

BrickBlock-Pi Robot for Introduction to Coding



Student: Edmond Loi Mentors: Raghavender Goud Yadagiri PI: Dr. Vikram Kapila
Mechatronics Lab, Department of Mechanical and Aerospace Engineering

Summary

- Use of Blockly coding language to interface with BrickPi-enabled RaspberryPi brain to guide a robot through a maze.

Hardware Components

- Two Lego NXT motors – Drive the robot
- RaspberryPi/BrickPi combination – Controls and programs the robot
- Wi-Fi dongle – Facilitates wireless communication between RaspberryPi and computer



- RaspberryPi: Single-board single-core computer the size of a credit card
- BrickPi: Slide on board for the RaspberryPi that makes it compatible with Lego NXT/EV3 robotics parts
- Blockly: Google-developed graphical programming language based around using interlocking blocks to code

Software Components

- C - A. libwebsocket
- B. RobotC
- HTML/CSS
- JavaScript
- Blockly

Links

All the code in this project is open-source and can be found on [my GitHub](#)

Application

- Children can be introduced to coding while experimenting with the BrickBlock-Pi robot.