FSKKP ALUMNI SYSTEM

NUR AINE BINTI OMAR

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ABSTRACT

With the growing need for wireless Internet access, the web designers are now encountering a new challenge in creating support for mobility. Also, mobile access is based on different demand of information than conventional web usage. Wireless Application Protocol (WAP) enables easy fast delivery of relevant information and services to mobile users with wireless terminals with limited displays and data transfer capabilities. It is a specification for a set of communication protocols to standardize the way in which cellular devices use Internet access. The WAP technology which is implemented in an alumni system of Faculty Computer System and Software Engineering (FSKKP) is suitable for user who wants to be one of the alumni member club for a period time. The system contained 4 functions for members which are register function, search function, profile function, and news function. The problems that always occur are the difficulties to get the feedback from faculty ex-students about their life after graduate. From the research, there are several problems highlighted. It takes times to search for internet connection to register to be one of alumni members and also the students must connect to internet to view the alumni website to know the information about Faculty Computer System and Software Engineering (FSKKP), Nowadays, every alumni are built in website and members must online to know about the latest news of the alumni. Its causes the lack of attention from members because they prefer to focus on something else like mobile phone which more easily to bring and use. The objectives of this project are to develop alumni management system for FSKKP and to provide easier way for user to register as a part of alumni by using General Packet Radio Service (GPRS) in mobile service.

ABSTRAK

Dengan perkembangan pelayaran internet tanpa wayar, pereka web sekarang memasuki cabaran yang baru untuk mencipta sesuatu yang boleh ditampung oleh alat mudah alih.Begitu juga, penggunaan mudah alih yang berdasarkan kepada perbezaan maklumat daripada penggunaan web. Protokol Aplikasi Tanpa Wayar (PATW) menjadikan penghantar maklumat dan servis yang cepat kepada pengguna mudah alih dengan terminal tanpa wayar bersama penghad penunjuk dan kebolehan penghantaran data. Ia adalah spesifikasi untuk set protokol komunikasi untuk menyamakan cara di dalam alat mudah alih yang menggunakan akses dalam talian. Teknologi PATW dimana mengaplikasikan dalam sistem alumni Fakulti Sistem Komputer dan Kejuruteraan Perisian (FSKKP) yang bersesuaian dengan pengguna yang hendak menjadi salah seorang daripada ahli kelab alumni untuk jangka masa tertentu. Sistem ini mengandungi 4 fungsi untuk ahli iaitu pendaftaran, pencarian, profil, dan berita. Masalah yang dihadapi ialah kesusahan untuk mendapatkan maklumbalas daripada bekas pelajar fakulti tentang hidup selepas tamat pengajian. Melalui kajian, terdapat sedikit masalah yang dikenalpasti. Bekas pelajar perlu mengambil masa untuk mencari internet untuk mendaftar sebagai salah seorang ahli alumni dan juga pelajar mesti mengakses dalam talian untuk melihat laman jaringan alumni untuk mengetahui maklumat tentang FSKKP. Kini, setiap alumni dibina di dalam laman web dan ahli mesti mengakses internet untuk mengetahui berita terkini tentang alumni. Ini mengakibatkan kesukaran penarikan perhatian ahli kerana mereka menumpukan perhatian kepada benda lain seperti telefon mudah alih dimana senang dibawa dan digunakan. Objektif untuk projek ini ialah untuk membangunkan sistem penyusunan alumni untuk FSKKP dan memudahkan pengguna sistem untuk mendaftar sebagai ahli alumni dengan mengaplikasikan teknologi GPRS yang ada di dalam servis telefon mudah alih.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

With the growing need for wireless Internet access, the web designers are now encountering a new challenge in creating support for mobility. Also, mobile access is based on different demand of information than conventional web usage. Getting bus time tables right in the mobile phone while waiting for a next bus on the way to work, reading e-mails by GSM before entering the office and checking the web pages of a customer firm just before first meeting, get the map for journey are all examples of the need of mobile access to Internet and other web services.

