

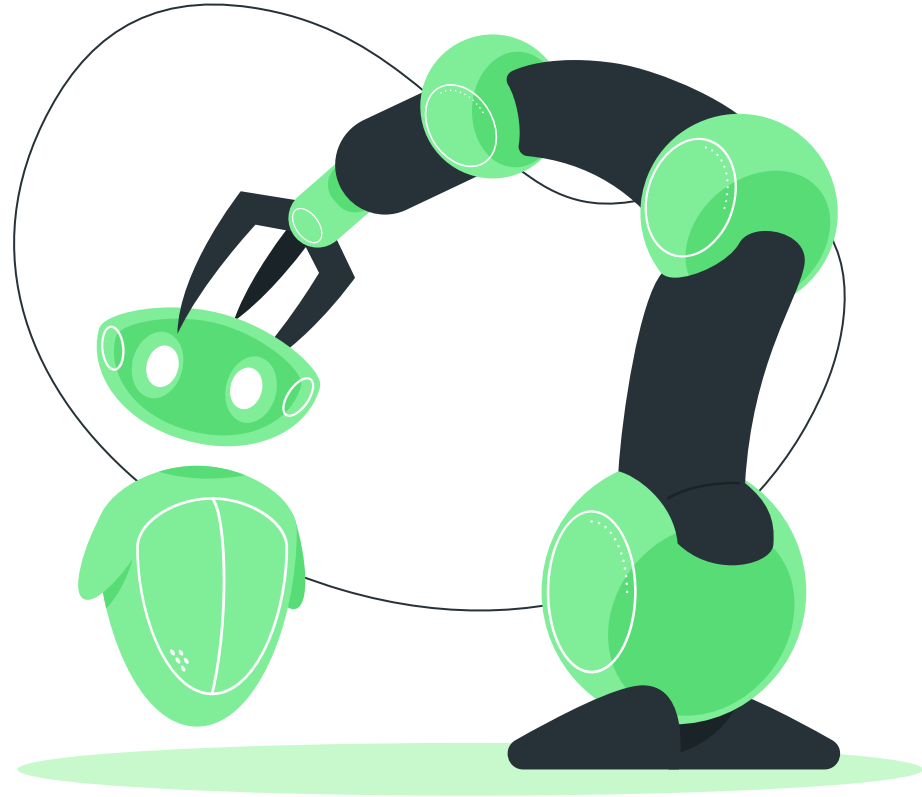
ROS

Robot Operating System

Presented by:
Moneera Banjar



@mn_banjar



Agenda

1

What is ROS?

