Wei-Ting Lu (wtlu)
Troy Martin (tmartin)

Project Proposal: DawgPons

Introduction

UW students frequently visit the Ave for food, where there are many dining options available. Many of these restaurants offer incentives to students, such as coupons. DawgPons mobile application allows students to earn points by visiting participating restaurants, which can be later redeemed for meal discounts. In addition, DawgPons enables restaurants to increase student traffic by offering students incentives. A sample user-interface can be seen in figure 1 to the right.

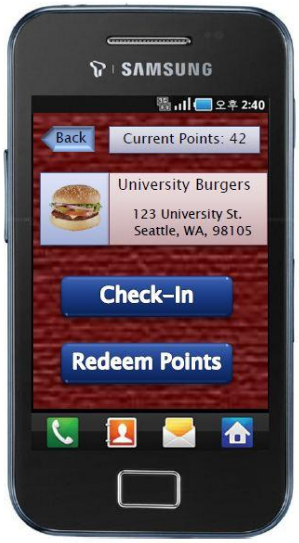
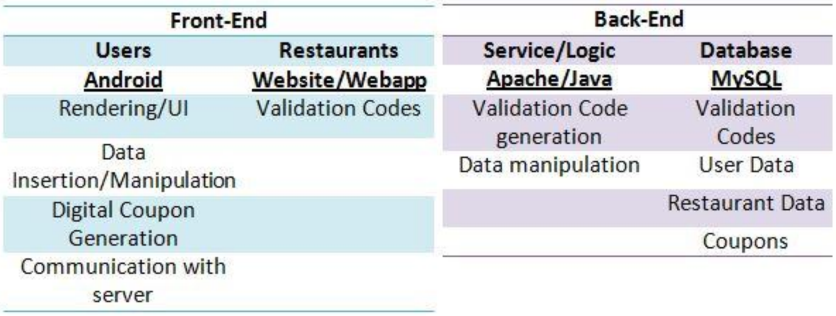


Figure 1 – Sample of DawgPons UI

Alternatives to the DawgPons application are the Student Survival Kit and regular coupons. The problem with both of these alternatives is they are not convenient for the student to always carry on them. A student's phone however, is always by their side. Another benefit to using DawgPons is that points will be redeemable at any participating restaurant. This allows the students to choose from a variety of restaurants, versus having a limited number of coupons per restaurant, as available in the Student Survival Kit.

Software Architecture

Although DawgPons is a mobile application; there are both front-end and back-end components to this project. The front-end is comprised of an Android application for students and a simple web application for restaurants. The Andriod application will handle tasks such as the user interface, data manipulation, coupon generation, and server communication. The simple web application will be used by restaurants to request validation codes that allow users to check in and acquire points. Both the Android application and the web application will be supported by the back-end system. The back-end system is comprised of a database management system (DBMS) and the logic that connects the database to the front-end. The DBMS will be implemented using MySQL, and will store data such as the validation codes, user data, restaurant data, and coupons. To interact with the database, we will use logic written in Java and the Apache webserver. The logic will handle data manipulation between the database and the front end, as well as the generation of validation codes for checking users into restaurants. Figure 2 shows the high level architecture of both the front and back end.



Front-End		Back-End	
Users	Restaurants	Service/Logic	Database
Android	Website/Webapp	Apache/Java	MySQL
Rendering/UI	Validation Codes	Validation Code generation	Validation Codes
Data Insertion/Manipulation		Data manipulation	User Data
Digital Coupon Generation			Restaurant Data
Communication with server			Coupons

Figure 2 - Software Architecture of DawgPons

Choosing to develop in Android instead of another platform such as iOS has a few advantages. On a technical level, since Android development is done using Java, it will be easier for UW CSE students to get started since they are more accustomed to developing in Java. This will save us the overhead of coming up to speed on a new language. Also, deploying the application will be easier since we will not have to deal with the inconvenience of getting our application approved by the Apple committee.

Challenges and Risks

Many challenges and risks are associated with developing the DawgPons application. The greatest challenge is going to be the integration of the front-end Andriod application and the back-end MySQL database. Each end will need to be developed in parallel in-order to utilize all the team's resources. To do this successfully, there will need to be a significant amount of time spent analyzing our objectives, and designing our solution. This will allow both development teams to build their end of the system with the other team's needs in mind, thus allowing for successful integration.

The greatest risk facing this project is that restaurants won't want to participate. One possible reason for this is that DawgPons allows students to redeem points at any participating restaurant. It will be important to effectively convey to the restaurant owners that it will be mutually beneficial to all who participate to honor points awarded by other restaurants. Another risk is the possibility of students abusing the points system by unfairly obtaining points. Proper security precautions should be taken to prevent such abuses.

Conclusion

The DawgPons application will be greatly beneficial to University District restaurants and students alike. This application gives restaurants a means of attracting student traffic by offering them easily accessible incentives. It also provides students rewards for choosing to dine at these participating restaurants. The convenience factor makes DawgPons a much better option than the Student Survival Kit or regular coupons. If the analyze and design phase are given due diligence, DawgPons could be an application the restaurant community and students really embrace.