Wireless Application Protocol (WAP) enables easy fast delivery of relevant information and services to mobile users with wireless terminals with limited displays and data transfer capabilities. It is a specification for a set of communication protocols to standardize the way in which cellular devices use Internet access, including www, newsgroups, e-mail and IRC.

The WAP technology which is implementing in an Alumni system of Faculty Computer System and Software Engineering (FSKKP) is suitable to use for user who

want to be one of the alumni members club for a period time. The system will gives many function to user choose depends on the status of user either they as a members or not members. The system contained many function for users which are register, news, profile, and search and user can access this system by 2 approaches which are web based and mobile.

The register function use when user is not in a member of organization. They must login into the system to use the other function and explore the system. The unregistered member can view the news only. There is also has admin website to control the data of FSKKP Alumni System.

1.2   Problem Statement

For post graduate student of Faculty Computer System and Software Engineering (FSKKP), relationship between friends from same faculty is most important to taking care of because friends are place to share story with. The problems that always occur are the difficulties to get the feedback from faculty ex-students about their life after graduate. From the research, there several problems highlighted:

i.   It takes times to search for internet connection to register to be one of alumni members. The students must connect to internet to view the alumni website to know the information about Faculty Computer System and Software Engineering (FSKKP).

ii.   The alumni organization is always based on website. The information about the alumni organization is not easily delivered to post graduate student.

So, hopefully these problems can be reduce after developing this system and can be one of technologies use in Universiti Malaysia Pahang (UMP) which also can be implementing in each faculty and every organization.

1.3   Objective

The objectives of this project are:

i.   To develop the easier way for user to register as a part of alumni by using General Packet Radio Service (GPRS) in mobile service.

ii.   To develop alumni management system for FSKKP.

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1.4   Scope

There are few scopes been identified in order to complete the system. The scopes are:

i.   Module: There are 4 main modules which are register module, news module, search module, and profile module.

ii.   Mobile networks: The new generations (2.5G, 3G, and 3.5G) support data services provide an always-on connect capability, with typical data transfer rates of about 50 kilobits per second (kbps) for 2.5G, about 144 kbps and higher for 3G and up to 42 Mbit/s downlink and 84 Mbit/s for 3.5G and above.

iii.   Pricing models: Based on volume of sent packets or else on a flat monthly fee such as broadband subscribe for a day(RM6.00) or for a week (RM20.00)

iv.   Alumni member: Post graduate students from Faculty Computer System and Software Engineering (FSKKP) of Universiti Malaysia Pahang (UMP).

v.   System: Web based and mobile based. For admin, the different website is built to control the management of alumni website. For user, there are two ways to access the system. User can online from computer and also can access by phone browser.

1.5   Thesis Organization

This thesis is divided into 6 chapters and each chapter is devoted to discuss different issue in the project.

Chapter 1 is discussing on introduction to the project which is presented along with the project's problem statement, objectives of the project and the scopes of the project.

Chapter 2 is discussing on literature review which is contained the researches to related articles and sources about the project.

Chapter 3 is discussing on methodology. The project planning, analysis, design, development, testing and specification of hardware and software are presented.

Chapter 4 is briefly explained about the implementation process to build this system. Implementation of the coding of the system is presented in this chapter according to methodology.

Chapter 5 is briefly explained the result and discussion after implementation of the system. The test result from the system is presented along with the user testing result and the developer testing, the advantages and disadvantages of the system, the constraint occur when develop the project, and assumption and future research about the system are presented.

Chapter 6 is briefly explained about the conclusion of the project. The summary of the project is presented.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Mobile technology like cell phones, nowadays have become a part of communication and connectivity device for millions of developing world. In the world of mobile technology now, many applications using mobile has be lunch like mHealth which have function related to health, the application related to work like searching for the job, the needs of human, the function to reserve, and it also can help the agency and company to be a success organization in the world. Most people involved in information technologies over the last 10-15 years, whether in the developed or developing world. In Malaysia, the total population which using mobile are about 25 million people and it is a huge amount for this country.

Mobile devices can be enabled to use a variety of communications technologies such as wireless fidelity (WiFi), Bluetooth, "Third Generation" (3G), global system for mobile technology (GSM), general packet radio service (GPRS) data services, dial-up services, and virtual private networks (VPNs). It is therefore possible to network the mobile device to a home office or the Internet while traveling.

