

VSS-Vision

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# Chapter 1

## Hierarchical Index

### 1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

Interface . . . . .	13
Message	
vss_command::Global_Commands . . . . .	9
vss_command::Robot_Command . . . . .	20
vss_state::Ball_State . . . . .	5
vss_state::Global_State . . . . .	11
vss_state::RGB . . . . .	18
vss_state::Robot_State . . . . .	22
QLabel	
QCustomLabel . . . . .	17
QMainWindow	
MainWindow . . . . .	14
QThread	
calibration . . . . .	7
vision . . . . .	25
SQLite . . . . .	23
vss_command::StaticDescriptorInitializer_command_2eproto . . . . .	24
vss_state::StaticDescriptorInitializer_state_2eproto . . . . .	24



## Chapter 2

# Class Index

### 2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

<a href="#">vss_state::Ball_State</a>	5
<a href="#">calibration</a>	7
<a href="#">vss_command::Global_Commands</a>	9
<a href="#">vss_state::Global_State</a>	11
<a href="#">Interface</a>	
This class is responsible for handle the communicatio between VSS-Vision, VSS-Simulator, V↔	
SS-Viewer and VSS-SampleStratey	13
<a href="#">MainWindow</a>	14
<a href="#">QCustomLabel</a>	17
<a href="#">vss_state::RGB</a>	18
<a href="#">vss_command::Robot_Command</a>	20
<a href="#">vss_state::Robot_State</a>	22
<a href="#">SQLite</a>	23
<a href="#">vss_command::StaticDescriptorInitializer_command_2eprot</a>	24
<a href="#">vss_state::StaticDescriptorInitializer_state_2eprot</a>	24
<a href="#">vision</a>	25



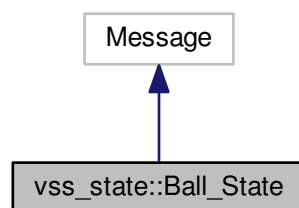


## Chapter 3

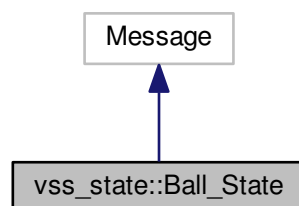
# Class Documentation

### 3.1 vss\_state::Ball\_State Class Reference

Inheritance diagram for vss\_state::Ball\_State:



Collaboration diagram for vss\_state::Ball\_State:



## Public Member Functions

- **Ball\_State** (const [Ball\\_State](#) &from)
- [Ball\\_State](#) & **operator=** (const [Ball\\_State](#) &from)
- const ::google::protobuf::UnknownFieldSet & **unknown\_fields** () const
- inline::google::protobuf::UnknownFieldSet \* **mutable\_unknown\_fields** ()
- void **Swap** ([Ball\\_State](#) \*other)
- [Ball\\_State](#) \* **New** () const
- void **CopyFrom** (const ::google::protobuf::Message &from)
- void **MergeFrom** (const ::google::protobuf::Message &from)
- void **CopyFrom** (const [Ball\\_State](#) &from)
- void **MergeFrom** (const [Ball\\_State](#) &from)
- void **Clear** ()
- bool **IsInitialized** () const
- int **ByteSize** () const
- bool **MergePartialFromCodedStream** (::google::protobuf::io::CodedInputStream \*input)
- void **SerializeWithCachedSizes** (::google::protobuf::io::CodedOutputStream \*output) const
- ::google::protobuf::uint8 \* **SerializeWithCachedSizesToArray** (::google::protobuf::uint8 \*output) const
- int **GetCachedSize** () const
- ::google::protobuf::Metadata **GetMetadata** () const
- bool **has\_x** () const
- void **clear\_x** ()
- float **x** () const
- void **set\_x** (float value)
- bool **has\_y** () const
- void **clear\_y** ()
- float **y** () const
- void **set\_y** (float value)

## Static Public Member Functions

- static const ::google::protobuf::Descriptor \* **descriptor** ()
- static const [Ball\\_State](#) & **default\_instance** ()

## Static Public Attributes

- static const int **kXFieldNumber** = 1
- static const int **kYFieldNumber** = 2

## Friends

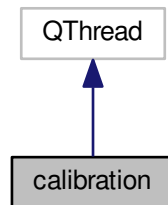
- void **protobuf\_AddDesc\_state\_2eproto** ()
- void **protobuf\_AssignDesc\_state\_2eproto** ()
- void **protobuf\_ShutdownFile\_state\_2eproto** ()

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

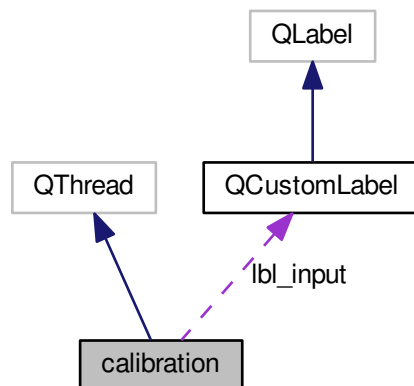
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/protos/state.pb.h
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/protos/state.pb.cc

