

## MapView

```

- tempRobotHideStatus : bool
- tempRobotHandle : GLuint
- expectedRobotHandle : GLuint
- robotHandles : QVector<GLuint>
- f : QOpenGLFunctions*
- _program : QOpenGLShaderProgram*
- _materialColorID : GLuint
- _projMat : QMatrix4x4
- _centerMoveMat : QMatrix4x4
- _projMatID : GLuint
- _centerMoveMatID : GLuint
- _cameraAngleX : GLfloat
- _cameraAngleY : GLfloat
- _cameraFar : GLfloat
- _mouseLastPos : QPoint
- m_ backgroundColor : QVector4D
- _vao : QOpenGLVertexArrayObject
- _vbo : QOpenGLBuffer
- _gridVAO : QOpenGLVertexArrayObject
- _gridVBO : QOpenGLBuffer
- _gridCountOfVerts : unsigned int
- _gridVertices : GLfloat*
- m_gridColor : QVector4D
- m_maps : QVector<EnvMap*>
- m_mapsVAOs :
  QVector<QVector<QOpenGLVertexArrayObject*>>
- m_mapsVBOs : QVector<QVector<QOpenGLBuffer*>>
+ MapViewer (parent : QWidget*)
+ ~MapViewer ()
+ minimumSizeHint () const : QSize
+ sizeHint () const : QSize
+ addEnvMap ( verts : QVector<QVector<QVector4D*>*>,
  center : QVector4D, allowToModifyY : bool )
+ updateTempRobotPosition ( ? )
+ hideTempRobot ( hide : bool )
+ addRobot ( robotPos : QVector<?> )
+ reloadObjects ()
+ updateExpectedRobotPosition ( ? )
- addGrid ( space : float, rows : int, cols : int )
- addTestTriangle ()
- clean ()
- countColor ( objIndex : int ) : QVector4D
# paintGL ()
# initializeGL ()
# resizeGL ( width : int, height : int )
# mouseMoveEvent ( event : QMouseEvent*)
# mousePressEvent ( event : QMouseEvent*)
# wheelEvent ( event : QMouseEvent*)

```

## MainWindow

```

- ui : Ui::MainWindow*
- m_monitor : MapViewer*
- m_fileController : FileController
- connectionStatus : int
+ MainWindow (parent : QWidget*)
+ ~MainWindow ()
+ connectBluetooth ( ? ) : ?
+ isConnected () : bool
- downloadData ()
- scanEnvironment ()
- moveRobot ( ? )
- on_actionLoadFromSimFile_triggered ()
- showLog ( caption : QString, errors :
  QVector<ErrorType>)

```

## FileController

```

- m_parent : QObject*
+ FileController (parent : QObject*)
+ ~FileController ()
+ loadSensorDataFromFile ( fileName : const QString & ) :
  QVector<QVector<QVector4D*>*>
+ getFromCSVFile ( fileName : const QString & ) : QStringList

```

## EnvMap

```

- m_vertices : QVector<const GLfloat*>
- m_verticesCount : QVector<unsigned int>
- m_allVertsCount : unsigned int
- m_centerPos : QVector4D
- m_colorMaterial : QVector4D
+ EnvMap ( verts : QVector<QVector<QVector4D*>*>, color :
  QVector4D, center : QVector4D )
+ ~EnvMap ()
+ getMeshesCount () : unsigned int
+ getVerts ( meshIndex : int ) : const GLfloat*
+ getVertsCount ( meshIndex : int ) : unsigned int
+ getAllVertsCount () : unsigned int
+ getTranslationMatrix () : QMatrix4x4
+ getMaterialColor () : QVector4D

```

## BluetoothController

```

- ? connectionVariables
# getRobotPosition () : QVector<?>
# moveRobot ( ? )
# getDataFromRobot () : QVector<QVector<double>>>
+ scanEnvironment ()
+ cleanRobotStateInRobot ()
+ connect ( ? )
+ newData () : SIGNAL

```

## MessageController

```

- m_wNames [] : static QString
+ MessageController ()
+ ~MessageController ()
+ reinterpretW00 ( allFields : QStringList & ) :
  QVector<QVector<QVector4D*>*>
- sendLog ( caption : QString, errors : QVector<ErrorType>
  SIGNAL

```

## RobotController

```

- robotPos : QVector<QVector<?>>
- tempRobotPos : QVector<?>
- expectedRobotPos : QVector<?>
+ getRobotPosition ( index : int, online : bool ) : QVector<?>
+ moveRobot ( ? )
+ getRobotPositions () : QVector<QVector<?>>&
+ getDataFromRobot () : QVector<QVector<double>>>
+ tempRobotPositionChanged () : SIGNAL
+ expectedRobotPositionChanged () : SIGNAL

```