sdmay23-08: PTSD detection device

Week 4 Report
October 14 - October 23

Team Members

Steven Trinco — *Hardware design, Discord Admin*
Jon Pixler — *Hardware-software bridge, Embedded systems leader*
Maisy Millage — *Writing upper-level software*
Comlan Bocovo — *Client interaction, Software Design, Time Management*
Cosette Thompson — *Client interaction, Hardware Testing, Hardware-software bridge*
Carver Bartz — *Software Design*
Sam Brang — *Team organization and Electrical Design*

Summary of Progress this Report

During this period, we finalized our lightning talk for our presentation during the Tuesday class period. We also received valuable feedback about ways to improve our presentation by incorporating more visual representations of our design. Additionally, we met with our client and reviewed the completed tasks from last week. We also reviewed some design choices we were thinking about for the dog device, such as a collar or a vest implementation of the haptic feedback device. Furthermore, we demoed the UI for our app to our client and received feedback on some of the architectural trade-offs of the UI.

Our deliverable for this week was the design contextualization and exploration document. This design document had us consider the broader context of our project and what it means for society. The document also included sections for investigating similar projects or market products related to or project. We found documentation relative to all three components of the system we are designing. Specifically, we found IEEE papers on using haptic feedback to train dogs quicker by locating vibrations on the backside of dogs. We also documented three research papers discussing the use of machine learning to detect PTSD attacks from vitals. We also created a decision matrix to decide on some of the design choices for the dog device. Additional research was also done this week on different vibration motors to order for testing.

Pending Issues

-Finding the given budget knowing the budget limit is $400-500 from ETG and knowing that the client is willing to supplement some of the costs.
-Further research on machine learning
-Decisions on approaching machine learning
-Dividing and delegating tasks for parallel work

Plans for Upcoming Reporting Period

-Formalizing budget for hardware
-Decision on user watch (Version, series, etc)
-Finish parts list to be approved for ordering
-491 Design Document - Proposed Design

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Steven Trinco	Client meeting, adviser meeting, lightning talk, design contextualization and exploration document	4	14.5
Jon Pixler	Client meeting, adviser meeting, lightning talk, design contextualization document, acquired instructions for part order protocol, conducted hardware design discussions	5	14.5
Maisy Millage	Client meeting, adviser meeting, lightning talk, design contextualization and exploration document	4	13.5
Comlan Bocovo	Client meeting, adviser meeting, lightning talk, design contextualization and exploration document	4	15.5
Cosette Thompson	Client meeting, adviser meeting, lightning talk, design contextualization and exploration document, research	5	16.5
Carver Bartz	Figma Mockup, Client Meeting, Lightning Talk, UI Work	5	16.5
Sam Brang	Client meeting, Advisor meeting, Lightning talk	4	15.5

Gitlab Activity Summary

Nothing to report.