## 3.2 calibration Class Reference

Inheritance diagram for calibration:



Collaboration diagram for calibration:



### Public Member Functions

- void **run** ()
- void **finish** ()
- void **applyFilters** ()
- void **zoom** ()
- void **paint\_output** ()
- void **set\_device** (int)
- void **set\_id\_camera** (int)
- void **set\_path\_image** (string)
- void **set\_path\_video** (string)
- void **set\_vision\_reception** (bool)
- void **set\_id\_color** (int)

- void **set\_mouse\_click\_left** (int)
- void **set\_mouse\_click\_right** (int)
- int **get\_device** ()
- int **get\_id\_camera** ()
- string **get\_path\_image** ()
- bool **get\_vision\_reception** ()
- int **get\_id\_color** ()
- int **get\_mouse\_click\_left** ()
- int **get\_mouse\_click\_right** ()
- void **alloc\_label\_input** ([QCustomLabel](#) \*)
- void **alloc\_calibration** (Calibration \*)

### Protected Attributes

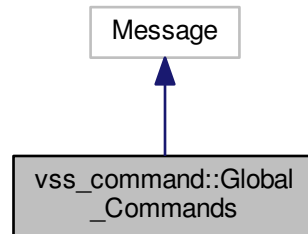
- bool **run\_it**
- int **device\_used**
- bool **vision\_reception**
- bool **start\_finish**
- int **id\_camera**
- string **path\_image**
- string **path\_video**
- int **mouse\_click\_left**
- int **mouse\_click\_right**
- int **id\_calib**
- Point **zoom\_blob**
- Mat **in**
- Mat **out**
- Mat **saved**
- Mat **raw\_in**
- Mat **raw\_out**
- Mat **storage**
- Point **size**
- VideoCapture **cap**
- vector< vector< Point > > **labels**
- vector< vector< Point > > **contours**
- vector< Vec4i > **hierarchy**
- QImage **img**
- [QCustomLabel](#) \* **lbl\_input**
- Calibration \* **\_calib**
- TableColor **table\_color**

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

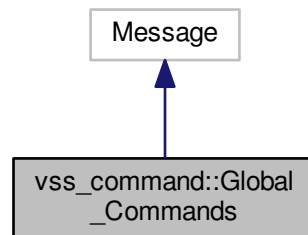
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/calibration.h
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/calibration.cpp

### 3.3 vss\_command::Global\_Commands Class Reference

Inheritance diagram for vss\_command::Global\_Commands:



Collaboration diagram for vss\_command::Global\_Commands:



#### Public Member Functions

- **Global\_Commands** (const [Global\\_Commands](#) &from)
- [Global\\_Commands](#) & **operator=** (const [Global\\_Commands](#) &from)
- const ::google::protobuf::UnknownFieldSet & **unknown\_fields** () const
- inline::google::protobuf::UnknownFieldSet \* **mutable\_unknown\_fields** ()
- void **Swap** ([Global\\_Commands](#) \*other)
- [Global\\_Commands](#) \* **New** () const
- void **CopyFrom** (const ::google::protobuf::Message &from)
- void **MergeFrom** (const ::google::protobuf::Message &from)
- void **CopyFrom** (const [Global\\_Commands](#) &from)
- void **MergeFrom** (const [Global\\_Commands](#) &from)
- void **Clear** ()
- bool **IsInitialized** () const
- int **ByteSize** () const
- bool **MergePartialFromCodedStream** (::google::protobuf::io::CodedInputStream \*input)

- void **SerializeWithCachedSizes** (::google::protobuf::io::CodedOutputStream \*output) const
- ::google::protobuf::uint8 \* **SerializeWithCachedSizesToArray** (::google::protobuf::uint8 \*output) const
- int **GetCachedSize** () const
- ::google::protobuf::Metadata **GetMetadata** () const
- bool **has\_id** () const
- void **clear\_id** ()
- inline::google::protobuf::uint32 **id** () const
- void **set\_id** (::google::protobuf::uint32 value)
- bool **has\_is\_team\_yellow** () const
- void **clear\_is\_team\_yellow** ()
- bool **is\_team\_yellow** () const
- void **set\_is\_team\_yellow** (bool value)
- int **robot\_commands\_size** () const
- void **clear\_robot\_commands** ()
- const ::vss\_command::Robot\_Command & **robot\_commands** (int index) const
- inline::vss\_command::Robot\_Command \* **mutable\_robot\_commands** (int index)
- inline::vss\_command::Robot\_Command \* **add\_robot\_commands** ()
- const ::google::protobuf::RepeatedPtrField< ::vss\_command::Robot\_Command > & **robot\_commands** () const
- inline::google::protobuf::RepeatedPtrField< ::vss\_command::Robot\_Command > \* **mutable\_robot\_commands** ()

