Study of Method to Booking e-tickets for Iraqi Stadiums using the Smartphone

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Abstract

Currently, manual system is being used for the matches booking is too old which need great time and efforts from both of the customers whom used to wait in long queues to get their tickets and the stadium staff whom also spend a lot of time trying to organize the booking process. In addition, cash payment with all of its disadvantages is accepted. The proposed mobile ticketing system will provide an easy way for users to booking their e-tickets for their favorite matches from anywhere and anytime, only it needs to a personal computer or a smartphone and connect to an internet. Therefore, without the need to wait in long queues for a long time. The user will get his e-ticket in a way that will gain a lot of time and efforts for both of the users and the staff. In this study, “the Method of Booking e-tickets for Iraqi Stadiums using the Smartphone” will be introduce. The study has been implemented using five major steps. The prototype will go through Awareness of the problem that will happen through the interview with the person who is in charge at stadium, and the problems that you are trying to solve as well. The main interface of the system will contain some of the box to enter the information about the customers, thus they can make the booking easily. Development, evaluation are the last steps to finalize the system usefulness to be implement in real life. Nowadays, the mobile becomes the most important thing that plays main role in many activities that we need it in daily life. Therefore, this study will depend on a mobile phone application, which is expect to give ease and effectiveness to the users and the administrator’s requirements in saving time, cost and efforts.
Keywords: E-tickets, Wireless Application Protocol (WAP), Mobile Technology, Mobile Application, Wireless Markup Language (WML).

1. Introduction

Globalization makes time most important [1], rapidly to development and quick changes in the Internet, as a result to affect to the method for people look at life. Thus, the internet becomes more important in daily life. Although the most of corporate still at the first steps to understand the potential uses and effects of the Internet and electronic-commerce, development in technologies and their application continue [2].

These advances often present various executives and technological issues for individuals, companies, governments, and other entities. One significant area of technological advancement is the development of mobile e-commerce, which encompasses interactive business activities and processes related to a potential commercial transaction conducted through communications networks that interface with wireless devices. These systems provide the potential for organizations and users to perform various commerce-related tasks without regard to time and location, anytime from anywhere.

The smartphones are playing great role now days. It has the ability to browse the internet and works with web pages very smoothly and efficiently. The widely uses of the smartphones will give the end users more reliability and availability to access the internet anywhere and anytime [3]. The Wireless Application Protocol (WAP) is the main internet protocol that works with mobile devices that support data providing to the very wide range and high number of end users and personal computers. With the benefit of scalability and supporting the information distribution nevertheless geographical limitations. Therefore, WAP becomes a much known protocol and widely used in terms of using the internet in mobile devices.

Nowadays, we can manage our daily life’s activities more facilitated with the rapidly growing of mobile technologies, and no one can deny the great role from using mobile technology in interactive and management of relations between people such as a social relation, commerce relation or the daily life [4]. We can obtain to more details about the company and its work and we can see some of the instructions and the rules with mobile booking. Also, the customer can surf and deal easily with nice applications. In addition, it will make the work of the company’s staff more arranged. Mobile application provides users more flexibility by allowing the users to use Information Technology without being bound to a single location. This technology enables users to access any time in any location.

The example of the usage of mobile and wireless technology given a new application, is using of mobile ticketing which reduce the cost of time, cost and effort. In the other hand, improve ticket validation will make it a good selection choice for concerts, sporting games, movie theaters, and public transportation [5]. Mobile application allows the users to use the Information Technology without being bound to a single
location, provides the users with the flexibility, and enables users to access any time at any location.

The other developed countries have done this long time ago, but since Iraq is a developing country. Therefore, it is necessary to conduct the study to use mobile application for booking the ticket in Iraqi stadiums. Therefore, this Service can develop the life of people, and make it easier and allows people faster booking every time and no need to go to the stadium and make a booking there. This application comfortable with all smartphones that most of people use it, and the use of this prototype is easy and do not have complex procedure and any person can use it.

2. Problem Statement

Iraqi stadiums seeks to provide fun and best services to the people who used to come to watch football, its administrators are trying to help customers to get the tickets in a quick and easy way. A traditional manual and internal system is currently use by Iraqi stadium ticketing counter is staff. Usually, it is difficult to have these tickets due to the huge number of people who used to wait in long lines to get their ticket [6]. Moreover, the customers troubled themselves to the stadium location while the tickets were already sold out as there is no other option to check the tickets availability even by calling stadium phone that is usually busy, or out of service in addition that even if they were lucky enough, they will be obliged to pay in cash. In a fact, the current manual system is facing a lot of problems as it’s wasting time, money, energy and it’s also needed huge physical space for the crowd [7].

