

## EE/S E Senior Design: sdddec20-28

Micro-Mouse Maze Runner Showcase

Week 10&11 Report

Client: Dr. Phillip Jones

Advisor: Dr. Phillip Jones

### Team Members:

Richard Anderson

Austin Chesmore

Tyler Fuchs

Jorge Gomez

Aaron Walter

Joshua Wooi

### Bi-weekly Summary

With one week left until presentations the deadline for our project is pushing us to finish up any final tasks and prepare. Our group spent many hours this last week together trying to finish up some final things before the final presentation. To start our micro mouse was assembled using the pcb that our team designed and ordered. Next our software team was able to flash code onto micromouse and use controller input to steer the assembled micro mouse. Our team also began work on the Final Design Doc and Poster in order to complete the course.

### Past Weeks Accomplishments:

- PCBs ordered and received
- Solder the headers on three of our completed PCBs
- assemble two working prototypes, waiting on parts for the third
- Maze completed
- Manual Control via controller and keyboard
- Began working on the Final Report and Poster
- PCB V3 designed

### Pending Issues:

- Path Solving Algorithm
- Sensor input and collection
- Maze display in web based GUI

### Individual Contributions:

Team Member	Contribution	Prev Week	This Week	Report Total	Total
Richard Anderson	<ul style="list-style-type: none"><li>● Redo flood fill with mouse directions</li><li>● Small fixes on a* instructions</li></ul>	12	16	28	75
Austin Chesmore	<ul style="list-style-type: none"><li>● Worked on 3d model ski</li><li>● assembled and soldered a prototype micromouse</li><li>● Drove to ames for in person group work</li></ul>	16	17	33	94

	time on campus				
Tyler Fuchs	<ul style="list-style-type: none"> <li>• Began work on the Poster and Final Report</li> <li>• Administrative Services</li> <li>• Configured CLion in order to flash code onto soon to be constructed Micro Mice</li> <li>• Purchased new boards and re-cut maze walls due to size discrepancy with robot</li> <li>• Maze panels CNC'ed</li> <li>• Maze panels and walls configured to hold maze design</li> <li>• Gui work continue</li> <li>• Moved to a WebUI that will be accessed from the micromouse hosted web server.</li> </ul>	14	16	30	76
Jorge Gomez	<ul style="list-style-type: none"> <li>• Assisted in PCB designs v1,v2</li> <li>• Ordered new parts for micromouse</li> <li>• Began work on the Final report</li> <li>• Outlined the poster</li> </ul>	15	15	30	74
Aaron Walter	<ul style="list-style-type: none"> <li>• Finalized the PCB design in Eagle and got it fabricated</li> <li>• Completely assembled and soldered a prototype micromouse</li> <li>• Finished the code for controlling the motors so the device does not shut down while in use (acceleration control)</li> <li>• Worked with other group members assembling the other two prototype micromice</li> <li>• Worked with Tyler to get prototype command center programmed (With an xbox controller)</li> <li>• Got sensors working on fabricated PCB</li> </ul>	22	21	43	117
Joshua Wooi	<ul style="list-style-type: none"> <li>• Finalized and submitted PCB design for fabrication</li> <li>• Created a 2nd PCB design (not fabricated)</li> <li>• Assembled several prototype micromouse units</li> </ul>	18	15	33	70

#### Plans for Coming Week:

- Maze Path Finding algorithm must be finished and flashed onto the micro mouse
- Order PCB V3
- Ski For PCB made GUI