Final Demo

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SRS Compliance

Functional Requirements	
The Micromouse shall utilize no more than four sensors for navigating the maze environment.	✔
The Micromouse shall record and measure its position in the maze.	✔
The Micromouse shall move left, right, forward, and shall be capable of a zero point, 360-degree rotation.	✔
The equipped controller shall have sufficient energy supplied to last a minimum of 15 minutes.	✔

Design Requirements	
The Micromouse shall use a programmable microcontroller that has at least 2 Kb of SRAM and at least 32 Kb of flash memory.	✔
The final Micromouse dimensions shall not exceed a 12cm x 12cm footprint	✔
The Micromouse shall contain a chassis that provides a foundation for the components.	✔
The chosen microcontroller shall be programmable using C/C++ or Python.	✔

SRS Compliance (Cont.)

Performance Requirements	
The Micromouse shall move at a base speed of four cm per second.	✔
The Micromouse shall rotate at a rate of 90 degrees per second (¼ of a full rotation).	✔
The Micromouse shall be able to detect a wall from at least 36 cm away.	✔

Interface Requirements	
The microcontroller pins shall be capable of outputting at five Volts and 15 mA.	✔
The microcontroller shall be programmable via USB.	✔

Mapping the maze

- No longer loading the user defined map from a text file
    - Dynamically mapping maze with every step from robot
- Store the map in a 2-D vector of ENUM type in program
- User input needed for the start and end goal coordinates, and cardinal direction
- Perform A* graph search

Hardware Development - Schematic