The Electronic Market for Hajj and Umrah

[1]Noof Aldieef, [2]Dr.Nabeel Khan

[1]Student, Department of Information Technology, Qassim University, Al Qassim, Saudi Arabia
[2]Assistant professor, Department of Information Technology, Qassim University, Al Qassim, Saudi Arabia

Abstract - **This paper describes an Electronic application market for Hajj Umrah which offers solutions to common problems faced by pilgrims in performing the obligatory and supplementary activities of Hajj and Umrah. Overcrowding of visitors after the performance of Umrah and Hajj duty, in front of and inside shops, which causes continuous congestion within the city. In developing the application the prototype has been proven to be useful in helping the pilgrims to easily perform towards achieving Hajj Mabrour.**

Keywords: Electronic; Application; Market; Hajj; Umrah;

I. INTRODUCTION

Religious tourism is of particular interest to the Kingdom of Saudi Arabia, where it is doing everything possible, to facilitate the comfort of hajj and metamer. The five pillars of Islam are the foundation of Muslim life, and they are religious duties expected for every Muslim.

The five pillars of Islam are the testimony of faith, prayer, giving zakat (support of the needy), fasting during the month of Ramadhan and the pilgrimage of Makkah at least once in a lifetime for those who are eligible. There are two types of pilgrimage in Islam which are Umrah (minor pilgrimage) and Hajj (major pilgrimage). However, they can choose to perform it several times if they are. Both Umrah and Hajj are done in Saudi Arabia in the holy city of Makkah. Umrah is a minor or small pilgrimage. It has a total of five steps. Hajj has a total of 6 essential steps. However, there are additional steps that have to be performed to perfect your Hajj. All of these steps in Hajj and Umrah have a specific period and place that the pilgrims have to adhere to. There are vast numbers that receive the Kingdom every year, where the number of pilgrims and visitors from outside the Kingdom only 8 million pilgrims and visitors.

Saudi Arabia also announced that it is working to enable 30 million visitors to perform Umrah every year by next year. Several methods have been introduced to help the pilgrims while performing the Hajj, including book, booklet and pamphlet. Even though these approaches have been the most popular and widely used, there are some limitations, including difficulties in finding pages.

Today, mobile technology is applied in a wide range of our daily activities [1]. It is rare to get a person who does not have a cell phone, mobile phones have become powerful, useful devices that can carry out professional services and applications such as Global Positioning System (GPS) functionalities, E-Banking, email clients, and web browser besides the typical functions like contacts, calendar, diary, notepad, and voice recorder [2]. Therefore, the idea of creating an online market is a requirement.

Through these papers, I will discuss how to build a standard online market system which can provide safe shopping for visitors and sellers. In the three cities: Mecca, Jeddah and Medina. The idea of the system is to create an electronic market application, based on its service and management by an established company, representing the mediator between visitors and owners of traditional markets, working on the receipt and delivery of purchases, and after sales service to ensure the quality of products, and achieve visitor satisfaction.

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This study for review existing studies on the electronic market for Hajj and Umrah (EMFHU) to based on importance. The paper could act as a starting point to introduce more appropriate guidelines for mobile applications. In Section 2 we present the background. Section 3 presents the steps involve in the development of electronic market for Hajj and Umrah. Section 4 explains the EMFHU System and finally, section 5 covers the conclusion of this study.

1.1 Objective

The aim of this system is to develop a web-based application for the Internet that serves visitors (inside and outside the Kingdom) to perform Hajj and Umrah, in the three cities: Mecca, Jeddah and Medina, to provide convenience and reduce overcrowding in the markets by visitors. The application must have the following:

- Easy to use
- Multi language
- 24 hours support
- Customer ratings, to improve work performance
- Secure payment method
- After sales service
- Provide an electronic store for each vendor
- Store customer information and purchases
- Strong protection system

1.2 Application Needed

The e-shopping application in the three cities is unique and is urgently needed.

1.3 Problem

- Overcrowding of visitors after the performance of Umrah and Hajj duty, in front of and inside shops, which causes a continuous congestion within the city.
- Difficult access to stores, especially small ones, and this reduces the chances of selling these stores and profit.
- Current electronic purchase applications, do not meet the wishes of visitors, in terms of time, they need at least two days or more to deliver the goods, also products may be inappropriate, because they are outside Mecca and Medina.

II. BACKGROUND

In previous studies, several tools and devices have been developed to facilitate the pilgrims in performing the Hajj, in order to facilitate the pilgrims in performing the hajj. We discuss existing related work which aims towards Hajj and Umrah.

The first study explains the development process of the application called Mobile Dua and Zikr for Hajj (MDZ4H). The study shows how the contents of MDZ4H has been prepared and validated and how the experts and users evaluated MDZ4H [3].

The second study researchers at University Utara Malaysia have already developed V- Hajj, a courseware for

learning to perform Hajj, Umrah and Ziarah. It encompasses all the requirements, steps and procedures in performing the Hajj and Umrah. It incorporates interactive multimedia and virtual environments which enables users to learn step-by-step Hajj and Umrah procedures as well as participate in 3D environments in enhancing user experience in performing the Tawaf right [4].

