Lab 3 Write-up

What we did in this lab

We used the Bayes' Filter to help us determine where we were in the world. While going through this process, we had a few hiccups. It took us a bit before we really understood how p(state|action, previous_state) and p(sonar|state) needed to be calculated within this scope. After we got it up and running, we also had issues with the x vs y axis, but it didn't take us too long to figure it out. The workload was split well between Jordan and Ben. Ben worked on the scaffolding, Jordan added some more on Wednesday, and they worked together on it to finish it up on Thursday.

What I liked and did not like about this lab

Ben

I liked that there was a concrete way of seeing if our code was doing what it was supposed to be doing. In the other projects, I have gotten a little bit frustrated by not knowing quite when I was done or if the code I had developed was working correctly, but in this lab, I knew almost immediately that I had bugs in my code, and I knew where to look.

There were some things that I didn't quite understand about applying the Bayes' filter to a nonbinary world. In class, all the examples we used in class when talking about Bayes' filter used a world where there were only 2 actions, 2 states, and 2 readings. This was useful, but I didn't quite understand for a while how I could translate what I learned from the examples into a world where I had multiple readings, multiple states, and multiple actions.

Jordan

Some of the things I really liked is that I feel that this problem is more applicable then something like Reversi. It was solving a real problem that we could face when building automated things. The idea of having a robot learn things about it surroundings is super interesting to me, and I'm glad I was able to try it out.

I don't really have any complaints about the lab. There was some junk in the code, but for the most part I thought it was clear. I would say that I think it would be super fun to do this in a multiple floor maze, where you have stairs leading between floors.

Recordings

There are 4 recordings:

mudo_maze_.9_.5;
mundo_15_15_.95_.9
mundo_maze2_.5_.9
mundo_maze2_.95_.9.

The format is as follow [maze used]_[move accuracy]_[sonar accuracy]