As a lot of people do not prefer to carry many devices and personal conversation still so important method of communication, it is so probably that the use of smart mobile will be the most accepted mobile device for future city population [8]. So it will be efficient to design a mobile application to eliminate waiting time in long lines as everyone can make the booking from while sitting in their home, office or street (anywhere anytime). Thus, save time, cost and effort. Furthermore, it is easy for the stadium staff to organize the work and manage all the requests systematically without having a problem. In addition, by application this way, customers do not need to pay in cash as they can use any electronic payment service to confirm their booking. Therefore, this study intends to propose mobile ticketing reservation for Iraqi stadiums to provide better service to customers from one hand, and to facilitate and organize the work of the staff on the other hand [9].

3. Research Objectives

There are three objectives of this study:

- To identify the requirements of mobile ticketing Reservation System.
- To design mobile ticketing reservation for Iraqi stadiums.
- To evaluate the mobile ticketing Reservation System.

4. Significance of Research
This study is considered as a starting point in mobile Stadiums applications in Iraq to implement a booking process, which could open the way for everyone to use these services anywhere and anytime. The significance of this study is to provide details about every match and enable the customers to make booking in an easy and fast way. This study developed to make information easier and effective for the customers. On the other side, this study can bring revenue to the stadiums Companies, by providing this service for customers. Furthermore, this study will also provide many other benefits and as below:

- Expanded help provide service to customers.
- Increase awareness in the booking stadium process.
- Ensure trusted and the speed in finding solutions through mobile anytime anywhere.
- Increase chances of a successful customer booking and reduce problems.

5. Literature Review

5.1 Wireless Technology

The idea of wireless is to make it possible to deliver and accessing information without the need of wires. In e-commerce, wireless technology is being implemented by using the different radio spectrum in any band share video, voice, text or any other multimedia services to mobile devices by passing the time and location limits [10]. There are many types of technologies are currently being used in the wireless communication field, like GPRS (General Packet Radio Service), Wi-Fi (Wireless fidelity), Bluetooth, IrDA (infrared Data Association), UMTS/ 3G, LTE/4G and many others. This part will talk about the WAP (wireless Application Protocol), its architecture and WML (Wireless Markup Language) and any other concerns about this technology.

5.2 WAP Protocol

WAP or Wireless Application Protocol is a networking protocol that provides mobile devices with the needed procedure to communicate with the web servers and retrieve the result on the mobile display, for instance, it’s the protocol responsible to connect mobile devices to the Internet [11]. Initially, when the idea of accessing internet from mobile device appeared, each company used its own protocol to achieve this target, so in order to access the internet; the device should be compatible with the protocol of each company. The lack of standardization of the high growth in the mobile internet industry increased the need to have a standard protocol that can be use worldwide to reduce the users’ confusion and facilitate the developers work. In 1997, WAP was development by Nokia, Motorola, Ericsson and other main vendors in the world, intended to provide mobile Internet service. It was developed in way to standardize the wireless technologies worldwide [12]. Moreover, another conference which had been held on 2002 and attended by about 350 member which represents the world’s main
mobile operators and vendors, they joined together and announced the foundation of the Open Mobile Alliance (OMA).

5.3 WAP Session

A WAP session is an interaction between the mobile device, Telecom operator, WAP gateway and the web server. WAP gateway can be consider as a software that working as a middle point between the mobile device and the Internet. It processes the requests from the mobile device browser, forward it to the related web server, and encode the web content to WML (if it is not in WML) and dividing it into smaller parts to be sent back to the mobile device browser. The WAP gateway has two main functions:

i. Protocol Gateway: Translates WAP protocol request to the WWW protocol request (HTTP and TCP/IP) and vice versa.

ii. Content Encoders and Decoders: Translate Web content into compact encoded formats to reduce the size and number of packets traveling over the wireless data network.

WAP phone is not able to communicate in a direct way with the internet, as each side has different markup language to work with almost all websites used to be built by using Hypertext Markup Language (HTML) but from the other hand [10], WAP is used WML. One of the main reason of not using TCP/IP and HTML in WAP is the limitation of the data that can be sent on the wireless network. Therefore, WAP was initial developed to minimize the needed bandwidth. WAP phone need a special network component called WAP gateway that will do the needed conversion and synchronization. Figure (1) below shows the process flow, it assumes that the user is already connected to the internet [13].

