EE/CprE/SE 491 WEEKLY REPORT

2/19/2023 – 2/26/2023

Group number: 20

Project title: mm Wave Imaging radar

Client &/Advisor: Mohammed Tayeb Al Qaseer

Team Members/Role: Nathan Ayers: Interface Lead, Rodrigo Romero: Lead FPGA Programming Engineer, Michael Levin: Lead DSP Engineer, Matthew Caron: Lead Hardware Designer.

(All the above information should be there in each weekly report. The format/color scheme etc need not be the same. However, please remove everything that is in a bracket from your final submission. These are just part of the template and need not be a part of the report.)

- **Weekly Summary**

This week was spent refining our understanding of the client we are making the device for. We debated on the personality, habits, and goals of the type of person that would use a high frequency DAQ. This allows us to remain empathetic towards our clients needs in a more involved and intimate way.

- **Past week accomplishments** *(Please describe/summarize as to what was done, by whom, when and, collectively as a group. This should be about a paragraph or two in length. Bulleted points are acceptable as well. Please keep only your technical details related to your project. Figures, schematics, flow diagrams, pseudocode, and project related results are acceptable, but please ensure that they are legible (clear enough to read) and to provide an explanation. If researching a topic, please add a few details about what was learned and how it is relevant to the project. If two or more people worked on a single task, be sure to distinguish how each member contributed to the task. Specific details relating to the assistance provided to other members may be included here.* ***Do not include classwork, such as individual reflection assignments, and group meetings as part of your duties.)***
    - Nathan Ayers: I spent this week working on my Git skills and relearning what I had used in a previous programming class, I also obtained a document that will help group members save and store their code in the shared Git project.
    - Rodrigo Romero: Started to understand the basic relationship between SPI and FPGA.
    - Matthew Caron: Spent a little time working on the schematic for the PCB

- **Pending issues** *(If applicable: Were there any unexpected complications? Please elaborate.)*
    - Nathan Ayers: None at the moment.
    - Rodrigo Romero: Some difficulties when downloading the Lab Alquistry software due to the missing java kit.
    - Michael Levin: We weren't able to meet this week due to the ice storm. I also downloaded vivado and will have to better familiarize myself to the language.
    - Matthew Caron: Finishing up DAQ schematic

- **Individual contributions** *(Creating this section is optional, but it is **Required to include the "Hours Worked for the Week" and their "Total Cumulative Hours" for the project for each member somewhere relevant in your report. Your individual weekly hours should be at a minimum of 6-8 hours for this course. So please manage your time well. Also, ensure that individual contributions support your claim to the weekly hours. Be honest with the reports.**)*

NAME	Individual Contributions *(Quick list of contributions. This should be short.)*	Hours this week	HOURS cumulative
Michael Levin	I made and set up the report and contributed to the empathy activity during the lecture time. I also downloaded and began learning vivado.	3	9
Nathan Ayers	I spent this week working on my Git skills and relearning what I had used in a previous programming class, I also obtained a document that will help group members save and store their code in the shared Git project.	3	9
Rodrigo Romero	I downloaded Lab Alquistry. I was watching a video to familiarize myself with the environment. I understood that vivado is the tool that will help me to convert the work developed in Alquistry Labs into a binary file so it can be stored and read in the FPGA.	3	10
Matthew Caron	Spent a little time working on the schematic for the PCB	2	9

- **Comments and extended discussion** *(Optional)*

  Difficulties in agreeing about continuing conversations about the project. Probably because of not well detailed explanation about the project's concerns related to the level of understanding of what we are doing.

- **Plans for the upcoming week** *(Please describe duties for the upcoming week for each member. What is(are) the task(s)?, Who will contribute to it? Be as concise as possible.)*
  - Nathan Ayers: I will attempt to help any group members struggling with GitLab, as that was a topic of discussion at our last meeting.
  - Rodrigo Romero: Start to work in developing basic functions with the FPGA, and explore more research to understand better the project applications.
  - Michael Levin: I will set up the next report and meeting as well as start playing around with vivado and try and do some basic algebra with it.
  - Matthew Caron: potentially finishing up the schematic

Grading criteria

Each weekly report is worth 10 points. Scores will be awarded as follows:

- **8 – 10**: Progress for your project seems to be suitable. Documentation and hours reported by team members are adequate.
- **6 – 8**: There is scope of improvement both in your report and your project progress. Can consult with instructor/TA after class for further inputs.
- **< 6**: Please talk to instructors/TA after class hours about any difficulties that you/your team is facing.

Each weekly report should be unique in that they have a unique set of supporting details for your contributions. So please do not just copy your reports from the previous week. In addition, please avoid any personal pronouns (he, she, I, you). Try to keep your reports as neat as possible.