

HOTEL PROMOTION USING PUSH-BASED TECHNOLOGY

W.ZAKIRA BT WAN MOHD NAJIB

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Faculty of Computer System & Software Engineering

Universiti Malaysia Pahang

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ABSTRACT

Hotel Promotion Using Push-based Technology (HPUPT) is a promotion about hotel that uses the Push-based Technology. In this hotel promotion case, Simple Messaging System (SMS) will be sending as the advertisement to attract the customers' attention to know the details of the promotion. HPUPT system will introduce a new way of advertisement technique from emailing system to the most popular communication equipment, mobile technology. This system also provides ease of use and flexibility to the administrator to do promotion about the hotel through mobile application as administrator can edit and update the advertisement at anytime. In order to make sure that the development of the project can be conduct in a smooth way, System Development Life Cycle (SDLC) method is selected. The Systems Development Life Cycle (SDLC) is the process of creating or altering systems, and the models and methodologies that used to develop the systems. The entire interface for Hotel Promotion Using Push-based Technology (HPUPT) system will be designed to be as friendly as possible. All the details about the promotion should be simple but compact and clear enough for customers to understand and get enough information about the promotion.

ABSTRAK

Hotel Promotion Using Push-based Technology (HPUPT) adalah sebuah sistem tentang promosi hotel dengan menggunakan kaedah Push-based Technology. Dalam kes promosi hotel ini, Sistem Pesanan Ringkas (SMS) akan dihantar sebagai iklan untuk menarik perhatian pelanggan untuk mengetahui butiran promosi. Sistem HPUPT ini turut memperkenalkan cara baru dalam teknik pengiklanan sebelum ini seperti daripada sistem emel yang amat popular kepada peralatan komunikasi iaitu teknologi mobile. Sistem ini juga menyediakan kemudahan dalam penggunaan dan fleksibiliti untuk pentadbir dalam melakukan promosi tentang hotel melalui teknologi mobile yang mana pentadbir boleh mengedit dan mengemaskini iklan pada setiap masa. Dalam rangka untuk memastikan bahawa pembangunan projek boleh dilakukan dengan cara yang paling berkesan, kaedah System Development Life Cycle (SDLC) telah dipilih sebagai metodologi projek. Systems Development Life Cycle (SDLC) adalah proses mencipta atau mengubah sistem, serta model-model dan metodologi yang digunakan untuk membangunkan sistem. Kandungan interfaces untuk sistem Hotel Promotion Using Push-based Technology (HPUPT) akan direkabentuk sebaik mungkin untuk menjadi mesra pelanggan. Semua butiran tentang promosi adalah ringkas tetapi padat dengan informasi mengenai promosi yang sedang dijalankan.

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CHAPTER 1

INTRODUCTION

The first chapter of this report presents an outline of the entire project and the introduction into problem statements, objectives and project scopes.

1.1 Introduction

Push-based technology describes a style of Internet-based communication where the request for a given transaction is initiated by the publisher or central server ^[1]. Push-based technology usually was used in messaging and emailing system which the information that sent without getting any request from recipients. Hotel Promotion Using Push-based Technology (HPUPT) is a promotion about hotel that uses the Push-based Technology. HPUPT will be implementing in mobile since current advertisement method just only through emailing, newspaper and television. Mobile technology is chosen for the implementation because of the mobile technology is the most popular technology that being used by everyone without range of age. So, the promotion can be distributed quickly. There were many advertisements that already used mobile device as the medium for the

promotion but the promotion mostly about entertainment such as ring tones, mobile games and ticket for concert. As mobile device already become the most popular medium for any advertisements, the mobile device was an advantages to be taken for the hotel promotion.

In this hotel promotion case, Short Message Service (SMS) will be sending as an advertisement to attract the customers' attention to know the details of the promotion. This HPUPT system provides two functions in one system. The first one is by sending message to customers about the promotion that will be held in the hotel. The other one is about keeping the data of promotion which mean that all the information about the promotion that will be distributed by the hotel will be saving in database. So, administrator can search and edit the promotion at any time that they want. By using this method, admin can only just edit the advertisement in case that the advertisement is similar to older posted advertisement.

1.2 Objectives:

- i) To develop the Hotel Promotion Using Push-based Technology (HPUPT) application.
- ii) To provide ease of use and flexibility to the administrator to do promotion about the hotel through mobile application as administrator can edit and update the advertisement at anytime.
- iii) To apply the client-server system into push-based technology which admin only just send the promotion to all the customers. The customers do not need to register via SMS to get the advertisement.

1.3 Scopes:

- i) The HPUPT system will be used by the administrator in the hotel, especially for the staff that responsible for the promotion of the hotel at the marketing department.
- ii) The promotion will be send to the registered customers only which means that for the customers that already become members once the customers fulfill a member form for the first time the customers stayed at the hotel.
- iii) The Visual Basic Studio (VB.NET Mobile) software will be used to develop the HPUPT system. The device that will support this software is the GSM Modem which will be used to send the SMS to customers' mobile phone. GSM Modem is chosen to connect between PC as the server and customers' mobile phone.

