

Individual Weekly Report

Name: Kris Gavvala

Team: Powerglove

Date: 4/7/2025

Current Status

1. What did you **personally** work on this past week?

Task	Status	Time Spent
Helped build final hardware prototype	done	5 hrs
Helped incorporate bluetooth communication with current mouse movement code.	done	2 hrs

Include **screenshots/graphics** to illustrate what you did this past week:

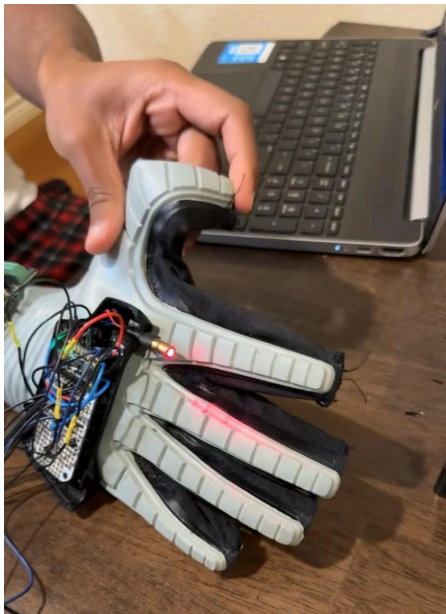


Figure 1: I helped Aaron solder our accelerometer and flex sensors to the proto-board and created the circuit for the laser pointer. We had to consider space restrictions of our board housing to make everything fit

2. What problems did you run into? What is your plan for them?

- For mouse movement and clicking, there needs to be a better way to differentiate which flex sensor is being activated. Some users in our studies have a natural hand position where they

bend their fingers more, and this activates sensors when they shouldn't. We need to detect a finger gesture based on the difference between one flex sensor and other flex sensors

- b. Users have said that the glove is not a very intuitive way to interface with a computer. Even though moving the accelerometer to the hand improved mouse stability while clicking, it is still hard to click very tiny objects because of the natural instability of the hand. To solve this, we need to sense when a click might be coming so the mouse becomes more stable during that small time frame. (right now we are using angular velocity to move the mouse, but we might try using acceleration values to detect the dead zone).
 - c. To improve usability we will also fuse the linear accelerometer values
3. What is the current overall project status from your perspective?
- a. We need to code up our gestures. Also, we have a couple small issues to make mouse control more user-friendly. We are towards the end of our development and have started working on presentation materials as well.
4. How is your team functioning from your perspective?
- a. Very well. We have sped up our development and are working a lot more efficiently.
5. What new ideas did you have or skills did you develop this week?
- a. I did develop some skills in prototyping and circuit planning.
6. Who was your most awesome team member this week and why?
- a. Will, Aaron, Grant, and Brint were very helpful this week.

Plans for Next Week

What are you going to work on this next week?

- Implement the gestures, fix minor usability issues with mouse control, fuse accelerometer data for mouse control. Also, do more user studies as we work throughout this week.