UBYTE4 horizontalResolution**
- **UBYTE4 verticalResolution**
- **UBYTE4 nbColorIndexes**
- **UBYTE4 nbImportantColorIndexes**

Member Data Documentation

UBYTE4 FormatBMP::bmpHeader::compressionType

UBYTE4 FormatBMP::bmpHeader::height

UBYTE4 FormatBMP::bmpHeader::horizontalResolution

UBYTE4 FormatBMP::bmpHeader::imageSize

UBYTE4 FormatBMP::bmpHeader::nbBitsPerPixel

UBYTE4 FormatBMP::bmpHeader::nbColorIndexes

UBYTE4 FormatBMP::bmpHeader::nbImportantColorIndexes

UBYTE4 FormatBMP::bmpHeader::verticalResolution

UBYTE4 FormatBMP::bmpHeader::width

The documentation for this struct was generated from the following file:

- **FormatBMP.hpp**

Cognois::Calibration Class Reference

```
#include <Calibration.h>
```

Public Methods

- void **Heikkila** (const VPoints &surCible, const MPoints &surImages, **CameraModel** &cam) const
  Calibrate one camera Heikkila.

- void **Heikkila** (const VPoints &surCible, const **std::vector**< MPoints > &surImages, **CameraModel** &cam) const
  Calibrate a group of cameras using Heikkila.

- void **Heikkila** (const MPoints &surCible, const MPoints &surImages, **CameraModel** &cam) const
  Calibrate using a specefic planar pattern for each image.

- void **Heikkila** (const MPoints &surCibles, const **std::vector**< MPoints > &surImages, **CameraModel** &cam) const
  Calibrate using a specefic planar pattern for each image.

- void **Zhang** (const VPoints &surCible, const MPoints &surImages, **CameraModel** &cam) const
  Calibrate one camera using Zhang.

- void **Zhang** (const VPoints &surCible, const **std::vector**< MPoints > &surImages, **CameraModel** &cam) const
  Calibrate a group of cameras using Zhang.

- **Matrice HomographyToTransformation** (const VPoints &surCible, const VPoints &surImage, const **Matrice** &MparInt) const
  Get a transformation matrix from the homography and the intrinsic parameters (camera -> target).

- void **CombinerRT** (const MDoubles &parExt1, const MDoubles &parExt2, VDoubles &parExt) const
  Combine many samples of the extrinsic parametres into a closer-to-reality version.

Private Methods

- void **CalculerRt** (const VDoubles &parExt1, const VDoubles &parExt2, VDoubles &parExt) const
  Calculate extrinsic parameters, i.e. the position of camera 2 w/r to camera 1.

- **Matrice Homographie** (const VPoints &U, const VPoints &X) const
  Calculate an homography matrix.

Member Function Documentation

void Cognois::Calibration::CalculerRt (const VDoubles & *parExt1*, const VDoubles & *parExt2*, VDoubles & *parExt*) const `[private]`

Calculate extrinsic parameters, i.e. the position of camera 2 w/r to camera 1.

void Cognois::Calibration::CombinerRT (const MDoubles & *parExt1*, const MDoubles & *parExt2*, VDoubles & *parExt*) const

Combine many samples of the extrinsic parametres into a closer-to-reality version.

void Cognois::Calibration::Heikkila (const MPoints & *surCibles*, const std::vector< MPoints > & *surImages*, CameraModel & *cam*) const

Calibrate using a specefic planar pattern for each image.

void Cognois::Calibration::Heikkila (const MPoints & *surCibles*, const MPoints & *surImages*, CameraModel & *cam*) const

Calibrate using a specefic planar pattern for each image.

void Cognois::Calibration::Heikkila (const VPoints & *surCible*, const std::vector< MPoints > & *surImages*, CameraModel & *cam*) const

Calibrate a group of cameras using Heikkila.

void Cognois::Calibration::Heikkila (const VPoints & *surCible*, const MPoints & *surImages*, CameraModel & *cam*) const

Calibrate one camera Heikkila.

Matrice Cognois::Calibration::Homographie (const VPoints & *U*, const VPoints & *X*) const `[private]`

Calculate an homography matrix.

Donne l'homographie H tel que X = HU.

Matrice Cognois::Calibration::HomographyToTransformation (const VPoints & *surCible*, const VPoints & *surImage*, const Matrice & *MparInt*) const

Get a transformation matrix from the homography and the intrinsic parameters (camera -> target).

Retourne la transformation pour passer du referentiel cible vers le referentiel camera. i.e.: Exprimer la cible dans le repere de la camera **Matrice** (*p.263*) 4x4

void Cognois::Calibration::Zhang (const VPoints & *surCible*, const std::vector< MPoints > & *surImages*, CameraModel & *cam*) const

Calibrate a group of cameras using Zhang.

void Cognois::Calibration::Zhang (const VPoints & *surCible*, const MPoints & *surImages*, CameraModel & *cam*) const

Calibrate one camera using Zhang.

The documentation for this class was generated from the following files:

- **Calibration.h**

- **Calibration.cpp**

Calibration Class Reference

Calilbrate one, two or more cameras using known planar points and its images.

```
#include <Calibration.h>
```

Detailed Description

Calilbrate one, two or more cameras using known planar points and its images.

The documentation for this class was generated from the following file:

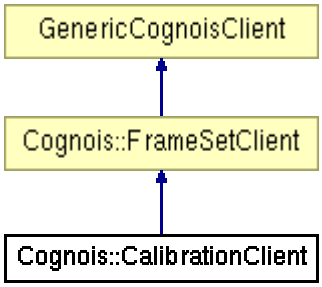
- **Calibration.h**

Cognois::CalibrationClient Class Reference

Read and write calibration data on the server.

`#include <CalibrationClient.h>`

Inheritance diagram for Cognois::CalibrationClient:



Public Methods

- **CalibrationClient** (int inArgc=0, char **inArgv=0)
  Constructor.

- CORBA::Boolean **SendPoints** (const VPoints &inPointsImage, const VPoints &inPointsPattern, unsigned long inFrameId, unsigned long inTimeStamp)
  Send calibration points image to the server for processing by a calibration client.

- CORBA::Boolean **GetLatestPoints** (MPoints &outPointsImage, VPoints &outPointsPattern, unsigned long &outFrameId, unsigned long &outTimeStamp)
  Get calibration points image from the server for processing.

- CORBA::Boolean **GetNewPoints** (MPoints &outPointsImage, VPoints &outPointsPattern, unsigned long &outFrameId, unsigned long &outTimeStamp, unsigned long inMaxWaitTime=2000)
  Get NEW calibration points image from the server for processing.

- CORBA::Boolean **SendPoints** (const VPointsXYZ &inPoints, unsigned long inFrameId, unsigned long inTimeStamp)
  Send 3D points to the server.

- CORBA::Boolean **GetLatestPoints** (MPoints &outPointsBlob, unsigned long &outFrameId, unsigned long &outTimeStamp)
  Get blob points from the server.

- CORBA::Boolean **SendCalibrationParameters** (const **CameraModel** &inParameters)
  Put the calibration parameters on the server.

- CORBA::Boolean **GetCalibrationParameters** (**CameraModel** &outParameters)
  Get the calibration parameters from the server.

- CORBA::Boolean **Send3dPoint** (const char *inId, const float &inXPosition, const float &inYPosition, const float &inZPosition, const float &inXVelocity, const float &inYVelocity, const float &inZVelocity, const unsigned long &inFrameId, const unsigned long &inTimeStamp)
  Upload a point with an identification to the server.

- CORBA::Boolean **Get3dPoint** (const char *inId, float &outXPosition, float &outYPosition, float &outZPosition, float &outXVelocity, float &outYVelocity, float &outZVelocity, unsigned long &outFrameId, unsigned long &outTimeStamp, const CORBA::Boolean &inLock=0)
  Download a point with an identification from the server.

- CORBA::Boolean **GetReal2DPoints** (unsigned long &outFrameId, unsigned long &outTimeStamp, VPoints &inoutBallCenters)
  Download 2D information on the ball.

- int **GetNumberOfCameraOnline** ()
  Return the number of cameras connected to the server.

Private Methods

- void **GetCalibrationPoints** (MPoints &outPointsImage, VPoints &outPointsPattern)
  Get calibration points from the current frame set.

Detailed Description

Read and write calibration data on the server.

Constructor & Destructor Documentation

Cognois::CalibrationClient::CalibrationClient (int *inArgc* = 0, char ** *inArgv* = 0)

Constructor.

Parameters:

inArgc is the number of arguments on the command line
inArgv is the command line agruments

Member Function Documentation

CORBA::Boolean Cognois::CalibrationClient::Get3dPoint (const char * *inId*, float & *outXPosition*, float & *outYPosition*, float & *outZPosition*, float & *outXVelocity*, float & *outYVelocity*, float & *outZVelocity*, unsigned long & *outFrameId*, unsigned long & *outTimeStamp*, const CORBA::Boolean & *inLock* = 0)

Download a point with an identification from the server.

Parameters:

inId is the identification of the point
outXPosition is the X position of the point
outYPosition is the Y position of the point
outZPosition is the Z position of the point
outXVelocity is the X velocity associated to the point
outYVelocity is the Y velocity associated to the point
outZVelocity is the Z velocity associated to the point
outFrameId is the frame id of the point
outTimeStamp is the time stamp of the point
inLock is set to true if the client wants to be locked until a new data is sent

Returns:

If the upload was successfull.

CORBA::Boolean Cognois::CalibrationClient::GetCalibrationParameters (CameraModel & *outParameters*)

Get the calibration parameters from the server.

Parameters:

outParameters are the most recent calibration parameters of the cameras

Returns:

If the download was successfull.

void Cognois::CalibrationClient::GetCalibrationPoints (MPoints & *outPointsImage*, VPoints & *outPointsPattern*) `[private]`

Get calibration points from the current frame set.

Parameters:

outPointsImage is a vector of vector of points to put the latest information
outPointsPattern is a vectof of the points on the calibration pattern

CORBA::Boolean Cognois::CalibrationClient::GetLatestPoints (MPoints & *outPointsBlob*, unsigned long & *outFrameId*, unsigned long & *outTimeStamp*)

Get blob points from the server.

CORBA::Boolean Cognois::CalibrationClient::GetLatestPoints (MPoints & *outPointsImage*, VPoints & *outPointsPattern*, unsigned long & *outFrameId*, unsigned long & *outTimeStamp*)

Get calibration points image from the server for processing.

Parameters:

outPointsImage is a vector of vector of points to put the latest information
outPointsPattern is a vectof of the points on the calibration pattern
outFrameId is the frame id of the points
outTimeStamp is the time stamp of the points

Returns:

If the frame set has never been downloaded from the server.

CORBA::Boolean Cognois::CalibrationClient::GetNewPoints (MPoints & *outPointsImage*, VPoints & *outPointsPattern*, unsigned long & *outFrameId*, unsigned long & *outTimeStamp*, unsigned long *inMaxWaitTime* = 2000)

Get NEW calibration points image from the server for processing.

Parameters:

outPointsImage is a vector of vector of points to put the latest information
outPointsPattern is a vectof of the points on the calibration pattern
outFrameId is the frame id of the points
outTimeStamp is the time stamp of the points
inMaxWaitingTime is the maximum time (in ms) to wait for a new frame set

Returns:

If the frame set has never been downloaded from the server.

int Cognois::CalibrationClient::GetNumberOfCameraOnline ()

Return the number of cameras connected to the server.

Returns:

The number of connected cameras.

CORBA::Boolean Cognois::CalibrationClient::GetReal2DPoints (unsigned long & *outFrameId*, unsigned long & *outTimeStamp*, VPoints & *inoutBallCenters*)

Download 2D information on the ball.

Parameters:

outFrameId is the frame id of the points
outTimeStamp is the time stamp of the points
inoutBallCenters is the position of the ball in all cameras.

Returns:

If the upload was successfull.

CORBA::Boolean Cognois::CalibrationClient::Send3dPoint (const char * *inId*, const float & *inXPosition*, const float & *inYPosition*, const float & *inZPosition*, const float & *inXVelocity*,

const float & *inYVelocity*, const float & *inZVelocity*, const unsigned long & *inFrameId*, const unsigned long & *inTimeStamp*)

Upload a point with an identification to the server.

Parameters:

inId is the identification of the point
inXPosition is the X position of the point
inYPosition is the Y position of the point
inZPosition is the Z position of the point
inXVelocity is the X velocity associated to the point
inYVelocity is the Y velocity associated to the point
inZVelocity is the Z velocity associated to the point
inFrameId is the frame ID of the point
inTimeStamp is the time stamp of the point

Returns:

If the upload was successfull.

CORBA::Boolean Cognois::CalibrationClient::SendCalibrationParameters (const CameraModel & *inParameters*)

Put the calibration parameters on the server.

Parameters:

inParameters are the calibration parameters of the cameras

Returns:

If the upload was successfull.

CORBA::Boolean Cognois::CalibrationClient::SendPoints (const VPointsXYZ & *inPoints*, unsigned long *inFrameId*, unsigned long *inTimeStamp*)

Send 3D points to the server.

CORBA::Boolean Cognois::CalibrationClient::SendPoints (const VPoints & *inPointsImage*, const VPoints & *inPointsPattern*, unsigned long *inFrameId*, unsigned long *inTimeStamp*)

Send calibration points image to the server for processing by a calibration client.

Parameters:

inPointsImage is a vector of the points on the image to send to the server
inPointsPattern is a vector of the points on the calibration pattern
inFrameId is the frame id of the points
inTimeStamp is the time stamp of the points

Returns:

If the upload was successfull.

The documentation for this class was generated from the following files:

- **CalibrationClient.h**
- **CalibrationClient.cpp**

Cognois::CameraClientController Class Reference

Get the current mode from the server and use the appropriate processing object.

`#include <CameraClientController.h>`

Public Methods

- **CameraClientController** (**OnlineProcessing** *inGrabber, **FrameSetClient** *inServer)
  Constructor.

- void **Begin** ()
  Begin the online processing and pool the server to get the modes.

- void **AddMode** (const std::string &inMode, **ProcessingObject** *inProcessor)
  Set the processing object for a mode.

- void **ListModes** () const
  Print all the modes.

Private Methods

- **ProcessingObject*** **Processor** (const std::string &inMode) const
  Get the processing object corresponding to a mode identifier.

Private Attributes

- **std::vector**<**ProcessingObject***> **mProcessors**
  List of valid processors.

- **std::vector**<std::string> **mModes**
  List of valid modes.

- **OnlineProcessing*** **mGrabber**
  Processing object to control.

- **FrameSetClient*** **mServer**
  Client to get modes from.

- std::string **mCurrentMode**
  Last valid mode received.

Detailed Description

Get the current mode from the server and use the appropriate processing object.

Constructor & Destructor Documentation

Cognois::CameraClientController::CameraClientController (OnlineProcessing * *inGrabber*, FrameSetClient * *inServer*)

Constructor.

Parameters:

inArgc is the number of arguments on the command line
inArgv is the command line agruments

Member Function Documentation

void Cognois::CameraClientController::AddMode (const std::string & *inMode*, ProcessingObject * *inProcessor*)

Set the processing object for a mode.

Parameters:

inMode is the mode identifier
inProcessor is the relevant processing object

void Cognois::CameraClientController::Begin ()

Begin the online processing and pool the server to get the modes.

void Cognois::CameraClientController::ListModes () const

Print all the modes.

Cognois::ProcessingObject * Cognois::CameraClientController::Processor (const std::string & *inMode*) const `[inline, private]`

Get the processing object corresponding to a mode identifier.

Parameters:

inMode is the mode identifier

Returns:

A pointer to the corresponding processing object (or null if mode is not found)

Member Data Documentation

std::string Cognois::CameraClientController::mCurrentMode `[private]`

Last valid mode received.

OnlineProcessing * Cognois::CameraClientController::mGrabber `[private]`

Processing object to control.

std::vector< std::string > Cognois::CameraClientController::mModes<std::string> `[private]`

List of valid modes.

std::vector< ProcessingObject *> Cognois::CameraClientController::mProcessors<ProcessingObject*> `[private]`

List of valid processors.

FrameSetClient * Cognois::CameraClientController::mServer `[private]`

Client to get modes from.

The documentation for this class was generated from the following files:

- **CameraClientController.h**
- **CameraClientController.cpp**

Cognois::CameraModel Class Reference

Calibration (*p.46*) parameters of n cameras in a stereo environment.

`#include <CameraModel.h>`

Public Methods

- **CameraModel** (int nbCams=1)
  Constructeur: determine la taille des vecteurs (nombre de cameras).

- int **Size** () const
  Retourne/fixe le nombre de cameras.

- void **Size** (int s)
- long **Version** () const
- **Matrice MatriceIntrinseque** (unsigned int i) const
  ***Matrice** (p.263) des parametres intrinseques de la camera i.*

- **Matrice MatriceRotation** (unsigned int i) const
  ***Matrice** (p.263) des parametres de rotation de la camera i.*

- **Matrice MatriceTranslation** (unsigned int i) const
  ***Matrice** (p.263) des parametres de translation de la camera i.*

- void **Rt** (**Matrice** mParExt, unsigned int cameraID)
  *Affecter un matrice de Transformation a la camera cameraID du **CameraModel** (p.59) courant.*

- VDoubles& **GetParametresIntrinseques** (unsigned int cameraID)
- const VDoubles& **GetParametresIntrinseques** (unsigned int cameraID) const
- VDoubles& **GetParametresExtrinseques** (unsigned int cameraID)
- const VDoubles& **GetParametresExtrinseques** (unsigned int cameraID) const
- void **SingleCam2MultiCam** (CameraModel inSingleCam, unsigned int inCameraID)
  Affecter une matrice de parametre intrinseques a la cameraID (pas de distorsion).

- void **SetParametresIntrinseques** (const CameraModel &inCameraModel, unsigned int inCameraID)
- **Matrice TransformInverse** (const **Matrice** &inTransform) const
  Calcul l'inverse d'une matrice de transformation.

- void **EcrireParametresIntrinseques** (unsigned int i, ostream &out) const
  Afficher les resultats du calibrage (avec formatage): parametres intrinseques.

- void **EcrireParametresExtrinseques** (unsigned int i, ostream &out) const
  Afficher les resultats du calibrage (avec formatage): parametres extrinseques.

- void **EcrireParametres** (ostream &out) const
  Afficher les resultats du calibrage (avec formatage): tous les parametres.

- CameraModel **MultiCam2SingleCam** (unsigned int inCameraID)
  Get the camera model of a single camera of the system.

- **Point Dedistorsion** (const **Point** &PointDist, unsigned int i) const
  Correction de la distorsion radiale d'un point dans la camera i.

- **Point Distorsion** (const **Point** &PointDist, unsigned int i) const
  Ajout de la distorsion radiale d'un point dans la camera i.

- int **ValiderCorrespondance** (const VPoints &mi) const
  Valider la mise en correspondance (peut contenir des mi hors des images).

- PointXYZ **CalculerXYZ** (const VPoints &mi) const
  Utiliser les parametres de calibrage pour calculer un point 3D.

- VPoints **Projeter** (const PointXYZ &p) const
  Projeter un point de l'espace dans les images.

- **Matrice MatriceProjection** (unsigned int i) const
- **Matrice MatriceEssentielle** (unsigned int i, unsigned int j) const
  ***Matrice** (p.263) essentielle/fondamentale reliant la camera i a la camera j (Eij).*

- **Matrice MatriceFondamentale** (unsigned int i, unsigned int j) const
- void **CalculerFondamentales** ()
  Pre-calculer toutes les matrices fondamentales.

- **Matrice DroiteEpipolaire** (const **Point** &m, unsigned int i, unsigned int j) const
  Droite epipolaire dans la camera j, correspondant au point m dans la camera i.

Private Types

- typedef **std::vector**<**Matrice**> **VMatrices**

Private Methods

- int **Dedistorsion** (const **Point** &Xd, const VDoubles &Cd, **Point** &Xu) const
- int **Distorsion** (const **Point** &Xu, const VDoubles &Cd, **Point** &Xd) const
- **Point ImageToCamera** (const **Point** &U, unsigned int i) const
- **Point CameraToImage** (const **Point** &X, unsigned int i) const

Private Attributes

- MDoubles **parInt**
- MDoubles **parExt**
- long **version**
- **std::vector**<**VMatrices**> **Fij**
- bool **Fij_valid**

Friends

- class **Calibration**
- class **CalibrationClient**
- ostream& **operator**<< (ostream &out, const CameraModel &cam)
- istream& **operator**>> (istream &in, CameraModel &cam)

Detailed Description

Calibration (*p.46*) parameters of n cameras in a stereo environment.

Intrinsic and extrinsic parameters of cameras forming a stereo environment. When representing one camera, contains its intrinsic parameters 'n' calibration pattern positions. When representing multiple cameras, contains 'n' intrinsic parameters, the position of the first camera in a global system and 'n-1' camera positions with respect with the first one.

Thus, the projection equation is: mi = Ai(Inv(Ri) * X - Inv(Ri)*Ti) and the line of sight is given by: li = Ri * Inv(Ai)* mi + Ti

---

Member Typedef Documentation

typedef std::vector< Matrice > Cognois::CameraModel::VMatrices<Matrice> `[private]`

Constructor & Destructor Documentation

Cognois::CameraModel::CameraModel (int *nbCams* = 1) `[inline]`

Constructeur: determine la taille des vecteurs (nombre de cameras).

Member Function Documentation

void Cognois::CameraModel::CalculerFondamentales ()

Pre-calculer toutes les matrices fondamentales.

PointXYZ Cognois::CameraModel::CalculerXYZ (const VPoints & *inMi*) const

Utiliser les parametres de calibrage pour calculer un point 3D.

Point Cognois::CameraModel::CameraToImage (const Point & *X*, unsigned int *i*) const `[inline, private]`

int Cognois::CameraModel::Dedistorsion (const Point & *Xd*, const VDoubles & *Cd*, Point & *Xu*) const `[private]`

Point Cognois::CameraModel::Dedistorsion (const Point & *Ud*, unsigned int *i*) const

Correction de la distorsion radiale d'un point dans la camera i.

int Cognois::CameraModel::Distorsion (const Point & *Xu*, const VDoubles & *Cd*, Point & *Xd*) const `[private]`

Point Cognois::CameraModel::Distorsion (const Point & *Uu*, unsigned int *i*) const

Ajout de la distorsion radiale d'un point dans la camera i.

Matrice Cognois::CameraModel::DroiteEpipolaire (const Point & *m*, unsigned int *i*, unsigned int *j*) const

Droite epipolaire dans la camera j, correspondant au point m dans la camera i.

void Cognois::CameraModel::EcrireParametres (ostream & *out*) const

Afficher les resultats du calibrage (avec formatage): tous les parametres.

void Cognois::CameraModel::EcrireParametresExtrinseques (unsigned int *i*, ostream & *out*) const

Afficher les resultats du calibrage (avec formatage): parametres extrinseques.

void Cognois::CameraModel::EcrireParametresIntrinseques (unsigned int *i*, ostream & *out*) const

Afficher les resultats du calibrage (avec formatage): parametres intrinseques.

const VDoubles & Cognois::CameraModel::GetParametresExtrinseques (unsigned int *cameraID*) const `[inline]`

VDoubles & Cognois::CameraModel::GetParametresExtrinseques (unsigned int *cameraID*) `[inline]`

const VDoubles & Cognois::CameraModel::GetParametresIntrinseques (unsigned int *cameraID*) const `[inline]`

VDoubles & Cognois::CameraModel::GetParametresIntrinseques (unsigned int *cameraID*) `[inline]`

Point Cognois::CameraModel::ImageToCamera (const Point & *U*, unsigned int *i*) const `[inline, private]`

Matrice Cognois::CameraModel::MatriceEssentielle (unsigned int *i*, unsigned int *j*) const

Matrice (*p.263*) essentielle/fondamentale reliant la camera i a la camera j (Eij).

Matrice Cognois::CameraModel::MatriceFondamentale (unsigned int *i*, unsigned int *j*) const

Matrice Cognois::CameraModel::MatriceIntrinseque (unsigned int *i*) const

Matrice (*p.263*) des parametres intrinseques de la camera i.

Matrice Cognois::CameraModel::MatriceProjection (unsigned int *i*) const

Matrice Cognois::CameraModel::MatriceRotation (unsigned int *i*) const

Matrice (*p.263*) des parametres de rotation de la camera i.

Matrice Cognois::CameraModel::MatriceTranslation (unsigned int *i*) const

Matrice (*p.263*) des parametres de translation de la camera i.

Cognois::CameraModel Cognois::CameraModel::MultiCam2SingleCam (unsigned int *inCameraID*)

Get the camera model of a single camera of the system.

VPoints Cognois::CameraModel::Projeter (const PointXYZ & *p*) const

Projeter un point de l'espace dans les images.

void Cognois::CameraModel::Rt (Matrice *mParExt*, unsigned int *inCameraID*)

Affecter un matrice de Transformation a la camera cameraID du **CameraModel** (*p.59*) courant.

void Cognois::CameraModel::SetParametresIntrinseques (const CameraModel & *inCameraModel*, unsigned int *inCameraID*)

void Cognois::CameraModel::SingleCam2MultiCam (CameraModel *inSingleCam*, unsigned int *inCameraID*)

Affecter une matrice de parametre intrinseques a la cameraID (pas de distorsion).

void Cognois::CameraModel::Size (int *s*) `[inline]`

int Cognois::CameraModel::Size () const `[inline]`

Retourne/fixe le nombre de cameras.

Matrice Cognois::CameraModel::TransformInverse (const Matrice & *inTransform*) const

Calcul l'inverse d'une matrice de transformation.

int Cognois::CameraModel::ValiderCorrespondance (const VPoints & *mi*) const

Valider la mise en correspondance (peut contenir des mi hors des images).

long Cognois::CameraModel::Version () const `[inline]`

Friends And Related Function Documentation

class Calibration `[friend]`

class CalibrationClient `[friend]`

ostream & operator<< (ostream & *out*, const CameraModel & *cam*) `[friend]`

istream & operator>> (istream & *in*, CameraModel & *cam*) `[friend]`

Member Data Documentation

std::vector< VMatrices > Cognois::CameraModel::Fij<VMatrices> `[private]`

bool Cognois::CameraModel::Fij_valid `[private]`

MDoubles Cognois::CameraModel::parExt `[private]`

MDoubles Cognois::CameraModel::parInt `[private]`

long Cognois::CameraModel::version `[private]`

The documentation for this class was generated from the following files:

- **CameraModel.h**
- **CameraModel.cpp**

cilist Struct Reference

```
#include <F2C.H>
```

Public Attributes

- **flag cierr**
- **ftnint ciunit**
- **flag ciend**
- char* **cifmt**
- **ftnint cirec**

Member Data Documentation

flag cilist::ciend

flag cilist::cierr

char * cilist::cifmt

ftnint cilist::cirec

ftnint cilist::ciunit

The documentation for this struct was generated from the following file:

- **F2C.H**

cllist Struct Reference

```
#include <F2C.H>
```

Public Attributes

- **flag cerr**
- **ftnint cunit**
- char* **csta**

Member Data Documentation

flag cllist::cerr

char * cllist::csta

ftnint cllist::cunit

The documentation for this struct was generated from the following file:

- **F2C.H**

BitmapImage::ColorArea Struct Reference

Public Attributes

- struct {
- **UBYTE1 low**
- **UBYTE1 high**
- } **color_values**
- unsigned int **color_count**
- unsigned int **pixel_count**

Member Data Documentation

unsigned int BitmapImage::ColorArea::color_count

struct { ... } BitmapImage::ColorArea::color_values

UBYTE1 BitmapImage::ColorArea::high

UBYTE1 BitmapImage::ColorArea::low

unsigned int BitmapImage::ColorArea::pixel_count

The documentation for this struct was generated from the following file:

- **bitimage.h**

BitmapImage::ColorMapEntry Struct Reference

```
#include <bitimage.h>
```

Public Attributes

- **UBYTE1 blue**
- **UBYTE1 green**
- **UBYTE1 red**

Member Data Documentation

UBYTE1 BitmapImage::ColorMapEntry::blue

UBYTE1 BitmapImage::ColorMapEntry::green

UBYTE1 BitmapImage::ColorMapEntry::red

The documentation for this struct was generated from the following file:

- **bitimage.h**

BitmapImage::ColorUsage Struct Reference

```
#include <bitimage.h>
```

Public Attributes

- **UBYTE1 colors** [3]
- **UBYTE4 usage**
- ColorUsage* **next** [3]

Member Data Documentation

UBYTE1 BitmapImage::ColorUsage::colors

ColorUsage * BitmapImage::ColorUsage::next

UBYTE4 BitmapImage::ColorUsage::usage

The documentation for this struct was generated from the following file:

- **bitimage.h**

BitmapImage::ColorUsageTable Struct Reference

Public Attributes

- **ColorUsage* lists** [256][3]
- unsigned int **color_count**

Member Data Documentation

unsigned int BitmapImage::ColorUsageTable::color_count

ColorUsage * BitmapImage::ColorUsageTable::lists

The documentation for this struct was generated from the following file:

- **bitimage.h**

ColourSpaceConverter Class Reference

`#include <ColourSpaceConverter.h>`

Public Methods

- **ColourSpaceConverter** ()
- virtual **~ColourSpaceConverter** ()
- int **RGB2HSV** (unsigned char R, unsigned char G, unsigned char B, double &H, double &S, double &V)
- int **HSV2RGB** (double H, double S, double V, unsigned char &R, unsigned char &G, unsigned char &B)

Private Attributes

- double **pi_x_2**
- double **pi_div_3**

Constructor & Destructor Documentation

ColourSpaceConverter::ColourSpaceConverter ()

ColourSpaceConverter::~ColourSpaceConverter () `[virtual]`

Member Function Documentation

int ColourSpaceConverter::HSV2RGB (double *H*, double *S*, double *V*, unsigned char & *R*, unsigned char & *G*, unsigned char & *B*)

int ColourSpaceConverter::RGB2HSV (unsigned char *R*, unsigned char *G*, unsigned char *B*, double & *H*, double & *S*, double & *V*)

Member Data Documentation

double ColourSpaceConverter::pi_div_3 `[private]`

double ColourSpaceConverter::pi_x_2 `[private]`

The documentation for this class was generated from the following files:

- **ColourSpaceConverter.h**

- **ColourSpaceConverter.cpp**

complex Struct Reference

```
#include <F2C.H>
```

Public Attributes

- **real r**
- **real i**

Member Data Documentation

real complex::i

real complex::r

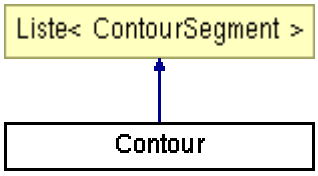
The documentation for this struct was generated from the following file:

- **F2C.H**

Contour Class Reference

`#include <Contour.hpp>`

Inheritance diagram for Contour:



Public Methods

- **Contour** ()
- Contour& **EdgeLinking** (**ImageBinaire** &Tmin, **ImageBinaire** &Tmax)
- Contour& **EdgeLinking** (**ImageBinaire** &Tim)
- void **SegmentsDroite** (unsigned int maxangle=10, double maxdist=10, double tolinter=5, double tolcourbe=0.1)
- void **AjusterSegments** (double tol=5)
- void **Abouter** (const unsigned int maxangle=10, const double maxdist=10)
- void **Filtrer** (const double len=10)
- void **RegrouperUnitaires** (double maxdist=10)
- void **SegmenterCourbes** (const double maxerreur=0.1)
- void **TrouverIntersections** (double tol=5, int ang=10, double distmin=5)
- **Liste**<**Point**> **HoraudJunctionDetection** (**Liste**< **HoraudRelation** > &, int e1=15, int w=5, double max_o=5) const
- void **HoraudCurveDetection** (const **Liste**< **HoraudRelation** > &, **Liste**< **HoraudRelation** > &,int e2=0, int e3=90) const
- void **Vider** ()
- void **EcrireSegments** (ostream &out) const

Public Attributes

- **Liste**<**Point**> **intersections**

Protected Methods

- void **HoraudCurveSuivant** (**HoraudRelation** &,int th, int e2, int e3, **ContourSegment** *, **Liste**< **HoraudRelation** > &) const

Friends

- ostream& **operator<<** (ostream &out, const Contour &c)
- istream& **operator>>** (istream &in, Contour &c)

Constructor & Destructor Documentation

Contour::Contour () `[inline]`

Member Function Documentation

void Contour::Abouter (const unsigned int *maxangle* = 10, const double *_maxdist* = 10)

void Contour::AjusterSegments (double *tol* = 5)

void Contour::EcrireSegments (ostream & *out*) const

Contour & Contour::EdgeLinking (ImageBinaire & *Tim*)

Contour & Contour::EdgeLinking (ImageBinaire & *Tmin*, ImageBinaire & *Tmax*)

void Contour::Filtrer (const double *len* = 10)

void Contour::HoraudCurveDetection (const Liste< HoraudRelation > & *_jonctions*, Liste< HoraudRelation > & *courbes*, int *e2* = 0, int *e3* = 90) const

void Contour::HoraudCurveSuivant (HoraudRelation & *courbe_courante*, int *theta1*, int *e2*, int *e3*, ContourSegment * *lo*, Liste< HoraudRelation > & *jonctions*) const `[protected]`

Liste< Point > Contour::HoraudJunctionDetection (Liste< HoraudRelation > & *jonctions*, int *e* = 15, int *w* = 5, double *max_overlap* = 5) const

void Contour::RegrouperUnitaires (double *maxdist* = 10)

void Contour::SegmenterCourbes (const double *maxerreur* = 0.1)

void Contour::SegmentsDroite (unsigned int *maxangle* = 10, double *maxdist* = 10, double *tolinter* = 5, double *tolcourbe* = 0.1)

void Contour::TrouverIntersections (double *tol* = 5, int *ang* = 10, double *distmin* = 5)

void Contour::Vider ()

Friends And Related Function Documentation

ostream & operator<< (ostream & *out*, const Contour & *c*) `[friend]`

istream & operator>> (istream & *in*, Contour & *c*) `[friend]`

Member Data Documentation

Liste< Point > Contour::intersections<Point>

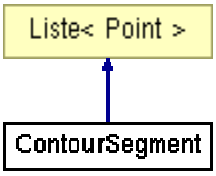
The documentation for this class was generated from the following files:

- **Contour.hpp**
- **Contour.cpp**

ContourSegment Class Reference

`#include <Contour.hpp>`

Inheritance diagram for ContourSegment:



Public Methods

- **Point**& **Origine** () const
- **Point**& **Fin** () const
- void **EquationDroite** (int &a, int &b, int &c) const
- double **LongueurDroite** () const
- int **Orientation** () const
- double **Distance** (const **Point** &) const
- ContourSegment **Separer** (const **Point** &ps)
- double **DroiteMaxErreur** (**Point** &pme) const
- int **DiffOrientation** (const ContourSegment &) const
- **Point Intersection** (const ContourSegment &) const
- int **Intersection** (const ContourSegment &, **Point** &, double tol=0) const
- void **EcrireExtremites** (ostream &out) const

Friends

- ostream& **operator**<< (ostream &out, const ContourSegment &sc)
- istream& **operator**>> (istream &in, ContourSegment &sc)

Member Function Documentation

int ContourSegment::DiffOrientation (const ContourSegment & *seg*) const

double ContourSegment::Distance (const Point & *pnt*) const

double ContourSegment::DroiteMaxErreur (Point & *pme*) const

void ContourSegment::EcrireExtremites (ostream & *out*) const

void ContourSegment::EquationDroite (int & *a*, int & *b*, int & *c*) const

Point & ContourSegment::Fin () const

int ContourSegment::Intersection (const ContourSegment & *seg*, Point & *ptint*, double *tol* = 0) const

Point ContourSegment::Intersection (const ContourSegment & *seg*) const

double ContourSegment::LongueurDroite () const

int ContourSegment::Orientation () const

Point & ContourSegment::Origine () const

ContourSegment ContourSegment::Separer (const Point & *ps*)

Friends And Related Function Documentation

ostream & operator<< (ostream & *out*, const ContourSegment & *sc*) `[friend]`

istream & operator>> (istream & *in*, ContourSegment & *sc*) `[friend]`

The documentation for this class was generated from the following files:

- **Contour.hpp**
- **Contour.cpp**

CouleurHSI Class Reference

```
#include <ImageRGB.hpp>
```

Public Methods

- **CouleurHSI** (double _h=0, double _s=0, double _i=0)
- const CouleurHSI& **operator=** (const unsigned long val)
- const CouleurHSI& **operator=** (const **CouleurRGB** &)
- **operator unsigned long** () const
- int **Valider** () const
- unsigned char **Red** () const
- unsigned char **Green** () const
- unsigned char **Blue** () const
- unsigned long **getInt** () const
- unsigned char **getChar** () const

Public Attributes

- double **hue**
- double **saturation**
- double **intensite**

Friends

- ostream& **operator<<** (ostream &out, const CouleurHSI &p)
- istream& **operator>>** (istream &in, CouleurHSI &p)

Constructor & Destructor Documentation

CouleurHSI::CouleurHSI (double _*h* = 0, double _*s* = 0, double _*i* = 0)

Member Function Documentation

unsigned char CouleurHSI::Blue () const

unsigned char CouleurHSI::Green () const

unsigned char CouleurHSI::Red () const

int CouleurHSI::Valider () const

unsigned char CouleurHSI::getChar () const

unsigned long CouleurHSI::getInt () const

CouleurHSI::operator unsigned long () const

const CouleurHSI & CouleurHSI::operator= (const CouleurRGB & *rgb*)

const CouleurHSI & CouleurHSI::operator= (const unsigned long *val*)

Friends And Related Function Documentation

ostream & operator<< (ostream & *out*, const CouleurHSI & *p*) `[friend]`

istream & operator>> (istream & *in*, CouleurHSI & *p*) `[friend]`

Member Data Documentation

double CouleurHSI::hue

double CouleurHSI::intensite

double CouleurHSI::saturation

The documentation for this class was generated from the following files:

- **ImageRGB.hpp**
- **ImageRGB.cpp**

CouleurRGB Class Reference

```
#include <ImageRGB.hpp>
```

Public Methods

- **CouleurRGB** (unsigned char _r=0, unsigned char _g=0, unsigned char _b=0)
- const CouleurRGB& **operator=** (const unsigned long val)
- const CouleurRGB& **operator=** (const **CouleurHSI** &)
- **operator unsigned long** () const
- const CouleurRGB& **operator+=** (const CouleurRGB &)
- CouleurRGB **operator+** (const CouleurRGB &) const
- const CouleurRGB& **operator-=** (const CouleurRGB &)
- CouleurRGB **operator-** (const CouleurRGB &) const
- double **Intensite** () const
- double **Saturation** () const
- double **Hue** () const
- unsigned long **getInt** () const
- unsigned char **getChar** () const

Public Attributes

- unsigned char **redValue**
- unsigned char **greenValue**
- unsigned char **blueValue**

Friends

- ostream& **operator<<** (ostream &out, const CouleurRGB &p)
- istream& **operator>>** (istream &in, CouleurRGB &p)

Constructor & Destructor Documentation

CouleurRGB::CouleurRGB (unsigned char *_r* = 0, unsigned char *_g* = 0, unsigned char *_b* = 0)

Member Function Documentation

double CouleurRGB::Hue () const

double CouleurRGB::Intensite () const

double CouleurRGB::Saturation () const

unsigned char CouleurRGB::getChar () const

unsigned long CouleurRGB::getInt () const

CouleurRGB::operator unsigned long () const

CouleurRGB CouleurRGB::operator+ (const CouleurRGB & *rh*) const

const CouleurRGB & CouleurRGB::operator+= (const CouleurRGB & *rh*)

CouleurRGB CouleurRGB::operator- (const CouleurRGB & *rh*) const

const CouleurRGB & CouleurRGB::operator-= (const CouleurRGB & *rh*)

const CouleurRGB & CouleurRGB::operator= (const CouleurHSI & *hsi*)

const CouleurRGB & CouleurRGB::operator= (const unsigned long *val*)

Friends And Related Function Documentation

ostream & operator<< (ostream & *out*, const CouleurRGB & *p*) `[friend]`

istream & operator>> (istream & *in*, CouleurRGB & *p*) `[friend]`

Member Data Documentation

unsigned char CouleurRGB::blueValue

unsigned char CouleurRGB::greenValue

unsigned char CouleurRGB::redValue

The documentation for this class was generated from the following files:

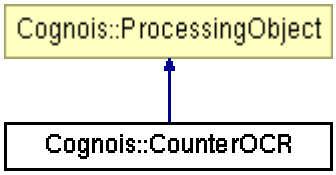
- **ImageRGB.hpp**
- **ImageRGB.cpp**

Cognois::CounterOCR Class Reference

Optical character recognition of the 5 digits of the HP 5214L Preset Counter.

`#include <CounterOCR.h>`

Inheritance diagram for Cognois::CounterOCR:



Public Methods

- **CounterOCR** (MIL_ID &inCalibrationImage, char *inFontFilename, **MILSys** &inMilSys, **FrameSetClient** *inCognoisServer=0)
  Constructor with interactive calibration of the font.

- **~CounterOCR** ()
- void **Process** (MIL_ID &inMilImage, unsigned long &inFrameID, unsigned long &inTimeStamp)
  Find a calibration pattern in an image.

Private Attributes

- MIL_ID **mFont**
- MIL_ID **mCounterImage**
- MIL_ID **mGrayImage**
- MIL_ID **mOCRResult**
- **FrameSetClient*** **mCognoisServer**
  Cognois *(p.2) server interface.*

- long **mTopX**
- long **mTopY**
- long **mBotX**
- long **mBotY**
  Bounding box of the number.

Detailed Description

Optical character recognition of the 5 digits of the HP 5214L Preset Counter.

Constructor & Destructor Documentation

Cognois::CounterOCR::CounterOCR (MIL_ID & *inCalibrationImage*, char * *inFontFilename*, MILSys & *inMilSys*, FrameSetClient * *inCognoisServer* = 0)

Constructor with interactive calibration of the font.

Cognois::CounterOCR::~CounterOCR ()

Member Function Documentation

void Cognois::CounterOCR::Process (MIL_ID & *inMilImage*, unsigned long & *inFrameID*, unsigned long & *inTimeStamp*) `[virtual]`

Find a calibration pattern in an image.

Reimplemented from **Cognois::ProcessingObject** (*p.350*).

Member Data Documentation

long Cognois::CounterOCR::mBotX `[private]`

long Cognois::CounterOCR::mBotY `[private]`

Bounding box of the number.

FrameSetClient * Cognois::CounterOCR::mCognoisServer `[private]`

Cognois (*p.2*) server interface.

MIL_ID Cognois::CounterOCR::mCounterImage `[private]`

MIL_ID Cognois::CounterOCR::mFont `[private]`

MIL_ID Cognois::CounterOCR::mGrayImage `[private]`

MIL_ID Cognois::CounterOCR::mOCRResult `[private]`

long Cognois::CounterOCR::mTopX `[private]`

long Cognois::CounterOCR::mTopY `[private]`

The documentation for this class was generated from the following files:

- **CounterOCR.h**
- **CounterOCR.cpp**

DirectMilAccess Struct Reference

Public Methods

- **DirectMilAccess** (const MIL_ID &_milImage)
- **~DirectMilAccess** ()
- unsigned char& **RedValue** (int x, int y)
- unsigned char& **GreenValue** (int x, int y)
- unsigned char& **BlueValue** (int x, int y)
- void **AllValues** (int x, int y, unsigned char &red, unsigned char &green, unsigned char &blue)

Public Attributes

- MIL_ID **MilImageRed**
- MIL_ID **MilImageGreen**
- MIL_ID **MilImageBlue**
- unsigned char* **MilRedPtr**
- unsigned char * **MilGreenPtr**
- unsigned char * **MilBluePtr**
- long **MilImageWorkPitch**

Constructor & Destructor Documentation

DirectMilAccess::DirectMilAccess (const MIL_ID & *_milImage*) `[inline]`

DirectMilAccess::~DirectMilAccess () `[inline]`

Member Function Documentation

void DirectMilAccess::AllValues (int *x*, int *y*, unsigned char & *red*, unsigned char & *green*, unsigned char & *blue*) `[inline]`

unsigned char & DirectMilAccess::BlueValue (int *x*, int *y*) `[inline]`

unsigned char & DirectMilAccess::GreenValue (int *x*, int *y*) `[inline]`

unsigned char & DirectMilAccess::RedValue (int *x*, int *y*) `[inline]`

Member Data Documentation

unsigned char * DirectMilAccess::MilBluePtr

unsigned char * DirectMilAccess::MilGreenPtr

MIL_ID DirectMilAccess::MilImageBlue

MIL_ID DirectMilAccess::MilImageGreen

MIL_ID DirectMilAccess::MilImageRed

long DirectMilAccess::MilImageWorkPitch

unsigned char * DirectMilAccess::MilRedPtr

The documentation for this struct was generated from the following file:

- **ExtractionDeCible.cpp**

dmat Struct Reference

```
#include <MATRIX.H>
```

Public Attributes

- int **lb1**
- int **ub1**
- int **lb2**
- int **ub2**
- char* **mat_sto**
- double** **el**

Member Data Documentation

double ** dmat::el

int dmat::lb1

int dmat::lb2

char * dmat::mat_sto

int dmat::ub1

int dmat::ub2

The documentation for this struct was generated from the following file:

- **MATRIX.H**

doublecomplex Struct Reference

```
#include <F2C.H>
```

Public Attributes

- **doublereal r**
- **doublereal i**

Member Data Documentation

doublereal doublecomplex::i

doublereal doublecomplex::r

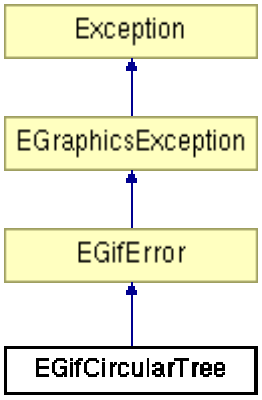
The documentation for this struct was generated from the following file:

- **F2C.H**

EGifCircularTree Class Reference

`#include <gifexcep.h>`

Inheritance diagram for EGifCircularTree:



Public Methods

- **EGifCircularTree** ()

Constructor & Destructor Documentation

EGifCircularTree::EGifCircularTree () `[inline]`

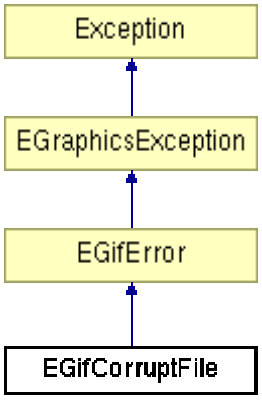
The documentation for this class was generated from the following file:

- **gifexcep.h**

EGifCorruptFile Class Reference

`#include <gifexcep.h>`

Inheritance diagram for EGifCorruptFile:



Public Methods

- **EGifCorruptFile** ()

Constructor & Destructor Documentation

EGifCorruptFile::EGifCorruptFile () `[inline]`

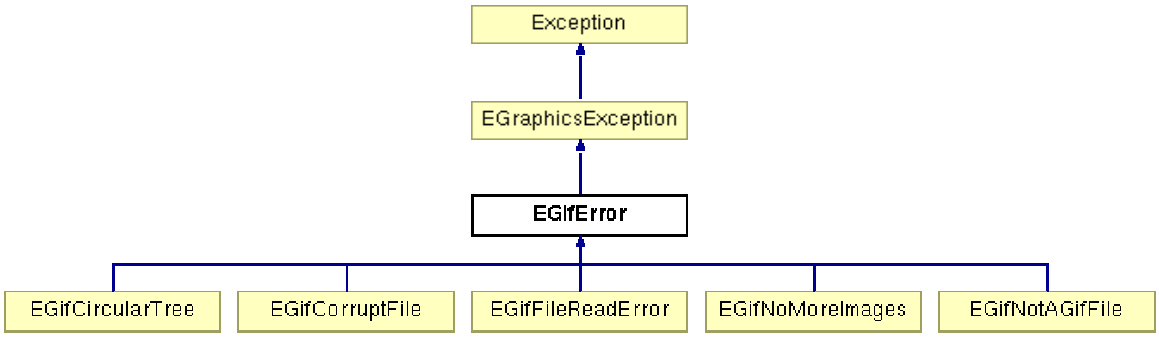
The documentation for this class was generated from the following file:

- **gifexcep.h**

EGifError Class Reference

`#include <gifexcep.h>`

Inheritance diagram for EGifError:



Public Methods

- **EGifError** (const Chaine &msg)

Constructor & Destructor Documentation

EGifError::EGifError (const Chaine & *msg*) `[inline]`

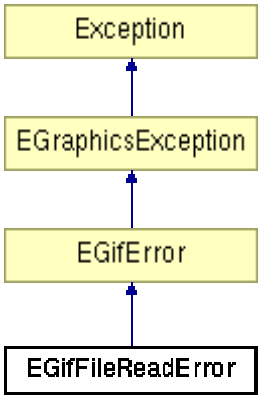
The documentation for this class was generated from the following file:

- **gifexcep.h**

EGifFileReadError Class Reference

`#include <gifexcep.h>`

Inheritance diagram for EGifFileReadError:



Public Methods

- **EGifFileReadError** ()

Constructor & Destructor Documentation

EGifFileReadError::EGifFileReadError () `[inline]`

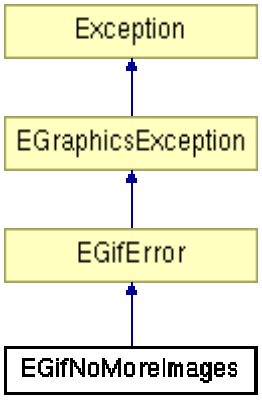
The documentation for this class was generated from the following file:

- **gifexcep.h**

EGifNoMoreImages Class Reference

`#include <gifexcep.h>`

Inheritance diagram for EGifNoMoreImages:



Public Methods

- **EGifNoMoreImages** ()

Constructor & Destructor Documentation

EGifNoMoreImages::EGifNoMoreImages () `[inline]`

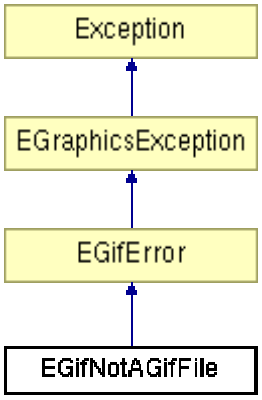
The documentation for this class was generated from the following file:

- **gifexcep.h**

EGifNotAGifFile Class Reference

`#include <gifexcep.h>`

Inheritance diagram for EGifNotAGifFile:



Public Methods

- **EGifNotAGifFile** ()

Constructor & Destructor Documentation

EGifNotAGifFile::EGifNotAGifFile () `[inline]`

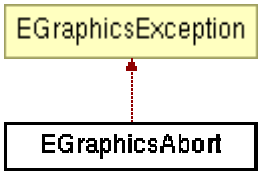
The documentation for this class was generated from the following file:

- **gifexcep.h**

EGraphicsAbort Class Reference

`#include <grexcept.h>`

Inheritance diagram for EGraphicsAbort:



Public Methods

- **EGraphicsAbort** ()

Constructor & Destructor Documentation

EGraphicsAbort::EGraphicsAbort () `[inline]`

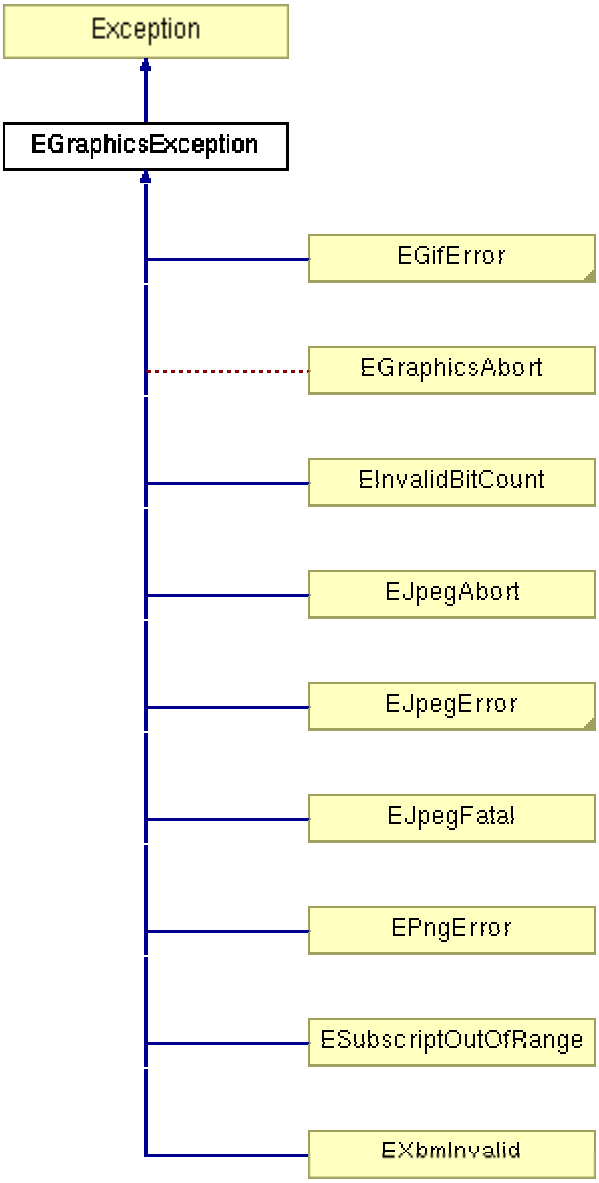
The documentation for this class was generated from the following file:

- **grexcept.h**

EGraphicsException Class Reference

`#include <grexcept.h>`

Inheritance diagram for EGraphicsException:



Public Methods

- **EGraphicsException** (Chaine msg)
- const EGraphicsException& **operator=** (const EGraphicsException &ge)

Constructor & Destructor Documentation

EGraphicsException::EGraphicsException (Chaine *msg*) `[inline]`

Member Function Documentation

const EGraphicsException & EGraphicsException::operator= (const EGraphicsException & *ge*) `[inline]`

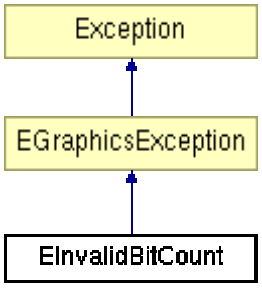
The documentation for this class was generated from the following file:

