

Smart Catalogue Mobile Application (SCM) with Beacon Device

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ABSTRACT

Catalog is one way of promoting their business, goods and services to the customer by way of supermarket, shop and mart. The printed catalogue has been the helpful approach of promoting to the customers for the last decades. Unfortunately, there have been massive issues with such a printed catalogue. The purpose of Smart Catalogue Mobile Application (SCM) is to create a smart catalogue mobile application to the customer smartphone. This application is use Internet of Things product which is beacon device that will detect and send a push notification towards the customer smartphone when the customer enters the store. The SCM project will solve the problem that occurred on printed catalogue. Besides, SCM have many more advantages than printed catalogue which are SCM provide a push notification, SCM provide beacon notification and SCM developed for green development. For the testing of SCM catalogue, WW Food Mart has been chosen to be first store that used SCM catalogue.

KEYWORDS: Internet of Things (IoT), Mobile Development, Web-based

1 INTRODUCTION

The catalogue has been a significant impact on the customer in which they thinking and decisions about what they will buy at the supermarket [1]. The catalogue has been used as a major medium to advertise the product at the supermarket. We need to know whether catalogue helps the customer in buying the product. Besides, the advantages and disadvantages of the catalogue also need to be recognized to create a good catalogue which to give sight for the customer during shopping at supermarket, mart or shop. A survey has been conducted to answer all these questions. Based on the survey, the catalogue is very effective in supporting

decision making for customer buying item. On the other side, paper catalogue lead to wasting paper and disturbing customer because the catalogue was thrown away into the trolley.

The impact from that makes the customer feels annoying when they saw the catalogue been thrown away into a trolley that they want to use. As a result, throwing the catalogue into trolley is one of the habits at the supermarket, mart or shop. The result of the survey also shows that the customer is not alert about catalogue that gives away from the supermarket where the catalogue not distributed to customers and some of the catalogue that been placed at catalogue rack was not noticed by the customer. In the end, the catalogue has only been a replica at the catalogue rack.

In modern technologies, mobile devices have been used as a great platform in advertising product and mobile advertising grows faster as result predict that \$65 billion profit by 2019 only in United Stated. In other hands, mobile devices approaches will maximize customer looking into the catalogue and offer that been advertise. By developing a mobile catalogue, can give more awareness and help in deciding for a customer to buy an item. BLE (Bluetooth Low Energy) beacon is a tool that determines the positioning of the customer into a mall where catalogue will be pop out and notify into customer mobile devices [2]. This technique helps auto push up a notification about offer catalogue. Besides, business advertisement cost process can be reduced because reduce in paper uses and towards the green environment.

2 OBJECTIVES

There are four objectives for this project:

- i. To gather and analyze data needed for SCM.
- ii. To design SCM interface for web-based and mobile application.
- iii. To develop SCM web-based and mobile application.
- iv. To integrate Beacon with SCM mobile application.

3 SIGNIFICANCE (S)

The significance of this project is to improve advertising processes and management using the catalogue at the supermarket. This strategy could really help the supermarkets develop a new approach to advertising their product catalogue. It should make it easier for supermarkets to handle their inventory as well as lower marketing costs. Supermarket can also go for green environment since reducing usage of paper. Business process can be more fluent and fully utilize of catalogue since customer will get push up notification directly when they enter shop. Smart catalogue be new business advertisement processes.

4 METHODOLOGY/TECHNIQUE

The Waterfall Model is chosen to be used in developing SCM is because of its suitability to the project itself. It is suitable because this project is a simple, small and straightforward project and all the requirements can be specified in the early phase of the Software Development Life Cycle (SDLC). Other than that, the approach of this model; which is to not proceed to the next phase until the current phase is all done is also one of the reasons why this model is chosen. By using this approach, it can be ensured that all the tasks and deliverables have been done and achieved before moving to the next phase. Fig. 1 shows Waterfall model phase in SCM.

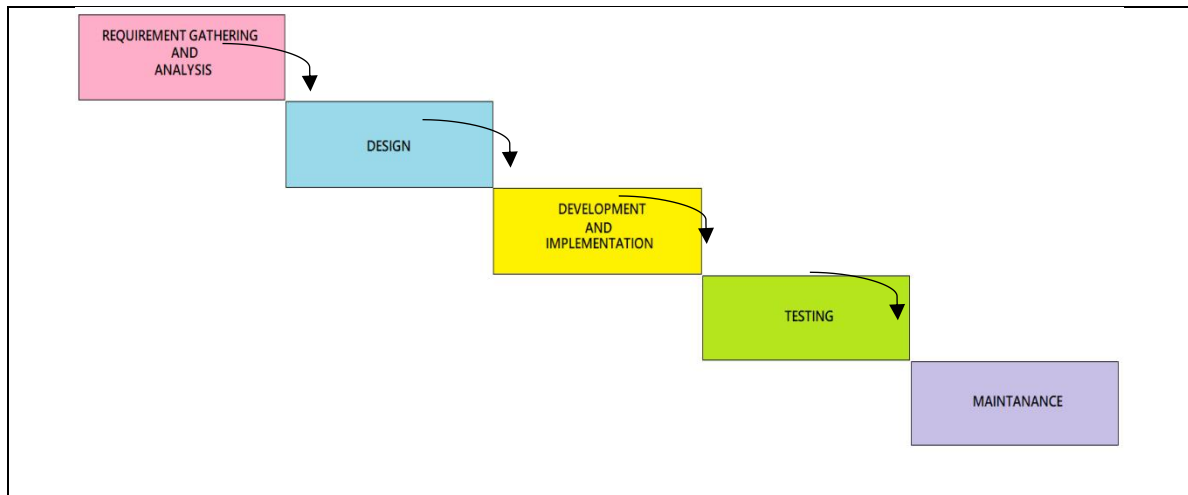


Fig 1 Waterfall model phases in SCM

(Source: Mahalakshmi & Sundararajan, 2013)

