

sdmay19-11: MIDI Zeusaphone (Singing Tesla Coil)

Week Report 23

April 11 - April 18

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

- Transmitter now completely finished and assembled
 - Bridge PCB arrived
 - Acrylic for coil case was cut
 - Secondary coil now wound and varnished
-

Past Period Accomplishments

- Transmitter case fixed and assembled - Luke
 - Holes on the case side for the HDMI and power ports were not big enough - new side with bigger holes has been cut
 - Standoffs and screws arrived - it is now fully assembled
- Coil case work - Luke and Jake
 - Acrylic for the case has been cut
 - Flange has been attached to top of case with bolts and nuts
- Secondary Coil work - Luke, Jake, and Leo
 - Endcaps designed and cut for the coil PVC
 - Endcaps glued to the PVC, bolts attached to endcaps
 - Winding rig assembled with 80/20 extrusion
 - Holes for coil bolts cut into the rig
 - Secondary coil wire wound around the PVC
 - Secondary coil varnished
- Bootstrap page testing
 - Columns on smartphones and colors/design for the final API
- Still trying nodogsplash

Pending Issues

- How to attach toroid to top of secondary coil
-

Plans for Upcoming Reporting Period

- Solder the bridge PCB
- Finish assembling case for the coil
- Start work on the top load
- Finish poster and update the design document

- Try nodogsplash for a little longer
- Bootstrap implemented into Web API

Individual Contributions

Team Member	Contribution	Reporting Period Hours	Total Hours
Gunnar Andrews	<ul style="list-style-type: none"> • Started working on final project report • Created test pages with bootstrap to test columns and colors on smartphone • Kept trying nodogsplash, but it is still not working(might have to abandon) 	7	170
Leo Freier	<ul style="list-style-type: none"> • Helped wind wire on the coil w/ Jake • Continued work on design document 	7	173
Luke Heilman	<ul style="list-style-type: none"> • Work on coil case <ul style="list-style-type: none"> ○ Finished coil case design ○ Cut acrylic for case ○ Attached flange to case top • Fixed transmitter case side - transmitter now fully assembled • Work on secondary coil <ul style="list-style-type: none"> ○ Designed and cut end caps ○ Helped assemble winding rig ○ Assembled end-caps to go in winding rig ○ Helped varnish the secondary after being wound • Started updating the design document 	16.75	238.5
William Brandt	<ul style="list-style-type: none"> • Started work on poster 	5	149
Greg Harmon	<ul style="list-style-type: none"> • Started Poster <ul style="list-style-type: none"> ○ Draft of design • Completed first revision of Design Document. 	4	170
Jacob Feddersen	<ul style="list-style-type: none"> • Constructed coil winding rig • Updated schematics for design document • Wound and varnished secondary coil • Helped with misc. tasks for final product construction • Laid out initial poster design 	8	246.75

Gitlab Activity Summary

commit 610d2a1a2f1bdcd070df5641a39d530df84cdc70 (HEAD -> documentation, origin/documentation)

Author: Luke Heilman <lheilman@iastate.edu>

Date: Wed Apr 17 15:48:01 2019 -0500

Add hardware architecture diagram