sdmay18-15: Building wireless lab space on a college campus
Bi-Weekly Report 4
February 23rd - March 9th

Team Members

Alec Sauerbrei — *Curriculum Lead*
Colin Ward — *Communications Manager*
Hope Scheffert — *Documentation Manager*
Omar Taylor — *Software Design Lead*
Tyler Much — *Physical Design Lead*
Dalton Handel — *Networking Lead*

Summary of Progress this Report

A lot of milestones were reached this reporting period. The SDR firmware has been reset and can be observed on Wireshark. The original prototype was referenced to see what we need to fix with the final build, which has been concluded to be adding copper fabric and metal mesh. Most importantly, the team has acquired a server to begin configuring all of the components on permanently. With this the team can also begin setting up the administrative and student virtual machines that will be needed for the various lab exercises the team is designing.

Pending Issues

While testing is looking good for the cage, the components have yet to be mounted to the inside for heat testing. The team hopes this isn't an issue in the future, but the components need to be all inside the cage as soon as possible for optimal testing to take place.

Plans for Upcoming Reporting Period

The upcoming period will be a bit more empty due to spring break, however the teams goal is to configure the server with the various components so they can be permanently installed in the faraday cage. This will be a significant amount of progress to showcase for the next PIRM review.

Individual Contributions

Team Member	Contribution	Week 1 Hours	Week 2 Hours	Total Hours
Alec Sauerbrei	Setting up hackazon and server pi and the various things associated with that, meeting with advisor people and server download.	3.5	4	25.5
Colin Ward	The first week I went out to get a second 18 gallon bin. This bin is trimmed at the top and placed inside the original bin on top of the layers of electromagnetic	4	6	28

	shielding because while we tried to flatten out all the layers, there are still edges that when left exposed could catch on something and tear off the bin. I didi a lot more testing with the bin as well into the second week. While the aluminium foil is dampening the WiFi signals somewhat, it doesn't perform as well as a metal mesh/aluminium/copper fabric combination.			
Hope Scheffert	Tested out a few different text to speech libraries for the simulated phone conversations for GSM network. Decided gTTS (Google TTS) CLI is the easiest way to accomplish this. Implemented it in the existing automated phone call bash script. Tried the POODLE Lab again, but doesn't seem to be working. Helped conduct testing on the cage.	4	4	26
Omar Taylor	The last two weeks were spent reading more about cellular signals before I began learning more about attack vectors.	3	3	29
Tyler Much	Gathered more material for the Faraday cage. Added more material to the design. Reverse engineered the original prototype to see what the most effective pieces were. Conducted additional materials and signal testing. Identified which materials we needed to order and made a list for what I need to buy. Contacted Dr. Mina for more advice about the faraday cage.	2	4	23
Dalton Handel	At long last, updated firmware using wireshark and NI-USRP configuration utility. Shouts out to Paul Pfister for revealing what IP they had been hiding behind. Working now on configuring bridged adapter to open communication between OpenBTS software and SDR.	4	4	27