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CSE 454

Reflection Blog

Experience:

- First week (9.10 – 9.17)

I spent this week mainly to understand how membership functions works, and think about all the components that the project needs. I went to office hour to ask about the concept of membership function, and got a clearer understanding about it.

- Second week (9.18 – 9.25)

I used this week to read the documentation about the Fuzzy Logic Toolbox application in Matlab, and figured out how to set up input membership functions, rules and output membership functions. 80% of the code were done in this week.

- Third week (9.26 – 9.28(present))

I went to office hour to ask the details of the requirements of this project. Then I completed the last part of my code and start writing the report.

Challenges:

The concept of membership function was hard for me to understand at first, I re-watched lecture recordings and did search on the Internet, but still could not form a clear understanding. I went to office hour and make it clear.

The defuzzifier is hard to implement in code, I found the app called Fuzzy Logic Designer, which has a build-in defuzzifier, that makes the coding easier.

I spent a lot of time to figure out how to calculate the angle to the destination, then I reviewed the conversion between polar and Cartesian coordinates, then everything comes clear.

Easy things:

Distance between the current location and the destination is the easiest thing to calculate.

Potential improvement:

The environment for the fuzzy system is too simple and ideal, it only considers two inputs, which are distance and angle. For future improvement, there should be more inputs and outputs.