2

The powerful of ROS

3

ROS installations

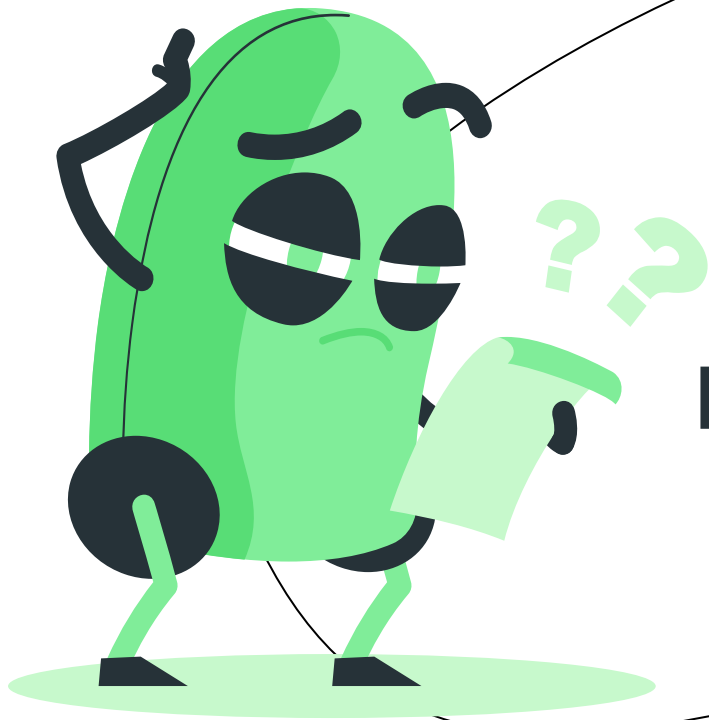
In computer and Raspberry Pi

4

System demo

