Milestone 3 Report

Authors: Kian Frassek, Cameron Clark and Thiyashan Pillay

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Common Blocks:

DIY layout creator was used to draw all circuit diagrams shown below.

Schematic of board with labels

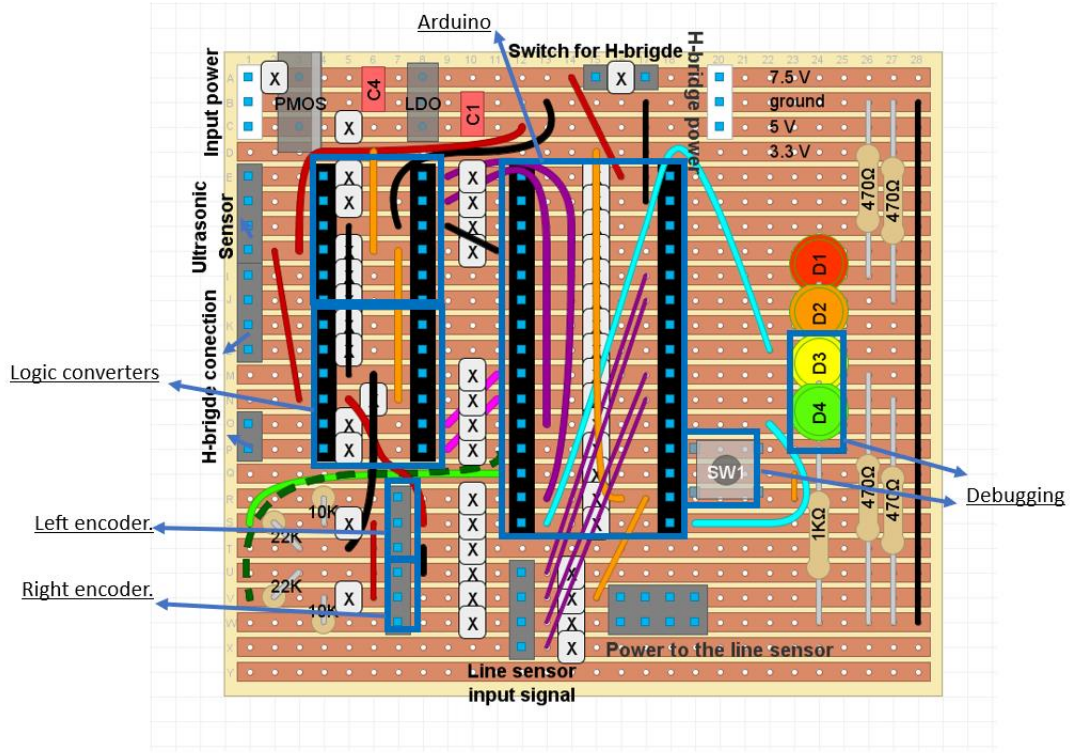

Figure 1: Vero board Layout with labels

Key of the wire colours:

Table 1: Key for wires

	Light blue	Arduino to LED
	purple	Arduino to Line sensor and Ultrasonic logic level converters
	pink	Arduino to H-Bridge logic level converters
	Green (light and dark)	Arduino to Rotary encoders
	Black	Ground
	Dark red	5V Power
	Orange	3V3 Power

Key for LEDs:

Table 2: Key for LED's

Exploring the Maze:
• Yellow indicates when ultrasonic is active, • Green indicates when an object is within 15cm of the robot.
Driving back to Closest Object:
• Indicates how many intersections it needs to pass before coming to a stop. • This is done as a 2 bit binary number where Yellow is the MSB

