CS416 Final Project
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Find space on wall
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I choose the project :A robot that is able to find an opening in a wall. The opening has to be big enough for the robot. The idea is that the robot only tries to go to openings that are reasonable to test. Small openings should not be tried. I m using mbot for this project. I used probability as a technique.

I m using ultrasonic sensor for detecting walls. First mbot starts from start point. It goes forward and turn left for checking left wall. If it could not detect a space on left wall, it turns right wall and keep doing same checking process. If it find a space on left wall it check is it enough space for mbot size, to check it it check 5 cm left side of wall and 15 cm right side of wall. If it is enough space, then it is going 5 cm forward and turning left and getting inside of that space. If mbot find a space on right wall it does not check is it enough space or not. It is just trying to get inside from that space. Also I have second version of this code which includes probability. If mbot detect any space on left wall or right wall, it pass first space that it detected. If it detect second space then it is trying to get inside of it. This situation increase the accuracy of sensor. Testing code part was so difficult because ultrasonic sensor can make mistakes so frequently.

To run this project we should have mBlock software. After we got that we should connect mbot and computer. Then we should copy python code to mBlock and run it.

References:

APIs for cyberpi. Makeblock Education. (n.d.). Retrieved November 29, 2022, from https://education.makeblock.com/help/mblock-python-editor-python-api-documentation-for-cyberpi/#GI5GJ

Program Mbot Neo/mbot2 with mblock 5 on your PC - Makeblock Helping Center. (n.d.). Retrieved November 30, 2022, from https://support.makeblock.com/hc/en-us/articles/4412208691863-Program-mBot-Neo-mBot2-with-mBlock-5-on-Your-PC