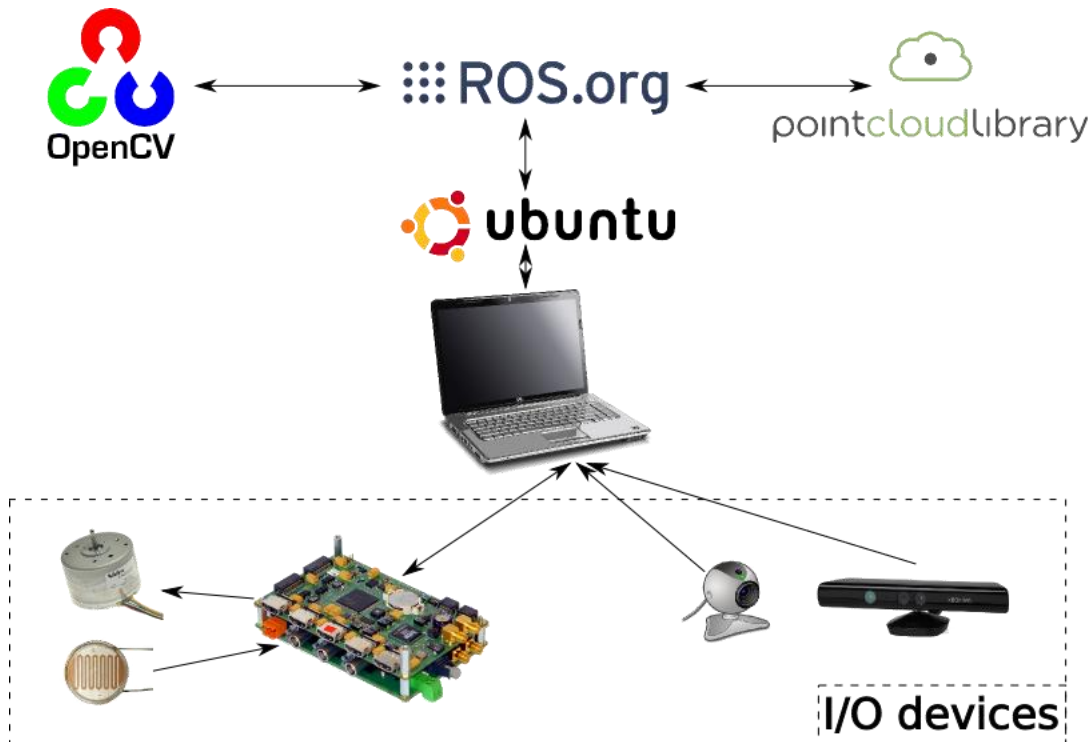
5

**Challenges and
further topics**

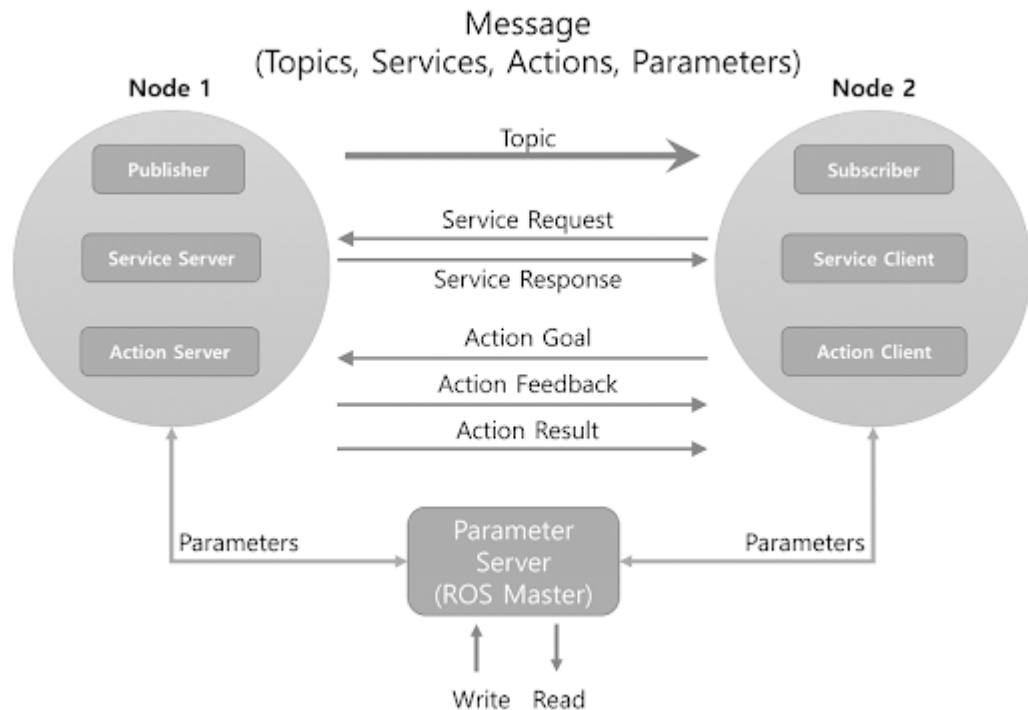
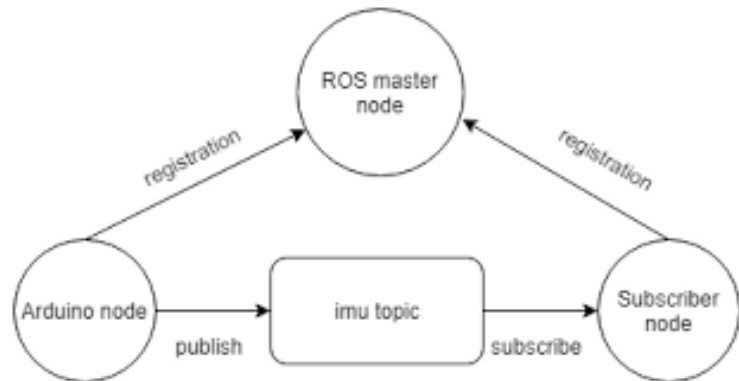