The next section will discuss on related system with alumni, the example of alumni website in Malaysia and International, about mobile system, approach in mobile system and the conclusion of overall research about this project.

2.2   Related System

Previous research suggests students, who are active in life of college campus, primarily through voluntary association in student activities and organizations are likely to be more generosity toward other people than those who less involved, or not involved at all. According to Anoka-Ramsey Community College, institutional committed to building alumni connection and the desire to invest over time. Alumni will be informed of and invited to be a party to the growth of the system. Simultaneously students will be exposed to alumni and the idea that alumni return, stay involve, and have many continuing opportunities with institution. The mission of alumni system is to champion and advance the college by supporting alumni in the lives the live today. This support is manifested primarily through events and services that provide educational, social, networking, cultural, and service related opportunities. Alumni system responds to requests from alumni for connection to campus resources. Anoka-Ramsey also states the goals for alumni system [10]:

i.   Nurture the expectation that alumni stay connected, returned, and give back.

ii.   Serve the audience by knowing the audience.

iii.   Create a climate of trust and good will.

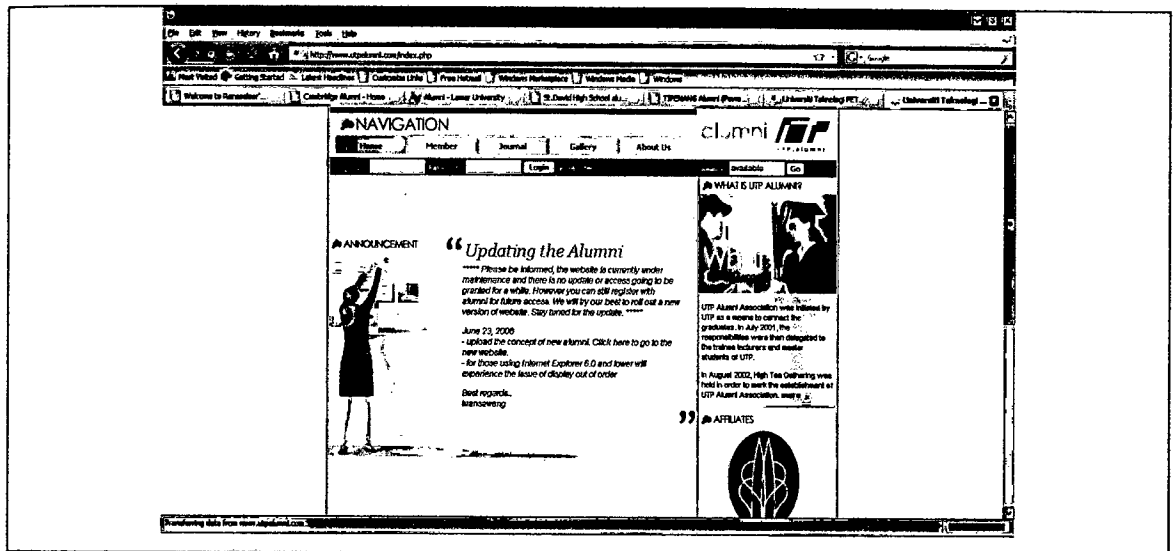iv.   Make technology a well used and considerate tool.

For this study, Alumni refer to persons with records on the internal database of Faculty of Computer System and Software Engineering. Mostly, alumni registration is done by completing the form but now in the new era of computer and

telecommunication industry, the registration can be made by cellular phone anywhere and anytime.

