
EE/CprE/SE 491 BIWEEKLY STATUS REPORT 2

January 30, 2020 – February 13, 2020

Group number: 37

Project title: Open-Source Prototyping of Advanced Wireless Systems for Smart Agriculture and Connected Rural Communities

Client &/Advisor: Hongwei Zhang, Matthias Sander-Frigau

Team Members/Role: Zequn Wang – Meeting Scribe
Dylan Sharp – Meeting Facilitator
Jiawei Deng – Chief Engineer
Zhenwei Su – Report Manager
Shaohang Hu – Test Engineer
Yulin Song – Test Engineer

○ Weekly Summary

For these two weeks, we met with the advisor, Matthias. He gave us a new direction for our project. From this week, all of us will be focusing on the communication layer which is more about algorithm itself. So, we split our team into two parts. One will be expanding algorithm definition and the another one will go through the source code of mac80211 and ath9k to find which functions we really need to implement. Also we got a new member Yulin last two weeks!

○ Past week accomplishments

- Get familiar with all the references and algorithms as a new member – Yulin Song
- Try simple cross compilation on OpenWrt – Shaohang Hu
- Modularize 802.11sub system on OpenWrt for QEMU (Build new OS) – Dylan Sharp
- Worked on redefining the algorithms – Jiawei
- Ask advisor about the proof of concept application – Zequn, Zhenwei

○ Pending issues

- Failed to cross compile hello world for OpenWrt (Shaohang). Going to put this in the back log for now
- For now, we will ignore the whole need for proof of concept and wait till later
- Failed to build old version of OpenWrt-14.07 Operating System. (Dylan)

○ **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Zequn Wang	Dig into proof of concept application	6	13
Dylan Sharp	Setting up QEMU and dig into linux wifi system	13	20
Shaohang Hu	Simple cross compile on OpenWrt	13	18
Zhenwei Su	Dig into proof of concept application	6	12
Jiawei Deng	PRK algorithm	13	19
Yulin Song	Get familiar with the algorithms and team progress	12	12

○ **Comments and extended discussion**

N/A

○ **Plans for the upcoming week**

- Learn about the source code of mac80211 and ath9k– Zhenwei, Shaohang, Dylan
 - PHY and Low MAC in ath9k, high MAC in mac80211
 - Identify the functions we need to implement and edit
- Work on expanding/refining the algorithms – Jiawei, Yulin, Zequn
 - flowgraph of PRKS algorithm
 - Figure out how each function work