**Have you ever
programmed a robot?**

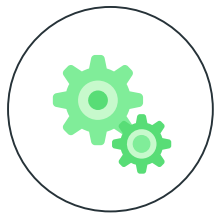
What is ROS



ROS concept



The powerful of ROS



Synchronization

Topics, services, actions



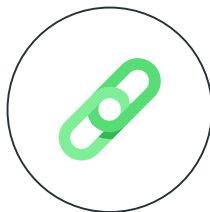
Open source

<https://robots.ros.org/>



Simulation

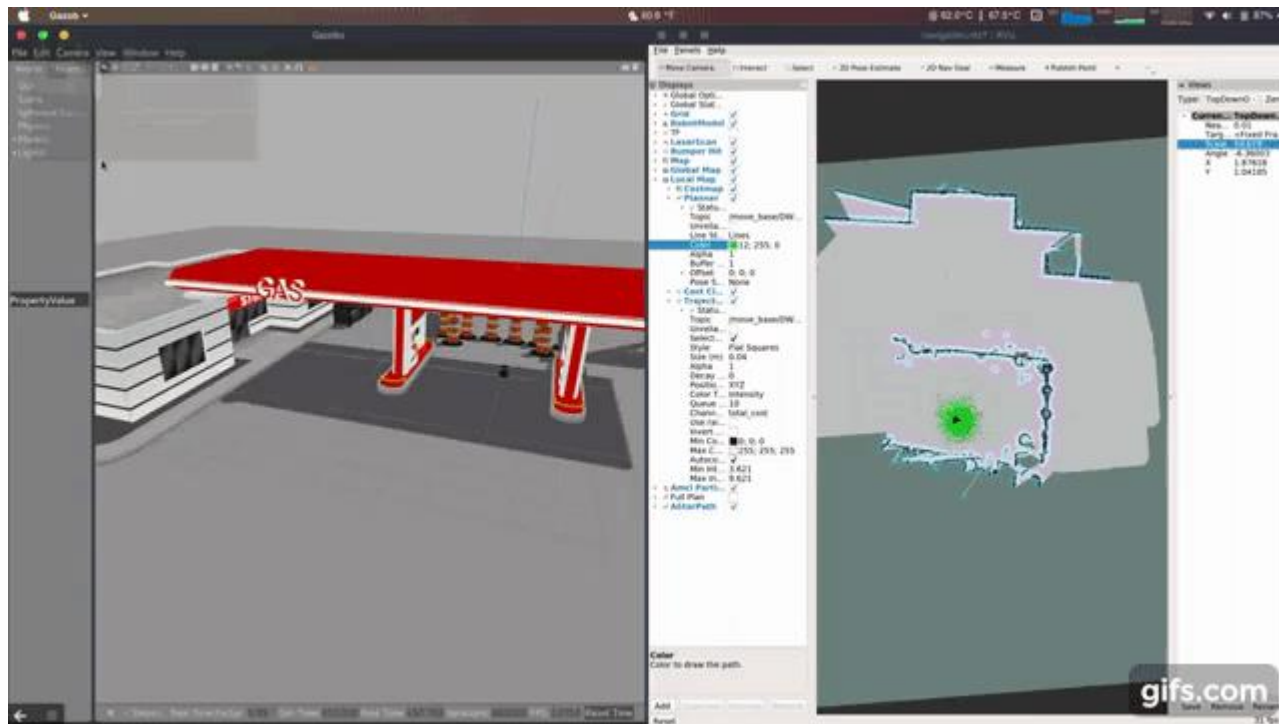
Gazebo & Rviz



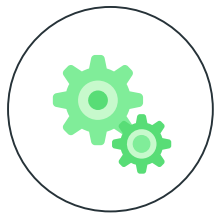
Packages & plugins

Moveit for kinematics, SLAM and navigation, Kalman filters for sensor fusion.

