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**EE/CprE/SE 491 WEEKLY REPORT 01**

**Feb 5**

**Feb 18**

**Group number: 07**

**Project title: Temperature sensors for veterans**

**Client &/Advisor: BAE / Dr. Gaffar**

**Team Members/Role:**

- 1- Jared Cox / hardware**
  - 2- Caleb Arnold / hardware**
  - 3- Max Berthold / hardware**
  - 4- Michael McDonough / hardware**
  - 5- George Makhali / software**
  - 6- Bridget Schmitt / software**
  - 7- Jamie Anderson / software**
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○ **Weekly Summary**

*As a group this last week, the software people have been working on making sure that the AWS works. We have had issues with authentication even after the login is confirmed by AWS. Our application was also not flowing to the correct places in the application. We worked to create the correct flow of the application. We found out that the authentication errors were because of certain local devices. We now have the task of figuring out how to make this not happen. We also realized that some of the visual aspects may not work well with the older audience that will be utilizing the application. For this reason, we have been working a lot on visual design.*

*ETG misplaced our new hardware that arrived so we were not able to make progress like we hoped this week, but we finally got a hold of the parts late in the week and should be ready to to continue work this week.*

- **Past week accomplishments** *(Please describe/summarize as to what was done, by whom, when and, collectively as a group. This should be about a paragraph or two in length. Bulleted points are acceptable as well. Please keep only your technical details related to your project. Figures, schematics, flow diagrams, pseudocode, and project related results are acceptable, but please ensure that they are legible (clear enough to read) and to provide an explanation. If researching a topic, please add a few*

*details about what was learned and how it is relevant to the project. If two or more people worked on a single task, be sure to distinguish how each member contributed to the task. Specific details relating to the assistance provided to other members may be included here. **Do not include classwork, such as individual reflection assignments, and group meetings as part of your duties.***)

- 1: Michael: This week I completed research on how to optimize the power supply for our device. We want the device to be as small as possible to provide maximum comfort to our users, and the power supply of the device is currently the biggest component. We've been using lithium-ion 18650 batteries but are going to try to use coin cell CR2302 batteries in order to still supply the needed power with as little space as possible inside the enclosure.
  - 2: Caleb: We spent most of this time period waiting on additional hardware we ordered through the ETG to arrive. We received the hardware late in this period and I was able to sort through it in order to prepare for assembly and testing starting the week of the 20<sup>th</sup>. Did additional research on how to work with the Arduino MCU for processing temperature inputs and signal outputs
  - 3: Max: I spent the majority of my time waiting for all of the hardware that we ordered to be delivered. I am still waiting to receive my parts of the hardware to begin actually prototyping. I spent some time familiarizing myself with RF modules so that I can begin testing the RF communication as soon as I receive the hardware. I did research on how I can get similar results with using an Arduino Uno instead of the Arduino Nano that we are going to actually use in the final product. This is in case I cannot get 2 Arduino nanos to test with.
  - 4: Jared: as hardware team waits for hardware to arrive, ive been working on communications between android and arduino. Getting arduino connected to a mobile phone has been done. Have been working on writing android studio code to implement into our app for BLE connectivity.
  - 5: George: I worked on the android side of the Bluetooth connection so the app can start scanning for nearby devices, and then connect to it and save the device as a paired device for easy future connecting. I was just trying to code the basic outlines for the Bluetooth communication but haven't started testing yet. In the future weeks, I will start testing it out to see if all the desired functionalities work as intended.
  - 6: Bridget: I worked with Jamie to find login issues with AWS to make sure that all the code is connecting correctly and available to use. I brainstormed ideas on how to release data and make sure that nothing violates rights. I worked on trying to make pages more accessible and attractive for everyone. I also looked into some crashing issues that were happening on pages that were working prior to a merge.
  - 7. Jamie: Worked on the app to finalize some login features (forgotten passwords and resend verification codes), as well as some miscellaneous debugging on both AWS and Android Studio.
- **Pending issues** *(If applicable: Were there any unexpected complications? Please elaborate.)*
- 1: The main issue was receiving the materials ordered for our device. We have since been able to obtain the materials. Our group will need to dedicate a lot of time next week for assembly and testing in order to get back on schedule.
  - 2: Caleb: The delay in receiving our ordered parts was unexpected. and was compounded

by some confusion with the ETG. We will need to catch up quickly with assembly of our prototype.

