

**sdmay19-13: Small Equipment Checkout System**

Week 7 Report

October 25 - November 3

**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)*

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**Summary of Progress this Report**

During this working period, the software team figured out the location of the VM files and Raspberry PI files and did some configuration based on that. What's more, they successfully ran the web application based on the previous team's documentation. Furthermore, they added more functions to the home page for the Android application as well. For the hardware team, we built a test circuit to control the Hall Effect circuit. Beside this, we test DS2406 slave device with OWFS on our test circuit and started to design the alarm circuit with a buzzer in it.

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**Pending Issues**

- 1) Obtain the database of the previous team web application.
  - 2) Figure out how to enable the web application to communicate with the OWFS.
  - 3) Figure out how to get the previous team web application server connected.
  - 4) Figure out how to obtain our own team server.
  - 5) Implement corresponding lockers' control in the web application.
  - 6) Figure out how to setup the firewall for the OWserver.
  - 7) Figure out how to set up auto-popup for the web application.
  - 8) Connect the Android application with database.
  - 9) Control the hardware with One Wire File System.
  - 10) Door detecting circuit design.
  - 11) Design an alarm for door detection.
  - 12) PCB design
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**Plans for Upcoming Reporting Period**

- 1) Bei Zhao: In the upcoming reporting period, I am planning to learn OWFS and make it have the correct react towards the lock and LED light of the lockers' door.
- 2) Yimin Wang: I am going to add a buzzer into the door detecting circuit as the alarm.
- 3) Fengnan Yang: For the next week, I am going to build the same circuit as the previous team and test it.
- 4) Caining Wang: For the next period, I will work on perfecting each function, such as for changing the

manager's password, it will ask manager enter the password again to confirm the new password, when user making a return, it will check if it is the same ISU ID when it was checked out.

- 5) Jiaxin Li: for the upcoming reporting period, I will keep on testing OWFS on the raspberry pi. If it works, I will plan to build the circuit about the locker and LED.

## Individual Contributions

| Team Member  | Contribution  | Weekly Hours | Total Hours |
|--------------|---|--------------|-------------|
| Bei Zhao     | <ol style="list-style-type: none"> <li>members and figured out the location of the VM files and Raspberry PI files.</li> <li>Worked on making the website running appropriately with the documents supplied.</li> <li>Finished the reflection assignment 4 with other teammates.</li> <li>Refactored the design document and upload it to the team website.</li> <li>Edited the team website and uploaded the team's information into it.</li> </ol>  | 7            | 45          |
| Jiaxin Li    | <ol style="list-style-type: none"> <li>Tested the DS2406 Slave Device individually and see the voltage and current on each part, after that I found out it must give a data signal from the Master Device, or it will not change by giving external power supply.</li> <li>Communicated with Bei about how the OWFS works on raspberry pi and tested it with the product which comes from the previous team. Afterward, it did not work as we expected.</li> </ol>  | 8            | 45.5        |
| Yimin Wang   | <ol style="list-style-type: none"> <li>Tested the Hall Effect Sensor, the result is that with the 12V voltage supply, when to get close to the magnet, the output voltage drops down to 9mV, when away from the magnet, voltage increase to 0.2 V.</li> <li>Based on the test result, a non-inverting amplifier was connected to the sensor's output to boost output voltage to 12V.</li> <li>Started to design the alarm circuit, and finally decided to use a buzzer.</li> <li>Did the lightning talk 3.</li> </ol> | 10           | 50          |
| Caining Wang | <ol style="list-style-type: none"> <li>Did class assignments with my teammates.</li> </ol>  | 8            | 47          |

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|--------------|--|---|----|
|              | <ol style="list-style-type: none"><li>2. Meet with our client and showed my work to him.</li><li>3. Added new manager's functions to the software:<ol style="list-style-type: none"><li>a. A manager can change the login password now.</li><li>b. A manager can reinitialize the shelf and change its size.</li><li>c. A manager now can just browse the records of a specific locker only.</li></ol></li></ol> |   |    |
| Fengnan Yang | <ol style="list-style-type: none"><li>1. Communicated with previous team Read the hardware section of the design document of the previous group.</li><li>2. Did the lighting talk 3.</li><li>3. Discussed reflection document 4 with group members.</li></ol>  | 8 | 46 |

**Gitlab Activity Summary**

Nothing to report.

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