## **PathPlanner**

```
std::vector< std::vector< size t>>
+ map : std::vector< std::vector< size t>>
+ costGo : std <vector <float>>
+ costCome : std <vector <float>>
+ totalCost : std <vector <float>>
+ visitStatus : std<vector<size t>>
+ parentNode : std<vector<size t>>
+ actionSequence : std<vector<size t>>
+ stack : std::vector <size_t>
+ goalThreshold : float
+ mapSize : pair<int. int>
+ startIndex : size t
+ goalIndex : size t
+ localGoal : pair <size_t, size_t>
- start : pair <size t, size t>
- goal : pair <size_t, size_t>
- pathFound : bool
+ getGoal (): pair <size t, size t>
+ setGoal (pair < size t, size t>): void
+ getStart () : pair <size_t, size_t>
+ setStart (pair <size_t, size_t>) : void
+ getPathFound (): bool
+ setPathFound (bool): void
+ hashIndex (pair<size_t, size_t) : size_t
+ hashCoordinates(size t): pair<size t, size t>
+ boundaryCheck (size_t) : bool
+ shortestPath (bool, size_t) : std::vector < pair<size_t, size_t>>
+ updateCost (size_t, size_t, float) : bool
+ differential (int, int, int, int, double, int, int) : size t
+ allActions (size t) : void
+ showMap: std::vector< std::vector< size_t>>
```