EE/CprE/SE 491 WEEKLY REPORT 1

Start Date – End Date: Beginning of the semester - 9/19/2024

Group number: 13

Project title: PTSD Detection Device

Client &/Advisor:

Advisor: Mohammed Selim

Client: Bae Systems - Alice Crutcher

Team Members/Role:

Justin Scherrman

Neil Prange

Aidan Klimczak

Justin Jaeckel

Ty Decker

Katerina Zubic - Team organizer

**Specific roles are to be decided once more information is collected about the project.

- ○ **Weekly Summary**

The objective for this week was to continue our outreach efforts to both BAE Systems and the senior design team from last year. We succeeded in contacting the previous team, so hopefully, by next week, we will have their hardware to play around with. On the contrary, getting in touch with BAE systems has been proven difficult. We have gotten some communication through, but for the past week, we have gotten no further responses.

Additionally, we have started conducting exploratory research about possible components for our product. With this in mind, we filled out the initial design contracts document with some of our compiled preliminary research. We have begun discussions about design ideas, but those are still in it's early stages.

Finally, we set up our weekly meeting with our mentor, which will continue throughout the semester on a biweekly basis, and have mapped out when to have our team's weekly meetings. Lastly, we finished and submitted the team contract.

- **Past week accomplishments**

Neil Prange - Research
- Researched into what other teams working on BAE's PTSD detection device did, as well as looked into what common solutions there are to detecting PTSD and notifying dogs.
  Aidan Klimczak: Conducted product research for relevant ideas that could be incorporated into a final product

Justin Scherrman - Research
- Conducted product research on haptic dog vets for ideas on how to humanly notify a dog with vibrations.

Justin Jaeckel - Research
- Conducted product research and reached out to the past senior design group to retrieve hardware.

Ty Decker - Research
- Conducted product research on a similar collar-worn PTSD detection device and looked into a group from the University of San Diego's past attempt at the project.

Katerina Zubic - Research
- Researched past senior design groups methods to attacking the project. Noted the things that worked from them (heart monitor) and things that didn't (power PCB board).
- Researched EDA sensors, used to measure electrical conductivity (sweat production) to monitor stress levels.

- **Pending issues**

- No contact yet with BAE Systems supplied Mentors or project coordinators. After having reached out multiple times.
- Retrieving previous groups' hardware.

- **Individual contributions**

NAME	Individual Contributions *(Quick list of contributions. This should be short.)*	Hours this week	HOURS cumulative
Neil Prange	Attended BAE joint projects meeting, and did some research about similar senior design projects and other PTSD detection devices.	6	6
Justin Scherrman	Attended the BAE joint projects meeting. Researched products for comparison.	6	6

Justin Jaeckel	Attended introductory meeting with BAE and got in contact with past senior design group to retrieve hardware. Conducted research into similar products.	6	6
Aidan Klimczak	Began research on projects related to past projects, and met with a faculty advisor to discuss the next steps.	6	6
Katerina Zubic	Began doing preliminary research on the current market as well as research on previous attempts at the proposed project.	6	6
Ty Decker	Attended BAE joint projects meeting. Started conducting product research to identify market gaps and understand related attempts at solving our issue.	6	6

○ **Plans for the upcoming week**

- Understand previous project's hardware and discuss how to improve the design.
  - All team members
- Retrieve hardware from the previous senior design group.
  - Justin Jaechel
- Hopefully, contact BAE mentors/engineers.
- Do more research on previous projects and develop ideas.
  - Create preliminary sketches of design ideas (sketch-noting).
    - All team members
- Develop an understanding of our group roles and responsibilities.
  - All team members

We are still in the early stages, so much of the to-do list consists of research for the whole team.

○ **Summary of biweekly advisor meeting**

Our group met with Professor Selim last Monday (9/9). This meeting was largely an introduction to our advisor's expectations of our group in regards to meetings, accountability, and what he envisions his role to be. Each group member also did a short self-introduction including past experience, skills, and expectations. We agreed to meet with Professor Selim virtually every other monday.