### Static Public Member Functions

- static const ::google::protobuf::Descriptor \* **descriptor** ()
- static const [Global\\_Commands](#) & **default\_instance** ()

### Static Public Attributes

- static const int **kIdFieldNumber** = 1
- static const int **kIsTeamYellowFieldNumber** = 2
- static const int **kRobotCommandsFieldNumber** = 3

### Friends

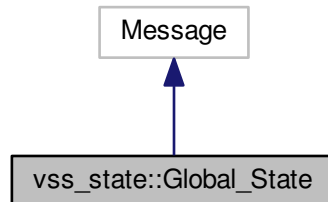
- void **protobuf\_AddDesc\_command\_2proto** ()
- void **protobuf\_AssignDesc\_command\_2proto** ()
- void **protobuf\_ShutdownFile\_command\_2proto** ()

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

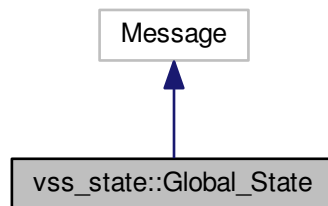
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/protos/command.pb.h
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/protos/command.pb.cc

### 3.4 vss\_state::Global\_State Class Reference

Inheritance diagram for vss\_state::Global\_State:



Collaboration diagram for vss\_state::Global\_State:



#### Public Member Functions

- **Global\_State** (const [Global\\_State](#) &from)
- [Global\\_State](#) & **operator=** (const [Global\\_State](#) &from)
- const ::google::protobuf::UnknownFieldSet & **unknown\_fields** () const
- inline::google::protobuf::UnknownFieldSet \* **mutable\_unknown\_fields** ()
- void **Swap** ([Global\\_State](#) \*other)
- [Global\\_State](#) \* **New** () const
- void **CopyFrom** (const ::google::protobuf::Message &from)
- void **MergeFrom** (const ::google::protobuf::Message &from)
- void **CopyFrom** (const [Global\\_State](#) &from)
- void **MergeFrom** (const [Global\\_State](#) &from)
- void **Clear** ()
- bool **IsInitialized** () const
- int **ByteSize** () const
- bool **MergePartialFromCodedStream** (::google::protobuf::io::CodedInputStream \*input)
- void **SerializeWithCachedSizes** (::google::protobuf::io::CodedOutputStream \*output) const
- ::google::protobuf::uint8 \* **SerializeWithCachedSizesToArray** (::google::protobuf::uint8 \*output) const

- int **GetCachedSize** () const
- ::google::protobuf::Metadata **GetMetadata** () const
- bool **has\_id** () const
- void **clear\_id** ()
- inline::google::protobuf::uint32 **id** () const
- void **set\_id** (::google::protobuf::uint32 value)
- bool **has\_origin** () const
- void **clear\_origin** ()
- bool **origin** () const
- void **set\_origin** (bool value)
- int **balls\_size** () const
- void **clear\_balls** ()
- const ::vss\_state::Ball\_State & **balls** (int index) const
- inline::vss\_state::Ball\_State \* **mutable\_balls** (int index)
- inline::vss\_state::Ball\_State \* **add\_balls** ()
- const ::google::protobuf::RepeatedPtrField< ::vss\_state::Ball\_State > & **balls** () const
- inline::google::protobuf::RepeatedPtrField< ::vss\_state::Ball\_State > \* **mutable\_balls** ()
- int **robots\_yellow\_size** () const
- void **clear\_robots\_yellow** ()
- const ::vss\_state::Robot\_State & **robots\_yellow** (int index) const
- inline::vss\_state::Robot\_State \* **mutable\_robots\_yellow** (int index)
- inline::vss\_state::Robot\_State \* **add\_robots\_yellow** ()
- const ::google::protobuf::RepeatedPtrField< ::vss\_state::Robot\_State > & **robots\_yellow** () const
- inline::google::protobuf::RepeatedPtrField< ::vss\_state::Robot\_State > \* **mutable\_robots\_yellow** ()
- int **robots\_blue\_size** () const
- void **clear\_robots\_blue** ()
- const ::vss\_state::Robot\_State & **robots\_blue** (int index) const
- inline::vss\_state::Robot\_State \* **mutable\_robots\_blue** (int index)
- inline::vss\_state::Robot\_State \* **add\_robots\_blue** ()
- const ::google::protobuf::RepeatedPtrField< ::vss\_state::Robot\_State > & **robots\_blue** () const
- inline::google::protobuf::RepeatedPtrField< ::vss\_state::Robot\_State > \* **mutable\_robots\_blue** ()

