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Location-Based Food Searching Mobile Application

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Abstract

Location-Based Food Searching Mobile Application is a system that uses for searching nearby restaurants based on the user's current location. Due to a busy lifestyle, most of the people nowadays eating the same food every day and maybe already feel bored about it. Price inflation due to implement of Good & Service Tax (GST) also causes everyone want to be a smart shopper for having a cheap and delicious meal. However, they need to have some way to guide them for searching it. Besides that, some of the small scale restaurant lack of promotion budget to promote their foods to the public. Therefore, this system was developed to provide a way for public to search nearby restaurants based on their location and also provide a platform for a restaurant owner to promote their foods to the public. This system was developed using Evolutionary Prototype methodology as improvements can be made before the system is completed. Among the software available, Android Studio has been chosen to develop the project with Java programming as the programming language and Microsoft SQL Server as the database management system.

Keywords: Food Searching, Location-Based, Mobile Application, Android

1.0 Introduction

Nowadays, almost everyone own at least a smartphone and carry it every time due to the affordable price and lightweight. Owing to the advanced technology like GPS sensor, smartphone now able to track the user's current location. Besides that, user can access internet to download a variety of mobile apps. Mobile app is one of the fastest growing category of mobility market today. It is a software program running on mobile devices targeted to execute specific tasks such as news, weather, games, etc. Based on the survey of Google company, people spend an average of 30 hours per month in apps. This indicates that how important the mobile app for a person. Therefore, a new way for searching food can be implemented by combination of mobile app and GPS capability of smartphone.

This project focuses mainly on the analysis of the features and limitations of some existing similar apps and produces a new mobile app that can be served as an alternative to the current existing apps. The main purpose of developing this app is to bring benefits to restaurant owner and public. By using this app, restaurant owner can have a free to promote

their foods and drinks as well as get know reviews from the public. On the other hand, the public also can easily search the nearby restaurants with provided details and able to give their comment on food.

Actually, there already exist some of the similar app such as **'**FoodSpotting**'**, **'**Restaurant Finder**'** and **'**Nearby Restaurant**'**. However, each of them have their strength and weakness. Moreover, the restaurant and food details also contributed by everyone not the real restaurant owner. Due to that, it might happen redundancy of data and inaccurate information. Therefore, the new app that I developed centralise some of the features of existing similar app and has extra one user role which is restaurant owner.

2.0 Methodology

The methodology that will used to develop this system is the Evolutionary Prototyping. The justification of this methodology being chosen is that the Evolutionary Prototyping will constantly present the prototype to user and receive feedback and suggestion for improvements. On the whole, the delivery of the system is speeded up. The user also engages with the system so that the system more likely to meet user requirements. There are eight phases involved in Evolutionary Prototype process. These steps are initial requirements, system design, prototyping, customer evaluation, review and update, develop, testing and maintenance. Figure 1 display the eight phases of Evolutionary Prototype.

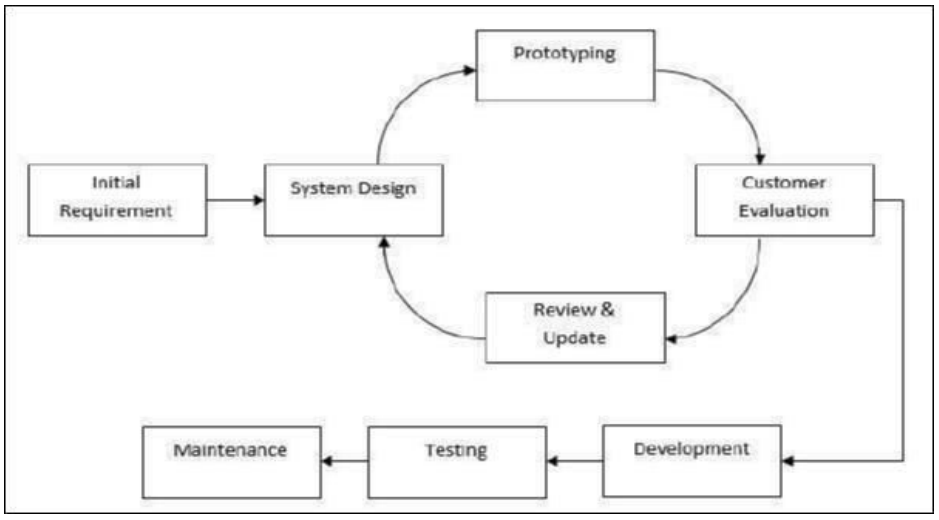

Figure 1 Evolutionary Prototyping

3.0 Result

Table 1 Comparison of existing system with my proposed system

Features	**Foodspotting**	**Restaurant finder**	**Nearby Restaurants**	**Proposed System**
Target user location	Global	Global	Global	Malaysia
Search by name	Available	Available	Not available	Not available
Filter function	Not available	By cuisine, type of place	By distance radius	By distance radius, rating, number of followers
Location in Google Map	Available	Available	Available	Available
Follow restaurant	Available	Not available	Not available	Available
Bookmark feature	Available	Available	Not available	Available
Like feature	Available	Not available	Not available	Available
Forum	Not available	Not available	Not available	Available
Rating restaurant	Not available	Available	Available	Available
Display price in ringgit	Not available	Not available	Not available	Available
Display GST & Service charge	Not available	Not available	Not available	Available
Feedback	Not available	Available	Not available	Available
Add friend	Available	Not available	Not available	Not available
Graph of popularity of each food for restaurant owner	Not available	Not available	Not available	Available
Generate location QR code for restaurant owner	Not available	Not available	Not available	Available
Number of user type	3	2	2	4

