EE / CprE 492 sdmay23-26

Mini-Arcade Cabinet

Client : Brad Yenger
Advisor : Mathew Wymore
4-7-23 to 4-21-23

Team members:

Brad Yenger (EE)
- soldering experience, 3D CAD design, carpentry skills, along with project experience
Liam Tureaud (EE)
-Soldering experience, carpentry, PCB design, electrical work
Alexander Glass (SE)
-Capable coding in Java, HTML, JavaScript, willingness to learn a new skill during the course of this project
David Helmick(SE)
-Worked with many different computer programming languages in many different aspects (simple games, UIs, websites, embedded systems, databases, etc.). Taken both CprE and SE courses so I have lots of knowledge about computers from a hardware and software perspective.
Jeffrey Marsh(SE)
-pretty talented programmer also well versed in video game emulation
Mark Gores(SE)
-proficient in multiple coding languages. Good understanding of operating systems. Good understanding of computer engineering.

Past two weeks accomplishments:

Liam Tureaud -tested LED matrix, troubleshooted problems with column driver supply, and began installing into the box.

Bradley Yenger - Finished on/off circuit. With a button press, an arduino can turn the box on and off. Finished temp sensor and controls for the fan. Prepping to install, looking to finish install over the weekend

Mark Gores, Alexander Glass, Jeffery Marsh ,David Helmick - The whole software team has come together to combine and test codes. Added a mapping option for controllers, tested three

new games, and have began final test on UI. The uploading game setup is done, but the team is still looking to improve it over the the few weeks left. Solved a confusion with a flipped input from two different controllers (arcade vs xbox left and right were flipped) Solution was to remap the controls to match and “lie” to the user when setting up mapping. (when mapping, it will ask which button do you want to be “left”. What button is pressed gets mapped to right, solving the flipped controls)

Full group: started on the powerpoints, the final documents, poster, and final box work.

Pending Issues:

The cabinet has had some new installations. Speakers are ready to be installed. The LED matrix is installed. Still needs to be attached securely. The arduino was taken out during installation, but can now be put in, wired, and tested. The LEDs are held in with friction now, but should be hot glued or have a wire rack holding them in.

Bradleys power circuit works, but the breakout relay board’s screw terminals are small. They don't fit the wire used in the power strip used to power the full project. The original idea was to just break the circuit by disabling power to this power strip. With the wire not being able to fix in the relay board, a new strategy will need to be determined. As of now, the plan is to pull out the screws from the screw terminal, place the thick wire through these gaps, then solder them directly to the board. This hole is much larger, but will weaken the ability to hold the wire tight.

Name	Hours worked these weeks	Total hours
Liam Tureaud	10	50
Brad Yenger	10	52
Mark Gores	9	51
Alexander Glass	8	48
Jeffery Marsh	10	50
David Helmick	11	52

Next plan of action:

Liam Tureaud - Support the LED matrix inside the cabinet, install and test the arduino code to drive the LEDS.

Bradley Yenger - Fix the on-off circuit by fixing the power cables directly to the screw terminal. Install and test.

Mark Gore, Alexander Glass, Jeffery Marsh, David Helmick - Test UI (brightness control, continue to test for bugs when opening the game, test and see for optimization options) Clean up the uploading setup, and work on making game specific control setups.

Full team: over the weekend we plan to finish the project. Then we need to focus on documentations needed for our presentation.