![The WAP Process Flow Source](image_url)
In fact, TCP/IP is a more efficient protocol to send and receive data between the Internet and computer. However, large data is being transfer in the network to bring the needed information back to the computer screen. Mobile unlike an ordinary computer has many limitations such as low storage capacity, small screen, low power and processing in addition to the limited input capabilities. In addition, the possible data that can be transmit by the wireless network is also limited because of the limited bandwidth. WAP protocols were especial designed and developed to overcome these limitations.

5.4 Mobile Technology

Mobile technologies have a large number of uses varieties and limitations that make it very different if compared with personal computers (PCs) and it is a good time to think for a mobile phone handset to be using for tickets reservation.

i. Mobile devices are seen to be personal, may be more personal than household equipment or even laptops, as they are usually carried by its owner anytime and anywhere. In fact, nowadays, mobile phones are considered to be the first device that can be considered to be a personal communication device [14]. In addition, when a mobile phone rings, they called usually expect that the owner of the mobile will answer the call and no one else.

ii. Mobile commerce is the use of information and communication technologies for the purpose the integration of mobile devices into the business processes, and for the sake of the management of business relationships. From the other hand, mobile commerce is similar to the E-commerce when users can make purchases through the Internet [15].

Mobile commerce can be using in a wide variety of applications including telecommunication, Information Technology, Finance and the media as well as for the end-users. Mobile Commerce applications refer to the merging of business and services by using the mobile devices. These applications can be categorize into transaction management and digital content.

iii. Mobile ticketing is a new service that can be given to the mobile device users by depending on the mobile commerce technology. It gives a fast and easy way for people to connect with their mobile audience in a secure and convenient way [16].

Mobile ticketing contains many applications such as follows:
- Cinemas, concerts, theaters, museums, and stadium.
- Transportation.
iv. Mobile booking gives the capability to the people to do their ticket booking by using their mobile phone browsers. This provides high quality service to the customers who does not have internet access through their PCs or if they want to perform the booking when they are on the go. The online booking is not a PC exclusive feature anymore.

6. Research Methodology

For design the research methodology, there are many ways to do that. The most common methods which many researchers adopted it's in the information technology research depend on the aim of the study are prescriptive method and descriptive method in research [17]. In a descriptive method the researcher will focus of information about reality which concerned with the study, thus try to improve system performance [18]. The use of frameworks is more generally to design a research base, and contribute to the augmentation of the knowledge base through scientific investigation. The major steps of the research methodology design include Awareness of Problem, Suggestion, Development, Evaluation and Conclusion [19]. As shown in Figure (2).

![Fig.2) Research Design Methodology [19]](image)

6.1 Awareness of Problem

This step considers the most important in research methodology to understand and determine the problem. Thus seek to find and suggest the solution for existing problems of Iraqi stadiums, this will happen through the interview with some employees who are working in the Stadium and ask them about their work and what is the problems, which they suffer it. Therefore, we should have a whole awareness of the problem even we can solve this problem and provide all the customer's needs to make a ticket booking by using mobile devices anywhere any time.
6.2 Suggestion

In this study, the customers can access and get the ticket information from this system in easily method. The temporary design will be the output of this phase. The main interface of the system will contain some of box to enter the information about the customer, and the customer can see the whole information of the stadium. They can show the details about the match, thus they can make the booking easily.

6.3 Development

In this step, we shall develop “the Method of Booking e-Tickets for Iraqi Stadiums using the Smartphone”. The system will be used as a method. There are three steps includes in prototype process. The first step is interacting between the prototypes and the users, and the second step is users can have a good idea of their information requirements. The third is users approved the application if it can be used as a final system.

6.4 Evaluation

After finishing the development of the proposed system will be evaluated it through make simple questionnaire and distributed to people who used it, and ask them about the performance and the quality of the system. In addition, we can note the range the sale of tickets for Iraqi stadiums through the new system and compare it with the previous method, thus we will know the result if it is good or not. So, each proposed system needs to evaluate because this step so important in information system development and assist to improve the quality of the system. As well as this step considers the feedback stage, that support and guarantee the power and success of the work.

6.5 Conclusion

In my opinion, and as you know currently, the mobile becomes the most important which plays main role in many activities that we need it in daily life, so everyone can see the importance of it. In fact, it became like a backbone for our society, which can make everything to be done in an easy and efficient way. The other developed countries had done this long time ago, but since Iraq is a developing country, there is necessary to conduct the study in this side. So this study proposes mobile ticketing booking system to get a ticket for watching the match in Iraqi stadiums and will simply make ticket reservation and done in a short time.

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