# Package Delivery Robot in Apartment

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# Agenda

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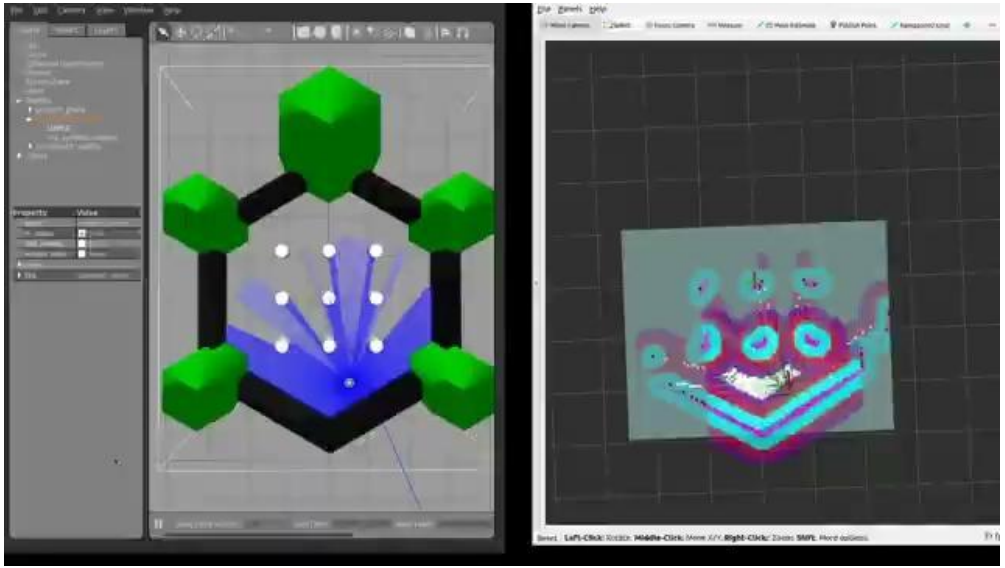
|---|---|---|
| **Review of Sprint 1** | 01 | What's the goal at sprint 1 |
| **Progress of Sprint 2** | 02 | What has done since Sprint 1 |
| **Demo** | 03 | Short video |
| **Next Step** | 04 | What expect to be done |

## Review of Sprint 1

01

What had done for sprint 1

- What to solve ⟶ Build a package delivery robot in an apartment
- What had done ⟶



## Review of Sprint 1

01

What's the goal at sprint 1

- ✓ Simulate the robot in complex environment to examine the navigation packages and other functions.
- ❑ Come up with an idea to make the robot upload and download the packages
  - ❑ Why → Still research about how to operate robotic arm in ROS 2.

# Progress of Sprint 2

02

What has done since Sprint 1

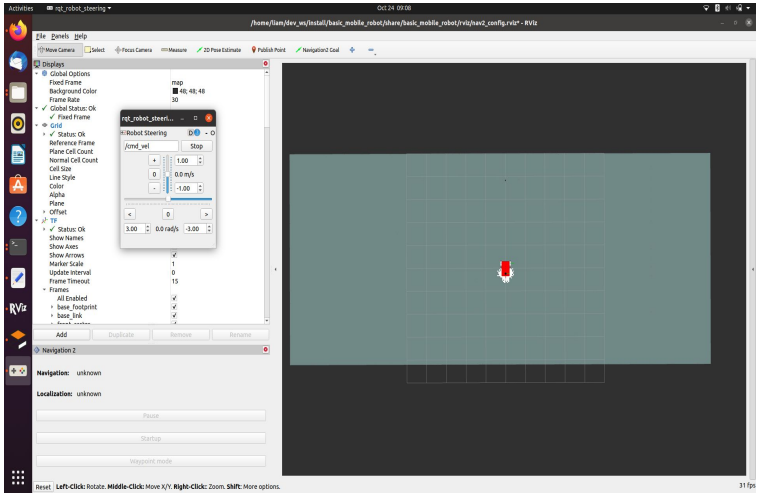
Environment credit to
https://github.com/gazebosim/gazebo-classic/tree/gazebo11/worlds

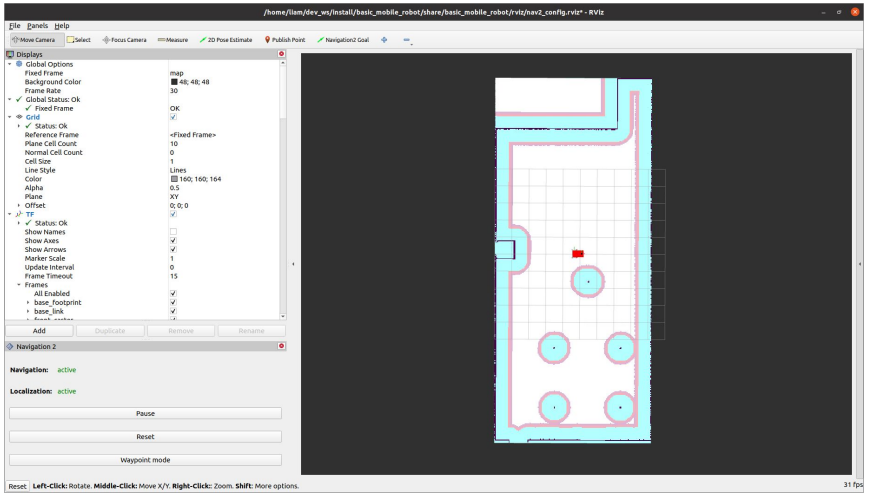
# Progress of Sprint 2

02

What has done since Sprint 1

- How to map an unknown environment for a robot and save it as known data?
  - ROS2 SLAM(Simultaneous Localization and Mapping) package
  - Manually control the stick to move the robot
- Before and after mapping





Demo 03 Waypoint arrange

- Schedule waypoint to arrange the paths to deliver packages.
  - What's the difference between unknown and known data? ⟶ Generate optimal arrangement.

## Next Step 04 What expect to be done

- Method to pick up packages, or alternative way to achieve the demand.
- Tune some parameters to optimize the delivery efficiency.

# Thank you!