

## sddec18-17: IoT Remote Monitoring Mobile App for Commercial Appliances

Week 9 Report

April 8 - April 16

### Team Members

John Fleiner — *Android Development Lead*

Ben Young — *iOS Application Lead*

Thomas Stackhouse — *Backend Lead*

Hongyi Bian — *Hardware Test*

Yuanbo Zheng — *Meeting Facilitator*

Casey Gehling — *Backend Developer*

### Client

Greiner Jennings Holdings

*Taylor Greiner*

*Connor Jennings*

### Faculty Advisory

Goce Trajcevski

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### Summary of Progress this Report

The mobile application team made a few minor adjustments by adding an Alert Dialog after a customer submits a reservation request. The changes were made as quality of life updates for the presentation demo. Second, a screen sketch diagram was created as a visual tool for future updates regarding the client UI (as opposed to the user UI). The hardware team wrapped up implementation with the Raspberry Pi. The hardware interface and software script was modified to include usage of a portable washing machine under the assumption that our clients will be able to deliver it the day before our presentation. The backend team performed a secondary analysis on AWS IoT to further validate the decisions outlined in both our project plan and design document.

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### Pending Issues

Last week it was mentioned that one of our greatest challenges and pending issues was our inability to meet with our client due to scheduling conflicts among both parties. Our communication issue has been resolved as our client has set aside a generous amount of time for phone calls and instant messages so that we may stay in contact regardless of conflicts. It was also mentioned that we were expecting to receive a portable washing machine from our clients as we wanted to incorporate the appliance in our Panel Presentation Demo. Our clients plan on delivering the portable washing machine to our team during the next status week. For the time being, we will be using a lightsource to demo the on/off functionality of a washing machine.

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### Plans for Upcoming Reporting Period

At the request of our advisor, the development for Semester 1 has come to an end. Therefore, our plan for the upcoming reporting period is to focus on the final presentation. To best prepare for the Panel Presentation, our clients have asked that we prepare a dry-run with them so that we may receive feedback prior to our presentation date (Tuesday, April 24). Our advisor has also asked that we prepare a dry-run with him so that we may modify the powerpoint based on his suggested feedback. Under the assumption that we are able to receive a portable washing machine during the upcoming reporting period, the hardware team will attempt to put together a demo involving the portable washing machine.

## Summary of Weekly Advisor Meeting

The focus of our weekly advisor meeting with Goce Trajcevski was to discuss preparation for our Panel Presentation on Tuesday, April 24th. Goce asked that we prepare a dry-run that we will present on Monday, April 23rd. During the dry-run, Goce will ask us questions throughout and interrupt us when need be. He asked that we include a conclusion and future work section while being mindful to security. It was asked that we read an elementary introduction in security to prove that we have basic foundation and understanding of security concepts. It isn't expected that we develop a protocol or defense mechanism, but we must show that we are looking to incorporate the idea. For the presentation, we must stay positive and present good attitude about ourselves and our project as we are the greatest leading experts for the topic at hand. Our meeting concluded with the video confutatis, a perfect representation of a team harmonizing during a presentation.

## Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
John Fleiner	To finalize finishing touches on the Android mobile application for the Panel Presentation Demo, I worked towards creating an alert dialog that displays after a user submits a query for laundromat appliances. The alert dialog either displays a message indicating that the specified query could not be found and no machines are available for their timeframe or will display a message with the list of appliances selected along with their cost. The payment transaction platform will be an external service included next semester. I also added storage variables for all inputs that are to be passed into the Spring Boot API requests.	3	100
Ben Young	This week I made some finishing changed to the iOS application to make sure it runs smoothly for the demos we have in the next couple of weeks. Our advisor told us to be done with development around this time so from here on out not a lot of development on the iOS will be done. From now on my team and I are focusing on creating the presentation and fleshing out our design document and project plan in lue of the upcoming presentations.	3	71
Thomas Stackhouse	This week I looked into some of the changes that need to be made on the design document. I also researched aspects of AWS that may be asked during the final	3	65

	<p>presentation. Some of these things include why we used an EC2 instance instead of using Beanstalk and how AWS IoT will communicate with the microservice backend. During the final phase of the project, I plan on continuing research into AWS, as well as working on the final presentation and updating my knowledge on how all of the system components of our solution work together in practice to make sure they are consistent with the initial architectural design.</p>		
Hongyi Bian	<p>This week our hardware team has wrapped up the implementation on the Raspberry pi. For the purpose of presentation, we have adjusted our hardware interface along with software script to make the actual washing machine presentable. This could be expressed as: changing the matching string within the Python code running on the pi and finding a 3 to 2 power adapter for our cord transition. Besides these, we further researched into the security aspects of the hardware implementation for the preparation for the presentation.</p>	10	77
Yuanbo Zheng	<p>This week I still worked on study the certification with the Raspberry Pi and AWS IoT early on. After that I think our hardware team almost finish all the parts for this semester since our team can have a complete demo for this project and our professor told us that we need to stop these to prepare for our presentation. I start to check all the stuffs we have right now and review them for the presentation. Besides that, I think we still can make some progress if our client can send us a real washing machine so we will not show our work based on a lamp right now. Also we tried to find a 3 to 2 power adapter for the connecting stuff to make sure it can connect with all kinds of socket.</p>	5	62
Casey Gehling	<p>This week I primarily focused on updating the project plan and design document based on the feedback from our TA. Our advisor told us to wrap up development a week or two ago, so there hasn't been much progress in terms of the code base for the backend -- it's in a</p>	4	65

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	<p>pretty good spot right now as we made good progress early on in the semester. Thus, most of the week revolved around paperwork and updating documentation in preparation for our final presentation.</p>		
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