Role Report

My role was mainly dealing with the software aspect of the project. This project has helped me out a lot because I learned how to work with a circuit board and Bluetooth connectivity. I’ve watched many videos on how to make it work based on the functionality and technology. This project helped me in my software development class (CSCI 1302). The coding I did in that class helped me for this project and vice versa. I learned a lot from this project, and I believe it was good to work on it this semester.

The first couple weeks was hard because it was difficult to find the right logic board and app for the Bluetooth connectivity. I did many research and asked so many of my friends and family if there was any recommendations they had. Then with more digging, I found a Bluetooth remote with a circuit board already made. We as a group decided that would be a great idea because it would help the motor go forwards and backwards. The remote would allow for quick and easy access to this and would save the person from getting wet. That is where the software aspect of the project comes into play. Overall, while this build seems simple, it will take some logic and problem solving to bring it all together.

It took many trial and errors to figure out how to connect the circuit board to the motor and battery. I had to learn how to connect the wires to the right spaces. I had to use my notes from my circuits class and my computer systems class I took last semester. Ohm’s law was the number one thing that helped me figure everything out. Ohm’s law is a way to relate the voltage across a resistor to the current through the resistor, which is linearly related to the resistance of that device. We wanted to measure current, and we had a circuit that was connected up to a battery, and I wanted to measure the current, what I did was I broke the wire. Those would normally have been connected together, and I took the circuit apart and connected up my current meter there to that broken spot. I connected one terminal on my current meter to that side, one to that side, and connected it up to my current meter, which will measure current. And again, it's directional and along the path, which are our wires. Voltage, on the other hand, is the potential to cause something to happen. We had a 12-Volt battery connected to the circuit board which then connected to the motor. For our project, it is designed so that we use a car battery instead of 12-volt battery. We didn’t have the money to go all out. So that’s why we used something small and based it off of there.

After all that, it only worked for the forwards direction. I spent a week trying to find research on how to do it for the backwards direction. All I had to do was to swap the wires, so make the positive side go to negative, and negative side go to positive. Again that was another problem because we wanted it to go in both directions whenever we pressed it on the remote. So what I did was I found the manual for the circuit board and remote control to figure out how to use both directions rather than just one or the other. In the manual, it said that the wiring had to be in a certain location for it both to work. It was good that I haven’t soldered the wires to the circuit board. So after I figured out how to make it go in both direction, I tested it out, and it worked 100%. I finally soldered it all together, and then tested it again to make sure it worked, and it did.

So as you can see, the software aspect of this project was challenging but not impossible. With a little research, anything can be done. I believe this project helped out a lot for my major because I found out how to use the circuit board from Bluetooth connectivity. I could say I did a little of hardware to this project, but that’s what computer systems is. It uses software to see how it works for hardware.