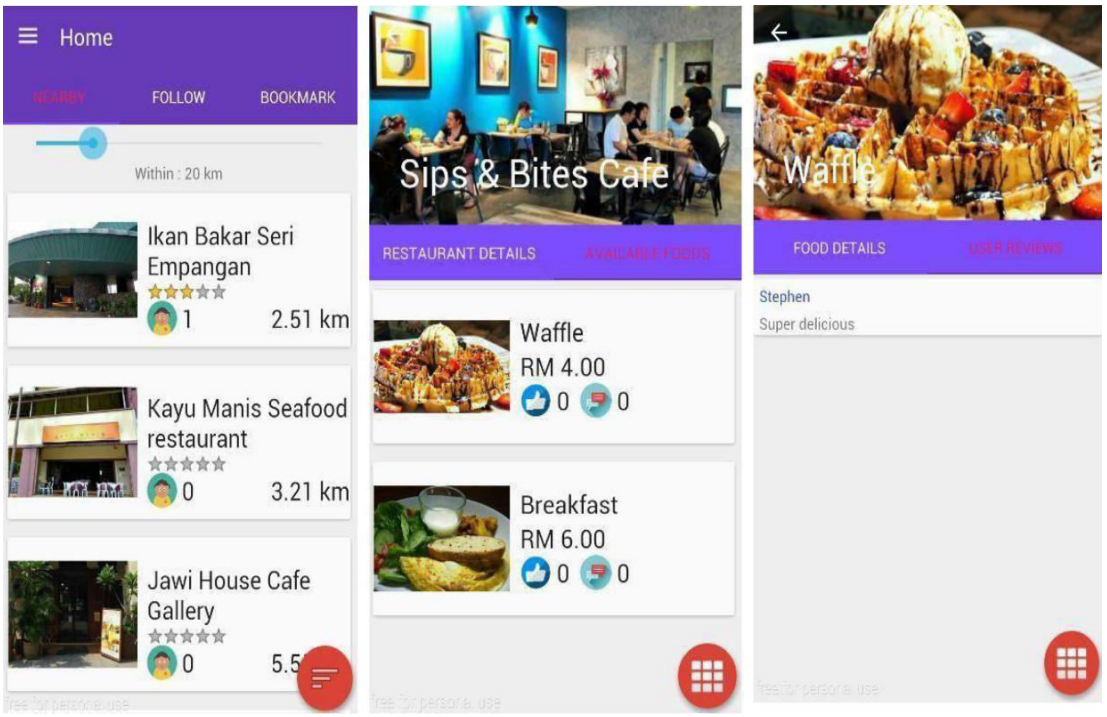

Figure 2 Example of system interfaces

4.0 Discussion

Based on the comparison table in Table 1, we can see that the proposed system has centralize the features of several similar apps as much as possible. Example of features that included in the proposed system are sorting, forum, user interaction, feedback, location QR code, Google map navigation, etc. Besides that, there are 4 user types in the proposed system which are visitor, registered user, restaurant owner and admin. This is to ensure that the high accuracy information of restaurants and foods. The figure 2 above also display some of the main interfaces of this proposed system. It list down the nearby restaurant with their available foods and user's reviews.

The initial three project objectives had been achieved. The proposed system able to collect the user review through crowdsourcing which means that everyone can contribute their opinions towards foods. Besides that, restaurant owner now able to fill in their high accurate details to promote their foods to public for receiving feedback. They also can get a location QR code which can share it to everyone and have an analysis graph to show popularity of each food. Lastly, the system will list down nearby restaurant based on the user's current location with approximate distance. Then, user can link to Google map for navigating to the destination.

This system is still not perfect yet and exist some limitations. Therefore, future improvement need to carry on in order to make this system more robust. Some of the suggestions are adding a private message chatting box and push notification features. Apart

from that, it might be can give user have alternative ways for registration such as by using Facebook or email address.

5.0 Conclusion

In summary, this system had successfully achieved all the objectives which had been set initially. All of these objectives are for developing a location-based food searching mobile application that can be served as an alternative to the current existing system. Besides that, some future plan also be discussed.

With all of these improvements, I believe that the restaurant owner and public in Malaysia will get benefits from using this app. The restaurant owner can have a free platform to promote their foods and drinks as well as get know reviews from public. On the other hand, the public also can easily search the nearby restaurants with provided details and organise their favored restaurants and foods as well as exchange opinions with another user through forum system.

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