5 RESULT

Smart Catalogue Mobile Application (SCM) was created in web-based and mobile application (Refer Fig. 2 and 3). The web-based used to create a new catalogue from management and customer will receive the catalogue throw out the mobile application. These two applications were integrated using one database which is server database. The supermarket management only need to create a new catalogue from the web-based system. Besides, there are features which supermarket management can notify their customer regarding to the new sales and offer and the supermarket. The customer will get a notification through mobile application of the catalogue from the supermarket management.

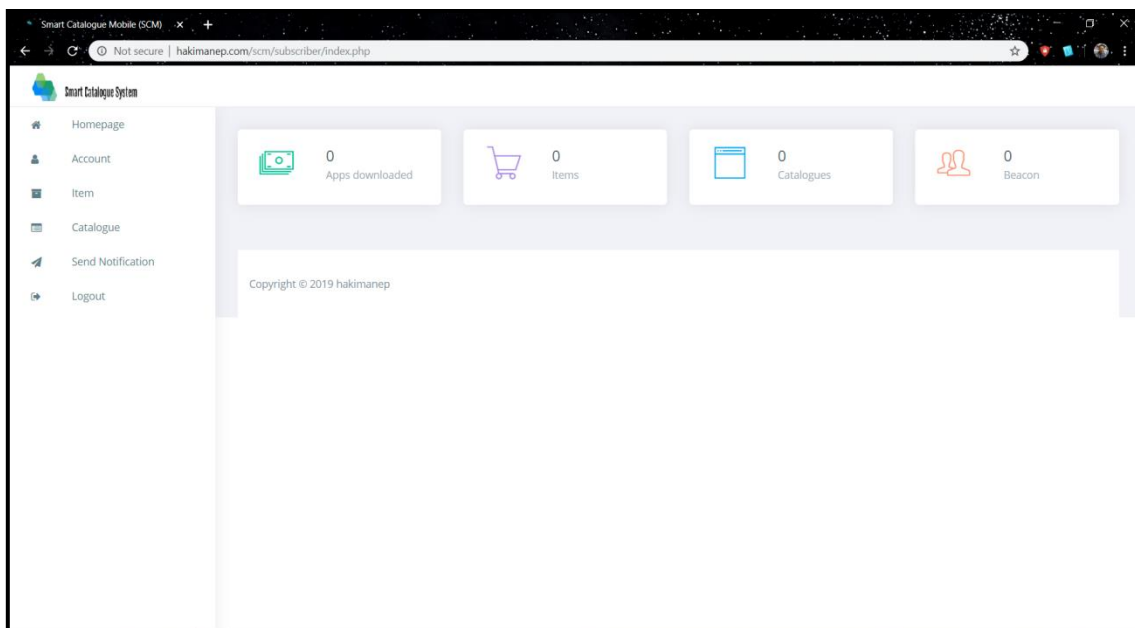


Fig. 2 Homepage for SCM web-based

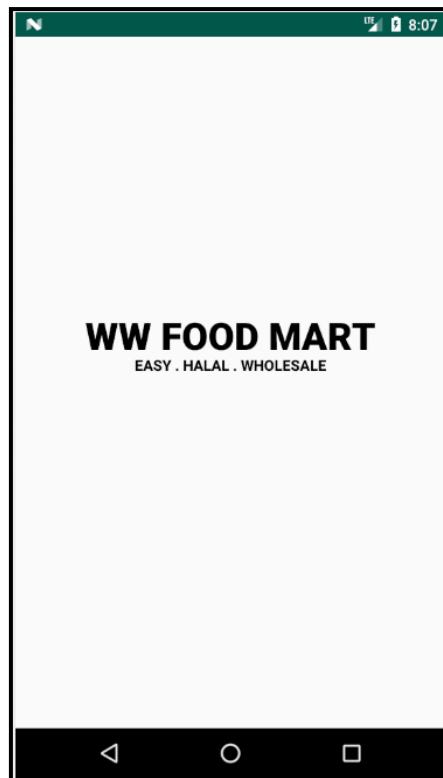


Fig. 3 Home screen for SCM mobile application

6 CONCLUSION

Smart Catalogue Mobile Application with Beacon device (SCM) is web-based system and mobile application with push notification from beacon device. The aim for SCM is to create a push notification catalogue based on android mobile application. Instead of using the printed catalogue that will costly to management and effect to environment wasted using paper. The challenge of this mobile application is limited beacon devices that use to detect the customer as well as give the customer the notification to smartphone. In short, the key of this project development of convenient, secure, and accurate mobile application which is being built on Android platform. All the objectives of this project were achieved after carrying out the activities during each of the methodology phases.

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