SHAMAZON WAREHOUSE ROBOT

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Overview

- Robots are meant to perform tedious repetitive task oneof 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 Plugin: To interface between robot and elevator model
- ROS navigation package.
- pgm_map_creator package.

- Autonomous Navigation.
- Use of pgm_map_creator to create global costmap of each floor.
- Using Gazebo Plugin for elevator integration and access.
- Static and Dynamic Obstacle avoidance.
- Use of ROS Navigation packages

Deliverables

- Autonomous navigatgion 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.