- **grexcept.h**

EInvalidBitCount Class Reference

`#include <grexcept.h>`

Inheritance diagram for EInvalidBitCount:



Public Methods

- **EInvalidBitCount** ()

Constructor & Destructor Documentation

EInvalidBitCount::EInvalidBitCount () `[inline]`

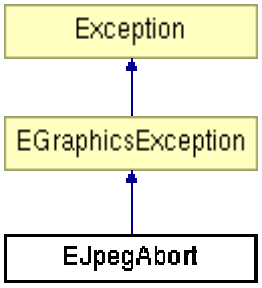
The documentation for this class was generated from the following file:

- **grexcept.h**

EJpegAbort Class Reference

`#include <jpgexcep.h>`

Inheritance diagram for EJpegAbort:



Public Methods

- **EJpegAbort** ()

Constructor & Destructor Documentation

EJpegAbort::EJpegAbort () `[inline]`

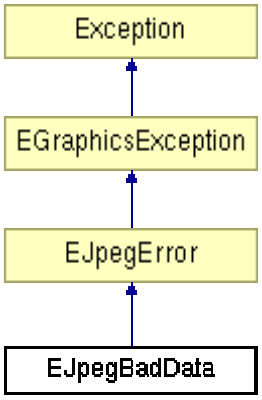
The documentation for this class was generated from the following file:

- **jpgexcep.h**

EJpegBadData Class Reference

`#include <jpgexcep.h>`

Inheritance diagram for EJpegBadData:



Public Methods

- **EJpegBadData** (Chaine msg="Bad input")

Constructor & Destructor Documentation

EJpegBadData::EJpegBadData (Chaine *msg* = "Bad input") `[inline]`

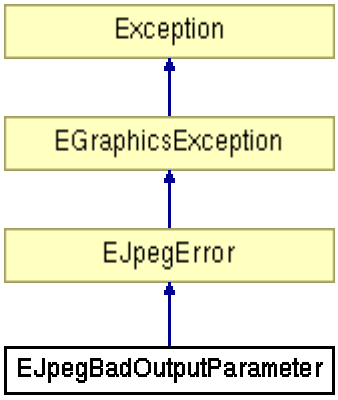
The documentation for this class was generated from the following file:

- **jpgexcep.h**

EJpegBadOutputParameter Class Reference

`#include <jpgexcep.h>`

Inheritance diagram for EJpegBadOutputParameter:



Public Methods

- **EJpegBadOutputParameter** (Chaine msg)

Constructor & Destructor Documentation

EJpegBadOutputParameter::EJpegBadOutputParameter (Chaine *msg*) `[inline]`

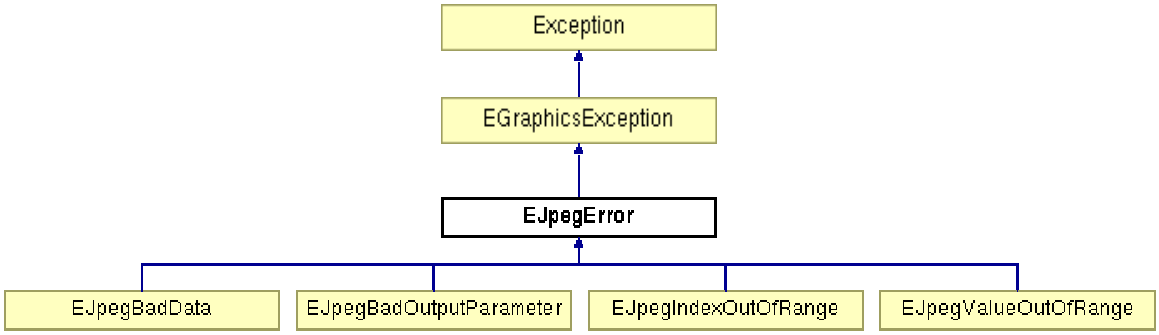
The documentation for this class was generated from the following file:

- **jpgexcep.h**

EJpegError Class Reference

`#include <jpgexcep.h>`

Inheritance diagram for EJpegError:



Public Methods

- **EJpegError** (const Chaine &msg)

Constructor & Destructor Documentation

EJpegError::EJpegError (const Chaine & *msg*) `[inline]`

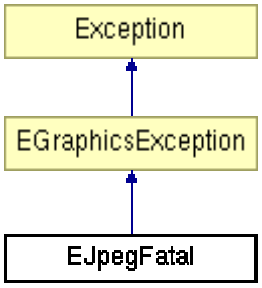
The documentation for this class was generated from the following file:

- **jpgexcep.h**

EJpegFatal Class Reference

`#include <jpgexcep.h>`

Inheritance diagram for EJpegFatal:



Public Methods

- **EJpegFatal** (const Chaine &msg)

Constructor & Destructor Documentation

EJpegFatal::EJpegFatal (const Chaine & *msg*) `[inline]`

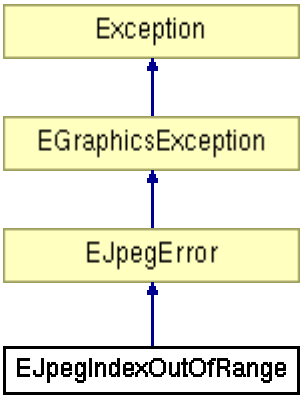
The documentation for this class was generated from the following file:

- **jpgexcep.h**

EJpegIndexOutOfRange Class Reference

`#include <jpgexcep.h>`

Inheritance diagram for EJpegIndexOutOfRange:



Public Methods

- **EJpegIndexOutOfRange** ()

Constructor & Destructor Documentation

EJpegIndexOutOfRange::EJpegIndexOutOfRange () `[inline]`

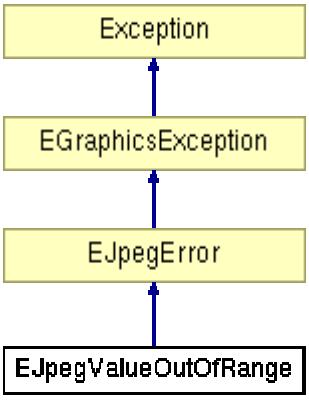
The documentation for this class was generated from the following file:

- **jpgexcep.h**

EJpegValueOutOfRange Class Reference

`#include <jpgexcep.h>`

Inheritance diagram for EJpegValueOutOfRange:



Public Methods

- **EJpegValueOutOfRange** ()

Constructor & Destructor Documentation

EJpegValueOutOfRange::EJpegValueOutOfRange () `[inline]`

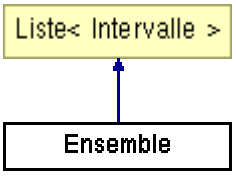
The documentation for this class was generated from the following file:

- **jpgexcep.h**

Ensemble Class Reference

`#include <ImageBinaire.hpp>`

Inheritance diagram for Ensemble:



Public Methods

- **Ensemble** ()
- **Ensemble** (long _min)
- int **Appartient** (const long &nb) const

Constructor & Destructor Documentation

Ensemble::Ensemble () `[inline]`

Ensemble::Ensemble (long *_min*) `[inline]`

Member Function Documentation

int Ensemble::Appartient (const long & *nb*) const

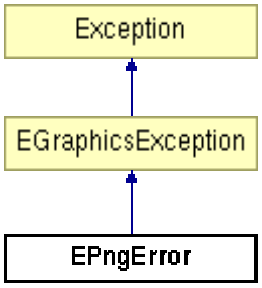
The documentation for this class was generated from the following files:

- **ImageBinaire.hpp**
- **ImageBinaire.cpp**

EPngError Class Reference

`#include <png.h>`

Inheritance diagram for EPngError:



Public Methods

- **EPngError** (char *msg)

Constructor & Destructor Documentation

EPngError::EPngError (char * *msg*) `[inline]`

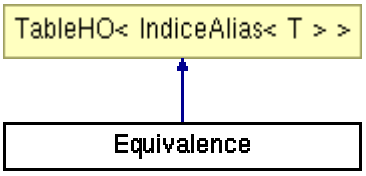
The documentation for this class was generated from the following file:

- **png.h**

Equivalence Class Template Reference

`#include <Equivalence.hpp>`

Inheritance diagram for Equivalence:



Public Methods

- void **Inserer** (const T &effectif, const T &desire)
- T **Chercher** (const T &effectif)

template<class T> class Equivalence

Member Function Documentation

template<class T> T Equivalence< T >::Chercher (const T & *effectif*)

template<class T> void Equivalence< T >::Inserer (const T & *effectif*, const T & *desire*)

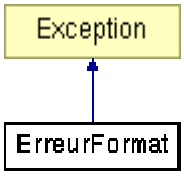
The documentation for this class was generated from the following file:

- **Equivalence.hpp**

ErreurFormat Class Reference

`#include <ImageStreamException.hpp>`

Inheritance diagram for ErreurFormat:



Public Methods

- **ErreurFormat** ()

Constructor & Destructor Documentation

ErreurFormat::ErreurFormat () `[inline]`

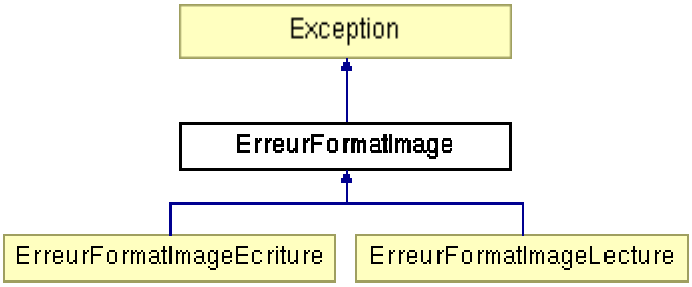
The documentation for this class was generated from the following file:

- **ImageStreamException.hpp**

ErreurFormatImage Class Reference

`#include <ImageStreamException.hpp>`

Inheritance diagram for ErreurFormatImage:



Public Methods

- **ErreurFormatImage** ()

Constructor & Destructor Documentation

ErreurFormatImage::ErreurFormatImage () `[inline]`

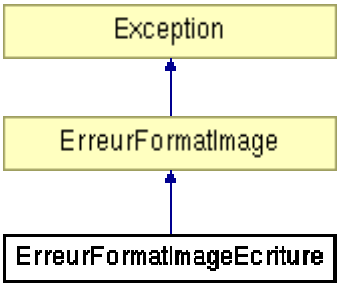
The documentation for this class was generated from the following file:

- **ImageStreamException.hpp**

ErreurFormatImageEcriture Class Reference

`#include <ImageStreamException.hpp>`

Inheritance diagram for ErreurFormatImageEcriture:



Public Methods

- **ErreurFormatImageEcriture** ()

Constructor & Destructor Documentation

ErreurFormatImageEcriture::ErreurFormatImageEcriture () `[inline]`

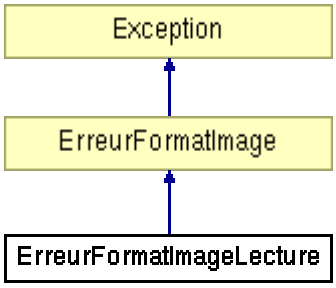
The documentation for this class was generated from the following file:

- **ImageStreamException.hpp**

ErreurFormatImageLecture Class Reference

`#include <ImageStreamException.hpp>`

Inheritance diagram for ErreurFormatImageLecture:



Public Methods

- **ErreurFormatImageLecture** ()

Constructor & Destructor Documentation

ErreurFormatImageLecture::ErreurFormatImageLecture () `[inline]`

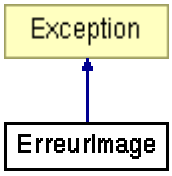
The documentation for this class was generated from the following file:

- **ImageStreamException.hpp**

ErreurImage Class Reference

`#include <ImageStreamException.hpp>`

Inheritance diagram for ErreurImage:



Public Methods

- **ErreurImage** (**fstream** *_us=0)

Private Attributes

- **fstream* us**

Constructor & Destructor Documentation

ErreurImage::ErreurImage (fstream * *_us* = 0) `[inline]`

Member Data Documentation

fstream * ErreurImage::us `[private]`

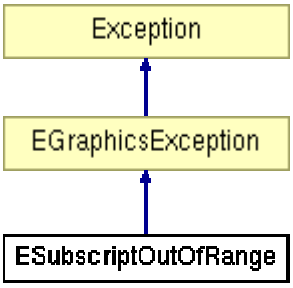
The documentation for this class was generated from the following file:

- **ImageStreamException.hpp**

ESubscriptOutOfRange Class Reference

`#include <grexcept.h>`

Inheritance diagram for ESubscriptOutOfRange:



Public Methods

- **ESubscriptOutOfRange** ()

Constructor & Destructor Documentation

ESubscriptOutOfRange::ESubscriptOutOfRange () `[inline]`

The documentation for this class was generated from the following file:

- **grexcept.h**

Cognois::EvaluationDeQualite Class Reference

```
#include <EvaluationDeQualite.h>
```

Public Methods

- double **QualiteExtraction** (const MPoints &surImages, int &nbImages) const
- double **QualiteReconstruction** (const **Cognois::CameraModel** &cam, const MPoints &surImg1, const MPoints &surImg2, const VPoints &surCible, int &nbImages) const

---

Member Function Documentation

double Cognois::EvaluationDeQualite::QualiteExtraction (const MPoints & *surImages*, int & *nbImages*) const

double Cognois::EvaluationDeQualite::QualiteReconstruction (const Cognois::CameraModel & *cam*, const MPoints & *surImg1*, const MPoints & *surImg2*, const VPoints & *surCible*, int & *nbImages*) const

---

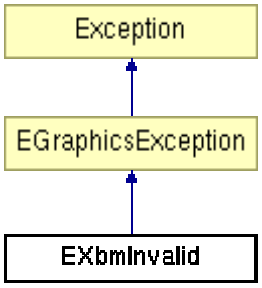
The documentation for this class was generated from the following files:

- **EvaluationDeQualite.h**
- **EvaluationDeQualite.cpp**

EXbmInvalid Class Reference

`#include <xbmdecod.h>`

Inheritance diagram for EXbmInvalid:



Public Methods

- **EXbmInvalid** ()
- **EXbmInvalid** (const Chaine &msg)

Constructor & Destructor Documentation

EXbmInvalid::EXbmInvalid () `[inline]`

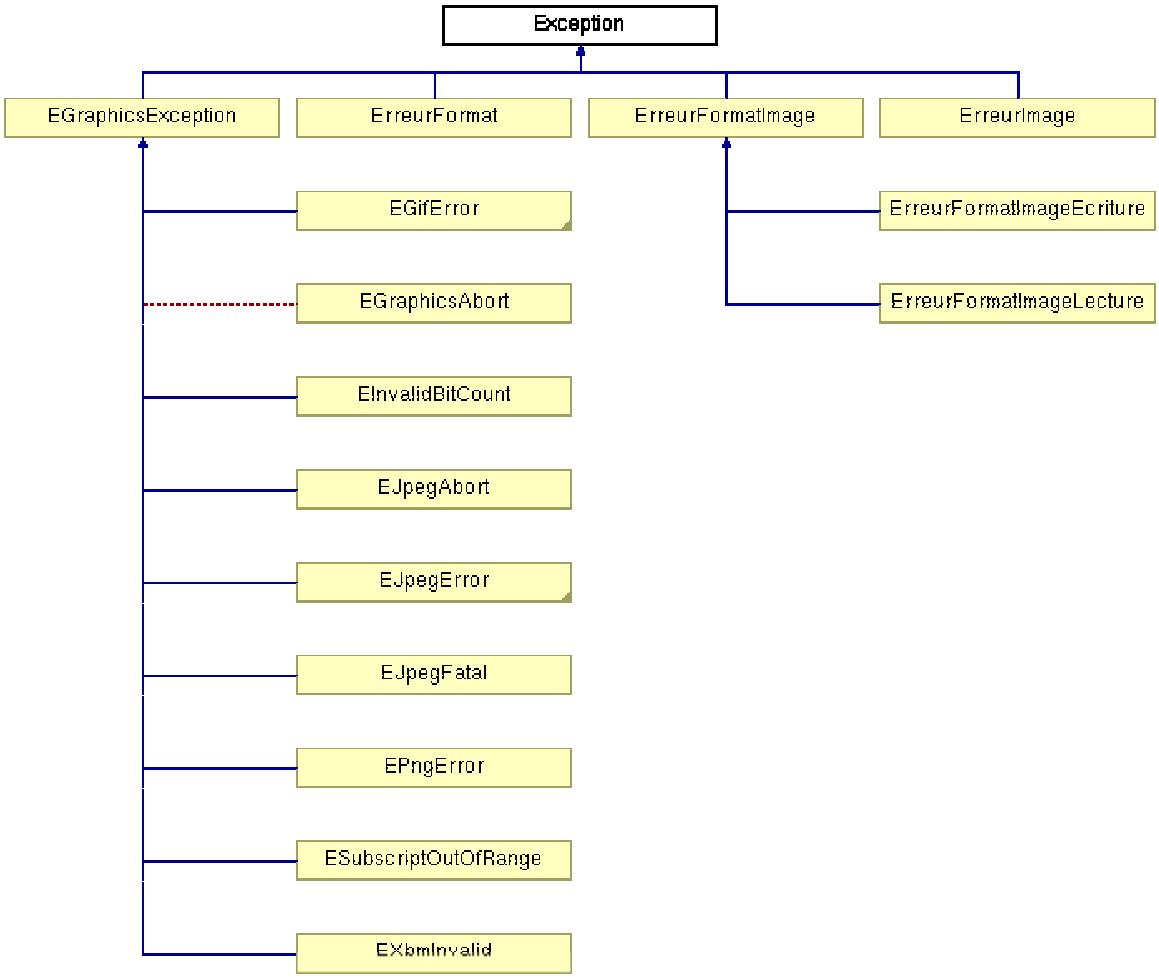
EXbmInvalid::EXbmInvalid (const Chaine & *msg*) `[inline]`

The documentation for this class was generated from the following file:

- **xbmdecod.h**

Exception Class Reference

Inheritance diagram for Exception:

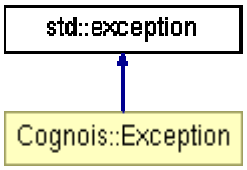


The documentation for this class was generated from the following file:

- **grexcept.h**

std::exception Class Reference

Inheritance diagram for std::exception:



The documentation for this class was generated from the following file:

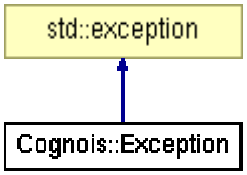
- **Exception.h**

Cognois::Exception Class Reference

Exception (*p.121*) class for COGNOIS.

`#include <Exception.h>`

Inheritance diagram for Cognois::Exception:



Public Methods

- **Exception** (const std::string &inMessage, const std::string &inSourceFile=0, int inSourceLine=0)
- void **Message** () const
  Print the error message.

- virtual const char* **what** () const

Private Attributes

- std::string **mMessage**
  The error message.

Detailed Description

Exception (*p.121*) class for COGNOIS.

Use this class to communicate unexpected events to a higher execution context that is better able to recover from such abnormal events.

Constructor & Destructor Documentation

Cognois::Exception::Exception (const std::string & *inMessage*, const std::string & *inSourceFile* = 0, int *inSourceLine* = 0) `[inline]`

Constructor for an exception; with the flag _COGNOIS_DEBUG, the message is printed

Parameters:

inMessage is an error message
inSourceFile is the source file in which the error occured
inSourceLigne is the line in which the error occured

Member Function Documentation

void Cognois::Exception::Message () const `[inline]`

Print the error message.

const char * Cognois::Exception::what () const `[inline, virtual]`

Member Data Documentation

std::string Cognois::Exception::mMessage `[private]`

The error message.

The documentation for this class was generated from the following file:

- **Exception.h**

Cognois::ExtractionDeCible Class Reference

Extraction des des points d'une cible de calibrage dans une image. La cible est formee // de cercles et son modele est connu.

```
#include <ExtractionDeCible.h>
```

Public Methods

- **ExtractionDeCible** ()
- **ExtractionDeCible** (const VPoints &surCible)
- **ExtractionDeCible** (const MPoints &surCibles)
- void **ObtenirPointsCoins** (const VPoints &surCible, const MIL_ID &image, VPoints &surImage)
- void **ObtenirPointsRGGG** (const VPoints &surCible, const MIL_ID &image, VPoints &surImage)
- const VPoints& **ObtenirPointsCoins** (const MIL_ID &image, VPoints &surImage)
- const VPoints& **ObtenirPointsRGGG** (const MIL_ID &image, VPoints &surImage)
- void **Afficher** (const MIL_ID &MilImage, const VPoints &surImage)

Public Attributes

- MIL_ID* **MilImageDisp**
- MIL_ID * **MilImageWork**

Private Methods

- void **ExtrairePoints** (const MIL_ID &image, const int nbamis, VPoints &surImage)
- unsigned char **AutoThresholdEstimation** (const MIL_ID &image) const
- void **GetBlobs** (void *_img, **BlobInfo** *&_blobs, int &_nbBlobs) const
- void **GetCircles** (void *img, const int nbamis, VPoints &surImage) const
- void **ConvertToGray** (const MIL_ID &_imgRGB, MIL_ID &_imgGray) const
- void **Binarize** (void *_imgGray, void *_binImage, unsigned char _treshold) const
- void **ConvertMilToPicture** (const MIL_ID &_milImage, void *_picImage) const
- void **AfficherDebug** (MIL_ID &_milBuffer, void *_binBuffer, const VPoints &_surImage) const
- template<class T> void **Seuils** (**std::vector**< T > &liste, int nbamis, float &moymin, float &ecartmin) const
- template<class T> void **Statistiques** (**std::vector**< T > &liste, int depart, int nbamis, float &moyenne, float &ecart_type) const
- void **TrouverPointRouge** (const MIL_ID &image, VPoints &surImage) const
- void **TrouverPointsRougeVert** (const MIL_ID &image, VPoints &surImage) const
- void **Ordonner** (const VPoints &surCible, const VPoints &surImage, VPoints &ordonnesImage)
- void **OrdonnerCouleur** (const VPoints &surCible, const VPoints &surImage, VPoints &ordonnesImage)
- VDoubles **Mapping** (const VPoints &U, const VPoints &X) const
- **Point SurCible** (const VDoubles &P, const **Point** &U) const
- int **Intersection** (const VPoints &points) const
- void **Iden4Coins** (const VPoints &points, VPoints &ordonnes) const
- void **SortMatrix** (const VPoints &A, VPoints &ordonnes) const
- void **Matching** (const VDoubles P, const VPoints &U, const VPoints &X, VPoints &Uout)
- void **RGBtoHSI** (unsigned char red, unsigned char green, unsigned char blue, double &hue, double &saturation, double &intensity) const

Private Attributes

- MPoints **ciblesParDefaut**
- VDoubles **distMinDefaut**
- unsigned int **cibleCourante**
- **Point mLastSize**
- **Point mLastPosition**
- **Point mImageSize**
- VPoints **mLastDisplay**
- bool **useCibleParDefaut**

Detailed Description

Extraction des des points d'une cible de calibrage dans une image. La cible est formee // de cercles et son modele est connu.

Constructor & Destructor Documentation

Cognois::ExtractionDeCible::ExtractionDeCible ()

Cognois::ExtractionDeCible::ExtractionDeCible (const VPoints & *surCible*)

Cognois::ExtractionDeCible::ExtractionDeCible (const MPoints & *surCibles*)

Member Function Documentation

void Cognois::ExtractionDeCible::Afficher (const MIL_ID & *MilImage*, const VPoints & *surImage*)

void Cognois::ExtractionDeCible::AfficherDebug (MIL_ID & *_milBuffer*, void * *_binBuffer*, const VPoints & *_surImage*) const `[private]`

unsigned char Cognois::ExtractionDeCible::AutoThresholdEstimation (const MIL_ID & *image*) const `[private]`

void Cognois::ExtractionDeCible::Binarize (void * *_imgGray*, void * *_binImage*, unsigned char *_treshold*) const `[inline, private]`

void Cognois::ExtractionDeCible::ConvertMilToPicture (const MIL_ID & *_milImage*, void * *_picImage*) const `[inline, private]`

void Cognois::ExtractionDeCible::ConvertToGray (const MIL_ID & *_imgRGB*, MIL_ID & *_imgGray*) const `[inline, private]`

void Cognois::ExtractionDeCible::ExtrairePoints (const MIL_ID & *image*, const int *nbamis*, VPoints & *surImage*) `[private]`

void Cognois::ExtractionDeCible::GetBlobs (void * *_img*, BlobInfo *& *_blobs*, int & *_nbBlobs*) const `[private]`

void Cognois::ExtractionDeCible::GetCircles (void * *img*, const int *nbamis*, VPoints & *surImage*) const `[private]`

void Cognois::ExtractionDeCible::Iden4Coins (const VPoints & *points*, VPoints & *ordonnes*) const `[private]`

int Cognois::ExtractionDeCible::Intersection (const VPoints & *points*) const `[private]`

VDoubles Cognois::ExtractionDeCible::Mapping (const VPoints & *U*, const VPoints & *X*) const `[private]`

void Cognois::ExtractionDeCible::Matching (const VDoubles *P*, const VPoints & *U*, const VPoints & *X*, VPoints & *Uout*) `[private]`

const VPoints & Cognois::ExtractionDeCible::ObtenirPointsCoins (const MIL_ID & *image*, VPoints & *surImage*)

void Cognois::ExtractionDeCible::ObtenirPointsCoins (const VPoints & *surCible*, const MIL_ID & *image*, VPoints & *surImage*)

const VPoints & Cognois::ExtractionDeCible::ObtenirPointsRGGG (const MIL_ID & *image*, VPoints & *surImage*)

void Cognois::ExtractionDeCible::ObtenirPointsRGGG (const VPoints & *surCible*, const MIL_ID & *image*, VPoints & *surImage*)

void Cognois::ExtractionDeCible::Ordonner (const VPoints & *surCible*, const VPoints & *surImage*, VPoints & *ordonnesImage*) `[private]`

void Cognois::ExtractionDeCible::OrdonnerCouleur (const VPoints & *surCible*, const VPoints & *surImage*, VPoints & *ordonnesImage*) `[private]`

void Cognois::ExtractionDeCible::RGBtoHSI (unsigned char *red*, unsigned char *green*, unsigned char *blue*, double & *hue*, double & *saturation*, double & *intensity*) const `[private]`

template<class T> void Cognois::ExtractionDeCible::Seuils (std::vector< T > & *liste*, int *nbamis*, float & *moymin*, float & *ecartmin*) const `[private]`

void Cognois::ExtractionDeCible::SortMatrix (const VPoints & *A*, VPoints & *ordonnes*) const `[private]`

template<class T> void Cognois::ExtractionDeCible::Statistiques (std::vector< T > & *liste*, int *depart*, int *nbamis*, float & *moyenne*, float & *ecart_type*) const `[private]`

Point Cognois::ExtractionDeCible::SurCible (const VDoubles & *P*, const Point & *U*) const `[private]`

void Cognois::ExtractionDeCible::TrouverPointRouge (const MIL_ID & *image*, VPoints & *surImage*) const `[private]`

void Cognois::ExtractionDeCible::TrouverPointsRougeVert (const MIL_ID & *image*, VPoints & *surImage*) const `[private]`

Member Data Documentation

MIL_ID * Cognois::ExtractionDeCible::MilImageDisp

MIL_ID * Cognois::ExtractionDeCible::MilImageWork

unsigned int Cognois::ExtractionDeCible::cibleCourante `[private]`

MPoints Cognois::ExtractionDeCible::ciblesParDefaut `[private]`

VDoubles Cognois::ExtractionDeCible::distMinDefaut `[private]`

Point Cognois::ExtractionDeCible::mImageSize `[private]`

VPoints Cognois::ExtractionDeCible::mLastDisplay `[private]`

Point Cognois::ExtractionDeCible::mLastPosition `[private]`

Point Cognois::ExtractionDeCible::mLastSize `[private]`

bool Cognois::ExtractionDeCible::useCibleParDefaut `[private]`

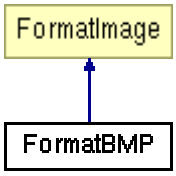
The documentation for this class was generated from the following files:

- **ExtractionDeCible.h**
- **ExtractionDeCible.cpp**

FormatBMP Class Reference

`#include <FormatBMP.hpp>`

Inheritance diagram for FormatBMP:



Public Methods

- void **ReadImage** (istream &, **ImageRGB** &)
- void **WriteImage** (ostream &, const **ImageRGB** &)

Protected Types

- enum { **BRGB**, **BRLE8**, **BRLE4** }
- enum { **EOL**, **EOB**, **DELTA** }

Member Enumeration Documentation

anonymous enum `[protected]`

Enumeration values:

BRGB
BRLE8
BRLE4

anonymous enum `[protected]`

Enumeration values:

EOL
EOB
DELTA

Member Function Documentation

void FormatBMP::ReadImage (istream & *in*, ImageRGB & *img*) `[virtual]`

Reimplemented from **FormatImage** (*p.132*).

void FormatBMP::WriteImage (ostream & *out*, const ImageRGB & *img*) `[virtual]`

Reimplemented from **FormatImage** (*p.133*).

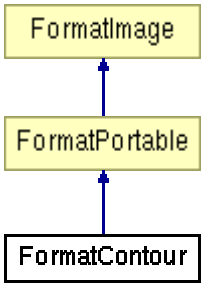
The documentation for this class was generated from the following files:

- **FormatBMP.hpp**
- **FormatBMP.cpp**

FormatContour Class Reference

`#include <FormatContour.hpp>`

Inheritance diagram for FormatContour:



Public Methods

- void **ReadImage** (istream &, **Contour** &)
- void **WriteImage** (ostream &, const **Contour** &)
- void **ReadImage** (istream &i, **ImageRGB** &r)
- void **WriteImage** (ostream &o, const **ImageRGB** &r)

Protected Methods

- void **ReadV1** (istream &, **Contour** &)

Member Function Documentation

void FormatContour::ReadImage (istream & *i*, ImageRGB & *r*) `[inline, virtual]`

Reimplemented from **FormatImage** (*p.132*).

void FormatContour::ReadImage (istream & *in*, Contour & *ctr*)

void FormatContour::ReadV1 (istream & *in*, Contour & *ctr*) `[protected]`

void FormatContour::WriteImage (ostream & *o*, const ImageRGB & *r*) `[inline, virtual]`

Reimplemented from **FormatImage** (*p.133*).

void FormatContour::WriteImage (ostream & *out*, const Contour & *ctr*)

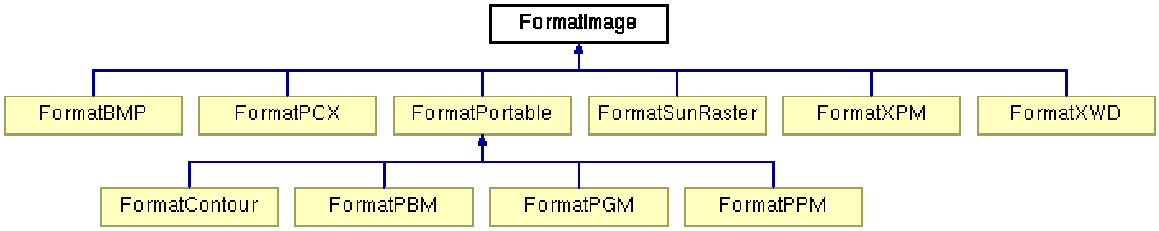
The documentation for this class was generated from the following files:

- **FormatContour.hpp**
- **FormatContour.cpp**

FormatImage Class Reference

`#include <FormatImage.hpp>`

Inheritance diagram for FormatImage:



Public Methods

- **FormatImage** ()
- virtual **~FormatImage** ()
- virtual void **ReadImage** (istream &, **ImageRGB** &)=0
- virtual void **WriteImage** (ostream &, const **ImageRGB** &)=0
- void **SetVerbose** (bool _v)
- int **GetVerbose** () const

Protected Attributes

- bool **verbose_flag**

Constructor & Destructor Documentation

FormatImage::FormatImage () `[inline]`

FormatImage::~FormatImage () `[inline, virtual]`

Member Function Documentation

int FormatImage::GetVerbose () const `[inline]`

void FormatImage::ReadImage (istream & *in*, ImageRGB & *img*) `[pure virtual]`

Reimplemented in **FormatBMP** (*p.128*), **FormatContour** (*p.130*), **FormatPBM** (*p.134*), **FormatPCX** (*p.137*), **FormatPGM** (*p.138*), **FormatPPM** (*p.141*), **FormatSunRaster** (*p.143*), **FormatXPM** (*p.145*), and **FormatXWD** (*p.148*).

void FormatImage::SetVerbose (bool _*v*) `[inline]`

void FormatImage::WriteImage (ostream & *out*, const ImageRGB & *img*) `[pure virtual]`

Reimplemented in **FormatBMP** (*p.129*), **FormatContour** (*p.130*), **FormatPBM** (*p.134*), **FormatPCX** (*p.137*), **FormatPGM** (*p.138*), **FormatPPM** (*p.141*), **FormatSunRaster** (*p.143*), **FormatXPM** (*p.145*), and **FormatXWD** (*p.148*).

Member Data Documentation

bool FormatImage::verbose_flag `[protected]`

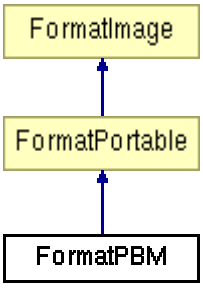
The documentation for this class was generated from the following file:

- **FormatImage.hpp**

FormatPBM Class Reference

`#include <FormatPBM.hpp>`

Inheritance diagram for FormatPBM:



Public Methods

- void **ReadImage** (istream &, **ImageGris** &)
- void **WriteImage** (ostream &, const **ImageGris** &)
- void **ReadImage** (istream &i, **ImageRGB** &r)
- void **WriteImage** (ostream &o, const **ImageRGB** &r)

Protected Methods

- void **ReadRAW** (istream &, **ImageGris** &)
- void **ReadASCII** (istream &, **ImageGris** &)

Protected Attributes

- **pbmHeader hd**

Member Function Documentation

void FormatPBM::ReadASCII (istream & *in*, ImageGris & *img*) `[protected]`

void FormatPBM::ReadImage (istream & *i*, ImageRGB & *r*) `[inline, virtual]`

Reimplemented from **FormatImage** (*p.132*).

void FormatPBM::ReadImage (istream & *in*, ImageGris & *img*)

void FormatPBM::ReadRAW (istream & *in*, ImageGris & *img*) `[protected]`

void FormatPBM::WriteImage (ostream & *o*, const ImageRGB & *r*) `[inline, virtual]`

Reimplemented from **FormatImage** (*p.133*).

void FormatPBM::WriteImage (ostream & *out*, const ImageGris & *img*)

Member Data Documentation

pbmHeader FormatPBM::hd `[protected]`

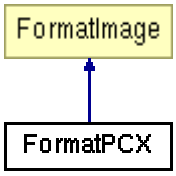
The documentation for this class was generated from the following files:

- **FormatPBM.hpp**
- **FormatPBM.cpp**

FormatPCX Class Reference

`#include <FormatPCX.hpp>`

Inheritance diagram for FormatPCX:



Public Methods

- void **ReadImage** (istream &, **ImageRGB** &)

Protected Types

- enum { **PMAGIC** = 0xA }
- enum { **PRLE** = 1 }
- enum { **PGSCALE** = 1, **PCOLOR** }
- enum { **PCXMONO** = 0, **PCX16c**, **PCX16c_pal**, **PCX256c_pal**, **PCX16Mc** }

Private Methods

- void **WriteImage** (ostream &, const **ImageRGB** &)

Member Enumeration Documentation

anonymous enum `[protected]`

Enumeration values:

PMAGIC

anonymous enum `[protected]`

Enumeration values:

PRLE

anonymous enum `[protected]`

Enumeration values:

PGSCALE
PCOLOR

anonymous enum `[protected]`

Enumeration values:

PCXMONO
PCX16c
PCX16c_pal
PCX256c_pal
PCX16Mc

Member Function Documentation

void FormatPCX::ReadImage (istream & *in*, ImageRGB & *img*) `[virtual]`

Reimplemented from **FormatImage** (*p.132*).

void FormatPCX::WriteImage (ostream & *out*, const ImageRGB & *img*) `[private, virtual]`

Reimplemented from **FormatImage** (*p.133*).

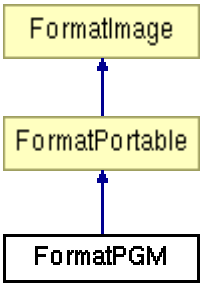
The documentation for this class was generated from the following files:

- **FormatPCX.hpp**
- **FormatPCX.cpp**

FormatPGM Class Reference

`#include <FormatPGM.hpp>`

Inheritance diagram for FormatPGM:



Public Methods

- void **ReadImage** (istream &, **ImageGris** &)
- void **WriteImage** (ostream &, const **ImageGris** &)
- void **ReadImage** (istream &i, **ImageRGB** &r)
- void **WriteImage** (ostream &o, const **ImageRGB** &r)

Protected Methods

- void **ReadRAW** (istream &, **ImageGris** &)
- void **ReadASCII** (istream &, **ImageGris** &)

Protected Attributes

- **pgmHeader hd**

Member Function Documentation

void FormatPGM::ReadASCII (istream & *in*, ImageGris & *img*) `[protected]`

void FormatPGM::ReadImage (istream & *i*, ImageRGB & *r*) `[inline, virtual]`

Reimplemented from **FormatImage** (*p.132*).

void FormatPGM::ReadImage (istream & *in*, ImageGris & *img*)

void FormatPGM::ReadRAW (istream & *in*, ImageGris & *img*) `[protected]`

void FormatPGM::WriteImage (ostream & *o*, const ImageRGB & *r*) `[inline, virtual]`

Reimplemented from **FormatImage** (*p.133*).

void FormatPGM::WriteImage (ostream & *out*, const ImageGris & *img*)

Member Data Documentation

pgmHeader FormatPGM::hd `[protected]`

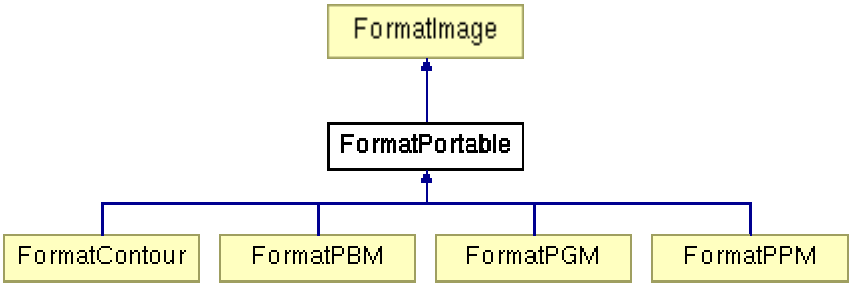
The documentation for this class was generated from the following files:

- **FormatPGM.hpp**
- **FormatPGM.cpp**

FormatPortable Class Reference

`#include <FormatPortable.hpp>`

Inheritance diagram for FormatPortable:



Protected Methods

- void **NextLine** (istream &)
- Chaine **NextInformation** (istream &)

Member Function Documentation

Chaine FormatPortable::NextInformation (istream & *in*) `[inline, protected]`

void FormatPortable::NextLine (istream & *in*) `[inline, protected]`

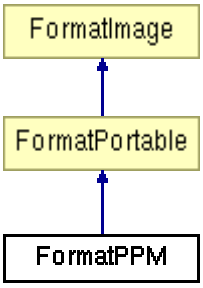
The documentation for this class was generated from the following file:

- **FormatPortable.hpp**

FormatPPM Class Reference

`#include <FormatPPM.hpp>`

Inheritance diagram for FormatPPM:



Public Methods

- void **ReadImage** (istream &, **ImageRGB** &)
- void **WriteImage** (ostream &, const **ImageRGB** &)

Protected Methods

- void **ReadRAW** (istream &, **ImageRGB** &)
- void **ReadASCII** (istream &, **ImageRGB** &)

Protected Attributes

- **ppmHeader hd**

Member Function Documentation

void FormatPPM::ReadASCII (istream & *in*, ImageRGB & *img*) `[protected]`

void FormatPPM::ReadImage (istream & *in*, ImageRGB & *img*) `[virtual]`

Reimplemented from **FormatImage** (*p.132*).

void FormatPPM::ReadRAW (istream & *in*, ImageRGB & *img*) `[protected]`

void FormatPPM::WriteImage (ostream & *out*, const ImageRGB & *img*) `[virtual]`

Reimplemented from **FormatImage** (*p.133*).

Member Data Documentation

ppmHeader FormatPPM::hd `[protected]`

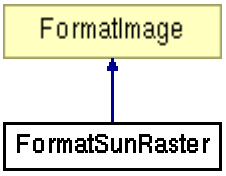
The documentation for this class was generated from the following files:

- **FormatPPM.hpp**
- **FormatPPM.cpp**

FormatSunRaster Class Reference

`#include <FormatSunRaster.hpp>`

Inheritance diagram for FormatSunRaster:



Public Methods

- void **ReadImage** (istream &, **ImageRGB** &)
- void **WriteImage** (ostream &, const **ImageRGB** &)
- void **WriteImage** (ostream &, const **ImageGris** &)

Member Function Documentation

void FormatSunRaster::ReadImage (istream & *in*, ImageRGB & *img*) `[virtual]`

Reimplemented from **FormatImage** (*p.132*).

void FormatSunRaster::WriteImage (ostream & *out*, const ImageGris & *img*)

void FormatSunRaster::WriteImage (ostream & *out*, const ImageRGB & *img*) `[virtual]`

Reimplemented from **FormatImage** (*p.133*).

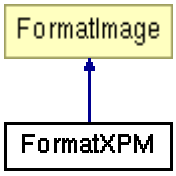
The documentation for this class was generated from the following files:

- **FormatSunRaster.hpp**
- **FormatSunRaster.cpp**

FormatXPM Class Reference

`#include <FormatXPM.hpp>`

Inheritance diagram for FormatXPM:



Public Methods

- void **ReadImage** (istream &, **ImageRGB** &)
- void **WriteImage** (ostream &, const **ImageRGB** &)

Protected Types

- enum **Token** { **Invalid**, **Define**, **Comma**, **Integer**, **Static**, **Char**, **Bits**, **LBrace**, **RBrace**, **Equal**, **LBracket**, **RBracket**, **Guillemet**, **Slash**, **Format**, **Width**, **Height**, **NColors**, **Pixel**, **Mono**, **Pointeur**, **Semicolon**, **Unsigned** }

Protected Methods

- int **NextChar** (istream &)
- int **NextToken** (istream &)
- void **NextColor** (istream &, **xpmColor** &tmp, int bpp=1)
- int **NextPixel** (istream &, int)

Protected Attributes

- int **last_char**
- unsigned int **lexical_value**
- bool **openstring**

Member Enumeration Documentation

enum FormatXPM::Token `[protected]`

Enumeration values:

Invalid
Define
Comma
Integer
Static
Char
Bits
LBrace

RBrace
Equal
LBracket
RBracket
Guillemet
Slash
Format
Width
Height
NColors
Pixel
Mono
Pointeur
Semicolon
Unsigned

Member Function Documentation

int FormatXPM::NextChar (istream & *strm*) `[protected]`

void FormatXPM::NextColor (istream & *in*, xpmColor & *retour*, int *bpp* = 1) `[protected]`

int FormatXPM::NextPixel (istream & *in*, int *bpp*) `[protected]`

int FormatXPM::NextToken (istream & *strm*) `[protected]`

void FormatXPM::ReadImage (istream & *in*, ImageRGB & *img*) `[virtual]`

Reimplemented from **FormatImage** (*p.132*).

void FormatXPM::WriteImage (ostream & *out*, const ImageRGB & *img*) `[virtual]`

Reimplemented from **FormatImage** (*p.133*).

Member Data Documentation

int FormatXPM::last_char `[protected]`

unsigned int FormatXPM::lexical_value `[protected]`

bool FormatXPM::openstring `[protected]`

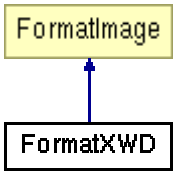
The documentation for this class was generated from the following files:

- **FormatXPM.hpp**
- **FormatXPM.cpp**

FormatXWD Class Reference

`#include <FormatXWD.hpp>`

Inheritance diagram for FormatXWD:



Public Methods

- void **ReadImage** (istream &, **ImageRGB** &)
- void **WriteImage** (ostream &, const **ImageRGB** &)

Protected Types

- enum { **XYPixmap** = 1, **ZPixmap** }
- enum { **StaticG** = 0, **ScaleG**, **StaticC**, **PseudoC**, **TrueC**, **DirectC** }
- enum { **LSBFirst** = 0, **MSBFirst** }

Protected Methods

- **UBYTE4 SystemToEndian** (**UBYTE4** val)
- **UBYTE4 EndianToSystem** (**UBYTE4** val)
- **UBYTE2 SystemToEndian** (**UBYTE2** val)
- **UBYTE2 EndianToSystem** (**UBYTE2** val)
- Table1D<**UBYTE4**> **DecomposeUnit** (**UBYTE4** unit, **UBYTE1** bbp, **UBYTE1** bu)

Protected Attributes

- bool **bytebigendian**
- bool **bitbigendian**
- **UBYTE4 pixmask**

Member Enumeration Documentation

anonymous enum `[protected]`

Enumeration values:

StaticG
ScaleG
StaticC
PseudoC
TrueC
DirectC

anonymous enum `[protected]`

Enumeration values:

LSBFirst
MSBFirst

anonymous enum `[protected]`

Enumeration values:

XYPixmap
ZPixmap

Member Function Documentation

Table1D< UBYTE4 > FormatXWD::DecomposeUnit (UBYTE4 *unit*, UBYTE1 *bpp*, UBYTE1 *bu*) `[inline, protected]`

UBYTE2 FormatXWD::EndianToSystem (UBYTE2 *val*) `[inline, protected]`

UBYTE4 FormatXWD::EndianToSystem (UBYTE4 *val*) `[inline, protected]`

void FormatXWD::ReadImage (istream & *in*, ImageRGB & *img*) `[virtual]`

Reimplemented from **FormatImage** (*p.132*).

UBYTE2 FormatXWD::SystemToEndian (UBYTE2 *val*) `[inline, protected]`

UBYTE4 FormatXWD::SystemToEndian (UBYTE4 *val*) `[inline, protected]`

void FormatXWD::WriteImage (ostream & *out*, const ImageRGB & *img*) `[virtual]`

Reimplemented from **FormatImage** (*p.133*).

Member Data Documentation

bool FormatXWD::bitbigendian `[protected]`

bool FormatXWD::bytebigendian `[protected]`

UBYTE4 FormatXWD::pixmask `[protected]`

The documentation for this class was generated from the following files:

- **FormatXWD.hpp**
- **FormatXWD.cpp**

Cognois::FrameCounter Class Reference

Count grabbed frames according to their time stamp.

```
#include <FrameCounter.h>
```

Public Methods

- **FrameCounter** (double inFrameRate, unsigned int inQueueLength=10)
  Constructor with an estimation of the frame rate.

- **FrameCounter** (const FrameCounter &inFrameCounter)
  Copy constructor.

- **~FrameCounter** ()
  Destructor.

- void **SetVerbose** (strstream *inStream)
- const FrameCounter& **operator=** (const FrameCounter &inFrameCounter)
  *Assign a **FrameCounter** (p.150).*

- void **Reset** (unsigned long inNextFrameId=0)
  Reset the frame queue.

- void **GetFrameInformation** (LARGE_INTEGER &inPerformanceCounter, unsigned long &outFrameId, unsigned long &outTimeStamp)
  Assigns a frame number and a time stamp to a performance counter value.

- double **TimeSinceLastFrame** (LARGE_INTEGER &inPerformanceCounter)

Private Methods

- unsigned int **NextLeastRecentFrameIndex** () const
  Calculate the next index in the circular array.

- unsigned int **NextMostRecentFrameIndex** () const
  Calculate the next index in the circular array.

- unsigned int **NextIndex** (const unsigned int &inCurrentIndex) const
  Calculate the next index in the circular array.

- unsigned long **ElapsedMilliseconds** (LARGE_INTEGER &inPreviousTime, LARGE_INTEGER &inCurrentTime) const
  Calculate the number of milliseconds between two time stamps.

Private Attributes

- unsigned long* **mLastFrameIds**
  Array of the last frame ids.

- LARGE_INTEGER* **mLastTimeStamps**
  Array of the last time stamps.

- unsigned int **mLeastRecentFrameIndex**
  Index of the least recent frame.

- unsigned int **mMostRecentFrameIndex**
  Index of the most recent frame.

- LARGE_INTEGER **mTimeAtBeginning**
  Original performance counter value.

- unsigned int **mQueueLength**
  Number of frame to remember.

- double **mFrameRate**
  Estimated frame rate of the camera.

- LARGE_INTEGER **mPerformanceFrequency**
  Performance frequency value.

- bool **mTransientState**
  If no frame have been processed.

- bool **mVerbose**
- strstream* **mStream**

Detailed Description

Count grabbed frames according to their time stamp.

Constructor & Destructor Documentation

Cognois::FrameCounter::FrameCounter (double *inFrameRate*, unsigned int *inQueueLength* = 10)

Constructor with an estimation of the frame rate.

Parameters:

inFrameRate is the estimated frame rate of the camera
inQueueLength is the number of frame to remember

Cognois::FrameCounter::FrameCounter (const FrameCounter & *inFrameCounter*)

Copy constructor.

Cognois::FrameCounter::~FrameCounter ()

Destructor.

Member Function Documentation

unsigned long Cognois::FrameCounter::ElapsedMilliseconds (LARGE_INTEGER & *inPreviousTime*, LARGE_INTEGER & *inCurrentTime*) const `[inline, private]`

Calculate the number of milliseconds between two time stamps.

Parameters:

inPreviousTime is a time stamp
inCurrentTime is a time stamp

Returns:

The number of millisecondes elapsed from inPreviousTime to inCurrentTime

void Cognois::FrameCounter::GetFrameInformation (LARGE_INTEGER & *inPerformanceCounter*, unsigned long & *outFrameId*, unsigned long & *outTimeStamp*)

Assigns a frame number and a time stamp to a performance counter value.

Parameters:

inPerformanceCounter is a performance counter value associated with a frame
outFrameId is a the frame ID corresponding to the time stamp
outTimeStamp is the time stamp corresponding to the performance counter

unsigned int Cognois::FrameCounter::NextIndex (const unsigned int & *inCurrentIndex*) const `[private]`

Calculate the next index in the circular array.

Parameters:

inCurrentIndex is the current index in the circular array

Returns:

The next index in the circular array

unsigned int Cognois::FrameCounter::NextLeastRecentFrameIndex () const `[inline, private]`

Calculate the next index in the circular array.

Returns:

The next index to use to address the least recent frame

unsigned int Cognois::FrameCounter::NextMostRecentFrameIndex () const `[inline, private]`

Calculate the next index in the circular array.

Returns:

The next index to use to address the most recent frame

void Cognois::FrameCounter::Reset (unsigned long *inNextFrameId* = 0)

Reset the frame queue.

Parameters:

inNextFrameId is a the next frame ID to allocate

void Cognois::FrameCounter::SetVerbose (strstream * *inStream*) `[inline]`

double Cognois::FrameCounter::TimeSinceLastFrame (LARGE_INTEGER & *inPerformanceCounter*) `[inline]`

Evaluate the time (in ms) since the last valid frame.

Parameters:

inPerformanceCounter is the current frame time stamp.

Returns:

The time since the last valid frame.

const Cognois::FrameCounter & Cognois::FrameCounter::operator= (const FrameCounter & *inFrameCounter*)

Assign a **FrameCounter** (*p.150*).

Parameters:

inFrameCounter is the object to assign this

Returns:

A reference to this

Member Data Documentation

double Cognois::FrameCounter::mFrameRate `[private]`

Estimated frame rate of the camera.

unsigned long * Cognois::FrameCounter::mLastFrameIds `[private]`

Array of the last frame ids.

LARGE_INTEGER * Cognois::FrameCounter::mLastTimeStamps `[private]`

Array of the last time stamps.

unsigned int Cognois::FrameCounter::mLeastRecentFrameIndex `[private]`

Index of the least recent frame.

unsigned int Cognois::FrameCounter::mMostRecentFrameIndex `[private]`

Index of the most recent frame.

LARGE_INTEGER Cognois::FrameCounter::mPerformanceFrequency `[private]`

Performance frequency value.

unsigned int Cognois::FrameCounter::mQueueLength `[private]`

Number of frame to remember.

strstream * Cognois::FrameCounter::mStream `[private]`

LARGE_INTEGER Cognois::FrameCounter::mTimeAtBeginning `[private]`

Original performance counter value.

bool Cognois::FrameCounter::mTransientState `[private]`

If no frame have been processed.

bool Cognois::FrameCounter::mVerbose `[private]`

The documentation for this class was generated from the following files:

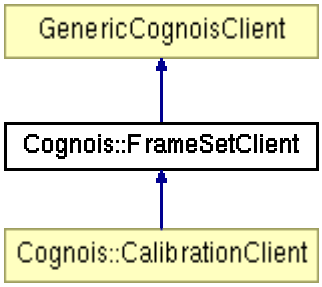
- **FrameCounter.h**
- **FrameCounter.cpp**

Cognois::FrameSetClient Class Reference

Read and write blob information on the COGNOIS server.

`#include <FrameSetClient.h>`

Inheritance diagram for Cognois::FrameSetClient:



Public Methods

- **FrameSetClient** (int inArgc=0, char **inArgv=0)
  Constructor with an optionnal command line.

- **~FrameSetClient** ()
  Destructor.

- void **CreateFrame** (const unsigned long &inBlobCount, const unsigned long &inFrameId, const unsigned long &inTimeStamp)
  Create a frame (blob set) of empty elements.

- CORBA::Boolean **SendFrame** ()
  Send a previously created frame, then destroys it.

- CORBA::Boolean **GetLatestFrameSet** (unsigned long &outFrameId, unsigned long &outTimeStamp, CORBA::Boolean inGetBlobData=0)
  Get a frame set from the server and put it in the private member variables.

