

SHAMAZON WAREHOUSE ROBOT

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Overview

- Robots are meant to perform tedious repetitive task one of them is moving material in warehouses.
- Shamazon Warehouse Robot performs similar task of transporting material from one place to another.
- The robot will have autonomous robots capabilities, elevator access.

Technology

- Programming Language: Modern C++
- Ubuntu 18.04
- Build System: catkin
- Version Control: GitHub
- Software Tools: VSCode
- Build Check: Travis
- Code Coverage: Coveralls
- Gazebo Elevator API: To interface between robot and elevator model
- ROS navigation package.
- Pgm Map creator.

Deliverables

- Autonomous Navigation
- Mapping and Localization.
- Using Gazebo API Plugin for elevator integration and access.
- Static and Dynamic Obstacle avoidance.
- Use of ROS SLAM package

- Autonomous navigation in warehouse along with static and dynamic obstacle avoidance
- Conveyor belt for pickup and drop of packages.
- Sensor data navigation goal, local and global costmap updation.
- Visualization in rviz.

Project Fall-Back

- Fallback Plan: Performing the task autonomously of collecting the package from the conveyor to delivering it to the goal location on the same level/floor with static/dynamic obstacle avoidance.