2.166 Research Assignment 1 (revised September 8, 2008)

Massachusetts Institute of Technology

Issued: Wednesday, September 3rd, 2008 Due: Wednesday, September 17th, 2008

Before we embark on a detailed investigation of probabilistic algorithms for robot navigation, mapping and control, this first assignment concerns the topics of robot programming using MOOS, and simple sensor processing and trajectory control.

Problem 1. The primary goal this assignment is to enable you to write your own MOOS applications. To get started, write a MOOS application that implements a "Waypoint Controller" that steers the robot around the (simulated or real) environment using odometry measurements for position estimation. You should write this as a new MOOS application (e.g. call it pWaypoint) that operates with the existing MOOS processes iRobotSim, pRobotViewer, iRemote, MOOSDB, and pLogger. We'll give you a demo in class of how to do this.

Detailed directions for downloading, building, and running the software are provided at:

https://web.mit.edu/2.166/www/software/index.html

Be sure to ask for help if you need it, by emailing the course staff.