EE/CprE/SE 492 WEEKLY REPORT 02

Jan 25 – Feb 10
Group number: 23
Project title: Experimental Exploration of 5G-and-Beyond Wireless Systems and Rural Broadband
Client &/Advisor: Dr. Hongwei Zhang

Team Members/Role:
- Zachary Zemlicka – CYB E
- Joshua St John – CPR E
- Varun Advani – CPR E
- Jared Melcher – S E
- Lukas Zerajic – CPR E
- Christopher Sell – CYB E

o **Weekly Summary**

This week, we made some big decisions on how we actually want to make progress on our project. We decided to split our 6 person team into 3 groups of 2 people:
Group 1: Josh & Chris
Group 2: Jared & Lukas
Group 3: Zach & Varun

We also assigned a single module to each group like so:
Module 2: Group 1
Module 3: Group 2
Module 4: Group 3

Module 0 is quite simple, so it will be completed later if a group finishes their module early.
Module 1 is already complete.

With these groups and their assigned modules, we also set deadlines/checkpoints for each group. We decided that each group should have completed a specific topic on their module's wiki pages by our next group meeting (15 Feb) and should have all of their module's wiki pages completed by our next advisor meeting (22 Feb). We also set a longer-term goal of minimally completing modules 0-4 by the beginning of spring break (8 Mar), with an ideal goal of completing modules 0-4, testing them, and also planning for modules 5-7 by the beginning of spring break.

o **Past week accomplishments**

Varun: Varun setup Module 0 in our github repository and ran a build on readthedocs to reflect and host the changes, and participated in discussions for future progress.

Chris: Chris led the discussion for the group as we decided how best to approach completing our project.

Josh: Setup the working environment to be able to edit the learning platform. Chris and I created a plan where I will be doing the first 2 sections of module 2 and Chris will be doing the other 2 sections of module 2. Started to read Modulation and Demodulation information to be able to display information needed for the website.

Jared: Worked with my module group mate to start creating and executing our plan for module 3. This includes laying out what needs to be added to our wikis information wise before crafting our experiments for the module and also laying out a plan for when we can work together this coming week. Most of the team during these past two weeks had to also sit down together to get the software to build the learning platform working on their personal devices (there were some issues with our installations of Python/Sphinx not having the PATH directory set). Varun was the one who was the most knowledgeable about the issues we were running into but there were some other things (mostly related to installing make and having to reboot your computer after messing with PATH variables for any changes to take place) that I had to help with as well.

Lukas: Attended and participated in all group discussions, recorded meeting notes, established a plan with group mate to work on assigned module (starting with wiki pages). Started acquisition/download of software needed to implement module experiments.

Zach: Zach participated in the discussion for groups and helped establish an approach to guarantee that our goals are met

- **Pending issues**

  Varun: N/A

  Chris: N/A

  Josh: N/A

  Jared: N/A

  Lukas: N/A

  Zach: N/A

- **Individual contributions**

NAME	Individual Contributions *(Quick list of contributions. This should be short.)*	Hours this week	HOURS cumulative
Josh	-Module 2 sections 1 and 2 starting -created workspace environment to be enabled to edit learning platform materials -Reading books over modules.	5	5
Chris	- Split the group into teams - Delegated modules for each team - Began work on Module 2	6	6
Jared	- Started Planning/Execution of	5	11

	Module 3 - Set up meeting times where my module partner and I can work together on the project		
Lukas	- Started planning/implementation of module 3 - Recorded meeting notes	5	11
Zach	-Began work on Module 4		
Varun	-Moved Module 0 to our repository -Refined Module 01 -Began planning of Module 04	5	5

- **Comments and extended discussion**

  The total hour column above may be inaccurate or smaller than normal for this specific report. Not everyone tracked their time for this report and this next week is when the execution phase of our project is mostly going to begin. There should be quite a bit more time being put into the project while this is being carried out.

- **Plans for the upcoming week**

  Varun: Varun will work with Zach to plan and develop wiki pages related to data encoding (Module 4) with respect to Software Defined Radios.

  Chris: Chris will do research on the material for wiki pages 3 and 4 of Module 2 ("Frequency Hopping in Communication Systems" and "Advanced Modulation Techniques in SDR") and implement his research as well

  Josh: To continue to read more textbooks to learn more about Modulation and Demodulation for the learning platform. Edit the learning platform and finish wikipages.

  Jared: Jared and his teammate will meet together on Monday at 5:30 at the library to start executing the plan they have for module 3. This will include getting the layout and information for the module set in stone and added to the repository and recurring meetings setup.

  Lukas: Lukas will meet with his assigned teammate to begin work on module 3. Will start to add information to wiki pages of module 3.

  Zach: Zach will ensure that module 4 gets filled with accurate information concerning the topic. Zach also will get a lab started to ensure that we stay on track.

- **<u>Summary of weekly advisor meeting</u>**

Our advisor introduced us to Professor Ahmad to provide further insight and guidance on our learning platform implementation. Established midterm goals of fully completing and alpha testing modules 0-4 in addition to having planning for remaining modules complete. By this point, we will also have picked out our beta testers and provide them with the necessary materials to begin testing our implemented modules. Beta tester group options include Undergraduate ECPE juniors/seniors and REU students with electrical/software backgrounds. We also discussed experiments and how those can be combined with other experiments. Advisor expressed a desire for us to prioritize experiments on OAI, update our Gantt chart, and condense labs.