The powerful of ROS



The powerful of ::::ROS



Synchronization

Topics, services, actions



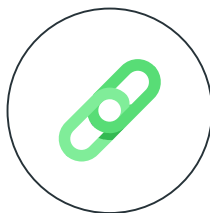
Open source

<https://robots.ros.org/>



Simulation

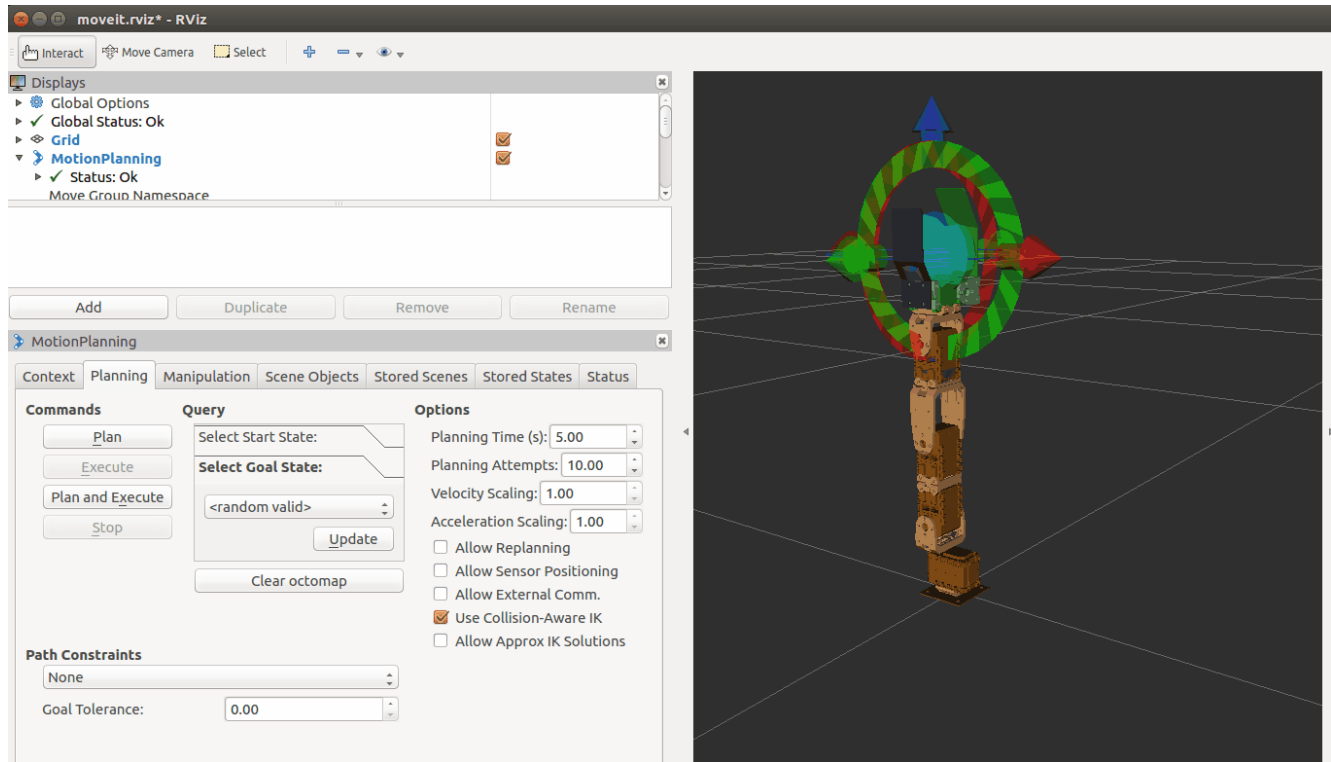
Gazebo & Rviz



Packages & plugins

Moveit for kinematics, SLAM and navigation, Kalman filters for sensor fusion.

