EE/CprE/SE 492 Bi-Weekly Report 4

2/29/20 - 3/12/20

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 began to deploy backend services in preparation to fully integrate the subsystems (the sensor device, the Android application, and the backend services). We've begun integration testing, where we ensure that the project use cases are supported fully by the interconnected system. The team also practiced a short presentation about the project, submitting it for feedback from peers in the class.

Past Accomplishments

Accomplishments during 2/29/20 - 3/12/20:
- Refactored data sensing runconfig file (Ethan)
- Added API call functions (with dummy URLs until backend services are deployed) for sensor device (Max)
- Replaced Azure Application server with Container Instance (Jesrik)
- Set up and deployed Redis server (Jesrik)
- Inventory activity (Karla)
- Code refactoring (Karla)
- Added public interface to data recording and reporting programs for access from command processing program (Ethan)
- Shop and login activity (Arnoldo)
- Protocol buffers for client and server (Arnoldo)
- Set up SQL server accounts and Azure server (Jesrik)
- Inventory Service (Nate)
- Dockerized backend (Nate)
- Helped integrate services with backend (Nate)

Pending Issues

- Waiting on backend services implementation to integrate with inventory sensor (Max & Ethan)
- Integration testing (all)

Individual Contributions

Arnoldo:
- Finish Login Activity
    - Can now login and logout of the app using mock data.
    - Users can't do anything unless logged in.
- Create PreferredStores activity, add functionality
    - Able to jump from shopActivity to preferredStores activity, and show valid stores

Ethan:
- Added public interface for processCommands.py to interact with in order to:
    - Recalibrate the sensor
    - Take an on demand measurement
    - Send n values to the server

- Refactored runconfig file to a pickled Python dict in .rcfile which can be modified using runconfig.py
- Pruned gitlab issues and branches

Jesrik:
- Replaced Azure Application server with Container Instance
- Deployed containerized services to Microsoft Azure
- Set up and deployed Redis server to Microsoft Azure

Karla:
- Implemented Inventory activity with complete functionality.
- Created Inventory controller and mock data.

Max:
- Added code to the raspberry pi programs to send HTTP requests and receive the responses for various sensor device functionality including:
  - Sending a measurement value to the sensor service
  - Getting a new sensor ID given a user ID
  - Getting a command from the server
- Added protobuf (protocol buffer) files to the pi to enable consistent data formatting in requests between pi, android device and backend services

Nate:
- Implemented inventory service
- Dockerized backend
  - Added local Dockerfile
  - Added Dockerfile meant for deployment
- Assisted teammates in integrating with backend

Name	Individual Contributions (Quick list of contributions. This should be short.)	Hours This Week	Cumulative Hours
Arnoldo	Added login functionality to our app. Created preferredStores activity, as well as basic functionality.	15	86
Ethan	Added public interface to data sensing and reporting programs for access from command processing program	15	81
Jesrik	Deployed containerized services to Microsoft Azure. Set up and deployed Redis server on	10	71

	Microsoft Azure.		
Karla	Worked on interfaces, models and finished list activity fully.	15	79
Max	Added code to the raspberry pi programs to send HTTP requests and receive the responses for various sensor device functionality. Added protobuf (protocol buffer) files to the pi to enable consistent data formatting in requests between pi, android device and backend services.	15	108
Nate	Dockerized backend, implemented inventory service, helped integrate services to backend	19	84

Plans for Next Week

- **Max:**
    - Integrate inventory sensor programs with remote inventory & sensor services (just url changes and testing)
    - Incorporate command functionality with Android app (so the Android app can send commands to the pi based on user input)
    - Integrate python program to process sensor commands with measurement python program to send actual measurements.
- **Arnoldo:**
    - Connect App to server
    - Test all Android screens against server
    - Fix bugs that come up during testing
    - Improve preferredStores Activity
- **Ethan:**
    - Work on integrating with the backend to send updates to the server
    - More thoroughly comment code and include READMEs or other documents
- **Nate:**
    - Implement routing service
    - Integrate routing service with mocked stores service
    - Continue assisting teams integrating with backend
- **Karla:**
    - Work on navigation activity
    - Work on integrating android app with the backend
- **Jesrik:**

- - Implement stores service
  - Continue assisting with interprocess communication between system components

Summary of Weekly Adviser Meeting

In our meeting with Goce on March 9th, each sub-team of the project demonstrated some of the functionality that has been completed so far. We also created plans for the next meeting, with the goal of every component communicating with each other by March 23rd. When we come back from Spring Break, we will continue integrating the system, potentially via remote team and client meetings because classes have switched to online.