- CORBA::Boolean **GetNewFrameSet** (unsigned long &outFrameId, unsigned long &outTimeStamp, CORBA::Boolean inGetBlobData=0, unsigned long inMaxWaitTime=2000)
  Get a NEW frame set from the server and put it in the private member variables.

- SimpleXmlParser& **XmlData** (const unsigned long &inBlobId, const unsigned long &inCameraId=0)
  Address the xml content of a particular blob (created or received).

- unsigned long **FrameCount** () const
  Get the number of frames.

- unsigned long **BlobCount** (const unsigned long &inCameraId=0) const

Get the number of blobs in a camera frame.

- CORBA::Boolean **Send2dPoint** (const char *inId, const float &inXPosition, const float &inYPosition, const short &inCameraId, const unsigned long &inFrameId, const unsigned long &inTimeStamp)
  Upload a point with an identification to the server.

- CORBA::Boolean **Get2dPoint** (const char *inId, float &outXPosition, float &outYPosition, const short &inCameraId, unsigned long &outFrameId, unsigned long &outTimeStamp, const CORBA::Boolean &inLock=0)
  Download a point with an identification from the server.

- CORBA::Boolean **SendMode** (const char *inMode)
  Set the working mode of the whole system.

- CORBA::Boolean **GetMode** (std::string &outMode)
  Get the working mode of the whole system.

- CORBA::Boolean **SendImageSize** (const unsigned int &inDimX, const unsigned int &inDimY)
  Upload the image size (in pixels) to the server.

- CORBA::Boolean **GetImageSize** (unsigned int &outDimX, unsigned int &outDimY)
  Download the image size (in pixels) from the server.

- CORBA::Boolean **ResetServer** ()
  Reset the current frame set number (to 0) and the camera client count.

- CORBA::Boolean **SendAngle** (double inAngle)
  Upload an angle value to the server.

- CORBA::Boolean **GetAngle** (double &outAngle)
  Download an angle value from the server.

- FrameSet_var& **Frame** ()
  Reference to the private FrameSet.

- void **MinPoolingPeriod** (unsigned int inMinPoolingPeriod)
  Change the minimum pooling period; must be at least 1.

Protected Methods

- void **WaitToPool** ()
  Wait for the minimum server pooling period.

Private Methods

- **FrameSetClient** (const FrameSetClient &)
  Copy constructor: we do not allow copy!

- FrameSetClient& **operator=** (const FrameSetClient &)
  Copy operator: we do not allow copy!

- void **DestroyFrame** ()
  Delete all frame-related information.

Private Attributes

- bool **mCameraClientInitialized**
  Status of the camera client connection.

- FrameSet_var **mFrame**
  The frame being created/received from the server.

- SimpleXmlParser** **mXmlData**
  Each blob has a xml parser (this is an matrix).

- LARGE_INTEGER **mLastPooling**
- LARGE_INTEGER **mPerformanceFrequency**
  Server pooling time stamp.

- unsigned int **mMinPoolingPeriod**
  Minimum server pooling period.

- unsigned long **mLatestFrameId**
  Frame id of the last frame; used in GetNewFrameSet.

Detailed Description

Read and write blob information on the COGNOIS server.

Constructor & Destructor Documentation

Cognois::FrameSetClient::FrameSetClient (int *inArgc* = 0, char ** *inArgv* = 0)

Constructor with an optionnal command line.

Parameters:

inArgc is the number of arguments on the command line
inArgv is the command line agruments

Cognois::FrameSetClient::~FrameSetClient ()

Destructor.

Cognois::FrameSetClient::FrameSetClient (const FrameSetClient &) `[private]`

Copy constructor: we do not allow copy!

Member Function Documentation

unsigned long Cognois::FrameSetClient::BlobCount (const unsigned long & *inCameraId* = 0) const

Get the number of blobs in a camera frame.

Parameters:

inCameraId is the camera in wich to count the blobs.

Returns:

The number of blobs in a frame.

void Cognois::FrameSetClient::CreateFrame (const unsigned long & *inBlobCount*, const unsigned long & *inFrameId*, const unsigned long & *inTimeStamp*)

Create a frame (blob set) of empty elements.

Parameters:

inBlobCount is the number of blobs to send to the server
inFrameId is the frame id of the points
inTimeStamp is the time stamp of the points

void Cognois::FrameSetClient::DestroyFrame () `[private]`

Delete all frame-related information.

FrameSet_var & Cognois::FrameSetClient::Frame () `[inline]`

Reference to the private FrameSet.

unsigned long Cognois::FrameSetClient::FrameCount () const

Get the number of frames.

Returns:

The number of frames.

CORBA::Boolean Cognois::FrameSetClient::Get2dPoint (const char * *inId*, float & *outXPosition*, float & *outYPosition*, const short & *inCameraId*, unsigned long & *outFrameId*, unsigned long & *outTimeStamp*, const CORBA::Boolean & *inLock* = 0)

Download a point with an identification from the server.

Parameters:

inId is the identification of the point
outXPosition is the X position of the point
outYPosition is the Y position of the point
inCameraId is the camera ID to which the desired point was intended
outFrameId is the frame id of the point
outTimeStamp is the time stamp of the point
inLock is set to true if the client wants to be locked until a new data is sent

Returns:

If the download was successfull.

CORBA::Boolean Cognois::FrameSetClient::GetAngle (double & *outAngle*)

Download an angle value from the server.

Parameters:

outAngle is the angle value downloaded from the server.

Returns:

If the download was successfull.

CORBA::Boolean Cognois::FrameSetClient::GetImageSize (unsigned int & *outDimX*, unsigned int & *outDimY*)

Download the image size (in pixels) from the server.

Parameters:

outDimX is the image size in the X (horizontal) dimension
outDimY is the image size in the Y (vertical) dimension

Returns:

If the download was successfull.

CORBA::Boolean Cognois::FrameSetClient::GetLatestFrameSet (unsigned long & *outFrameId*, unsigned long & *outTimeStamp*, CORBA::Boolean *inGetBlobData* = 0)

Get a frame set from the server and put it in the private member variables.

Parameters:

outFrameId is the frame id of the points
outTimeStamp is the time stamp of the points
inGetBlobData is set to 1 if the blob contents is wanted

Returns:

If the frame set has never been downloaded from the server.

CORBA::Boolean Cognois::FrameSetClient::GetMode (std::string & *outMode*)

Get the working mode of the whole system.

Parameters:

outMode is the current working mode of the system

Returns:

If the download was successfull.

CORBA::Boolean Cognois::FrameSetClient::GetNewFrameSet (unsigned long & *outFrameId*, unsigned long & *outTimeStamp*, CORBA::Boolean *inGetBlobData* = 0, unsigned long *inMaxWaitTime* = 2000)

Get a NEW frame set from the server and put it in the private member variables.

Parameters:

outFrameId is the frame id of the points
outTimeStamp is the time stamp of the points
inGetBlobData is set to 1 if the blob contents is wanted
inMaxWaitingTime is the maximum time (in ms) to wait for a new frame set; throws an exception if no new frame set is received within this limit.

Returns:

If the frame set has never been downloaded from the server.

void Cognois::FrameSetClient::MinPoolingPeriod (unsigned int *inMinPoolingPeriod*)

Change the minimum pooling period; must be at least 1.

Parameters:

inMinPoolingPeriod is the new minimum pooling period; must be at least 1.

CORBA::Boolean Cognois::FrameSetClient::ResetServer ()

Reset the current frame set number (to 0) and the camera client count.

Returns:

If the operation was successfull.

CORBA::Boolean Cognois::FrameSetClient::Send2dPoint (const char * *inId*, const float & *inXPosition*, const float & *inYPosition*, const short & *inCameraId*, const unsigned long & *inFrameId*, const unsigned long & *inTimeStamp*)

Upload a point with an identification to the server.

Parameters:

inId is the identification of the point
inXPosition is the X position of the point
inYPosition is the Y position of the point
inCameraId is the camera ID to which the point is intended
inFrameId is the frame ID of the point
inTimeStamp is the time stamp of the point

Returns:

If the upload was successfull.

CORBA::Boolean Cognois::FrameSetClient::SendAngle (double *inAngle*)

Upload an angle value to the server.

Parameters:

inAngle is the angle to put on the server.

Returns:

If the upload was successfull.

CORBA::Boolean Cognois::FrameSetClient::SendFrame ()

Send a previously created frame, then destroys it.

Parameters:

inBlobCount is the number of blobs to send to the server
inFrameId is the frame id of the points
inTimeStamp is the time stamp of the points

Returns:

If the upload was successfull.

CORBA::Boolean Cognois::FrameSetClient::SendImageSize (const unsigned int & *inDimX*, const unsigned int & *inDimY*)

Upload the image size (in pixels) to the server.

Parameters:

inDimX is the image size in the X (horizontal) dimension
inDimY is the image size in the Y (vertical) dimension

Returns:

If the upload was successfull.

CORBA::Boolean Cognois::FrameSetClient::SendMode (const char * *inMode*)

Set the working mode of the whole system.

Parameters:

inMode is the new working mode of the system

Returns:

If the upload was successfull.

void Cognois::FrameSetClient::WaitToPool () [protected]

Wait for the minimum server pooling period.

Parameters:

inMinPoolingPeriod is the new minimum pooling period; must be at least 1.

Cognois::SimpleXmlParser & Cognois::FrameSetClient::XmlData (const unsigned long & *inBlobId*, const unsigned long & *inCameraId* = 0)

Address the xml content of a particular blob (created or received).

Parameters:

inBlobId is the blob ID of the desired XML data.
inCameraId is the camera in wich to look for the blob.

Returns:

A reference to the blob XML data.

FrameSetClient & Cognois::FrameSetClient::operator= (const FrameSetClient &) [private]

Copy operator: we do not allow copy!

Member Data Documentation

bool Cognois::FrameSetClient::mCameraClientInitialized [private]

Status of the camera client connection.

FrameSet_var Cognois::FrameSetClient::mFrame [private]

The frame being created/received from the server.

LARGE_INTEGER Cognois::FrameSetClient::mLastPooling [private]

unsigned long Cognois::FrameSetClient::mLatestFrameId [private]

Frame id of the last frame; used in GetNewFrameSet.

unsigned int Cognois::FrameSetClient::mMinPoolingPeriod [private]

Minimum server pooling period.

LARGE_INTEGER Cognois::FrameSetClient::mPerformanceFrequency [private]

Server pooling time stamp.

SimpleXmlParser ** Cognois::FrameSetClient::mXmlData `[private]`

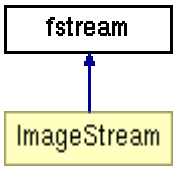
Each blob has a xml parser (this is an matrix).

The documentation for this class was generated from the following files:

- **FrameSetClient.h**
- **FrameSetClient.cpp**

fstream Class Reference

Inheritance diagram for fstream:

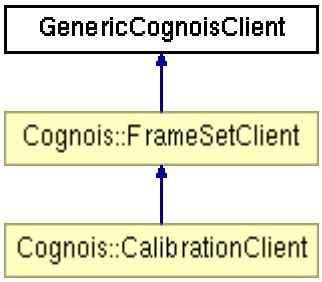


The documentation for this class was generated from the following file:

- **ImageStream.hpp**

GenericCognoisClient Class Reference

Inheritance diagram for GenericCognoisClient:



The documentation for this class was generated from the following file:

- **FrameSetClient.h**

GifApplicationBlock Struct Reference

```
#include <gif.h>
```

Public Attributes

- **UBYTE1 block_size**
- **UBYTE1 application_name** [8]
- **UBYTE1 authentication_code** [3]

Member Data Documentation

UBYTE1 GifApplicationBlock::application_name

UBYTE1 GifApplicationBlock::authentication_code

UBYTE1 GifApplicationBlock::block_size

The documentation for this struct was generated from the following file:

- **gif.h**

GifColorTableEntry Struct Reference

```
#include <gif.h>
```

Public Attributes

- **UBYTE1 red**
- **UBYTE1 green**
- **UBYTE1 blue**

Member Data Documentation

UBYTE1 GifColorTableEntry::blue

UBYTE1 GifColorTableEntry::green

UBYTE1 GifColorTableEntry::red

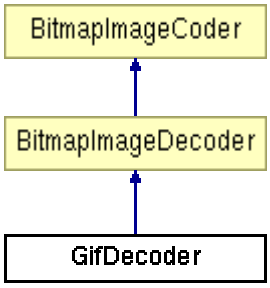
The documentation for this struct was generated from the following file:

- **gif.h**

GifDecoder Class Reference

`#include <gifdecod.h>`

Inheritance diagram for GifDecoder:



Public Methods

- **GifDecoder** ()
- virtual **~GifDecoder** ()
- **GifDecoder** (const GifDecoder &)
- GifDecoder& **operator=** (const GifDecoder &)
- virtual void **ReadImage** (istream &, **BitmapImage** &)
- void **ReadNextImage** (**BitmapImage** &)
- void **Reset** ()
- void **SetReadMultipleImages** (bool)
- bool **GetReadMultipleImages** () const
- bool **GetVerboseFlag** () const
- void **SetVerboseFlag** (bool)
- bool **MoreImages** () const
- unsigned int **ImageTop** () const
- unsigned int **ImageLeft** () const
- unsigned int **ScreenWidth** () const
- unsigned int **ScreenHeight** () const
- void **SetVerbose** (bool)
- bool **GetVerbose** () const

Private Methods

- void **Initialize** ()
- void **DoCopy** (const GifDecoder &source)
- void **ReadStreamHeader** ()
- void **ReadToNextImage** ()
- void **InitializeLocalData** ()
- int **NextBit** ()
- unsigned int **NextCode** ()
- void **LoadBuffer** ()
- void **AllocateReadBuffers** ()
- void **FreeReadBuffers** ()
- void **CallProgressFunction** (unsigned int percent)
- virtual void **UpdateImage** ()
- void **ReadCompressedData** ()

- void **StoreByte** (unsigned long offset, **UBYTE1** data)
- **UBYTE1 GetImageByte** (unsigned long offset)

Private Attributes

- unsigned int **global_color_count**
- **GifColorTableEntry*** **global_color_table**
- bool **more_images**
- unsigned int **image_width**
- unsigned int **image_height**
- bool **interlaced_image**
- unsigned int **current_row**
- unsigned int **current_column**
- unsigned int **interlace_group**
- unsigned int **rows_done**
- struct **GifDecoder::LZ77String** * **length_distance_table**
- unsigned char **code_size**
- unsigned int **end_code**
- unsigned int **bit_offset**
- unsigned int **byte_offset**
- unsigned char **current_block_size**
- unsigned char* **input_buffer**
- istream* **input_stream**
- bool **verbose_flag**
- bool **read_multiple_images**
- unsigned int **image_top**
- unsigned int **image_left**
- unsigned int **screen_width**
- unsigned int **screen_height**
- signed int **stack_pointer**
- **BitmapImage*** **current_image**
- **UBYTE1*** **lz_window**

Constructor & Destructor Documentation

GifDecoder::GifDecoder ()

GifDecoder::~GifDecoder () `[virtual]`

GifDecoder::GifDecoder (const GifDecoder & *source*)

Member Function Documentation

void GifDecoder::AllocateReadBuffers () [private]

void GifDecoder::CallProgressFunction (unsigned int *percent*) [private]

void GifDecoder::DoCopy (const GifDecoder & *source*) [private]

void GifDecoder::FreeReadBuffers () [private]

UBYTE1 GifDecoder::GetImageByte (unsigned long *offset*) [private]

bool GifDecoder::GetReadMultipleImages () const [inline]

bool GifDecoder::GetVerbose () const [inline]

bool GifDecoder::GetVerboseFlag () const [inline]

unsigned int GifDecoder::ImageLeft () const [inline]

unsigned int GifDecoder::ImageTop () const [inline]

void GifDecoder::Initialize () [private]

Reimplemented from **BitmapImageCoder** (*p.38*).

void GifDecoder::InitializeLocalData () [private]

void GifDecoder::LoadBuffer () [private]

bool GifDecoder::MoreImages () const [inline]

int GifDecoder::NextBit () [private]

unsigned int GifDecoder::NextCode () [private]

void GifDecoder::ReadCompressedData () [private]

void GifDecoder::ReadImage (istream & *strm*, BitmapImage & *image*) [virtual]

Reimplemented from **BitmapImageDecoder** (*p.39*).

void GifDecoder::ReadNextImage (BitmapImage & *image*)

void GifDecoder::ReadStreamHeader () `[private]`

void GifDecoder::ReadToNextImage () `[private]`

void GifDecoder::Reset ()

unsigned int GifDecoder::ScreenHeight () const `[inline]`

unsigned int GifDecoder::ScreenWidth () const `[inline]`

void GifDecoder::SetReadMultipleImages (bool *value*) `[inline]`

void GifDecoder::SetVerbose (bool *value*) `[inline]`

void GifDecoder::SetVerboseFlag (bool *value*) `[inline]`

void GifDecoder::StoreByte (unsigned long *offset*, UBYTE1 *data*) `[private]`

void GifDecoder::UpdateImage () `[private, virtual]`

Reimplemented from **BitmapImageCoder** (*p.38*).

GifDecoder & GifDecoder::operator= (const GifDecoder & *source*)

Member Data Documentation

unsigned int GifDecoder::bit_offset `[private]`

unsigned int GifDecoder::byte_offset `[private]`

unsigned char GifDecoder::code_size `[private]`

unsigned char GifDecoder::current_block_size `[private]`

unsigned int GifDecoder::current_column `[private]`

BitmapImage * GifDecoder::current_image `[private]`

unsigned int GifDecoder::current_row `[private]`

unsigned int GifDecoder::end_code `[private]`

unsigned int GifDecoder::global_color_count `[private]`

GifColorTableEntry * GifDecoder::global_color_table `[private]`

unsigned int GifDecoder::image_height `[private]`

unsigned int GifDecoder::image_left `[private]`

unsigned int GifDecoder::image_top `[private]`

unsigned int GifDecoder::image_width `[private]`

unsigned char * GifDecoder::input_buffer `[private]`

istream * GifDecoder::input_stream `[private]`

unsigned int GifDecoder::interlace_group `[private]`

bool GifDecoder::interlaced_image `[private]`

struct GifDecoder::LZ77String * GifDecoder::length_distance_table `[private]`

UBYTE1 * GifDecoder::lz_window `[private]`

bool GifDecoder::more_images `[private]`

bool GifDecoder::read_multiple_images `[private]`

unsigned int GifDecoder::rows_done `[private]`

unsigned int GifDecoder::screen_height `[private]`

unsigned int GifDecoder::screen_width `[private]`

signed int GifDecoder::stack_pointer `[private]`

bool GifDecoder::verbose_flag `[private]`

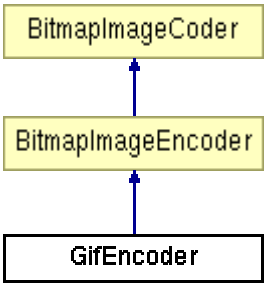
The documentation for this class was generated from the following files:

- **gifdecod.h**
- **gifdecod.cpp**

GifEncoder Class Reference

`#include <gifencod.h>`

Inheritance diagram for GifEncoder:



Public Methods

- **GifEncoder** ()
- **GifEncoder** (const GifEncoder &)
- virtual **~GifEncoder** ()
- GifEncoder& **operator=** (const GifEncoder &)
- virtual void **WriteImage** (ostream &, **BitmapImage** &)

Private Methods

- void **Initialize** ()
- void **DoCopy** (const GifEncoder &)
- void **CallProgressFunction** (unsigned int)
- void **OutputBits** (unsigned int value, unsigned int count)
- void **OutputCode** (unsigned int code)

Private Attributes

- ostream* **output_stream**
- unsigned int **bit_position**
- unsigned int **code_count**
- **BitmapImage quantized_image**
- **BitmapImage*** **current_image**
- **UBYTE1 data_buffer** [256]

Constructor & Destructor Documentation

GifEncoder::GifEncoder ()

GifEncoder::GifEncoder (const GifEncoder & *source*)

GifEncoder::~GifEncoder () `[virtual]`

Member Function Documentation

void GifEncoder::CallProgressFunction (unsigned int *percent*) `[private]`

void GifEncoder::DoCopy (const GifEncoder & *source*) `[private]`

void GifEncoder::Initialize () `[private]`

Reimplemented from **BitmapImageCoder** (*p.38*).

void GifEncoder::OutputBits (unsigned int *value*, unsigned int *count*) `[private]`

void GifEncoder::OutputCode (unsigned int *code*) `[private]`

void GifEncoder::WriteImage (ostream & *strm*, BitmapImage & *image*) `[virtual]`

Reimplemented from **BitmapImageEncoder** (*p.40*).

GifEncoder & GifEncoder::operator= (const GifEncoder & *source*)

Member Data Documentation

unsigned int GifEncoder::bit_position `[private]`

unsigned int GifEncoder::code_count `[private]`

BitmapImage * GifEncoder::current_image `[private]`

UBYTE1 GifEncoder::data_buffer `[private]`

ostream * GifEncoder::output_stream `[private]`

BitmapImage GifEncoder::quantized_image `[private]`

The documentation for this class was generated from the following files:

- **gifencod.h**
- **gifencod.cpp**

GifGraphicControlBlock Struct Reference

```
#include <gif.h>
```

Public Attributes

- **UBYTE1 block_size**
- **UBYTE1 packedfield**
- **UBYTE2 delay_time**
- **UBYTE1 transparent_color**

Member Data Documentation

UBYTE1 GifGraphicControlBlock::block_size

UBYTE2 GifGraphicControlBlock::delay_time

UBYTE1 GifGraphicControlBlock::packedfield

UBYTE1 GifGraphicControlBlock::transparent_color

The documentation for this struct was generated from the following file:

- **gif.h**

GifHeader Struct Reference

```
#include <gif.h>
```

Public Attributes

- **BYTE1 file_signature** [3]
- **BYTE1 file_version** [3]

Member Data Documentation

BYTE1 GifHeader::file_signature

BYTE1 GifHeader::file_version

The documentation for this struct was generated from the following file:

- **gif.h**

GifImageDescriptor Struct Reference

```
#include <gif.h>
```

Public Attributes

- **UBYTE2 left_position**
- **UBYTE2 top_position**
- **UBYTE2 image_width**
- **UBYTE2 image_height**
- **UBYTE1 packedfield**

Member Data Documentation

UBYTE2 GifImageDescriptor::image_height

UBYTE2 GifImageDescriptor::image_width

UBYTE2 GifImageDescriptor::left_position

UBYTE1 GifImageDescriptor::packedfield

UBYTE2 GifImageDescriptor::top_position

The documentation for this struct was generated from the following file:

- **gif.h**

GifScreenDescriptor Struct Reference

```
#include <gif.h>
```

Public Attributes

- **UBYTE2 logical_screen_width**
- **UBYTE2 logical_screen_height**
- **UBYTE1 packedfield**
- **UBYTE1 background_color_index**
- **UBYTE1 pixel_aspect_ratio**

Member Data Documentation

UBYTE1 GifScreenDescriptor::background_color_index

UBYTE2 GifScreenDescriptor::logical_screen_height

UBYTE2 GifScreenDescriptor::logical_screen_width

UBYTE1 GifScreenDescriptor::packedfield

UBYTE1 GifScreenDescriptor::pixel_aspect_ratio

The documentation for this struct was generated from the following file:

- **gif.h**

PngEncoder::HashEntry Struct Reference

Public Attributes

- **UBYTE2 index**
- HashEntry* **next**
- HashEntry* **previous**

Member Data Documentation

UBYTE2 PngEncoder::HashEntry::index

HashEntry * PngEncoder::HashEntry::next

HashEntry * PngEncoder::HashEntry::previous

The documentation for this struct was generated from the following file:

- **pngencod.h**

Contour::HoraudAngle Struct Reference

```
#include <Contour.hpp>
```

Public Attributes

- **Point q**
- **ContourSegment* l1**
- **ContourSegment * l2**

Member Data Documentation

ContourSegment * Contour::HoraudAngle::l1

ContourSegment * Contour::HoraudAngle::l2

Point Contour::HoraudAngle::q

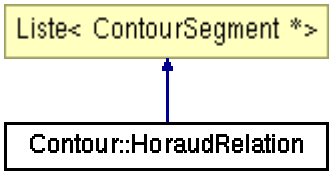
The documentation for this struct was generated from the following file:

- **Contour.hpp**

Contour::HoraudRelation Class Reference

`#include <Contour.hpp>`

Inheritance diagram for Contour::HoraudRelation:



The documentation for this class was generated from the following file:

- **Contour.hpp**

icilist Struct Reference

```
#include <F2C.H>
```

Public Attributes

- **flag icierr**
- char* **iciunit**
- **flag iciend**
- char* **icifmt**
- **ftnint icirlen**
- **ftnint icirnum**

Member Data Documentation

flag icilist::iciend

flag icilist::icierr

char * icilist::icifmt

ftnint icilist::icirlen

ftnint icilist::icirnum

char * icilist::iciunit

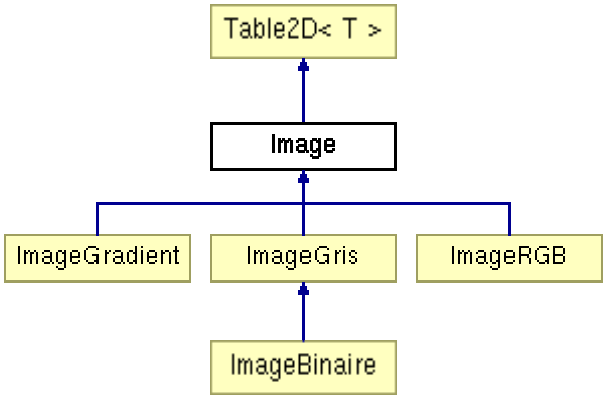
The documentation for this struct was generated from the following file:

- **F2C.H**

Image Class Template Reference

`#include <Image.hpp>`

Inheritance diagram for Image:



Public Methods

- **Image** ()
- **Image** (T min, T max)
- const Image& **operator=** (const Image &rh)
- **operator const T *** () const
- T& **operator()** (const **Point** &pn)
- T& **operator()** (int i, int j)
- const T& **operator()** (int i, int j) const
- const Image& **operator *=** (const **Operateur** &mask)
- Image **operator *** (const **Operateur** &mask) const
- const Image& **operator-=** (const Image &rh)
- Image **operator-** (const Image &rh) const
- const Image& **operator-=** (const T &rh)
- Image **operator-** (const T &rh) const
- const Image& **operator+=** (const Image &rh)
- Image **operator+** (const Image &rh) const
- const Image& **operator+=** (const T &rh)
- Image **operator+** (const T &rh) const
- const Image& **operator *=** (const Image &rh)
- Image **operator *** (const Image &rh) const
- const Image& **operator *=** (const double &rh)
- Image **operator *** (const double &rh) const
- const Image& **operator/=** (const Image &rh)
- Image **operator/** (const Image &rh) const
- const Image& **operator/=** (const double &rh)
- Image **operator/** (const double &rh) const
- const Image& **operator &=** (const Image &rh)
- Image **operator &** (const Image &rh) const
- const Image& **operator &=** (const T &rh)
- Image **operator &** (const T &rh) const
- const Image& **operator|=** (const Image &rh)
- Image **operator|** (const Image &rh) const

- const Image& **operator|=** (const T &rh)
- Image **operator|** (const T &rh) const
- const Image& **operator^=** (const Image &rh)
- Image **operator^** (const Image &rh) const
- const Image& **operator^=** (const T &rh)
- Image **operator^** (const T &rh) const
- Image **operator~** () const
- void **BruitFlipBits** (double prob=0.1)
- void **BruitGaussien** (double sigma=5)
- void **BruitImpulsion** (double prob=0.1)
- void **BruitSaltPepper** (double prob=0.1, double salt=0.5)
- void **FiltreConservateur** (unsigned int _taille=3)
- void **FiltreGaussien** (unsigned int _taille=3)
- void **FiltreMaxMin** (unsigned int _taille=3)
- void **FiltreMediane** (unsigned int _taille=3)
- void **FiltreMoyenne** (unsigned int _taille=3)
- void **FiltreUnsharp** (double k=0.5)
- Image& **HistoEqual** (double(*distrib)(double))
- Table1D<unsigned long> **Histogramme** (unsigned long classes=0) const
- Image& **HistoScale** (T min, T max)
- Image **RegionGet** (int ligne, int col, int dligne, int dcol) const
- void **RegionPut** (const Image &,int ligne, int col)
- T **Min** () const
- T **Max** () const
- void **MaxMin** (T &max, T &min) const
- T **MinValue** () const
- T **MaxValue** () const
- int **Width** () const
- int **Height** () const
- int **Length** () const

Protected Methods

- void **ObtenirMiroir** (Image &miroir, int h, int b, int g, int d)

Private Attributes

- T **minVal**
- T **maxVal**

template<class T> class Image

Constructor & Destructor Documentation

template<class T> Image< T >::Image<T> ()

template<class T> Image< T >::Image<T> (T *min*, T *max*)

Member Function Documentation

template<class T> void Image< T >::BruitFlipBits (double *prob* = 0.1)

template<class T> void Image< T >::BruitGaussien (double *sigma* = 5)

template<class T> void Image< T >::BruitImpulsion (double *prob* = 0.1)

template<class T> void Image< T >::BruitSaltPepper (double *prob* = 0.1, double *salt* = 0.5)

template<class T> void Image< T >::FiltreConservateur (unsigned int *_taille* = 3)

template<class T> void Image< T >::FiltreGaussien (unsigned int *_taille* = 3)

template<class T> void Image< T >::FiltreMaxMin (unsigned int *_taille* = 3)

template<class T> void Image< T >::FiltreMediane (unsigned int *_taille* = 3)

template<class T> void Image< T >::FiltreMoyenne (unsigned int *_taille* = 3)

template<class T> void Image< T >::FiltreUnsharp (double *k* = 0.5)

template<class T> int Image<T>::Height () const `[inline]`

template<class T> Image< T > & Image< T >::HistoEqual (double(* *distrib*)(double))

Reimplemented in **ImageRGB** (*p.196*).

template<class T> Image< T > & Image< T >::HistoScale (T *min*, T *max*)

template<class T> Table1D< unsigned long > Image< T >::Histogramme (unsigned long *classes* = 0) const

Reimplemented in **ImageRGB** (*p.197*).

template<class T> int Image<T>::Length () const `[inline]`

template<class T> T Image< T >::Max () const

template<class T> void Image< T >::MaxMin (T & *max*, T & *min*) const

template<class T> T Image<T>::MaxValue () const `[inline]`

template<class T> T Image< T >::Min () const

template<class T> T Image<T>::MinValue () const `[inline]`

template<class T> void Image< T >::ObtenirMiroir (Image<T> & *miroir*, int *h*, int *b*, int *g*, int *d*) `[protected]`

template<class T> Image< T > Image< T >::RegionGet (int *ligne*, int *col*, int *dligne*, int *dcol*) const

template<class T> void Image< T >::RegionPut (const Image<T> & *img*, int *ligne*, int *col*)

template<class T> int Image<T>::Width () const `[inline]`

template<class T> Image< T > Image< T >::operator & (const T & *rh*) const

template<class T> Image< T > Image< T >::operator & (const Image<T> & *rh*) const

template<class T> const Image< T > & Image< T >::operator &= (const T & *rh*)

template<class T> const Image< T > & Image< T >::operator &= (const Image<T> & *rh*)

template<class T> Image< T > Image< T >::operator * (const double & *rh*) const

template<class T> Image< T > Image< T >::operator * (const Image<T> & *rh*) const

template<class T> Image< T > Image< T >::operator * (const Operateur & *mask*) const

template<class T> const Image< T > & Image< T >::operator *= (const double & *rh*)

template<class T> const Image< T > & Image< T >::operator *= (const Image<T> & *rh*)

template<class T> const Image< T > & Image< T >::operator *= (const Operateur & *mask*)

template<class T> Image<T>::operator const T * () const `[inline]`

template<class T> const T & Image<T>::operator() (int *i*, int *j*) const `[inline]`

template<class T> T & Image<T>::operator() (int *i*, int *j*) `[inline]`

template<class T> T & Image< T >::operator() (const Point & *pn*) `[inline]`

template<class T> Image< T > Image< T >::operator+ (const T & *rh*) const

template<class T> Image< T > Image< T >::operator+ (const Image<T> & *rh*) const

template<class T> const Image< T > & Image< T >::operator+= (const T & *rh*)

template<class T> const Image< T > & Image< T >::operator+= (const Image<T> & *rh*)

template<class T> Image< T > Image< T >::operator- (const T & *rh*) const

template<class T> Image< T > Image< T >::operator- (const Image<T> & *rh*) const

template<class T> const Image< T > & Image< T >::operator-= (const T & *rh*)

template<class T> const Image< T > & Image< T >::operator-= (const Image<T> & *rh*)

template<class T> Image< T > Image< T >::operator/ (const double & *rh*) const

template<class T> Image< T > Image< T >::operator/ (const Image<T> & *rh*) const

template<class T> const Image< T > & Image< T >::operator/= (const double & *rh*)

template<class T> const Image< T > & Image< T >::operator/= (const Image<T> & *rh*)

template<class T> const Image< T > & Image< T >::operator= (const Image<T> & *rh*)
`[inline]`

template<class T> Image< T > Image< T >::operator^ (const T & *rh*) const

template<class T> Image< T > Image< T >::operator^ (const Image<T> & *rh*) const

template<class T> const Image< T > & Image< T >::operator^= (const T & *rh*)

template<class T> const Image< T > & Image< T >::operator^= (const Image<T> & *rh*)

template<class T> Image< T > Image< T >::operator| (const T & *rh*) const

template<class T> Image< T > Image< T >::operator| (const Image<T> & *rh*) const

template<class T> const Image< T > & Image< T >::operator|= (const T & *rh*)

template<class T> const Image< T > & Image< T >::operator|= (const Image<T> & *rh*)

template<class T> Image< T > Image< T >::operator~ () const

Member Data Documentation

template<class T> T Image<T>::maxVal `[private]`

template<class T> T Image<T>::minVal `[private]`

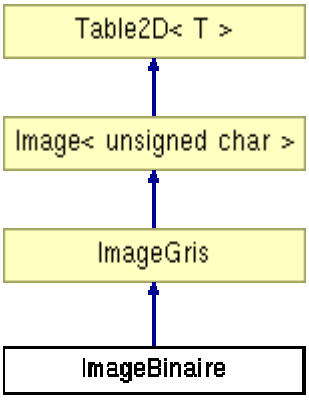
The documentation for this class was generated from the following file:

- **Image.hpp**

ImageBinaire Class Reference

`#include <ImageBinaire.hpp>`

Inheritance diagram for ImageBinaire:



Public Types

- enum **Statistique** { **MOYENNE**, **MEDIANE**, **MAXMIN** }

Public Methods

- ImageBinaire& **Treshold** (const **ImageGradient** &, int)
- ImageBinaire& **Treshold** (const **ImageGris** &, unsigned char)
- ImageBinaire& **Treshold** (const **ImageGris** &, const **Ensemble** &)
- ImageBinaire& **AdaptiveTresholding** (const **ImageGris** &,**Statistique** s=MOYENNE, int v=7, int cte=5)
- ImageBinaire& **IterativeTresholding** (const **ImageGris** &,unsigned char _t=128)
- ImageBinaire& **DoubleTresholding** (const **ImageGris** &, unsigned char _t1, unsigned char _t2)
- ImageBinaire& **ZeroCrossing** (const **ImageGradient** &)
- void **Dilate** (const **Kernel** &kernel=**Kernel**(Kernel::CROIX))
- void **Erode** (const **Kernel** &kernel=**Kernel**(Kernel::CROIX))
- void **Close** (const **Kernel** &kernel=**Kernel**(Kernel::CROIX))
- void **Open** (const **Kernel** &kernel=**Kernel**(Kernel::CROIX))
- void **Expand** (unsigned int k=1)
- void **Shrink** (unsigned int k=1)
- void **Boundary** ()
- **Table2D**<unsigned int> **ComponentLabeling** () const
- void **Skeleton** ()

Member Enumeration Documentation

enum ImageBinaire::Statistique

Enumeration values:

MOYENNE

MEDIANE
MAXMIN

Member Function Documentation

ImageBinaire & ImageBinaire::AdaptiveTresholding (const ImageGris & *img*, Statistique *s* = MOYENNE, int *v* = 7, int *cte* = 5)

void ImageBinaire::Boundary ()

void ImageBinaire::Close (const Kernel & *kernel* = Kernel(Kernel::CROIX))

Table2D< unsigned int > ImageBinaire::ComponentLabeling () const

void ImageBinaire::Dilate (const Kernel & *kernel* = Kernel(Kernel::CROIX))

ImageBinaire & ImageBinaire::DoubleTresholding (const ImageGris & *img*, unsigned char *_t1*, unsigned char *_t2*)

void ImageBinaire::Erode (const Kernel & *kernel* = Kernel(Kernel::CROIX))

void ImageBinaire::Expand (unsigned int *k* = 1)

ImageBinaire & ImageBinaire::IterativeTresholding (const ImageGris & *img*, unsigned char *tres* = 128)

void ImageBinaire::Open (const Kernel & *kernel* = Kernel(Kernel::CROIX))

void ImageBinaire::Shrink (unsigned int *k* = 1)

void ImageBinaire::Skeleton ()

ImageBinaire & ImageBinaire::Treshold (const ImageGris & *img*, const Ensemble & *ens*)

ImageBinaire & ImageBinaire::Treshold (const ImageGris & *img*, unsigned char *c*)

ImageBinaire & ImageBinaire::Treshold (const ImageGradient & *img*, int *seuil*)

ImageBinaire & ImageBinaire::ZeroCrossing (const ImageGradient & *img*)

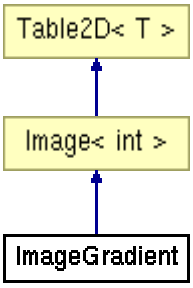
The documentation for this class was generated from the following files:

- **ImageBinaire.hpp**
- **ImageBinaire.cpp**

ImageGradient Class Reference

`#include <ImageGradient.hpp>`

Inheritance diagram for ImageGradient:



Public Methods

- **ImageGradient** ()
- ImageGradient& **Gradient** (const **ImageGris** &, int _taille=2)
- ImageGradient& **GradientMaxima** (const **ImageGris** &, int _taille=2)
- ImageGradient& **GradientMaxima** (const **ImageGris** &, const **Operateur** &dx, const **Operateur** &dy)
- void **GradXY** (const **ImageGris** &, ImageGradient &gradx, ImageGradient &grady, int _taille) const
- void **GradXY** (const **ImageGris** &, ImageGradient &gx, ImageGradient &gy, const **Operateur** &dx, const **Operateur** &dy) const
- void **DirectionGradient** (**Image**< int > &, const ImageGradient &gx, const ImageGradient &gy) const
- void **ModuleGradient** (ImageGradient &, const ImageGradient &gx, const ImageGradient &gy) const
- const ImageGradient& **operator=** (const **ImageGris** &rh)
- const ImageGradient& **operator=** (const **Image**< int > &rh)
- const ImageGradient& **operator=** (const ImageGradient &rh)

Public Attributes

- **Image**<int> **direction**

Constructor & Destructor Documentation

ImageGradient::ImageGradient () `[inline]`

Member Function Documentation

void ImageGradient::DirectionGradient (Image< int > & *dgr*, const ImageGradient & *gx*, const ImageGradient & *gy*) const

void ImageGradient::GradXY (const ImageGris & *entree*, ImageGradient & *gx*, ImageGradient & *gy*, const Operateur & *dx*, const Operateur & *dy*) const

void ImageGradient::GradXY (const ImageGris & *entree*, ImageGradient & *gradx*, ImageGradient & *grady*, int *_taille*) const

ImageGradient & ImageGradient::Gradient (const ImageGris & *entree*, int *_taille* = 2)

ImageGradient & ImageGradient::GradientMaxima (const ImageGris & *entree*, const Operateur & *dx*, const Operateur & *dy*)

ImageGradient & ImageGradient::GradientMaxima (const ImageGris & *entree*, int *_taille* = 2)

void ImageGradient::ModuleGradient (ImageGradient & *mg*, const ImageGradient & *gx*, const ImageGradient & *gy*) const

const ImageGradient & ImageGradient::operator= (const ImageGradient & *rh*)

const ImageGradient & ImageGradient::operator= (const Image< int > & *rh*)

const ImageGradient & ImageGradient::operator= (const ImageGris & *rh*)

Member Data Documentation

Image< int > ImageGradient::direction<int>

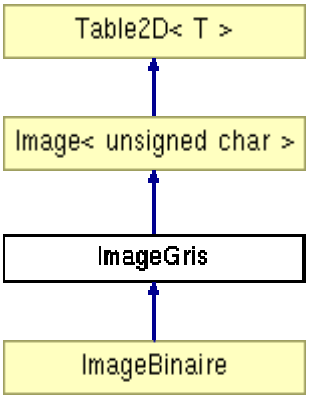
The documentation for this class was generated from the following files:

- **ImageGradient.hpp**
- **ImageGradient.cpp**

ImageGris Class Reference

`#include <ImageGris.hpp>`

Inheritance diagram for ImageGris:



Public Methods

- **ImageGris** ()
- **Contour Canny** (int t2=20, int g=3, int f=5) const
- **Contour Canny** (const **Operateur** &dx, const **Operateur** &dy, int t2=20, int f=5) const
- void **Canny** (**Contour** &, int t2=20, int g=3, int f=5) const
- void **Canny** (**Contour** &, const **Operateur** &dx, const **Operateur** &dy, int t2=20, int f=5) const
- **Liste**<**Point**> **Harris** (int np=0, double s=1, double k=0.06) const
- **Liste**<**Point**> **Horaud** (int w=5, int e1=5, int t=20) const
- void **LoG** (**Contour** &, int f=5, int t=20) const
- const ImageGris& **operator=** (const **ImageRGB** &)
- const ImageGris& **operator=** (const **ImageGradient** &)
- const ImageGris& **operator=** (const **Table2D**< unsigned > &)
- const ImageGris& **operator=** (const **BitmapImage** &)
- const ImageGris& **operator=** (const ImageGris &rh)
- const ImageGris& **operator=** (const **Image**< unsigned char > &rh)
- **operator BitmapImage** () const

Constructor & Destructor Documentation

ImageGris::ImageGris () `[inline]`

Member Function Documentation

void ImageGris::Canny (Contour & *ct*, const Operateur & *dx*, const Operateur & *dy*, int *_t2* = 20, int *_fsiz* = 5) const

void ImageGris::Canny (Contour & *ct*, int *t2* = 20, int *g* = 3, int *f* = 5) const

Contour ImageGris::Canny (const Operateur & *dx*, const Operateur & *dy*, int *t2* = 20, int *f* = 5) const

Contour ImageGris::Canny (int *t2* = 20, int *g* = 3, int *f* = 5) const

Liste< Point > ImageGris::Harris (int *np* = 0, double *sigma* = 1, double *k* = 0.06) const

Liste< Point > ImageGris::Horaud (int *w* = 5, int *e1* = 5, int *t* = 20) const

void ImageGris::LoG (Contour & *ct*, int *_fsiz* = 5, int *_t* = 20) const

ImageGris::operator BitmapImage () const

const ImageGris & ImageGris::operator= (const Image< unsigned char > & *rh*)

const ImageGris & ImageGris::operator= (const ImageGris & *rh*)

const ImageGris & ImageGris::operator= (const BitmapImage & *bi*)

const ImageGris & ImageGris::operator= (const Table2D< unsigned > & *rh*)

const ImageGris & ImageGris::operator= (const ImageGradient & *rh*)

const ImageGris & ImageGris::operator= (const ImageRGB & *rh*)

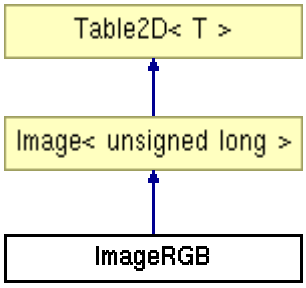
The documentation for this class was generated from the following files:

- **ImageGris.hpp**
- **ImageGris.cpp**

ImageRGB Class Reference

`#include <ImageRGB.hpp>`

Inheritance diagram for ImageRGB:



Public Methods

- **ImageRGB** ()
- const ImageRGB& **operator=** (const **ImageGris** &rh)
- const ImageRGB& **operator=** (const **BitmapImage** &bi)
- **Liste**<**Point**> **Harris** (int np=0, double s=1, double k=0.06) const
- **operator BitmapImage** () const

Protected Methods

- int **getCouleur** () const

Private Methods

- ImageRGB& **HistoEqual** (double(*distrib)(double))
- Table1D<unsigned long> **Histogramme** (unsigned long classes=0) const

---

Constructor & Destructor Documentation

ImageRGB::ImageRGB () `[inline]`

Member Function Documentation

Liste< Point > ImageRGB::Harris (int *np* = 0, double *sigma* = 1, double *k* = 0.06) const

ImageRGB & ImageRGB::HistoEqual (double(* *distrib*)(double)) `[private]`

Reimplemented from **Image** (*p.186*).

Table1D< unsigned long > ImageRGB::Histogramme<unsigned long> (unsigned long *classes* = 0) const `[private]`

Reimplemented from **Image** (*p.186*).

int ImageRGB::getCouleur () const `[protected]`

ImageRGB::operator BitmapImage () const

const ImageRGB & ImageRGB::operator= (const BitmapImage & *bi*)

const ImageRGB & ImageRGB::operator= (const ImageGris & *rh*)

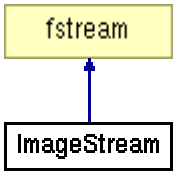
The documentation for this class was generated from the following files:

- **ImageRGB.hpp**
- **ImageRGB.cpp**

ImageStream Class Reference

`#include <ImageStream.hpp>`

Inheritance diagram for ImageStream:



Public Types

- enum **imgFormat** { **RAS** = 0, **BMP**, **JPG**, **GIF**, **PNG**, **XBM**, **XPM**, **PCX**, **XWD**, **PGM**, **PBM**, **PPM**, **CTR**, **NbFormats** }

Public Methods

- **ImageStream** (Chaine _ndf, int _mode, **imgFormat** _format=NbFormats)
- ImageStream& **operator**<< (const **ImageGris** &img)
- ImageStream& **operator**>> (**ImageGris** &img)
- ImageStream& **operator**<< (const **ImageRGB** &img)
- ImageStream& **operator**>> (**ImageRGB** &img)
- ImageStream& **operator**<< (const **Contour** &ctr)
- ImageStream& **operator**>> (**Contour** &ctr)
- void **SetVerbose** (bool _v=1)
- int **GetVerbose** () const

Protected Methods

- void **LireRaster** (**ImageRGB** &img)
- void **EcrireRaster** (const **ImageGris** &img)
- void **EcrireRaster** (const **ImageRGB** &img)
- void **LireBMP** (**ImageRGB** &img)
- void **EcrireBMP** (const **ImageRGB** &img)
- void **LireJPG** (**ImageRGB** &img)
- void **EcrireJPG** (const **ImageRGB** &img)
- void **EcrireJPG** (const **ImageGris** &img)
- void **LireGIF** (**ImageRGB** &img)
- void **EcrireGIF** (const **ImageRGB** &img)
- void **LirePNG** (**ImageRGB** &img)
- void **EcrirePNG** (const **ImageRGB** &img)
- void **LireXBM** (**ImageGris** &img)
- void **EcrireXBM** (const **ImageGris** &img)
- void **LireXPM** (**ImageRGB** &img)
- void **LirePCX** (**ImageRGB** &img)
- void **LireXWD** (**ImageRGB** &img)
- void **EcrireXWD** (const **ImageRGB** &img)
- void **LirePGM** (**ImageGris** &img)
- void **EcrirePGM** (const **ImageGris** &img)
- void **LirePBM** (**ImageGris** &img)

- void **EcrirePBM** (const **ImageGris** &img)
- void **LirePPM** (**ImageRGB** &img)
- void **EcrirePPM** (const **ImageRGB** &img)
- void **LireContour** (**Contour** &ctr)
- void **EcrireContour** (const **Contour** &ctr)
- Chaine **GetExtension** (Chaine filename)

Protected Attributes

- int **mode**
- bool **verbose_flag**
- **imgFormat format**
- streampos **beg_of_file**

Member Enumeration Documentation

enum ImageStream::imgFormat

Enumeration values:

RAS
BMP
JPG
GIF
PNG
XBM
XPM
PCX
XWD
PGM
PBM
PPM
CTR
NbFormats

Constructor & Destructor Documentation

ImageStream::ImageStream (Chaine *_ndf*, int *_mode*, imgFormat *_format* = NbFormats)

Member Function Documentation

void ImageStream::EcrireBMP (const ImageRGB & *img*) `[protected]`

void ImageStream::EcrireContour (const Contour & *ctr*) `[protected]`

void ImageStream::EcrireGIF (const ImageRGB & *img*) `[protected]`

void ImageStream::EcrireJPG (const ImageGris & *img*) `[protected]`

void ImageStream::EcrireJPG (const ImageRGB & *img*) `[protected]`

void ImageStream::EcrirePBM (const ImageGris & *img*) `[protected]`

void ImageStream::EcrirePGM (const ImageGris & *img*) `[protected]`

void ImageStream::EcrirePNG (const ImageRGB & *img*) `[protected]`

void ImageStream::EcrirePPM (const ImageRGB & *img*) `[protected]`

void ImageStream::EcrireRaster (const ImageRGB & *img*) `[protected]`

void ImageStream::EcrireRaster (const ImageGris & *img*) `[protected]`

void ImageStream::EcrireXBM (const ImageGris & *img*) `[protected]`

void ImageStream::EcrireXWD (const ImageRGB & *img*) `[protected]`

Chaine ImageStream::GetExtension (Chaine *filename*) `[protected]`

int ImageStream::GetVerbose () const

void ImageStream::LireBMP (ImageRGB & *img*) `[protected]`

void ImageStream::LireContour (Contour & *ctr*) `[protected]`

void ImageStream::LireGIF (ImageRGB & *img*) `[protected]`

void ImageStream::LireJPG (ImageRGB & *img*) `[protected]`

void ImageStream::LirePBM (ImageGris & *img*) `[protected]`

void ImageStream::LirePCX (ImageRGB & *img*) `[protected]`

void ImageStream::LirePGM (ImageGris & *img*) `[protected]`

void ImageStream::LirePNG (ImageRGB & *img*) `[protected]`

void ImageStream::LirePPM (ImageRGB & *img*) `[protected]`

void ImageStream::LireRaster (ImageRGB & *img*) `[protected]`

void ImageStream::LireXBM (ImageGris & *img*) `[protected]`

void ImageStream::LireXPM (ImageRGB & *img*) `[protected]`

void ImageStream::LireXWD (ImageRGB & *img*) `[protected]`

void ImageStream::SetVerbose (bool _*v* = 1)

ImageStream & ImageStream::operator<< (const Contour & *ctr*)

ImageStream & ImageStream::operator<< (const ImageRGB & *img*)

ImageStream & ImageStream::operator<< (const ImageGris & *img*)

ImageStream & ImageStream::operator>> (Contour & *ctr*)

ImageStream & ImageStream::operator>> (ImageRGB & *img*)

ImageStream & ImageStream::operator>> (ImageGris & *img*)

Member Data Documentation

streampos ImageStream::beg_of_file `[protected]`

imgFormat ImageStream::format `[protected]`

int ImageStream::mode `[protected]`

bool ImageStream::verbose_flag `[protected]`

The documentation for this class was generated from the following files:

- **ImageStream.hpp**
- **ImageStream.cpp**

IndiceAlias Class Template Reference

`#include <Equivalence.hpp>`

Public Methods

- **IndiceAlias** ()
- **IndiceAlias** (const T &_e)
- **IndiceAlias** (const T &_e, const T &_d)
- int **operator==** (const IndiceAlias &c) const

Public Attributes

- T **eff**
- T **des**

Friends

- ostream& **operator<<** (ostream &out, const IndiceAlias< T > &ia)
- istream& **operator>>** (istream &in, IndiceAlias< T > &ia)

template<class T> class IndiceAlias

Constructor & Destructor Documentation

template<class T> IndiceAlias<T>::IndiceAlias<T> () `[inline]`

template<class T> IndiceAlias<T>::IndiceAlias<T> (const T & _*e*) `[inline]`

template<class T> IndiceAlias<T>::IndiceAlias<T> (const T & _*e*, const T & _*d*) `[inline]`

Member Function Documentation

template<class T> int IndiceAlias<T>::operator== (const IndiceAlias<T> & *c*) const `[inline]`

Friends And Related Function Documentation

template<class T> ostream & operator<< (ostream & *out*, const IndiceAlias< T > & *ia*) `[friend]`

template<class T> istream & operator>> (istream & *in*, IndiceAlias< T > & *ia*) `[friend]`

Member Data Documentation

template<class T> T IndiceAlias<T>::des

template<class T> T IndiceAlias<T>::eff

The documentation for this class was generated from the following file:

- **Equivalence.hpp**

inlist Struct Reference

```
#include <F2C.H>
```

Public Attributes

- **flag inerr**
- **ftnint inunit**
- char* **infile**
- **ftnlen infilen**
- **ftnint* inex**
- **ftnint* inopen**
- **ftnint* innum**
- **ftnint* innamed**
- char* **inname**
- **ftnlen innamlen**
- char* **inacc**
- **ftnlen inacclen**
- char* **inseq**
- **ftnlen inseqlen**
- char* **indir**
- **ftnlen indirlen**
- char* **infmt**
- **ftnlen infmtlen**
- char* **inform**
- **ftnint informlen**
- char* **inunf**
- **ftnlen inunflen**
- **ftnint* inrecl**
- **ftnint* innrec**
- char* **inblank**
- **ftnlen inblanklen**

Member Data Documentation

char * inlist::inacc

ftnlen inlist::inacclen

char * inlist::inblank

ftnlen inlist::inblanklen

char * inlist::indir

ftnlen inlist::indirlen

flag inlist::inerr

ftnint * inlist::inex

char * inlist::infile

ftnlen inlist::infilen

char * inlist::infmt

ftnlen inlist::infmtlen

char * inlist::inform

ftnint inlist::informlen

char * inlist::inname

ftnint * inlist::innamed

ftnlen inlist::innamlen

ftnint * inlist::innrec

ftnint * inlist::innum

ftnint * inlist::inopen

ftnint * inlist::inrecl

char * inlist::inseq

ftnlen inlist::inseqlen

char * inlist::inunf

ftnlen inlist::inunflen

ftnint inlist::inunit

The documentation for this struct was generated from the following file:

