Lab Assignment/ Complex Engineering Problem (CEP)

Students are required to demonstrate their understanding of mobile robot control through a simulation-based assignment. They have already been introduced to the models of different robotic vehicles, during the lab sessions, and are now required to use these models to formulate a simulator of their own. Students may use any model of a ground mobile robot from the Robotics Toolbox (of Peter Corke) and create a GUI having the following features:

1. A field requiring input from the user about the initial location and pose of the robot.
2. A blank arena should be displayed with a simple graphic (e.g. a small circle) showing the robot standing at its initial location.
3. Wherever the user may click on the arena, the robot should move to that point following any vehicle model. (It's up to the students to choose any vehicle model).
4. A Start and an Exit/Stop button.

A sample GUI Layout is shown below. Students are asked to comply to this format.

COURSE LEARNING OBJECTIVES

This assignment shall cover the following CLO(s).

- CLO1: Use modern tools and test equipment to assemble/model different types of robotic systems and measure their performance.

SCHOLASTIC ETHICS

It is *emphasized* that students should submit their own work. If part of an existing code/drawing is needed to be used it should properly be credited. Plagiarism will **not** be tolerated. Remember *copy-paste* is worst form of plagiarism.

Deadline to submit this assignment is 18th May, 2018.

GRADING POLICY

This assignment will carry **10% marks** of the total Lab Marks.