Picture of board

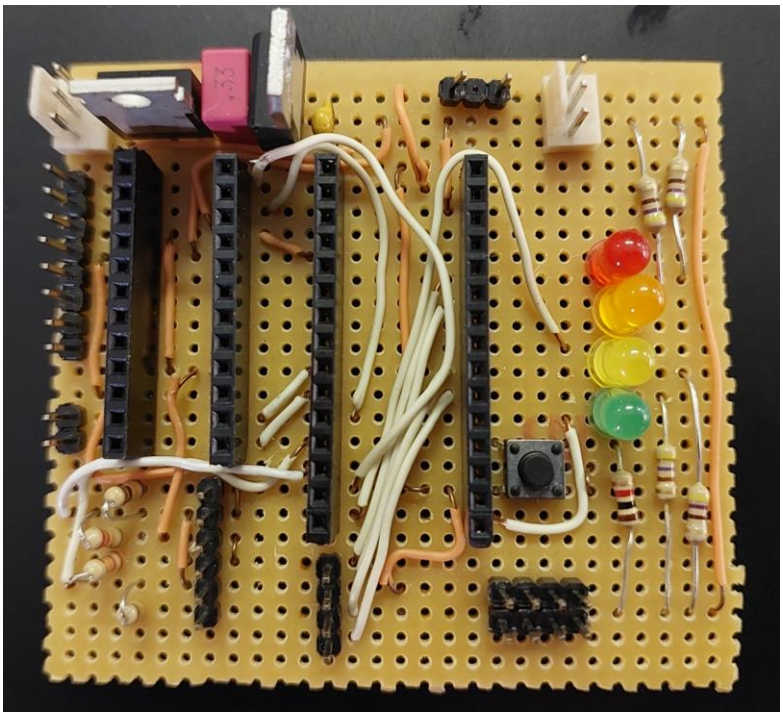

Figure 2: Picture of Veroboard (on top)

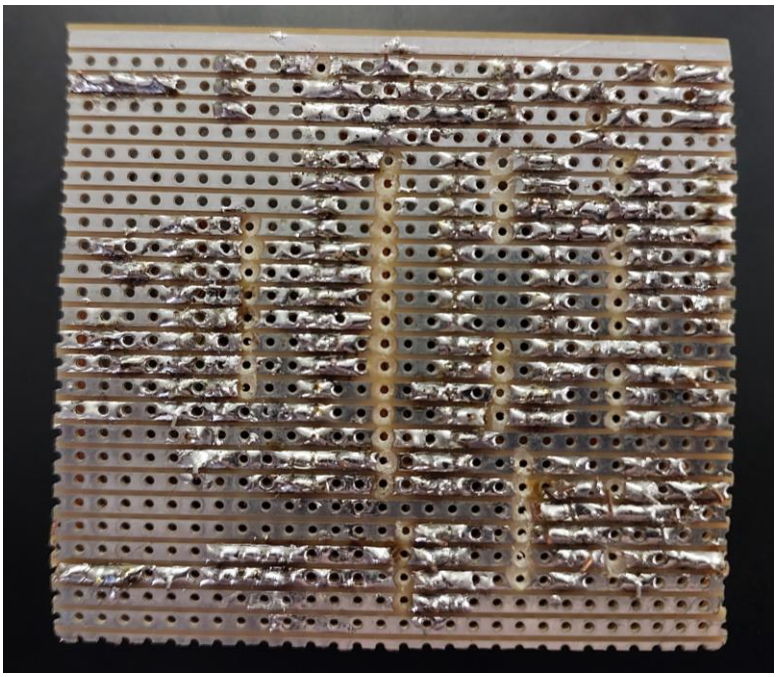

Figure 3: Picture of Veroboard (on bottom)