### Static Public Member Functions

- static const ::google::protobuf::Descriptor \* **descriptor** ()
- static const [Global\\_State](#) & **default\_instance** ()

### Static Public Attributes

- static const int **kIdFieldNumber** = 1
- static const int **kOriginFieldNumber** = 2
- static const int **kBallsFieldNumber** = 3
- static const int **kRobotsYellowFieldNumber** = 4
- static const int **kRobotsBlueFieldNumber** = 5

### Friends

- void **protobuf\_AddDesc\_state\_2eproto** ()
- void **protobuf\_AssignDesc\_state\_2eproto** ()
- void **protobuf\_ShutdownFile\_state\_2eproto** ()

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

- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/protos/state.pb.h
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/protos/state.pb.cc

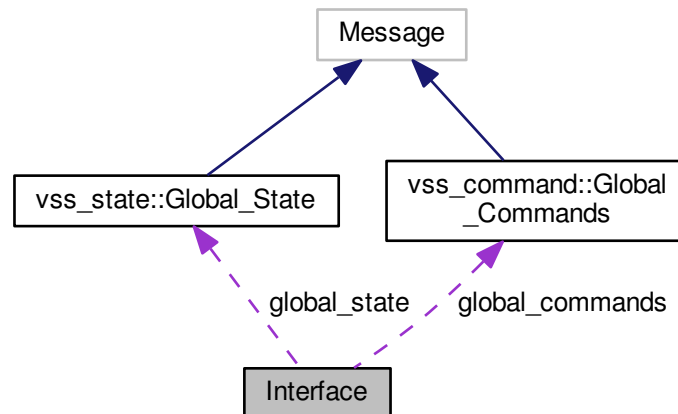


## 3.5 Interface Class Reference

This class is responsible for handle the communicatio between VSS-Vision, VSS-Simulator, VSS-Viewer and VSS-SampleStrategy.

```
#include <interface.h>
```

Collaboration diagram for Interface:



### Public Member Functions

- void **createSocketSendState** (vss\_state::Global\_State \*)
- void **sendState** ()
- void **createSocketReceiveState** (vss\_state::Global\_State \*)
- void **receiveState** ()
- void **createLoopSendCommandsTeam1** (vss\_command::Global\_Commands \*)
- void **createLoopReceiveCommandsTeam1** (vss\_command::Global\_Commands \*)
- void **createLoopSendCommandsTeam2** (vss\_command::Global\_Commands \*)
- void **createLoopReceiveCommandsTeam2** (vss\_command::Global\_Commands \*)
- void **printStats** ()
- void **printCommand** ()

### Protected Attributes

- zmq::message\_t **request**
- zmq::context\_t \* **context**
- zmq::socket\_t \* **socket**
- vss\_state::Global\_State \* **global\_state**
- vss\_command::Global\_Commands \* **global\_commands**
- const char \* **addr\_server\_multicast** = "tcp://\*:5555"
- const char \* **addr\_client\_multicast** = "tcp://localhost:5555"
- const char \* **addr\_server\_simulator\_team1** = "tcp://\*:5556"
- const char \* **addr\_client\_simulator\_team1** = "tcp://localhost:5556"
- const char \* **addr\_server\_simulator\_team2** = "tcp://\*:5557"
- const char \* **addr\_client\_simulator\_team2** = "tcp://localhost:5557"

### 3.5.1 Detailed Description

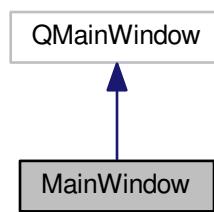
This class is responsible for handle the communicatio between VSS-Vision, VSS-Simulator, VSS-Viewer and VSS-SampleStrategy.

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

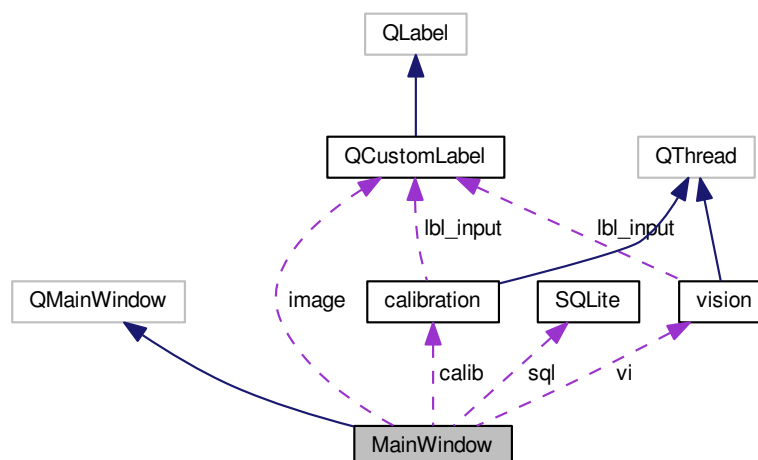
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/interface.h
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/interface.cpp

