**COMP 3390 Project**

Project Work Breakdown Structure and Project Timeline

**Project Name:**

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**Project Objectives:** This project aims to notify customers of ongoing sales and promotions in stores within close range and lure them into the stores, in attempt to increase sales for the business owners. This will be done using beacons which uses Bluetooth as a means of connectivity.

**Scope**

**High Level Deliverable 1:** *Customers are informed of sales*

Low-Level Deliverables

* Customers who are nearby the store receives a notification when they are within range of the store.
  + Use an application to listen for beacons and notify the user.
    - Use Bluetooth via an application on the user’s phone.
    - Allow Users to see the promotion that is sent via Bluetooth.
    - Allow Users to save or favourite a promotion and store, which will allow them to be notified about other sales and promotions.
* Customers who have favourited a store will receive a notification of store promotions whether or not they are in range.
  + Use an application to listen to the server for updates to the store promotion data.
    - Use Wifi or mobile data via an application on the user’s phone
    - Allows users to receive immediate (possibly delayed) store promotion data of stores they follow.

**High Level Deliverable 2:** *Business owners get to advertise current promotions at their stores*

Low-Level Deliverables

* Business owners would like to modify their promotion.
  + Allows Business owners to modify their promotions on their beacon.
    - Uses an application on the user’s phone to alter the beacon’s data via bluetooth. This Data is also echoed to the server.
      * Application Login requires Google oAuth.
      * Application requires INTERNET and BLUETOOTH Permissions.
      * Application displays the Store Managers in-app beacon modification tools.
      * Application syncs data to the beacon.
      * Application syncs data to the server.
  + Allows Business owners to see their statistics, past promotions and current promotions.
    - Uses a web-based application to allow the users to login and see all of their real-time and backed up data.
      * Login System via Google oAuth.
      * Real-time Charting Data via RethinkDB and a charting software.
      * See and Modify Past and current promotions via a web-based interface.

Timeline Development

Identify the activities and tasks needed to produce each work package

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Work Package | Tasks/Activities | Resources | Time To Completion (Est.) |
| 1 | Bluetooth Functionality on the App | Write a reuseable Bluetooth Interface for connecting and interacting with beacons. | Time, Knowledge | 5 days |
| 2 | User can see Beacon Data | Application can show users the beacon data via push notifications or full screen activities | Time, Knowledge | 5 days |
| 3 | Notify User of Updated Store Promotions | Application is automatically updated with data from the server upon server updates. | Time, Knowledge | 3 days |
| 4 | User can save Beacon/Store data | Application interacts with the server to allow users to save and store beacon/store data. | Time, knowledge | 3 days |
| 5 | In-app beacon modification | Allows Business owners to modify beacon data from their app. | Time, Knowledge, Beacon | 7 days |
| 6 | Server Sync | Allows the Business Owners app to sync their beacon data to the server. | Time, Knowledge, Beacon, Server | 4 days |
| 7 | Web Client Login System | Use Google oAuth to provide login | Time, Knowledge | 1 day |
| 8 | Real-time Data | Use RethinkDB to provide real time statistics about the beacon performance. Also uses charting libraries to create graphs. | Time, Knowledge, RethinkDB | 5 days |
| 9 | Web Client | Used to provide another interface for Business owners to manage and modify their beacons. | Time, Knowledge, Beacons | 7 days |

Critical Path

1. Bluetooth Functionality on the App
2. User can see Beacon Data
3. User can save Beacon/Store data
4. In-app beacon modification
5. Server Sync
6. Notify User of Updated Store Promotions
7. Web Client Login System
8. Real-time Data
9. Web Client