- **F2C.H**

PngDecoder::InterlaceInfo Struct Reference

```
#include <pngdecod.h>
```

Public Attributes

- unsigned int **row_interval**
- unsigned int **col_interval**
- unsigned int **start_row**
- unsigned int **start_col**

Member Data Documentation

unsigned int PngDecoder::InterlaceInfo::col_interval

unsigned int PngDecoder::InterlaceInfo::row_interval

unsigned int PngDecoder::InterlaceInfo::start_col

unsigned int PngDecoder::InterlaceInfo::start_row

The documentation for this struct was generated from the following file:

- **pngdecod.h**

Intervalle Class Reference

`#include <ImageBinaire.hpp>`

Public Methods

- **Intervalle** (long _min=0)
- **Intervalle** (long _min, long _max)
- int **Appartient** (const long &nb)
- void **Entre** (long _min, long _max)
- void **Est** (long _min)
- void **PlusGrand** (long _min)
- void **PlusPetit** (long _max)

Public Attributes

- long **min**
- long **max**

Constructor & Destructor Documentation

Intervalle::Intervalle (long *_min* = 0) `[inline]`

Intervalle::Intervalle (long *_min*, long *_max*) `[inline]`

Member Function Documentation

int Intervalle::Appartient (const long & *nb*) `[inline]`

void Intervalle::Entre (long *_min*, long *_max*) `[inline]`

void Intervalle::Est (long *_min*) `[inline]`

void Intervalle::PlusGrand (long *_min*) `[inline]`

void Intervalle::PlusPetit (long *_max*) `[inline]`

Member Data Documentation

long Intervalle::max

long Intervalle::min

The documentation for this class was generated from the following file:

- **ImageBinaire.hpp**

JfifExtension Struct Reference

```
#include <jfif.h>
```

Public Types

- enum { **JpegThumbnail** = 0x10, **OneByteThumbnail** = 0x11, **ThreeByteThumbnail** = 0x13 }

Public Attributes

- **UBYTE2 length**
- **UBYTE1 identifier** [5]
- **UBYTE1 extension_code**

Member Enumeration Documentation

anonymous enum

Enumeration values:

JpegThumbnail
OneByteThumbnail
ThreeByteThumbnail

Member Data Documentation

UBYTE1 JfifExtension::extension_code

UBYTE1 JfifExtension::identifier

UBYTE2 JfifExtension::length

The documentation for this struct was generated from the following file:

- **jfif.h**

JfifHeader Struct Reference

```
#include <jfif.h>
```

Public Attributes

- **UBYTE2 length**
- **UBYTE1 identifier** [5]
- **UBYTE1 version** [2]
- **UBYTE1 units**
- **UBYTE2 xdensity**
- **UBYTE2 ydensity**
- **UBYTE1 xthumbnail**
- **UBYTE1 ythumbnail**

Member Data Documentation

UBYTE1 JfifHeader::identifier

UBYTE2 JfifHeader::length

UBYTE1 JfifHeader::units

UBYTE1 JfifHeader::version

UBYTE2 JfifHeader::xdensity

UBYTE1 JfifHeader::xthumbnail

UBYTE2 JfifHeader::ydensity

UBYTE1 JfifHeader::ythumbnail

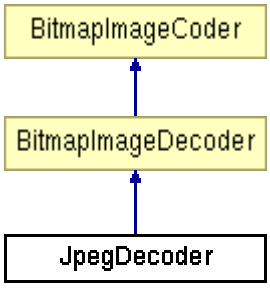
The documentation for this struct was generated from the following file:

- **jfif.h**

JpegDecoder Class Reference

`#include <jpegdeco.h>`

Inheritance diagram for JpegDecoder:



Public Methods

- **JpegDecoder** ()
- **JpegDecoder** (const JpegDecoder &)
- virtual **~JpegDecoder** ()
- JpegDecoder& **operator=** (const JpegDecoder &)
- virtual void **ReadImage** (istream &istrm, **BitmapImage** &image)
- bool **GetVerbose** () const
- void **SetVerbose** (bool)
- virtual void **UpdateImage** ()

Protected Methods

- **UBYTE1 ReadByte** ()
- **UBYTE2 ReadWord** ()
- int **NextBit** ()
- int **Receive** (unsigned int count)
- bool **IsProgressive** () const
- unsigned int **McuRows** () const
- unsigned int **McuCols** () const
- unsigned int **FrameHeight** () const
- unsigned int **FrameWidth** () const
- unsigned int **MaxVFrequency** () const
- unsigned int **MaxHFrequency** () const
- unsigned int **RestartInterval** () const

Private Methods

- void **Initialize** ()
- void **DoCopy** (const JpegDecoder &)
- void **CallProgressFunction** (unsigned int progress)
- void **GetScanCount** ()
- void **ReadStreamHeader** ()
- void **ReadMarker** ()
- void **ReadApplication** (**UBYTE1** type)
- void **ReadHuffmanTable** ()

- void **ReadQuantization** ()
- void **ReadRestartInterval** ()
- void **ReadStartOfFrame** (**UBYTE1** type)
- void **ReadStartOfScan** ()
- void **CalculateMcuDimensions** ()
- bool **ScanIsInterleaved** () const
- void **ReadProgressiveScanData** (unsigned int sss, unsigned int sse, unsigned int sah, unsigned int sal)
- void **ReadDcFirst** (unsigned int ssa)
- void **ReadDcRefine** (unsigned int ssa)
- void **ReadAcFirst** (unsigned int sss, unsigned int sse, unsigned int ssa)
- void **ReadAcRefine** (unsigned int sss, unsigned int sse, unsigned int ssa)
- void **FreeAllocatedResources** ()
- void **ReadSequentialScanData** ()
- void **ReadSequentialInterleavedScan** ()
- void **ReadSequentialNonInterleavedScan** ()
- void **ResetDcDifferences** ()
- void **ProcessRestartMarker** ()
- void **RefineAcCoefficient** (**BYTE2** &value, unsigned int ssa)

Private Attributes

- **JpegHuffmanDecoder*** **ac_tables**
- **JpegHuffmanDecoder*** **dc_tables**
- **JpegDecoderQuantizationTable*** **quantization_tables**
- int **bit_position**
- unsigned char **bit_data**
- bool **eoi_found**
- bool **sof_found**
- bool **verbose_flag**
- istream* **input_stream**
- unsigned int **restart_interval**
- unsigned int **frame_width**
- unsigned int **frame_height**
- unsigned int **frame_type**
- unsigned **max_horizontal_frequency**
- unsigned **max_vertical_frequency**
- bool **progressive_frame**
- unsigned int **component_count**
- **JpegDecoderComponent*** **components**
- unsigned int* **component_indices**
- **BitmapImage*** **current_image**
- unsigned int **current_scan**
- unsigned int **scan_count**
- unsigned int **mcu_rows**
- unsigned int **mcu_cols**
- unsigned int **mcu_height**
- unsigned int **mcu_width**
- unsigned int **scan_component_count**
- **JpegDecoderComponent**** **scan_components**
- unsigned int **expected_restart**
- bool **strict_jfif**

Friends

- class **JpegDecoderQuantizationTable**
- class **JpegHuffmanDecoder**
- class **JpegDecoderComponent**

Constructor & Destructor Documentation

JpegDecoder::JpegDecoder ()

JpegDecoder::JpegDecoder (const JpegDecoder & *source*)

JpegDecoder::~JpegDecoder () `[virtual]`

Member Function Documentation

void JpegDecoder::CalculateMcuDimensions () `[private]`

void JpegDecoder::CallProgressFunction (unsigned int *progress*) `[private]`

void JpegDecoder::DoCopy (const JpegDecoder & *source*) `[private]`

unsigned int JpegDecoder::FrameHeight () const `[inline, protected]`

unsigned int JpegDecoder::FrameWidth () const `[inline, protected]`

void JpegDecoder::FreeAllocatedResources () `[private]`

void JpegDecoder::GetScanCount () `[private]`

bool JpegDecoder::GetVerbose () const `[inline]`

void JpegDecoder::Initialize () `[private]`

Reimplemented from **BitmapImageCoder** (*p.38*).

bool JpegDecoder::IsProgressive () const `[inline, protected]`

unsigned int JpegDecoder::MaxHFrequency () const `[inline, protected]`

unsigned int JpegDecoder::MaxVFrequency () const `[inline, protected]`

unsigned int JpegDecoder::McuCols () const `[inline, protected]`

unsigned int JpegDecoder::McuRows () const `[inline, protected]`

int JpegDecoder::NextBit () `[protected]`

void JpegDecoder::ProcessRestartMarker () `[private]`

void JpegDecoder::ReadAcFirst (unsigned int *sss*, unsigned int *sse*, unsigned int *ssa*) `[private]`

void JpegDecoder::ReadAcRefine (unsigned int *sss*, unsigned int *sse*, unsigned int *ssa*) `[private]`

void JpegDecoder::ReadApplication (UBYTE1 *type*) `[private]`

UBYTE1 JpegDecoder::ReadByte () `[protected]`

void JpegDecoder::ReadDcFirst (unsigned int *ssa*) `[private]`

void JpegDecoder::ReadDcRefine (unsigned int *ssa*) `[private]`

void JpegDecoder::ReadHuffmanTable () `[private]`

void JpegDecoder::ReadImage (istream & *istrm*, BitmapImage & *image*) `[virtual]`

Reimplemented from **BitmapImageDecoder** (*p.39*).

void JpegDecoder::ReadMarker () `[private]`

void JpegDecoder::ReadProgressiveScanData (unsigned int *sss*, unsigned int *sse*, unsigned int *sah*, unsigned int *sal*) `[private]`

void JpegDecoder::ReadQuantization () `[private]`

void JpegDecoder::ReadRestartInterval () `[private]`

void JpegDecoder::ReadSequentialInterleavedScan () `[private]`

void JpegDecoder::ReadSequentialNonInterleavedScan () `[private]`

void JpegDecoder::ReadSequentialScanData () `[private]`

void JpegDecoder::ReadStartOfFrame (UBYTE1 *type*) `[private]`

void JpegDecoder::ReadStartOfScan () `[private]`

void JpegDecoder::ReadStreamHeader () `[private]`

UBYTE2 JpegDecoder::ReadWord () `[protected]`

int JpegDecoder::Receive (unsigned int *count*) `[protected]`

void JpegDecoder::RefineAcCoefficient (BYTE2 & *value*, unsigned int *ssa*) `[private]`

void JpegDecoder::ResetDcDifferences () `[private]`

unsigned int JpegDecoder::RestartInterval () const `[inline, protected]`

bool JpegDecoder::ScanIsInterleaved () const `[inline, private]`

void JpegDecoder::SetVerbose (bool *value*) `[inline]`

void JpegDecoder::UpdateImage () `[virtual]`

Reimplemented from **BitmapImageCoder** (*p.38*).

JpegDecoder & JpegDecoder::operator= (const JpegDecoder & *source*)

Friends And Related Function Documentation

class JpegDecoderComponent `[friend]`

class JpegDecoderQuantizationTable `[friend]`

class JpegHuffmanDecoder `[friend]`

Member Data Documentation

JpegHuffmanDecoder * JpegDecoder::ac_tables `[private]`

unsigned char JpegDecoder::bit_data `[private]`

int JpegDecoder::bit_position `[private]`

unsigned int JpegDecoder::component_count `[private]`

unsigned int * JpegDecoder::component_indices `[private]`

JpegDecoderComponent * JpegDecoder::components `[private]`

BitmapImage * JpegDecoder::current_image `[private]`

unsigned int JpegDecoder::current_scan `[private]`

JpegHuffmanDecoder * JpegDecoder::dc_tables `[private]`

bool JpegDecoder::eoi_found `[private]`

unsigned int JpegDecoder::expected_restart `[private]`

unsigned int JpegDecoder::frame_height `[private]`

unsigned int JpegDecoder::frame_type `[private]`

unsigned int JpegDecoder::frame_width `[private]`

istream * JpegDecoder::input_stream `[private]`

unsigned JpegDecoder::max_horizontal_frequency `[private]`

unsigned JpegDecoder::max_vertical_frequency `[private]`

unsigned int JpegDecoder::mcu_cols `[private]`

unsigned int JpegDecoder::mcu_height `[private]`

unsigned int JpegDecoder::mcu_rows `[private]`

unsigned int JpegDecoder::mcu_width `[private]`

bool JpegDecoder::progressive_frame `[private]`

JpegDecoderQuantizationTable * JpegDecoder::quantization_tables `[private]`

unsigned int JpegDecoder::restart_interval `[private]`

unsigned int JpegDecoder::scan_component_count `[private]`

JpegDecoderComponent ** JpegDecoder::scan_components `[private]`

unsigned int JpegDecoder::scan_count `[private]`

bool JpegDecoder::sof_found `[private]`

bool JpegDecoder::strict_jfif `[private]`

bool JpegDecoder::verbose_flag `[private]`

The documentation for this class was generated from the following files:

- **jpegdeco.h**
- **jpegdeco.cpp**

JpegDecoderComponent Class Reference

```
#include <jpdecomp.h>
```

Public Methods

- **JpegDecoderComponent** ()
- **~JpegDecoderComponent** ()
- unsigned int **HorizontalFrequency** () const
- void **HorizontalFrequency** (unsigned int)
- unsigned int **VerticalFrequency** () const
- void **VerticalFrequency** (unsigned int)
- void **SetQuantizationTable** (**JpegDecoderQuantizationTable** &table)
- void **AllocateComponentBuffers** (const **JpegDecoder** &decoder)
- void **FreeComponentBuffers** ()
- void **SetHuffmanTables** (**JpegHuffmanDecoder** &dc, **JpegHuffmanDecoder** &ac)
- void **Upsample** ()
- void **CheckAcTable** ()
- void **CheckDcTable** ()
- void **CheckQuantizationTable** ()
- void **DecodeSequential** (**JpegDecoder** &decoder, unsigned int mcurow, unsigned int mcucol)
- unsigned long **NoninterleavedRows** () const
- unsigned long **NoninterleavedCols** () const
- void **ResetDcDifference** ()
- void **DecodeDcFirst** (**JpegDecoder** &decoder, unsigned int row, unsigned int col, unsigned int ssa)
- void **DecodeDcRefine** (**JpegDecoder** &decoder, unsigned int row, unsigned int col, unsigned int ssa)
- void **DecodeAcFirst** (**JpegDecoder** &decoder, unsigned int row, unsigned int col, unsigned int sss, unsigned int sse, unsigned int ssa)
- void **DecodeAcRefine** (**JpegDecoder** &decoder, unsigned int row, unsigned int col, unsigned int sss, unsigned int sse, unsigned int ssa)
- void **ProgressiveInverseDct** ()

Static Public Methods

- void **RGBConvert** (JpegDecoderComponent &c1, JpegDecoderComponent &c2, JpegDecoderComponent &c3, **BitmapImage** &image)
- void **GrayscaleConvert** (JpegDecoderComponent &cc, **BitmapImage** &image)

Private Methods

- **JpegDecoderComponent** (const JpegDecoderComponent &)
- JpegDecoderComponent **operator=** (const JpegDecoderComponent &)

Private Attributes

- unsigned int **component_id**
- unsigned int **horizontal_frequency**
- unsigned int **vertical_frequency**
- unsigned int **v_sampling**
- unsigned int **h_sampling**
- int **last_dc_value**

- **JpegHuffmanDecoder* ac_table**
- **JpegHuffmanDecoder* dc_table**
- **JpegDecoderQuantizationTable* quantization_table**
- unsigned int **eob_run**
- unsigned int **noninterleaved_rows**
- unsigned int **noninterleaved_cols**
- unsigned int **du_rows**
- unsigned int **du_cols**
- **JpegDecoderDataUnit* data_units**
- **JPEGSAMPLE* upsample_data**
- **JpegDecoderCoefficientBlock* coefficient_blocks**

Constructor & Destructor Documentation

JpegDecoderComponent::JpegDecoderComponent ()

JpegDecoderComponent::~JpegDecoderComponent ()

JpegDecoderComponent::JpegDecoderComponent (const JpegDecoderComponent &) [private]

Member Function Documentation

void JpegDecoderComponent::AllocateComponentBuffers (const JpegDecoder & *decoder*)

void JpegDecoderComponent::CheckAcTable ()

void JpegDecoderComponent::CheckDcTable ()

void JpegDecoderComponent::CheckQuantizationTable ()

void JpegDecoderComponent::DecodeAcFirst (JpegDecoder & *decoder*, unsigned int *row*, unsigned int *col*, unsigned int *sss*, unsigned int *sse*, unsigned int *ssa*)

void JpegDecoderComponent::DecodeAcRefine (JpegDecoder & *decoder*, unsigned int *row*, unsigned int *col*, unsigned int *sss*, unsigned int *sse*, unsigned int *ssa*)

void JpegDecoderComponent::DecodeDcFirst (JpegDecoder & *decoder*, unsigned int *row*, unsigned int *col*, unsigned int *ssa*)

void JpegDecoderComponent::DecodeDcRefine (JpegDecoder & *decoder*, unsigned int *row*, unsigned int *col*, unsigned int *ssa*)

void JpegDecoderComponent::DecodeSequential (JpegDecoder & *decoder*, unsigned int *mcurow*, unsigned int *mcucol*)

void JpegDecoderComponent::FreeComponentBuffers ()

void JpegDecoderComponent::GrayscaleConvert (JpegDecoderComponent & *cc*, BitmapImage & *image*) `[static]`

void JpegDecoderComponent::HorizontalFrequency (unsigned int *value*)

unsigned int JpegDecoderComponent::HorizontalFrequency () const `[inline]`

unsigned long JpegDecoderComponent::NoninterleavedCols () const `[inline]`

unsigned long JpegDecoderComponent::NoninterleavedRows () const `[inline]`

void JpegDecoderComponent::ProgressiveInverseDct ()

void JpegDecoderComponent::RGBConvert (JpegDecoderComponent & *c1*, JpegDecoderComponent & *c2*, JpegDecoderComponent & *c3*, BitmapImage & *image*) `[static]`

void JpegDecoderComponent::ResetDcDifference () `[inline]`

void JpegDecoderComponent::SetHuffmanTables (JpegHuffmanDecoder & *dc*, JpegHuffmanDecoder & *ac*)

void JpegDecoderComponent::SetQuantizationTable (JpegDecoderQuantizationTable & *table*)

void JpegDecoderComponent::Upsample ()

void JpegDecoderComponent::VerticalFrequency (unsigned int *value*)

unsigned int JpegDecoderComponent::VerticalFrequency () const `[inline]`

JpegDecoderComponent JpegDecoderComponent::operator= (const JpegDecoderComponent &) `[private]`

Member Data Documentation

JpegHuffmanDecoder * JpegDecoderComponent::ac_table `[private]`

JpegDecoderCoefficientBlock * JpegDecoderComponent::coefficient_blocks `[private]`

unsigned int JpegDecoderComponent::component_id `[private]`

JpegDecoderDataUnit * JpegDecoderComponent::data_units `[private]`

JpegHuffmanDecoder * JpegDecoderComponent::dc_table `[private]`

unsigned int JpegDecoderComponent::du_cols `[private]`

unsigned int JpegDecoderComponent::du_rows `[private]`

unsigned int JpegDecoderComponent::eob_run `[private]`

unsigned int JpegDecoderComponent::h_sampling `[private]`

unsigned int JpegDecoderComponent::horizontal_frequency `[private]`

int JpegDecoderComponent::last_dc_value `[private]`

unsigned int JpegDecoderComponent::noninterleaved_cols `[private]`

unsigned int JpegDecoderComponent::noninterleaved_rows `[private]`

JpegDecoderQuantizationTable * JpegDecoderComponent::quantization_table
`[private]`

JPEGSAMPLE * JpegDecoderComponent::upsample_data `[private]`

unsigned int JpegDecoderComponent::v_sampling `[private]`

unsigned int JpegDecoderComponent::vertical_frequency `[private]`

The documentation for this class was generated from the following files:

- **jpdecomp.h**
- **jpdecomp.cpp**

JpegDecoderDataUnit Class Reference

`#include <jpdedu.h>`

Public Types

- typedef JpegDecoderDataUnit& (JpegDecoderDataUnit::* **IDctFunction**)(const **JpegDecoderCoefficientBlock**, const **JpegDecoderQuantizationTable** &)

Public Methods

- **JpegDecoderDataUnit** ()
- virtual **~JpegDecoderDataUnit** ()
- void **Print** (ostream &) const
- JpegDecoderDataUnit& **InverseDCT** (const **JpegDecoderCoefficientBlock** cb, const **JpegDecoderQuantizationTable** &qt)
- JpegDecoderDataUnit& **FloatInverseDCT** (const **JpegDecoderCoefficientBlock**, const **JpegDecoderQuantizationTable** &)
- JpegDecoderDataUnit& **IntegerInverseDCT** (const **JpegDecoderCoefficientBlock**, const **JpegDecoderQuantizationTable** &)
- **JPEGSAMPLE*** **operator[]** (unsigned int ii)
- **JPEGSAMPLE** const* **operator[]** (unsigned int ii) const

Private Methods

- **JpegDecoderDataUnit** (const JpegDecoderDataUnit &)
- JpegDecoderDataUnit& **operator=** (const JpegDecoderDataUnit &)

Private Attributes

- **UBYTE1 values** [**JpegSampleWidth**][**JpegSampleWidth**]

Static Private Attributes

- **IDctFunction idct_function** = &JpegDecoderDataUnit::IntegerInverseDCT

Member Typedef Documentation

typedef JpegDecoderDataUnit &(JpegDecoderDataUnit::* JpegDecoderDataUnit::IDctFunction)(const JpegDecoderCoefficientBlock, const JpegDecoderQuantizationTable &)

Constructor & Destructor Documentation

JpegDecoderDataUnit::JpegDecoderDataUnit () `[inline]`

JpegDecoderDataUnit::~JpegDecoderDataUnit () `[inline, virtual]`

JpegDecoderDataUnit::JpegDecoderDataUnit (const JpegDecoderDataUnit & *du*) `[private]`

Member Function Documentation

JpegDecoderDataUnit & JpegDecoderDataUnit::FloatInverseDCT (const *data*, const JpegDecoderQuantizationTable & *qt*)

JpegDecoderDataUnit & JpegDecoderDataUnit::IntegerInverseDCT (const *data*, const JpegDecoderQuantizationTable & *qt*)

JpegDecoderDataUnit & JpegDecoderDataUnit::InverseDCT (const JpegDecoderCoefficientBlock *cb*, const JpegDecoderQuantizationTable & *qt*) `[inline]`

void JpegDecoderDataUnit::Print (ostream & *strm*) const

JpegDecoderDataUnit & JpegDecoderDataUnit::operator= (const JpegDecoderDataUnit & *du*) `[private]`

JPEGSAMPLE const * JpegDecoderDataUnit::operator[] (unsigned int *ii*) const `[inline]`

JPEGSAMPLE * JpegDecoderDataUnit::operator[] (unsigned int *ii*) `[inline]`

Member Data Documentation

JpegDecoderDataUnit::IDctFunction JpegDecoderDataUnit::idct_function = &JpegDecoderDataUnit::IntegerInverseDCT `[static, private]`

UBYTE1 JpegDecoderDataUnit::values `[private]`

The documentation for this class was generated from the following files:

- **jpdedu.h**
- **jpdedu.cpp**

JpegDecoderQuantizationTable Class Reference

`#include <jpdequan.h>`

Public Methods

- **JpegDecoderQuantizationTable** ()
- **~JpegDecoderQuantizationTable** ()
- bool **Defined** () const
- void **ReadTable** (**JpegDecoder** &decoder, unsigned int precision)
- void **BuildScaledTables** ()
- void **Print** (ostream &) const

Private Types

- enum { **QuantizationIntegerScale** = 12 }

Private Methods

- **JpegDecoderQuantizationTable** (const JpegDecoderQuantizationTable &)
- JpegDecoderQuantizationTable& **operator=** (const JpegDecoderQuantizationTable &)

Private Attributes

- **UBYTE2 data_values** [**JpegSampleSize**]
- double **float_scaling** [**JpegSampleWidth**][**JpegSampleWidth**]
- long **integer_scaling** [**JpegSampleWidth**][**JpegSampleWidth**]
- bool **table_defined**

Friends

- class **JpegDecoderDataUnit**

Member Enumeration Documentation

anonymous enum `[private]`

Enumeration values:

QuantizationIntegerScale

Constructor & Destructor Documentation

JpegDecoderQuantizationTable::JpegDecoderQuantizationTable ()

JpegDecoderQuantizationTable::~JpegDecoderQuantizationTable () `[inline]`

JpegDecoderQuantizationTable::JpegDecoderQuantizationTable (const JpegDecoderQuantizationTable &) `[private]`

Member Function Documentation

void JpegDecoderQuantizationTable::BuildScaledTables ()

bool JpegDecoderQuantizationTable::Defined () const `[inline]`

void JpegDecoderQuantizationTable::Print (ostream & *strm*) const

void JpegDecoderQuantizationTable::ReadTable (JpegDecoder & *decoder*, unsigned int *precision*)

JpegDecoderQuantizationTable & JpegDecoderQuantizationTable::operator= (const JpegDecoderQuantizationTable &) `[private]`

Friends And Related Function Documentation

class JpegDecoderDataUnit `[friend]`

Member Data Documentation

UBYTE2 JpegDecoderQuantizationTable::data_values `[private]`

double JpegDecoderQuantizationTable::float_scaling `[private]`

long JpegDecoderQuantizationTable::integer_scaling `[private]`

bool JpegDecoderQuantizationTable::table_defined `[private]`

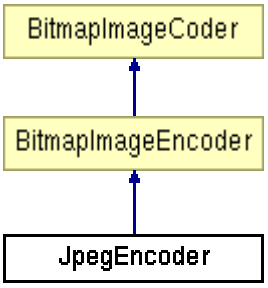
The documentation for this class was generated from the following files:

- **jpdequan.h**
- **jpdequan.cpp**

JpegEncoder Class Reference

`#include <jpegenco.h>`

Inheritance diagram for JpegEncoder:



Public Types

- enum { **MaxScans** = 256 }
- enum { **YComponent** = 1, **CbComponent** = 2, **CrComponent** = 3 }

Public Methods

- **JpegEncoder** ()
- virtual **~JpegEncoder** ()
- **JpegEncoder** (const JpegEncoder &)
- JpegEncoder& **operator=** (const JpegEncoder &)
- virtual void **WriteImage** (ostream &strm, **BitmapImage** &image)
- unsigned int **GetQuality** () const
- void **SetQuality** (unsigned int)
- bool **GetGrayscale** () const
- void **SetGrayscale** (bool)
- bool **GetProgressive** () const
- void **SetProgressive** (bool)
- unsigned int **GetRowsPerRestart** () const
- void **SetRowsPerRestart** (unsigned int)
- Chaine **GetComment** () const
- void **SetComment** (const Chaine &)
- void **SetSamplingFrequency** (unsigned int component, unsigned int hf, unsigned int vf)
- void **GetSamplingFrequency** (unsigned int component, unsigned int &hf, unsigned int &vf)
- void **SetScanAttributes** (unsigned int scan, unsigned long components, unsigned int sse, unsigned int ssa)
- void **GetScanAttributes** (unsigned int scan, unsigned long &components, unsigned int &sse, unsigned int &ssa)

Protected Methods

- void **OutputBits** (int bits, unsigned int count)
- void **OutputByte** (**UBYTE1**)
- void **OutputWord** (**UBYTE2**)
- void **CallProgressFunction** (unsigned int)

Private Types

- enum { **MaxComponents** = 4 }

Private Methods

- void **DoCopy** (const JpegEncoder &)
- void **Initialize** ()
- void **ValidateParameters** ()
- void **FlushBitBuffer** ()
- void **OutputMarker** (**UBYTE1**)
- void **PrintQuantizationTables** ()
- void **PrintSequentialFrame** (**BitmapImage** &image)
- void **PrintProgressiveFrame** (**BitmapImage** &image)
- void **PrintComment** (const Chaine &)
- void **OutputJfifHeader** ()
- void **OutputRestartInterval** (unsigned int restartinterval)
- void **PrintHuffmanTables** (const **Scan** &scan, bool usedc, bool useac)
- void **PrintSequentialScan** (const **Scan** &scan)
- void **PrintProgressiveScan** (const **Scan** &scan)
- void **PrintDcFirst** (const **Scan** &scan)
- void **PrintDcRefine** (const **Scan** &scan)
- void **PrintAcFirst** (const **Scan** &scan)
- void **PrintAcRefine** (const **Scan** &scan)
- void **FirstAcData** (const **Scan** &scan, bool outputrestarts, **JpegEncoderComponent::ACOUTPUTFUNCTION** acfunction)
- void **RefineAcData** (const **Scan** &scan, bool outputrestarts, **JpegEncoderComponent::ACOUTPUTFUNCTION** acfunction)
- void **InterleavedPass** (bool writedata, **JpegEncoderComponent::COMPONENTPASSFUNCTION** passfunction, **JpegEncoderComponent::DCOUTPUTFUNCTION** dcfunction, **JpegEncoderComponent::ACOUTPUTFUNCTION** acfunction, unsigned int sss, unsigned int sse, unsigned int ssa)
- void **NoninterleavedPass** (bool writedata, **JpegEncoderComponent::COMPONENTPASSFUNCTION** passfunction, **JpegEncoderComponent::DCOUTPUTFUNCTION** dcfunction, **JpegEncoderComponent::ACOUTPUTFUNCTION** acfunction, unsigned int sss, unsigned int sse, unsigned int ssa)
- void **ResetDcValues** ()
- void **CalculateMcuDimensions** ()
- void **CountPassesForProgressReporting** ()
- void **FindComponentsInScan** (**Scan** &scan)
- void **CreateQuantizationTables** (unsigned int quality)

Private Attributes

- unsigned int **bit_count**
- **UBYTE1 bit_buffer**
- **JpegEncoderQuantizationTable*** **chrominance_quanttbl**
- **JpegEncoderQuantizationTable*** **luminance_quanttbl**
- **JpegEncoderHuffmanTable*** **ac_tables**
- **JpegEncoderHuffmanTable*** **dc_tables**
- bool **gray_scale**
- unsigned int **rows_per_restart**
- unsigned int **restart_interval**

- unsigned int **image_quality**
- Chaine **comment_string**
- bool **progressive_mode**
- unsigned int **total_passes**
- unsigned int **current_pass**
- unsigned int **frame_width**
- unsigned int **frame_height**
- unsigned int **max_horizontal_frequency**
- unsigned int **max_vertical_frequency**
- unsigned int **mcu_rows**
- unsigned int **mcu_cols**
- **BitmapImage*** **current_image**
- ostream* **output_stream**
- unsigned int **scan_count**
- **Scan image_scans** [MaxScans]
- **JpegEncoderComponent image_components** [MaxComponents]
- unsigned int **scan_component_count**
- **JpegEncoderComponent*** **scan_components** [**JpegMaxComponentsPerScan**]

Friends

- class **JpegEncoderHuffmanTable**
- class **JpegEncoderComponent**

Member Enumeration Documentation

anonymous enum

Enumeration values:

MaxScans

anonymous enum

Enumeration values:

YComponent
CbComponent
CrComponent

anonymous enum `[private]`

Enumeration values:

MaxComponents

Constructor & Destructor Documentation

JpegEncoder::JpegEncoder ()

JpegEncoder::~JpegEncoder () `[virtual]`

JpegEncoder::JpegEncoder (const JpegEncoder & *source*)

Member Function Documentation

void JpegEncoder::CalculateMcuDimensions () `[private]`

void JpegEncoder::CallProgressFunction (unsigned int *progress*) `[inline, protected]`

void JpegEncoder::CountPassesForProgressReporting () `[private]`

void JpegEncoder::CreateQuantizationTables (unsigned int *quality*) `[private]`

void JpegEncoder::DoCopy (const JpegEncoder & *source*) `[private]`

void JpegEncoder::FindComponentsInScan (Scan & *scan*) `[private]`

void JpegEncoder::FirstAcData (const Scan & *scan*, bool *outputrestarts*, JpegEncoderComponent::ACOUTPUTFUNCTION *acfunction*) `[private]`

void JpegEncoder::FlushBitBuffer () `[private]`

Chaine JpegEncoder::GetComment () const

bool JpegEncoder::GetGrayscale () const `[inline]`

bool JpegEncoder::GetProgressive () const

unsigned int JpegEncoder::GetQuality () const

unsigned int JpegEncoder::GetRowsPerRestart () const `[inline]`

void JpegEncoder::GetSamplingFrequency (unsigned int *component*, unsigned int & *hf*, unsigned int & *vf*)

void JpegEncoder::GetScanAttributes (unsigned int *scan*, unsigned long & *components*, unsigned int & *sse*, unsigned int & *ssa*)

void JpegEncoder::Initialize () `[private]`

Reimplemented from **BitmapImageCoder** (*p.38*).

void JpegEncoder::InterleavedPass (bool *writedata*, JpegEncoderComponent::COMPONENTPASSFUNCTION *passfunction*, JpegEncoderComponent::DCOUTPUTFUNCTION *dcfunction*, JpegEncoderComponent::ACOUTPUTFUNCTION *acfunction*, unsigned int *sss*, unsigned int *sse*, unsigned int *ssa*) `[private]`

void JpegEncoder::NoninterleavedPass (bool *writedata*, JpegEncoderComponent::COMPONENTPASSFUNCTION *passfunction*, JpegEncoderComponent::DCOUTPUTFUNCTION *dcfunction*, JpegEncoderComponent::ACOUTPUTFUNCTION *acfunction*, unsigned int *sss*, unsigned int *sse*, unsigned int *ssa*) `[private]`

void JpegEncoder::OutputBits (int *bits*, unsigned int *count*) `[protected]`

void JpegEncoder::OutputByte (UBYTE1 *value*) `[protected]`

void JpegEncoder::OutputJfifHeader () `[private]`

void JpegEncoder::OutputMarker (UBYTE1 *marker*) `[private]`

void JpegEncoder::OutputRestartInterval (unsigned int *restartinterval*) `[private]`

void JpegEncoder::OutputWord (UBYTE2 *value*) `[protected]`

void JpegEncoder::PrintAcFirst (const Scan & *scan*) `[private]`

void JpegEncoder::PrintAcRefine (const Scan & *scan*) `[private]`

void JpegEncoder::PrintComment (const Chaine & *str*) `[private]`

void JpegEncoder::PrintDcFirst (const Scan & *scan*) `[private]`

void JpegEncoder::PrintDcRefine (const Scan & *scan*) `[private]`

void JpegEncoder::PrintHuffmanTables (const Scan & *scan*, bool *usedc*, bool *useac*) `[private]`

void JpegEncoder::PrintProgressiveFrame (BitmapImage & *image*) `[private]`

void JpegEncoder::PrintProgressiveScan (const Scan & *scan*) `[private]`

void JpegEncoder::PrintQuantizationTables () `[private]`

void JpegEncoder::PrintSequentialFrame (BitmapImage & *image*) `[private]`

void JpegEncoder::PrintSequentialScan (const Scan & *scan*) `[private]`

void JpegEncoder::RefineAcData (const Scan & *scan*, bool *outputrestarts*, JpegEncoderComponent::ACOUTPUTFUNCTION *acfunction*) `[private]`

void JpegEncoder::ResetDcValues () `[private]`

void JpegEncoder::SetComment (const Chaine &)

void JpegEncoder::SetGrayscale (bool *value*) `[inline]`

void JpegEncoder::SetProgressive (bool *value*)

void JpegEncoder::SetQuality (unsigned int *value*)

void JpegEncoder::SetRowsPerRestart (unsigned int *rows*) `[inline]`

void JpegEncoder::SetSamplingFrequency (unsigned int *component*, unsigned int *hf*, unsigned int *vf*)

void JpegEncoder::SetScanAttributes (unsigned int *scan*, unsigned long *components*, unsigned int *sse*, unsigned int *ssa*)

void JpegEncoder::ValidateParameters () `[private]`

void JpegEncoder::WriteImage (ostream & *strm*, BitmapImage & *image*) `[virtual]`

Reimplemented from **BitmapImageEncoder** (*p.40*).

JpegEncoder & JpegEncoder::operator= (const JpegEncoder & *source*)

Friends And Related Function Documentation

class JpegEncoderComponent `[friend]`

class JpegEncoderHuffmanTable `[friend]`

Member Data Documentation

JpegEncoderHuffmanTable * JpegEncoder::ac_tables `[private]`

UBYTE1 JpegEncoder::bit_buffer `[private]`

unsigned int JpegEncoder::bit_count `[private]`

JpegEncoderQuantizationTable * JpegEncoder::chrominance_quanttbl `[private]`

Chaine JpegEncoder::comment_string `[private]`

BitmapImage * JpegEncoder::current_image `[private]`

unsigned int JpegEncoder::current_pass `[private]`

JpegEncoderHuffmanTable * JpegEncoder::dc_tables `[private]`

unsigned int JpegEncoder::frame_height `[private]`

unsigned int JpegEncoder::frame_width `[private]`

bool JpegEncoder::gray_scale `[private]`

JpegEncoderComponent JpegEncoder::image_components `[private]`

unsigned int JpegEncoder::image_quality `[private]`

Scan JpegEncoder::image_scans `[private]`

JpegEncoderQuantizationTable * JpegEncoder::luminance_quanttbl `[private]`

unsigned int JpegEncoder::max_horizontal_frequency `[private]`

unsigned int JpegEncoder::max_vertical_frequency `[private]`

unsigned int JpegEncoder::mcu_cols `[private]`

unsigned int JpegEncoder::mcu_rows `[private]`

ostream * JpegEncoder::output_stream `[private]`

bool JpegEncoder::progressive_mode `[private]`

unsigned int JpegEncoder::restart_interval `[private]`

unsigned int JpegEncoder::rows_per_restart `[private]`

unsigned int JpegEncoder::scan_component_count `[private]`

JpegEncoderComponent * JpegEncoder::scan_components `[private]`

unsigned int JpegEncoder::scan_count `[private]`

unsigned int JpegEncoder::total_passes `[private]`

The documentation for this class was generated from the following files:

- **jpegenco.h**
- **jpegenco.cpp**

JpegEncoderCoefficientBlock Class Reference

`#include <jpencobk.h>`

Public Methods

- **BYTE2*** **operator[]** (unsigned int index)
- **BYTE2**& **ZigZagInput** (unsigned int index)

Private Attributes

- **BYTE2 data** [**JpegSampleWidth**][**JpegSampleWidth**]

Member Function Documentation

BYTE2 & JpegEncoderCoefficientBlock::ZigZagInput (unsigned int *index*) `[inline]`

BYTE2 * JpegEncoderCoefficientBlock::operator[] (unsigned int *index*) `[inline]`

Member Data Documentation

BYTE2 JpegEncoderCoefficientBlock::data `[private]`

The documentation for this class was generated from the following file:

- **jpencobk.h**

JpegEncoderComponent Class Reference

```
#include <jpencomp.h>
```

Public Types

- typedef void (JpegEncoderComponent::* **DCOUTPUTFUNCTION**)(int, int)
- typedef void (JpegEncoderComponent::* **ACOUTPUTFUNCTION**)(int, int, int)
- typedef void (JpegEncoderComponent::* **COMPONENTPASSFUNCTION**)(unsigned int row, unsigned int col, **DCOUTPUTFUNCTION**, **ACOUTPUTFUNCTION**, unsigned int sss, unsigned int sse, unsigned int ssa)

Public Methods

- **JpegEncoderComponent** ()
- virtual **~JpegEncoderComponent** ()
- void **PrintAcData** (int, int, int)
- void **PrintDcData** (int, int)
- void **GatherAcData** (int, int, int)
- void **GatherDcData** (int, int)
- void **EncodeSequential** (unsigned int row, unsigned int col, **DCOUTPUTFUNCTION** dcfunction, **ACOUTPUTFUNCTION** acfunction, unsigned int, unsigned int, unsigned int)
- void **ProgressiveDcFirst** (unsigned int row, unsigned int col, **DCOUTPUTFUNCTION** dcfunction, **ACOUTPUTFUNCTION**, unsigned int, unsigned int, unsigned int ssa)
- void **ProgressiveDcRefine** (unsigned int row, unsigned int col, **DCOUTPUTFUNCTION** dcfunction, **ACOUTPUTFUNCTION**, unsigned int, unsigned int, unsigned int)
- void **ProgressiveAcFirst** (unsigned int row, unsigned int col, **ACOUTPUTFUNCTION** acfunction, unsigned int sss, unsigned int sse, unsigned int ssa)
- void **ProgressiveAcRefine** (unsigned int row, unsigned int col, **ACOUTPUTFUNCTION** acfunction, unsigned int sss, unsigned int sse, unsigned int ssa)
- void **ResetEobRun** ()
- void **PrintEobRun** (**ACOUTPUTFUNCTION** acfunction)
- void **PrintRefineEobRun** (**ACOUTPUTFUNCTION** acfunction, unsigned int sss, unsigned int sse, unsigned int ssa)
- void **SampleYComponent** (**JpegEncoder** &encoder, const **BitmapImage** &, unsigned int maxhf, unsigned int maxvf)
- void **SampleCbComponent** (**JpegEncoder** &encoder, const **BitmapImage** &, unsigned int maxhf, unsigned int maxvf)
- void **SampleCrComponent** (**JpegEncoder** &encoder, const **BitmapImage** &, unsigned int maxhf, unsigned int maxvf)
- unsigned int **GetHorizontalFrequency** () const
- void **SetHorizontalFrequency** (unsigned int)
- unsigned int **GetVerticalFrequency** () const
- void **SetVerticalFrequency** (unsigned int)
- unsigned int **DataUnitRows** () const
- unsigned int **DataUnitCols** () const
- void **ResetDcDifference** ()
- void **SetHuffmanTables** (**JpegEncoderHuffmanTable** &dc, **JpegEncoderHuffmanTable** &ac)
- void **SetQuantizationTable** (**JpegEncoderQuantizationTable** &table)
- void **FreeDynamicStorage** ()

Private Types

- typedef **JPEGSAMPLE** (* **RGBTOYCBCRFUNCTION**)(**JPEGSAMPLE** red, **JPEGSAMPLE** green, **JPEGSAMPLE** blue)

Private Methods

- **JpegEncoderComponent** (const JpegEncoderComponent &)
- JpegEncoderComponent& **operator=** (const JpegEncoderComponent &)
- void **CalculateDuDimensions** (const **BitmapImage** &image, unsigned int maxhf, unsigned int maxvf)
- void **Sample1to1Component** (const **BitmapImage** &, **RGBTOYCBCRFUNCTION**)
- void **SampleNtoNComponent** (const **BitmapImage** &image, **RGBTOYCBCRFUNCTION** function)

Private Attributes

- **JpegEncoder*** **jpeg_encoder**
- unsigned int **du_rows**
- unsigned int **du_cols**
- **JpegEncoderCoefficientBlock*** **dct_coefficients**
- unsigned int **eob_run**
- unsigned int **eob_start_du_row**
- unsigned int **eob_start_du_col**
- unsigned int **eob_start_position**
- unsigned int **v_frequency**
- unsigned int **h_frequency**
- unsigned int **v_period**
- unsigned int **h_period**
- **JpegEncoderHuffmanTable*** **ac_table**
- **JpegEncoderHuffmanTable*** **dc_table**
- **JpegEncoderQuantizationTable*** **quantization_table**
- int **last_dc_value**

Member Typedef Documentation

typedef void(JpegEncoderComponent::* JpegEncoderComponent::ACOUTPUTFUNCTION)(int, int, int)

typedef void(JpegEncoderComponent::* JpegEncoderComponent::COMPONENTPASSFUNCTION)(unsigned int row, unsigned int col, DCOUTPUTFUNCTION, ACOUTPUTFUNCTION, unsigned int sss, unsigned int sse, unsigned int ssa)

typedef void(JpegEncoderComponent::* JpegEncoderComponent::DCOUTPUTFUNCTION)(int, int)

typedef JPEGSAMPLE(* JpegEncoderComponent::RGBTOYCBCRFUNCTION)(JPEGSAMPLE red, JPEGSAMPLE green, JPEGSAMPLE blue) `[private]`

Constructor & Destructor Documentation

JpegEncoderComponent::JpegEncoderComponent ()

JpegEncoderComponent::~JpegEncoderComponent () `[virtual]`

JpegEncoderComponent::JpegEncoderComponent (const JpegEncoderComponent &) `[private]`

Member Function Documentation

void JpegEncoderComponent::CalculateDuDimensions (const BitmapImage & *image*, unsigned int *maxhf*, unsigned int *maxvf*) `[private]`

unsigned int JpegEncoderComponent::DataUnitCols () const `[inline]`

unsigned int JpegEncoderComponent::DataUnitRows () const `[inline]`

void JpegEncoderComponent::EncodeSequential (unsigned int *row*, unsigned int *col*, DCOUTPUTFUNCTION *dcfunction*, ACOUTPUTFUNCTION *acfunction*, unsigned *int*, unsigned *int*, unsigned *int*)

void JpegEncoderComponent::FreeDynamicStorage ()

void JpegEncoderComponent::GatherAcData (int *huffvalue*, int, int)

void JpegEncoderComponent::GatherDcData (int *huffvalue*, int)

unsigned int JpegEncoderComponent::GetHorizontalFrequency () const `[inline]`

unsigned int JpegEncoderComponent::GetVerticalFrequency () const `[inline]`

void JpegEncoderComponent::PrintAcData (int *huffvalue*, int *value*, int *size*)

void JpegEncoderComponent::PrintDcData (int *huffvalue*, int *bits*)

void JpegEncoderComponent::PrintEobRun (ACOUTPUTFUNCTION *acfunction*)

void JpegEncoderComponent::PrintRefineEobRun (ACOUTPUTFUNCTION *acfunction*, unsigned int *sss*, unsigned int *sse*, unsigned int *ssa*)

void JpegEncoderComponent::ProgressiveAcFirst (unsigned int *row*, unsigned int *col*, ACOUTPUTFUNCTION *acfunction*, unsigned int *sss*, unsigned int *sse*, unsigned int *ssa*)

void JpegEncoderComponent::ProgressiveAcRefine (unsigned int *row*, unsigned int *col*, ACOUTPUTFUNCTION *acfunction*, unsigned int *sss*, unsigned int *sse*, unsigned int *ssa*)

void JpegEncoderComponent::ProgressiveDcFirst (unsigned int *row*, unsigned int *col*, DCOUTPUTFUNCTION *dcfunction*, ACOUTPUTFUNCTION, unsigned *int*, unsigned *int*, unsigned int *successiveapproximation*)

void JpegEncoderComponent::ProgressiveDcRefine (unsigned int *row*, unsigned int *col*, DCOUTPUTFUNCTION *dcfunction*, ACOUTPUTFUNCTION, unsigned *int*, unsigned *int*, unsigned int *ssa*)

void JpegEncoderComponent::ResetDcDifference () `[inline]`

void JpegEncoderComponent::ResetEobRun ()

void JpegEncoderComponent::Sample1to1Component (const BitmapImage & *image*, RGBTOYCBCRFUNCTION *function*) `[private]`

void JpegEncoderComponent::SampleCbComponent (JpegEncoder & *encoder*, const BitmapImage & *image*, unsigned int *maxhf*, unsigned int *maxvf*)

void JpegEncoderComponent::SampleCrComponent (JpegEncoder & *encoder*, const BitmapImage & *image*, unsigned int *maxhf*, unsigned int *maxvf*)

void JpegEncoderComponent::SampleNtoNComponent (const BitmapImage & *image*, RGBTOYCBCRFUNCTION *function*) `[private]`

void JpegEncoderComponent::SampleYComponent (JpegEncoder & *encoder*, const BitmapImage & *image*, unsigned int *maxhf*, unsigned int *maxvf*)

void JpegEncoderComponent::SetHorizontalFrequency (unsigned int *value*)

void JpegEncoderComponent::SetHuffmanTables (JpegEncoderHuffmanTable & *dc*, JpegEncoderHuffmanTable & *ac*) `[inline]`

void JpegEncoderComponent::SetQuantizationTable (JpegEncoderQuantizationTable & *table*) `[inline]`

void JpegEncoderComponent::SetVerticalFrequency (unsigned int *value*)

JpegEncoderComponent & JpegEncoderComponent::operator= (const JpegEncoderComponent &) `[private]`

Member Data Documentation

JpegEncoderHuffmanTable * JpegEncoderComponent::ac_table `[private]`

JpegEncoderHuffmanTable * JpegEncoderComponent::dc_table `[private]`

JpegEncoderCoefficientBlock * JpegEncoderComponent::dct_coefficients `[private]`

unsigned int JpegEncoderComponent::du_cols `[private]`

unsigned int JpegEncoderComponent::du_rows `[private]`

unsigned int JpegEncoderComponent::eob_run `[private]`

unsigned int JpegEncoderComponent::eob_start_du_col `[private]`

unsigned int JpegEncoderComponent::eob_start_du_row `[private]`

unsigned int JpegEncoderComponent::eob_start_position `[private]`

unsigned int JpegEncoderComponent::h_frequency `[private]`

unsigned int JpegEncoderComponent::h_period `[private]`

JpegEncoder * JpegEncoderComponent::jpeg_encoder `[private]`

int JpegEncoderComponent::last_dc_value `[private]`

JpegEncoderQuantizationTable * JpegEncoderComponent::quantization_table `[private]`

unsigned int JpegEncoderComponent::v_frequency `[private]`

unsigned int JpegEncoderComponent::v_period `[private]`

The documentation for this class was generated from the following files:

- **jpencomp.h**
- **jpencomp.cpp**

JpegEncoderDataUnit Class Reference

`#include <jpendu.h>`

Public Types

- typedef **JPEGSAMPLE DATAUNITVALUE**

Public Methods

- **JpegEncoderDataUnit** ()
- **~JpegEncoderDataUnit** ()
- **DATAUNITVALUE* operator[]** (unsigned int)
- **DATAUNITVALUE**& **ZigZagInput** (unsigned int)
- void **ForwardDct** (**JpegEncoderQuantizationTable** &, **JpegEncoderCoefficientBlock** &)

Private Methods

- **JpegEncoderDataUnit** (const JpegEncoderDataUnit &)
- JpegEncoderDataUnit& **operator=** (const JpegEncoderDataUnit &)

Private Attributes

- **DATAUNITVALUE data** [**JpegSampleWidth**][**JpegSampleWidth**]

Member Typedef Documentation

typedef JPEGSAMPLE JpegEncoderDataUnit::DATAUNITVALUE

Constructor & Destructor Documentation

JpegEncoderDataUnit::JpegEncoderDataUnit () `[inline]`

JpegEncoderDataUnit::~JpegEncoderDataUnit () `[inline]`

JpegEncoderDataUnit::JpegEncoderDataUnit (const JpegEncoderDataUnit &) `[private]`

Member Function Documentation

void JpegEncoderDataUnit::ForwardDct (JpegEncoderQuantizationTable & *qt*, JpegEncoderCoefficientBlock & *output*)

JpegEncoderDataUnit::DATAUNITVALUE & JpegEncoderDataUnit::ZigZagInput (unsigned int *ii*) `[inline]`

JpegEncoderDataUnit & JpegEncoderDataUnit::operator= (const JpegEncoderDataUnit &) `[private]`

JpegEncoderDataUnit::DATAUNITVALUE * JpegEncoderDataUnit::operator[] (unsigned int *ii*) `[inline]`

Member Data Documentation

DATAUNITVALUE JpegEncoderDataUnit::data `[private]`

The documentation for this class was generated from the following files:

- **jpendu.h**
- **jpendu.cpp**

JpegEncoderHuffmanTable Class Reference

`#include <jpenhuff.h>`

Public Methods

- **JpegEncoderHuffmanTable** ()
- virtual **~JpegEncoderHuffmanTable** ()
- void **Reset** ()
- void **IncrementFrequency** (unsigned int value)
- void **BuildTable** ()
- void **Encode** (unsigned int value, **UBYTE2** &code, **UBYTE1** &size) const
- unsigned int **OutputSize** () const
- void **PrintTable** (**JpegEncoder** &encoder) const

Private Methods

- **JpegEncoderHuffmanTable** (const JpegEncoderHuffmanTable &)
- JpegEncoderHuffmanTable& **operator=** (const JpegEncoderHuffmanTable &)
- void **MakeTable** ()

Private Attributes

- unsigned int **frequencies** [**JpegMaxNumberOfHuffmanCodes**+1]
- **UBYTE1 huff_bits** [2 ***JpegMaxHuffmanCodeLength**]
- **UBYTE1 huff_values** [**JpegMaxNumberOfHuffmanCodes**]
- **UBYTE1 ehufsi** [**JpegMaxNumberOfHuffmanCodes**+1]
- **UBYTE2 ehufco** [**JpegMaxNumberOfHuffmanCodes**+1]
- bool **sizes_found**

Constructor & Destructor Documentation

JpegEncoderHuffmanTable::JpegEncoderHuffmanTable ()

JpegEncoderHuffmanTable::~JpegEncoderHuffmanTable () `[inline, virtual]`

JpegEncoderHuffmanTable::JpegEncoderHuffmanTable (const JpegEncoderHuffmanTable &) `[private]`

Member Function Documentation

void JpegEncoderHuffmanTable::BuildTable ()

void JpegEncoderHuffmanTable::Encode (unsigned int *value*, UBYTE2 & *code*, UBYTE1 & *size*) const

void JpegEncoderHuffmanTable::IncrementFrequency (unsigned int *value*)

void JpegEncoderHuffmanTable::MakeTable () `[private]`

unsigned int JpegEncoderHuffmanTable::OutputSize () const

void JpegEncoderHuffmanTable::PrintTable (JpegEncoder & *encoder*) const

void JpegEncoderHuffmanTable::Reset ()

JpegEncoderHuffmanTable & JpegEncoderHuffmanTable::operator= (const JpegEncoderHuffmanTable &) `[private]`

Member Data Documentation

UBYTE2 JpegEncoderHuffmanTable::ehufco `[private]`

UBYTE1 JpegEncoderHuffmanTable::ehufsi `[private]`

unsigned int JpegEncoderHuffmanTable::frequencies `[private]`

UBYTE1 JpegEncoderHuffmanTable::huff_bits `[private]`

UBYTE1 JpegEncoderHuffmanTable::huff_values `[private]`

bool JpegEncoderHuffmanTable::sizes_found `[private]`

The documentation for this class was generated from the following files:

