Team Name: Techblazers

Date of Submission: 10/03/21

Meeting Date & Time: 10/03/21, 3 pm – 5 pm

Meeting Location: Microsoft Teams

Meeting Duration: 2 hours

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| --- | --- | --- |
| Team Members | X = Present | Notes |
| Victor Siooh | X |  |
| Chief Boateng | X |  |
| Emmitt Brandt | X |  |
| Slate Jordan | X |  |
| Chase Williams | X |  |

Progress:

Team accomplishments for the week: A short narrative, typically 1-2 paragraphs, should include decisions made by the team as a result of the team discussions, and how the team arrived at the decision.

As a group, we discussed how we could implement capacitive touch sensors on our keyboard device. The two options we considered were wiring each key to a sensor and connecting the sensors to a grid with each key wired to an intersection on the grid. We decided to go with the second option because we need less hardware to implement this design than the first option.

After figuring out how we could add the capacitive touch feature to a keyboard, we were able to discuss several design requirements for our device. One of these requirements was to connect our device to the computer through a USB cord and not though Bluetooth. We came to this decision because Bluetooth technology presents a potential security issue, and a USB cord integrates well with Arduino, which is what we plan to use in our device.

Individual contributions: A brief narrative (1-3 sentences) made by **each team member** summarizing their respective activity for the past week.

Victor Siooh: I researched different types of capacitive touch sensors in the market that could potentially be used in our project. In addition, I also was doing some research and brainstorming how our design could register inputs connected to a USB keyboard.

Emmitt: Began research into keyboard programming and software. Performed preliminary search for patents on similar keyboards.

Slate Jordan: Researched possible hardware for capacitive inputs and microcontrollers. Looked into capacitive technology and what capabilities it has in terms of sensitivity and other metrics.

Chief Boateng: Researched possible ways of getting software which would be able to program code for Windows regarding the project. Began research on ways in which the implementation of code could work for the project.

Chase Williams: I researched the feasibility of using capacitive sensors to detect keyboard touches without negatively impacting how traditional keyboards feel when one is typing. I shared my findings with the group along with potential designs for our device.

Project Tracking (current work): Assignments and activities are to be tracked until completed.

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| Team Member | Assignment | Due Date | % Complete |
| Slate Jordan | Research into how capacitive touch surfaces work and how to implement them into a keyboard | 10/8/2021 | 70% |
| Slate Jordan | Look into USB communication protocols with relation to multiple data streams comparing USB 2 and 3 | 10/7/2021 | 50% |
| Emmitt Brandt | Look into Keyboard drivers and running software for PC | 10/7/2021 | 50% |
| Emmitt Brandt | Further look into patents on similar technology | 10/7/2021 | 50% |
| Chief Boateng | Research into the use of Visual Studio code and Arduino IDE in implementing code | 10/7/21 | 30% |
| Victor Siooh | Research different USB keyboards to potentially use | 10/07/21 | 0% |
| Victor Siooh | Research ways to expand capacitive touching grid technique for keys | 10/07/21 | 20% |
| Chase Williams | Research requirements that will need to be satisfied by our device. | 10/5/2021 | 50% |
| Chase Williams | Research how this device can benefit those with learning disabilities. | 10/5/2021 | 25% |

Plan (future work):

A brief description of the tasks and activities the team needs to accomplish work over the coming weeks. As team members pick up assignments, move from this table to the tracking table. Consider future work a running task-list with an expected due date for completion.

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| --- | --- |
| Assignment | Due Date |
| Midterm Presentation | 10/08/21 |
| USB Keyboard | 10/08/21 |
| Midterm Paper | 10/10/21 |
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Issues:

Include a brief description of issues the team has encountered, and potential resolutions for the issues. If the team would like staff to help with the issues, this is the appropriate place to request assistance.

One issue the team encountered was how to integrate the capacitive sensors with our keyboard. We considered modifying a keyboard cover to include the sensors. However, we did not want our device to negatively impact the way a user types on a keyboard. Consequently, we conducted research to analyze the feasibility of wiring the sensors below the keyboard keys and came up with a viable solution that we can implement in our design.

Include the schedule for the next meeting:

Meeting Date & Time: 10/10/2021

Meeting Location: Teams