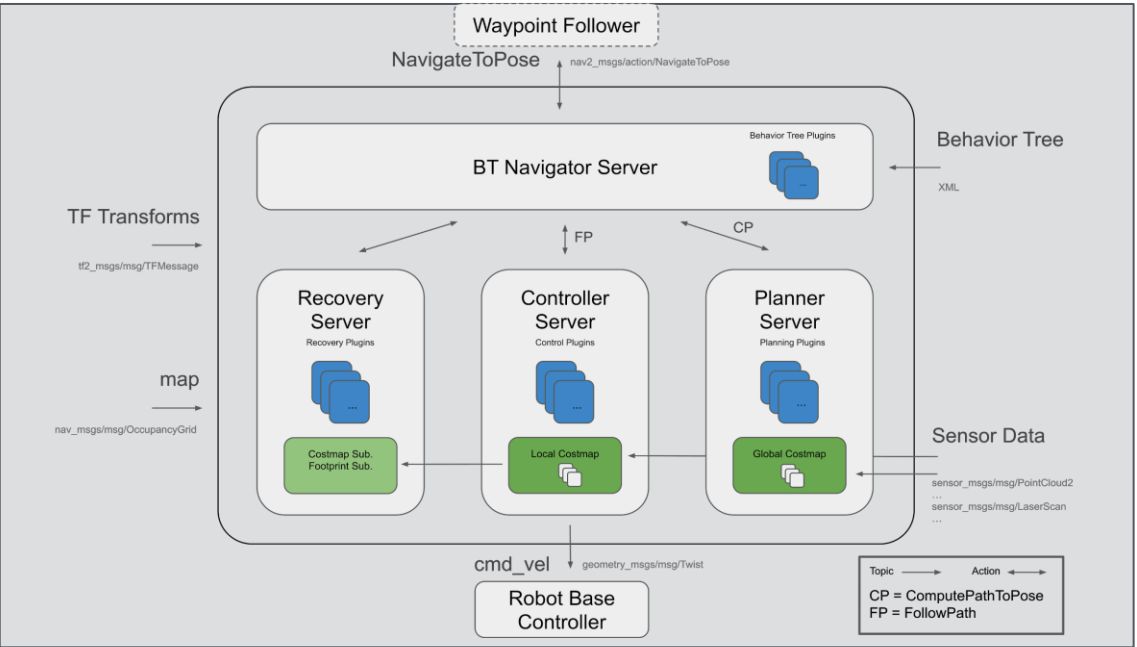
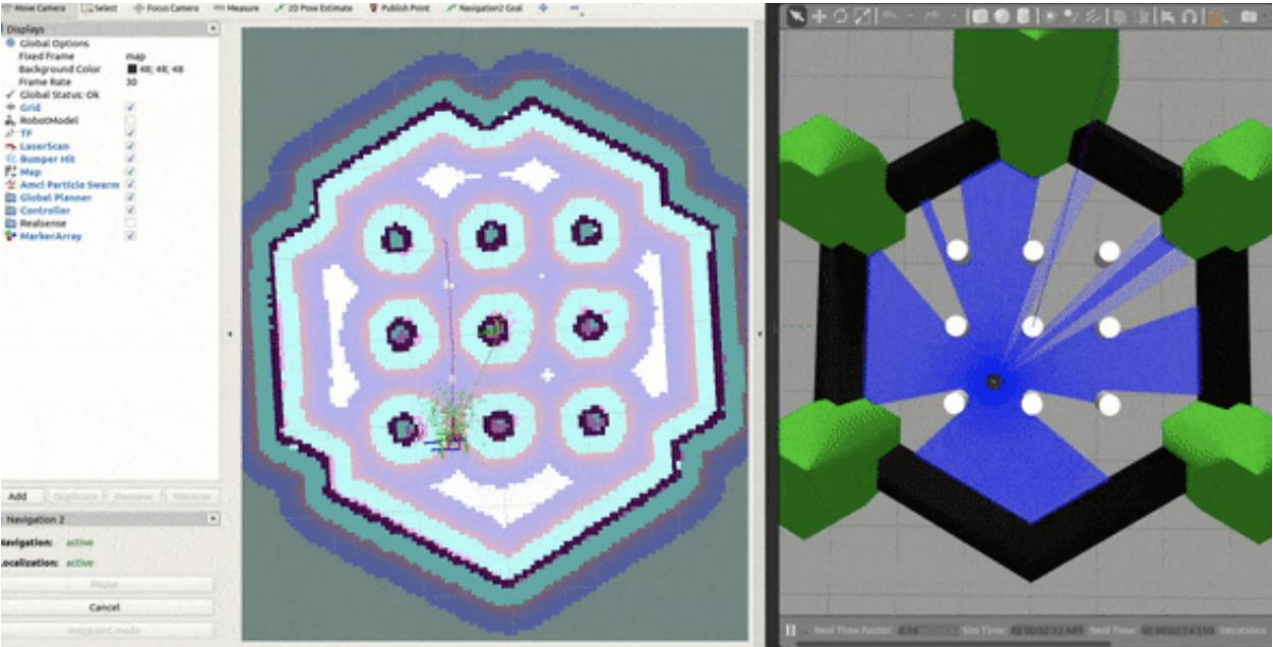