- **jpenhuff.h**
- **jpenhuff.cpp**

JpegEncoderQuantizationTable Class Reference

`#include <jpenquan.h>`

Public Methods

- **JpegEncoderQuantizationTable** ()
- **~JpegEncoderQuantizationTable** ()
- **UBYTE2 operator[]** (unsigned int index) const
- **UBYTE2**& **operator[]** (unsigned int index)
- void **BuildScaledTables** ()

Private Methods

- **JpegEncoderQuantizationTable** (const JpegEncoderQuantizationTable &)
- JpegEncoderQuantizationTable& **operator=** (const JpegEncoderQuantizationTable &)

Private Attributes

- **UBYTE2 data_values** [**JpegSampleSize**]
- double **float_scaling** [**JpegSampleWidth**][**JpegSampleWidth**]

Friends

- class **JpegEncoderDataUnit**

Constructor & Destructor Documentation

JpegEncoderQuantizationTable::JpegEncoderQuantizationTable ()

JpegEncoderQuantizationTable::~JpegEncoderQuantizationTable () `[inline]`

JpegEncoderQuantizationTable::JpegEncoderQuantizationTable (const JpegEncoderQuantizationTable &) `[private]`

Member Function Documentation

void JpegEncoderQuantizationTable::BuildScaledTables ()

JpegEncoderQuantizationTable & JpegEncoderQuantizationTable::operator= (const JpegEncoderQuantizationTable &) `[private]`

UBYTE2 & JpegEncoderQuantizationTable::operator[] (unsigned int *index*) `[inline]`

UBYTE2 JpegEncoderQuantizationTable::operator[] (unsigned int *index*) const `[inline]`

Friends And Related Function Documentation

class JpegEncoderDataUnit `[friend]`

Member Data Documentation

UBYTE2 JpegEncoderQuantizationTable::data_values `[private]`

double JpegEncoderQuantizationTable::float_scaling `[private]`

The documentation for this class was generated from the following files:

- **jpenquan.h**
- **jpenquan.cpp**

JpegHuffmanDecoder Class Reference

`#include <jpdehuff.h>`

Public Methods

- **JpegHuffmanDecoder** ()
- virtual **~JpegHuffmanDecoder** ()
- bool **Defined** () const
- unsigned int **ReadTable** (**JpegDecoder** &)
- int **Decode** (**JpegDecoder** &)
- void **Dump** (ostream &strm) const

Private Methods

- **JpegHuffmanDecoder** (const JpegHuffmanDecoder &)
- JpegHuffmanDecoder& **operator=** (const JpegHuffmanDecoder &)
- void **MakeTable** (**UBYTE1** huffbits[**JpegMaxHuffmanCodeLength**])

Private Attributes

- int **maxcode** [**JpegMaxHuffmanCodeLength**]
- int **mincode** [**JpegMaxHuffmanCodeLength**]
- **UBYTE1 valptr** [**JpegMaxHuffmanCodeLength**]
- **UBYTE1 huff_values** [**JpegMaxNumberOfHuffmanCodes**]
- bool **table_defined**

Constructor & Destructor Documentation

JpegHuffmanDecoder::JpegHuffmanDecoder ()

JpegHuffmanDecoder::~JpegHuffmanDecoder () `[inline, virtual]`

JpegHuffmanDecoder::JpegHuffmanDecoder (const JpegHuffmanDecoder &) `[private]`

Member Function Documentation

int JpegHuffmanDecoder::Decode (JpegDecoder & *decoder*)

bool JpegHuffmanDecoder::Defined () const

void JpegHuffmanDecoder::Dump (ostream & *strm*) const

void JpegHuffmanDecoder::MakeTable (UBYTE1 *huffbits*[JpegMaxHuffmanCodeLength]) `[private]`

unsigned int JpegHuffmanDecoder::ReadTable (JpegDecoder & *decoder*)

JpegHuffmanDecoder & JpegHuffmanDecoder::operator= (const JpegHuffmanDecoder &) `[private]`

Member Data Documentation

UBYTE1 JpegHuffmanDecoder::huff_values `[private]`

int JpegHuffmanDecoder::maxcode `[private]`

int JpegHuffmanDecoder::mincode `[private]`

bool JpegHuffmanDecoder::table_defined `[private]`

UBYTE1 JpegHuffmanDecoder::valptr `[private]`

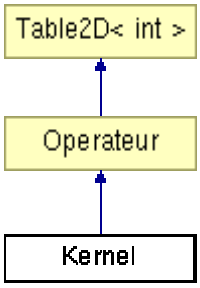
The documentation for this class was generated from the following files:

- **jpdehuff.h**
- **jpdehuff.cpp**

Kernel Class Reference

`#include <Kernel.hpp>`

Inheritance diagram for Kernel:



Public Types

- enum **EtatPixel** { **P_OFF** = 0, **P_ON** = 1, **P_X** = 2 }
- enum **KernelType** { **T**, **CROIX**, **CARRE**, **NbKernelType** }

Public Methods

- **Kernel** (**KernelType** _type=T)
- **Kernel** (**KernelType** _type, unsigned int _d)
- **Kernel** (**KernelType** _type, unsigned int _l, unsigned int _c)
- void **defType** (**KernelType** _type)
- void **defType** (**KernelType** _type, unsigned int _d)
- void **defType** (**KernelType** _type, int _l, int _c)
- **KernelType Type** () const
- void **defT** (unsigned int _l=2, unsigned int _c=3)
- void **defCroix** (unsigned int _a=3)
- void **defCarre** (unsigned int _a=3)

Protected Attributes

- **KernelType kerneltype**

Member Enumeration Documentation

enum Kernel::EtatPixel

Enumeration values:

P_OFF
P_ON
P_X

enum Kernel::KernelType

Enumeration values:

T
CROIX
CARRE
NbKernelType

Constructor & Destructor Documentation

Kernel::Kernel (KernelType _*type* = T)

Kernel::Kernel (KernelType _*type*, unsigned int _*d*)

Kernel::Kernel (Kernel::KernelType _*type*, unsigned int _*l*, unsigned int _*c*)

Member Function Documentation

KernelType Kernel::Type () const `[inline]`

Reimplemented from **Operateur** (*p.300*).

void Kernel::defCarre (unsigned int _*a* = 3)

void Kernel::defCroix (unsigned int _*a* = 3)

void Kernel::defT (unsigned int _*l* = 2, unsigned int _*c* = 3)

void Kernel::defType (Kernel::KernelType _*type*, int _*l*, int _*c*)

void Kernel::defType (KernelType _*type*, unsigned int _*d*)

void Kernel::defType (KernelType _*type*)

Member Data Documentation

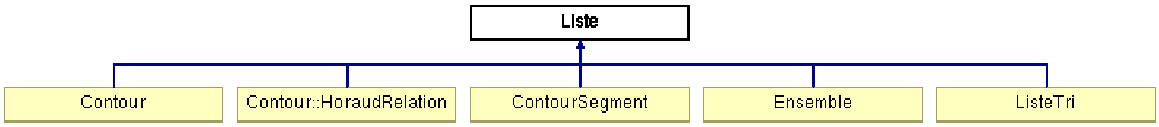
KernelType Kernel::kerneltype `[protected]`

The documentation for this class was generated from the following files:

- **Kernel.hpp**
- **Kernel.cpp**

Liste Class Reference

Inheritance diagram for Liste:



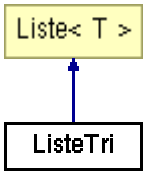
The documentation for this class was generated from the following file:

- **Contour.hpp**

ListeTri Class Template Reference

`#include <ListeTri.hpp>`

Inheritance diagram for ListeTri:



Public Methods

- void **Trier** ()
- void **Inserer** (const T &_e)

template<class T> class ListeTri

Member Function Documentation

template<class T> void ListeTri< T >::Inserer (const T & _*e*)

template<class T> void ListeTri< T >::Trier ()

The documentation for this class was generated from the following file:

- **ListeTri.hpp**

GifDecoder::LZ77String Struct Reference

Public Attributes

- unsigned long **offset**
- unsigned long **length**

Member Data Documentation

unsigned long GifDecoder::LZ77String::length

unsigned long GifDecoder::LZ77String::offset

The documentation for this struct was generated from the following file:

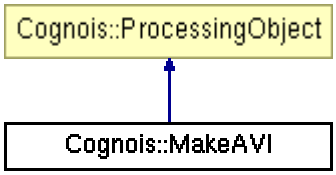
- **gifdecod.h**

Cognois::MakeAVI Class Reference

Export grabbed images to an AVI movie.

`#include <MakeAVI.h>`

Inheritance diagram for Cognois::MakeAVI:



Public Methods

- **MakeAVI** (unsigned long inImageLimit, const char *inBaseFileName)
  Constructor with a maximum number of images to write and a filename.

- **~MakeAVI** ()
  Destructor.

- void **Process** (MIL_ID &inMilImage, unsigned long &inFrameID, unsigned long &inTimeStamp)
  Export an image to a file.

Private Methods

- void **SaveData** ()
  Save images and sync data to a file.

Private Attributes

- unsigned long **mImageLimit**
  Maximum number of images.

- char* **mFileName**
  Base filename for the AVI and text info.

- char* **mAviFileName**
- **std::vector**<unsigned long> **mFrameIds**
  Frame IDs of all the images in the AVI.

- **std::vector**<unsigned long> **mTimeStamps**
  Time stamps of all the images.

- **std::vector**<char *> **mImageContents**
  Contents of the images.

- unsigned long **mImageCounter**
  Current number of images.

- long **mSizeX**
- long **mSizeY**
- long **mSizeBand**
  Image *(p.184) dimensions.*

Detailed Description

Export grabbed images to an AVI movie.

Constructor & Destructor Documentation

Cognois::MakeAVI::MakeAVI (unsigned long *inImageLimit*, const char * *inBaseFileName*)

Constructor with a maximum number of images to write and a filename.

Parameters:

inImageLimit is the maximum number of images to save. (If 0, write directly on disk).
inBaseFileName is the base file name. Files will be named [_fileNameBase].bmp / .txt

Cognois::MakeAVI::~MakeAVI ()

Destructor.

Member Function Documentation

void Cognois::MakeAVI::Process (MIL_ID & *inMilImage*, unsigned long & *inFrameID*, unsigned long & *inTimeStamp*) `[virtual]`

Export an image to a file.

Reimplemented from **Cognois::ProcessingObject** (*p.350*).

void Cognois::MakeAVI::SaveData () `[private]`

Save images and sync data to a file.

Member Data Documentation

char * Cognois::MakeAVI::mAviFileName [private]

char * Cognois::MakeAVI::mFileName [private]

Base filename for the AVI and text info.

std::vector< unsigned long > Cognois::MakeAVI::mFrameIds<unsigned long> [private]

Frame IDs of all the images in the AVI.

std::vector< char *> Cognois::MakeAVI::mImageContents<char *> [private]

Contents of the images.

unsigned long Cognois::MakeAVI::mImageCounter [private]

Current number of images.

unsigned long Cognois::MakeAVI::mImageLimit [private]

Maximum number of images.

long Cognois::MakeAVI::mSizeBand [private]

Image (*p.184*) dimensions.

long Cognois::MakeAVI::mSizeX [private]

long Cognois::MakeAVI::mSizeY [private]

std::vector< unsigned long > Cognois::MakeAVI::mTimeStamps<unsigned long> [private]

Time stamps of all the images.

The documentation for this class was generated from the following files:

- **MakeAVI.h**
- **MakeAVI.cpp**

Matrice Class Reference

Fonctions de base pour le calcul matriciel.

```
#include <Matrice.h>
```

Public Types

- enum **Type** { **ZEROS**, **UNS**, **IDENTITE** }

Public Methods

- **Matrice** ()
  *Matrice 0*0.*

- **Matrice** (const Matrice &)
  Constructeur copieur.

- **Matrice** (const char *)
  Matlab-style constructor.

- **Matrice** (unsigned int i, unsigned int j, double v=0, int rs=0, int cs=0)
- **Matrice** (unsigned int dim, **Type** t=ZEROS, int rs=0, int cs=0)
- **~Matrice** ()
  Destructeur.

- void **Resize** (unsigned int i, unsigned int j, double v=0, int rs=0, int cs=0)
- void **Resize** (unsigned int dim, **Type** t=ZEROS, int rs=0, int cs=0)
- double& **operator()** (int i, int j)
  Acceder a l'element i,j.

- double const& **operator()** (int i, int j) const
- Matrice& **operator=** (const Matrice &)
  Affecter.

- Matrice& **operator=** (const char *)
  Affecter une string (matlab style).

- Matrice **operator~** () const
  Transposer.

- Matrice **operator-** () const
  *Obtenir -1*Matrice.*

- Matrice **operator+** (const Matrice &) const
  Additionner Matrice.

- Matrice& **operator+=** (const Matrice &)
  Additionner/Affecter Matrice.

- Matrice **operator-** (const Matrice &) const
  Soustraire Matrice.

- Matrice& **operator-=** (const Matrice &)
  Soustraire/Affecter Matrice.

- Matrice **operator *** (const Matrice &) const
  Multiplier Matrice.

- Matrice& **operator *=** (const Matrice &)
  Multiplier/Affecter Matrice.

- Matrice **operator+** (double) const
  Additionner scalaire a chaque element.

- Matrice& **operator+=** (double)
  Additionner/Affecter scal. a chaque element.

- Matrice **operator-** (double) const
  Soustraire scalaire a chaque element.

- Matrice& **operator-=** (double)
  Soustraire/Affecter scal. a chaque element.

- Matrice **operator *** (double) const
  Multiplier scalaire.

- Matrice& **operator *=** (double)
  Multiplier/Affecter scalaire.

- Matrice **operator/** (double) const
  Diviser scalaire.

- Matrice& **operator/=** (double)
  Diviser/Affecter scalaire.

- Matrice **Cross** (const Matrice &m) const
  Calculation of cross product.

- double **Norm** () const

Calculats the norm of a vector (Matrix nx1).

- Matrice **AugmenterMatrice** ()
- Matrice **operator|** (const Matrice &) const
  Concatener deux matrices.

- Matrice& **operator|=** (const Matrice &)
  Concatener/Affecter deux matrices.

- Matrice **operator/** (const Matrice &) const
  *Resoudre x=A**(this** = A).*

- Matrice& **operator/=** (const Matrice &)
  *Resoudre x=A**et** ecrire resultat dans A.*

- int **operator==** (const Matrice &) const
  Comparer deux matrices.

- int **operator!=** (const Matrice &) const
- double **Det** () const
  Calculer determinant.

- Matrice **Inv** () const
  Retourner inverse.

- Matrice **GenInv** () const
  Retourner inverse generalisee.

- void **SVD** (Matrice &outU, Matrice &outW, Matrice &outV) const
  Retourner UWV' == A.

- int **MinLigne** () const
  Premiere ligne.

- int **MaxLigne** () const
  Derniere ligne.

- int **MinCol** () const
  Premiere colonne.

- int **MaxCol** () const
  Derniere colonne.

- int **NbLignes** () const

Nombre de lignes.

- int **NbCols** () const
  Nombre de colonnes.

- int **EstVide** () const
  Matrice existante?

- void **Afficher** () const
  Afficher a la console.

- void **AfficherFichier** (char *FileName) const
  Afficher a la console.

- char* **MatlabOutput** () const
  Retourner une string (matlab-style).

- Matrice **SubMatrix** (int i0, int i1, int j0, int j1) const
  this(i0:i1,j0:j1).

- double **Max** () const
  Maximum value in the matrix.

- double **Min** () const
  Minimum value in the matrix.

Public Attributes

- double** **el**
  *Acces direct aux elements de **dmat** (p.89).*

Private Attributes

- void* **mat**
  *Pointeur sur une structure **dmat** (p.89), le contenu de la matrice.*

Detailed Description

Fonctions de base pour le calcul matriciel.

Member Enumeration Documentation

enum Matrice::Type

Enumeration values:

ZEROS
UNS
IDENTITE

Constructor & Destructor Documentation

Matrice::Matrice ()

Matrice 0*0.

Matrice::Matrice (const Matrice & *m*)

Constructeur copieur.

Matrice::Matrice (const char * *inMatrix*)

Matlab-style constructor.

Matrice::Matrice (unsigned int *i*, unsigned int *j*, double *v* = 0, int *rs* = 0, int *cs* = 0)

Matrice::Matrice (unsigned int *dim*, Type *t* = ZEROS, int *rs* = 0, int *cs* = 0)

Matrice::~Matrice ()

Destructeur.

Member Function Documentation

void Matrice::Afficher () const

Afficher a la console.

void Matrice::AfficherFichier (char * *FileName*) const

Afficher a la console.

Matrice Matrice::AugmenterMatrice ()

Matrice Matrice::Cross (const Matrice & *m*) const

Calculation of cross product.

double Matrice::Det () const

Calculer determinant.

int Matrice::EstVide () const

Matrice existante?

Matrice Matrice::GenInv () const

Retourner inverse generalisee.

Matrice Matrice::Inv () const

Retourner inverse.

char * Matrice::MatlabOutput () const

Retourner une string (matlab-style).

double Matrice::Max () const

Maximum value in the matrix.

int Matrice::MaxCol () const

Derniere colonne.

int Matrice::MaxLigne () const

Derniere ligne.

double Matrice::Min () const

Minimum value in the matrix.

int Matrice::MinCol () const

Premiere colonne.

int Matrice::MinLigne () const

Premiere ligne.

int Matrice::NbCols () const

Nombre de colonnes.

int Matrice::NbLignes () const

Nombre de lignes.

double Matrice::Norm () const

Calculats the norm of a vector (Matrix nx1).

void Matrice::Resize (unsigned int *dim*, Type *t* = ZEROS, int *rs* = 0, int *cs* = 0)

void Matrice::Resize (unsigned int *i*, unsigned int *j*, double *v* = 0, int *rs* = 0, int *cs* = 0)

void Matrice::SVD (Matrice & *U*, Matrice & *W*, Matrice & *V*) const

Retourner UWV' == A.

Matrice Matrice::SubMatrix (int *i0*, int *i1*, int *j0*, int *j1*) const

this(i0:i1,j0:j1).

Matrice Matrice::operator * (double *sc*) const

Multiplier scalaire.

Matrice Matrice::operator * (const Matrice & *m*) const

Multiplier Matrice.

Matrice & Matrice::operator *= (double *sc*)

Multiplier/Affecter scalaire.

Matrice & Matrice::operator *= (const Matrice & *m*)

Multiplier/Affecter Matrice.

int Matrice::operator != (const Matrice & *m*) const

double const & Matrice::operator() (int *i*, int *j*) const

double & Matrice::operator() (int *i*, int *j*)

Acceder a l'element i,j.

Matrice Matrice::operator+ (double *sc*) const

Additionner scalaire a chaque element.

Matrice Matrice::operator+ (const Matrice & *m*) const

Additionner Matrice.

Matrice & Matrice::operator+= (double *sc*)

Additionner/Affecter scal. a chaque element.

Matrice & Matrice::operator+= (const Matrice & *m*)

Additionner/Affecter Matrice.

Matrice Matrice::operator- (double *sc*) const

Soustraire scalaire a chaque element.

Matrice Matrice::operator- (const Matrice & *m*) const

Soustraire Matrice.

Matrice Matrice::operator- () const

Obtenir -1*Matrice.

Matrice & Matrice::operator-= (double *sc*)

Soustraire/Affecter scal. a chaque element.

Matrice & Matrice::operator-= (const Matrice & *m*)

Soustraire/Affecter Matrice.

Matrice Matrice::operator/ (const Matrice & *b*) const

Resoudre x=A**(this** = A).

Matrice Matrice::operator/ (double *sc*) const

Diviser scalaire.

Matrice & Matrice::operator/= (const Matrice & *m*)

Resoudre x=A**et** ecrire resultat dans A.

Matrice & Matrice::operator/= (double *sc*)

Diviser/Affecter scalaire.

Matrice & Matrice::operator= (const char * *inMatrix*)

Affecter une string (matlab style).

Matrice & Matrice::operator= (const Matrice & *m*)

Affecter.

int Matrice::operator== (const Matrice & *m*) const

Comparer deux matrices.

Matrice Matrice::operator| (const Matrice & *m*) const

Concatener deux matrices.

Matrice & Matrice::operator|= (const Matrice & *m*)

Concatener/Affecter deux matrices.

Matrice Matrice::operator~ () const

Transposer.

Member Data Documentation

double ** Matrice::el

Acces direct aux elements de **dmat** (*p.89*).

void * Matrice::mat `[private]`

Pointeur sur une structure **dmat** (*p.89*), le contenu de la matrice.

The documentation for this class was generated from the following files:

- **Matrice.h**
- **Matrice.cpp**

Cognois::MilGarbageCollector Class Reference

```
#include <MilGarbageCollector.h>
```

Public Methods

- **~MilGarbageCollector** ()
- MIL_ID **MbufAllocColor** (MIL_ID _systemId, long _sizeBand, long _sizeX, long _sizeY, long _type, long _attribute, MIL_ID *_bufIdPtr)
  Allocate a color data buffer.

- MIL_ID **MbufAlloc2d** (MIL_ID _systemId, long _sizeX, long _sizeY, long _type, long _attribute, MIL_ID *_bufIdPtr)
  Allocate a 2D data buffer.

- MIL_ID **MbufChildColor** (MIL_ID _parentBufId, long _band, MIL_ID *_bufIdPtr)
  Allocate a color-band child data buffer within a color parent buffer.

- MIL_ID **MbufChild2d** (MIL_ID _parentBufId, long _offX, long _offY, long _sizeX, long _sizeY, MIL_ID *_bufIdPtr)
  Allocate a child buffer within a specific region of a parent buffer.

- void **MbufFree** (MIL_ID _bufId)
  Free a data buffer.

- void **FreeAllBuffers** ()
  Free all data buffers.

Private Methods

- void **Allocate** (MIL_ID _bufId)
  Add a buffer to the allocated MIL data buffers list.

Private Attributes

- **std::vector**<MIL_ID> **allocatedBuffers**
  List of all allocated MIL data buffers.

Constructor & Destructor Documentation

Cognois::MilGarbageCollector::~MilGarbageCollector () `[inline]`

Member Function Documentation

void Cognois::MilGarbageCollector::Allocate (MIL_ID *_bufId*) `[inline, private]`

Add a buffer to the allocated MIL data buffers list.

Parameters:

_bufId is the buffer identifier to allocate.

void Cognois::MilGarbageCollector::FreeAllBuffers ()

Free all data buffers.

MIL_ID Cognois::MilGarbageCollector::MbufAlloc2d (MIL_ID *_systemId*, long *_sizeX*, long *_sizeY*, long *_type*, long *_attribute*, MIL_ID * *_bufIdPtr*)

Allocate a 2D data buffer.

Parameters:

_systemId is a system identifier
_sizeX is the desired X dimension
_sizeY is the desired Y dimension
_type is the desired data depth and data type
_attribute is the buffer attributes
_bufIdPtr is a storage location for buffer identifier

MIL_ID Cognois::MilGarbageCollector::MbufAllocColor (MIL_ID *_systemId*, long *_sizeBand*, long *_sizeX*, long *_sizeY*, long *_type*, long *_attribute*, MIL_ID * *_bufIdPtr*)

Allocate a color data buffer.

Parameters:

_systemId is a system identifier
_sizeBand is the number of color bands
_sizeX is the desired X dimension
_sizeY is the desired Y dimension
_type is the desired data depth and data type
_attribute is the buffer attributes
_bufIdPtr is a storage location for buffer identifier

MIL_ID Cognois::MilGarbageCollector::MbufChild2d (MIL_ID *_parentBufId*, long *_offX*, long *_offY*, long *_sizeX*, long *_sizeY*, MIL_ID * *_bufIdPtr*)

Allocate a child buffer within a specific region of a parent buffer.

Parameters:

_parentBufId is the parent buffer identifier.
_offX is the X pixel offset relative to the parent buffer
_offY is the Y pixel offset relative to the parent buffer
_sizeX is the child buffer width
_sizeY is the child buffer height
_bufIdPtr is the storage location for child buffer identifier.

MIL_ID Cognois::MilGarbageCollector::MbufChildColor (MIL_ID *_parentBufId*, long *_band*, MIL_ID * *_bufIdPtr*)

Allocate a color-band child data buffer within a color parent buffer.

Parameters:

_parentBufId is the parent buffer identifier.
_band is the index of a color band.
_bufIdPtr is the storage location for child buffer identifier.

void Cognois::MilGarbageCollector::MbufFree (MIL_ID *_bufId*)

Free a data buffer.

Parameters:

_bufId is the buffer identifier to deallocate.

Member Data Documentation

std::vector< MIL_ID > Cognois::MilGarbageCollector::allocatedBuffers `[private]`

List of all allocated MIL data buffers.

The documentation for this class was generated from the following files:

- **MilGarbageCollector.h**
- **MilGarbageCollector.cpp**

MilGarbageCollector Class Reference

A garbage collector for MIL image buffers.

```
#include <MilGarbageCollector.h>
```

Detailed Description

A garbage collector for MIL image buffers.

When allocated with a MilGarbageCollector, MIL data buffers are automatically freed upon reallocation or when the MilGarbageCollector is destroyed.

The documentation for this class was generated from the following file:

- **MilGarbageCollector.h**

MILSys Struct Reference

Mil system data.

```
#include <MILSys.h>
```

Public Attributes

- MIL_ID **MilApplication**
- MIL_ID **MilSystem**
- MIL_ID **MilDisplay**
- MIL_ID **MilDigitizer**
- long **ImageDimX**
- long **ImageDimY**
- long **NbColors**
- double **ImageScale**

Detailed Description

Mil system data.

Member Data Documentation

long MILSys::ImageDimX

long MILSys::ImageDimY

double MILSys::ImageScale

MIL_ID MILSys::MilApplication

MIL_ID MILSys::MilDigitizer

MIL_ID MILSys::MilDisplay

MIL_ID MILSys::MilSystem

long MILSys::NbColors

The documentation for this struct was generated from the following file:

- **MILSys.h**

MINPACK Class Reference

Levenberg-Marquardt algorithm to minimize the sum of the squares.

`#include <MINPACK.h>`

Public Methods

- long **lmdif** (void(*fcn)(long, long, double *, double *, double *), long nbEquations, long nbInconnues, double *x, double *constantes=0, long maxfev=1000)
  Minimize the sum of the squares of an user-supplied function with user-supplied data.

Static Private Methods

- int **evaluation_erreur** (long *m_ptr, long *n_ptr, double *params, double *err, long *iflag)
  Error evaluation function.

Static Private Attributes

- void (* **user_fcn**)(long, long, double *, double *, double *)
  Pointer to the user function.

- double* **user_constants** = 0
  Pointer to the user constants.

Detailed Description

Levenberg-Marquardt algorithm to minimize the sum of the squares.

Minimization of the sum of the squares of m nonlinear functions in n variables by a modification of the levenberg-marquardt algorithm.

Member Function Documentation

int MINPACK::evaluation_erreur (long * *m_ptr*, long * *n_ptr*, double * *params*, double * *err*, long * *iflag*) `[static, private]`

Error evaluation function.

long MINPACK::lmdif (void(* *fcn*)(long, long, double *, double *, double *), long *nbEquations*, long *nbInconnues*, double * *x*, double * *constantes* = 0, long *maxfev* = 1000)

Minimize the sum of the squares of an user-supplied function with user-supplied data.

Member Data Documentation

double * MINPACK::user_constants = 0 `[static, private]`

Pointer to the user constants.

void(* MINPACK::user_fcn)(long, long, double *, double *, double *)=0 `[static, private]`

Pointer to the user function.

The documentation for this class was generated from the following files:

- **MINPACK.h**
- **MINPACK.cpp**

Multitype Union Reference

```
#include <F2C.H>
```

Public Attributes

- **shortint h**
- **integer i**
- **real r**
- **doublereal d**
- **complex c**
- **doublecomplex z**

Member Data Documentation

complex Multitype::c

doublereal Multitype::d

shortint Multitype::h

integer Multitype::i

real Multitype::r

doublecomplex Multitype::z

The documentation for this union was generated from the following file:

- **F2C.H**

Namelist Struct Reference

```
#include <F2C.H>
```

Public Attributes

- char* **name**
- **Vardesc**** **vars**
- int **nvars**

Member Data Documentation

char * Namelist::name

int Namelist::nvars

Vardesc ** Namelist::vars

The documentation for this struct was generated from the following file:

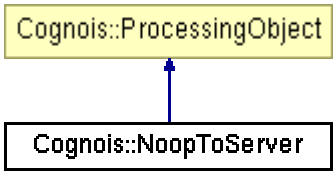
- **F2C.H**

Cognois::NoopToServer Class Reference

Perform a sequence of nothing, but keep the server informed of the current frame ID.

`#include <NoopToServer.h>`

Inheritance diagram for Cognois::NoopToServer:



Public Methods

- **NoopToServer** (**FrameSetClient** *inCognoisServer)
- void **Process** (MIL_ID &inMilImage, unsigned long &inFrameID, unsigned long &inTimeStamp)
  Process an image with know frameID and timeStamp.

Private Attributes

- **FrameSetClient* mCognoisServer**

Detailed Description

Perform a sequence of nothing, but keep the server informed of the current frame ID.

Constructor & Destructor Documentation

Cognois::NoopToServer::NoopToServer (FrameSetClient * *inCognoisServer*) `[inline]`

Member Function Documentation

void Cognois::NoopToServer::Process (MIL_ID & *inMilImage*, unsigned long & *inFrameID*, unsigned long & *inTimeStamp*) `[inline, virtual]`

Process an image with know frameID and timeStamp.

Parameters:

inMilImage is a MIL image identifier.
inFrameID is the frame identifier associated with the image.
inTimeStamp is the time, in milliseconds, associated with the image.

Reimplemented from **Cognois::ProcessingObject** (*p.350*).

Member Data Documentation

FrameSetClient * Cognois::NoopToServer::mCognoisServer `[private]`

The documentation for this class was generated from the following file:

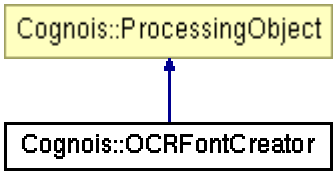
- **NoopToServer.h**

Cognois::OCRFontCreator Class Reference

Optical character recognition of the 5 digits of the HP 5214L Preset Counter.

`#include <OCRFontCreator.h>`

Inheritance diagram for Cognois::OCRFontCreator:



Public Methods

- **OCRFontCreator** (char *inFontFilename, **MILSys** &inMilSys, **OnlineProcessing** *inOnlineProcessing)
  Constructor with interactive calibration of the font.

- **~OCRFontCreator** ()
- void **Process** (MIL_ID &inMilImage, unsigned long &inFrameID, unsigned long &inTimeStamp)
  Find a calibration pattern in an image.

Private Methods

- void **allocateFont** (MIL_ID &inMilImage)
- void **getCharacterSamplesMean** ()

Private Attributes

- **MILSys*** **mMilSys**
- MIL_ID **mFont**
- MIL_ID **mCounterImage**
- MIL_ID **mGrayImage**
- **std::vector**<**std::vector**<MIL_ID> > **mCharacterSamples**
- **std::vector**<char> **mCharacters**
- bool **mFontIsAllocated**
- **std::vector**<long> **mTopX**
- **std::vector**<long> **mTopY**
- **std::vector**<long> **mBotX**
- **std::vector**<long> **mBotY**
  Bounding box of the digits.

- **OnlineProcessing*** **mOnlineProcessing**
- std::string **mFontFilename**

Detailed Description

Optical character recognition of the 5 digits of the HP 5214L Preset Counter.

Constructor & Destructor Documentation

Cognois::OCRFontCreator::OCRFontCreator (char * *inFontFilename*, MILSys & *inMilSys*, OnlineProcessing * *inOnlineProcessing*)

Constructor with interactive calibration of the font.

Cognois::OCRFontCreator::~OCRFontCreator ()

Member Function Documentation

void Cognois::OCRFontCreator::Process (MIL_ID & *inMilImage*, unsigned long & *inFrameID*, unsigned long & *inTimeStamp*) `[virtual]`

Find a calibration pattern in an image.

Reimplemented from **Cognois::ProcessingObject** (*p.350*).

void Cognois::OCRFontCreator::allocateFont (MIL_ID & *inMilImage*) `[private]`

void Cognois::OCRFontCreator::getCharacterSamplesMean () `[private]`

Member Data Documentation

std::vector< long > Cognois::OCRFontCreator::mBotX `[private]`

std::vector< long > Cognois::OCRFontCreator::mBotY `[private]`

Bounding box of the digits.

std::vector< std::vector< MIL_ID > > Cognois::OCRFontCreator::mCharacterSamples<std::vector<MIL_ID> > `[private]`

std::vector< char > Cognois::OCRFontCreator::mCharacters<char> `[private]`

MIL_ID Cognois::OCRFontCreator::mCounterImage `[private]`

MIL_ID Cognois::OCRFontCreator::mFont `[private]`

std::string Cognois::OCRFontCreator::mFontFilename `[private]`

bool Cognois::OCRFontCreator::mFontIsAllocated `[private]`

MIL_ID Cognois::OCRFontCreator::mGrayImage `[private]`

MILSys * Cognois::OCRFontCreator::mMilSys `[private]`

OnlineProcessing * Cognois::OCRFontCreator::mOnlineProcessing `[private]`

std::vector< long > Cognois::OCRFontCreator::mTopX<long> `[private]`

std::vector< long > Cognois::OCRFontCreator::mTopY `[private]`

The documentation for this class was generated from the following files:

- **OCRFontCreator.h**
- **OCRFontCreator.cpp**

Cognois::OfflineProcessing Class Reference

Processing of images from AVI files.

`#include <OfflineProcessing.h>`

Public Methods

- **OfflineProcessing** (const char *inBaseFilename)
  Destructor.

- **~OfflineProcessing** ()
- void **SetProcessor** (**ProcessingObject** *inNewProcessor)
  Set the processing to apply to grabbed images.

- void **LoopMe** ()
  Start, wait for the keyboard, then end the grabbing/processing.

- void **Begin** ()
  Start both the grabbing and the processing threads.

- void **End** ()
  Stop both the grabbing and the processing threads.

- void **ThreadAcquisition** ()
  Grabbing thread.

- ::MILSys& **MILSys** ()
  Returns the MIL identifiers.

Private Methods

- void **ResetEvents** ()
  Set all events initial value.

Private Attributes

- ::**MILSys mMilSys**
  Identificateurs MIL.

- MIL_ID **milBuffer**
  Buffer de traitement.

- HANDLE **threadGrabbingHasEnded**
  End of the grabbing thread.

- **ProcessingObject*** **processor**
  Traitement utilise.

- SynchClient* **mSyncServer**
  Interface to synch server.

- volatile bool **Acquisition**
  Drapeaux des boucles.

- std::string **mAVIFile**
- std::string **mTimeFile**

Detailed Description

Processing of images from AVI files.

Same as **OnlineProcessing** (*p.292*), but for **OfflineProcessing** (*p.287*). The processing is done by a user-supplied object.

Constructor & Destructor Documentation

Cognois::OfflineProcessing::OfflineProcessing (const char * *inBaseFilename*)

Destructor.

Parameters:

inBaseFilename is the avi file to get images from

Cognois::OfflineProcessing::~OfflineProcessing ()

Member Function Documentation

void Cognois::OfflineProcessing::Begin ()

Start both the grabbing and the processing threads.

void Cognois::OfflineProcessing::End ()

Stop both the grabbing and the processing threads.

void Cognois::OfflineProcessing::LoopMe ()

Start, wait for the keyboard, then end the grabbing/processing.

MILSys & Cognois::OfflineProcessing::MILSys () `[inline]`

Returns the MIL identifiers.

void Cognois::OfflineProcessing::ResetEvents () `[private]`

Set all events initial value.

void Cognois::OfflineProcessing::SetProcessor (ProcessingObject * *inNewProcessor*)

Set the processing to apply to grabbed images.

Parameters:

inNewProcessor is the desired process to apply.

void Cognois::OfflineProcessing::ThreadAcquisition ()

Grabbing thread.

Member Data Documentation

volatile bool Cognois::OfflineProcessing::Acquisition `[private]`

Drapeaux des boucles.

std::string Cognois::OfflineProcessing::mAVIFile `[private]`

MILSys Cognois::OfflineProcessing::mMilSys `[private]`

Identificateurs MIL.

SynchClient * Cognois::OfflineProcessing::mSyncServer `[private]`

Interface to synch server.

std::string Cognois::OfflineProcessing::mTimeFile `[private]`

MIL_ID Cognois::OfflineProcessing::milBuffer `[private]`

Buffer de traitement.

ProcessingObject * Cognois::OfflineProcessing::processor `[private]`

Traitement utilise.

HANDLE Cognois::OfflineProcessing::threadGrabbingHasEnded `[private]`

End of the grabbing thread.

The documentation for this class was generated from the following files:

- **OfflineProcessing.h**
- **OfflineProcessing.cpp**

olist Struct Reference

```
#include <F2C.H>
```

Public Attributes

- **flag oerr**
- **ftnint ounit**
- char* **ofnm**
- **ftnlen ofnmlen**
- char* **osta**
- char* **oacc**
- char* **ofm**
- **ftnint orl**
- char* **oblnk**

Member Data Documentation

char * olist::oacc

char * olist::oblnk

flag olist::oerr

char * olist::ofm

char * olist::ofnm

ftnlen olist::ofnmlen

ftnint olist::orl

char * olist::osta

ftnint olist::ounit

The documentation for this struct was generated from the following file:

- **F2C.H**

Cognois::OnlineProcessing Class Reference

Online processing of images.

`#include <OnlineProcessing.h>`

Public Methods

- **OnlineProcessing** (double inImageScale=1, double inFrameRate=60, bool inSynchro=true, unsigned long inResetPeriod=1000)
  Destructor.

- **~OnlineProcessing** ()
- void **SetProcessor** (**ProcessingObject** *inNewProcessor)
  Set the processing to apply to grabbed images.

- void **LoopMe** ()
  Start, wait for the keyboard, then end the grabbing/processing.

- void **Begin** ()
  Start both the grabbing and the processing threads.

- void **End** ()
  Stop both the grabbing and the processing threads.

- void **ThreadAcquisition** ()
  Grabbing thread.

- void **ThreadTraitement** ()
  Processing thread.

- void **ThreadSynchronization** ()
  Synchronization with server.

- ::MILSys **MILSys** ()
  Returns the MIL identifiers.

- bool **IsGrabbing** () const

Private Methods

- void **ResetEvents** ()
  Set all events initial value.

Private Attributes

- ::**MILSys mMilSys**
  Identificateurs MIL.

- **Acquisition mGrabber**
  The grabber and grabbing buffers.

- **FrameCounter mFrameCounter**
  Counts frames with their time.

- SynchClient* **mSyncServer**
  Interface to synch server.

- volatile **ProcessingObject*** **mProcessor**
  Traitement utilise.

- bool **mSynchro**
  Use synchronisation or not?

- HANDLE **mEventThreadProcessingHasEnded**
  End of the processing thread.

- HANDLE **mEventThreadGrabbingHasEnded**
  End of the grabbing thread.

- HANDLE **mEventThreadSynchronizationHasEnded**
  End of the sync thread.

- HANDLE **mEventImageGrabbed**
  An image has been grabbed.

- HANDLE **mEventRequestProcessing**
  Synchro acquisition-traitement.

- HANDLE **mEventGrabEnd**
  Fin de l'acquisition.

- HANDLE **mEventResetFrameId**
  Ask for a software barrier.

- HANDLE **mMutexImageBuffer**
- HANDLE **mEventEndProcessing**
- HANDLE **mEventBeginProcessing**
- HANDLE **mEventProcessingHasEnded**

- MIL_ID **mImageBuffer**
  Buffers de traitement.

- volatile bool **mAcquisition**
  Drapeaux des boucles.

- volatile bool **mArretTraitement**
- volatile bool **mNoValidFrameYet**
  Any valid since the beginning?

- volatile bool **mResetCompleted**
  A reset has been completed.

- volatile unsigned long **mTimeStampProcessing**
  Timestamp du buffer traite.

- volatile unsigned long **mFrameIdProcessing**
  Identificateur du buffer traite.

- volatile unsigned long **mInitialFrameId**
  First frame ID for the sequence.

- const unsigned long **mResetPeriod**

Detailed Description

Online processing of images.

The grabbing and the image processing are performed in separated threads. The processing is done by a user-supplied object.

Constructor & Destructor Documentation

Cognois::OnlineProcessing::OnlineProcessing (double *inImageScale* = 1, double *inFrameRate* = 60, bool *inSynchro* = true, unsigned long *inResetPeriod* = 1000)

Destructor.

Parameters:

inImageScale is the desired image scale for the digitizer
inFrameRate is the estimated frame rate of the camera
inSynchro is set to true if synchronisation is wanted

Cognois::OnlineProcessing::~OnlineProcessing ()

Member Function Documentation

void Cognois::OnlineProcessing::Begin ()

Start both the grabbing and the processing threads.

void Cognois::OnlineProcessing::End ()

Stop both the grabbing and the processing threads.

bool Cognois::OnlineProcessing::IsGrabbing () const `[inline]`

void Cognois::OnlineProcessing::LoopMe ()

Start, wait for the keyboard, then end the grabbing/processing.

MILSys Cognois::OnlineProcessing::MILSys () `[inline]`

Returns the MIL identifiers.

void Cognois::OnlineProcessing::ResetEvents () `[private]`

Set all events initial value.

void Cognois::OnlineProcessing::SetProcessor (ProcessingObject * *inNewProcessor*)

Set the processing to apply to grabbed images.

Parameters:

inNewProcessor is the desired process to apply.

void Cognois::OnlineProcessing::ThreadAcquisition ()

Grabbing thread.

void Cognois::OnlineProcessing::ThreadSynchronization ()

Synchronization with server.

void Cognois::OnlineProcessing::ThreadTraitement ()

Processing thread.

Member Data Documentation

volatile bool Cognois::OnlineProcessing::mAcquisition [private]

Drapeaux des boucles.

volatile bool Cognois::OnlineProcessing::mArretTraitement [private]

HANDLE Cognois::OnlineProcessing::mEventBeginProcessing [private]

HANDLE Cognois::OnlineProcessing::mEventEndProcessing [private]

HANDLE Cognois::OnlineProcessing::mEventGrabEnd [private]

Fin de l'acquisition.

HANDLE Cognois::OnlineProcessing::mEventImageGrabbed [private]

An image has been grabbed.

HANDLE Cognois::OnlineProcessing::mEventProcessingHasEnded [private]

HANDLE Cognois::OnlineProcessing::mEventRequestProcessing [private]

Synchro acquisition-traitement.

HANDLE Cognois::OnlineProcessing::mEventResetFrameId [private]

Ask for a software barrier.

HANDLE Cognois::OnlineProcessing::mEventThreadGrabbingHasEnded [private]

End of the grabbing thread.

HANDLE Cognois::OnlineProcessing::mEventThreadProcessingHasEnded [private]

End of the processing thread.

HANDLE Cognois::OnlineProcessing::mEventThreadSynchronizationHasEnded [private]

End of the sync thread.

FrameCounter Cognois::OnlineProcessing::mFrameCounter [private]

Counts frames with their time.

volatile unsigned long Cognois::OnlineProcessing::mFrameIdProcessing [private]

Identificateur du buffer traite.

Acquisition Cognois::OnlineProcessing::mGrabber [private]

The grabber and grabbing buffers.

MIL_ID Cognois::OnlineProcessing::mImageBuffer `[private]`

Buffers de traitement.

volatile unsigned long Cognois::OnlineProcessing::mInitialFrameId `[private]`

First frame ID for the sequence.

MILSys Cognois::OnlineProcessing::mMilSys `[private]`

Identificateurs MIL.

HANDLE Cognois::OnlineProcessing::mMutexImageBuffer `[private]`

volatile bool Cognois::OnlineProcessing::mNoValidFrameYet `[private]`

Any valid since the beginning?

volatile ProcessingObject * Cognois::OnlineProcessing::mProcessor `[private]`

Traitement utilise.

volatile bool Cognois::OnlineProcessing::mResetCompleted `[private]`

A reset has been completed.

const unsigned long Cognois::OnlineProcessing::mResetPeriod `[private]`

SynchClient * Cognois::OnlineProcessing::mSyncServer `[private]`

Interface to synch server.

bool Cognois::OnlineProcessing::mSynchro `[private]`

Use synchronisation or not?

volatile unsigned long Cognois::OnlineProcessing::mTimeStampProcessing `[private]`

Timestamp du buffer traite.

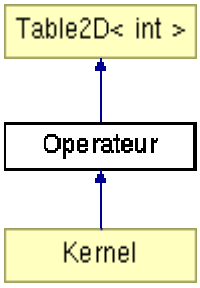
The documentation for this class was generated from the following files:

- **OnlineProcessing.h**
- **OnlineProcessing.cpp**

Operateur Class Reference

`#include <Operateur.hpp>`

Inheritance diagram for Operateur:



Public Types

- enum **OperateurType** { **IDENTITE**, **SOBEL**, **ROBERTS**, **PREWITT**, **SOBELH**, **SOBELV**, **ROBERTSH**, **ROBERTSV**, **PREWITTH**, **PREWITTV**, **GAUSSIENNE**, **GAUSSIENNEH**, **GAUSSIENNEV**, **MOYENNE**, **LAPLACIEN**, **UNKNOWN** }

Public Methods

- **Operateur** (**OperateurType** _type=IDENTITE)
- **Operateur** (**OperateurType** _type, unsigned int _a)
- void **defType** (**OperateurType** _type)
- void **defType** (**OperateurType** _type, unsigned int _a)
- void **defIdentite** ()
- void **defSobelH** ()
- void **defSobelV** ()
- void **defRobertsH** ()
- void **defRobertsV** ()
- void **defRobertsH** (unsigned int _a)
- void **defRobertsV** (unsigned int _a)
- void **defPrewittH** ()
- void **defPrewittV** ()
- void **defGaussienne** (unsigned int _a=5)
- void **defGaussienneH** (unsigned int _a=5)
- void **defGaussienneV** (unsigned int _a=5)
- void **defMoyenne** (unsigned int _a=5)
- void **defLaplacien** ()
- const int **Facteur** () const
- **OperateurType Type** () const
- const **Point Origine** () const
- void **Facteur** (int _facteur)
- void **Origine** (**Point** _org)
- int **ValiderPosition** () const
- void **CalculerPosition** ()
- **operator const int *** () const

Public Attributes

- int **xg**
- int **xd**
- int **yh**
- int **yb**

Protected Methods

- Table1D<int> **Gaussienne** (unsigned int largeur)

Protected Attributes

- **OperateurType type**
- **Point org**
- int **facteur**

Member Enumeration Documentation

enum Operateur::OperateurType

Enumeration values:

IDENTITE
SOBEL
ROBERTS
PREWITT
SOBELH
SOBELV
ROBERTSH
ROBERTSV
PREWITTH
PREWITTV
GAUSSIENNE
GAUSSIENNEH
GAUSSIENNEV
MOYENNE
LAPLACIEN
UNKNOWN

Constructor & Destructor Documentation

Operateur::Operateur (OperateurType *_type* = IDENTITE)

Operateur::Operateur (Operateur::OperateurType *_type*, unsigned int *_a*)

Member Function Documentation

void Operateur::CalculerPosition ()

void Operateur::Facteur (int _*facteur*)

const int Operateur::Facteur () const `[inline]`

Table1D< int > Operateur::Gaussienne (unsigned int _*a*) `[protected]`

void Operateur::Origine (Point _*org*)

const Point Operateur::Origine () const `[inline]`

OperateurType Operateur::Type () const `[inline]`

Reimplemented in **Kernel** (*p.255*).

int Operateur::ValiderPosition () const

void Operateur::defGaussienne (unsigned int _*a* = 5)

void Operateur::defGaussienneH (unsigned int _*a* = 5)

void Operateur::defGaussienneV (unsigned int _*a* = 5)

void Operateur::defIdentite ()

void Operateur::defLaplacien ()

void Operateur::defMoyenne (unsigned int _*a* = 5)

void Operateur::defPrewittH ()

void Operateur::defPrewittV ()

void Operateur::defRobertsH (unsigned int _*a*)

void Operateur::defRobertsH ()

void Operateur::defRobertsV (unsigned int _*a*)

void Operateur::defRobertsV ()

void Operateur::defSobelH ()

void Operateur::defSobelV ()

void Operateur::defType (Operateur::OperateurType _*type*, unsigned int _*a*)

void Operateur::defType (OperateurType _*type*)

Operateur::operator const int * () const `[inline]`

Member Data Documentation

int Operateur::facteur `[protected]`

Point Operateur::org `[protected]`

OperateurType Operateur::type `[protected]`

int Operateur::xd

int Operateur::xg

int Operateur::yb

int Operateur::yh

The documentation for this class was generated from the following files:

- **Operateur.hpp**
- **Operateur.cpp**

FormatPBM::pbmHeader Struct Reference

```
#include <FormatPBM.hpp>
```

Public Attributes

- **UBYTE4 width**
- **UBYTE4 height**

Member Data Documentation

UBYTE4 FormatPBM::pbmHeader::height

UBYTE4 FormatPBM::pbmHeader::width

The documentation for this struct was generated from the following file:

- **FormatPBM.hpp**

FormatPCX::pcxHeader Struct Reference

```
#include <FormatPCX.hpp>
```

Public Attributes

- **UBYTE1 signature**
- **UBYTE1 version**
- **UBYTE1 compression**
- **UBYTE1 bitsperpixel**
- **UBYTE2 xmin**
- **UBYTE2 ymin**
- **UBYTE2 xmax**
- **UBYTE2 ymax**
- **UBYTE2 horesolution**
- **UBYTE2 veresolution**
- **UBYTE1 palette** [48]
- **UBYTE1 reserved**
- **UBYTE1 colorplanes**
- **UBYTE2 bytesperline**
- **UBYTE2 palettetype**
- **UBYTE1 filler** [58]

Member Data Documentation

UBYTE1 FormatPCX::pcxHeader::bitsperpixel

UBYTE2 FormatPCX::pcxHeader::bytesperline

UBYTE1 FormatPCX::pcxHeader::colorplanes

UBYTE1 FormatPCX::pcxHeader::compression

UBYTE1 FormatPCX::pcxHeader::filler

UBYTE2 FormatPCX::pcxHeader::horesolution

UBYTE1 FormatPCX::pcxHeader::palette

UBYTE2 FormatPCX::pcxHeader::palettetype

UBYTE1 FormatPCX::pcxHeader::reserved

UBYTE1 FormatPCX::pcxHeader::signature

UBYTE2 FormatPCX::pcxHeader::veresolution

UBYTE1 FormatPCX::pcxHeader::version

UBYTE2 FormatPCX::pcxHeader::xmax

UBYTE2 FormatPCX::pcxHeader::xmin

UBYTE2 FormatPCX::pcxHeader::ymax

UBYTE2 FormatPCX::pcxHeader::ymin

The documentation for this struct was generated from the following file:

- **FormatPCX.hpp**

FormatPGM::pgmHeader Struct Reference

```
#include <FormatPGM.hpp>
```

Public Attributes

- **UBYTE4 width**
- **UBYTE4 height**
- **UBYTE4 maxvalue**

Member Data Documentation

UBYTE4 FormatPGM::pgmHeader::height

UBYTE4 FormatPGM::pgmHeader::maxvalue

UBYTE4 FormatPGM::pgmHeader::width

The documentation for this struct was generated from the following file:

- **FormatPGM.hpp**

Picture Class Reference

```
#include <Picture.h>
```

Public Methods

- **Picture** ()
- **Picture** (const Picture &)
- virtual **~Picture** ()
- int **SetWidth** (unsigned int)
- int **SetHeight** (unsigned int)
- int **SetType** (int)
- int **GetType** () const
- unsigned int **GetWidth** () const
- unsigned int **GetHeight** () const
- unsigned int **GetSize** () const
- int **GetLastError** ()
- void **GetHistogram** (int Histo[256])
- void **Clear** ()
- int **PutCross** (int x, int y, unsigned int w=5)
- void **SetCrossColor** (**RGBQUADsd** c)
- void **SetCrossColor** (unsigned char c)
- void **SetCrossColor** (unsigned short c)
- int **AutoThresholding** ()
- int **AutoThresholdEstimation** (unsigned char &EstimatedThreshold)
- int **ApplyThreshold** (unsigned char t)
- int **RepresentFloatData** (float *FDataPtr, unsigned int DataWidth, unsigned int DataHeight, int RepType=CS_COLOR)
- int **RepresentIndexedData** (unsigned int *IData, unsigned int NbIndex, unsigned int DataWidth, unsigned int DataHeight)
- int **ConvertToGrayScale** ()
- int **GraphLine** (unsigned int LineNb, float *FDataPtr, unsigned int DataWidth, unsigned int DataHeight)
- int **GraphLine** (unsigned int LineNb, Picture &Pict)
- void* **GetDataPtr** ()
- const Picture& **operator=** (const Picture &)

Private Methods

- int **AllocateDataBuffer** ()
- int **Equal** (const Picture &)

Private Attributes

- int **Type**
- int **LastError**
- **RGBQUADsd*** **DataRGB**
- unsigned char* **Data8**
- unsigned short* **Data16**
- unsigned int **Width**
- unsigned int **Height**

- unsigned int **Size**
- **RGBQUADsd CrossColorRGB**
- unsigned char **CrossColor8**
- unsigned short **CrossColor16**

Constructor & Destructor Documentation

Picture::Picture ()

Picture::Picture (const Picture & *PictToCopy*)

Picture::~Picture () `[virtual]`

Member Function Documentation

int Picture::AllocateDataBuffer () `[private]`

int Picture::ApplyThreshold (unsigned char *t*)

int Picture::AutoThresholdEstimation (unsigned char & *EstimatedThreshold*)

int Picture::AutoThresholding ()

void Picture::Clear ()

int Picture::ConvertToGrayScale ()

int Picture::Equal (const Picture & *PictToCopy*) `[private]`

void * Picture::GetDataPtr ()

unsigned int Picture::GetHeight () const

void Picture::GetHistogram (int *Histo*[256])

int Picture::GetLastError () `[inline]`

unsigned int Picture::GetSize () const

int Picture::GetType () const `[inline]`

unsigned int Picture::GetWidth () const

int Picture::GraphLine (unsigned int *LineNb*, Picture & *Pict*)

int Picture::GraphLine (unsigned int *LineNb*, float * *FDataPtr*, unsigned int *DataWidth*, unsigned int *DataHeight*)

int Picture::PutCross (int *x*, int *y*, unsigned int *w* = 5)

int Picture::RepresentFloatData (float * *FDataPtr*, unsigned int *DataWidth*, unsigned int *DataHeight*, int *RepType* = CS_COLOR)

int Picture::RepresentIndexedData (unsigned int * *IData*, unsigned int *NbIndex*, unsigned int *DataWidth*, unsigned int *DataHeight*)

void Picture::SetCrossColor (unsigned short *c*) `[inline]`

void Picture::SetCrossColor (unsigned char *c*) `[inline]`

void Picture::SetCrossColor (RGBQUADsd *c*) `[inline]`

int Picture::SetHeight (unsigned int *h*)

int Picture::SetType (int *t*)

int Picture::SetWidth (unsigned int *w*)

const Picture & Picture::operator= (const Picture & *PictToCopy*)

Member Data Documentation

unsigned short Picture::CrossColor16 `[private]`

unsigned char Picture::CrossColor8 `[private]`

RGBQUADsd Picture::CrossColorRGB `[private]`

unsigned short * Picture::Data16 `[private]`

unsigned char * Picture::Data8 `[private]`

RGBQUADsd * Picture::DataRGB `[private]`

unsigned int Picture::Height `[private]`

int Picture::LastError `[private]`

unsigned int Picture::Size `[private]`

int Picture::Type `[private]`

unsigned int Picture::Width `[private]`

The documentation for this class was generated from the following files:

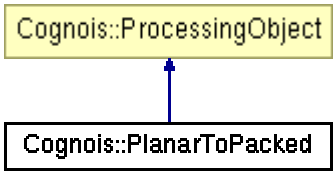
- **Picture.h**
- **Picture.cpp**

Cognois::PlanarToPacked Class Reference

Transform a MIL planar buffer to a MIL packed buffer.

