CyWi: Open-Source Wireless Innovation Lab for Smart Ag, AR/VR, and Beyond

Team Number: sddec19-02   **Client**: Dr. Hongwei Zhang   **Faculty Advisor**: Dr. Hongwei Zhang

Team Members

Chenye Lim	Ryan Cullinan
Jian Chew	Shay Willems
Pawel Darowski	Tyler Beder

Dates

September 28 to October 11, 2019

Biweekly Summary

We are able to determine signal configuration to get the desired packet delivery rate at different distance for the SDR. This would be the final testing on the SDR. After this week, we would focus on helping the server team to implement EmuLab.

We discovered that Emulab wasn't going to work on Linux; it needed FreeBSD. This put quite a halt on our server setup and we had to start from scratch again. At this point, we're verifying that we have everything we need for Emulab to function and will begin installing it in the weeks to come.

Accomplishments

- Successfully installed FreeBSD onto the solid state drive that we will be using as our main OS drive
- Obtained configuration values for different distance between SDR.
- Successfully changed the working antenna from the chip antenna to a cabled antenna

Pending Issues

- TI antennas are receiving interference
- FreeBSD does not have GUI

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Chenye Lim	Measured network performance with different distance on grid to model real world behavior. Configured ssh remote access on individual nodes. Ordered necessary kits for attenuator soldering.	8	53
Jian Chew	Find the right configuration to get the desired packet loss value at different distance for SDR.	7	64
Pawel Darowski	Prepared for Emulab install	4	67
Ryan Cullinan	Installed FreeBSD on server. Troubleshoot network configuration issues with install.	7	44
Shay Willems	Made updated gantt chart and tested attenuators	3	44
Tyler Beder	Searched datasheets for attenuator implementations	5	38

Plan for Coming Week
- Figure out interference issues with TI motes
- Install and begin configuring Emulab
- Connect SDR to the server
- Implement website for user to run lab experiment