LawnMower

- node_h : ros::NodeHandle
- path to waypoints : string
- home : move_base_msgs::MoveBaseGoal
- actionClient : MoveBaseClientcurrent goal : vector<double>
- flag: string
- paused_index : int
- + pause_flag : bool
- + dummy_pos : vector<vector<double>>
- + success flags : vector<bool>
- + mow(string) : void
- + start(const std msgs::String&): void
- + e_stop(const std_msgs::String&): void
- + pause(const std msgs::String&) : void
- + resume(const std msgs::String&): void
- + setIndex(int): bool
- + getIndex(void): int



NavigationUtils

- success status : bool
- emergency_stop : bool
- + setDesiredPose(MoveBaseGoal&, vector<double>, Quaternion&): void
- + sendGoal(MoveBaseGoal&, SimpleActionClient<move_base_msgs::MoveBaseAction>&): void
- + convertToQuaternion(double): Quaternion
- + checkGoalReach(SimpleActionClient <move_base_msgs::MoveBaseAction>&): bool
- $+\ emergency Stop (Simple Action Client < move_base_msgs:: Move Base Action > \&): bool$
- + getPointsFromFile(string) : vector<vector<double>>
- + returnToHome(MoveBaseGoal&, SimpleActionClient<move_base_msgs::MoveBaseAction>&): bool
- + checkTrajectoryCompletion(std::vector<bool>&, std::vector<std::vector<double>>&) : bool

Note:

Defining the custom datatypes:

- 1. MoveBaseGoal is of type move_base_msgs from move_base package
- 2. Quaternion is of type geometry msgs
- 3. SimpleActionClient <move base msgs::MoveBaseAction> is part of the acitionlib package
- 4. ros:NodeHandle is a ros class which provides a RAII interface to a process' node