dessin-realite-augmentee

1.0

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2.1 File List

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Chapter 3

Class Documentation

3.1 Cursor Struct Reference

Structure used to receive and sent data about the track.

`#include <libtrack.hpp>`

Public Attributes

- CvPoint center
- CvPoint cornerA
- CvPoint cornerB
- unsigned int area
- CvScalar color
- IplImage * mask
- unsigned int threshold
- bool active
- TYPE_TRACK flag

3.1.1 Detailed Description

Structure used to receive and sent data about the track.

3.1.2 Member Data Documentation

3.1.2.1 bool Cursor::active

determine whether the paint is active or not

3.1.2.2 unsigned int Cursor::area

area of the cursor

3.1.2.3 CvPoint Cursor::center

center pixel of the object area

3.1.2.4 CvScalar Cursor::color

HSV color of binarisation

3.1.2.5 CvPoint Cursor::cornerA

Up-Left corner of the object area

3.1.2.6 CvPoint Cursor::cornerB

Down-Right corner of the object area

3.1.2.7 TYPE_TRACK Cursor::flag

type of tracking

3.1.2.8 IplImage* Cursor::mask

mask or template used for tracking.

3.1.2.9 unsigned int Cursor::threshold

value of the threshold used for calibration

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

- libtrack.hpp

Chapter 4

File Documentation

4.1 libtrack.hpp File Reference

Tracking Library header.

```
#include <stdlib.h>
#include <stdio.h>
#include <iostream>
#include <assert.h>
#include <opencv/cv.h>
#include <opencv/highgui.h>
#include <cvblob.h>
```

Classes

- struct Cursor

  Structure used to receive and sent data about the track.

Typedefs

- typedef struct Cursor **Cursor**

Enumerations

- enum TYPE_TRACK { TRACK_COLOR, TRACK_SHAPE, TRACK_BLOB }

  Used to chose the tracking method.

Functions

- Cursor * calibration (IplImage *source, CvPoint A, CvPoint B, TYPE_TRACK flag)

  Initialize a structure for a TYPE_TRACK Tracking.
- int track (IplImage *source, Cursor *oldCursor)

  Realize a TYPE_TRACK Tracking, update the struct Cursor.
- Cursor * **initColorTrack** (IplImage *source, CvPoint A, CvPoint B)
- Cursor * **initBlobTrack** (IplImage *source, CvPoint A, CvPoint B)
- Cursor * **initShapeTrack** (IplImage *source, CvPoint A, CvPoint B)
- int **colorTrack** (IplImage *source, Cursor *oldCursor)
- int **blobTrack** (IplImage *source, Cursor *oldCursor)
- int **shapeTrack** (IplImage *source, Cursor *oldCursor)
- int binarisation (IplImage *source, Cursor *oldCursor)

  Update the mask in oldCursor with the source IplImage.
- CvScalar colorAverage (IplImage *hsv, CvPoint A, CvPoint B)

  Calculate and return the 'color' average of the hsv image, in the area delimited by A and B.
- CvScalar **sampledColorAverage** (IplImage *udrImg, int nbPixels)
- CvScalar mainColor (IplImage *hsv, CvPoint A, CvPoint B)

  Calculate and return the main color of the hsv image, in the area delimited by A and B.
- CvPoint **center** (CvPoint A, CvPoint B)
- int **blobFounding** (IplImage *source, Cursor *oldCursor)
- IplImage * **reshape** (IplImage *source, CvRect roi)
- CvRect **underROI** (CvRect fullRect, int ratio)
- int **setNewCoord** (Cursor *oldCursor)

4.1.1 Detailed Description

Tracking Library header.

Author

PouerMouer team

Version

r150

Date

04/2012

Library used to realise an object tracking in a video stream

4.1.2 Enumeration Type Documentation

4.1.2.1 enum TYPE_TRACK

Used to chose the tracking method.

Enumerator:

TRACK_COLOR For a track based on the object color.

TRACK_SHAPE For a track based on the object shape.

TRACK_BLOB For a track based on the object.

4.1.3 Function Documentation

4.1.3.1 int binarisation (IplImage * *source*, Cursor * *oldCursor*)

Update the mask in oldCursor with the source IplImage.

Parameters

source	: The colored source image you want to binarise
oldCursor	: structure to update, containing all information

Returns

0 if success, -1 if failure.

TODO : technical description.

4.1.3.2 Cursor* calibration (IplImage * *source*, CvPoint *A*, CvPoint *B*, TYPE_TRACK *flag*)

Initialize a structure for a TYPE_TRACK Tracking.

Parameters

source	: Image from which apply the calibration
A	: one of the two pixels defining the object area to track
B	: one of the two pixels defining the object area to track
flag	: determine the tracking method to use.

Returns

A Cursor * structure containing the track informations

4.1.3.3 CvScalar colorAverage (IplImage * *hsv*, CvPoint *A*, CvPoint *B*)

Calculate and return the 'color' average of the hsv image, in the area delimited by A and B.

Parameters

hsv	: The hsv source image
A	: first point of the area you want the color average
B	: second point of the area you want the color average

4.1.3.4 CvScalar mainColor (IplImage * *hsv*, CvPoint *A*, CvPoint *B*)

Calculate and return the main color of the hsv image, in the area delimited by A and B.

Parameters

hsv	: The hsv source image
A	: first point of the area you want the main color
B	: second point of the area you want the main color

4.1.3.5 int track (IplImage * *source*, Cursor * *oldCursor*)

Realize a TYPE_TRACK Tracking, update the struct Cursor.

Parameters

source	: Image from which apply the track
oldCursor	: structure to update, containing all information

Returns

0 if success, -1 if failure.

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