

sdmay18-15: Building wireless lab space on a college campus

Week 5 Report

October 8 - October 14

Team MembersAlec Sauerbrei — *Curriculum Lead*Colin Ward — *Communications Manager*Hope Scheffert — *Git/Documentation Manager*Omar Taylor — *Software Design Lead*Tyler Much — *Physical Design Lead*Dalton Handel — *Network Design Lead***Summary of Progress this Report**

In parallel with creating version one of the Design Document, the team has made strides in the Faraday cage prototype area. The team was all able to test the material, and saw how its initial success could make it a truly viable option for a final product. With a common path forward in mind, more research and testing could be done on the Android phones we plan to purchase, the SDR and OpenBTS, as well as work on how the current prototype can be improved.

Pending Issues

The team is still waiting for feedback from Dr. Mina about Faraday cage knowledge and the client-advisors about the parts list. We are also hopeful that the OpenBTS software will function well with the given SDR, and expect to know for certain by week 9.

Plans for Upcoming Reporting Period

With a less than satisfactory grade on the project plan version 1, the team will take its enhanced sense of direction with the project and apply it to the second version of the plan. The team also plans to resolve the pending issues listed above.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Alec Sauerbrei	Design document proofreading and corrections. Did some reading on GPRS in relation to GSM and how it may be implemented into our cellular Faraday cage.	4	17.25
Colin Ward	This week I spent some time making a diagram of the construction of the Faraday cage. While being able to come to an agreement verbally on what the final product may look like, it became clear that we were not in agreement once we started sketching. This is by no means the final design, but it has	3.5	21

	helped with having a common understanding. I've also been prototyping shell scripts on my RPi3 to simulate network traffic.		
Hope Scheffert	Worked on design document, researched more on raspberry pi's and also how to automate Android phones making phone calls, holding the phone calls, and sending SMS messages.	5	19
Omar Taylor	I conducted further research into OpenBTS and how to configure the software for our radio. Specifically, I did further reading into a guide from the developers to decrease the amount of 'gotchas' I might have encountered otherwise. Alongside this, I looked into how to prepare our SDR for testing to see if it would be compatible with OpenBST. I'm looking to have a conclusion by week 9.	2	13
Tyler Much	This week I contributed to the design document as well as conduct research on how to improve the prototype design. I tested the initial design with more material and in various different locations. I am still in the process of finding an acceptable mesh material to help supplement the blocking capabilities of the rf blocking fabric. This week I also spent time configuring my own raspberry pi to run web servers and a vpn. I am currently working on practicing managing virtual hosts to try to get a better feel for how we are going to design our environment.	4	16
Dalton Handel	Research and tinkering of OpenBTS Ubuntu server configuration, weak to mild design document contribution	3.5	17.5