sdmay19-13: Small Equipment Checkout System
Week 5 Report
October 6 - October 19

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 group members were following the schedule to do their own job and got a lot of achievement. We met together to write our first version of our design document which including what we have been finished so far. For the hardware group, they spent a lot of time to search the best sensor to use in our project and ordered it through the ETG to test it. At the same time, the hardware team found a new type of Slave device to meet the requirement and we also ordered it through the ETG and tested how it performs. As for the software team, they learned how to install android on raspberry pi and how to lock the screen to a single application. Besides this, they tried to use a new SD card to implement the raspbian system into the raspberry pi.

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

Plans for Upcoming Reporting Period
1) Bei Zhao: Begin to install a new operating system in the Raspberry Pi and figure out a method to force the

previous web application run in the new system.
2) Caining Wang: Continue implementing the Android application.
3) Yimin Wang, Jiaxin Li, Fengnan Yang: Start to design the circuit that using a hall effect sensor to detect if the door is closed, and using the changes of output from the sensor to trigger the alarm.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Fengnan Yang	1. Wrote the first version of the design document 2. Searched potential solutions about how to detect the check-out box open or not on the internet.	6	31
Jiaxin Li	1. According to the research, found that there is no new type of Slave device meet the requirement. And then, we still ordered the old version device for the prototype to see how it works.	6	30.5
Yimin Wang	1. Had come up with three solutions that can detect if the door is closed after use. They are contacting switch, photo sensor, and hall effect sensor, and finally decided on hall effect sensor. 2. Learned how the hall effect sensor works, which include the supply voltage, output voltage, and threshold magnetic flux density.	8	33
Caining Wang	1. Did class assignments with my teammates. 2. Learned how to install android on raspberry pi and how to lock the screen to a single APP. 3. Learned how to extend ArrayAdapter to populate pictures and name on each view.	6.5	31
Bei Zhao	1. Finished the first version of the design document with my other teammates 2. Finished my portion of weekly status report 3. Figured out the progress of the previous team done in the website side. 4. Planned to install a new software system to a new sd card to try to run the web	6	31

	application.		

Gitlab Activity Summary

Nothing to report.