`#include <PlanarToPacked.h>`

Inheritance diagram for Cognois::PlanarToPacked:



Public Methods

- **PlanarToPacked** (const::MILSys &_milSys)
  *Constructor with a reference to the **MILSys** (p.276) of the **OnlineProcessing** (p.292) object.*

- **~PlanarToPacked** ()
  Destructor.

- void **Process** (MIL_ID &_milImage, unsigned long &_frameID, unsigned long &_timeStamp)
  Process an image with know frameID and timeStamp.

Private Attributes

- MIL_ID **milBufferPacked**
  MIL packed buffer.

Detailed Description

Transform a MIL planar buffer to a MIL packed buffer.

Constructor & Destructor Documentation

Cognois::PlanarToPacked::PlanarToPacked (const::MILSys & *_milSys*)

Constructor with a reference to the **MILSys** (*p.276*) of the **OnlineProcessing** (*p.292*) object.

Cognois::PlanarToPacked::~PlanarToPacked ()

Destructor.

Member Function Documentation

void Cognois::PlanarToPacked::Process (MIL_ID & *_milImage*, unsigned long & *_frameID*, unsigned long & *_timeStamp*) `[virtual]`

Process an image with know frameID and timeStamp.

Parameters:

inMilImage is a MIL image identifier.
inFrameID is the frame identifier associated with the image.
inTimeStamp is the time, in milliseconds, associated with the image.

Reimplemented from **Cognois::ProcessingObject** (*p.350*).

Member Data Documentation

MIL_ID Cognois::PlanarToPacked::milBufferPacked `[private]`

MIL packed buffer.

The documentation for this class was generated from the following files:

- **PlanarToPacked.h**
- **PlanarToPacked.cpp**

PngChromaticitiesData Struct Reference

```
#include <pngpvt.h>
```

Public Attributes

- **UBYTE4 whitepointx**
- **UBYTE4 whitepointy**
- **UBYTE4 redx**
- **UBYTE4 redy**
- **UBYTE4 greenx**
- **UBYTE4 greeny**
- **UBYTE4 bluex**
- **UBYTE4 bluey**

Member Data Documentation

UBYTE4 PngChromaticitiesData::bluex

UBYTE4 PngChromaticitiesData::bluey

UBYTE4 PngChromaticitiesData::greenx

UBYTE4 PngChromaticitiesData::greeny

UBYTE4 PngChromaticitiesData::redx

UBYTE4 PngChromaticitiesData::redy

UBYTE4 PngChromaticitiesData::whitepointx

UBYTE4 PngChromaticitiesData::whitepointy

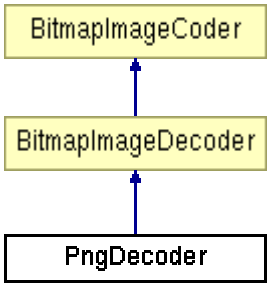
The documentation for this struct was generated from the following file:

- **pngpvt.h**

PngDecoder Class Reference

`#include <pngdecod.h>`

Inheritance diagram for PngDecoder:



Public Methods

- **PngDecoder** ()
- **PngDecoder** (const PngDecoder &)
- virtual **~PngDecoder** ()
- PngDecoder& **operator=** (PngDecoder &)
- virtual void **ReadImage** (istream &, **BitmapImage** &)
- void **SetVerbose** (bool)
- bool **GetVerbose** () const

Private Methods

- void **Initialize** ()
- void **DoCopy** (const PngDecoder &)
- void **ReadSignature** ()
- void **ReadChunk** ()
- void **ProcessHeader** ()
- void **ProcessPalette** ()
- void **ProcessBackground** ()
- void **ProcessGamma** ()
- void **ProcessData** ()
- void **ProcessChromaticities** ()
- void **ProcessHistogram** ()
- void **ProcessPhysicalPixelDimensions** ()
- void **ProcessSignificantBits** ()
- void **ProcessTextualData** ()
- void **ProcessImageTime** ()
- void **ProcessTransparency** ()
- void **ProcessCompressedText** ()
- void **CallProgressFunction** (unsigned int percent)
- int **GetBits** (unsigned int count=1)
- **UBYTE1 GetIDATByte** ()
- **UBYTE1 DecodeByte** ()
- void **StartNewDataSet** ()
- void **CheckAdler** ()
- void **ReadLengths** (**PngHuffmanDecoder** &, unsigned int[], unsigned int)

- **UBYTE1 DecodeLiteralByte** ()
- **UBYTE1 DecodeCompressedByte** ()
- void **FreeData** ()
- void **ReadPixelData** ()
- void **CopyNoninterlacedRowToImage** (unsigned int row)
- void **CopyInterlacedRowToImage** (unsigned int row, unsigned int width)
- void **ReadNoninterlaced** ()
- void **ReadInterlaced** ()
- void **FilterRow** (unsigned int filter)

Private Attributes

- **UBYTE1 background_red**
- **UBYTE1 background_green**
- **UBYTE1 background_blue**
- **UBYTE1 background_gray**
- **UBYTE4 chunk_length**
- **UBYTE4 chunk_type**
- **UBYTE1* chunk_data**
- **UBYTE4 chunk_data_size**
- **UBYTE4 chunk_crc**
- **UBYTE4 stream_adler**
- **UBYTE1* lz_window**
- unsigned int **window_position**
- unsigned int **copy_position**
- unsigned int **copy_count**
- **PngHuffmanDecoder* literal_table**
- **PngHuffmanDecoder* distance_table**
- bool **final_data_set**
- bool **literal_mode**
- unsigned int **literal_count**
- istream* **input_stream**
- **BitmapImage* current_image**
- bool **verbose_flag**
- unsigned int **palette_size**
- bool **reading_pixel_data**
- unsigned int **bit_offset**
- unsigned int **byte_offset**
- **UBYTE1 bit_buffer**
- **UBYTE4 image_height**
- **UBYTE4 image_width**
- **UBYTE1 image_depth**
- unsigned int **image_color_type**
- **UBYTE1 image_compression_method**
- **UBYTE1 image_filter_method**
- **UBYTE1 image_interlace_method**
- **UBYTE1* row_buffers** [2]
- int **current_row_buffer**
- unsigned int **row_buffer_width**
- unsigned int **interlace_pass**
- double **file_gamma**
- bool **data_read**

- bool **palette_read**
- bool **header_read**
- bool **end_read**

Static Private Attributes

- const **InterlaceInfo interlace_values** []

Friends

- class **PngHuffmanDecoder**

Constructor & Destructor Documentation

PngDecoder::PngDecoder ()

PngDecoder::PngDecoder (const PngDecoder & *source*)

PngDecoder::~PngDecoder () `[virtual]`

Member Function Documentation

void PngDecoder::CallProgressFunction (unsigned int *percent*) `[private]`

void PngDecoder::CheckAdler () `[private]`

void PngDecoder::CopyInterlacedRowToImage (unsigned int *row*, unsigned int *rowwidth*) `[private]`

void PngDecoder::CopyNoninterlacedRowToImage (unsigned int *row*) `[private]`

UBYTE1 PngDecoder::DecodeByte () `[private]`

UBYTE1 PngDecoder::DecodeCompressedByte () `[private]`

UBYTE1 PngDecoder::DecodeLiteralByte () `[private]`

void PngDecoder::DoCopy (const PngDecoder & *source*) `[private]`

void PngDecoder::FilterRow (unsigned int *filter*) `[private]`

void PngDecoder::FreeData () `[private]`

int PngDecoder::GetBits (unsigned int *count* = 1) `[private]`

UBYTE1 PngDecoder::GetIDATByte () `[private]`

bool PngDecoder::GetVerbose () const `[inline]`

void PngDecoder::Initialize () `[private]`

Reimplemented from **BitmapImageCoder** (*p.38*).

void PngDecoder::ProcessBackground () `[private]`

void PngDecoder::ProcessChromaticities () `[private]`

void PngDecoder::ProcessCompressedText () `[private]`

void PngDecoder::ProcessData () `[private]`

void PngDecoder::ProcessGamma () `[private]`

void PngDecoder::ProcessHeader () `[private]`

void PngDecoder::ProcessHistogram () `[private]`

void PngDecoder::ProcessImageTime () `[private]`

void PngDecoder::ProcessPalette () `[private]`

void PngDecoder::ProcessPhysicalPixelDimensions () `[private]`

void PngDecoder::ProcessSignificantBits () `[private]`

void PngDecoder::ProcessTextualData () `[private]`

void PngDecoder::ProcessTransparency () `[private]`

void PngDecoder::ReadChunk () `[private]`

void PngDecoder::ReadImage (istream & *strm*, BitmapImage & *image*) `[virtual]`

Reimplemented from **BitmapImageDecoder** (*p.39*).

void PngDecoder::ReadInterlaced () `[private]`

void PngDecoder::ReadLengths (PngHuffmanDecoder & *ht*, unsigned int *lengths*[], unsigned int *lengthcount*) `[private]`

void PngDecoder::ReadNoninterlaced () `[private]`

void PngDecoder::ReadPixelData () `[private]`

void PngDecoder::ReadSignature () `[private]`

void PngDecoder::SetVerbose (bool *value*) `[inline]`

void PngDecoder::StartNewDataSet () `[private]`

PngDecoder & PngDecoder::operator= (PngDecoder & *source*)

Friends And Related Function Documentation

class PngHuffmanDecoder `[friend]`

Member Data Documentation

UBYTE1 PngDecoder::background_blue `[private]`

UBYTE1 PngDecoder::background_gray `[private]`

UBYTE1 PngDecoder::background_green `[private]`

UBYTE1 PngDecoder::background_red `[private]`

UBYTE1 PngDecoder::bit_buffer `[private]`

unsigned int PngDecoder::bit_offset `[private]`

unsigned int PngDecoder::byte_offset `[private]`

UBYTE4 PngDecoder::chunk_crc `[private]`

UBYTE1 * PngDecoder::chunk_data `[private]`

UBYTE4 PngDecoder::chunk_data_size `[private]`

UBYTE4 PngDecoder::chunk_length `[private]`

UBYTE4 PngDecoder::chunk_type `[private]`

unsigned int PngDecoder::copy_count `[private]`

unsigned int PngDecoder::copy_position `[private]`

BitmapImage * PngDecoder::current_image `[private]`

int PngDecoder::current_row_buffer `[private]`

bool PngDecoder::data_read `[private]`

PngHuffmanDecoder * PngDecoder::distance_table `[private]`

bool PngDecoder::end_read `[private]`

double PngDecoder::file_gamma `[private]`

bool PngDecoder::final_data_set `[private]`

bool PngDecoder::header_read `[private]`

unsigned int PngDecoder::image_color_type `[private]`

UBYTE1 PngDecoder::image_compression_method `[private]`

UBYTE1 PngDecoder::image_depth `[private]`

UBYTE1 PngDecoder::image_filter_method `[private]`

UBYTE4 PngDecoder::image_height `[private]`

UBYTE1 PngDecoder::image_interlace_method `[private]`

UBYTE4 PngDecoder::image_width `[private]`

istream * PngDecoder::input_stream `[private]`

unsigned int PngDecoder::interlace_pass `[private]`

const PngDecoder::InterlaceInfo PngDecoder::interlace_values `[static, private]`

Initial value:

```
{
  { 8, 8, 0, 0, },
  { 8, 8, 0, 4, },
  { 8, 4, 4, 0, },
  { 4, 4, 0, 2, },
  { 4, 2, 2, 0, },
  { 2, 2, 0, 1, },
  { 2, 1, 1, 0, }
}
```

unsigned int PngDecoder::literal_count `[private]`

bool PngDecoder::literal_mode `[private]`

PngHuffmanDecoder * PngDecoder::literal_table `[private]`

UBYTE1 * PngDecoder::lz_window `[private]`

bool PngDecoder::palette_read `[private]`

unsigned int PngDecoder::palette_size `[private]`

bool PngDecoder::reading_pixel_data `[private]`

unsigned int PngDecoder::row_buffer_width `[private]`

UBYTE1 * PngDecoder::row_buffers `[private]`

UBYTE4 PngDecoder::stream_adler `[private]`

bool PngDecoder::verbose_flag `[private]`

unsigned int PngDecoder::window_position `[private]`

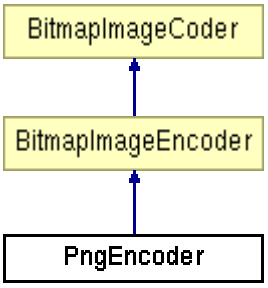
The documentation for this class was generated from the following files:

- **pngdecod.h**
- **pngdecod.cpp**

PngEncoder Class Reference

`#include <pngencod.h>`

Inheritance diagram for PngEncoder:



Public Types

- enum **CompressionLevel** { **FastestCompression** = 0, **FastCompression** = 1, **DefaultCompression** = 2, **MaximumCompression** = 3 }

Public Methods

- **PngEncoder** ()
- **PngEncoder** (const PngEncoder &)
- virtual **~PngEncoder** ()
- PngEncoder& **operator=** (const PngEncoder &)
- void **WriteImage** (ostream &, **BitmapImage** &)
- void **SetTitle** (const Chaine &)
- Chaine **GetTitle** () const
- void **SetAuthor** (const Chaine &)
- Chaine **GetAuthor** () const
- void **SetDescription** (const Chaine &)
- Chaine **GetDescription** () const
- void **SetCopyright** (const Chaine &)
- Chaine **GetCopyright** () const
- void **SetSoftware** (const Chaine &)
- Chaine **GetSoftware** () const
- void **SetDisclaimer** (const Chaine &)
- Chaine **GetDisclaimer** () const
- void **SetWarning** (const Chaine &)
- Chaine **GetWarning** () const
- void **SetSource** (const Chaine &)
- Chaine **GetSource** () const
- void **SetComment** (const Chaine &)
- Chaine **GetComment** () const
- void **SetCompressionLevel** (**CompressionLevel**)
- **CompressionLevel GetCompressionLevel** () const
- void **SetUseFilters** (bool)
- bool **GetUseFilters** () const
- unsigned long **GetBlockSize** () const
- void **SetBlockSize** (unsigned long)

Protected Methods

- void **Initialize** ()
- void **DoCopy** (const PngEncoder &)

Private Types

- typedef void (PngEncoder::* **LENGTHFUNCTION**)(unsigned int index, unsigned int code, unsigned int length, unsigned int extra)
- enum { **FilterBufferCount** = 5 }

Private Methods

- void **LongestMatch** (unsigned int &length, unsigned int &offset)
- unsigned int **HashValue** (unsigned int)
- void **MoveHashEntry** (unsigned int entry, unsigned int hashvalue)
- void **GatherLengthCounts** (unsigned int, unsigned int code, unsigned int, unsigned int)
- void **OutputLengthCounts** (unsigned int index, unsigned int code, unsigned int extra, unsigned int value)
- void **FindLengthCodes** (**LENGTHFUNCTION**, **UBYTE1** lengths[], unsigned int count)
- bool **ProcessImageData** ()
- void **StartChunk** (const char type[5])
- void **WriteCurrentChunk** ()
- void **OutputBlock** (const void *data, unsigned int length)
- void **OutputByte** (**UBYTE1**)
- void **OutputDataBits** (unsigned int data, unsigned int length)
- void **FlushBitBuffer** ()
- void **OutputAdler** ()
- void **FreeBuffers** ()
- void **FillBuffer** (unsigned int count)
- void **WriteText** (const Chaine &keyword, const Chaine &value)
- void **WriteTextBlocks** ()
- void **CallProgressFunction** (unsigned int)
- void **FilterRow** (unsigned int row)
- void **DoWrite** ()
- void **InitializeHashTable** ()
- void **InitializeLZWindow** ()
- void **OutputDeflateHeader** (bool lastblock)
- void **OutputZLibHeader** ()
- void **WriteImageData** ()
- void **OutputBlockData** ()

Private Attributes

- **HashEntry* hash_values**
- **HashEntry* hash_table**
- **BitmapImage* current_image**
- ostream* **output_stream**
- unsigned int **search_limit**
- **PngHuffmanEncoder* distance_table**
- **PngHuffmanEncoder* length_table**

- **PngHuffmanEncoder* length_length_table**
- **UBYTE1* output_buffer**
- **UBYTE4 chunk_type**
- **UBYTE4 byte_position**
- unsigned int **bit_position**
- unsigned int **row_width**
- Chaine **title_string**
- Chaine **author_string**
- Chaine **description_string**
- Chaine **copyright_string**
- Chaine **software_string**
- Chaine **disclaimer_string**
- Chaine **warning_string**
- Chaine **source_string**
- Chaine **comment_string**
- **UBYTE1* filter_buffers** [FilterBufferCount]
- unsigned int **current_filter**
- unsigned int **filter_mask**
- unsigned int **filter_width**
- **CompressionLevel compression_level**
- **UBYTE4 adler_value**
- **UBYTE1* lz_window**
- **UBYTE2* lookahead_buffer**
- unsigned int **lookahead_position**
- unsigned int **lz_position**
- int **image_row**
- unsigned int **image_col**
- bool **image_end**
- **UBYTE2* block_buffer**
- unsigned int **block_buffer_size**
- unsigned int **block_buffer_count**

Member Typedef Documentation

typedef void(PngEncoder::* PngEncoder::LENGTHFUNCTION)(unsigned int index, unsigned int code, unsigned int length, unsigned int extra) `[private]`

Member Enumeration Documentation

anonymous enum `[private]`

Enumeration values:

FilterBufferCount

enum PngEncoder::CompressionLevel

Enumeration values:

FastestCompression
FastCompression
DefaultCompression
MaximumCompression

Constructor & Destructor Documentation

PngEncoder::PngEncoder ()

PngEncoder::PngEncoder (const PngEncoder & *source*)

PngEncoder::~PngEncoder () `[virtual]`

Member Function Documentation

void PngEncoder::CallProgressFunction (unsigned int *percent*) `[private]`

void PngEncoder::DoCopy (const PngEncoder & *source*) `[protected]`

void PngEncoder::DoWrite () `[private]`

void PngEncoder::FillBuffer (unsigned int *count*) `[private]`

void PngEncoder::FilterRow (unsigned int *row*) `[private]`

void PngEncoder::FindLengthCodes (LENGTHFUNCTION *function*, UBYTE1 *lengths*[], unsigned int *count*) `[private]`

void PngEncoder::FlushBitBuffer () `[private]`

void PngEncoder::FreeBuffers () `[private]`

void PngEncoder::GatherLengthCounts (unsigned *int*, unsigned int *code*, unsigned *int*, unsigned *int*) `[private]`

Chaine PngEncoder::GetAuthor () const `[inline]`

unsigned long PngEncoder::GetBlockSize () const `[inline]`

Chaine PngEncoder::GetComment () const `[inline]`

PngEncoder::CompressionLevel PngEncoder::GetCompressionLevel () const

Chaine PngEncoder::GetCopyright () const `[inline]`

Chaine PngEncoder::GetDescription () const `[inline]`

Chaine PngEncoder::GetDisclaimer () const `[inline]`

Chaine PngEncoder::GetSoftware () const `[inline]`

Chaine PngEncoder::GetSource () const `[inline]`

Chaine PngEncoder::GetTitle () const `[inline]`

bool PngEncoder::GetUseFilters () const

Chaine PngEncoder::GetWarning () const `[inline]`

unsigned int PngEncoder::HashValue (unsigned int *index*) `[private]`

void PngEncoder::Initialize () `[protected]`

Reimplemented from **BitmapImageCoder** (*p.38*).

void PngEncoder::InitializeHashTable () `[private]`

void PngEncoder::InitializeLZWindow () `[private]`

void PngEncoder::LongestMatch (unsigned int & *bestlength*, unsigned int & *bestoffset*) `[private]`

void PngEncoder::MoveHashEntry (unsigned int *entry*, unsigned int *hashvalue*) `[private]`

void PngEncoder::OutputAdler () `[private]`

void PngEncoder::OutputBlock (const void * *data*, unsigned int *length*) `[private]`

void PngEncoder::OutputBlockData () `[private]`

void PngEncoder::OutputByte (UBYTE1 *value*) `[private]`

void PngEncoder::OutputDataBits (unsigned int *data*, unsigned int *length*) `[private]`

void PngEncoder::OutputDeflateHeader (bool *lastblock*) `[private]`

void PngEncoder::OutputLengthCounts (unsigned int *index*, unsigned int *code*, unsigned int *extra*, unsigned int *value*) `[private]`

void PngEncoder::OutputZLibHeader () `[private]`

bool PngEncoder::ProcessImageData () `[private]`

void PngEncoder::SetAuthor (const Chaine & *value*) `[inline]`

void PngEncoder::SetBlockSize (unsigned long *value*) `[inline]`

void PngEncoder::SetComment (const Chaine & *value*) `[inline]`

void PngEncoder::SetCompressionLevel (PngEncoder::CompressionLevel *value*)

void PngEncoder::SetCopyright (const Chaine & *value*) `[inline]`

void PngEncoder::SetDescription (const Chaine & *value*) `[inline]`

void PngEncoder::SetDisclaimer (const Chaine & *value*) `[inline]`

void PngEncoder::SetSoftware (const Chaine & *value*) `[inline]`

void PngEncoder::SetSource (const Chaine & *value*) `[inline]`

void PngEncoder::SetTitle (const Chaine & *value*) `[inline]`

void PngEncoder::SetUseFilters (bool *value*)

void PngEncoder::SetWarning (const Chaine & *value*) `[inline]`

void PngEncoder::StartChunk (const char *type*[5]) `[private]`

void PngEncoder::WriteCurrentChunk () `[private]`

void PngEncoder::WriteImage (ostream & *strm*, BitmapImage & *image*) `[virtual]`

Reimplemented from **BitmapImageEncoder** (*p.40*).

void PngEncoder::WriteImageData () `[private]`

void PngEncoder::WriteText (const Chaine & *keyword*, const Chaine & *value*) `[private]`

void PngEncoder::WriteTextBlocks () `[private]`

PngEncoder & PngEncoder::operator= (const PngEncoder & *source*)

Member Data Documentation

UBYTE4 PngEncoder::adler_value `[private]`

Chaine PngEncoder::author_string `[private]`

unsigned int PngEncoder::bit_position `[private]`

UBYTE2 * PngEncoder::block_buffer `[private]`

unsigned int PngEncoder::block_buffer_count `[private]`

unsigned int PngEncoder::block_buffer_size `[private]`

UBYTE4 PngEncoder::byte_position `[private]`

UBYTE4 PngEncoder::chunk_type `[private]`

Chaine PngEncoder::comment_string `[private]`

CompressionLevel PngEncoder::compression_level `[private]`

Chaine PngEncoder::copyright_string `[private]`

unsigned int PngEncoder::current_filter `[private]`

BitmapImage * PngEncoder::current_image `[private]`

Chaine PngEncoder::description_string `[private]`

Chaine PngEncoder::disclaimer_string `[private]`

PngHuffmanEncoder * PngEncoder::distance_table `[private]`

UBYTE1 * PngEncoder::filter_buffers `[private]`

unsigned int PngEncoder::filter_mask `[private]`

unsigned int PngEncoder::filter_width `[private]`

HashEntry * PngEncoder::hash_table `[private]`

HashEntry * PngEncoder::hash_values `[private]`

unsigned int PngEncoder::image_col `[private]`

bool PngEncoder::image_end `[private]`

int PngEncoder::image_row `[private]`

PngHuffmanEncoder * PngEncoder::length_length_table `[private]`

PngHuffmanEncoder * PngEncoder::length_table `[private]`

UBYTE2 * PngEncoder::lookahead_buffer `[private]`

unsigned int PngEncoder::lookahead_position `[private]`

unsigned int PngEncoder::lz_position `[private]`

UBYTE1 * PngEncoder::lz_window `[private]`

UBYTE1 * PngEncoder::output_buffer `[private]`

ostream * PngEncoder::output_stream `[private]`

unsigned int PngEncoder::row_width `[private]`

unsigned int PngEncoder::search_limit `[private]`

Chaine PngEncoder::software_string `[private]`

Chaine PngEncoder::source_string `[private]`

Chaine PngEncoder::title_string `[private]`

Chaine PngEncoder::warning_string `[private]`

The documentation for this class was generated from the following files:

- **pngencod.h**
- **pngencod.cpp**

PngHuffmanDecoder Class Reference

`#include <pnghuffd.h>`

Public Methods

- **PngHuffmanDecoder** ()
- virtual **~PngHuffmanDecoder** ()
- void **MakeTable** (unsigned int lengthcount, const unsigned int huffbits[])
- void **Dump** () const
- int **Decode** (**PngDecoder** &)

Private Types

- enum { **MaxHuffmanCodeLength** = 15 }

Private Methods

- **PngHuffmanDecoder** (const PngHuffmanDecoder &)
- PngHuffmanDecoder& **operator=** (const PngHuffmanDecoder &)

Private Attributes

- int **maxcode** [MaxHuffmanCodeLength]
- int **mincode** [MaxHuffmanCodeLength]
- **UBYTE2 valptr** [MaxHuffmanCodeLength]
- **UBYTE2 huff_values** [**PngMaxNumberOfHuffmanCodes**]
- unsigned int **value_count**

Member Enumeration Documentation

anonymous enum `[private]`

Enumeration values:

MaxHuffmanCodeLength

Constructor & Destructor Documentation

PngHuffmanDecoder::PngHuffmanDecoder () `[inline]`

PngHuffmanDecoder::~PngHuffmanDecoder () `[inline, virtual]`

PngHuffmanDecoder::PngHuffmanDecoder (const PngHuffmanDecoder &) `[private]`

Member Function Documentation

int PngHuffmanDecoder::Decode (PngDecoder & *decoder*)

void PngHuffmanDecoder::Dump () const

void PngHuffmanDecoder::MakeTable (unsigned int *valuecount*, const unsigned int *codelengths*[])

PngHuffmanDecoder & PngHuffmanDecoder::operator= (const PngHuffmanDecoder &) `[private]`

Member Data Documentation

UBYTE2 PngHuffmanDecoder::huff_values `[private]`

int PngHuffmanDecoder::maxcode `[private]`

int PngHuffmanDecoder::mincode `[private]`

UBYTE2 PngHuffmanDecoder::valptr `[private]`

unsigned int PngHuffmanDecoder::value_count `[private]`

The documentation for this class was generated from the following files:

- **pnghuffd.h**
- **pnghuffd.cpp**

PngHuffmanEncoder Class Reference

`#include <pnghuffe.h>`

Public Methods

- **PngHuffmanEncoder** ()
- virtual **~PngHuffmanEncoder** ()
- void **Reset** ()
- void **IncrementFrequency** (unsigned int value)
- void **BuildTable** (unsigned int maxlength)
- void **Encode** (unsigned int value, **UBYTE2** &code, **UBYTE1** &size) const

Private Methods

- **PngHuffmanEncoder** (const PngHuffmanEncoder &)
- PngHuffmanEncoder& **operator=** (const PngHuffmanEncoder &)
- void **MakeTable** ()

Private Attributes

- unsigned int* **frequencies**
- **UBYTE1*** **ehufsi**
- **UBYTE2*** **ehufco**

Friends

- class **PngEncoder**

Constructor & Destructor Documentation

PngHuffmanEncoder::PngHuffmanEncoder ()

PngHuffmanEncoder::~PngHuffmanEncoder () `[virtual]`

PngHuffmanEncoder::PngHuffmanEncoder (const PngHuffmanEncoder &) `[private]`

Member Function Documentation

void PngHuffmanEncoder::BuildTable (unsigned int *maxlength*)

void PngHuffmanEncoder::Encode (unsigned int *value*, UBYTE2 & *code*, UBYTE1 & *size*) const

void PngHuffmanEncoder::IncrementFrequency (unsigned int *value*)

void PngHuffmanEncoder::MakeTable () `[private]`

void PngHuffmanEncoder::Reset ()

PngHuffmanEncoder & PngHuffmanEncoder::operator= (const PngHuffmanEncoder &) `[private]`

Friends And Related Function Documentation

class PngEncoder `[friend]`

Member Data Documentation

UBYTE2 * PngHuffmanEncoder::ehufco `[private]`

UBYTE1 * PngHuffmanEncoder::ehufsi `[private]`

unsigned int * PngHuffmanEncoder::frequencies `[private]`

The documentation for this class was generated from the following files:

- **pnghuffe.h**
- **pnghuffe.cpp**

PngImageHeader Struct Reference

```
#include <pngpvt.h>
```

Public Attributes

- **UBYTE4 width**
- **UBYTE4 height**
- **UBYTE1 bitdepth**
- **UBYTE1 colortype**
- **UBYTE1 compressionmethod**
- **UBYTE1 filtermethod**
- **UBYTE1 interlacemethod**

Member Data Documentation

UBYTE1 PngImageHeader::bitdepth

UBYTE1 PngImageHeader::colortype

UBYTE1 PngImageHeader::compressionmethod

UBYTE1 PngImageHeader::filtermethod

UBYTE4 PngImageHeader::height

UBYTE1 PngImageHeader::interlacemethod

UBYTE4 PngImageHeader::width

The documentation for this struct was generated from the following file:

- **pngpvt.h**

PngPixelDimensions Struct Reference

```
#include <pngpvt.h>
```

Public Attributes

- **UBYTE4 pixelsx**
- **UBYTE4 pixelsy**
- **UBYTE1 unit**

Member Data Documentation

UBYTE4 PngPixelDimensions::pixelsx

UBYTE4 PngPixelDimensions::pixelsy

UBYTE1 PngPixelDimensions::unit

The documentation for this struct was generated from the following file:

- **pngpvt.h**

PngTimeData Struct Reference

```
#include <pngpvt.h>
```

Public Attributes

- **UBYTE2 year**
- **UBYTE1 month**
- **UBYTE1 day**
- **UBYTE1 hour**
- **UBYTE1 minute**
- **UBYTE1 second**

Member Data Documentation

UBYTE1 PngTimeData::day

UBYTE1 PngTimeData::hour

UBYTE1 PngTimeData::minute

UBYTE1 PngTimeData::month

UBYTE1 PngTimeData::second

UBYTE2 PngTimeData::year

The documentation for this struct was generated from the following file:

- **pngpvt.h**

Point Class Reference

`#include <Point.hpp>`

Public Methods

- **Point** (int _l=0, int _c=0)
- int **operator**< (const Point &p) const
- int **operator**> (const Point &p) const
- int **operator**<= (const Point &p) const
- int **operator**>= (const Point &p) const
- int **operator**== (const Point &p) const
- int **operator!=** (const Point &p) const
- int **Chessboard** (const Point &p) const
- int **CityBlock** (const Point &p) const
- double **Euclidean** (const Point &p) const
- int **X** () const
- int **Y** () const
- void **X** (int _x)
- void **Y** (int _y)

Public Attributes

- int **ligne**
- int **col**

Friends

- ostream& **operator**<< (ostream &out, const Point &p)
- istream& **operator**>> (istream &in, Point &p)

Constructor & Destructor Documentation

Point::Point (int _*l* = 0, int _*c* = 0) `[inline]`

Member Function Documentation

int Point::Chessboard (const Point & *p*) const `[inline]`

int Point::CityBlock (const Point & *p*) const `[inline]`

double Point::Euclidean (const Point & *p*) const `[inline]`

void Point::X (int *_x*) `[inline]`

int Point::X () const `[inline]`

void Point::Y (int *_y*) `[inline]`

int Point::Y () const `[inline]`

int Point::operator!= (const Point & *p*) const `[inline]`

int Point::operator< (const Point & *p*) const `[inline]`

int Point::operator<= (const Point & *p*) const `[inline]`

int Point::operator== (const Point & *p*) const `[inline]`

int Point::operator> (const Point & *p*) const `[inline]`

int Point::operator>= (const Point & *p*) const `[inline]`

Friends And Related Function Documentation

ostream & operator<< (std::ostream & *out*, const Point & *p*) `[friend]`

istream & operator>> (istream & *in*, Point & *p*) `[friend]`

Member Data Documentation

int Point::col

int Point::ligne

The documentation for this class was generated from the following file:

- **Point.hpp**

EspaceCalibrage::Point Struct Reference

```
#include <EspaceCalibrage.h>
```

Public Methods

- int **EstHorsImage** () const

Public Attributes

- **DataType x**
- **DataType y**

Member Function Documentation

int EspaceCalibrage::Point::EstHorsImage () const `[inline]`

Member Data Documentation

DataType EspaceCalibrage::Point::x

DataType EspaceCalibrage::Point::y

The documentation for this struct was generated from the following file:

- **EspaceCalibrage.h**

PointColore Struct Reference

Public Attributes

- **Point position**
- double **hue**
- double **saturation**
- double **intensity**
- unsigned long **indice**

Member Data Documentation

double PointColore::hue

unsigned long PointColore::indice

double PointColore::intensity

Point PointColore::position

double PointColore::saturation

The documentation for this struct was generated from the following file:

- **ExtractionDeCible.cpp**

EspaceCalibrage::PointXYZ Struct Reference

```
#include <EspaceCalibrage.h>
```

Public Attributes

- **DataType x**
- **DataType y**
- **DataType z**

Member Data Documentation

DataType EspaceCalibrage::PointXYZ::x

DataType EspaceCalibrage::PointXYZ::y

DataType EspaceCalibrage::PointXYZ::z

The documentation for this struct was generated from the following file:

- **EspaceCalibrage.h**

FormatPPM::ppmHeader Struct Reference

```
#include <FormatPPM.hpp>
```

Public Attributes

- **UBYTE4 width**
- **UBYTE4 height**
- **UBYTE4 maxvalue**

Member Data Documentation

UBYTE4 FormatPPM::ppmHeader::height

UBYTE4 FormatPPM::ppmHeader::maxvalue

UBYTE4 FormatPPM::ppmHeader::width

The documentation for this struct was generated from the following file:

- **FormatPPM.hpp**

ImageRGB::PRep Class Reference

Public Methods

- int **operator**< (const PRep &b) const
- int **operator**> (const PRep &b) const
- int **operator**== (const PRep &b) const

Public Attributes

- **Point pt**
- int **rep**

Member Function Documentation

int ImageRGB::PRep::operator< (const PRep & *b*) const `[inline]`

int ImageRGB::PRep::operator== (const PRep & *b*) const `[inline]`

int ImageRGB::PRep::operator> (const PRep & *b*) const `[inline]`

Member Data Documentation

Point ImageRGB::PRep::pt

int ImageRGB::PRep::rep

The documentation for this class was generated from the following file:

- **ImageRGB.hpp**

ImageGris::PRep Class Reference

Public Methods

- int **operator**< (const PRep &b) const
- int **operator**> (const PRep &b) const
- int **operator**== (const PRep &b) const

Public Attributes

- **Point pt**
- int **rep**

Member Function Documentation

int ImageGris::PRep::operator< (const PRep & *b*) const `[inline]`

int ImageGris::PRep::operator== (const PRep & *b*) const `[inline]`

int ImageGris::PRep::operator> (const PRep & *b*) const `[inline]`

Member Data Documentation

Point ImageGris::PRep::pt

int ImageGris::PRep::rep

The documentation for this class was generated from the following file:

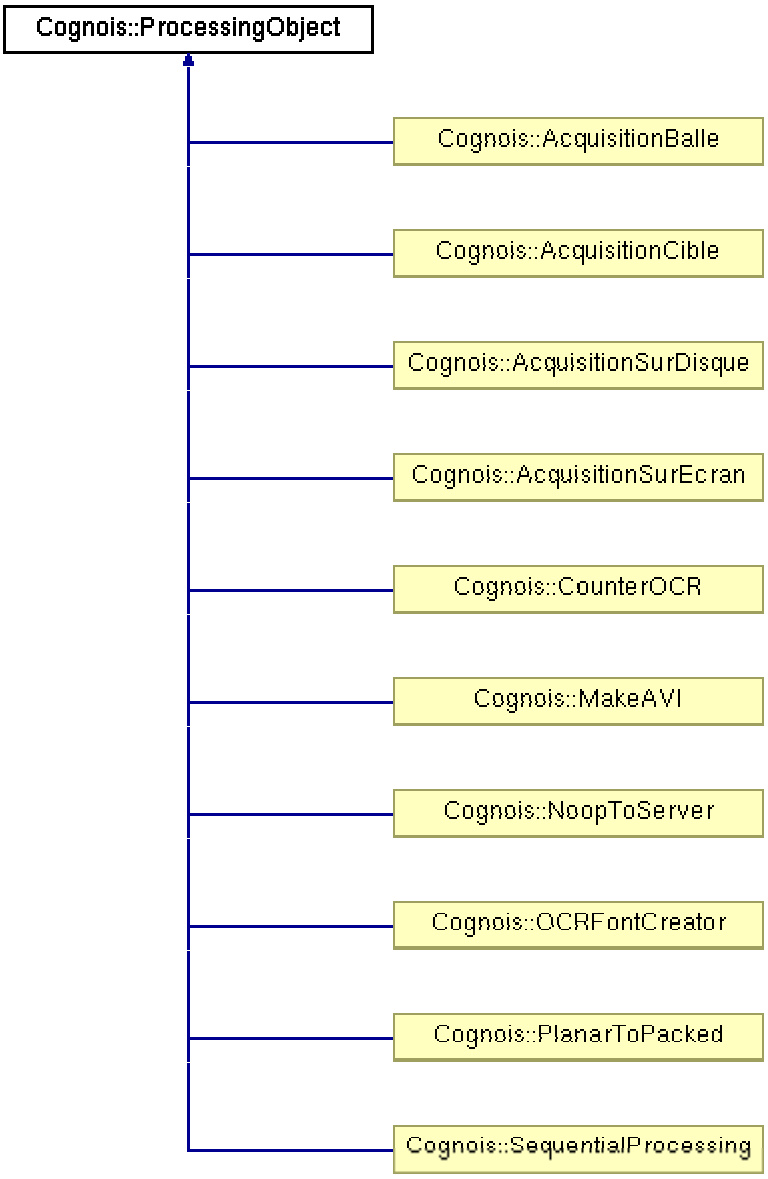
- **ImageGris.hpp**

Cognois::ProcessingObject Class Reference

Virtual class for user-supplied processing objects.

`#include <ProcessingObject.h>`

Inheritance diagram for Cognois::ProcessingObject:



Public Methods

- virtual **~ProcessingObject** ()
  Virtual destructor.

- virtual void **Process** (MIL_ID &inMilImage, unsigned long &inFrameID, unsigned long &inTimeStamp)=0

Process an image with know frameID and timeStamp.

- virtual void **Activate** ()
  *Activate the **ProcessingObject** (p.349) (initialization for a sequence).*

- virtual void **Deactivate** ()
  *Deactivate the **ProcessingObject** (p.349) (end of a sequence).*

Detailed Description

Virtual class for user-supplied processing objects.

Constructor & Destructor Documentation

Cognois::ProcessingObject::~ProcessingObject () `[inline, virtual]`

Virtual destructor.

Member Function Documentation

void Cognois::ProcessingObject::Activate () `[inline, virtual]`

Activate the **ProcessingObject** (*p.349*) (initialization for a sequence).

Reimplemented in **Cognois::SequentialProcessing** (*p.358*).

void Cognois::ProcessingObject::Deactivate () `[inline, virtual]`

Deactivate the **ProcessingObject** (*p.349*) (end of a sequence).

Reimplemented in **Cognois::SequentialProcessing** (*p.358*).

void Cognois::ProcessingObject::Process (MIL_ID & *_milImage*, unsigned long & *_frameID*, unsigned long & *_timeStamp*) `[pure virtual]`

Process an image with know frameID and timeStamp.

Parameters:

inMilImage is a MIL image identifier.
inFrameID is the frame identifier associated with the image.
inTimeStamp is the time, in milliseconds, associated with the image.

Reimplemented in **Cognois::AcquisitionBalle** (*p.17*), **Cognois::AcquisitionCible** (*p.20*), **Cognois::AcquisitionSurDisque** (*p.26*), **Cognois::AcquisitionSurEcran** (*p.28*), **Cognois::CounterOCR** (*p.85*), **Cognois::MakeAVI** (*p.261*), **Cognois::NoopToServer** (*p.282*), **Cognois::OCRFontCreator** (*p.285*), **Cognois::PlanarToPacked** (*p.312*), and **Cognois::SequentialProcessing** (*p.359*).

The documentation for this class was generated from the following file:

- **ProcessingObject.h**

FormatSunRaster::rasHeader Struct Reference

```
#include <FormatSunRaster.hpp>
```

Public Attributes

- **UBYTE4 magic**
- **UBYTE4 width**
- **UBYTE4 height**
- **UBYTE4 depth**
- **UBYTE4 length**
- **UBYTE4 type**
- **UBYTE4 maptype**
- **UBYTE4 maplength**

Member Data Documentation

UBYTE4 FormatSunRaster::rasHeader::depth

UBYTE4 FormatSunRaster::rasHeader::height

UBYTE4 FormatSunRaster::rasHeader::length

UBYTE4 FormatSunRaster::rasHeader::magic

UBYTE4 FormatSunRaster::rasHeader::maplength

UBYTE4 FormatSunRaster::rasHeader::maptype

UBYTE4 FormatSunRaster::rasHeader::type

UBYTE4 FormatSunRaster::rasHeader::width

The documentation for this struct was generated from the following file:

- **FormatSunRaster.hpp**

RGBQUADsd Struct Reference

```
#include <Picture.h>
```

Public Attributes

- **BYTE rgbBlue**
- **BYTE rgbGreen**
- **BYTE rgbRed**
- **BYTE rgbReserved**

Member Data Documentation

BYTE RGBQUADsd::rgbBlue

BYTE RGBQUADsd::rgbGreen

BYTE RGBQUADsd::rgbRed

BYTE RGBQUADsd::rgbReserved

The documentation for this struct was generated from the following file:

- **Picture.h**

JpegEncoder::Scan Struct Reference

Public Attributes

- unsigned long **component_mask**
- unsigned int **spectral_selection_start**
- unsigned int **spectral_selection_end**
- unsigned int **successive_approximation**
- int **successive_approximation_high**
- int **successive_approximation_low**

Member Data Documentation

unsigned long JpegEncoder::Scan::component_mask

unsigned int JpegEncoder::Scan::spectral_selection_end

unsigned int JpegEncoder::Scan::spectral_selection_start

unsigned int JpegEncoder::Scan::successive_approximation

int JpegEncoder::Scan::successive_approximation_high

int JpegEncoder::Scan::successive_approximation_low

The documentation for this struct was generated from the following file:

- **jpegenco.h**

Cognois::SpaceCarving::SCVolume Class Reference

Volume for space carving.

`#include <SCVolume.h>`

Public Types

- enum **Type** { **eType1**, **eType2** }

Public Methods

- **SCVolume** (const **CameraModel** &inCamera, double inZmax, double inVoxelSize, **Matrice** inImageSize="[640;480]", **Type** inType=eType2)
  Build an initial inType volume with known calibration parameters (all in mm).

Private Methods

- void **carveInitialVolume** (double inZmax, **Matrice** inImageSize, **Type** inType)
- void **getInitialVolumeVertices** (double inZmax, **Matrice** &outVo, **Matrice** &outVf) const

Private Attributes

- **CameraModel mCamera**
- double **mVoxelSize**
- **std::vector**<**std::vector**<**std::vector**<bool> > > **mImage**

Detailed Description

Volume for space carving.

Member Enumeration Documentation

enum Cognois::SpaceCarving::SCVolume::Type

Enumeration values:

eType1
eType2

Constructor & Destructor Documentation

Cognois::SpaceCarving::SCVolume::SCVolume (const CameraModel & *inCamera*, double *inZmax*, double *inVoxelSize*, Matrice *inImageSize* = "[640;480]", Type *inType* = eType2)

Build an initial inType volume with known calibration parameters (all in mm).

Parameters:

inCamera is the calibration parameters of the system (all in mm)
inZmax is the maximum Z distance for each camera (mm)
inVoxelSize is the size of the voxels (mm)
inImageSize is the image resolution (pixels)
inType is the type of volume (1 camera intersection or 2 cameras intersection)

Member Function Documentation

void Cognois::SpaceCarving::SCVolume::carveInitialVolume (double *inZmax*, Matrice *inImageSize*, Type *inType*) `[private]`

Parameters:

inZmax is the maximum Z distance for each camera (mm)
inImageSize is the image resolution (pixels)
inType is the type of volume (1 camera intersection or 2 cameras intersection)

void Cognois::SpaceCarving::SCVolume::getInitialVolumeVertices (double *inZmax*, Matrice & *outVo*, Matrice & *outVf*) const `[private]`

Parameters:

inZmax is the maximum Z distance for each camera (mm)
outVo is the origin of the volume
outVf is the opposing vertex in the volume cube

Member Data Documentation

CameraModel Cognois::SpaceCarving::SCVolume::mCamera `[private]`

std::vector< std::vector< std::vector< bool > > > Cognois::SpaceCarving::SCVolume::mImage<std::vector<std::vector<bool> > > `[private]`

double Cognois::SpaceCarving::SCVolume::mVoxelSize `[private]`

The documentation for this class was generated from the following files:

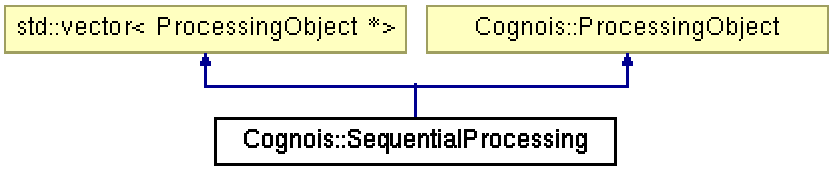
- **SCVolume.h**
- **SCVolume.cpp**

Cognois::SequentialProcessing Class Reference

Perform a sequence of image processing.

`#include <SequentialProcessing.h>`

Inheritance diagram for Cognois::SequentialProcessing:



Public Methods

- void **Process** (MIL_ID &_milImage, unsigned long &_frameID, unsigned long &_timeStamp)
  Process an image with know frameID and timeStamp.

- void **Activate** ()
  *Activate the **ProcessingObject** (p.349) (initialization for a sequence).*

- virtual void **Deactivate** ()
  *Deactivate the **ProcessingObject** (p.349) (end of a sequence).*

Detailed Description

Perform a sequence of image processing.

The user-supplied processing object are applied to an image according to their order in a vector of **ProcessingObject** (*p.349*) pointers.

Member Function Documentation

void Cognois::SequentialProcessing::Activate () `[inline, virtual]`

Activate the **ProcessingObject** (*p.349*) (initialization for a sequence).

Reimplemented from **Cognois::ProcessingObject** (*p.350*).

void Cognois::SequentialProcessing::Deactivate () `[inline, virtual]`

Deactivate the **ProcessingObject** (*p.349*) (end of a sequence).

Reimplemented from **Cognois::ProcessingObject** (*p.350*).

void Cognois::SequentialProcessing::Process (MIL_ID & *_milImage*, unsigned long & *_frameID*, unsigned long & *_timeStamp*) `[inline, virtual]`

Process an image with know frameID and timeStamp.

Parameters:

inMilImage is a MIL image identifier.
inFrameID is the frame identifier associated with the image.
inTimeStamp is the time, in milliseconds, associated with the image.

Reimplemented from **Cognois::ProcessingObject** (*p.350*).

