
sdmay19-11: MIDI Zeusaphone (Singing Tesla Coil)

Week Report 14

Winter Break, January 24 - January 31

Client/Advisor

Joseph Zambreno

Team Members

Gunnar Andrews — *Webmaster*

Leo Freier — *Interrupter and Micro Controller Lead*

Luke Heilman — *Technical Architect*

William Brandt — *Pulse Width Modulation Expert*

Greg Harmon — *Tesla Coil Construction Expert*

Jacob Feddersen — *Communications Specialist*

Summary of Progress this Report

- Completed and tested OneTesla build
 - Did some preliminary PCB design research and practice
 - Continued Web API work
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Past Period Accomplishments

- Completed OneTesla Build - Jake, Luke
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- Tested OneTesla - Gunnar, Jake, Leo, Luke, Will
 - Tested the completed build of the OneTesla. Nothing happened when the coil was activated, but the problem was narrowed down to a problem with the optical receiver
- Learned and researched PCB design software - Leo
 - Worked through Dr. Tuttle's PCB design tutorial to practice the software and learn more about PCB design. Did some preliminary research on PCB design in general.
- WebAPI and php work - Gunnar
 - Start testing different ways to use a directory to fill a dynamic list on the API for the user to select from the currently available songs(not yet complete)
 - Low level development steps on some backend/HTML code so a user can select a midi file from their file system and load it onto the PI from the access point (not yet complete)

Pending Issues

- Where to test OneTesla (permanent testing area?)
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Plans for Upcoming Reporting Period

- William Brandt & Greg Harmon- work on tesla coil design, and PCB design
- Gunnar Andrews
 - Continue work on WebAPI, finish midi file loading and dynamically filling lists
 - If I can finish that, then the next step is to integrate USB/keyboard input on the API
- Finalize prototype coil circuit design
- Design PCB's and plan on ordering ASAP
- Order remaining parts and work with parts that arrive

Individual Contributions

Team Member	Contribution	Reporting Period Hours	Total Hours
Gunnar Andrews	<ul style="list-style-type: none"> Starting working with dynamically filling lists on the web api Started testing to develop some backend software for a user to load a midi file directly from there machine to the PI via the access point we set up Took some time to do the initial test of the OneTesla Updated website or start of new semester and with first weekly report 	8	91
Leo Freier	<ul style="list-style-type: none"> Helped with testing OneTesla Worked with software for PCB design and completed practice design Beginning PCB design research 	7	89
Luke Heilman	<ul style="list-style-type: none"> Finished soldering power components of OneTesla (w/Jake) Assembled caps for OneTesla secondary coil (w/Jake) Varnished OneTesla secondary coil (w/Jake) Diagnosed OneTesla issues 	14.25	109.5
William Brandt	<ul style="list-style-type: none"> Learned about software for PCB design 	5	79
Greg Harmon	<ul style="list-style-type: none"> Review final designs Review part lists and 	4	92
Jacob Feddersen	<ul style="list-style-type: none"> Research, order components, and build miniature tesla coil Construct oneTesla interrupter circuit Assist with oneTesla coil construction Research and select our own tesla coil design Transmitter/receiver circuit design Parts list for tesla coil Web API and Raspberry Pi interface 	39	122.5

Gitlab Activity Summary

None to report