Project Identity

Freely Adjustable and Accessible Keyboard and Arrow Pad for Client with Cerebral Palsy

Work Completed

This week was difficult for our team. In addition to the snow storm that prevented our team from meeting Friday, our computer broke and all the saved data and software on our desktop could not be reached. Therefore, in order to work on certain projects (PCB, external design), we had to work off of older documents.

Our client’s school team was able to confirm our keyboard layout design with minor adjustments. Some keys were arranged in different locations and others were made larger. This was a positive, because it provided us with external design measurements, and proper key locations. If it wasn't for the faulty computer however, I would have been able to complete the programming of the keys. Finishing the key programming early will help save time. A diagram of the final key layout is shown below in Fig. 1.

Figure 1: Keyboard Final Layout
Finishing the PCB was essential to this week. We completed every aspect of the PCB except the LED circuit. Because our PCB only has two layers, and each layer consists of either the row or column circuits, the LED circuit is difficult to integrate. The figure below includes our progress so far.

Figure 2: Updated PCB

Future Work

Steve and I have a lot of work ahead of us this upcoming week. There are not many weeks left, we need to finish the PCB this week so it can be ordered. In order to do so, that means the LED circuit must be configured. Also once that is complete the corresponding resistors must be ordered. Steve and I will look for LEDs that may be brighter than the current ones we have. The LEDs we will be using will be placed underneath the keycaps, therefore they must be bright and effective.

This week we will also begin the external design, cutting the PVC and the necessary components. Either this week or the next our team will pick up the essential supplies from Mansfield Supply (rubber, hinges, locking mechanism).

Project Review

Overall, this week was not one of our most successful or productive weeks. The broken computer slowed us down a lot. Since the PBC was our main goal this week, there was not much else we were able to accomplish. However, the good that came out of it, was the external design and keyboard layout has been finalized and approved by the client’s staff.
Hours Works:

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