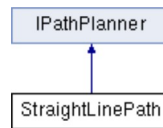


StraightLinePath Class Reference

Inheritance diagram for StraightLinePath:



Public Member Functions

StraightLinePath ()

Constructor for the Straight Line Path Class. [More...](#)

virtual **~StraightLinePath ()**

Destructor for the Straight Line Path Class. [More...](#)

std::vector< Eigen::Matrix4d > **computePath** (const Eigen::Matrix4d &aStart, const Eigen::Matrix4d &aEnd, const double &alncement)

Method to Compute the 3 Dimensional path from start point to end point by desired increments (or less). [More...](#)

Protected Member Functions

Eigen::Vector3d **determineDirection** (const **Coordinate** &aStart, const **Coordinate** &aEnd, const double &alncement)

Method to Determine the direction the next point should be in. [More...](#)

Constructor & Destructor Documentation

◆ StraightLinePath()

StraightLinePath::StraightLinePath ()

Constructor for the Straight Line Path Class.

Parameters

None.

Returns

None.

◆ ~StraightLinePath()

StraightLinePath::~~StraightLinePath ()

virtual

Destructor for the Straight Line Path Class.

Parameters

None.

Returns

None.

Member Function Documentation

◆ computePath()

```
std::vector< Eigen::Matrix4d > StraightLinePath::computePath ( const Eigen::Matrix4d & aStart,
                                                             const Eigen::Matrix4d & aEnd,
                                                             const double &      alncrement
                                                             )
```

Method to Compute the 3 Dimensional path from start point to end point by desired increments (or less).

Parameters

aStart 4x4 Matrix from Eigen.
aEnd 4x4 Matrix from Eigen.
alncrement double. The max distance between path points.

Returns

std::vector<Eigen::Matrix4d> The transformation matrices corresponding to the path from start to end.

Implements [IPathPlanner](#).

◆ determineDirection()

```
Eigen::Vector3d StraightLinePath::determineDirection ( const Coordinate & aStart,
                                                       const Coordinate & aEnd,
                                                       const double &      alncrement
                                                       )
```

[protected](#) [virtual](#)

Method to Determine the direction the next point should be in.

Parameters

aStart [Coordinate](#) of the Starting Point.
aEnd [Coordinate](#) of the Ending Point.
alncrement double. The max distance between path points.

Returns

The unit vector representing the direction of the next point along the path.

Implements [IPathPlanner](#).

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

- C:/Users/ethan/Desktop/Doxygen Environment/ENPM808X_Midterm-master/include/[StraightLinePath.hpp](#)
- C:/Users/ethan/Desktop/Doxygen Environment/ENPM808X_Midterm-master/app/[StraightLinePath.cpp](#)