赛题 22
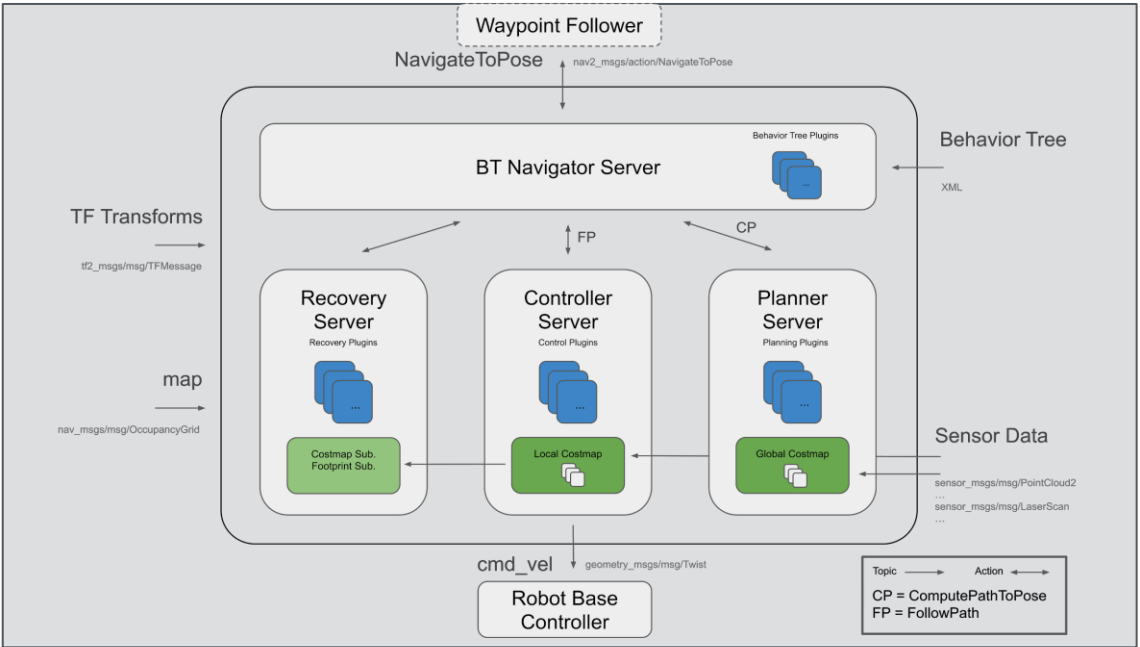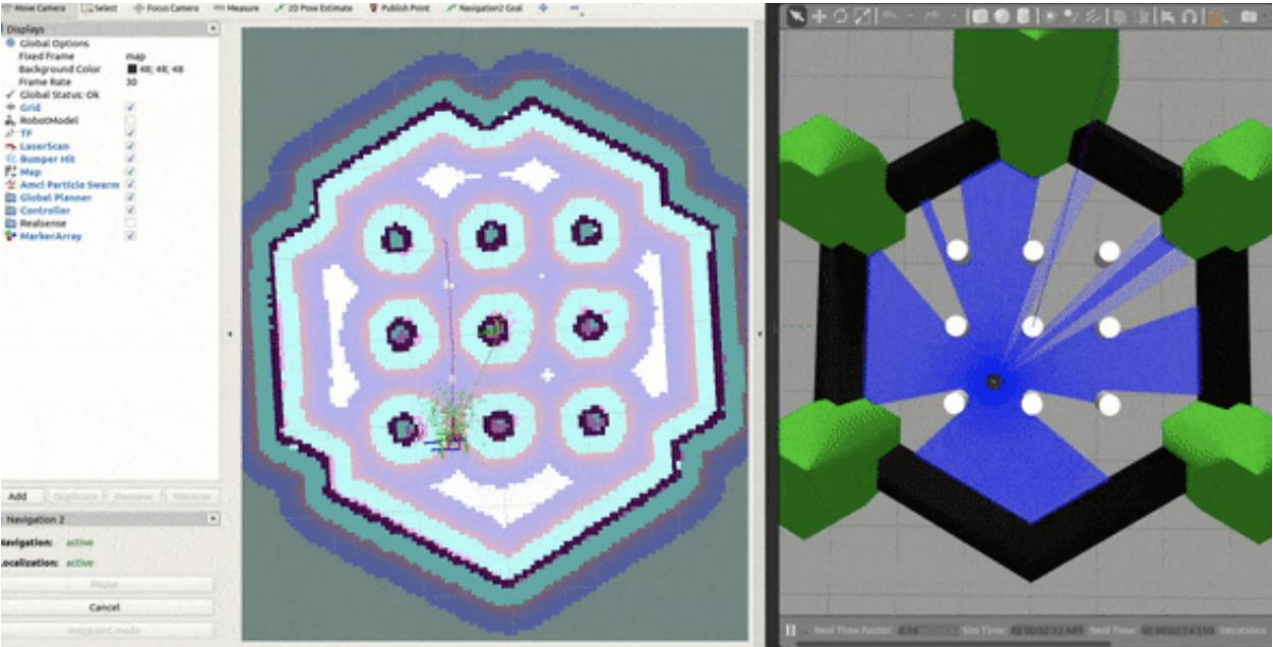
Advanced Navigation Testing Framework

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ROS(Navigation2) 赛题介绍

Servers
- Planner
- Controller
- Recovery

Map
- Costmap
- Layers
- Filters

Misc
- Map Server
- Plugins
- Behavior Tree

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22. Advanced Navigation Testing Framework

Background

The ROS 2 Navigation Stack has had a focus on testing and reliability as a characteristic change from ROS 1 to ROS 2. We currently have a test coverage rate of 65% and do full system simulations in Continuous Integration (CI) to test the entire navigation system with a real robot completing real navigation tasks.

Project

Your task will be to:

- Increase the testing coverage rate to 70% (or +5% from your starting)
- Improve on the existing system tests to represent a more realistic environment.
- Make sure of that environment to actively block the robot from completing its task to simulate worst-case conditions.
- Environments like: crowed, stair, doors...

Project output requirements

- Test line coverage of 70% or higher on the repository as reported by codecov (currently 65%)
- An improved simulation environment for a more realistic mobile robotics application
- Updated system tests to take advantage of that environment to fault or un-ideal cases of the stack