

sdmay19-25: Handheld Emulation Station

Week 6 Report

10/22 - 10/26

Team MembersJacob Nachman — *Meeting Facilitator*Nick Lang — *Meeting Scribe*Nic Losby — *Chief Engineer*Sean Hinchee — *Test Engineer*Matthew Kirpes — *Report Manager*

Summary of Progress this Report

The big things we got done this week are a basic PCB design and a case redesign for our emulator. We made the decision to add a joystick as well as a D-Pad as we feel that this will enhance user experience with various games that we are designing. The PCB design is a little rough, though as it is our first design. It was a learning experience so we plan to revamp it at some point.

Pending Issues

Redo the PCB design by making it cleaner and more slick, try and estimate battery life, and testing of our surge protection circuit.

Plans for Upcoming Reporting Period

Jacob Nachman: Work on redoing our current PCB design with Nic to make it cleaner, more professional, and get a first order in.

Sean Hinchee: Implement a form of real time kernel module proof of concept. If not, potentially work on boilerplate for an emulator.

Nick Lang: Start looking into emulation design and figure out how to break down the design into manageable pieces.

Matthew Kirpes: Look into other emulation software and see if that would be helpful for our design/what changes could be made

Nic Losby: Basically redo the entire thing. I already wanted to iterate before ordering and we very much need to.

Past Week Accomplishment

Jacob Nachman: Started to understand PCB basics after making a rough first design.

Sean Hinchee: Successfully explored, researched, and worked on developing designs around kernel module design as well as emulator design.

Nick Lang: Added additional buttons/joystick to faceplate of case.

Matthew Kirpes: Looked at what kind of battery would work well for our system.

Nic Losby: First design started and finished this week.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Jacob Nachman	<ul style="list-style-type: none"> After looking at some save and load functions for various emulators, figured out we should be able to implement it ourselves on our own emulator. Worked with Nic on the first basic design of the PCB and tried to learn about what goes into making a good PCB. 	8	40.5
Nick Lang	<ul style="list-style-type: none"> Adjust case design to accommodate addition of joystick as well as triggers and start and select buttons. 	6	37
Nic Losby	<ul style="list-style-type: none"> Got a very bad PCB designed with parts all over and forgot to account for width of traces that carry power. 	8	43
Sean Hinchee	<ul style="list-style-type: none"> Played with more kernel module feature; watched video on an implementation of a real-time USB kernel module similar to our plans and researched from that point. 	7.5	39.5
Matthew Kirpes	<ul style="list-style-type: none"> I started looking into more detail about the how the emulation would run on our machine and what is specifically needed for our design. 	8	39

Gitlab Activity Summary

Nothing to report.
