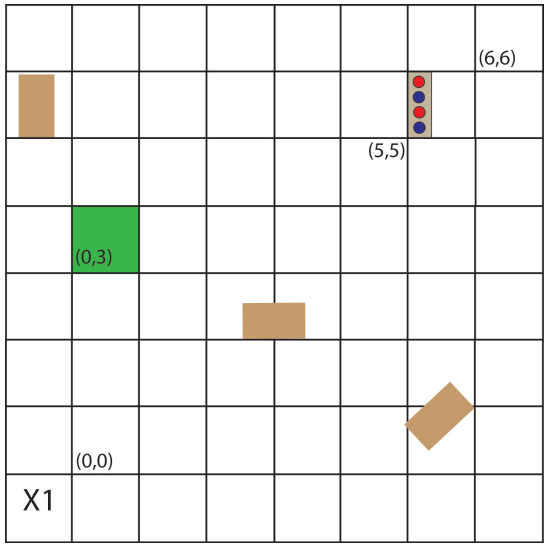
Department of Electrical and Computer Engineering
Design Principles and Methods
Course ECSE-211

March 24, 2016
Version 1.0

Milestone II Specifications

This demo will entail a subset of the competition on a reduced grid of 8' x 8'. Only one robot will be run at a time, originating from the corner shown in the diagram below. The demo will be started once a message has been received from the WiFi server class that will be posted shortly on myCourses. The corresponding client has everything necessary to return the full set of competition parameters. For this demo we will only be using the SC parameter (but in a different way), and the 4 parameters that define the location of the ball holder, ll-x, ll-y, ur-x, and ur-y.



For this demo the robot starts off in starting corner #1 (regardless of the SC parameter received from the server). It then localizes to the grid (must do so in 30 seconds or less), and then proceeds to the ball holder (as specified by ll-x, ll-y, ur-x, and ur-y). It must navigate without hitting any of the obstacles (there will never be more than 3 for the demo). Once at the ball holder, it must grab a ball, turn to face the shooting direction, and then throw the ball. At this point the demo is complete and the robot should stop. If you wish, you may repeat until all 4 balls are thrown, but only one is sufficient.

The shooting direction is indicated by a single pair of coordinates which indicate the lower left hand corner of the target square (shown in green). The value of the x-coordinate is always 0, and the value of the y-coordinate will be passed in the SC parameter received from the server. Consequently, there are only 4 possible targets – (0,1), (0,2), (0,3), and (0,4).

If a robot fails on the first attempt, or if the team is not satisfied with their robot's performance, a second attempt will be permitted. However, these two attempts must be

done in succession.

The code for the client and server classes will be posted as soon as we are able. If we are unable to get the code working on time, we will post the set of parameters that your team will use on myCourses the day before the demo.

Milestone II will take place in the laboratory, tentatively set for Wednesday, March 30. A schedule will be posted on myCourses on the preceding Tuesday.

fpf/dal March 25, 2016