The documentation for this class was generated from the following file:

- **SequentialProcessing.h**

StatisticsR Class Template Reference

`#include <Statistics.h>`

Public Methods

- T **Mean** (const **std::vector**< T > &) const
- T **Median** (const **std::vector**< T > &) const
- T **StandardDeviation** (const **std::vector**< T > &) const
- T **StandardDeviation** (const **std::vector**< T > &, const T &) const
- T **RobustStandardDeviation** (const **std::vector**< T > &) const
- T **RobustStandardDeviation** (const T &) const
- T **MedianDeviation** (const **std::vector**< T > &) const
- T **MedianDeviation** (const **std::vector**< T > &, const T &) const
- T **Max** (const **std::vector**< T > &) const

template<class T> class StatisticsR

Member Function Documentation

template<class T> T StatisticsR< T >::Max (const std::vector< T > & *x*) const `[inline]`

template<class T> T StatisticsR< T >::Mean (const std::vector< T > & *x*) const `[inline]`

template<class T> T StatisticsR< T >::Median (const std::vector< T > & *x*) const `[inline]`

template<class T> T StatisticsR< T >::MedianDeviation (const std::vector< T > & *x*, const T & *median*) const `[inline]`

template<class T> T StatisticsR< T >::MedianDeviation (const std::vector< T > & *x*) const `[inline]`

template<class T> T StatisticsR< T >::RobustStandardDeviation (const T & *median*) const `[inline]`

template<class T> T StatisticsR< T >::RobustStandardDeviation (const std::vector< T > & *x*) const `[inline]`

template<class T> T StatisticsR< T >::StandardDeviation (const std::vector< T > & *x*, const T & *mean*) const `[inline]`

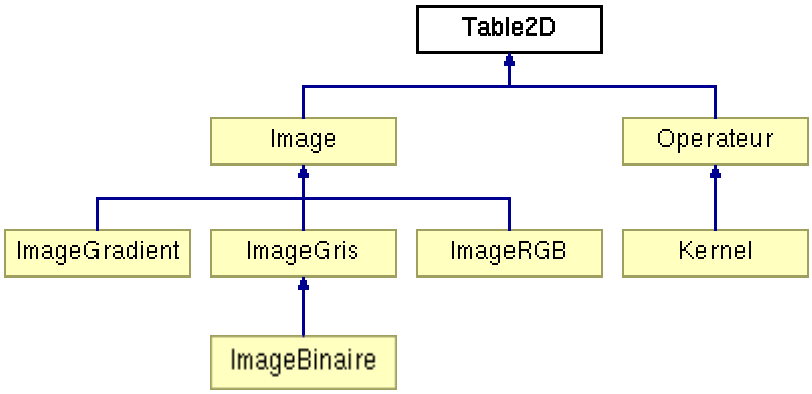
template<class T> T StatisticsR< T >::StandardDeviation (const std::vector< T > & *x*) const `[inline]`

The documentation for this class was generated from the following file:

- **Statistics.h**

Table2D Class Reference

Inheritance diagram for Table2D:

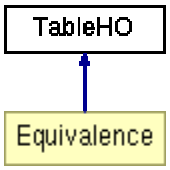


The documentation for this class was generated from the following file:

- **Image.hpp**

TableHO Class Reference

Inheritance diagram for TableHO:



The documentation for this class was generated from the following file:

- **Equivalence.hpp**

TesterContour Class Reference

`#include <TesterContour.hpp>`

Public Methods

- **TesterContour** (const **TstParam** &par, double _tp, double _ts, **ImageGris** *ig=0, **Contour** *ct=0)
- void **EffectuerTest** (double variance=0, double saltpepper=0)
- double **Note** () const
- void **Muet** (int _muet)
- double **NotePoints** () const
- double **NoteSegments** () const

Protected Methods

- void **TesterPoints** (**Liste**< **Point** >,**Liste**< **Point** >)
- void **TesterSegments** (**Contour**, **Contour**)
- void **Rapport** (const **Contour** &,const **Contour** &) const

Protected Attributes

- **TstParam param**
- double **tolpoints**
- double **tolsegments**
- double **pac**
- double **pae**
- double **pat**
- double **pdm**
- double **sac**
- double **sae**
- double **sat**
- double **sdm**
- double **slm**
- **ImageGris*** **imageorg**
- **Contour*** **compedges**
- int **muet**

Constructor & Destructor Documentation

TesterContour::TesterContour (const TstParam & *par*, double *_tp*, double *_ts*, ImageGris * *ig* = 0, Contour * *ct* = 0) `[inline]`

Member Function Documentation

void TesterContour::EffectuerTest (double *variance* = 0, double *saltpepper* = 0)

void TesterContour::Muet (int *_muet*) `[inline]`

double TesterContour::Note () const `[inline]`

double TesterContour::NotePoints () const `[inline]`

double TesterContour::NoteSegments () const `[inline]`

void TesterContour::Rapport (const Contour &, const Contour &) const `[protected]`

void TesterContour::TesterPoints (Liste< Point >, Liste< Point >) `[protected]`

void TesterContour::TesterSegments (Contour, Contour) `[protected]`

Member Data Documentation

Contour * TesterContour::compedges `[protected]`

ImageGris * TesterContour::imageorg `[protected]`

int TesterContour::muet `[protected]`

double TesterContour::pac `[protected]`

double TesterContour::pae `[protected]`

TstParam TesterContour::param `[protected]`

double TesterContour::pat `[protected]`

double TesterContour::pdm `[protected]`

double TesterContour::sac `[protected]`

double TesterContour::sae `[protected]`

double TesterContour::sat `[protected]`

double TesterContour::sdm `[protected]`

double TesterContour::slm `[protected]`

double TesterContour::tolpoints `[protected]`

double TesterContour::tolsegments `[protected]`

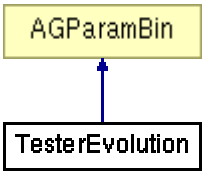
The documentation for this class was generated from the following file:

- **TesterContour.hpp**

TesterEvolution Class Reference

`#include <TesterEvolution.hpp>`

Inheritance diagram for TesterEvolution:



Public Methods

- **TesterEvolution** (**TstParam** &, double pt, double sg, double _v=0, double _s=0, int _tp=10, double _pm=0.01, double _pc=0.1)
- double **Fonction** (const Vecteur &x)

Protected Attributes

- **TstParam par**
- double **variance**
- double **saltpepper**
- double **tolpt**
- double **tolsg**
- **TableHO<TstParamNote> notes**
- **ImageGris image**
- **Contour compedges**

Constructor & Destructor Documentation

TesterEvolution::TesterEvolution (TstParam & *_p*, double *pt*, double *sg*, double *_v* = 0, double *_s* = 0, int *_tp* = 10, double *_pm* = 0.01, double *_pc* = 0.1) `[inline]`

Member Function Documentation

double TesterEvolution::Fonction (const Vecteur & *x*) `[inline]`

Member Data Documentation

Contour TesterEvolution::compedges `[protected]`

ImageGris TesterEvolution::image `[protected]`

TableHO< TstParamNote > TesterEvolution::notes<TstParamNote> `[protected]`

TstParam TesterEvolution::par `[protected]`

double TesterEvolution::saltpepper `[protected]`

double TesterEvolution::tolpt `[protected]`

double TesterEvolution::tolsg `[protected]`

double TesterEvolution::variance `[protected]`

The documentation for this class was generated from the following file:

- **TesterEvolution.hpp**

TstParam Class Reference

```
#include <TesterContour.hpp>
```

Public Attributes

- Chaine **entree_image**
- Chaine **entree_comparaison**
- Chaine **sortie_contours**
- Chaine **sortie_resultats**
- int **f**
- int **g**
- int **v**
- int **b**
- int **i**
- int **t**
- double **m**

Member Data Documentation

int TstParam::b

Chaine TstParam::entree_comparaison

Chaine TstParam::entree_image

int TstParam::f

int TstParam::g

int TstParam::i

double TstParam::m

Chaine TstParam::sortie_contours

Chaine TstParam::sortie_resultats

int TstParam::t

int TstParam::v

The documentation for this class was generated from the following file:

- **TesterContour.hpp**

TstParamNote Class Reference

`#include <TesterEvolution.hpp>`

Public Methods

- int **operator==** (const TstParamNote &tpn) const

Public Attributes

- **TstParam par**
- double **note**

Member Function Documentation

int TstParamNote::operator== (const TstParamNote & *tpn*) const `[inline]`

Member Data Documentation

double TstParamNote::note

TstParam TstParamNote::par

The documentation for this class was generated from the following file:

- **TesterEvolution.hpp**

Vardesc Struct Reference

```
#include <F2C.H>
```

Public Attributes

- char* **name**
- char* **addr**
- **ftnlen*** **dims**
- int **type**

Member Data Documentation

char * Vardesc::addr

ftnlen * Vardesc::dims

char * Vardesc::name

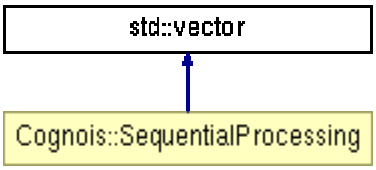
int Vardesc::type

The documentation for this struct was generated from the following file:

- **F2C.H**

std::vector Class Reference

Inheritance diagram for std::vector:



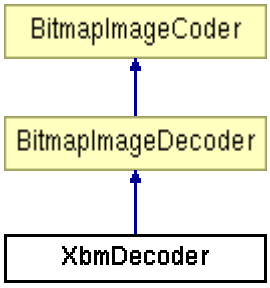
The documentation for this class was generated from the following file:

- **SequentialProcessing.h**

XbmDecoder Class Reference

`#include <xbmdecod.h>`

Inheritance diagram for XbmDecoder:



Public Methods

- **XbmDecoder** ()
- **XbmDecoder** (const XbmDecoder &)
- virtual **~XbmDecoder** ()
- XbmDecoder& **operator=** (const XbmDecoder &)
- void **ReadImage** (istream &, **BitmapImage** &)
- int **GetHotSpotX** () const
- int **GetHotSpotY** () const
- Chaine **GetImageName** () const

Private Methods

- void **Initialize** ()
- void **DoCopy** (const XbmDecoder &)
- int **NextChar** (istream &)
- int **NextToken** (istream &)

Private Attributes

- int **hot_spot_x**
- int **hot_spot_y**
- Chaine **image_name**
- int **last_char**
- unsigned int **lexical_value**

Constructor & Destructor Documentation

XbmDecoder::XbmDecoder ()

XbmDecoder::XbmDecoder (const XbmDecoder & *source*)

XbmDecoder::~XbmDecoder () `[virtual]`

Member Function Documentation

void XbmDecoder::DoCopy (const XbmDecoder & *source*) `[private]`

int XbmDecoder::GetHotSpotX () const

int XbmDecoder::GetHotSpotY () const

Chaine XbmDecoder::GetImageName () const

void XbmDecoder::Initialize () `[private]`

Reimplemented from **BitmapImageCoder** (*p.38*).

int XbmDecoder::NextChar (istream & *strm*) `[private]`

int XbmDecoder::NextToken (istream & *strm*) `[private]`

void XbmDecoder::ReadImage (istream & *strm*, BitmapImage & *image*) `[virtual]`

Reimplemented from **BitmapImageDecoder** (*p.39*).

XbmDecoder & XbmDecoder::operator= (const XbmDecoder & *source*)

Member Data Documentation

int XbmDecoder::hot_spot_x `[private]`

int XbmDecoder::hot_spot_y `[private]`

Chaine XbmDecoder::image_name `[private]`

int XbmDecoder::last_char `[private]`

unsigned int XbmDecoder::lexical_value `[private]`

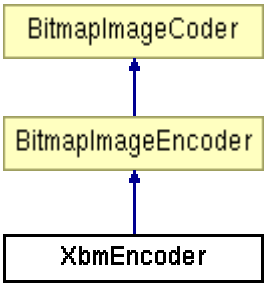
The documentation for this class was generated from the following files:

- **xbmdecod.h**
- **xbmdecod.cpp**

XbmEncoder Class Reference

`#include <xbmencod.h>`

Inheritance diagram for XbmEncoder:



Public Methods

- **XbmEncoder** ()
- **XbmEncoder** (const XbmEncoder &)
- virtual **~XbmEncoder** ()
- XbmEncoder& **operator=** (const XbmEncoder &)
- void **WriteImage** (ostream &, **BitmapImage** &)
- int **GetHotSpotX** () const
- void **SetHotSpotX** (int value)
- int **GetHotSpotY** () const
- void **SetHotSpotY** (int value)
- void **SetImageName** (const Chaine &)
- Chaine **GetImageName** () const

Private Methods

- void **Initialize** ()
- void **DoCopy** (const XbmEncoder &)

Private Attributes

- Chaine **image_name**
- int **hot_spot_x**
- int **hot_spot_y**

Constructor & Destructor Documentation

XbmEncoder::XbmEncoder ()

XbmEncoder::XbmEncoder (const XbmEncoder & *source*)

XbmEncoder::~XbmEncoder () `[virtual]`

Member Function Documentation

void XbmEncoder::DoCopy (const XbmEncoder & *source*) `[private]`

int XbmEncoder::GetHotSpotX () const

int XbmEncoder::GetHotSpotY () const

Chaine XbmEncoder::GetImageName () const

void XbmEncoder::Initialize () `[private]`

Reimplemented from **BitmapImageCoder** (*p.38*).

void XbmEncoder::SetHotSpotX (int *value*)

void XbmEncoder::SetHotSpotY (int *value*)

void XbmEncoder::SetImageName (const Chaine & *value*)

void XbmEncoder::WriteImage (ostream & *strm*, BitmapImage & *timage*) `[virtual]`

Reimplemented from **BitmapImageEncoder** (*p.40*).

XbmEncoder & XbmEncoder::operator= (const XbmEncoder & *source*)

Member Data Documentation

int XbmEncoder::hot_spot_x `[private]`

int XbmEncoder::hot_spot_y `[private]`

Chaine XbmEncoder::image_name `[private]`

The documentation for this class was generated from the following files:

- **xbmencod.h**
- **xbmencod.cpp**

FormatXPM::xpmColor Struct Reference

```
#include <FormatXPM.hpp>
```

Public Attributes

- **UBYTE4 indice**
- **CouleurRGB couleur**

Member Data Documentation

CouleurRGB FormatXPM::xpmColor::couleur

UBYTE4 FormatXPM::xpmColor::indice

The documentation for this struct was generated from the following file:

- **FormatXPM.hpp**

FormatXPM::xpmHeader Struct Reference

```
#include <FormatXPM.hpp>
```

Public Attributes

- **UBYTE4 format**
- **UBYTE4 width**
- **UBYTE4 height**
- **UBYTE4 ncolors**
- **UBYTE4 pixel**

Member Data Documentation

UBYTE4 FormatXPM::xpmHeader::format

UBYTE4 FormatXPM::xpmHeader::height

UBYTE4 FormatXPM::xpmHeader::ncolors

UBYTE4 FormatXPM::xpmHeader::pixel

UBYTE4 FormatXPM::xpmHeader::width

The documentation for this struct was generated from the following file:

- **FormatXPM.hpp**

FormatXWD::xwdColor Struct Reference

```
#include <FormatXWD.hpp>
```

Public Attributes

- **UBYTE4 number**
- **UBYTE2 red**
- **UBYTE2 green**
- **UBYTE2 blue**
- **UBYTE1 flags**
- **UBYTE1 pad**

Member Data Documentation

UBYTE2 FormatXWD::xwdColor::blue

UBYTE1 FormatXWD::xwdColor::flags

UBYTE2 FormatXWD::xwdColor::green

UBYTE4 FormatXWD::xwdColor::number

UBYTE1 FormatXWD::xwdColor::pad

UBYTE2 FormatXWD::xwdColor::red

The documentation for this struct was generated from the following file:

- **FormatXWD.hpp**

FormatXWD::xwdHeader Struct Reference

```
#include <FormatXWD.hpp>
```

Public Attributes

- **UBYTE4 hsize**
- **UBYTE4 version**
- **UBYTE4 format**
- **UBYTE4 depth**
- **UBYTE4 width**
- **UBYTE4 height**
- **UBYTE4 xoffset**
- **UBYTE4 byteorder**
- **UBYTE4 bitmapunit**
- **UBYTE4 bitorder**
- **UBYTE4 bitmappad**
- **UBYTE4 bitsperpixel**
- **UBYTE4 bytesperline**
- **UBYTE4 visualclass**
- **UBYTE4 zredmask**
- **UBYTE4 zgreenmask**
- **UBYTE4 zbluemask**
- **UBYTE4 bitsperrgb**
- **UBYTE4 colorentries**
- **UBYTE4 ncolors**
- **UBYTE4 windowwidth**
- **UBYTE4 windowheight**
- **BYTE4 windowx**
- **BYTE4 windowy**
- **UBYTE4 windowborder**

Member Data Documentation

UBYTE4 FormatXWD::xwdHeader::bitmappad

UBYTE4 FormatXWD::xwdHeader::bitmapunit

UBYTE4 FormatXWD::xwdHeader::bitorder

UBYTE4 FormatXWD::xwdHeader::bitsperpixel

UBYTE4 FormatXWD::xwdHeader::bitsperrgb

UBYTE4 FormatXWD::xwdHeader::byteorder

UBYTE4 FormatXWD::xwdHeader::bytesperline

UBYTE4 FormatXWD::xwdHeader::colorentries

UBYTE4 FormatXWD::xwdHeader::depth

UBYTE4 FormatXWD::xwdHeader::format

UBYTE4 FormatXWD::xwdHeader::height

UBYTE4 FormatXWD::xwdHeader::hsize

UBYTE4 FormatXWD::xwdHeader::ncolors

UBYTE4 FormatXWD::xwdHeader::version

UBYTE4 FormatXWD::xwdHeader::visualclass

UBYTE4 FormatXWD::xwdHeader::width

UBYTE4 FormatXWD::xwdHeader::windowborder

UBYTE4 FormatXWD::xwdHeader::windowheight

UBYTE4 FormatXWD::xwdHeader::windowwidth

BYTE4 FormatXWD::xwdHeader::windowx

BYTE4 FormatXWD::xwdHeader::windowy

UBYTE4 FormatXWD::xwdHeader::xoffset

UBYTE4 FormatXWD::xwdHeader::zbluemask

UBYTE4 FormatXWD::xwdHeader::zgreenmask

UBYTE4 FormatXWD::xwdHeader::zredmask

The documentation for this struct was generated from the following file:

- **FormatXWD.hpp**

Online Processing Library File Documentation

Acquisition.cpp File Reference

```
#include "Acquisition.h"
#include <iostream.h>
```

Defines

- #define **NO_FRAME**
- #define **METEOR_II_CL**

Functions

- long MFTYPE **GrabStartHookHandler** (long HookType, MIL_ID EventId, void MPTYPE *UserDataPtr)
  *DÉFINITION DES PROCÉDURES ////////////

Function Documentation

long MFTYPE FieldEndHookHandler (long *HookType*, MIL_ID *EventId*, void MPTYPE * *UserDataPtr*) `[static]`

long MFTYPE FieldEvenEndHookHandler (long *HookType*, MIL_ID *EventId*, void MPTYPE * *UserDataPtr*) `[static]`

long MFTYPE FieldOddEndHookHandler (long *HookType*, MIL_ID *EventId*, void MPTYPE * *UserDataPtr*) `[static]`

long MFTYPE FrameEndHookHandler (long *HookType*, MIL_ID *EventId*, void MPTYPE * *UserDataPtr*) `[static]`

long MFTYPE FrameStartHookHandler (long *HookType*, MIL_ID *EventId*, void MPTYPE * *UserDataPtr*) `[static]`

long MFTYPE GrabEndHookHandler (long *HookType*, MIL_ID *EventId*, void MPTYPE * *UserDataPtr*) `[static]`

long MFTYPE GrabStartHookHandler (long *HookType*, MIL_ID *EventId*, void MPTYPE * *UserDataPtr*) `[static]`

DÉFINITION DES PROCÉDURES ////////////

Acquisition.h File Reference

```
#include <mil.h>
#include <vector>
#include "AcquisitionImageListe.h"
```

Compounds

- class **Acquisition**

AcquisitionBalle.cpp File Reference

```
#include "AcquisitionBalle.h"
#include "Cognois.h"
```

AcquisitionBalle.h File Reference

```
#include "FrameSetClient.h"
#include "OnlineProcessing.h"
#include "ProcessingObject.h"
#include "cv.h"
#include "ipl.h"
#include "HighGUI.h"
#include "winbase.h"
#include "BackgroundSub.h"
#include "BlobExtractor.h"
#include "ColorAnalysis.h"
#include "FindBall.h"
#include "Filename.h"
#include "OpticalFlow.h"
#include "EdgeDetector.h"
#include "VariousFunctions.h"
#include "stdlib.h"
#include "string.h"
```

Namespaces

- namespace **Cognois**

Defines

- #define **COLOR_ANALYSIS**
- #define **SERVER_ON**

Define Documentation

#define COLOR_ANALYSIS

Value:

#define SERVER_ON

AcquisitionCible.cpp File Reference

```
#include "CalibrationClient.h"
#include "AcquisitionCible.h"
```

AcquisitionCible.h File Reference

```
#include "CalibrationClient.h"
#include "ProcessingObject.h"
#include <iostream>
#include "ExtractionDeCible.h"
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::AcquisitionCible**
  Find a calibration pattern in an image.

AcquisitionImage.cpp File Reference

```
#include "AcquisitionImage.h"
```

AcquisitionImage.h File Reference

```
#include <mil.h>
#include <wtypes.h>
```

Compounds

- class **AcquisitionImage**

AcquisitionImageListe.cpp File Reference

```
#include "AcquisitionImageListe.h"
```

AcquisitionImageListe.h File Reference

```
#include "AcquisitionImage.h"
```

Compounds

- class **AcquisitionImageListe**

AcquisitionSurDisque.cpp File Reference

```
#include "AcquisitionSurDisque.h"
#include "Cognois.h"
```

AcquisitionSurDisque.h File Reference

```
#include "ProcessingObject.h"
#include <iostream>
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::AcquisitionSurDisque**
  Export grabbed images to files.

AcquisitionSurEcran.cpp File Reference

```
#include "AcquisitionSurEcran.h"
```

AcquisitionSurEcran.h File Reference

```
#include "ProcessingObject.h"
#include "MilSys.h"
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::AcquisitionSurEcran**
  Display of grabbed images.

bitimage.cpp File Reference

```
#include "bitimage.h"
#include "grexcept.h"
```

Functions

- int **SQUARE** (int xx)
- unsigned int **RoundRow** (unsigned int width)

Function Documentation

unsigned int RoundRow (unsigned int *width*) `[inline, static]`

int SQUARE (int *xx*) `[inline, static]`

bitimage.h File Reference

```
#include <iostream>
#include <string>
#include "datatype.h"
```

Compounds

- class **BitmapImage**
- class **BitmapImageCoder**
- class **BitmapImageDecoder**
- class **BitmapImageEncoder**
- struct **BitmapImage::ColorArea**
- struct **BitmapImage::ColorMapEntry**
- struct **BitmapImage::ColorUsage**
- struct **BitmapImage::ColorUsageTable**

Typedefs

- typedef void (* **PROGRESSFUNCTION**)(**BitmapImageCoder** &coder, void *data, unsigned int currentpass, unsigned int passcount, unsigned int progress, bool &cancel)
- typedef void (* **IMAGEPROGRESSFUNCTION**)(**BitmapImage** &image, void *data, unsigned int currentpass, unsigned int passcount, unsigned int progress, bool &cancel)

Typedef Documentation

typedef void(* IMAGEPROGRESSFUNCTION)(BitmapImage &image, void *data, unsigned int currentpass, unsigned int passcount, unsigned int progress, bool &cancel)

typedef void(* PROGRESSFUNCTION)(BitmapImageCoder &coder, void *data, unsigned int currentpass, unsigned int passcount, unsigned int progress, bool &cancel)

BlobColoring.cpp File Reference

```
#include "BlobColoring.h"
```

Defines

- #define **NULL** 0
- #define **ERROR_INVALID_PARAMETER** 897234
- #define **ERROR_SUCCESS** 0
- #define **ERROR_NO_DATA** 234
- #define **ERROR_NOT_ENOUGH_MEMORY** 42

Define Documentation

#define ERROR_INVALID_PARAMETER 897234

#define ERROR_NOT_ENOUGH_MEMORY 42

#define ERROR_NO_DATA 234

#define ERROR_SUCCESS 0

#define NULL 0

BlobColoring.h File Reference

Compounds

- class **BlobColoring**
- struct **BlobInfo**

Defines

- #define **AFX_BLOBCOLORING_H__5E107B28_D49C_4885_A5D0_6FF9F4C086B4__INCLUDED_**

Define Documentation

#define AFX_BLOBCOLORING_H__5E107B28_D49C_4885_A5D0_6FF9F4C086B4__INCLUDED_

Value:

Calibration.cpp File Reference

```
#include "Calibration.h"
#include <fstream>
#include <stdlib.h>
#include <iostream>
#include <math.h>
#include "Erreur.hpp"
#include "Matrice.h"
#include <vector>
#include <algorithm>
```

Namespaces

- namespace **std**

Defines

- #define **MATLAB_HOME** "V:\\Donnees\\cognois\\echange\\"
- #define **MATLAB_COMMAND** "C:\\programs\\matlab6\\bin\\win32\\matlab"
- #define **ZHANG_HOME** "V:\\Usagers\\sdrouin\\Cognois\\Calibrage\\EasyCalib\\"
- #define **ZHANG_COMMAND** "EasyCalib"

Define Documentation

#define MATLAB_COMMAND "C:\\programs\\matlab6\\bin\\win32\\matlab"

#define MATLAB_HOME "V:\\Donnees\\cognois\\echange\\"

#define ZHANG_COMMAND "EasyCalib"

#define ZHANG_HOME "V:\\Usagers\\sdrouin\\Cognois\\Calibrage\\EasyCalib\\"

Calibration.h File Reference

```
#include "EspaceCalibrage.h"
#include "Cognois.h"
#include "Matrice.h"
#include "CameraModel.h"
```

Namespaces

- namespace **Cognois**

CalibrationClient.cpp File Reference

```
#include "CalibrationClient.h"
#include "SimpleXmlParser.h"
```

CalibrationClient.h File Reference

```
#include "FrameSetClient.h"
#include "CameraModel.h"
#include "EspaceCalibrage.h"
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::CalibrationClient**
  Read and write calibration data on the server.

CameraClientController.cpp File Reference

```
#include "CameraClientController.h"
#include "Cognois.h"
#include <iostream>
```

CameraClientController.h File Reference

```
#include "FrameSetClient.h"
#include "OnlineProcessing.h"
#include <vector>
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::CameraClientController**
  Get the current mode from the server and use the appropriate processing object.

Defines

- #define **COGNOIS_CONTROL_NOOP** "NOOP"
- #define **COGNOIS_CONTROL_TERMINATE** "TERMINATE"

Define Documentation

#define COGNOIS_CONTROL_NOOP "NOOP"

#define COGNOIS_CONTROL_TERMINATE "TERMINATE"

CameraModel.cpp File Reference

```
#include "CameraModel.h"
#include "Calibration.h"
#include <fstream>
```

CameraModel.h File Reference

```
#include "Matrice.h"
#include "Cognois.h"
#include "EspaceCalibrage.h"
#include <iostream.h>
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::CameraModel**
  Calibration *(p.46) parameters of n cameras in a stereo environment.*

Defines

- #define **PC_ZHANG_0** 0x1000
  Multiple cameras, Zhang.

- #define **PC_HEIKKILA_0** 0x2000
  Multiple cameras, Heikkila.

- #define **PC_ZHANG_SINGLE_0** 0x3000
  Single camera with multiple pattern positions.

- #define **PC_HEIKKILA_SINGLE_0** 0x4000
  Single camera with multiple pattern positions.

- #define **PC_FILE_HEAD** 0x1234
  Header identifier of a calibration parameters file.

Define Documentation

#define PC_FILE_HEAD 0x1234

Header identifier of a calibration parameters file.

#define PC_HEIKKILA_0 0x2000

Multiple cameras, Heikkila.

#define PC_HEIKKILA_SINGLE_0 0x4000

Single camera with multiple pattern positions.

#define PC_ZHANG_0 0x1000

Multiple cameras, Zhang.

#define PC_ZHANG_SINGLE_0 0x3000

Single camera with multiple pattern positions.

ChaineUtile.hpp File Reference

`#include "Chaine.hpp"`

Functions

- int **ChaineToInt** (Chaine c)

Function Documentation

int ChaineToInt (Chaine *c*) `[inline]`

Cognois.h File Reference

```
#include "Exception.h"
```

Namespaces

- namespace **Cognois**

ColourSpaceConverter.cpp File Reference

```
#include "ColourSpaceConverter.h"
#include <math.h>
```

Defines

- #define **PI** 3.141592653589793
- #define **NUM_PRECISION_DOUBLE** 2.22e-16
- #define **ERROR_INVALID_PARAMETER** 897234
- #define **ERROR_SUCCESS** 0

Define Documentation

#define ERROR_INVALID_PARAMETER 897234

#define ERROR_SUCCESS 0

#define NUM_PRECISION_DOUBLE 2.22e-16

#define PI 3.141592653589793

ColourSpaceConverter.h File Reference

Compounds

- class **ColourSpaceConverter**

Defines

- #define **AFX_OLOURSPACECONVERTER_H__7CF04B29_751C_11D4_B2D2_00D0B7067F40__INCLUDED_**

Define Documentation

#define AFX_OLOURSPACECONVERTER_H__7CF04B29_751C_11D4_B2D2_00D0B7067F40__INCLUDED_

Value:

Contour.cpp File Reference

```
#include "Contour.hpp"
#include "Erreur.hpp"
#include "ListeTri.hpp"
#include "Table1D.hpp"
#include "ImageBinaire.hpp"
#include <math.h>
```

Defines

- #define **M_PI** 3.14159265359

Functions

- ostream& **operator**<< (ostream &out, const **ContourSegment** &sc)
- istream& **operator**>> (istream &in, **ContourSegment** &sc)
- ostream& **operator**<< (ostream &out, const **Contour** &c)
- istream& **operator**>> (istream &in, **Contour** &c)

Define Documentation

#define M_PI 3.14159265359

Function Documentation

ostream & operator<< (ostream & *out*, const Contour & *c*)

ostream & operator<< (ostream & *out*, const ContourSegment & *sc*)

istream & operator>> (istream & *in*, Contour & *c*)

istream & operator>> (istream & *in*, ContourSegment & *sc*)

Contour.hpp File Reference

```
#include "Point.hpp"
#include "Liste.hpp"
#include <iostream>
```

Compounds

- class **Contour**
- class **ContourSegment**
- struct **Contour::HoraudAngle**
- class **Contour::HoraudRelation**

CounterOCR.cpp File Reference

```
#include "FrameSetClient.h"
#include "CounterOCR.h"
#include "milocr.h"
#include <iostream>
#include <string>
#include <conio.h>
```

CounterOCR.h File Reference

```
#include "ProcessingObject.h"
#include "MilSys.h"
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::CounterOCR**
  Optical character recognition of the 5 digits of the HP 5214L Preset Counter.

datatype.h File Reference

```
#include "Systeme.hpp"
```

Defines

- #define **DUMMY_RETURN**
- #define **true** 1
- #define **false** 0
- #define **NULL** 0

Typedefs

- typedef char **BYTE1**
- typedef unsigned char **UBYTE1**
- typedef short **BYTE2**
- typedef unsigned short **UBYTE2**
- typedef long **BYTE4**
- typedef unsigned long **UBYTE4**

Functions

- **UBYTE2 SystemToLittleEndian** (**UBYTE2** value)
- **UBYTE4 SystemToLittleEndian** (**UBYTE4** value)
- **UBYTE2 SystemToBigEndian** (**UBYTE2** value)
- **UBYTE4 SystemToBigEndian** (**UBYTE4** value)
- **UBYTE2 LittleEndianToSystem** (**UBYTE2** value)
- **UBYTE4 LittleEndianToSystem** (**UBYTE4** value)
- **UBYTE2 BigEndianToSystem** (**UBYTE2** value)
- **UBYTE4 BigEndianToSystem** (**UBYTE4** value)

Define Documentation

#define DUMMY_RETURN

Value:

#define NULL 0

#define false 0

#define true 1

Typedef Documentation

typedef char BYTE1

typedef short BYTE2

typedef long BYTE4

typedef unsigned char UBYTE1

typedef unsigned short UBYTE2

typedef unsigned long UBYTE4

Function Documentation

UBYTE4 BigEndianToSystem (UBYTE4 *value*) `[inline]`

UBYTE2 BigEndianToSystem (UBYTE2 *value*) `[inline]`

UBYTE4 LittleEndianToSystem (UBYTE4 *value*) `[inline]`

UBYTE2 LittleEndianToSystem (UBYTE2 *value*) `[inline]`

UBYTE4 SystemToBigEndian (UBYTE4 *value*) `[inline]`

UBYTE2 SystemToBigEndian (UBYTE2 *value*) `[inline]`

UBYTE4 SystemToLittleEndian (UBYTE4 *value*) `[inline]`

UBYTE2 SystemToLittleEndian (UBYTE2 *value*) `[inline]`

DPMPAR.cpp File Reference

```
#include "f2c.h"
```

Defines

- #define **dmach** ((**doublereal** *)&equiv_2)
- #define **minmag** ((**integer** *)&equiv_2 + 2)
- #define **maxmag** ((**integer** *)&equiv_2 + 4)
- #define **mcheps** ((**integer** *)&equiv_2)

Functions

- **doublereal dpmpar_** (**integer** *i)

Define Documentation

#define dmach ((doublereal *)&equiv_2)

#define maxmag ((integer *)&equiv_2 + 4)

#define mcheps ((integer *)&equiv_2)

#define minmag ((integer *)&equiv_2 + 2)

Function Documentation

doublereal dpmpar_ (integer * *i*)

ENORM.cpp File Reference

```
#include <math.h>
#include "f2c.h"
```

Functions

- **doublereal enorm_** (**integer** *n, **doublereal** *x)

Function Documentation

doublereal enorm_ (integer * *n*, doublereal * *x*)

Equivalence.hpp File Reference

```
#include "TableHO.hpp"
#include "datatype.h"
```

Compounds

- class **Equivalence**
- class **IndiceAlias**

Functions

- template<class T> ostream& **operator<<** (ostream &out, const **IndiceAlias**< T > &ia)
- istream& **operator>>** (istream &in, **IndiceAlias**< T > &ia)

Function Documentation

template<class T> ostream & operator<< (ostream & *out*, const IndiceAlias< T > & *ia*)

istream & operator>> (istream & *in*, IndiceAlias< T > & *ia*)

EspaceCalibrage.cpp File Reference

```
#include "EspaceCalibrage.h"
#include <iostream.h>
```

EspaceCalibrage.h File Reference

```
#include "Matrice.h"
#include <math.h>
#include <float.h>
#include <vector>
#include <iostream>
#include "Cognois.h"
```

Namespaces

- namespace **EspaceCalibrage**

Defines

- #define **CARRE**(x) (x)*(x)
- #define **DIST3D**(p1, p2) sqrt(CARRE(p1.x-p2.x)+CARRE(p1.y-p2.y)+CARRE(p1.z-p2.z))
- #define **DIST2D**(p1, p2) sqrt(CARRE(p1.x-p2.x)+CARRE(p1.y-p2.y))
- #define **MAX**(a, b) ((a) > (b) ? (a) : (b))
- #define **MIN**(a, b) ((a) < (b) ? (a) : (b))
- #define **SWAP**(a, b, c) c=a, a=b, b=c;
- #define **PI** 3.14159265359
- #define **POINT_OUT_OF_IMAGE** -1000
- #define **EPSILON** 4*FLT_EPSILON

Define Documentation

#define CARRE(x) (x)*(x)

#define DIST2D(p1, p2) sqrt(CARRE(p1.x-p2.x)+CARRE(p1.y-p2.y))

#define DIST3D(p1, p2) sqrt(CARRE(p1.x-p2.x)+CARRE(p1.y-p2.y)+CARRE(p1.z-p2.z))

#define EPSILON 4*FLT_EPSILON

#define MAX(a, b) ((a) > (b) ? (a) : (b))

#define MIN(a, b) ((a) < (b) ? (a) : (b))

#define PI 3.14159265359

#define POINT_OUT_OF_IMAGE -1000

#define SWAP(a, b, c) c=a, a=b, b=c;

EvaluationDeQualite.cpp File Reference

```
#include "EvaluationDeQualite.h"
#include "Calibration.h"
#include <vector>
```

EvaluationDeQualite.h File Reference

```
#include "CameraModel.h"
#include "EspaceCalibrage.h"
```

Namespaces

- namespace **Cognois**

Exception.h File Reference

```
#include <exception>
#include <iostream>
#include <string>
#include <strstream>
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::Exception**
  Exception *(p.121) class for COGNOIS.*

Defines

- #define **CognoisException**(inMessage) **Cognois::Exception**(inMessage,__FILE__,__LINE__)
  Macro to automatically include the file name and the line number to the error.

- #define **ITOA**(i, s, not_used) std::strstream ss; ss << i; ss >> s;

Define Documentation

#define CognoisException(inMessage) Cognois::Exception(inMessage,__FILE__,__LINE__)

Macro to automatically include the file name and the line number to the error.

#define ITOA(i, s, not_used) std::strstream ss; ss << i; ss >> s;

ExtractionDeCible.cpp File Reference

```
#include <algorithm>
#include <math.h>
#include "Picture.h"
#include "BlobColoring.h"
#include "Matrice.h"
#include "ExtractionDeCible.h"
#include "Statistics.h"
#include "Cognois.h"
#include "MilGarbageCollector.h"
```

Compounds

- struct **DirectMilAccess**
- struct **PointColore**

Defines

- #define **SEUIL_2_ITERATIONS**
- #define **UTILISE_HOMOGRAPHIE**
- #define **TOLERANCE_MIN** 2
- #define **TOLERANCE_MAX** 5
- #define **TOLERANCE_INC** 0.5
- #define **SEUIL_2_TOLERANCE** 1.2
- #define **DISPLAY_TOLERANCE** 0.6
- #define **MIN_DETECTE** 20
- #define **MIN_BLOB_DIST_TO_BORDER** 2
- #define **MIN_BLOB_SIZE** 5
- #define **NB_POINTS_REFERENCE** 4
- #define **DELTA_VIRTUEL** 3
- #define **MAX_RECONSTRUCTION_ERR** 0.45
- #define **HUE_GREEN_TO_BLUE** PI
- #define **HUE_BLUE_TO_RED** 5*PI/3
- #define **HUE_RED_TO_GREEN** PI/3
- #define **CROSS_SIZE** 10
- #define **INIT_BENCH**(start, finish, freq)
- #define **PERFORM_BENCH**(start, finish, freq, message)

Functions

- int **operator<** (const **PointColore** &p1, const **PointColore** &p2)

Variables

- **StatisticsR**<DataType> **stats**

Define Documentation

#define CROSS_SIZE 10

#define DELTA_VIRTUEL 3

#define DISPLAY_TOLERANCE 0.6

#define HUE_BLUE_TO_RED 5*PI/3

#define HUE_GREEN_TO_BLUE PI

#define HUE_RED_TO_GREEN PI/3

#define INIT_BENCH(start, finish, freq)

Value:

#define MAX_RECONSTRUCTION_ERR 0.45

#define MIN_BLOB_DIST_TO_BORDER 2

#define MIN_BLOB_SIZE 5

#define MIN_DETECTE 20

#define NB_POINTS_REFERENCE 4

#define PERFORM_BENCH(start, finish, freq, message)

Value:

#define SEUIL_2_ITERATIONS

#define SEUIL_2_TOLERANCE 1.2

#define TOLERANCE_INC 0.5

#define TOLERANCE_MAX 5

#define TOLERANCE_MIN 2

#define UTILISE_HOMOGRAPHIE

Function Documentation

int operator< (const PointColore & *p1*, const PointColore & *p2*) `[inline]`

Variable Documentation

StatisticsR< DataType > stats<DataType>

ExtractionDeCible.h File Reference

```
#include <mil.h>
#include "EspaceCalibrage.h"
#include "Cognois.h"
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::ExtractionDeCible**
  Extraction des des points d'une cible de calibrage dans une image. La cible est formee // de cercles et son modele est connu.

F2C.H File Reference

Compounds

- struct **alist**
- struct **cilist**
- struct **cllist**
- struct **complex**
- struct **doublecomplex**
- struct **icilist**
- struct **inlist**
- union **Multitype**
- struct **Namelist**
- struct **olist**
- struct **Vardesc**

Defines

- #define **TRUE_** (1)
- #define **FALSE_** (0)
- #define **Extern** extern
- #define **VOID** void
- #define **abs**(x) ((x) >= 0 ? (x) : -(x))
- #define **dabs**(x) (**doublereal**)abs(x)
- #define **min**(a, b) ((a) <= (b) ? (a) : (b))
- #define **max**(a, b) ((a) >= (b) ? (a) : (b))
- #define **dmin**(a, b) (**doublereal**)min(a,b)
- #define **dmax**(a, b) (**doublereal**)max(a,b)
- #define **F2C_proc_par_types** 1
- #define **C_f** VOID
- #define **H_f** VOID
- #define **Z_f** VOID

Typedefs

- typedef long int **integer**
- typedef char* **address**
- typedef short int **shortint**
- typedef float **real**
- typedef double **doublereal**
- typedef long int **logical**
- typedef short int **shortlogical**
- typedef long **flag**
- typedef long **ftnlen**
- typedef long **ftnint**
- typedef union Multitype **Multitype**
- typedef long **Long**
- typedef struct Vardesc **Vardesc**
- typedef struct Namelist **Namelist**
- typedef int (* **U_fp**)()
- typedef **shortint** (* **J_fp**)()

- typedef **integer** (* **I_fp**)()
- typedef **real** (* **R_fp**)()
- typedef **doublereal** (* **D_fp**)(),(*E_fp)()
- typedef VOID (* **C_fp**)()
- typedef VOID (* **Z_fp**)()
- typedef **logical** (* **L_fp**)()
- typedef **shortlogical** (* **K_fp**)()
- typedef VOID (* **H_fp**)()
- typedef int (* **S_fp**)()
- typedef **doublereal E_f**

Functions

- int **lmdif_** (int(*fcn)(long *, long *, double *, double *, long *), long *m, long *n, double *x, double *fvec, double *ftol, double *xtol, double *gtol, long *maxfev, double *epsfcn, double *diag, long *mode, double *factor, long *nprint, long *info, long *nfev, double *fjac, long *ldfjac, long *ipvt, double *qtf, double *wa1, double *wa2, double *wa3, double *wa4)
- double **dpmpar_** (long *i)
- double **enorm_** (long *n, double *x)
- int **fdjac2_** (int(*fcn)(long *, long *, double *, double *, long *), long *m, long *n, double *x, double *fvec, double *fjac, long *ldfjac, long *iflag, double *epsfcn, double *wa)
- int **lmpar_** (long *n, double *r, long *ldr, long *ipvt, double *diag, double *qtb, double *delta, double *par, double *x, double *sdiag, double *wa1, double *wa2)
- int **qrfac_** (long *m, long *n, double *a, long *lda, long *pivot, long *ipvt, long *lipvt, double *rdiag, double *acnorm, double *wa)
- int **qrsolv_** (long *n, double *r, long *ldr, long *ipvt, double *diag, double *qtb, double *x, double *sdiag, double *wa)

Define Documentation

```
#define C_f  VOID

#define Extern  extern

#define F2C_proc_par_types  1

#define FALSE_  (0)

#define H_f  VOID

#define TRUE_  (1)

#define VOID  void

#define Z_f  VOID

#define abs(x)  ((x) >= 0 ? (x) : -(x))

#define dabs(x)  (doublereal)abs(x)

#define dmax(a, b)  (doublereal)max(a,b)

#define dmin(a, b)  (doublereal)min(a,b)

#define max(a, b)  ((a) >= (b) ? (a) : (b))

#define min(a, b)  ((a) <= (b) ? (a) : (b))
```

Typedef Documentation

typedef VOID(* C_fp)()

typedef doublereal(* D_fp)(),(*E_fp)()

typedef doublereal E_f

typedef VOID(* H_fp)()

typedef integer(* I_fp)()

typedef shortint(* J_fp)()

typedef shortlogical(* K_fp)()

typedef logical(* L_fp)()

typedef long Long

typedef union Multitype Multitype

typedef struct Namelist Namelist

typedef real(* R_fp)()

typedef int(* S_fp)()

typedef int(* U_fp)()

typedef struct Vardesc Vardesc

typedef VOID(* Z_fp)()

typedef char * address

typedef double doublereal

typedef long flag

typedef long ftnint

typedef long ftnlen

typedef long int integer

typedef long int logical

typedef float real

typedef short int shortint

typedef short int shortlogical

Function Documentation

double dpmpar_ (long * *i*)

double enorm_ (long * *n*, double * *x*)

int fdjac2_ (int(* *fcn*)(long *, long *, double *, double *, long *), long * *m*, long * *n*, double * *x*, double * *fvec*, double * *fjac*, long * *ldfjac*, long * *iflag*, double * *epsfcn*, double * *wa*)

int lmdif_ (int(* *fcn*)(long *, long *, double *, double *, long *), long * *m*, long * *n*, double * *x*, double * *fvec*, double * *ftol*, double * *xtol*, double * *gtol*, long * *maxfev*, double * *epsfcn*, double * *diag*, long * *mode*, double * *factor*, long * *nprint*, long * *info*, long * *nfev*, double * *fjac*, long * *ldfjac*, long * *ipvt*, double * *qtf*, double * *wa1*, double * *wa2*, double * *wa3*, double * *wa4*)

int lmpar_ (long * *n*, double * *r*, long * *ldr*, long * *ipvt*, double * *diag*, double * *qtb*, double * *delta*, double * *par*, double * *x*, double * *sdiag*, double * *wa1*, double * *wa2*)

int qrfac_ (long * *m*, long * *n*, double * *a*, long * *lda*, long * *pivot*, long * *ipvt*, long * *lipvt*, double * *rdiag*, double * *acnorm*, double * *wa*)

int qrsolv_ (long * *n*, double * *r*, long * *ldr*, long * *ipvt*, double * *diag*, double * *qtb*, double * *x*, double * *sdiag*, double * *wa*)

FDJAC2.cpp File Reference

```
#include <math.h>
#include "f2c.h"
```

Functions

- int **fdjac2_** (int(*fcn)(**integer** *, **integer** *, **doublereal** *, **doublereal** *, **integer** *), **integer** *m, **integer** *n, **doublereal** *x, **doublereal** *fvec, **doublereal** *fjac, **integer** *ldfjac, **integer** *iflag, **doublereal** *epsfcn, **doublereal** *wa)

Variables

- **integer c__1** = 1

Function Documentation

int fdjac2_ (int(* *fcn*)(integer *, integer *, doublereal *, doublereal *, integer *), integer * *m*, integer * *n*, doublereal * *x*, doublereal * *fvec*, doublereal * *fjac*, integer * *ldfjac*, integer * *iflag*, doublereal * *epsfcn*, doublereal * *wa*)

Variable Documentation

integer c__1 = 1 `[static]`

FormatBMP.cpp File Reference

```
#include "FormatBMP.hpp"
#include "ImageGris.hpp"
```

FormatBMP.hpp File Reference

```
#include "FormatImage.hpp"
```

Compounds

- struct **FormatBMP::bmpHeader**
- class **FormatBMP**

FormatContour.cpp File Reference

```
#include "FormatContour.hpp"
```

FormatContour.hpp File Reference

```
#include "FormatPortable.hpp"
#include "Contour.hpp"
```

Compounds

- class **FormatContour**

Defines

- #define **CTR_V1** "SD_CONTOUR_V1_072199"

Define Documentation

#define CTR_V1 "SD_CONTOUR_V1_072199"

FormatImage.hpp File Reference

```
#include "datatype.h"
#include <iostream>
#include "ImageStreamException.hpp"
#include "ImageRGB.hpp"
#include "ImageGris.hpp"
```

Compounds

- class **FormatImage**

FormatPBM.cpp File Reference

```
#include "FormatPBM.hpp"
```

FormatPBM.hpp File Reference

```
#include "FormatPortable.hpp"
```

Compounds

- class **FormatPBM**
- struct **FormatPBM::pbmHeader**

FormatPCX.cpp File Reference

```
#include "FormatPCX.hpp"
```

FormatPCX.hpp File Reference

```
#include "FormatImage.hpp"
```

Compounds

- class **FormatPCX**
- struct **FormatPCX::pcxHeader**

FormatPGM.cpp File Reference

```
#include "FormatPGM.hpp"
```

FormatPGM.hpp File Reference

```
#include "FormatPortable.hpp"
```

Compounds

- class **FormatPGM**
- struct **FormatPGM::pgmHeader**

FormatPortable.hpp File Reference

```
#include "FormatImage.hpp"
#include "ImageGris.hpp"
#include "Chaine.hpp"
```

Compounds

- class **FormatPortable**

Defines

- #define **COMMENT** '#'
- #define **NEWLINE** 10
- #define **BLANK** ' '
- #define **TAB** 15
- #define **CR** 13
- #define **PBM_ASCII** "P1"
- #define **PGM_ASCII** "P2"
- #define **PPM_ASCII** "P3"
- #define **PBM_RAW** "P4"
- #define **PGM_RAW** "P5"
- #define **PPM_RAW** "P6"

Define Documentation

```
#define BLANK  ' '

#define COMMENT  '#'

#define CR  13

#define NEWLINE  10

#define PBM_ASCII  "P1"

#define PBM_RAW  "P4"

#define PGM_ASCII  "P2"

#define PGM_RAW  "P5"

#define PPM_ASCII  "P3"

#define PPM_RAW  "P6"

#define TAB  15
```

FormatPPM.cpp File Reference

```
#include "FormatPPM.hpp"
```

FormatPPM.hpp File Reference

```
#include "FormatPortable.hpp"
```

Compounds

- class **FormatPPM**
- struct **FormatPPM::ppmHeader**

FormatSunRaster.cpp File Reference

```
#include "FormatSunRaster.hpp"
```

FormatSunRaster.hpp File Reference

```
#include "FormatImage.hpp"
#include "ImageGris.hpp"
```

Compounds

- class **FormatSunRaster**
- struct **FormatSunRaster::rasHeader**

Defines

- #define **RMAGIC** 0x59a66a95
- #define **ROLD** 0
- #define **RSTANDARD** 1
- #define **RRLENCODED** 2
- #define **RRGB** 3
- #define **RTIFF** 4
- #define **RIFF** 5
- #define **RNOMAP** 0
- #define **RRGBMAP** 1
- #define **RRAWMAP** 2
- #define **RESC** 128

Define Documentation

#define RESC 128

#define RIFF 5

#define RMAGIC 0x59a66a95

#define RNOMAP 0

#define ROLD 0

#define RRAWMAP 2

#define RRGB 3

#define RRGBMAP 1

#define RRLENCODED 2

#define RSTANDARD 1

#define RTIFF 4

FormatXPM.cpp File Reference

```
#include "FormatXPM.hpp"
#include "Table1D.hpp"
#include "ChaineUtile.hpp"
#include "Equivalence.hpp"
#include <ctype.h>
```

FormatXPM.hpp File Reference

`#include "FormatImage.hpp"`

Compounds

- class **FormatXPM**
- struct **FormatXPM::xpmColor**
- struct **FormatXPM::xpmHeader**

Defines

- #define **NoData** 0xFFFF

Define Documentation

const NoData 0xFFFF

FormatXWD.cpp File Reference

```
#include "FormatXWD.hpp"
```

FormatXWD.hpp File Reference

`#include "FormatImage.hpp"`

Compounds

- class **FormatXWD**
- struct **FormatXWD::xwdColor**
- struct **FormatXWD::xwdHeader**

Defines

- #define **X11WD_FILE_VERSION** 7

Define Documentation

#define X11WD_FILE_VERSION 7

FrameCounter.cpp File Reference

```
#include "FrameCounter.h"
```

FrameCounter.h File Reference

```
#include <wtypes.h>
#include <strstrea.h>
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::FrameCounter**
  Count grabbed frames according to their time stamp.

