To: Susan Yatsuda [syatsuda@bcit.ca](mailto:syatsuda@bcit.ca)

CC: Steven, Ed

From: Tianze Wu [twu126@my.bcit.ca](mailto:twu126@my.bcit.ca)

Project name: Monitoring System

Date: March 4th, 2022

Reporting period: January 20th to March 4th

Subject: Progress Report

# Summary

With advanced technology, there are more and more potential risks involved in human daily life. Short circuits, leaking pipes, and other facility failures may result in serious consequences. However, in modern life, people may not wake up for 24 hours to watch every corner to ensure the facility working properly.

People need a solution for these circumstances. Our project mainly focuses on building a monitoring system to free people from those meaningless work. We use digital sensors to detect the unusual situation. If there is an error, an alarm will be triggered and inform the user that some unexpected thing is happening. There are two main sections in our project, which are an error-detecting system and an alarm system. For the error-detecting system, we implement sensors with an Arduino microcontroller to convert analog signals to digital signals. For the alarm system, we use Raspberry Pi to monitor data and trigger the alarm. To talk between the microcontroller and Raspberry Pie, we use Zigbee wireless module to transmit data.

As the date of the report, we finished the proposal, requirements, and preliminary design. Currently, we are working on a detailed design. We don't encounter any problems related to the project yet, but we are working out a corporate issue. In our next stage of the project, we will make the theory into practice.

Table : Schedule

| Date | Description |
| --- | --- |
| January 21, 2022 | Get parts |
| January 28, 2022 | Issue proposal |
| February 18, 2022 | Complete preliminary design |
| March 11, 2022 | Complete detailed design |
| March 18, 2022 | Hard ware Installed |
| March 25, 2022 | Software ready |
| March 26, 2022 | Test product |
| April 6, 2022 | Oral Presentation |

# Work Completed

We issued a proposal with a detailed schedule, a requirement that lists all features of our product, and a preliminary design containing a workflow diagram of our product and a rough draft of the hardware. At this stage, we are at the theory part of the Monitoring Project.

# Problem Encountered

In the current stage, there is no problem related to our project, but working remotely is quite challenging for both of us. In addition, health issues have complicated our efforts. Communicating through Discord is an excellent way, but face-to-face work is necessary, too. We continue working on this circumstance, and hope things can get better soon.

# Current Status

Currently, we are working on a detailed design. We need to fill out every detail in the preliminary design. There are several points that we need to consider:

* Schematic with pinout
* Parts list with costs
* The layout of the entire project

As for the schedule, we need to figure out the datasheet for each component in our hardware and install before March 18th.

# Work Planned

After finishing the detailed design, we are going to install the hardware. As per the revised schedule, the due day which is the date of the oral presentation is Wednesday, April 6th. Therefore, we have roughly a month to finish this project. We are a little bit behind the schedule right now, but we get a week break on March 14th. We will finish everything after that week, start testing and prepare the oral presentation before the due date.