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

Week 9 Report November 23 - November 30

Team Members

Alec 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

The biggest news is that OpenBTS has been built successfully on an SDR. This was a major roadblock for the team so far. Now we can move on to testing its functionality with the parts that should be arriving by the end of the semester.

The team has also decided to alter the planned construction of the final cage. Too much emphasis was placed on aesthetics with the design, and functionality was called into question. With the current tests of copper mesh fabric and aluminium foil cage being so successful, the team thinks that up-scaling this prototype into a large plastic bin that can contain both wireless environments will be the most efficient. There is no issue with the signals from the two cages intermingling, so separating them is unnecessary.

Pending Issues

The team needs to confirm the new cage design with the client-advisors before any materials are purchased. The other parts, including the router, Android phones, and Raspberry Pi 3's, are also in the process of being ordered.

Plans for Upcoming Reporting Period

The team is very focused on the final presentation. They are testing the prototype, SDR, and a Raspberry Pi 3 to make sure that the progress reported in the presentation is accurate.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Alec Sauerbrei	Working on project presentation and reflection, talking with dalton over SDR building and usage, discussing the amount of holes vs how many boxes	2.5	29.75
Colin Ward	Started outlining labs for wireless packet sniffing and MITM learning objectives	2	36.5
Hope Scheffert	Created a simple android app that automatically sends text messages and makes	4	35

	phone calls every x seconds. Alec and I tested it with his Android phone and got it working. Started looking into "adb" which can be used to send bash commands to Android phone in Debugging mode. This could be much better instead of the app I made.		
Omar Taylor	Worked during the break to get the SDR working to no avail. After consulting Dalton after the break, who was able to get it working, I found that I had not waiting long enough OpenBTS to build. The following week I worked with my group members to discuss our approach to our final presentation as well as our project goals for the short-term future.	4	24.5
Tyler Much	Went to a meeting to learn about SDR, spent some time waiting for it to compile. Looked at the code Hope had for sending calls and texts from different numbers and doing it automatically. Being able to control the phones from a PC like that is really going to benefit our project. I also looked at different bins to use for the final design of the faraday cage. Prototype has been reinforced with HEAVY DUTY aluminum foil and now causes calls to drop.	4	33
Dalton Handel	Built OpenBTS is finally built on the VM.	7	35.5