

EE/SE/CPRE/CYBE 492 – sdmay24-17

Engineering Art

Biweekly Report #4

Report Period: Feb 23rd – Mar 30th

Client: Dr. Rachel Shannon

Faculty Advisor: Dr. Rachel Shannon

Team Members:

- Alexandra Whitmer – Team Lead, Frontend Developer
- Karandeep Sandhu – Communications, Hardware Engineer
- Zheyuan Zhang – Lead Hardware Engineer
- Grant DeWaay – Software Developer
- Seyedehbahareh Hashemimovahed – Research, Embedded systems
- Austin Krekula – Lead Cyber Security Engineer

Past Weeks Accomplishments:

- Connected conductive fabric + the copper to the Arduino
- Added input wires to the Arduino to have four fabric/copper pieces usable at the same time
- Configured software to visualize feedback from the Touche
- Concept art for documentation created
- Created PCB board design and ordered from ETG
- Created the app's skeleton
- Soldered wire to first copper plate

Tasks to Complete:

- Configure touch profiles for each different gesture
- Update our Design Document to reflect all of the progress completed in this iteration
- Debug connection between hardware and software

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
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Alexandra Whitmer	Started and completed concept art for two different screens of our Android app.	20	34
Karandeep Sandhu	Trouble shooting pcb board and ordered final design.	5	14
Zheyuan Zhang	Verify touch unit feasibility		15
Grant DeWaay	Started 3d modeling enclosure, playing around with android app	12	26
Seyedehbahareh Hashemimovahed	Created visual/software diagrams	3	7
Austin Krekula	Android app development		10

Plans for Coming Week:

- Build a compact and easy to carry around enclosure for the grid space of conductive fabric + copper combo
- Drill hole/attach wire strip to copper plate

Midterm Peer Review Feedback:

- We need to explain the purpose of our project better and clarify the audience.
 - The video didn't do a very thorough job at addressing this but essentially the project is aimed to school age kids K-12 education. The purpose of this project is to serve as an educative art installation for a target audience of kids ages K-12 to educate them on how to improve urban infrastructure in various environments. The project is meant to be informative, interactive and educational.
- We need to better explain how our audience will be able to use this technology as that was not very clear in the video.
 - The video didn't do a very thorough job at describing how our audience will use this technology however, we will describe it better in our final presentation. Essentially our technology is primarily used as an educative art installation for a target audience of kids ages K-12

to educate them on how to improve urban infrastructure in various environments. The project is meant to be informative and educational.

- There was a concern as to how we would be able to detect the block placement. They recommended that we look into NFC chips which are similar to what is used in the game Skylanders.
 - We actually looked into this Skylanders idea during the first semester and decided to not use it due to the complexity in it's design. The NFC chip idea, however does sound interesting however due to time constraints for our project we cannot implement it into our design.
- Many of the peers asked for us to reach out to resources that would help develop our idea for a more exact audience. In particular, Casey Halbmaier wanted us to reach out to a professor in the education department to see how we could improve our project.
 - We are taking steps to do this, we will reach out to professors in this department and other departments to see how we can market this project better towards our audience. We actually did this during the first semester but didn't reach out to anyone in the education department.