1.4 Problem Statements:

- i) The current system mostly does the promotion through email. The promotions that make through email are not longer appropriate because not everyone will check for emails for everyday and there were also email that was sent as a spam email. By using HPUPT that send the promotion directly to the customers' mobile, customers will know about the promotion just for the second the customer receive the message.
- ii) There were also some hotels that sent the advertisement about the hotel promotion through newspaper, television and also by postman that were sending a pamphlet to house by house. The problem from this method was the administrator from the hotel did not get any warranty that the customers will received the advertisement pamphlet. The advertisement through television or newspaper cannot be edited at last minute and by using HPUPT system, administrator can edit or update the advertisement at any time.

iii) Promotion that had been sent through Multimedia Messaging Service (MMS) was not always support all types of mobile phone. There are some mobile phones that cannot support the MMS and by this situation, not all the customers can read the message. Thus, HPUPT system offers the simple promotion that can be support by any type of mobile phones.

CHAPTER 2

LITERATURE REVIEW

Literature review is the ways to find out all information that will be used in order to develop this system. In this chapter, all the research that related with this system will be analyzed. This chapter contains about the mobile technology and about push-based technology.

2.1 Mobile Technology

2.1.1 History

Mobile Technology in general is defined as any technology of mobility such technology as in cars industry, notebooks, PDAs and cellular phones. Mobile Technology mostly used in a communications technology using unguided media transmission such as radio wave, microwave, infra-red and Bluetooth. Therefore, users can transfer any type of data with mobile technology such as voice, video, texts and others. The fascinating world of

mobile computing has only been around since the 1990s and become a very powerful tool for both businesses and personal use. Mobile computing actually is a technology that is not physically connected to any static network ^[2].

History of mobile technology chronicles the development of radio telephone technology from two-way radios in vehicles to handheld cellular communicating devices. In the beginning, two-way radios were used in vehicles such as taxicabs, police cruisers and ambulances. This two-way radio is not considered as mobile phones because they were not normally connected to the telephone network. Users could not dial phone numbers from their vehicles. A large community of mobile radio users popularized the technology that brings a way to the mobile phone to go on a right track.

Originally, mobile phones were permanently installed in vehicles, but later versions were equipped with a cigarette lighter plug so that they could also be carried. Then, it could be used as either mobile or as portable two-way radios. During the early 1940s, Motorola developed a backpacked two-way radio, the Walkie-Talkie and later developed a large hand-held two-way radio for the US military. This battery powered "Handie-Talkie" (HT) was about the size of a man's forearm ^[3].

2.1.2 Current Issues

These days, most laptops and personal digital assistants all have wireless cards or Bluetooth interfaces built into them for convenient mobile internet access. Other common tools for mobile computing include smart phones. Tons of PDA software development has been going on in the past five years simply because PDA technology becomes more available to the general public.

Pocket PCs are another way to conveniently access the internet on the fly as it become much easier to use. Most Pocket PCs use the familiar Windows interface, allowing the general public to access the internet via the usual Internet Explorer or other ISPs. Also, people can easily download useful software, including games, Media editing tools, organization tools, and even electronic books.

On the other hand, one of the most difficult problems facing government managers who want to implement new technology is anticipating how it will affect work. Of course, the primary goal is to improve performance. However, it is nearly impossible to take into account all the human, organizational, and external influences that may impact how well that goal is achieved. Until the technology is put to work, planning is often little more than speculation. This is particularly true with mobile technology, which may have substantial potential, when combined with wireless networks, to expand the time, locations, and effectiveness of many types of government work. Fully exploiting this potential, however, presents a complex problem for government managers ^[4].

2.1.3 Latest Application

There are a lot of uses in mobile computing technology as it can improve the service offered to customers. For example, laptop computer could be used to give a presentation to the customers and then transfer the details of information of the product literature to the client's computer or client's mobile. Other than that, mobile application could connect remotely to a diary to arrange a follow-up appointment. Alternatively, mobile application can enable customers to pay for services or goods without having to go to the till. For

example, by using a wireless payment terminal diners can pay for their meal without leaving their table.

More powerful solutions can link directly into the office network while working off site, for instance to access the company's database or accounting systems. For example, user could set up a new customer's account, check prices and stock availability and place an order online. This leads to great flexibility in working as enabling home working, or working while traveling. Increasingly, networking 'hot spots' are being provided in public areas that allow connection back to the office network or the internet.

2.1.4 Short Message Service (SMS)

Short Message Service (SMS) is a communication service component of the GSM mobile communication system, using standardized communications protocols that allow the exchange of short text messages between mobile phone devices. SMS text messaging is the most widely used data application in the world. SMS is also often referred to as texting, sending text messages or text messaging. The service allows for short text messages to be sent from one cell phone to another cell phone or from the Web to another cell phone ^[10].