FrameSetClient.cpp File Reference

```
#include "FrameSetClient.h"
#include "Cognois.h"
#include <wtypes.h>
```

Defines

- #define **DEFAULT_MIN_POOLING_PERIOD** 2

Define Documentation

#define DEFAULT_MIN_POOLING_PERIOD 2

FrameSetClient.h File Reference

```
#include "GenericCognoisClient.h"
#include "SimpleXmlParser.h"
#include <wtypes.h>
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::FrameSetClient**
  Read and write blob information on the COGNOIS server.

gif.h File Reference

```
#include "datatype.h"
```

Compounds

- struct **GifApplicationBlock**
- struct **GifColorTableEntry**
- struct **GifGraphicControlBlock**
- struct **GifHeader**
- struct **GifImageDescriptor**
- struct **GifScreenDescriptor**

Enumerations

- enum **GifBlockType** { **GifTerminator** = 0x00, **GifImageSeparator** = 0x2C, **GifExtension** = 0x21, **GifCommentExtension** = 0xFE, **GifPlainTextExtension** = 0x01, **GifApplicationExtension** = 0xFF, **GifGraphicControlExtension** = 0xF9, **GifTrailer** = 0x3B }

Variables

- const int **GifBitsUsed** = 12
- const unsigned int **GifInputBufferSize** = 255
- const int **GifMaxColors** = 256

Enumeration Type Documentation

enum GifBlockType

Enumeration values:

GifTerminator
GifImageSeparator
GifExtension
GifCommentExtension
GifPlainTextExtension
GifApplicationExtension
GifGraphicControlExtension
GifTrailer

Variable Documentation

const int GifBitsUsed = 12

const unsigned int GifInputBufferSize = 255

const int GifMaxColors = 256

gifdecod.cpp File Reference

```
#include "gifdecod.h"
#include "gif.h"
```

Variables

- const int **TableSize** = 1 << **GifBitsUsed**
- const int **FixedArea** = 1 << CHAR_BIT

Variable Documentation

const int FixedArea = 1 << CHAR_BIT

const int TableSize = 1 << GifBitsUsed

gifdecod.h File Reference

```
#include <iostream>
#include "bitimage.h"
#include "gifexcep.h"
```

Compounds

- class **GifDecoder**
- struct **GifDecoder::LZ77String**

gifencod.cpp File Reference

```
#include "gif.h"
#include "gifencod.h"
```

Variables

- const int **CodeSize** = 9
- const int **ClearCode** = 256
- const int **EndCode** = 257
- const int **FirstCode** = 258
- const int **LastCode** = (1 << **CodeSize**) - 1

Variable Documentation

const int ClearCode = 256

const int CodeSize = 9

const int EndCode = 257

const int FirstCode = 258

const int LastCode = (1 << CodeSize) - 1

gifencod.h File Reference

```
#include "bitimage.h"
#include "gifexcep.h"
```

Compounds

- class **GifEncoder**

gifexcep.h File Reference

```
#include "grexcept.h"
#include "Chaine.hpp"
```

Compounds

- class **EGifCircularTree**
- class **EGifCorruptFile**
- class **EGifError**
- class **EGifFileReadError**
- class **EGifNoMoreImages**
- class **EGifNotAGifFile**

GrabInit.cpp File Reference

```
#include "GrabInit.h"
#include <iostream>
```

Functions

- int **InitGrabber** (**MILSys** &sys, int profile)
- void **FreeGrabber** (**MILSys** &sys)

Function Documentation

void FreeGrabber (MILSys & *sys*)

int InitGrabber (MILSys & *sys*, int *profile* = PRO_ECRAN)

GrabInit.h File Reference

```
#include <mil.h>
#include <wtypes.h>
#include "MILSys.h"
```

Defines

- #define **TRUE** 1
- #define **FALSE** 0
- #define **PRO_ECRAN** 0
- #define **PRO_METEOR2** 1

Functions

- int **InitGrabber** (**MILSys** &sys, int profile=PRO_ECRAN)
- void **FreeGrabber** (**MILSys** &sys)

Define Documentation

#define FALSE 0

#define PRO_ECRAN 0

#define PRO_METEOR2 1

#define TRUE 1

Function Documentation

void FreeGrabber (MILSys & *sys*)

int InitGrabber (MILSys & *sys*, int *profile* = PRO_ECRAN)

grexcept.h File Reference

```
#include "Erreur.hpp"
#include "Chaine.hpp"
```

Compounds

- class **EGraphicsAbort**
- class **EGraphicsException**
- class **EInvalidBitCount**
- class **ESubscriptOutOfRange**

Image.hpp File Reference

```
#include "Table1D.hpp"
#include "Table2D.hpp"
#include "Erreur.hpp"
#include "Random.hpp"
#include "Operateur.hpp"
#include "Point.hpp"
```

Compounds

- class **Image**

ImageBinaire.cpp File Reference

```
#include "ImageBinaire.hpp"
#include "ImageGradient.hpp"
#include "ListeTri.hpp"
#include "TablePile.hpp"
#include "Equivalence.hpp"
```

ImageBinaire.hpp File Reference

```
#include "ImageGris.hpp"
#include "Kernel.hpp"
#include "Liste.hpp"
```

Compounds

- class **Ensemble**
- class **ImageBinaire**
- class **Intervalle**

ImageGradient.cpp File Reference

```
#include "ImageGradient.hpp"
#include "ImageGris.hpp"
```

Defines

- #define **M_PI** 3.14159265359

Define Documentation

#define M_PI 3.14159265359

ImageGradient.hpp File Reference

```
#include "Image.hpp"
#include <math.h>
```

Compounds

- class **ImageGradient**

ImageGris.cpp File Reference

```
#include "ImageGris.hpp"
#include "ImageGradient.hpp"
#include "ImageRGB.hpp"
#include "ImageBinaire.hpp"
#include "Contour.hpp"
#include "MonceauBin.hpp"
#include "bitimage.h"
```

ImageGris.hpp File Reference

```
#include "Image.hpp"
#include "Liste.hpp"
```

Compounds

- class **ImageGris**
- class **ImageGris::PRep**

Defines

- #define **ON** 255
- #define **OFF** 0

Define Documentation

#define OFF 0

#define ON 255

ImageRGB.cpp File Reference

```
#include "ImageRGB.hpp"
#include "ImageGradient.hpp"
#include "ImageGris.hpp"
#include "bitimage.h"
#include "MonceauBin.hpp"
```

Defines

- #define **M_PI** 3.14159265359
- #define **PI_3** M_PI/3

Functions

- ostream& **operator**<< (ostream &out, const **CouleurRGB** &p)
- istream& **operator**>> (istream &in, **CouleurRGB** &p)
- ostream& **operator**<< (ostream &out, const **CouleurHSI** &p)
- istream& **operator**>> (istream &in, **CouleurHSI** &p)

Define Documentation

#define M_PI 3.14159265359

#define PI_3 M_PI/3

Function Documentation

ostream & operator<< (ostream & *out*, const CouleurHSI & *p*)

ostream & operator<< (ostream & *out*, const CouleurRGB & *p*)

istream & operator>> (istream & *in*, CouleurHSI & *p*)

istream & operator>> (istream & *in*, CouleurRGB & *p*)

ImageRGB.hpp File Reference

```
#include "Image.hpp"
#include "Liste.hpp"
#include <math.h>
```

Compounds

- class **CouleurHSI**
- class **CouleurRGB**
- class **ImageRGB**
- class **ImageRGB::PRep**

ImageStream.cpp File Reference

```
#include "ImageStream.hpp"
#include "datatype.h"
#include "bitimage.h"
#include "jpegdeco.h"
#include "jpegenco.h"
#include "gifdecod.h"
#include "gifencod.h"
#include "pngdecod.h"
#include "pngencod.h"
#include "xbmdecod.h"
#include "xbmencod.h"
#include "FormatSunRaster.hpp"
#include "FormatBMP.hpp"
#include "FormatPCX.hpp"
#include "FormatXWD.hpp"
#include "FormatPGM.hpp"
#include "FormatPBM.hpp"
#include "FormatPPM.hpp"
#include "FormatXPM.hpp"
#include "FormatContour.hpp"
```

ImageStream.hpp File Reference

```
#include <fstream>
#include "Chaine.hpp"
#include "ImageGris.hpp"
#include "ImageRGB.hpp"
#include "Contour.hpp"
#include "ImageStreamException.hpp"
```

Compounds

- class **ImageStream**

ImageStreamException.hpp File Reference

```
#include "Erreur.hpp"
#include <fstream>
```

Compounds

- class **ErreurFormat**
- class **ErreurFormatImage**
- class **ErreurFormatImageEcriture**
- class **ErreurFormatImageLecture**
- class **ErreurImage**

imagetyp.h File Reference

```
#include "bitimage.h"
```

Enumerations

- enum **ImageType** { **UnknownImage** = 0, **BmpImage** = 2, **JpegImage** = 3, **GifImage** = 5, **PngImage** = 7 }

Functions

- **ImageType GetStreamImageType** (std::istream &)
- **ImageType ReadImage** (std::istream &strm, **BitmapImage** &image, **PROGRESSFUNCTION** function, void *data)

Enumeration Type Documentation

enum ImageType

Enumeration values:

UnknownImage
BmpImage
JpegImage
GifImage
PngImage

Function Documentation

ImageType GetStreamImageType (std::istream &)

ImageType ReadImage (std::istream & *strm*, BitmapImage & *image*, PROGRESSFUNCTION *function*, void * *data*)

jfif.cpp File Reference

```
#include "jfif.h"
```

Functions

- int **Scaled** (double value)
- **JPEGSAMPLE YCbCrToR** (int yy, int, int cr)
- **JPEGSAMPLE YCbCrToG** (int yy, int cb, int cr)
- **JPEGSAMPLE YCbCrToB** (int yy, int cb, int)
- **JPEGSAMPLE RGBToY** (**JPEGSAMPLE** red, **JPEGSAMPLE** green, **JPEGSAMPLE** blue)
- **JPEGSAMPLE RGBToCb** (**JPEGSAMPLE** red, **JPEGSAMPLE** green, **JPEGSAMPLE** blue)
- **JPEGSAMPLE RGBToCr** (**JPEGSAMPLE** red, **JPEGSAMPLE** green, **JPEGSAMPLE** blue)

Variables

- const int **ScaleFactor** = 12
- const int **ScaleValue** = (1<<**ScaleFactor**)
- const int **Rounding** = (1<<(**ScaleFactor**-1))

Function Documentation

JPEGSAMPLE RGBToCb (JPEGSAMPLE *red*, JPEGSAMPLE *green*, JPEGSAMPLE *blue*)

JPEGSAMPLE RGBToCr (JPEGSAMPLE *red*, JPEGSAMPLE *green*, JPEGSAMPLE *blue*)

JPEGSAMPLE RGBToY (JPEGSAMPLE *red*, JPEGSAMPLE *green*, JPEGSAMPLE *blue*)

int Scaled (double *value*) `[inline, static]`

JPEGSAMPLE YCbCrToB (int *yy*, int *cb*, int *cr*)

JPEGSAMPLE YCbCrToG (int *yy*, int *cb*, int *cr*)

JPEGSAMPLE YCbCrToR (int *yy*, int *cb*, int *cr*)

Variable Documentation

const int Rounding = (1<<(ScaleFactor-1))

const int ScaleFactor = 12

const int ScaleValue = (1<<ScaleFactor)

jfif.h File Reference

`#include "jpeg.h"`

Compounds

- struct **JfifExtension**
- struct **JfifHeader**

Functions

- **JPEGSAMPLE YCbCrToR** (int yy, int cb, int cr)
- **JPEGSAMPLE YCbCrToG** (int yy, int cb, int cr)
- **JPEGSAMPLE YCbCrToB** (int yy, int cb, int cr)
- **JPEGSAMPLE RGBToY** (**JPEGSAMPLE** red, **JPEGSAMPLE** green, **JPEGSAMPLE** blue)
- **JPEGSAMPLE RGBToCb** (**JPEGSAMPLE** red, **JPEGSAMPLE** green, **JPEGSAMPLE** blue)
- **JPEGSAMPLE RGBToCr** (**JPEGSAMPLE** red, **JPEGSAMPLE** green, **JPEGSAMPLE** blue)

Function Documentation

JPEGSAMPLE RGBToCb (JPEGSAMPLE *red*, JPEGSAMPLE *green*, JPEGSAMPLE *blue*)

JPEGSAMPLE RGBToCr (JPEGSAMPLE *red*, JPEGSAMPLE *green*, JPEGSAMPLE *blue*)

JPEGSAMPLE RGBToY (JPEGSAMPLE *red*, JPEGSAMPLE *green*, JPEGSAMPLE *blue*)

JPEGSAMPLE YCbCrToB (int *yy*, int *cb*, int *cr*)

JPEGSAMPLE YCbCrToG (int *yy*, int *cb*, int *cr*)

JPEGSAMPLE YCbCrToR (int *yy*, int *cb*, int *cr*)

jpdecobk.h File Reference

```
#include "jpeg.h"
```

Typedefs

- typedef **BYTE2 JpegDecoderCoefficientBlock** [**JpegSampleWidth**][**JpegSampleWidth**]

Typedef Documentation

typedef BYTE2 JpegDecoderCoefficientBlock

jpdecomp.cpp File Reference

```
#include "jpdecomp.h"
#include "jpgexcep.h"
#include "jpdequan.h"
#include "jpegdeco.h"
#include "jpdecobk.h"
#include "jpeg.h"
#include "bitimage.h"
```

Functions

- int **Extend** (int vv, int tt)

Function Documentation

int Extend (int *vv*, int *tt*) `[inline, static]`

jpdecomp.h File Reference

```
#include "jpeg.h"
#include "jfif.h"
#include "jpdedu.h"
#include "jpdehuff.h"
#include "jpdecobk.h"
#include "bitimage.h"
```

Compounds

- class **JpegDecoderComponent**

jpdedu.cpp File Reference

```
#include <math.h>
#include "jpdedu.h"
```

Functions

- **JPEGSAMPLE SampleRange** (long value)
- long **Descale** (long value, int amount)

Variables

- const int **IntegerScale** = 6
- const long **IC4** = (long)((1<<**IntegerScale**) * cos (M_PI * 4.0/16.0))
- const long **ISEC2** = (long)((1<<(**IntegerScale** - 1)) / cos (M_PI * 2.0 / 16.0))
- const long **ISEC6** = (long)((1<<(**IntegerScale** - 1)) / cos (M_PI * 6.0 / 16.0))
- const double **FC4** = cos (M_PI * 4.0 / 16.0)
- const double **FSEC2** = 0.5 / cos (M_PI * 2.0 / 16.0)
- const double **FSEC6** = 0.5 / cos (M_PI * 6.0 / 16.0)

Function Documentation

long Descale (long *value*, int *amount*) `[inline, static]`

JPEGSAMPLE SampleRange (long *value*) `[inline, static]`

Variable Documentation

const double FC4 = cos (M_PI * 4.0 / 16.0)

const double FSEC2 = 0.5 / cos (M_PI * 2.0 / 16.0)

const double FSEC6 = 0.5 / cos (M_PI * 6.0 / 16.0)

const long IC4 = (long)((1<<IntegerScale) * cos (M_PI * 4.0/16.0))

const long ISEC2 = (long)((1<<(IntegerScale - 1)) / cos (M_PI * 2.0 / 16.0))

const long ISEC6 = (long)((1<<(IntegerScale - 1)) / cos (M_PI * 6.0 / 16.0))

const int IntegerScale = 6

jpdedu.h File Reference

```
#include <iostream>
#include "jpeg.h"
#include "jpdequan.h"
#include "jpdecobk.h"
```

Compounds

- class **JpegDecoderDataUnit**

Functions

- ostream& **operator**<< (ostream &, **JpegDecoderDataUnit** &)
- ostream& **operator**<< (ostream &strm, const **JpegDecoderDataUnit** &du)

Function Documentation

ostream & operator<< (ostream & *strm*, const JpegDecoderDataUnit & *du*) `[inline]`

ostream & operator<< (ostream &, JpegDecoderDataUnit &)

jpdehuff.cpp File Reference

```
#include "jpdehuff.h"
#include "jpegdeco.h"
#include "jpgexcep.h"
```

jpdehuff.h File Reference

```
#include "jpeg.h"
#include "bitimage.h"
```

Compounds

- class **JpegHuffmanDecoder**

jpdequan.cpp File Reference

```
#include <iostream>
#include "jpdequan.h"
#include "jpegdeco.h"
#include "jpgexcep.h"
```

Variables

- const double **floatscaling** [**JpegSampleWidth**][**JpegSampleWidth**]

Variable Documentation

const double floatscaling [static]

Initial value:

```
{
{ 0.125,                  0.09011997775086849627, 0.09567085809127244544,
0.1063037618459070632,  0.125,                  0.159094822571604233,
0.2309698831278216846, 0.4530637231764438333, },
{ 0.09011997775086849627, 0.0649728831185362593,  0.0689748448207357645,
0.07664074121909414394, 0.09011997775086849627, 0.1147009749634507608,
0.1665200058287998886, 0.3266407412190940884, },
{ 0.09567085809127244544, 0.0689748448207357645,  0.0732233047033631207,
0.08136137691302557096, 0.09567085809127244544, 0.1217659055464329343,
0.1767766952966368932, 0.3467599613305368256, },
{ 0.1063037618459070632,  0.07664074121909414394, 0.08136137691302557096,
0.09040391826073060355, 0.1063037618459070632,  0.135299025036549253,
0.1964237395967755595, 0.3852990250365491698, },
{ 0.125,                  0.09011997775086849627, 0.09567085809127244544,
0.1063037618459070632,  0.125,                  0.159094822571604233,
0.2309698831278216846, 0.4530637231764438333, },
{ 0.159094822571604233,   0.1147009749634507608,  0.1217659055464329343,
0.135299025036549253,   0.159094822571604233,   0.2024893005527218515,
0.2939689006048396558, 0.5766407412190940329, },
{ 0.2309698831278216846,  0.1665200058287998886,  0.1767766952966368932,
0.1964237395967755595,  0.2309698831278216846,  0.2939689006048396558,
0.4267766952966368654, 0.8371526015321518744, },
{ 0.4530637231764438333,  0.3266407412190940884,  0.3467599613305368256,
0.3852990250365491698,  0.4530637231764438333,  0.5766407412190940329,
0.8371526015321518744, 1.642133898068010689,  },
}
```

jpdequan.h File Reference

```
#include <iostream>
#include "jpeg.h"
#include "bitimage.h"
```

Compounds

- class **JpegDecoderQuantizationTable**

Functions

- ostream& **operator**<< (ostream &strm, const **JpegDecoderQuantizationTable** &du)

Function Documentation

ostream & operator<< (ostream & *strm*, const JpegDecoderQuantizationTable & *du*) [inline]

jpeg.cpp File Reference

`#include "jpeg.h"`

Variables

- const unsigned int **JpegZigZagInputOrderCodes** [**JpegSampleSize**]
- const unsigned int **JpegZigZagOutputOrderCodes** [**JpegSampleSize**]

Variable Documentation

const unsigned int JpegZigZagInputOrderCodes[JpegSampleSize]

Initial value:

```
{
   0,  1,  8, 16,  9,  2,  3, 10,
  17, 24, 32, 25, 18, 11,  4,  5,
  12, 19, 26, 33, 40, 48, 41, 34,
  27, 20, 13,  6,  7, 14, 21, 28,
  35, 42, 49, 56, 57, 50, 43, 36,
  29, 22, 15, 23, 30, 37, 44, 51,
  58, 59, 52, 45, 38, 31, 39, 46,
  53, 60, 61, 54, 47, 55, 62, 63
}
```

const unsigned int JpegZigZagOutputOrderCodes[JpegSampleSize]

Initial value:

```
{
   0,  1,  5,  6, 14, 15, 27, 28,
   2,  4,  7, 13, 16, 26, 29, 42,
   3,  8, 12, 17, 25, 30, 41, 43,
   9, 11, 18, 24, 31, 40, 44, 53,
  10, 19, 23, 32, 39, 45, 52, 54,
  20, 21, 33, 38, 46, 51, 55, 60,
  21, 34, 37, 47, 50, 56, 59, 61,
  35, 36, 48, 49, 57, 58, 62, 63
}
```

jpeg.h File Reference

```
#include "datatype.h"
#include "jpmarker.h"
```

Typedefs

- typedef **UBYTE1 JPEGSAMPLE**
- typedef **BYTE1 JPEGCOEFFICIENT**

Functions

- unsigned int **JpegZigZagInputOrder** (unsigned int item)
- unsigned int **JpegZigZagOutputOrder** (unsigned int item)

Variables

- const int **JpegMaxHuffmanTables** = 4
- const int **MaxQuantizationTables** = 4
- const int **JpegMaxComponentsPerFrame** = 255
- const int **JpegMaxComponentsPerScan** = 4
- const int **JpegMinSamplingFrequency** = 1
- const int **JpegMaxSamplingFrequency** = 4
- const int **JpegSampleWidth** = 8
- const int **JpegSampleSize** = **JpegSampleWidth** * **JpegSampleWidth**
- const int **JpegMinSampleValue** = 0
- const int **JpegMaxSampleValue** = 255
- const int **JpegMidpointSampleValue** = 128
- const unsigned int **JpegMaxHuffmanCodeLength** = 16
- const unsigned int **JpegMaxNumberOfHuffmanCodes** = 256
- const int **JpegMaxDataUnitsPerMCU** = 10
- const int **JpegMaxSuccessiveApproximation** = 13
- const int **JpegMax8BitQuantizationValue** = 255
- const int **JpegMinQuantizationValue** = 1
- const unsigned int **JpegZigZagInputOrderCodes** [**JpegSampleSize**]
- const unsigned int **JpegZigZagOutputOrderCodes** [**JpegSampleSize**]

Typedef Documentation

typedef BYTE1 JPEGCOEFFICIENT

typedef UBYTE1 JPEGSAMPLE

Function Documentation

unsigned int JpegZigZagInputOrder (unsigned int *item*) `[inline]`

unsigned int JpegZigZagOutputOrder (unsigned int *item*) `[inline]`

Variable Documentation

const int JpegMax8BitQuantizationValue = 255

const int JpegMaxComponentsPerFrame = 255

const int JpegMaxComponentsPerScan = 4

const int JpegMaxDataUnitsPerMCU = 10

const unsigned int JpegMaxHuffmanCodeLength = 16

const int JpegMaxHuffmanTables = 4

const unsigned int JpegMaxNumberOfHuffmanCodes = 256

const int JpegMaxSampleValue = 255

const int JpegMaxSamplingFrequency = 4

const int JpegMaxSuccessiveApproximation = 13

const int JpegMidpointSampleValue = 128

const int JpegMinQuantizationValue = 1

const int JpegMinSampleValue = 0

const int JpegMinSamplingFrequency = 1

const int JpegSampleSize = JpegSampleWidth * JpegSampleWidth

const int JpegSampleWidth = 8

const unsigned int JpegZigZagInputOrderCodes

Initial value:

```
{
```

```
   0,  1,  8, 16,  9,  2,  3, 10,
  17, 24, 32, 25, 18, 11,  4,  5,
  12, 19, 26, 33, 40, 48, 41, 34,
  27, 20, 13,  6,  7, 14, 21, 28,
  35, 42, 49, 56, 57, 50, 43, 36,
  29, 22, 15, 23, 30, 37, 44, 51,
  58, 59, 52, 45, 38, 31, 39, 46,
  53, 60, 61, 54, 47, 55, 62, 63
}
```

const unsigned int JpegZigZagOutputOrderCodes

Initial value:

```
{
   0,  1,  5,  6, 14, 15, 27, 28,
   2,  4,  7, 13, 16, 26, 29, 42,
   3,  8, 12, 17, 25, 30, 41, 43,
   9, 11, 18, 24, 31, 40, 44, 53,
  10, 19, 23, 32, 39, 45, 52, 54,
  20, 21, 33, 38, 46, 51, 55, 60,
  21, 34, 37, 47, 50, 56, 59, 61,
  35, 36, 48, 49, 57, 58, 62, 63
}
```

const int MaxQuantizationTables = 4

jpegdeco.cpp File Reference

```
#include "jpegdeco.h"
#include "jfif.h"
#include "jpdehuff.h"
#include "bitimage.h"
#include "jpdequan.h"
#include "jpdecomp.h"
```

jpegdeco.h File Reference

```
#include <iostream>
#include "datatype.h"
#include "jpgexcep.h"
#include "bitimage.h"
```

Compounds

- class **JpegDecoder**

jpegenco.cpp File Reference

```
#include <math.h>
#include <string.h>
#include "jpegenco.h"
#include "bitimage.h"
#include "jfif.h"
#include "jpenquan.h"
#include "jpenhuff.h"
```

Variables

- const unsigned int **default_luminance_table** [**JpegSampleSize**]
- const unsigned int **default_chrominance_table** [**JpegSampleSize**]

Variable Documentation

const unsigned int default_chrominance_table [static]

Initial value:

```
{
17, 18, 24, 47, 99, 99, 99, 99,
18, 21, 26, 66, 99, 99, 99, 99,
24, 26, 56, 99, 99, 99, 99, 99,
47, 66, 99, 99, 99, 99, 99, 99,
99, 99, 99, 99, 99, 99, 99, 99,
99, 99, 99, 99, 99, 99, 99, 99,
99, 99, 99, 99, 99, 99, 99, 99,
99, 99, 99, 99, 99, 99, 99, 99,
}
```

const unsigned int default_luminance_table [static]

Initial value:

```
{
16, 11, 10, 16,  24,  40,  51,  61,
12, 12, 14, 19,  26,  58,  60,  55,
14, 13, 16, 24,  40,  57,  69,  56,
14, 17, 22, 29,  51,  87,  80,  62,
18, 22, 37, 56,  68, 109, 103,  77,
24, 35, 55, 64,  81, 104, 113,  92,
49, 64, 78, 87, 103, 121, 120, 101,
72, 92, 95, 98, 112, 100, 103,  99,
}
```

jpegenco.h File Reference

```
#include "bitimage.h"
#include "jpencomp.h"
#include "jpgexcep.h"
#include "Chaine.hpp"
```

Compounds

- class **JpegEncoder**
- struct **JpegEncoder::Scan**

jpencobk.h File Reference

```
#include "jpeg.h"
```

Compounds

- class **JpegEncoderCoefficientBlock**

jpencomp.cpp File Reference

```
#include "jpegenco.h"
#include "jpencomp.h"
#include "jfif.h"
#include "jpencobk.h"
#include "jpendu.h"
#include "jpenhuff.h"
```

jpencomp.h File Reference

```
#include "bitimage.h"
#include "jpeg.h"
```

Compounds

- class **JpegEncoderComponent**

jpendu.cpp File Reference

```
#include <math.h>
#include "jpendu.h"
```

Variables

- const double **FC4** = cos (M_PI * 4.0 / 16.0)
- const double **FSEC2** = 0.5 / cos (M_PI * 2.0 / 16.0)
- const double **FSEC6** = 0.5 / cos (M_PI * 6.0 / 16.0)

Variable Documentation

const double FC4 = cos (M_PI * 4.0 / 16.0)

const double FSEC2 = 0.5 / cos (M_PI * 2.0 / 16.0)

const double FSEC6 = 0.5 / cos (M_PI * 6.0 / 16.0)

jpendu.h File Reference

```
#include "jpeg.h"
#include "jpencobk.h"
#include "jpenquan.h"
```

Compounds

- class **JpegEncoderDataUnit**

jpenhuff.cpp File Reference

```
#include "jpenhuff.h"
#include "jpegenco.h"
#include "jpgexcep.h"
```

jpenhuff.h File Reference

```
#include "jpeg.h"
```

Compounds

- class **JpegEncoderHuffmanTable**

jpenquan.cpp File Reference

```
#include "jpenquan.h"
#include "jpegenco.h"
#include "jpgexcep.h"
```

Variables

- const double **floatscaling** [**JpegSampleWidth**][**JpegSampleWidth**]

Variable Documentation

const double floatscaling [static]

Initial value:

```
{
{ 0.125,                  0.09011997775086849627, 0.09567085809127244544,
0.1063037618459070632,  0.125,                  0.159094822571604233,
0.2309698831278216846, 0.4530637231764438333, },
{ 0.09011997775086849627, 0.0649728831185362593,  0.0689748448207357645,
0.0766407412190941439 4, 0.09011997775086849627, 0.1147009749634507608,
0.1665200058287998886, 0.3266407412190940884, },
{ 0.09567085809127244544, 0.0689748448207357645,  0.0732233047033631207,
0.0813613769130255709 6, 0.09567085809127244544, 0.1217659055464329343,
0.1767766952966368932, 0.3467599613305368256, },
{ 0.1063037618459070632,  0.0766407412190941439 4, 0.0813613769130255709 6,
0.0904039182607306035 5, 0.1063037618459070632,  0.135299025036549253,
0.1964237395967755595, 0.3852990250365491698, },
{ 0.125,                  0.09011997775086849627, 0.09567085809127244544,
0.1063037618459070632,  0.125,                  0.159094822571604233,
0.2309698831278216846, 0.4530637231764438333, },
{ 0.159094822571604233,   0.1147009749634507608,  0.1217659055464329343,
0.135299025036549253,   0.159094822571604233,   0.2024893005527218515,
0.2939689006048396558, 0.5766407412190940329, },
{ 0.2309698831278216846,  0.1665200058287998886,  0.1767766952966368932,
0.1964237395967755595,  0.2309698831278216846,  0.2939689006048396558,
0.4267766952966368654, 0.8371526015321518744, },
{ 0.4530637231764438333,  0.3266407412190940884,  0.3467599613305368256,
0.3852990250365491698,  0.4530637231764438333,  0.5766407412190940329,
0.8371526015321518744, 1.642133898068010689,  },
}
```

jpenquan.h File Reference

```
#include "jpeg.h"
```

Compounds

- class **JpegEncoderQuantizationTable**

jpgexcep.h File Reference

```
#include "grexcept.h"
#include "Chaine.hpp"
```

Compounds

- class **EJpegAbort**
- class **EJpegBadData**
- class **EJpegBadOutputParameter**
- class **EJpegError**
- class **EJpegFatal**
- class **EJpegIndexOutOfRange**
- class **EJpegValueOutOfRange**

jpmarker.h File Reference

Enumerations

- enum **JpegMarkers** { **SOF0** = 0xC0, **SOF1** = 0xC1, **SOF2** = 0xC2, **SOF3** = 0xC3, **SOF5** = 0xC5, **SOF6** = 0xC6, **SOF7** = 0xC7, **SOF9** = 0xC9, **SOFA** = 0xCA, **SOFB** = 0xCB, **SOFD** = 0xCD, **SOFE** = 0xCE, **SOFF** = 0xCF, **DHT** = 0xC4, **DAC** = 0xCC, **RST0** = 0xD0, **RST1** = 0xD1, **RST2** = 0xD2, **RST3** = 0xD3, **RST4** = 0xD4, **RST5** = 0xD5, **RST6** = 0xD6, **RST7** = 0xD7, **SOI** = 0xD8, **EOI** = 0xD9, **SOS** = 0xDA, **DQT** = 0xDB, **DNL** = 0xDC, **DRI** = 0xDD, **DHP** = 0xDE, **EXP** = 0xDF, **APP0** = 0xE0, **APP1** = 0xE1, **APP2** = 0xE2, **APP3** = 0xE3, **APP4** = 0xE4, **APP5** = 0xE5, **APP6** = 0xE6, **APP7** = 0xE7, **APP8** = 0xE8, **APP9** = 0xE9, **APPA** = 0xEA, **APPB** = 0xEB, **APPC** = 0xEC, **APPD** = 0xED, **APPE** = 0xEE, **APPF** = 0xEF, **COM** = 0xFE, **SOB** = 0xFF }

Enumeration Type Documentation

enum JpegMarkers

Enumeration values:

SOF0
SOF1
SOF2
SOF3
SOF5
SOF6
SOF7
SOF9
SOFA
SOFB
SOFD
SOFE
SOFF
DHT
DAC
RST0
RST1
RST2
RST3
RST4
RST5
RST6
RST7
SOI
EOI
SOS
DQT
DNL
DRI
DHP
EXP
APP0

APP1
APP2
APP3
APP4
APP5
APP6
APP7
APP8
APP9
APPA
APPB
APPC
APPD
APPE
APPF
COM
SOB

Kernel.cpp File Reference

```
#include "Kernel.hpp"
```

Kernel.hpp File Reference

```
#include "Operateur.hpp"
```

Compounds

- class **Kernel**

ListeTri.hpp File Reference

```
#include "Liste.hpp"
```

Compounds

- class **ListeTri**

Functions

- template<class T> ostream& **operator<<** (ostream &_flot, const **ListeTri**< T > &_liste)
- istream& **operator>>** (istream &_flot, **ListeTri**< T > &_liste)

Function Documentation

template<class T> ostream & operator<< (ostream & *_flot*, const ListeTri< T > & *_liste*)

istream & operator>> (istream & *_flot*, ListeTri< T > & *_liste*)

LMDIF.cpp File Reference

```
#include <math.h>
#include "f2c.h"
```

Functions

- int **lmdif_** (int(*fcn)(**integer** *, **integer** *, **doublereal** *, **doublereal** *, **integer** *), **integer** *m, **integer** *n, **doublereal** *x, **doublereal** *fvec, **doublereal** *ftol, **doublereal** *xtol, **doublereal** *gtol, **integer** *maxfev, **doublereal** *epsfcn, **doublereal** *diag, **integer** *mode, **doublereal** *factor, **integer** *nprint, **integer** *info, **integer** *nfev, **doublereal** *fjac, **integer** *ldfjac, **integer** *ipvt, **doublereal** *qtf, **doublereal** *wa1, **doublereal** *wa2, **doublereal** *wa3, **doublereal** *wa4)

Variables

- **integer c__1** = 1

Function Documentation

int lmdif_ (int(*fcn*)(integer *, integer *, doublereal *, doublereal *, integer *), integer * *m*, integer * *n*, doublereal * *x*, doublereal * *fvec*, doublereal * *ftol*, doublereal * *xtol*, doublereal * *gtol*, integer * *maxfev*, doublereal * *epsfcn*, doublereal * *diag*, integer * *mode*, doublereal * *factor*, integer * *nprint*, integer * *info*, integer * *nfev*, doublereal * *fjac*, integer * *ldfjac*, integer * *ipvt*, doublereal * *qtf*, doublereal * *wa1*, doublereal * *wa2*, doublereal * *wa3*, doublereal * *wa4*)**

Variable Documentation

integer c__1 = 1 `[static]`

LMPAR.cpp File Reference

```
#include <math.h>
#include "f2c.h"
```

Functions

- int **lmpar_** (**integer** *n, **doublereal** *r, **integer** *ldr, **integer** *ipvt, **doublereal** *diag, **doublereal** *qtb, **doublereal** *delta, **doublereal** *par, **doublereal** *x, **doublereal** *sdiag, **doublereal** *wa1, **doublereal** *wa2)

Variables

- **integer c__2** = 2

Function Documentation

int lmpar_ (integer * *n*, doublereal * *r*, integer * *ldr*, integer * *ipvt*, doublereal * *diag*, doublereal * *qtb*, doublereal * *delta*, doublereal * *par*, doublereal * *x*, doublereal * *sdiag*, doublereal * *wa1*, doublereal * *wa2*)

Variable Documentation

integer c__2 = 2 `[static]`

MakeAVI.cpp File Reference

```
#include "MakeAVI.h"
#include <fstream>
#include <iostream.h>
```

MakeAVI.h File Reference

```
#include "ProcessingObject.h"
#include <vector>
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::MakeAVI**
  Export grabbed images to an AVI movie.

Matrice.cpp File Reference

```
#include "Matrice.h"
#include "MATRIX.h"
#include <math.h>
#include <fstream>
#include <vector>
#include <strstrea.h>
#include "Cognois.h"
#include <string>
#include <float.h>
```

Defines

- #define **sign**(a, b) (((b) >= 0.0) ? fabs(a) : -fabs(a))

Functions

- **Matrice operator *** (const double sc, const **Matrice** &m)
  Operateurs commutatifs.

Define Documentation

#define sign(a, b) (((b) >= 0.0) ? fabs(a) : -fabs(a))

Function Documentation

Matrice operator * (const double *double*, const Matrice & *m*)

Operateurs commutatifs.

Matrice.h File Reference

Compounds

- class **Matrice**
  Fonctions de base pour le calcul matriciel.

Functions

- **Matrice operator *** (const double, const **Matrice** &)
  Operateurs commutatifs.

Function Documentation

Matrice operator * (const *double*, const Matrice & *m*)

Operateurs commutatifs.

MATRIX.cpp File Reference

```
#include <stdio.h>
#include <math.h>
#include "matrix.h"
```

Defines

- #define **FALSE** 0
- #define **TRUE** 1
- #define **TOL_DET** 0.001
- #define **PERMBUFSIZE** 100

Functions

- void **print_mat** (**dmat** mat)
- **dmat newdmat** (int rs, int re, int cs, int ce, int *error)
- int **scamul** (**dmat** a, double b, **dmat** c)
- int **matmul** (**dmat** a, **dmat** b, **dmat** c)
- int **matadd** (**dmat** a, **dmat** b, **dmat** c)
- int **matcopy** (**dmat** A, **dmat** RSLT)
- int **transpose** (**dmat** A, **dmat** ATrans)
- double **matinvert** (**dmat** a)
- int **solve_system** (**dmat** M, **dmat** a, **dmat** b)

Define Documentation

#define FALSE 0

#define PERMBUFSIZE 100

#define TOL_DET 0.001

#define TRUE 1

Function Documentation

int matadd (dmat *a*, dmat *b*, dmat *c*)

int matcopy (dmat *A*, dmat *RSLT*)

double matinvert (dmat *a*)

int matmul (dmat *a*, dmat *b*, dmat *c*)

dmat newdmat (int *rs*, int *re*, int *cs*, int *ce*, int * *error*)

void print_mat (dmat *mat*)

int scamul (dmat *a*, double *b*, dmat *c*)

int solve_system (dmat *M*, dmat *a*, dmat *b*)

int transpose (dmat *A*, dmat *ATrans*)

MATRIX.H File Reference

```
#include <stdlib.h>
#include <errno.h>
```

Compounds

- struct **dmat**

Defines

- #define **freemat**(m) m.el+=m.lb1; free((m).mat_sto) ; free((m).el)

Functions

- **dmat newdmat** (int rs, int re, int cs, int ce, int *error)
- void **print_mat** (**dmat** mat)
- int **scamul** (**dmat** a, double b, **dmat** c)
- int **matmul** (**dmat** a, **dmat** b, **dmat** c)
- int **matadd** (**dmat** a, **dmat** b, **dmat** c)
- int **matcopy** (**dmat** A, **dmat** RSLT)
- int **transpose** (**dmat** A, **dmat** ATrans)
- double **matinvert** (**dmat** a)
- int **solve_system** (**dmat** M, **dmat** a, **dmat** b)

Define Documentation

#define freemat(m) m.el+=m.lb1; free((m).mat_sto) ; free((m).el)

Function Documentation

int matadd (dmat *a*, dmat *b*, dmat *c*)

int matcopy (dmat *A*, dmat *RSLT*)

double matinvert (dmat *a*)

int matmul (dmat *a*, dmat *b*, dmat *c*)

dmat newdmat (int *rs*, int *re*, int *cs*, int *ce*, int * *error*)

void print_mat (dmat *mat*)

int scamul (dmat *a*, double *b*, dmat *c*)

int solve_system (dmat *M*, dmat *a*, dmat *b*)

int transpose (dmat *A*, dmat *ATrans*)

MilGarbageCollector.cpp File Reference

```
#include "MilGarbageCollector.h"
#include <algorithm>
#include <iostream.h>
```

MilGarbageCollector.h File Reference

```
#include <mil.h>
#include <vector>
```

Namespaces

- namespace **Cognois**

MILSys.h File Reference

Compounds

- struct **MILSys**
  Mil system data.

MINPACK.cpp File Reference

```
#include "MINPACK.h"
#include "Erreur.hpp"
#include "F2C.H"
```

Defines

- #define **EPSFCN** 1.0E-16
- #define **X_TOL** 1.0E-7
- #define **F_TOL** 1.0E-5

Define Documentation

#define EPSFCN 1.0E-16

#define F_TOL 1.0E-5

#define X_TOL 1.0E-7

MINPACK.h File Reference

Compounds

- class **MINPACK**
  Levenberg-Marquardt algorithm to minimize the sum of the squares.

NoopToServer.h File Reference

```
#include "FrameSetClient.h"
#include "ProcessingObject.h"
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::NoopToServer**
  Perform a sequence of nothing, but keep the server informed of the current frame ID.

OCRFontCreator.cpp File Reference

```
#include "OCRFontCreator.h"
#include "milocr.h"
#include <iostream>
#include <string>
#include <conio.h>
#include "cognois.h"
```

Defines

- #define **MAX_SAMPLES_PER_CHARACTER** 5

Define Documentation

#define MAX_SAMPLES_PER_CHARACTER 5

OCRFontCreator.h File Reference

```
#include "OnlineProcessing.h"
#include "ProcessingObject.h"
#include "GrabInit.h"
#include <vector>
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::OCRFontCreator**
  Optical character recognition of the 5 digits of the HP 5214L Preset Counter.

OfflineProcessing.cpp File Reference

```
#include "OfflineProcessing.h"
#include "SimpleXmlParser.h"
#include "GrabInit.h"
#include <winbase.h>
#include <conio.h>
#include "Cognois.h"
#include <fstream.h>
#include <iostream.h>
```

Defines

- #define **SYNCHRONIZATION**
  Force synchronization between the cameras.

- #define **C_CONTROL_BIT** 4
  CAMERA CONTROL BIT 2 : bit 4.

- #define **USER_IN_BIT** 0
  USER0 INPUT BIT 0: bit 0.

- #define **SYNC_SERVER_PERIOD** 100
  Resynchronization period with the server.

Functions

- DWORD WINAPI **OfflineThreadAcquisition** (LPVOID _lpParameter)
  Grabbing thread global function.

Define Documentation

#define C_CONTROL_BIT 4

CAMERA CONTROL BIT 2 : bit 4.

#define SYNCHRONIZATION

Force synchronization between the cameras.

#define SYNC_SERVER_PERIOD 100

Resynchronization period with the server.

#define USER_IN_BIT 0

USER0 INPUT BIT 0: bit 0.

Function Documentation

DWORD WINAPI OfflineThreadAcquisition (LPVOID *_lpParameter*)

Grabbing thread global function.

OfflineProcessing.h File Reference

```
#include "SynchClient.h"
#include <mil.h>
#include <wtypes.h>
#include "GrabInit.h"
#include "ProcessingObject.h"
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::OfflineProcessing**
  Processing of images from AVI files.

OnlineProcessing.cpp File Reference

```
#include "OnlineProcessing.h"
#include "Cognois.h"
#include <iostream.h>
#include "Acquisition.h"
```

Defines

- #define **VERBOSE_SYNC**
  Print synchronization events on screen.

- #define **SYNCHRONIZATION**
  Force synchronization between the cameras.

- #define **READY_OUT_BIT** 4
  CAMERA CONTROL BIT 2 : bit 4; for process sync.

- #define **READY_IN_BIT** 0
  USER0 INPUT BIT 0: bit 0; for process sync.

- #define **COUNTING_OUT_BIT** 3
  CAMERA CONTROL BIT 1 : bit 3; for counting sync.

- #define **COUNTING_IN_BIT** 1
  USER0 INPUT BIT 1: bit 1; for counting sync.

- #define **setReady**(Sys, BitValue) Sys.EcrireBits(READY_OUT_BIT, BitValue)
- #define **getValid**(Sys, BitValue) Sys.LireBits(READY_IN_BIT, BitValue)
- #define **setCounting**(Sys, BitValue) Sys.EcrireBits(COUNTING_OUT_BIT, BitValue)
- #define **getCounting**(Sys, BitValue) Sys.LireBits(COUNTING_IN_BIT, BitValue)

Functions

- DWORD WINAPI **ThreadTraitement** (LPVOID _lpParameter)
- DWORD WINAPI **ThreadAcquisition** (LPVOID _lpParameter)
- DWORD WINAPI **ThreadSynchronization** (LPVOID _lpParameter)

Define Documentation

#define COUNTING_IN_BIT 1

USER0 INPUT BIT 1: bit 1; for counting sync.

#define COUNTING_OUT_BIT 3

CAMERA CONTROL BIT 1 : bit 3; for counting sync.

#define READY_IN_BIT 0

USER0 INPUT BIT 0: bit 0; for process sync.

#define READY_OUT_BIT 4

CAMERA CONTROL BIT 2 : bit 4; for process sync.

#define SYNCHRONIZATION

Force synchronization between the cameras.

#define VERBOSE_SYNC

Print synchronization events on screen.

#define getCounting(Sys, BitValue) Sys.LireBits(COUNTING_IN_BIT, BitValue)

#define getValid(Sys, BitValue) Sys.LireBits(READY_IN_BIT, BitValue)

#define setCounting(Sys, BitValue) Sys.EcrireBits(COUNTING_OUT_BIT, BitValue)

#define setReady(Sys, BitValue) Sys.EcrireBits(READY_OUT_BIT, BitValue)

Function Documentation

DWORD WINAPI ThreadAcquisition (LPVOID *_lpParameter*)

Parameters:

_lpParameter Grabbing thread global function

DWORD WINAPI ThreadSynchronization (LPVOID *_lpParameter*)

Parameters:

_lpParameter Synchronization thread

DWORD WINAPI ThreadTraitement (LPVOID *_lpParameter*)

Parameters:

_lpParameter Processing thread global function

OnlineProcessing.h File Reference

```
#include "SynchClient.h"
#include "Acquisition.h"
#include "ProcessingObject.h"
#include "FrameCounter.h"
#include "MilSys.h"
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::OnlineProcessing**
  Online processing of images.

Operateur.cpp File Reference

```
#include "Operateur.hpp"
```

Operateur.hpp File Reference

```
#include "Table2D.hpp"
#include "Point.hpp"
#include <math.h>
```

Compounds

- class **Operateur**

Picture.cpp File Reference

```
#include "Picture.h"
#include <stdlib.h>
#include <time.h>
#include <wtypes.h>
```

Picture.h File Reference

`#include "ColourSpaceConverter.h"`

Compounds

- class **Picture**
- struct **RGBQUADsd**

Defines

- #define **AFX_PICTURE_H__DFC2EB67_37C7_11D4_BD19_00E0292D1826__INCLUDED_**
- #define **CS_GRAY8** 0x0000
- #define **CS_GRAY16** 0x0008
- #define **CS_COLOR** 0x0010

Typedefs

- typedef unsigned char **BYTE**

Define Documentation

#define AFX_PICTURE_H__DFC2EB67_37C7_11D4_BD19_00E0292D1826__INCLUDED_

Value:

#define CS_COLOR 0x0010

#define CS_GRAY16 0x0008

#define CS_GRAY8 0x0000

Typedef Documentation

typedef unsigned char BYTE

PlanarToPacked.cpp File Reference

```
#include "PlanarToPacked.h"
```

PlanarToPacked.h File Reference

```
#include "ProcessingObject.h"
#include "MILSys.h"
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::PlanarToPacked**
  Transform a MIL planar buffer to a MIL packed buffer.

png.cpp File Reference

`#include "pngpvt.h"`

Variables

- const **UBYTE1 PngSignature** [**PngSignatureSize**]
- const **UBYTE1 PngLengthOrder** [**PngLengthSize**]

Variable Documentation

const UBYTE1 PngLengthOrder[PngLengthSize]

Initial value:

```
{
  16, 17, 18,  0,  8,
   7,  9,  6, 10,  5,
  11,  4, 12,  3, 13,
   2, 14,  1, 15,
}
```

const UBYTE1 PngSignature[PngSignatureSize]

Initial value:

```
{
  137, 80, 78, 71, 13, 10, 26, 10,
}
```

png.h File Reference

```
#include "bitimage.h"
#include "grexcept.h"
```

Compounds

- class **EPngError**

pngchksm.cpp File Reference

```
#include "pngchksm.h"
#include "datatype.h"
```

Functions

- void **MakeCrcTable** ()
- **UBYTE4 CRC32** (**UBYTE4** crc, void *buffer, unsigned int length)
- **UBYTE4 Adler** (**UBYTE4** adler, **UBYTE1** value)

Variables

- **UBYTE4 crc_table** [256]
- bool **table_made** = false

Function Documentation

UBYTE4 Adler (UBYTE4 *adler*, UBYTE1 *value*)

UBYTE4 CRC32 (UBYTE4 *crc*, void * *buffer*, unsigned int *length*)

void MakeCrcTable ()

Variable Documentation

UBYTE4 crc_table `[static]`

bool table_made = false `[static]`

pngchksm.h File Reference

```
#include "datatype.h"
```

Functions

- void **MakeCrcTable** ()
- **UBYTE4 CRC32** (**UBYTE4** crc, void *buffer, unsigned int length)
- **UBYTE4 Adler** (**UBYTE4** adler, **UBYTE1** value)

Function Documentation

UBYTE4 Adler (UBYTE4 *adler*, UBYTE1 *value*)

UBYTE4 CRC32 (UBYTE4 *crc*, void * *buffer*, unsigned int *length*)

void MakeCrcTable ()

pngdecod.cpp File Reference

```
#include <iomanip>
#include <limits.h>
#include "pngchksm.h"
#include "pngdecod.h"
#include "pngpvt.h"
#include "pnghuffd.h"
```

Defines

- #define **VERYVERBOSE**

Enumerations

- enum **CompressionType** { **Uncompressed** = 0, **FixedHuffmanCodes** = 1, **DynamicHuffmanCodes** = 2 }

Variables

- const unsigned int **Max8BitSampleValue** = 255
- const unsigned int **InterlacePasses** = 7

Define Documentation

#define VERYVERBOSE

Value:

Enumeration Type Documentation

enum CompressionType

Enumeration values:

Uncompressed
FixedHuffmanCodes
DynamicHuffmanCodes

Variable Documentation

const unsigned int InterlacePasses = 7

const unsigned int Max8BitSampleValue = 255

pngdecod.h File Reference

```
#include "bitimage.h"
#include "grexcept.h"
#include "png.h"
```

Compounds

- struct **PngDecoder::InterlaceInfo**
- class **PngDecoder**

pngencod.cpp File Reference

```
#include <limits.h>
#include "pngencod.h"
#include "pngpvt.h"
#include "pngchksm.h"
#include "pnghuffe.h"
```

Functions

- **Hash** (**UBYTE1** v1, **UBYTE1** v2, **UBYTE1** v3)
- void **DistanceToCode** (unsigned int distance, unsigned int &code, unsigned int &extra, unsigned int &value)
- void **LengthToCode** (unsigned int length, unsigned int &code, unsigned int &extra, unsigned int &value)

Variables

- const unsigned int **LookaheadSize** = (1 << 9)
- const unsigned int **LookaheadMask** = **LookaheadSize** - 1
- const unsigned int **HashBits** = 5
- const unsigned int **HashTableSize** = 1 << (3 * **HashBits**)
- const unsigned int **OutputBufferSize** = (1 << 13)
- const unsigned int **ENDIMAGE** = 0xFFFF

Function Documentation

void DistanceToCode (unsigned int *distance*, unsigned int & *code*, unsigned int & *extra*, unsigned int & *value*) `[static]`

Hash (UBYTE1 *v1*, UBYTE1 *v2*, UBYTE1 *v3*) `[inline, static]`

void LengthToCode (unsigned int *length*, unsigned int & *code*, unsigned int & *extra*, unsigned int & *value*) `[inline, static]`

Variable Documentation

const unsigned int ENDIMAGE = 0xFFFF

const unsigned int HashBits = 5

const unsigned int HashTableSize = 1 << (3 * HashBits)

const unsigned int LookaheadMask = LookaheadSize - 1

const unsigned int LookaheadSize = (1 << 9)

const unsigned int OutputBufferSize = (1 << 13)

pngencod.h File Reference

```
#include "png.h"
#include "bitimage.h"
#include "Chaine.hpp"
```

Compounds

- struct **PngEncoder::HashEntry**
- class **PngEncoder**

pnghuffd.cpp File Reference

```
#include <iostream>
#include "pnghuffd.h"
#include "pngdecod.h"
```

Variables

- const unsigned int **BADCODE** = 0xFFFFFFF

Variable Documentation

const unsigned int BADCODE = 0xFFFFFFF

pnghuffd.h File Reference

```
#include "datatype.h"
#include "pngpvt.h"
```

Compounds

- class **PngHuffmanDecoder**

pnghuffe.cpp File Reference

```
#include "pnghuffe.h"
#include "pngencod.h"
#include "pngpvt.h"
```

pnghuffe.h File Reference

```
#include "png.h"
```

Compounds

- class **PngHuffmanEncoder**

pngpvt.h File Reference

```
#include <string.h>
#include "datatype.h"
```

Compounds

- struct **PngChromaticitiesData**
- struct **PngImageHeader**
- struct **PngPixelDimensions**
- struct **PngTimeData**

Enumerations

- enum **PngColorType** { **Grayscale** = 0, **RGB** = 2, **Palette** = 3, **GrayscaleAlpha** = 4, **RGBAlpha** = 6 }
- enum **PngFilterType** { **FilterNone** = 0, **FilterSub** = 1, **FilterUp** = 2, **FilterAverage** = 3, **FilterPaeth** = 4 }

Functions

- const char* **Binary** (int vv, int ll)
- unsigned int **PaethPredictor** (**UBYTE1** left, **UBYTE1** above, **UBYTE1** upperleft)
- **UBYTE4 ChunkType** (const char type[5])

Variables

- const int **PngSignatureSize** = 8
- const **UBYTE1 PngSignature** [**PngSignatureSize**]
- const unsigned int **PngLengthSize** = 19
- const **UBYTE1 PngLengthOrder** [**PngLengthSize**]
- const unsigned int **PngMaxLengthCodes** = 288
- const unsigned int **PngMaxDistanceCodes** = 30
- const unsigned int **PngMaxNumberOfHuffmanCodes** = **PngMaxLengthCodes**
- const unsigned int **PngFirstLengthCode** = 257
- const unsigned int **PngEndCode** = 256
- const unsigned int **PngMaxLengthLengthCodeSize** = 7
- const unsigned int **PngMaxDistanceCodeSize** = 15
- const unsigned int **PngMaxLengthCodeSize** = 15
- const unsigned int **PngWindowSize** = (1 << 15)
- const unsigned int **PngWindowMask** = **PngWindowSize** - 1
- const unsigned int **PngLongestLength** = 258

Enumeration Type Documentation

enum PngColorType

Enumeration values:

Grayscale

RGB
Palette
GrayscaleAlpha
RGBAlpha

enum PngFilterType

Enumeration values:

FilterNone
FilterSub
FilterUp
FilterAverage
FilterPaeth

Function Documentation

const char * Binary (int *vv*, int *ll*) `[inline, static]`

UBYTE4 ChunkType (const char *type*[5]) `[inline]`

unsigned int PaethPredictor (UBYTE1 *left*, UBYTE1 *above*, UBYTE1 *upperleft*) `[inline, static]`

Variable Documentation

const unsigned int PngEndCode = 256

const unsigned int PngFirstLengthCode = 257

const UBYTE1 PngLengthOrder

Initial value:

```
{
  16, 17, 18,  0,  8,
   7,  9,  6, 10,  5,
  11,  4, 12,  3, 13,
   2, 14,  1, 15,
}
```

const unsigned int PngLengthSize = 19

const unsigned int PngLongestLength = 258

const unsigned int PngMaxDistanceCodeSize = 15

const unsigned int PngMaxDistanceCodes = 30

const unsigned int PngMaxLengthCodeSize = 15

const unsigned int PngMaxLengthCodes = 288

const unsigned int PngMaxLengthLengthCodeSize = 7

const unsigned int PngMaxNumberOfHuffmanCodes = PngMaxLengthCodes

const UBYTE1 PngSignature

Initial value:

```
{
  137, 80, 78, 71, 13, 10, 26, 10,
}
```

const int PngSignatureSize = 8

const unsigned int PngWindowMask = PngWindowSize - 1

const unsigned int PngWindowSize = (1 << 15)

Point.hpp File Reference

```
#include "Erreur.hpp"
#include "Chaine.hpp"
#include <iostream>
#include <math.h>
#include <ctype.h>
```

Compounds

- class **Point**

Functions

- ostream& **operator**<< (ostream &out, const **Point** &p)
- istream& **operator**>> (istream &in, **Point** &p)

Function Documentation

ostream & operator<< (std::ostream & *out*, const Point & *p*) `[inline]`

istream & operator>> (istream & *in*, Point & *p*) `[inline]`

ProcessingObject.h File Reference

```
#include <mil.h>
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::ProcessingObject**
  Virtual class for user-supplied processing objects.

QRFAC.cpp File Reference

```
#include <math.h>
#include "f2c.h"
```

Functions

- int **qrfac_** (**integer** *m, **integer** *n, **doublereal** *a, **integer** *lda, **logical** *pivot, **integer** *ipvt, **integer** *lipvt, **doublereal** *rdiag, **doublereal** *acnorm, **doublereal** *wa)

Variables

- **integer c__1** = 1

Function Documentation

int qrfac_ (integer * *m*, integer * *n*, doublereal * *a*, integer * *lda*, logical * *pivot*, integer * *ipvt*, integer * *lipvt*, doublereal * *rdiag*, doublereal * *acnorm*, doublereal * *wa*)

Variable Documentation

integer c__1 = 1 `[static]`

QRSOLV.cpp File Reference

```
#include <math.h>
#include "f2c.h"
```

Functions

- int **qrsolv_** (**integer** *n, **doublereal** *r, **integer** *ldr, **integer** *ipvt, **doublereal** *diag, **doublereal** *qtb, **doublereal** *x, **doublereal** *sdiag, **doublereal** *wa)

Function Documentation

int qrsolv_ (integer * *n*, doublereal * *r*, integer * *ldr*, integer * *ipvt*, doublereal * *diag*, doublereal * *qtb*, doublereal * *x*, doublereal * *sdiag*, doublereal * *wa*)

SCVolume.cpp File Reference

```
#include "SCVolume.h"
#include "Matrice.h"
#include "Cognois.h"
#include <iostream.h>
```

SCVolume.h File Reference

```
#include "CameraModel.h"
#include "Matrice.h"
#include <vector>
```

Namespaces

- namespace **Cognois**
- namespace **Cognois::SpaceCarving**

Compounds

- class **Cognois::SpaceCarving::SCVolume**
  Volume for space carving.

SequentialProcessing.h File Reference

```
#include <vector>
#include "ProcessingObject.h"
```

Namespaces

- namespace **Cognois**

Compounds

- class **Cognois::SequentialProcessing**
  Perform a sequence of image processing.

Statistics.h File Reference

```
#include <vector>
#include <algorithm>
```

Compounds

- class **StatisticsR**

Defines

- #define **ABS**(x) ((x)>0 ? (x):-(x))

Define Documentation

#define ABS(x) ((x)>0 ? (x):-(x))

Systeme.hpp File Reference

Defines

- #define **BIGENDIAN_SYSTEM** 0
- #define **FVDESSIN_SYSTEM** 0

Define Documentation

#define BIGENDIAN_SYSTEM 0

#define FVDESSIN_SYSTEM 0

TesterContour.hpp File Reference

```
#include "Chaine.hpp"
#include "Contour.hpp"
#include "Liste.hpp"
#include "ImageGris.hpp"
```

Compounds

- class **TesterContour**
- class **TstParam**

TesterEvolution.hpp File Reference

```
#include "AGParamBin.hpp"
#include "Contour.hpp"
#include "ImageGris.hpp"
#include "TesterContour.hpp"
#include "TableHO.hpp"
```

Compounds

- class **TesterEvolution**
- class **TstParamNote**

xbmdecod.cpp File Reference

```
#include <ctype.h>
#include "Chaine.hpp"
#include "xbmdecod.h"
#include "xbmpvt.h"
```

Enumerations

- enum **Token** { **Invalid**, **Define**, **Comma**, **Integer**, **Static**, **Char**, **Bits**, **LBrace**, **RBrace**, **Equal**, **LBracket**, **RBracket**, **HotX**, **HotY**, **Width**, **Height**, **Semicolon**, **Unsigned** }

Variables

- const **NoData** = 0xFFFF

Enumeration Type Documentation

enum Token

Enumeration values:

Invalid
Define
Comma
Integer
Static
Char
Bits
LBrace
RBrace
Equal
LBracket
RBracket
HotX
HotY
Width
Height
Semicolon
Unsigned

Variable Documentation

const NoData = 0xFFFF

xbmdecod.h File Reference

```
#include "bitimage.h"
#include "grexcept.h"
#include "Chaine.hpp"
```

Compounds

- class **EXbmInvalid**
- class **XbmDecoder**

xbmencod.cpp File Reference

```
#include <iomanip>
#include <ctype.h>
#include "xbmencod.h"
#include "xbmpvt.h"
```

xbmencod.h File Reference

```
#include "bitimage.h"
#include "grexcept.h"
#include "Chaine.hpp"
```

Compounds

- class **XbmEncoder**

xbmpvt.h File Reference

Functions

- **UBYTE1 RotateByte** (**UBYTE1** value)

Function Documentation

UBYTE1 RotateByte (UBYTE1 *value*) `[inline, static]`

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