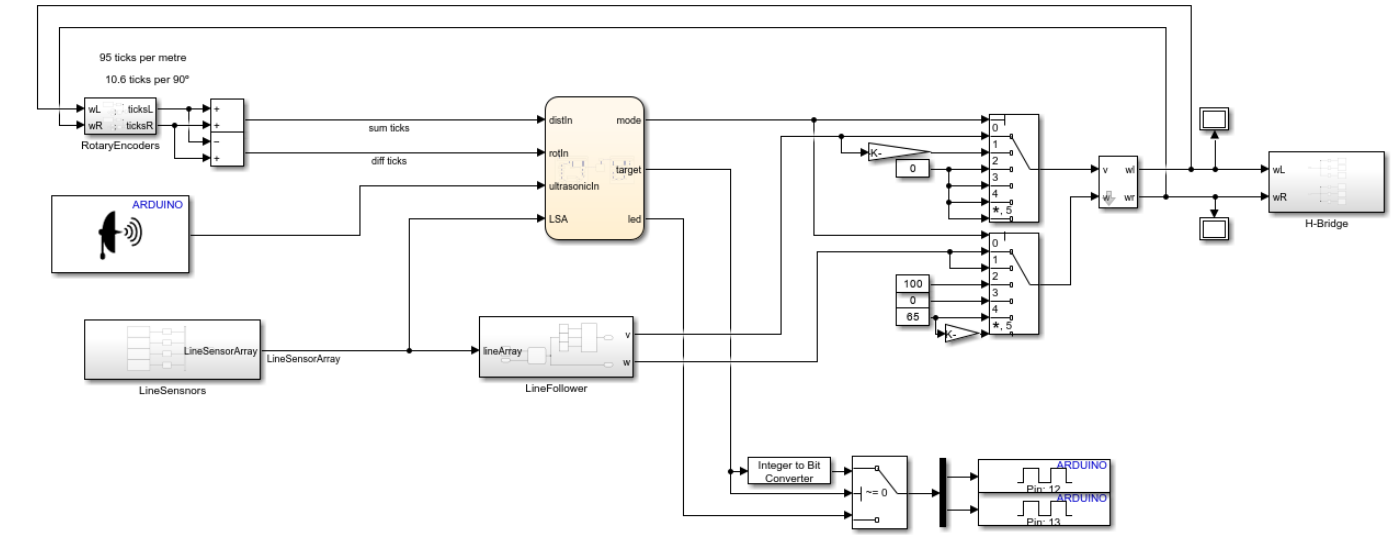

Figure 4: Simulink Block Diagram of the Code Flashed to the Arduino

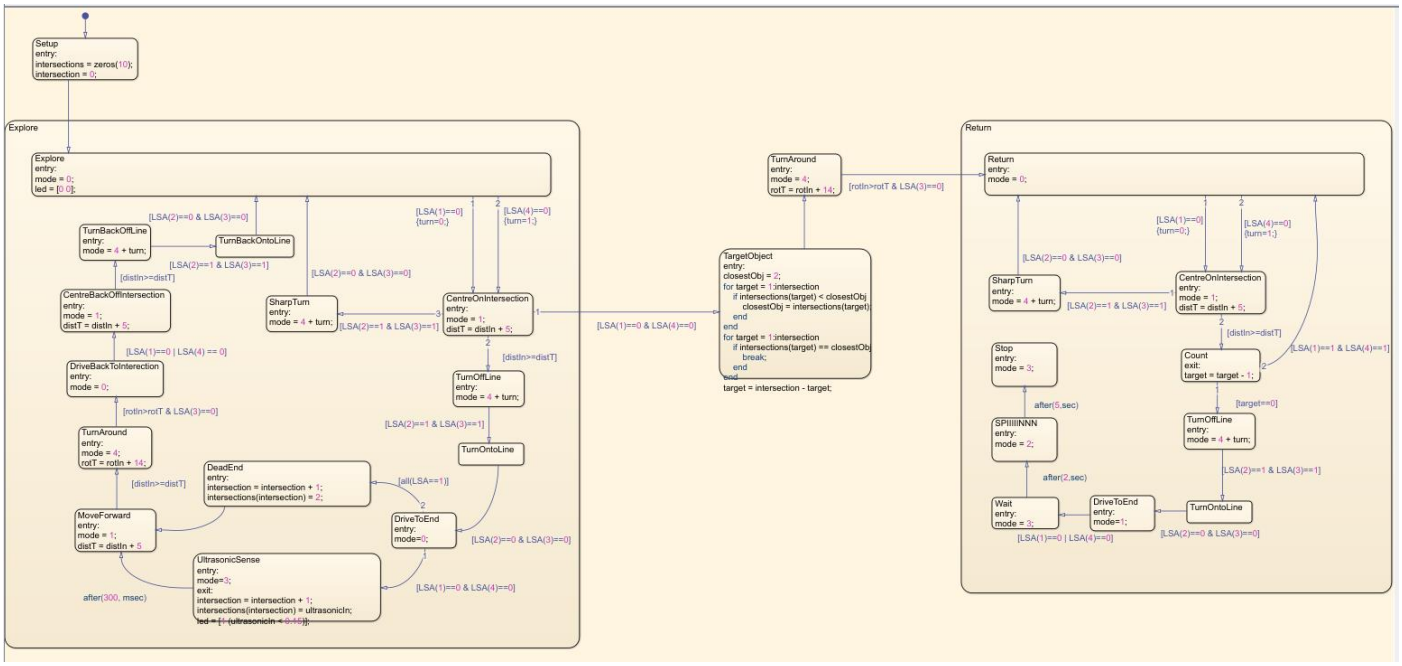

Figure 5: The internals of the chart

The name of the Simulink diagram in the .zip folder is $LinearCompetitiveModel$. It is a Simulink file.