## 3.6 MainWindow Class Reference

Inheritance diagram for MainWindow:



Collaboration diagram for MainWindow:



## Public Slots

- void **mouseCurrentPos** ()
- void **mouseLeftPressed** ()
- void **mouseRightPressed** ()
- void **mouseReleased** ()
- void **mouseLeave** ()
- void **keyPressed** ()
- void **evtCalibration** ()
- void **evtVision** ()
- void **checkboxCamera** (int)
- void **checkboxImage** (int)
- void **checkboxVideo** (int)
- void **updateHmin** (int)
- void **updateSmin** (int)
- void **updateVmin** (int)
- void **updateHmax** (int)
- void **updateSmax** (int)
- void **updateVmax** (int)

## Public Member Functions

- **MainWindow** (QWidget \*parent=0)

## Protected Member Functions

- void **buildTrees** ()
- void **addMainItem** ()
- void **addInputDataItem** ()
- void **addCameraCalibrationItem** ()
- void **addBlobFindingItem** ()
- void **addVisualizationItem** ()
- void **addDefinePatternsItem** ()
- void **addExecutionConfig** ()
- void **addCalibrateColors** ()
- void **addVisionOptions** ()
- void **addNetOptions** ()
- void **addExecutionOptions** ()
- void **initCalibrationColors** ()
- void **finishCalibrationColors** ()
- void **initPlotValues** ()
- void **finishPlotValues** ()
- void **updateValuesHSV** ()
- void **update\_hsv\_s** ()
- char **calcHex** (float)
- void **getAllDevices** ()
- void **defineColors** ()
- int **translateColor** (QString)

## Protected Attributes

- [calibration](#) **calib**
- [vision](#) **vi**
- [SQLite](#) \* **sql**
- Ui::MainWindow \* **ui**
- QIcon **blockdevice**
- QIcon **ksame**
- QIcon **kdf**
- QIcon **package**
- QTreeWidgetItem \* **mainItem**
- QList< QTreeWidgetItem \* > **inputData**
- QList< QTreeWidgetItem \* > **cameraCalibration**
- QList< QTreeWidgetItem \* > **blobFinding**
- QList< QTreeWidgetItem \* > **visualization**
- QList< QTreeWidgetItem \* > **definePatterns**
- QList< QTreeWidgetItem \* > **defineExecutionConfig**
- QList< QTreeWidgetItem \* > **calibrateColors**
- QList< QTreeWidgetItem \* > **visionOptions**
- QList< QTreeWidgetItem \* > **netOptions**
- QList< QTreeWidgetItem \* > **executionOptions**
- QComboBox \* **cmbCameraIds**
- QComboBox \* **cmbSavedImages**
- QComboBox \* **cmbSavedVideos**
- QComboBox \* **cmbColors**
- QComboBox \* **cmbMainColors\_1**
- QComboBox \* **cmbMainColors\_2**
- QComboBox \* **cmbSecColors\_1**
- QComboBox \* **cmbSecColors\_2**
- QComboBox \* **cmbSecColors\_3**
- QComboBox \* **cmbSecColors\_4**
- QComboBox \* **cmbSecColors\_5**
- QComboBox \* **cmbSecColors\_6**
- QComboBox \* **cmbBallColors**
- QCheckBox \* **checkUseCamera**
- QCheckBox \* **checkUseImage**
- QCheckBox \* **checkUseVideo**
- QPushButton \* **btnDoColorCalib**
- QPushButton \* **btnRunVision**
- QWidget \* **contLayoutH3**
- vector< QLabel \* > **lblHeadersHSV**
- vector< QSlider \* > **slidersHSV**
- vector< QLabel \* > **lblHeadersPlot**
- vector< QLabel \* > **lblPlots**
- QLabel \* **lbl\_val**
- [QCustomLabel](#) \* **image**
- QLabel \* **coordinate\_mouse**
- QLabel \* **zoom\_image**
- QImage \* **in**
- vector< string > **devices**
- vector< int > **colors**
- Calibration **\_calib**
- State **state**
- ExecConfiguration **execConfig**
- stringstream **ss**

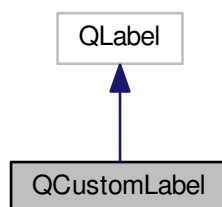
- string **hsv\_s**
- bool **calib\_vs\_vision**
- bool **init**

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

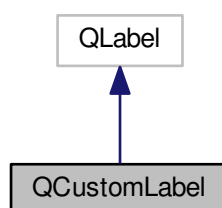
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/mainwindow.h
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/mainwindow.cpp

## 3.7 QCustomLabel Class Reference

Inheritance diagram for QCustomLabel:



Collaboration diagram for QCustomLabel:



