University of Girona

Spain

Probabilistic Robotics Lab 0

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1 Introduction

The first lab of probabilistic robotics is focused on basic areas of about installing Ubuntu and ROS on personal laptops. Ubuntu is a Linux based open source operating system. As per the instructions and for better results we have installed Ubuntu 16.04 LTS, which is the most recent released software. All the required documentation for the lab is cloned from the bitbucket website.

2 ROS (Robot Operating System)

ROS is a software framework for many of the robot applications. We have installed the most recent Kinetic version which is more compatable with Ubuntu 16.04 LTS. We will face eroors if we run the old ROS on Ubuntu 16.04 version or later versions. After installing Ubuntu and ROS we are ready to test the basic packages of ROS like Turtlesim. We have installed the turtlesim node for the ROS to test our given basic sample code template. All the coding is carried in python.

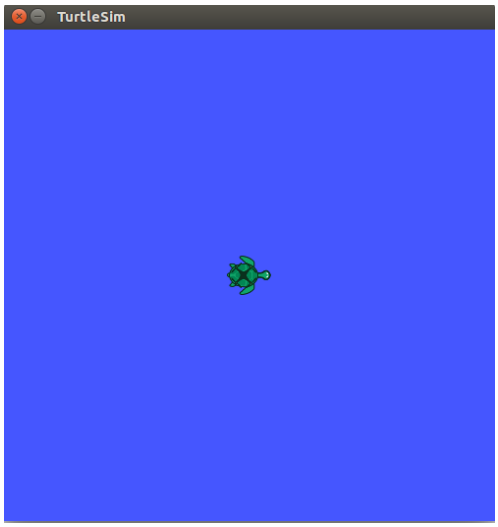

Figure 1: Sample Turtlesim

3 Results

The results are concluded as when we run the turtlesim it starts with simple turtle in the middle and when we describe linear and angular velocity with specified x and y directions the turtle starts to move. But there will be errors in the movement of the turtle as it starts to move in circular way. This can be neglected by changing the linear and angular

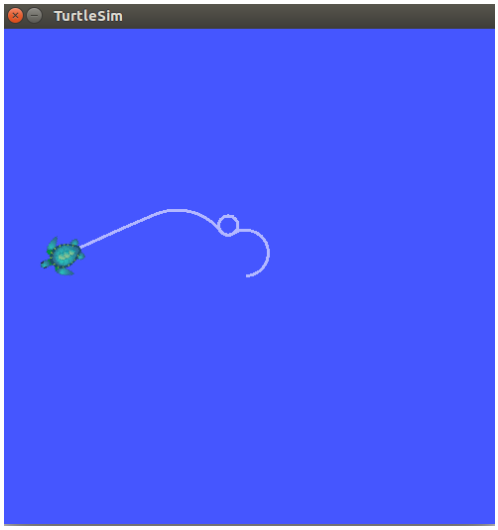

Figure 2: Caption

velocities. The linear velocity is minimized or neglected while angular velocity is increased to neglect the circular movement of the turtle. The results are detailed in the below figures.

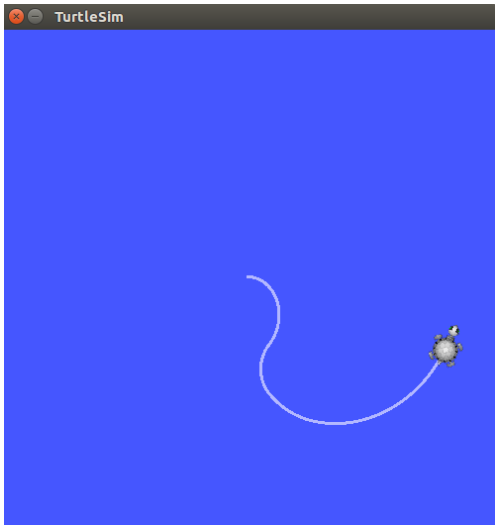

Figure 3: Caption