- 3: Max: The main thing was the unexpected long lead time on a couple of the pertinent hardware items such as the MCU. We will need to spend extra time on this to make sure we do not fall behind.
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- 6: We need to make it so that AWS will connect every time we logon so that we can access the rest of the application every time. The main page showing the temperature has been crashing as of recent and I need to figure out why since it appeared to be working a few weeks ago.
- 7. Jamie: Currently login authentication will mysteriously not like a user on a single device, which is detrimental to the login process. (Further clarification: it is not an AWS Cognito issue (probably), app simply says user is not authorized when they are on one device, but will login fine from another.)

- **Individual contributions** (Creating this section is optional, but it is **Required to include the “Hours Worked for the Week” and their “Total Cumulative Hours” for the project for each member somewhere relevant in your report. Your individual weekly hours should be at a minimum of 6-8 hours for this course. So please manage your time well. Also, ensure that individual contributions support your claim to the weekly hours. Be honest with the reports.**)

<u>NAME</u>	<u>Individual Contributions</u> (Quick list of contributions. This should be short.)	<u>Hours this week</u>	<u>HOURS cumulative</u>
Max	RF module research	4	20
Caleb	Hardware coordination, MCU research	4	20
George	Bluetooth connection on the android side	6	24
Bridget	Application design, debugging	6	27
Jared	BLE connection	4	21
Jamie	Additional login features, debugging	6	26
Michael	Power optimization	4	24

- **Comments and extended discussion** (Optional)

*Feel free to discuss non-technical issues related to your project.*

*We have had a lot of miscommunication amongst the group. We have also had issues not getting hardware in a timely manner.*

- **Plans for the upcoming week** (Please describe duties for the upcoming week for each member. What is(are) the task(s)?, Who will contribute to it? Be as concise as possible.)

- 1: Michael: For this upcoming week, members working on the hardware side of the design will meet Monday evening in order to delegate all tasks as efficiently as possible. The remainder of the week will be spent assembling our prototype and completing testing. My main goal is to determine if coin cell batteries are feasible for our device design. With additional time, I will work on testing different circuit designs to optimize sound output from our piezo buzzer that is used for auditory alerting.
- 2: Caleb: We have catching up to do on the hardware side. Myself, Max, Mike, and Jared will need to meet early on in the week in order to clarify individual responsibilities with testing.
- 3: Max: The hardware part of the team is going to have a meeting to clarify exactly what each of us is going to work on and how we can effectively bring all of our parts together. I plan to test multiple rf modules.
- Jared: continue developing communications. Meet with other hardware members to discuss plans for testing.
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- 6. Bridget: I plan to continue working on the ease of use of the app. I also need to work to figure out how to fix some current bugs and make sure the design in the app matches the proposal and if not, have an explanation of what changed
- 7. Jamie: I plan to implement the database containing currently alarmed users, as well as

the instructor pages on the app (which users are alarmed [dynamic page]). If time allows, I also plan to put in user profile pages/variables. Debugging as per usual.

- **Summary of weekly advisor meeting** *(If applicable/optional)*  
*(Provide a concise summary on the contents and progress made during the advisor meeting.)*

### **Grading criteria**

Each weekly report is worth 10 points. Scores will be awarded as follows:

- **8 – 10:** Progress for your project seems to be suitable. Documentation and hours reported by team members are adequate.
- **6 – 8:** There is scope of improvement both in your report and your project progress. Can consult with instructor/TA after class for further inputs.
- **< 6:** Please talk to instructors/TA after class hours about any difficulties that you/your team is facing.

Each weekly report should be unique in that they have a unique set of supporting details for your contributions. So please do not just copy your reports from the previous week. In addition, please avoid any personal pronouns (he, she, I, you). Try to keep your reports as neat as possible.