

# Bi-Weekly Report 5

## 1. Summary

The team is adjusting to their new conditions. They came up with a contingency plan to navigate through this time. Hardware will be tougher for the team to collaborate virtually, but they have made great strides. The OBD-II scanner is able to read the car's diagnostics and be displayed on the Pi. A basic bluetooth package was installed. We need to tweak the package so it suits the team's needs. Software is close to unaffected by the pandemic. They have made steady progress on both android and iOS platforms.

## 2. Individual contribution (finish before tmr afternoon)

- a. Member contribution to progress.
- b. Hours worked by each member for the week.
- c. Total Cumulative hours for each member.

Our team is working seamlessly, and we are making some progress. Our goal is to have a prototype for the project by the end of the semester, so with our current pace, we will be able to achieve that goal. As of now, the exact work details and timeline are not clear, therefore the time spent on the project by each team member varies. All the team members are a valuable asset for this project and each one is contributing in their own way. The following paragraphs display what each member did and the amount of time spent by each one.

- d. (Philip) After lots of research, Philip found a python script that performs basic Bluetooth operations. This includes making the Raspberry Pi discoverable, connecting to devices, and sending signals. He is still working to send the right signal to the mobile device.
- e. (Ali) Ali attended all of the team meetings. Ali has been working on finishing the UI structure on the Android platform using the software flow diagram. From there he will move to add the main functionality to the app to allow for testing the Bluetooth connection with the Raspberry PI. To do that, Ali is starting to research and look into the Bluetooth API for Android.
- f. (Shuang) Shuang has attended the first weekly meeting. She looked into the iOS libraries for Bluetooth and existing projects that used Bluetooth with customized microcontrollers. She started the iOS UI design in Xcode for the child user group and plans to continue implementing the UI for other pages specified on the software flow diagram.
- g. (Isaac) Isaac kept on researching Python programming language. He also worked on sections three and four of the design document. He also worked on the reflection required by the instructor. Isaac also watched the video lectures posted by the instructor.
- h. (Chad) Chad checked out a new Raspberry Pi 3 and Pican2 bus from the ETG. He then got the Raspberry Pi 3 operational and learned how the Pican2 bus

works. He then learned how to program with the Pican2 bus and was able to read data from the car's OBD-II output. The data he was able to read was time, RPM, speed, throttle position, and a few others. He has still been unable to read the current gear of the car. Chad has also attended all weekly meetings and meetings with the client and advisor.

- i. (Shihab) Shihab kept working on the raspberry pi Bluetooth feature and research Python. The main component that is slowing him down now is using the Bluetooth feature properly and knowing and detecting the signal from the phone. This part is a little bit challenging but he is dedicating the time to solve the problem. This part of the project is taking more time than expected but he is supposed to deliver his part by this coming week.

<b>Name</b>	<b>Weekly hours</b>	<b>Cumulative hours</b>
Philip	4	33
Ali	12	28
Shuang	4	29
Chad	7	33
Isaac	5	13
Shihab	8	28

### **3. Pending issues**

The main issue that we have been facing and continue to face throughout this semester is adjusting to the quarantine. One of our current pending issues is coming up with different ways to test our prototype without breaking quarantine. We think with good communication we will be able to test the compatibility between hardware and software. Another related pending issue that we face is understanding how the platform's APIs could use bluetooth to communicate with an unconventional device like the Raspberry PI. This requires the collaboration of both the hardware side and the software side of our team. We believe that this is one of the biggest challenges that we will face in our project.

### **4. Plans for next 2 weeks**

For the rest of the school year, we plan on getting our working prototype put together. This is going to be difficult due to the lockdown, but we believe it is still feasible. The software team is going to send all of their work to a hardware team member, who is then

going to implement the application that software designed and test it with the prototype the hardware team has. Currently, the hardware prototype is split up amongst the members, so those parts will need to be put together by another hardware team member. We also plan on having two more virtual meetings with our client and advisor to let them know about the progress we have made and the plans going forward. Obviously, the conditions are not ideal, but we believe we will still be able to make great progress through these times.