Raymond Gee

Individual Assessment

4/20/2022

Senior Design

Plant Pal

For my groups senior design project, my main contribution was towards creating the database. At first the plan was to add a sqlite database into the raspberry pi. This would allow us to communicate data from the app to the raspberry pi, but after some thought we found that there might be issues with communication if the raspberry pi was on campus network. The plan for a sqlite database was scrapped and we looked into hosting our own sql database. Hosting it using aws would cost us more money, so I decided to create a database server and host it on my laptop.

Getting the Sql database to be accessed publicly was difficult, but after further collaboration with my partners we found that running the server through xampp allowed the android app to communicate with it. For the raspberry pi, python with my-sql-connection library was enough for it to connect to the server. I handled the organization of the sql tables and asked my partners how they would format their data so I could store their data correctly. I also worked with my partners on creating sql queries that they would use for inserting or retrieving data. The server was completed and was able to run smoothly during the EXPO.

My group was able to complete our project before the date of the EXPO. We were able to make a working application to display data that was recorded from the raspberry pi, and we got the hardware to work for measuring moisture and sunlight. There were some issues with connectivity but we made sure to test and debug it on the campus network the day before the EXPO.

Overall, working in a group works well by being able to divide the work across teammates. In my group one person was assigned to app development, the other was working on the raspberry pi, and the other for creating the sql database. We held weekly meetings to make sure everyone was up to date on the progress of things, and if someone needed help the others would respond in a timely manner. Overall I think my contribution was the smallest to the project. Creating the SQL database was simple and writing the right sql queries for communication for the app and the raspberry pi was easy. I know Christopher Butts deserves recognition due to his efforts in creating a app on android.