### Signals

- void **Mouse\_Pos** ()
- void **Mouse\_Left\_Pressed** ()
- void **Mouse\_Right\_Pressed** ()
- void **Mouse\_Release** ()
- void **Mouse\_Left** ()
- void **Mouse\_Scroll** ()
- void **Key\_Pressed** ()

## Public Member Functions

- **QCustomLabel** (QLabel \*parent=0)
- void **mouseMoveEvent** (QMouseEvent \*ev)
- void **mousePressEvent** (QMouseEvent \*ev)
- void **mouseReleaseEvent** (QMouseEvent \*ev)
- void **leaveEvent** (QEvent \*ev)
- void **wheelEvent** (QWheelEvent \*ev)
- void **keyPressEvent** (QKeyEvent \*ev)

## Public Attributes

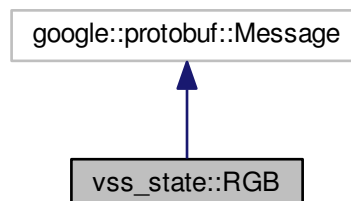
- int **x**
- int **y**
- int **delta**
- int **last\_left\_click\_x**
- int **last\_left\_click\_y**
- int **last\_right\_click\_x**
- int **last\_right\_click\_y**

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

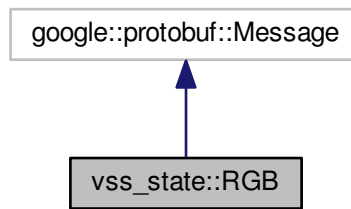
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/qcustomlabel.h
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/qcustomlabel.cpp

## 3.8 vss\_state::RGB Class Reference

Inheritance diagram for vss\_state::RGB:



Collaboration diagram for vss\_state::RGB:



### Public Member Functions

- **RGB** (const [RGB](#) &from)
- **RGB & operator=** (const [RGB](#) &from)
- const `::google::protobuf::UnknownFieldSet & unknown_fields ()` const
- inline `::google::protobuf::UnknownFieldSet * mutable_unknown_fields ()`
- void **Swap** ([RGB](#) \*other)
- **RGB \* New** () const
- void **CopyFrom** (const `::google::protobuf::Message` &from)
- void **MergeFrom** (const `::google::protobuf::Message` &from)
- void **CopyFrom** (const [RGB](#) &from)
- void **MergeFrom** (const [RGB](#) &from)
- void **Clear** ()
- bool **IsInitialized** () const
- int **ByteSize** () const
- bool **MergePartialFromCodedStream** (`::google::protobuf::io::CodedInputStream` \*input)
- void **SerializeWithCachedSizes** (`::google::protobuf::io::CodedOutputStream` \*output) const
- `::google::protobuf::uint8 * SerializeWithCachedSizesToArray` (`::google::protobuf::uint8` \*output) const
- int **GetCachedSize** () const
- `::google::protobuf::Metadata` **GetMetadata** () const
- bool **has\_r** () const
- void **clear\_r** ()
- inline `::google::protobuf::uint32 r` () const
- void **set\_r** (`::google::protobuf::uint32` value)
- bool **has\_g** () const
- void **clear\_g** ()
- inline `::google::protobuf::uint32 g` () const
- void **set\_g** (`::google::protobuf::uint32` value)
- bool **has\_b** () const
- void **clear\_b** ()
- inline `::google::protobuf::uint32 b` () const
- void **set\_b** (`::google::protobuf::uint32` value)

### Static Public Member Functions

- static const `::google::protobuf::Descriptor` \* **descriptor** ()
- static const [RGB](#) & **default\_instance** ()

### Static Public Attributes

- static const int **kRFieldNumber** = 1
- static const int **kGFieldNumber** = 2
- static const int **kBFieldNumber** = 3

### Friends

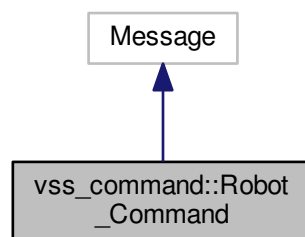
- void **protobuf\_AddDesc\_state\_2eproto** ()
- void **protobuf\_AssignDesc\_state\_2eproto** ()
- void **protobuf\_ShutdownFile\_state\_2eproto** ()

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

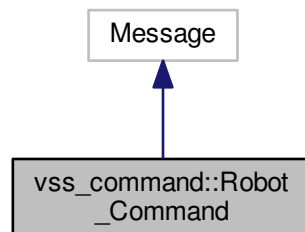
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/protos/state.pb.h
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/protos/state.pb.cc

## 3.9 vss\_command::Robot\_Command Class Reference

Inheritance diagram for vss\_command::Robot\_Command:



Collaboration diagram for vss\_command::Robot\_Command:





