

Localisation assignment 1

A First Exploration into Localisation

Implementation

Assignment 1: Keep Track of our location

The Assignment

Make a simple program in C++, using the tools we provide you in the EMC-environment which does (at least) the following.

1. Reports the the information in the odometry message you have received in the current time step. (i.e. An estimate of our current location according to the odometry measurements)
2. Reports the difference between the previously received odometry message and the current message.

Testing the result

Assignment 2: Observe the Behavior in Simulation

The Assignment

Setup an Experiment which whether we can rely on our odometry information when running the robot in simulation. In order to achieve this you're allowed to operate the robot using teleoperation.

On your wikis address (at least) the following:

1. How do you assess the accuracy of your method?
2. What is the difference when operating using the *uncertain_odom* option and the regular simulation?
3. Would you use this approach in the final challenge? Why would you? Why wouldn't you?

Assignment 3: Observe the Behaviour in Reality

The Assignment

Repeat your experiment on one of the physical robots available to you in the experiment sessions.

On your wikis address (at least) the following:

1. What is the difference between simulation and reality?
2. Have any of your answers in Assignment 2 changed due to the experiment?