Hello this is … Our project is SuperPoints an application which we developed from the ground up and are now shareholders in. Our client is Reese Williams, the last shareholder in the project.

The Problem

Small businesses have a small time breaking into the market because larger corporations can offer equitable products and services at a smaller profit margin because of higher volume of sales. Superpoints attempts to address this problem by offering smaller businesses an opportunity to offer their services or products at a lower price in exchange for continued consumer loyalty.

The Solution

SuperPoints is an application that integrates Bluetooth technology, location services and QR codes to create a loyalty program. End users of the application can see what stores around them that are subscribed to SuperPoints, the stores will use Bluetooth beacons to check that a user has entered a store, in doing so the user gets points which in turn can be used for promotions offered by the business. If the business wishes they can use QR codes to track purchases made with these promotions. In doing so, we gather this purchase data to make predictions on what types of promotions have the highest effectiveness for their shop. Other analytics are also offered as part of this package.

The Value

Businesses will be able to better informed market decisions about their consumer base, the analytics package we offer will give a graphical insight into how the business is doing. They will be able to compete with bigger businesses in terms of pricing power and see higher foot traffic. The consumer will receive discounts, a chance to back their local businesses and exposure to businesses they otherwise would have never considered.

The Challenges

The problem of developing a loyalty program application is embedded in the fact that this idea is not a foreign concept in the modern application market. Kiip is a very similar application that has been established for over 8 years in the market with proven stability and tenure. Why would a business choose our application over theirs? In discussions with our supervisor it became clear we needed an edge, as a result we started to develop the groundwork for AI that would predict what type of promotions should be offered. This predictive analysis can be extended to aspects of the application and offer that edge that may push us to be marketable. The installation of the beacons may also be unattractive to businesses, beacons need batteries and thus may require maintenance. Minimizing user effort in this aspect will be difficult unless SuperPoints becomes a widely accepted market standard for smaller businesses entering the market. Another challenge simply arises from the application itself, why should anyone download it or even open it for points? The promotions that would have to be offered would need to be substantial and the process to be as simple as possible.

What was done in 3900

The core base for the application was developed during 3900, and 4900 is a continuation of our work. This involved the creation of the user component, and business component of the application. The groundwork was created for all further features. The beacon technology was integrated at this point, the database had been set up, the intermediary medium between our application and the database had also been set up. The UI was minimalistic. There was also very basic analytics integrated into the application.

In 4900 we created an administrator component which allows for viewing of businesses and creation of a KPI report of all businesses subscribed to SuperPoints detailing all the analytics we provide for each business. This also includes the key feature of being able to assign Bluetooth beacons a region ID in the database.

We created graphical representation of our analytics as well as provided more valuable ones, developed guides for the application, the Bluetooth component, and a guide to our AWS backend. These guides represent our understanding of our own system and how it was created. These guides are targeted towards non-technical people and does not deal with the code base.

We also integrated an AI that will be improved upon in the future that predicts what types of promotions would be best for a business. The AI is built upon “tags” that are associated with each promotion offered by a business. Purchases that are made with that promotion can then be tracked by the business. If done, our application will use what types of “tags” are associated with more purchases, based on the trends that it observes in tag usage and purchases it will relay this information in the analytics section. Future work will be done to improve the algorithm, it can include time, and if this is possible legally other data sources from other subscribers to form ideas of what is effective locally. It can also incorporate data from a persons profile to predict what types of products are more appealing to that businesses major demographic.

The application underwent a graphical overhaul. Reese has stated that a graphical redesign can be handled by outsourced developers, but for the purposes of beta testing we deemed it was necessary to make the application adequately appealing.

Another major component of 4900 was bulk testing and bug fixes. Testing was done in pairs and was split between members of our group to ensure full coverage of the application. We tested whatever was not created by us. Testing was