

## 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

April 13 to April 19, 2019

### Weekly Summary

Ryan sat down with Dr. Zhang and ETG to discuss ordering a server. ETG suggested going with a Dell Precision 3000 series. We are waiting for a quote from ETG before making the final decision on a machine. In the meantime, we researched server software including a LAMP setup, HTML/CSS frameworks, and user management systems. Also we looked at Emulab source code to see how much of it we can use and which portions we will need to build in-house.

Shay and Tyler looked at specifics for interfacing with the TI's. Particularly, we figured out that we have a couple different ways of identifying them by the NUCs. We also started experimenting with our own programs for Zigbee and Bluetooth.

### Accomplishments

- Narrowed down the choices for a server
- Began researching Emulab source code (used by Orbit and Powder projects)

### Pending Issues

- More research is needed, especially into OpenAirInterface and LTE/5G.

### Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours

Chenye Lim	Found appropriate OS version for running OpenAirInterface.	2	37
Jian Chew	Found appropriate OS version for running OpenAirInterface.	2	35
Pawel Darowski	Found server software for HTML/CSS framework and user management system. Refined in-house software requirements. Researched Emulab source code.	4	56
Ryan Cullinan	Continued working to find a suitable server machine	2	24
Shay Willems	Downloaded TI dev environment and Zigbee testing	4	37
Tyler Beder	Downloaded TI dev environment and Bluetooth testing	4	29

**Plan for Coming Week**

- Select a machine for our lab server
- TI SimpleLink lab survey/tests to measure effective communication reliability in our lab setting
- Refine the main ideas and features of SDRs, CPS motes, and the server
- More ORBIT and POWDER tours during the next client meeting