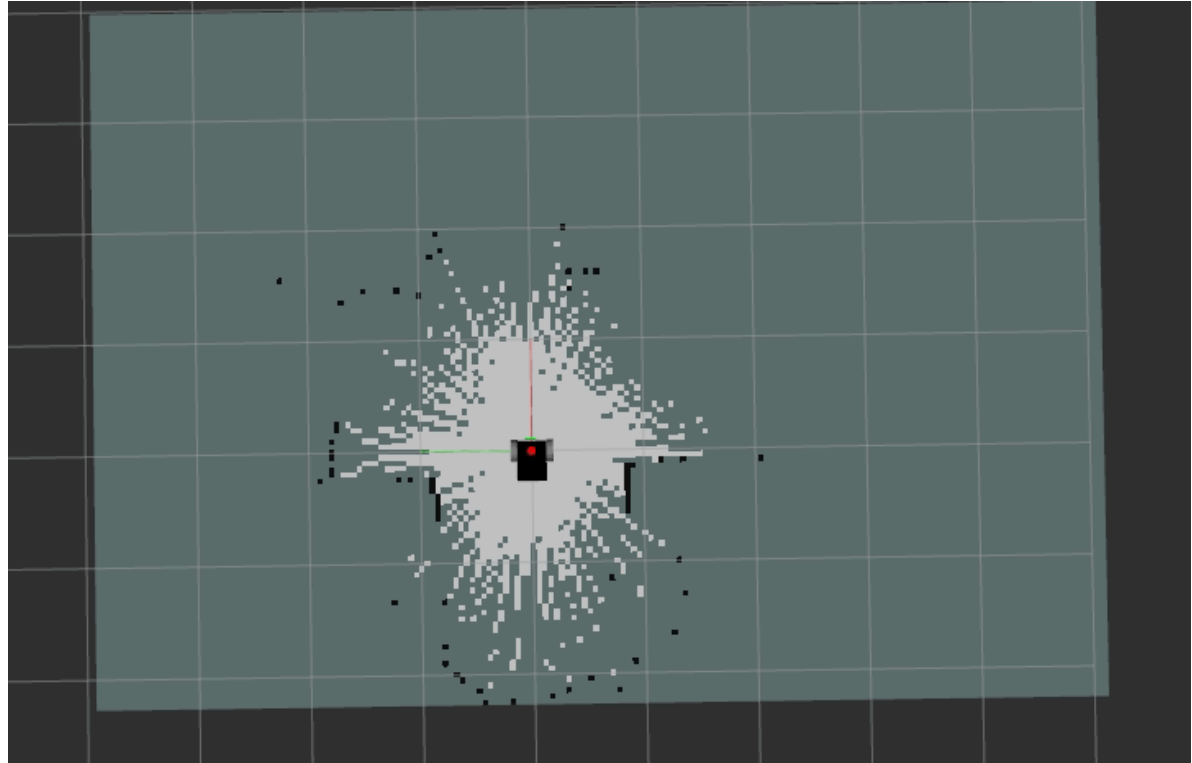
The powerful of ROS



The powerful of ROS

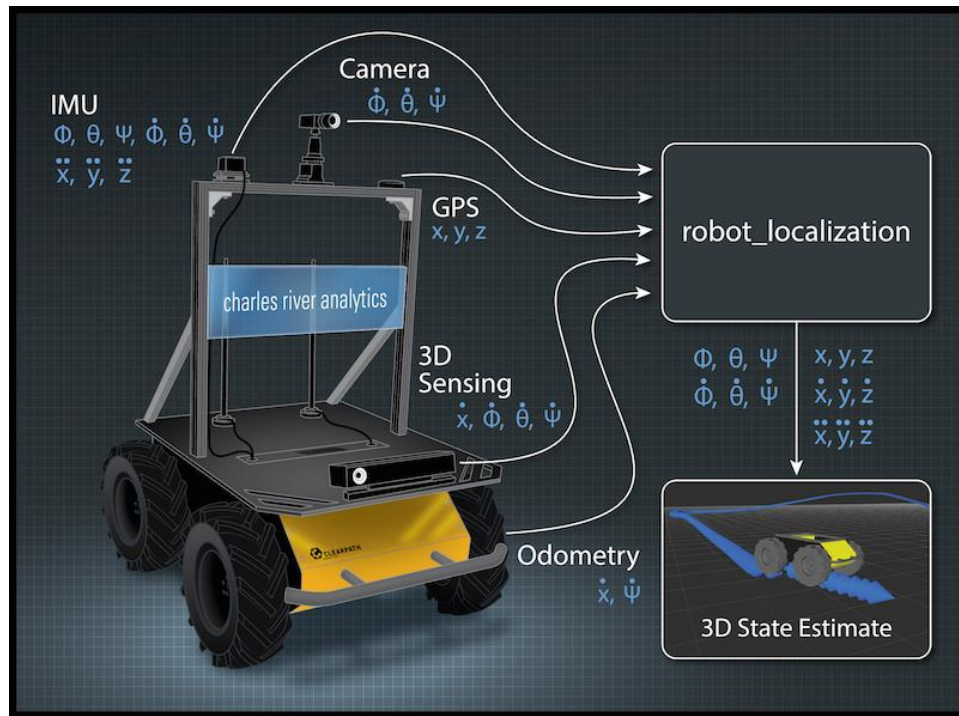
SLAM

**Simultaneous
localization
and mapping**



The powerful of ROS

Sensor fusion robot_localization package



ROS installation

ROS distro Kinetic, melodic, noetic, foxy ...

