Weekly Report for 2020-01-27

Student Name: Daylen Mackey (1444775)

Group Name: Milky Way Solutions

Group Members: Leo Marroquin, Jia Xiang (Tony) Yang, Ian Then

Progress this week:

Goals From Last Week (including goals carrying over from weeks prior)		
Goal #	**Goal**	**Status**
1	**Format the new Raspberry Pi and install necessary frameworks**	Completed
2	**Build simple TkInter GUI for testing Purposes**	In Progress
3	**Integrate GUI with Raspberry Pi and touchscreen**	Completed
4	**Test BME sensors on the Raspberry Pi**	In Progress

Goal 1

This goal is marked as completed, but it is one that will likely linger throughout the semester. We installed all the frameworks necessary for early operations, but I'm certain we will need to install more as the semester goes on.

Goal 2

Tony and I made significant progress on this goal last week. We familiarized ourselves with the TkInter framework and split the GUI construction into left (my job) and right (Tony's job) sides. I managed to also construct a popup number pad so that users will be able to enter all values without attaching an external keyboard. The GUI should be completed by the end of the week.

Goal 3

This goal ended up being more challenging than expected, but we still made it work. The touchscreen was very finicky and requires an additional power supply. We figured out we could directly connect power pins from the pi to the screen (which makes our lives a bit easier), but that also makes the project more susceptible to fail if a wire falls out of place. This is something we need to be cautious of moving forward. The ribbon cables, and cords currently being used for the touchscreen are not very secure – we will need to fix this.

Goal 4

We didn't complete this task, but we did make progress. We've setup the sensor and written the test code. The only issue was we weren't able to install a necessary code library. This led to us trying to

establish a wi-fi connection through UWS, but we encountered some difficulties. We've received an email with instructions from IT support, and intend to solve this problem by the end of next week.

Evaluation from last week:

Progress this week was substantial, and our client was very pleased with our progress. Leo finalized PCB designs, Ian made significant progress with the outer casing, and Tony and I completed the majority of the TkInter GUI.

The team did a great job joining forces this week. As a team, we made progress cleaning our client's codebase, and setting up the Raspberry Pi's touchscreen and sensors. We did however struggle to set up the Wi-Fi connection with UWS. This is something we plan to continue tackling next week.

We are planning to do a test run of the electrometer code through Octave tomorrow (Monday, January 26). This will be a pivotal test. Even though the code we are running will be simple, if the Octave code does not work, we may need to restructure our design.

For Next Week:

New Goals For NEXT Week	
Goal #	**Goal**
5	**Establish UWS Wi-Fi connection with the raspberry pi**
6	**Test the Electrometer Code with Octave (Get the electrometer running through Octave)**
7	**Begin GUI backend construction (passing input data to raspberry pi)**

Concerns: None

Weekly Report for 2020-01-14

Student Name: Daylen Mackey (1444775)

Group Name: Milky Way Solutions

Group Members: Leo Marroquin, Jia Xiang (Tony) Yang, Ian Then

Progress this week:

Progress was very limited this week as I was sick with Laryngitis, and another group member had Pneumonia. This puts us slightly behind schedule, but we will work hard to make it up.

We did find the time to meet and delegate some weekly tasks.

- We plan to keep meeting as a group every Tuesday
- Tony and I will be responsible for building the Python GUI backend and testing it on the touchscreen this week.

- Ian has taken size measurements of the instruments, and is working on designing the board layout
- Leo is finalizing the PCB design and plans to get it reviewed this week.

Our parts arrived and we have already begun working with them. We spoke to Alan about implementing switches and fuses for our power source as well.

Evaluation from last week:

This last week was not incredibly productive, but two team members were very sick. However, I am pleased with the progress our team made during our short meeting.

With a client meeting next week, and everyone understanding their role, I believe we are on the right track.

For Next Week:

New Goals For NEXT Week	
Goal #	**Goal**
1	**Format the new Raspberry Pi and install necessary frameworks**
2	**Build simple TkInter GUI for testing Purposes**
3	**Integrate GUI with Raspberry Pi and touchscreen**
4	**Test BME sensors on the Raspberry Pi**

Concerns: None
