sdmay19-13: Small Equipment Checkout System

Week 6 Report
October 20 - October 26

Client & Advisor:

Leland Harker

Team Members

Yimin Wang — *Hardware team (Chief Manager)*
Fengnan Yang — *Hardware team (Hardware Reporter and Meeting Manager)*
Jiaxin Li — *Hardware team (Treasurer)*
Caining Wang — *Software team (Software Reporter)*
Bei Zhao — *Software team (Secretary)*

Summary of Progress this Report

During this week, our software team had finished installing the new operating system to the raspberry pi and solved the version problem of the web application of the previous team. What's more, they have developed some basic functions on the homepage of the Android application. For the hardware team, we had analyzed the circuits in design document written by the previous group. On the other hand, we also did some research online about the Hall Effect sensor and ordered it. Furthermore, we also did some research about the connection technique between OWFS and hardware device.

Pending Issues

1) Break the locking situation of the current raspberry pi.
2) Obtain the database of the previous team web application.
3) Figure out how to enable the web application to communicate with the OWFS.
4) Figure out how to get the previous team web application server connected.
5) Figure out how to obtain our own team server.
6) Implement corresponding lockers' control in the web application.
7) Figure out how to set up the firewall for the OWserver.
8) Figure out how to set up auto-popup for the web application.
9) Connect the Android application with database.
10) Control the hardware with One Wire File System.
11) Door detecting circuit design.
12) Test how our Hall Effect Sensor performs under 12V
13) Design an alarm for door detection.
14) PCB design

Plans for Upcoming Reporting Period

1) Bei Zhao: In the upcoming reporting period, I am planning to finish the setup of the raspbian for the raspberry pi and make some simple configure on the OWFS to make the commands of OWFS work.
2) Yimin Wang: The plan for next period is testing the hall effect sensor and find how its output voltage changes with the movement of the magnet.

3) Fengnan Yang: For the next working period, I will focus on the locker control circuit and LED control circuit by reading the previous group's design document and figure out how is working.
4) Caining Wang: For the next period, I will mainly working on manager's functions, such as change manager's password, change the size of the shelf, etc.
5) Jiaxin Li: For the upcoming reporting period, I will test and see how dfED.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Bei Zhao	1. Finished the second version of the project plan with other group members. 2. Continued work on installing the new operating system into the Raspberry Pi 3. Finished my portion of the weekly status report 6. 4. Finished figuring out the version problem of the web application project finished by the previous team, which actually is an environmental setting up problem.	7	38
Jiaxin Li	1. Did some research about the connection between the hardware and one wire system. 2. Made the conception about just using hardware part to operate the one wire system, because the component of the Ds2406 had not arrived. The prototype testing cannot start yet.	7	37.5
Yimin Wang	1. Did more research on different types of Hall Effect Sensor. Finally decided on the DRV5023 made by TI, which is unipolar and has a wide voltage range from 2.5V to 38V. 2. Ordered the Hall Effect Sensor online. 3. Prepared the third Lightning Talk for technical challenges. The topic is how to choose between different sensors (solutions) that we faced in designing door detection.	7	40
Caining Wang	1. Did class assignments with my teammates. 2. Worked on software for the project, and	8	39

	finished basic functions. a. The user can see all lockers in a grid view on the home page. b. The user can make checkouts and returns, and the system will create a record. c. The manager can edit locker's information, such as item's name, description, is borrowed or not. d. The manager can browse checkouts and returns records. e. The user can report the item is missing in a locker.		
Fengnan Yang	1. Evaluated three solutions about detect check-out box open or not with hardware group people in the team. 2. Revising the project plan with group members. 3. Created the PowerPoint of the Lighting Talk with Yimin Wang.	7	38

Gitlab Activity Summary

Nothing to report.