3/27/23 – 4/2/23

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.)

o **Weekly Summary**
o This week was spent catching up on the progress that we made over the Spring break and planning on what we want to get done before the semester ends. We are getting closer to having the hardware ready and we have a goal of finishing and testing that by the end of Summer.

o **Past week accomplishments**
  - Nathan Ayers: I had the FPGA and FTDI chip for all of this week so it was crucial that I deliver results, I set up the driver for the FTDI chip, and the connection to it from my laptop worked. I was able to download some testing code that can communicate with the FTDI chip and it did successfully, I have tried multiple languages so far, C# seems to be the best option at this point, as I am somewhat familiar and I should be able to create a GUI easily.
  - Rodrigo Romero: Polished drawing of the hardware arrangement.
  - Michael Levin: Made the first design for multiplying complex numbers in vivado.
  - Matthew Caron: Worked a little more on schematic design
o **Pending issues** *(If applicable: Were there any unexpected complications? Please elaborate.)*
  - Nathan Ayers: The connection with the FTDI chip is supposed to be USB 3, all I have access to is USB 2 (laptop, cables), I have looked into it and the USB 2 connection should only affect the speed, which is an issue itself but I can still practice now. Also the FTDI chip only functions when connected to the FPGA, so that will limit the work that I can do as the demand for the FPGA grows.
  - Rodrigo Romero:
  - Matthew Caron: finding the time to work on the design

o **Individual contributions**

NAME	Individual Contributions *(Quick list of contributions. This should be short.)*	Hours this week	HOURS cumulative
Michael Levin	I started the template for the report and started the design for multiplying complex numbers in vivado	3	16
Nathan Ayers	Installed and added FTDI drivers to my laptop, downloaded header files example code, configuration applications to test configuration, created VSCODE C# environment and troubleshooted library issues.	17	30
Rodrigo Romero	Worked on vivado and its IDE.	2	12
Matthew Caron	worked on schematic design	2	17

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

Feel free to discuss non-technical issues related to your project.

o **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 relinquish the FPGA if needed by another member, but if not, I will try to develop C# code to turn on pins from the FTDI chip.
- Rodrigo Romero: Meet with the advisor to plan the structure of the programming development.
- Michael Levin:
- Matthew Caron: work more on schematic design

o **Summary of weekly advisor meeting**
- Nathan: I felt worried given the conversation with Dr. Tayeeb, he didn't seem impressed with my progress, I understood his concern so I put a lot of effort into my work this weekend.

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.