EE/CprE/SE 491 WEEKLY REPORT 2

02/25/25 - 03/04/24

Group number: 6

Project title: Wireless Data Acquisition (wDAQ)

Client &/Advisor: Avisehk Das and Manojit Pramanik

Team Members/Role: Rocco Yassini, Sam Foster, Jerry Liu, Merrick Czaplewski

o Weekly Summary

We met with our advisor Manojit Pramanik and discussed what we went over in our first meeting with our advisor Avishek Das. We informed Manojit about the Blue Pill STM microcontrollers we have been given and what we are expected to do with them. We continued to familiarize ourselves with these devices and the IDE that is used to program them.

• Past week accomplishments

Rocco Yassini: I downloaded the STM IDE and attempted to implement code to perform an analog to digital conversion and display it. I have not yet been able to successfully implement this and am still working on this.

Merrick Czaplewski : What was worked on the most was gathering data on the chips while getting acquainted with the functions of the specific pins. The STM BluePill data sheet was acquired and given to the rest of the team. Next up was finding a way to get even more data and resources to everyone coding, so a github was shared along with other data sheets that had information upon coding.

Samuel Foster: Downloaded STM Cube IDE to begin working on creating a basic low frequency ADC code. Explored online resources to research example code to guide progress and create a functional result.

Jerry Liu: I downloaded the STM IDE app, and tried to research the pin board connection with the Main motherboard. But there are still issues with connecting to the system page and errors with each pin number and board connections.

o Pending issues

- Rocco Yassini: Getting acclimated to unfamiliar software and hardware. Researching how to perform ADC using the STM microcontroller.
- · Jerry Liu: Getting acclimated to unfamiliar software and hardware.
- · Samuel Foster: Getting acclimated to unfamiliar software and hardware.

 \cdot Merrick Czaplewski: Getting acclimated to unfamiliar hardware, pin layouts and finding applicable and valuable information.

• Individual contributions

<u>NAME</u>	Individual Contributions	<u>Hours this</u> <u>week</u>	<u>HOURS</u> <u>cumulative</u>
Member 1: Rocco Y	-Researching the new microcontroller we will be using. Obtained the software needed to interact with it. Attempting to perform analog to digital conversions with the STM microcontroller.	1-2	2-4
Member 2: Sam F	-Researching the new microcontroller we will be using. Obtained the software needed to interact with it.	1-2	1-2
Member 3: Jerry L	-Researching the new microcontroller we will be using. Downloaded IDE app to explore how to make a connection with a microcontroller.	1-2	1-2
Member 4 Merrick C	-Researching the new microcontroller we will be using, mainly focusing on gathering as much data as possible to share with the team. Also worked on how to wire up and allow for the system to speak with a computer.	2-3	4-5

• Plans for the upcoming week

We are meeting Avishek again this week to discuss the progress we have made regarding performing an analog to digital conversion with the STM controller. Main priority is still to learn to code and utilize the STM microcontroller.

Samuel Foster: Will continue to research applicable code for low-frequency ADC and attempt to write an original version.

Merrick Czaplewski : Help with the programming of the device, and set up the wiring when demonstrating how to use it. Make a proper circuit to allow for the team to present to the advisor our basic working system before we move forward with the programming. Work with the team and gather information when needed as well as keep on top of the meetings with the advisors and client.

Jerry Liu: For next steps, keep working on the IDE pin board and try to write coding for an IDE app which connects with the microcontroller.

Rocco Yassini : Will continue to figure out how to code the STM microcontroller to perform an analog to digital conversion. Will watch tutorials and skim various sources to figure out how to accomplish this.

• Summary of weekly advisor meeting

We just went over the goal we were working toward, mainly learning how to code the main function on the STM microcontroller that we will be using, the AC-DC converter. We updated our advisor on the process we were able to get done, and the struggles that we were having with said programing as well as figuring out how best to work on the different parts of the project.

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.