

## *EE/CprE/SE 492 Bi-Weekly Report 3*

*2/15/20 - 2/28/20*

*Group Number sdmay20-23*

*Project Title: Multi-Context Shopping Optimization*

*Client & Advisor: Goce Trajcevski, Ashfaq Khokhar*

*Team Members/Role: Max Garton - Meeting Lead, Arnoldo Montoya-Gamez - Deadline Manager, Ethan Shoemaker - Issue Tracker, Karla Montoya - Testing Specialist, Jesrik Gomez - Public Relations, Nate Wernimont - Meeting Scribe*

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## **Weekly Summary**

This week, the team continued development of individual components of the system. We began to integrate the components together (by starting to connect the inventory sensor to the backend services, and mocking the connection between the Android application and the backend services). At this point in the project, we are beginning to combine the individual parts into the larger functioning system.

# Past Accomplishments

## Accomplishments during 2/15/20 - 2/28/20:

- Data sensing program (Ethan)
- Shop and login activity (Arnoldo)
- Protocol buffers for client and server (Arnoldo)
- Set up SQL server accounts and Azure server (Jesrik)
- Data preservation model (Karla)
- List activity (Karla)
- Command processing program on RPi (Max)
- Merge wifi setup app with main app (Max)
- Users and sensor service (Nate)
- Protobufs on server (Nate)

## Pending Issues

- Waiting on backend services implementation to integrate with inventory sensor (Max)
- Discuss how to acquire/dialogue for getting Max min and threshold value for a sensor (Ethan)

## Individual Contributions

### Arnoldo:

- Created Shop Activity
  - Activity has the ability to gather information and save to device.
- Established frameworks used for passing objects between client and server.
  - Determined the best way to pass objects will be by using [protocol buffers](#).
- Created basic login activity (layout and method stubs)
  - Will complete login functionality next week

### Ethan:

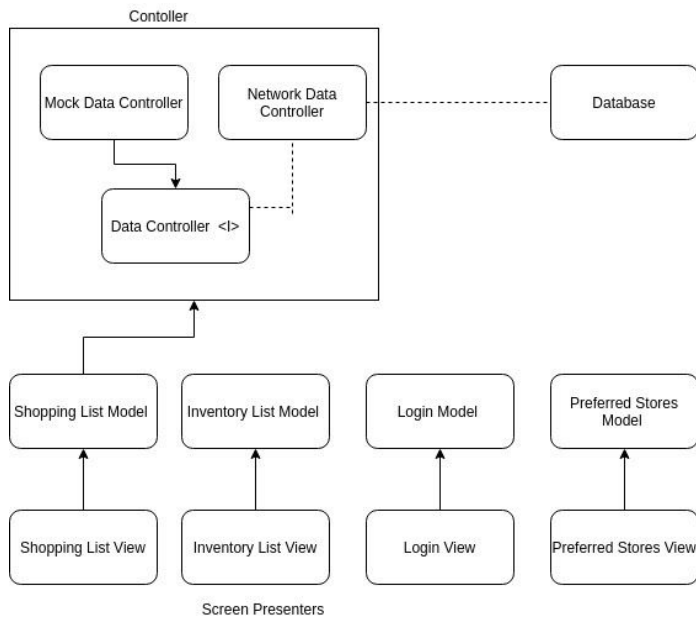
- Finished data sensing program
  - Can be calibrated at runtime
  - On-demand measurements can be triggered

### Jesrik:

- Set up SQL server accounts
- Set up another server on Microsoft Azure to host the system's microservices

## Karla:

- Worked on the open/closed design for views with Arnoldo.
- Worked on the data preservation and persistent storage model.
- Implemented List activity with complete functionality.
- Started working in Inventory Activity.



## Max:

- Tested process of connecting inventory sensor device to user's wifi via Android device
- Merged sensor setup Android app with the project Android app
- Created python program to process commands (from the Android device and from the remote server) on the pi. Methods are stubbed for now until the remote sensor service is completed. Commands included:
  - Connect the sensor to the user's wifi network
  - Take an on-demand measurement
  - Reset the wifi configuration of the device
  - Obtain a sensorId from the remote server given the current userId

## Nate:

- Tested user service implementation
  - Verified register, login, and logout behavior
- Made sensors service
  - Verified register and reporting functionality
- Started work on an inventory service
- Established the use of protocol buffers and designed their structure
  - Integrated them into all three backend services
  - Made other teams aware of where to find the implementation

Name	Individual Contributions (Quick list of contributions. This should be short.)	Hours This Week	Cumulative Hours
Arnoldo	Added Protocol-Buffers to our project for network communication. Created Shop Activity. Created basic Login Activity.	14	71
Ethan	Completed data sensing program, stores value and timestamp	12	66
Jesrik	Set up SQL server accounts and another server on Microsoft Azure	10	61
Karla	Worked on interfaces, models and finished list activity fully.	10	64
Max	Tested sensor setup process, merged sensor setup app into main project android app, began developing python program to process sensor commands.	16	93
Nate	Chose protocol buffers; implemented and integrated them. Tested users service. Made and tested sensor service. Began inventory service.	20	65

## Plans for Next Week

- **Max:**
  - Complete python program to process sensor commands
  - Integrate inventory sensor programs with remote inventory & sensor services (if they're deployed, if not then mock API calls)
  - Integrate the sensor setup process with the backend services (so that the services associate the sensor with the user)
- **Arnoldo:**
  - Finish Login Activity
  - Create PreferredStores activity, add functionality
  - Connect App to server
- **Ethan:**
  - Enforce file management policies
  - Create library to send values to server
  - Add fields for threshold max and min value

- Reformat running config file
- **Nate:**
  - Finish inventory service
  - Begin routing service
  - Support other members as they integrate with backend services
- **Karla:**
  - Finish inventory activity view and functionality
  - Work on navigation activity
- **Jesrik:**
  - Deploy microservices to Microsoft Azure
  - Populate database with additional mock data
  - Test interprocess communication between system components

## Summary of Weekly Adviser Meeting

In our meeting with Goce on 2/24, we gave a report on the status of the project and the work towards a functional demonstration. Our goal is to be able to demonstrate working components (and some level of connection between them in the combined system) before spring break. Integration testing will also be a focus going forward as we connect the moving pieces of the system together.