The third introduces study utilizes A-GPS in mobile phone to assist the pilgrims dur- ing Hajj. The main aim of this paper is to discuss about the development of a multi-modal mobile application called the Personal Digital Mutawwif (PDM), using location based services to assist pilgrims while performing all the rituals of Hajj [5].

III. METHODOLOGY

The purpose of this study is to provide system develop a web-based application for the Internet that serves visitors (inside and outside the Kingdom) to perform Hajj and Um-rah, in the three cities: Mecca, Jeddah and Medina, to provide convenience and reduce overcrowding in the markets by visitors.

The development process of this project was based on the prototyping approach. This approach was adapted from Laudon and Laudon (1998) involves three steps which include; developing initial prototype, using prototype, and revising and enhancing proto-type as shown in Figure 1. Each step of the prototyping approach involved sub steps or rules and results. The first step results pass to the next step and so on. The second and third steps can be repeated till achieving a satisfied prototype.
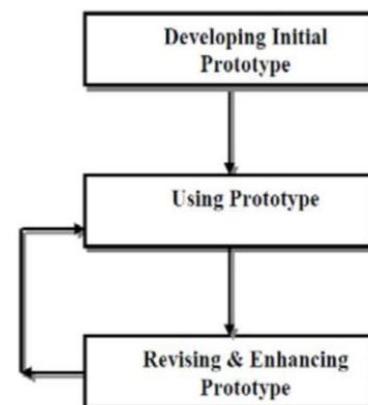

Figure 1: Prototyping Approach

3.1 Developing Initial Prototype: This step involved three activities which include information gathering, content preparation and programming. The activities are as follows:

Information Gathering: In information gathering the required information like the prototype contents were gathered, compiled and verified before they were used in the prototype.

Content Preparation: Those contents have been prepared and organized carefully to be easy to access.

Programming: Finally, the programming activity involved developing the prototype using two programming languages were used which include XML 2.0 and Java. Java programming has been used to develop the logical body of the application. The interface of the system is created by using XML 2.0. Eclipse was used as the integrated development environment (IDE). After that the application was tested by using the Android Emulator to ensure that the code works properly without any error. As a result of this step the Android Application Package (APK) file was created.

3.2 Using Prototype: the developed prototype has been installed in a mobile phone. During the prototype testing, some notes were taken to further improve and enhance in the next version.

3.3 Revising and Enhancing Prototype: In this step the notes that have been taken in the previous steps were considered and applied in the second version of the prototype. After that the APK file was created again to install and test it again until the prototype is fully satisfied.

IV. THE DEVELOPED PROTOTYPE

The prototype is divided into several sections. The following figures show some important design screens in the proposed system, Such as registration screen, login, user list, language change, product display, And payment method. The proposed screen is beautiful and easy to use.
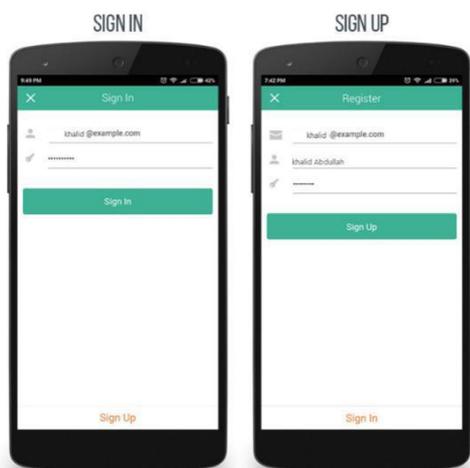
4.1 Login and Register
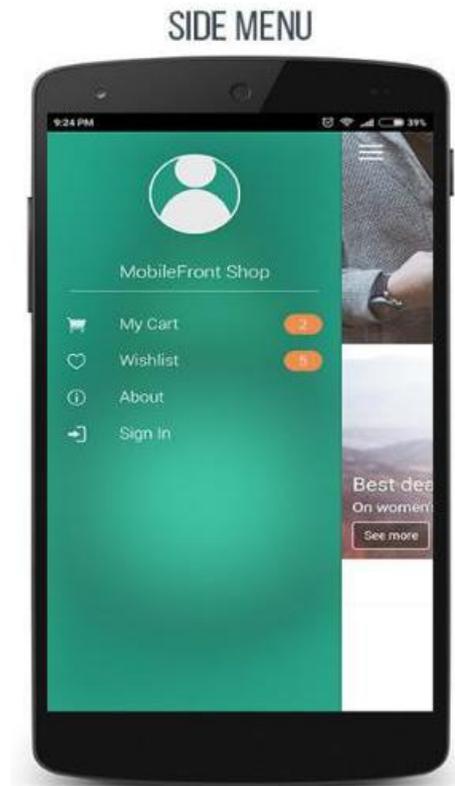