The idea of adding text messaging to the services of mobile users was latent in many communities of mobile communication services at the beginning of the 1980s. The technical development of SMS was a multinational collaboration supporting the framework of standards bodies, and through these organizations the technology was made freely available to the whole world. SMS use for personal communication is rapidly increasing in popularity. In 2000, less than 20 billion SMS messages were sent but by 2004

that number had grown to in excess of 500 billion messages. The largest market for SMS is Southeast Asia, with Europe just behind.

Unlike an e-mail, an SMS is much more likely to be read by a person at any one time, since the majority of people have their mobile phones at arms reach 24 hours a day. Of course the same also applies to a phone call. Unlike a phone call, an SMS message is automatically stored where it can be re-read. This proves particularly useful in the case of fairly detailed information that might otherwise be forgotten. SMS as it currently stands is relatively SPAM free. Although this may change over the next year or so, at present it is the ideal communication channel to cut through the clutter. As a result, marketing departments worldwide are climbing aboard to try and target their customers in this one-on-one manner that has 'message opening rates' soaring way above any other medium ^[11].

Through text messaging, business people could save lot of their time as well as money, while taking the chance of giving them a means of offering great customer service and helps them to increase their sales. Text messaging actually brings sensitive information that correlates into the client's demand in the real time. This medium is also a cheaper alternative to uphold businesses and services. However, it is of great essence that when you are advertising your business through SMS messaging, simply keep your message concise and clear. Most of the readers could not understand lengthy advertisements.

2.1.5 GSM Modem

A modem (modulator-demodulator) is a device that modulates an analog carrier signal to encode digital information, and also demodulates such a carrier signal to decode the transmitted information. The goal is to produce a

signal that can be transmitted easily and decoded to reproduce the original digital data. Modems can be used over any means of transmitting analog signals, from driven diodes to radio.

A GSM modem is a specialized type of modem which accepts a SIM card, and operates over a subscription to a mobile operator, just like a mobile phone. From the mobile operator perspective, a GSM modem looks just like a mobile phone. A GSM modem can be a dedicated modem device with a serial, USB or Bluetooth connection, or it may be a mobile phone that provides GSM modem capabilities ^[12].

GSM modems can be a quick and efficient way to get started with SMS, because a special subscription to an SMS service provider is not required. The mobile operator charges for this message sending and receiving as if it was performed directly on a mobile phone. In most parts of the world, GSM modems are a cost effective solution for receiving SMS messages, because the sender is paying for the message delivery. A GSM modem could also be a standard GSM mobile phone with the appropriate cable and software driver to connect to a serial port or USB port on your computer.

2.2 Main Domain That Use Push Based Application

Push-based technology describes a style of Internet-based communication where the request for a given transaction is initiated by the publisher or central server ^[1].

2.2.1 Entertainment

One of the main domains that used push based technology is in entertainment world. In this entertainment field, push based technology widely used to advertise the songs, games or online betting. For music industry, push based technology is used in order to spread about caller ring tones, ring tones and mp3 download. There are many email or Short Message Service (SMS) that be sent to many people without they requested that. Besides about ring tones and mp3 song, there are also Multimedia Message Service (MMS) about gossip of famous nowadays celebrities.

Other than music industry, there are also emails or SMS about how to get games either downloading or online games. Teenagers nowadays really interested in such games things. The games sometimes become one of their entertainments especially during their free time. Beside games, online betting also becomes very famous among teenagers.

Mobile solutions are right under everyone's nose these days, and connectivity has never been easier. So that, everyone will increase their skills in order to get the best replies from customers.

2.2.1.1 Example of push-based technology used in entertainment

There are some example of push-based technology that been used in entertainment field. The most popular is about the caller ring tones.

PERCUMA 1 CRT!
 1. Fiqir Fiqir – Ahli Fiqir;
 2. Khatimah Cinta – Sixth Sense;
 3. Ku Pinjam Satu Bintang – Alyah
 Utk terima, SMS 1, 2 atau 3 ke
 27704 sblm 18Oct (8537)

Figure 2.1: HitCRT SMS

Dapatkan gossip2 hangat & terbaru
 ttg artis kesayangan anda. Utk
 terima, htr ON GOSSIP ke 22228.
 Nantikan gossip2 yg terbaru.

Figure 2.2: Celebrity Gossip SMS

2.2.2 Sport

Nowadays, people could get the sport result only from their mobile which be sent using SMS without watching their favorite match of their favorite team either by watching it from television or going to stadium. Many companies nowadays grab the chance according to the people interest nowadays which are really like the football very much especially for the teenagers. They are very obsess about their favorite team especially team from over the world such as Liverpool, Manchester United, Chelsea and others.

They want to know about all the result from the entire match although they can watch the match. So, this is the chance for the involve companies to