## Public Member Functions

- **Robot\_Command** (const [Robot\\_Command](#) &from)
- **Robot\_Command** & **operator=** (const [Robot\\_Command](#) &from)
- const ::google::protobuf::UnknownFieldSet & **unknown\_fields** () const
- inline::google::protobuf::UnknownFieldSet \* **mutable\_unknown\_fields** ()
- void **Swap** ([Robot\\_Command](#) \*other)
- **Robot\_Command** \* **New** () const
- void **CopyFrom** (const ::google::protobuf::Message &from)
- void **MergeFrom** (const ::google::protobuf::Message &from)
- void **CopyFrom** (const [Robot\\_Command](#) &from)
- void **MergeFrom** (const [Robot\\_Command](#) &from)
- void **Clear** ()
- bool **IsInitialized** () const
- int **ByteSize** () const
- bool **MergePartialFromCodedStream** (::google::protobuf::io::CodedInputStream \*input)
- void **SerializeWithCachedSizes** (::google::protobuf::io::CodedOutputStream \*output) const
- ::google::protobuf::uint8 \* **SerializeWithCachedSizesToArray** (::google::protobuf::uint8 \*output) const
- int **GetCachedSize** () const
- ::google::protobuf::Metadata **GetMetadata** () const
- bool **has\_id** () const
- void **clear\_id** ()
- inline::google::protobuf::uint32 **id** () const
- void **set\_id** (::google::protobuf::uint32 value)
- bool **has\_left\_vel** () const
- void **clear\_left\_vel** ()
- float **left\_vel** () const
- void **set\_left\_vel** (float value)
- bool **has\_right\_vel** () const
- void **clear\_right\_vel** ()
- float **right\_vel** () const
- void **set\_right\_vel** (float value)

## Static Public Member Functions

- static const ::google::protobuf::Descriptor \* **descriptor** ()
- static const [Robot\\_Command](#) & **default\_instance** ()

## Static Public Attributes

- static const int **kIdFieldNumber** = 1
- static const int **kLeftVelFieldNumber** = 2
- static const int **kRightVelFieldNumber** = 3

## Friends

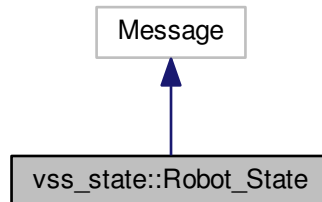
- void **protobuf\_AddDesc\_command\_2eproto** ()
- void **protobuf\_AssignDesc\_command\_2eproto** ()
- void **protobuf\_ShutdownFile\_command\_2eproto** ()

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

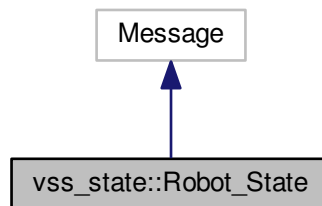
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/protos/command.pb.h
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/protos/command.pb.cc

### 3.10 vss\_state::Robot\_State Class Reference

Inheritance diagram for vss\_state::Robot\_State:



Collaboration diagram for vss\_state::Robot\_State:



#### Public Member Functions

- **Robot\_State** (const [Robot\\_State](#) &from)
- [Robot\\_State](#) & **operator=** (const [Robot\\_State](#) &from)
- const ::google::protobuf::UnknownFieldSet & **unknown\_fields** () const
- inline::google::protobuf::UnknownFieldSet \* **mutable\_unknown\_fields** ()
- void **Swap** ([Robot\\_State](#) \*other)
- [Robot\\_State](#) \* **New** () const
- void **CopyFrom** (const ::google::protobuf::Message &from)
- void **MergeFrom** (const ::google::protobuf::Message &from)
- void **CopyFrom** (const [Robot\\_State](#) &from)
- void **MergeFrom** (const [Robot\\_State](#) &from)
- void **Clear** ()
- bool **IsInitialized** () const
- int **ByteSize** () const
- bool **MergePartialFromCodedStream** (::google::protobuf::io::CodedInputStream \*input)
- void **SerializeWithCachedSizes** (::google::protobuf::io::CodedOutputStream \*output) const
- ::google::protobuf::uint8 \* **SerializeWithCachedSizesToArray** (::google::protobuf::uint8 \*output) const

- int **GetCachedSize** () const
- ::google::protobuf::Metadata **GetMetadata** () const
- bool **has\_x** () const
- void **clear\_x** ()
- float **x** () const
- void **set\_x** (float value)
- bool **has\_y** () const
- void **clear\_y** ()
- float **y** () const
- void **set\_y** (float value)
- bool **has\_color** () const
- void **clear\_color** ()
- const ::vss\_state::RGB & **color** () const
- inline::vss\_state::RGB \* **mutable\_color** ()
- inline::vss\_state::RGB \* **release\_color** ()
- void **set\_allocated\_color** (::vss\_state::RGB \*color)
- bool **has\_yaw** () const
- void **clear\_yaw** ()
- float **yaw** () const
- void **set\_yaw** (float value)

