EE/CprE/SE 492 WEEKLY REPORT 03
Feb 10 – Feb 24
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**

In short, this week we:
- Continued learning our assigned Module content via SDRs textbook
- Began implementing researched information into wiki page form
- Developed GitHub repository and solved pull/push errors

For context, last week, we split the group into 3 groups, like so:
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

Our original goal was for each group to have completed all of their module's wiki pages by our next advisor meeting (22 Feb). Unfortunately, all modules have not yet been fully implemented. So, we are setting a backup deadline for next Thursday (2/29). On this date, we all should have our wiki pages done and added to our branches in the GitHub repo. As a team we have:

Our ongoing goals are:
- 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
- planning for modules 5-7 by the beginning of spring break

These goals still stand and we are still working toward them.

- **Past week accomplishments**

      Varun: Varun worked on the notes for different sections of Module 4 and began implementing it RestructuredText. He also outlined the other sections for moving notes, figures, and such to the website.

      Chris: Chris tested if he was able to push/pull to the Git repo, then he began research and notetaking on his Module 2 wiki pages while he met with Josh.

      Josh: Understanding more of the Repository being used. Read and learn more modulation and demodulation methods that will be implemented on the learning platform. Modulation and demodulation is our topic.(Chris and Joshua) Which is important for us to learn these materials so we can then lead the knowledge learned for the users to eventually approach ARA's modulation and demodulation techniques which will be implemented in the labs that we will develop.

      Jared: Started moving information that was created by Lukas onto the Wiki Pages, moving it to their own restructuredtext files. Had to do some research on how to get Python virtual environment working on Pyrite so that you can compile the website using Pyrite. This ended up being a few hour long conversation with It Solutions. This should allow everyone to push to the repository.

      Lukas: Met with Jared to outline Module 3, conducted research and collected notes of what goes in the wiki pages for the module. Completed about 65% of research note-taking and organized into sections for the wiki pages.

      Zach: Participated in the discussion for groups and helped establish an approach to guarantee that our goals are met. Also worked on the gathering and completing all the information that was needed for the wiki and quizzes.

- **Pending issues** *(If applicable: Were there any unexpected complications? Please elaborate.)*

      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.	6	11
Chris	- Tested out the GitHub repo and	6	12

	solved pull/push errors - Began research on Module 2 wiki pages and added research into a shared doc - Wrote ½ of one of his two wiki pages - Continued reading SDRs textbook		
Jared	- Execution of Module 3 (Research and moving it to WikiPages) - Getting work environment to run on Pyrite - Rescheduled our biweekly for next friday	7	23
Lukas	- Recorded and organized lab notes for wiki pages for module 3 - Started planning out quizzes and developing questions for module 3 - Going over materials required for lab implementation	4	14
Zach	- Created the wiki pages for module 4 - Created quizzes for module 4 - Started to implement wiki onto the website -	8	13
Varun	-Notes on data encoding and packet communication -Outline for other sections/quizzes/labs	5	12

- **Comments and extended discussion**
N/A

- **Plans for the upcoming week**

Varun: Varun will work on finishing up wiki pages 2, 3, and 5 related to fundamentals of data encoding, packet communication, and implementing packet communication with USRP SDRs.

Chris: Chris will continue researching on his wiki pages for Module 2 and write up the notes onto the wiki pages by Thursday 2/29.

Josh: Joshua Thomas St. John will learn more about modulation and demodulation techniques for module 2. After learning the material, gather all of the key concepts that should be covered for the user to understand the basics of this module. Then eventually

converge together with contents and information needed for ARA labs.

Jared: Will schedule with Lukas to continue working on Module 3 and get our Wiki Pages done by the deadline.

Lukas: Lukas will finish the rest of the note-taking and complete sectional organization before uploading to github. He will also begin planning out and implementing the quizzes

Zach: Zach will ensure that module 4 wiki's and quizzes are completed and implemented onto the website. Zach will also start working on creating two labs for module 4.

- **Reviewing Section 4.4**
  - Add a section to this report with any (1) updates to broader context effects, (2) plans to demonstrate evidence of positive effects, and (3) ways to address or justify negative effects based on meetings with your team, client(s), and advisor.

    1. **We have no updates to the broader context effects for our project. This is because nothing has changed with our project's objective; the goal to create learning materials (wiki pages, labs, and quizzes) for 5G and ARA resources is the same, therefore the project's effects are the same. For context, see our Section 4.4 from our Design Document.**
    2. **By the utilization of our teaching materials, the evidence of positive effects will be shown via the students using our materials.**
    3. **Similar to the positive effects, the negative effects will also be shown via the students using our materials. If our materials fail to teach effectively, students will simply not learn the material. If this happens, not much can be done on our part, as we have moved on from the class. However, our client/advisor Dr. Zhang will always be available and will continuously be mentoring the students, so they can go to him with questions they have on the material as they learn it.**