<http://wiki.ros.org/ROS/Installation>



ROS installation



VirtualBox



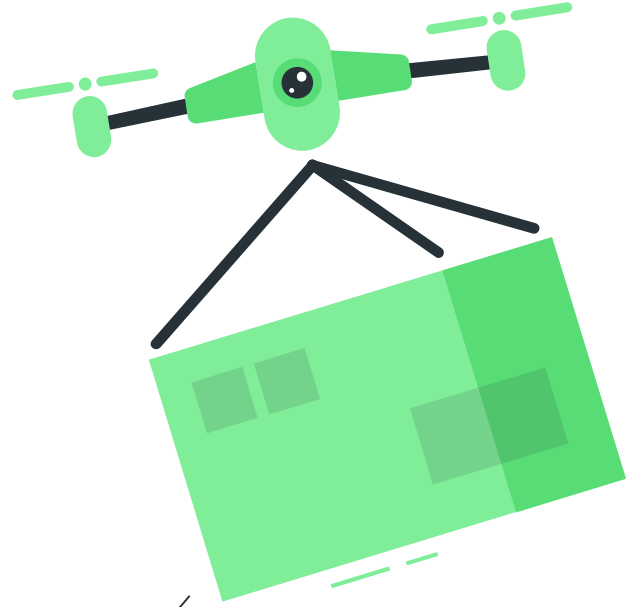
RaspberryPi

Follow this instructions:

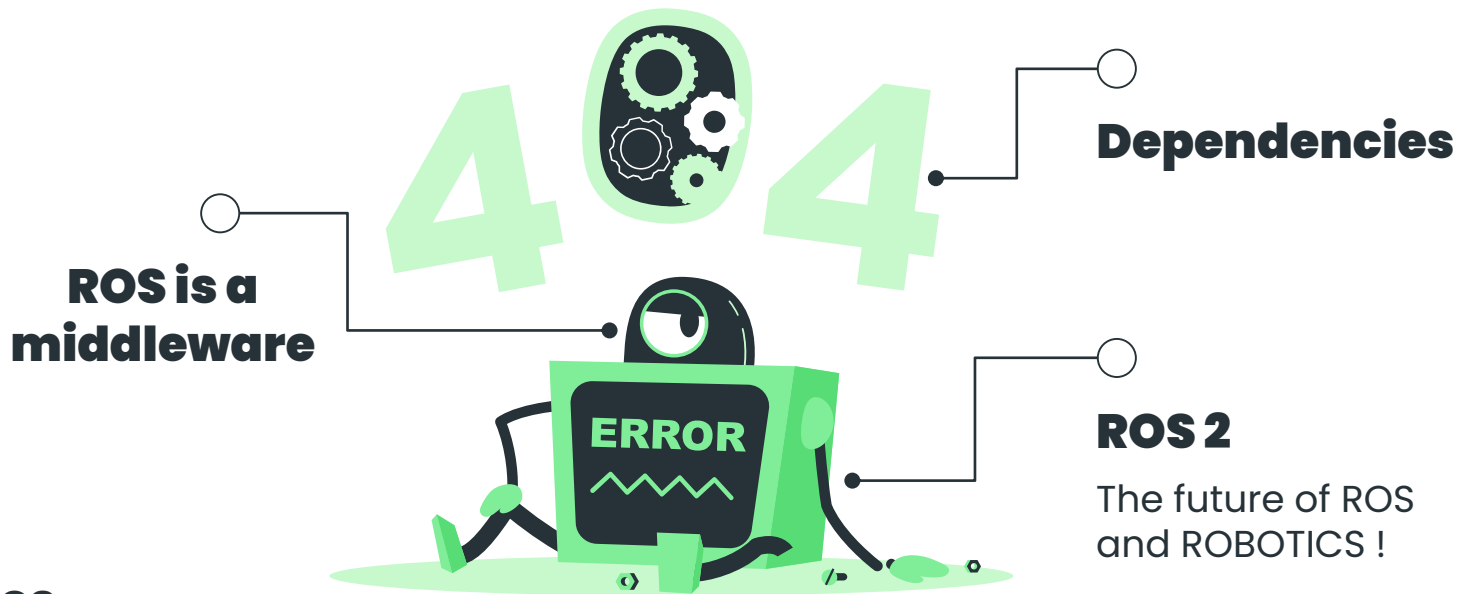


https://github.com/mn-banjar/ROS_on_RaspberryPi3/wiki/How-to-install-ROS-melodic

System demo



Challenges & further topics



For issues

<https://answers.ros.org/>



Thanks!

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