Figure 2: Login and Register

4.2 Main Menu

Figure 3: Main Menu

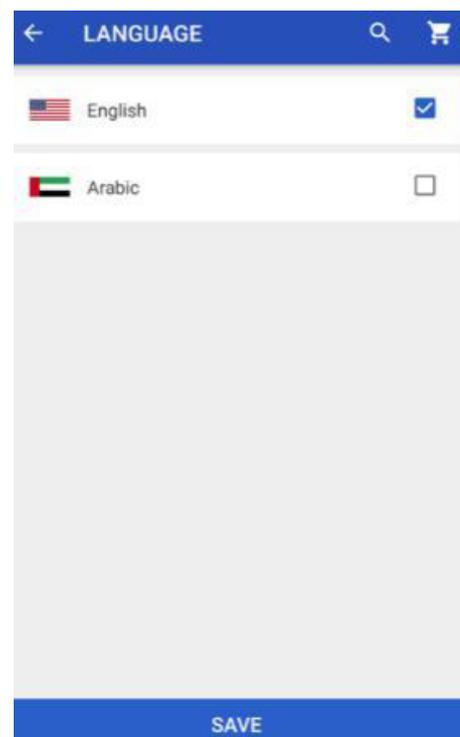**4.3 Change Language**

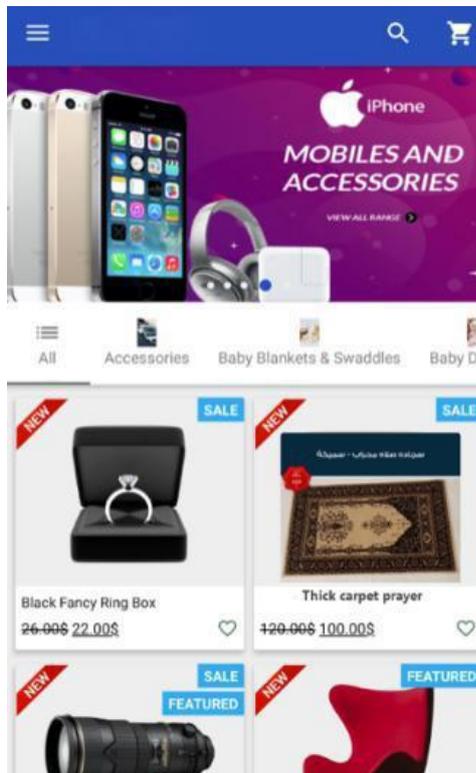**Figure 4: Change Language**

4.4 Main page

Figure 5: Main page
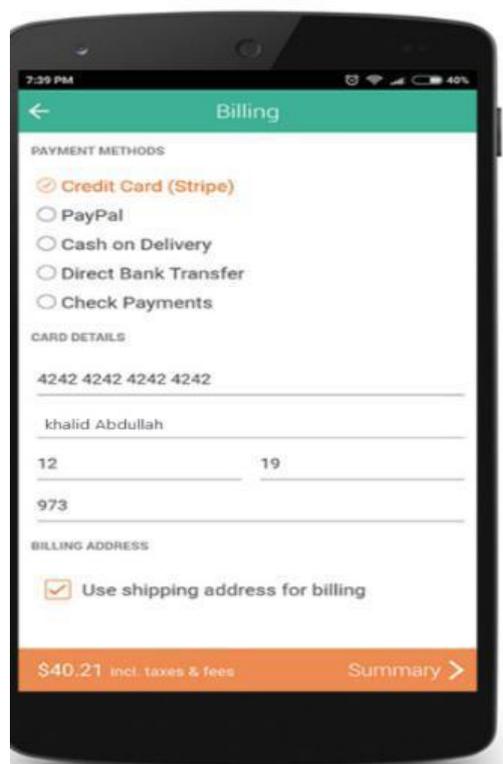
4.5 Billing page

Figure 6: Billing page

V. SUMMARY

The main essence of this research study was the design and implementation of a convenient online shopping system for Hajj and Umrah in the holy cities. When implementing a new shopping system in the holy cities (Mecca - Medina), this will help improve the level of retail sales, relieve congestion in the streets of cities, and bring the luxury of Hajj and Umrah.

VI. CONCLUSION

The results of this paper proved that online shopping system, more convenient than manual shopping, in the holy cities, save effort, contribute to solving the congestion edema in the three cities, the days of Hajj and Umrah.

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AUTHOR'S BIOGRAPHIES

Noof aldieed   Information Technology, Master student at Qassim University, Saudi Arabia.
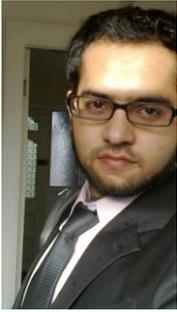
I (**Nabeel Khan**) graduated from the Birla Institute of technologies and Sciences, Pilani in 2010 (Dubai) with a BSc in Computer Science, and completed my MSc in Business Computing from Birmingham City University in 2012. I worked as an IT manager before completing a PhD on proposing a cloud adoption framework for SMEs in 2016 from Salford University (UK). Currently I am working as an assistant professor in Qassim University, KSA.

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