### Static Public Member Functions

- static const ::google::protobuf::Descriptor \* **descriptor** ()
- static const [Robot\\_State](#) & **default\_instance** ()

### Static Public Attributes

- static const int **kXFieldNumber** = 1
- static const int **kYFieldNumber** = 2
- static const int **kColorFieldNumber** = 3
- static const int **kYawFieldNumber** = 4

### Friends

- void **protobuf\_AddDesc\_state\_2eproto** ()
- void **protobuf\_AssignDesc\_state\_2eproto** ()
- void **protobuf\_ShutdownFile\_state\_2eproto** ()

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

- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/protos/state.pb.h
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/protos/state.pb.cc

## 3.11 SQLite Class Reference

### Public Member Functions

- **SQLite** (string, string)
- void **open** ()
- void **close** ()
- void **insert\_calibration** ()
- void **select\_calibration** (string s="")

### Protected Member Functions

- void **clean\_query** ()

### Static Protected Member Functions

- static int **callback** (void \*NotUsed, int argc, char \*\*argv, char \*\*azColName)

### Protected Attributes

- sqlite3 \* **db**
- string **path\_database**
- string **password**
- stringstream **query**
- int **status\_db**
- char \* **error\_query**
- const char \* **data**

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

- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/sqlite.h
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/sqlite.cpp

## 3.12 vss\_command::StaticDescriptorInitializer\_command\_2proto Struct Reference

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

- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/protos/command.pb.cc

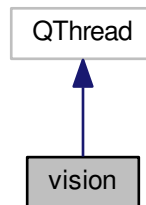
## 3.13 vss\_state::StaticDescriptorInitializer\_state\_2proto Struct Reference

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

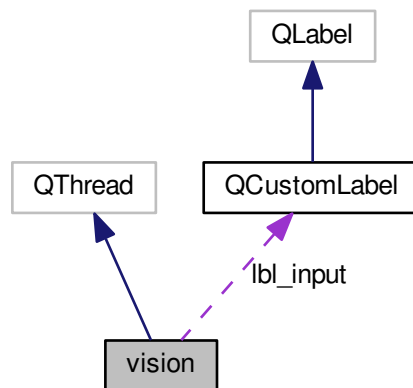
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/protos/state.pb.cc

## 3.14 vision Class Reference

Inheritance diagram for vision:



Collaboration diagram for vision:



### Public Member Functions

- void **run** ()
- void **search\_color** (int)
- void **alloc\_calibration** (Calibration \*)
- void **alloc\_state** (State \*)
- void **alloc\_label\_input** (QCustomLabel \*)
- void **alloc\_colors** (vector< int > \*)
- void **alloc\_execution\_config** (ExecConfiguration \*)
- void **alloc\_label\_plots** (vector< QLabel \* > \*)
- void **set\_device** (int)
- void **set\_id\_camera** (int)
- void **set\_path\_image** (string)

- void **set\_vision\_reception** (bool)
- void **set\_path\_video** (string)
- int **get\_device** ()
- int **get\_id\_camera** ()
- string **get\_path\_image** ()
- bool **get\_vision\_reception** ()
- string **get\_path\_video** ()
- void **finish** ()

### Protected Member Functions

- vector< Rect > **orderByArea** (vector< Rect >)
- Rect **expandRect** (Point)
- bool **itsALabel** (Rect)
- bool **itsAwayFromLimits** (Point)
- void **recognizeObjects** ()
- bool **isValidPoint** (Point)
- void **updatePlot** ()

### Protected Attributes

- bool **run\_it**
- bool **start\_finish**
- int **device\_used**
- int **id\_camera**
- bool **vision\_reception**
- string **path\_image**
- string **path\_video**
- int **side\_cut**
- float **area\_min**
- float **area\_max**
- float **distc\_min**
- float **distc\_max**
- float **propc\_min**
- float **propc\_max**
- Calibration \* **calib**
- State \* **state**
- ExecConfiguration \* **exec\_config**
- TableColor **table\_color**
- Mat **in**
- Mat **out**
- Mat **saved**
- Mat **raw\_out**
- Mat **raw\_in**
- Mat **storage**
- VideoCapture **cap**
- vector< vector< Point > > **coordinate\_old**
- vector< vector< Point > > **labels**
- vector< vector< Point > > **contours**
- vector< Vec4i > **hierarchy**
- vector< Point > **vol\_coordinate**
- vector< int > \* **colors**
- bool **find\_old\_labels** [13]

- KalmanFilter **kfs** [13]
- [QCustomLabel](#) \* **lbl\_input**
- vector< QLabel \* > \* **lbl\_plots**

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

- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/vision.h
- /home/johnathan/Repositories/SIRLab/VSS-Vision/src/vision.cpp





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