
CSE490R: Final Lab

For the final lab you will be using your work from the prior labs to complete this challenge. This project should not require too much more coding on top of your work in the past labs, but will allow you to see how all your modules combine to create a mobile robotics system. The final lab will be held in CSE 022.

The date of the final lab demonstration will be Thursday, March 12 during recitation. A survey will be posted earlier that week to be filled out for time slots. Please contact beforehand if you have a conflict during the demonstration time.

1 Waypoint traversal

Attached are three waypoint files named after the color squares they represent. Your goal is to be able to traverse the environment and drive through the waypoints read from that file. How the car chooses the order to navigate to is up to you. Be creative!

2 Logistics

1. On the day of the final demonstration **we will select one of the three provided files** to test you on. They are each in this format:

```
X,Y  
X,Y  
...
```

All traversals must start with the car inside the multi-color box by the whiteboard. Each waypoint has a 10in x 10in taped box around the waypoint. Any part of the car traveling in the box will count as arriving at the waypoint.

2. Grading will be based on how many of the five waypoints you complete. Partial credit is also based on effort, teamwork, and general spirits. The goal of this demonstration is to show off everything you've done this quarter.
3. Attached is the new final map of the room. Note that all locations/waypoints will be specified in the map frame (the same coordinate space `rviz` works in).
4. Each team will receive a block of **10 minutes** for their demo. They can retry as many times as they would like in that timeframe.
5. You cannot collide with obstacles in the environment. This will count as a failure.
6. You are allowed to change code/settings during your demo period. This will also count as part of the demo time.

3 Deliverables

1. **Demonstration (50 points):** You will participate in the demonstration described above. Again, your score is from hitting the waypoints.
2. **Code and writeup (40 points):** You will submit all your code and an accompanying document (1 page) that describes what you did you complete the problem. Talk about challenges you faced, and what you did to overcome them.
3. **Course Eval (10 points):** Fill out the course evaluation when it becomes available. Every person in the team must complete this to get credit.