University of South Florida
Control of Mobile Robots

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Installing ORB_SLAM2

Requirements & Installation

The utilization of ***ORB_SLAM2*** with the robot requires the corresponding github branches to be installed and set-up on both the robot and your computer. If you have not done so, you will need to follow the installation documentation:

https://github.com/biorobaw/pi3_robot_2019/blob/python_client/docs/CoMRPythonClientInstallInstructions.pdf

This package includes the libraries required for controlling the robot by sending speed messages, reading from its distance sensors for obstacle avoidance, receiving encoder information to retrieve the distance traveled by the robot, and obtaining the video feed from the camera. The launch files for starting ***ORB_SLAM2*** as well as the bug algorithm program that utilizes the pose information are also included.

Additionally you will need to install:

ORB_SLAM2(ROS): https://github.com/appliedAI-Initiative/orb_slam_2_ros

(you only need to install, you do not need to configure anything)

Wiki: http://wiki.ros.org/orb_slam2_ros

ORB_SLAM2 is a simultaneous localization and Mapping algorithm that uses input from monocular, stereo, and RGBD cameras, and publishes Pose, PointCloud2, and debug Image topics.

****Rviz:http://wiki.ros.org/rviz***

Rviz is a visualization tool for displaying commonly used ROS messages such as Pose, PointCloud2, map, and Image.

Recommended:

****Telop*(highly** recommended): http://wiki.ros.org/teleop_twist_keyboard

Telop allows you to manually control the robot by sending ***Twist*** messages over ***ROS***

***Included in full installation of ROS Kinetic**