赛题 21

Port Grid Maps to ROS 2 and Environmental Model

直播导师：巨震

ROS(Navigation2) 赛题介绍



N A V 2

Servers

- Planner
- Controller
- Recovery

Map

- Costmap
- Layers
- Filters

Misc

- Map Server
- Plugins
- Behavior Tree



Steve Macenski
[github.com/Steve Macenski](https://github.com/SteveMacenski)

21. Port Grid Maps to ROS 2 and Environmental Model

Background

Grid Maps was created by ETH Zurich and later transferred to ANYbotics. It is a universal grid map library for mobile robotic mapping that can be used as the basis of environmental models and various forms of grid maps available in ROS 1. This library is one of the top downloaded ROS packages. Your task will be to work with the community and the mentor to port grid_maps metapackage from ROS 1 to ROS 2 and help develop the next generation environment model in ROS 2 to replace costmap_2d.

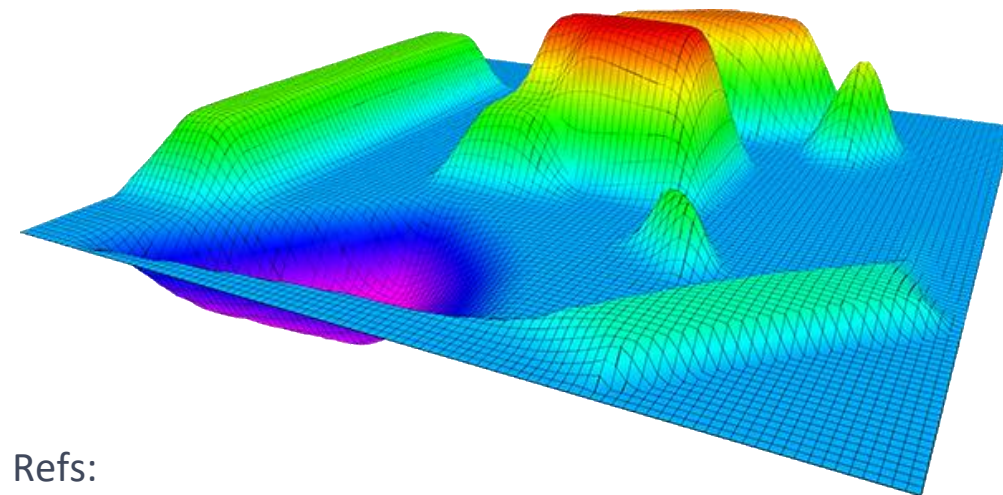
Project

- Porting code from ROS 1 to ROS 2.
- Analyzing uses of the environmental model to define an abstract interface to allow replacement of costmap_2d with grid_map.
- Building up the basic grid-operations for costmaps.

It is not expected to complete the full new model with sensor processing over the course of the summer. If completed early, you may be able to help design a gradient model to complement your implemented costmap model using grid_maps. This will allow robots to select a gradient or a costmap model on startup.

Project output requirements

- Grid Maps ported to ROS 2 and merged into the main ROS 2 branch
- Defined plugin interfaces to replace costmap 2D with grid maps
- Implementing low-level operations on top of grid_maps to replace the base costmap_2d object.
- You will not be expected to reimplement the full sensor processing mechanics of costmap_2d.



Refs:

https://github.com/ANYbotics/grid_map