2.2.1 Malaysia Alumni

a) Universiti Teknologi Petronas Alumni
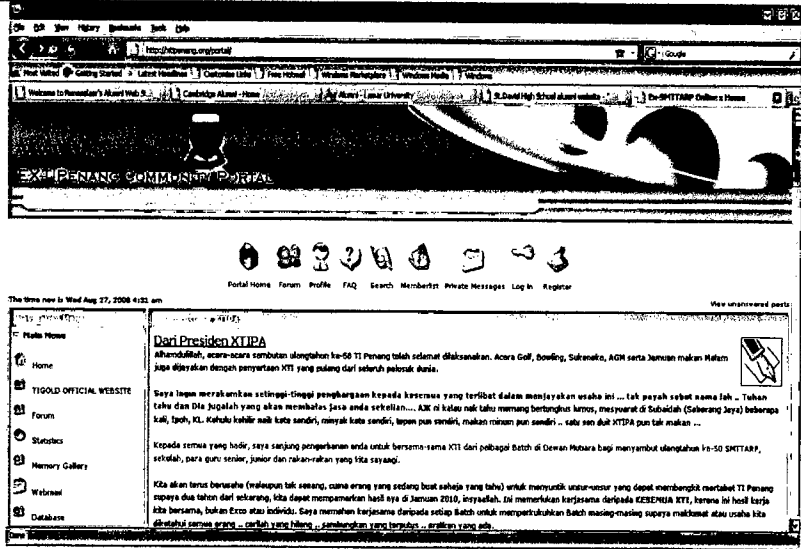
Table 2.1: UTP Alumni Website

Name of website	UTP Alumni
Purpose of website	To connect the graduates
Organization	The trainee lecturers and master students of UTP
Statistics	Around 1000 registered members
Mission	i. To strengthen the relationship among UTP graduates. ii. To care for the welfare of ALUMNI members and UTP students. iii. To give support to the UTP within the capability of the organization. iv. To create an efficient network of communication among ALUMNI members.

	v. To aid in providing welfare services to the society.
Vision	To become a center of connection among UTP community and a medium of contribution to the society
Function available	Alumni homepage, member page, journal page, gallery page, the administrator page, event calendar, shoutbox, and information box about the alumni website.
Page Update	No updated action but have new alumni website which is under construction.
Register process	Need the contact information like email, home number, mobile number, and country, and the personal information like name, preferred nick, course, and batch.
Mobile registration	N/A

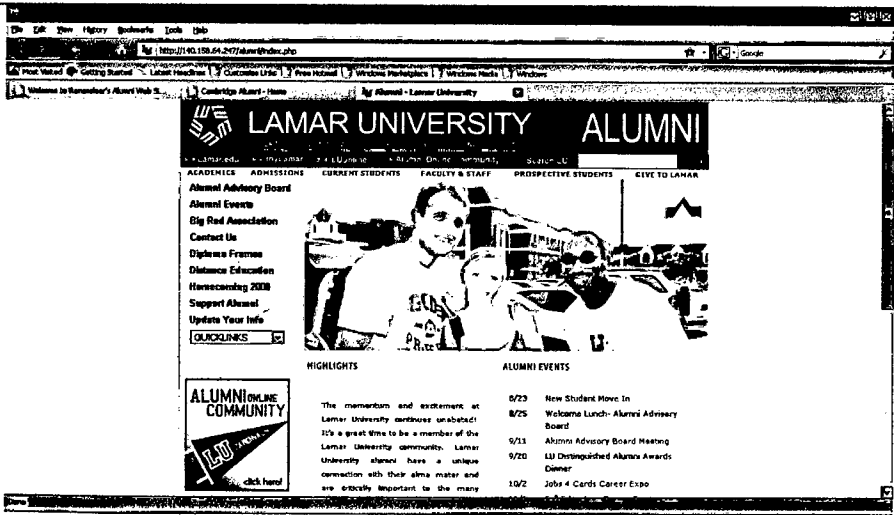**b) TI Penang Alumni**

Table 2.2: TI Penang Alumni Website

Name of website	TI Penang Alumni (secondary school website)
Purpose of website	N/A
Organization	Ex-student of TI Penang school

Statistics	N/A
Mission	N/A
Vision	N/A
Function available	Search members of alumni, forum to get latest news, member gallery, view member list, manage the profile after login, FAQ, and private messages between members.
Page Update	Last update on May 2008
Register process	Need the username, email, password to login, and also profile info like all instant messengers ID, website URL, location, occupation, and interest.
Mobile registration	N/A

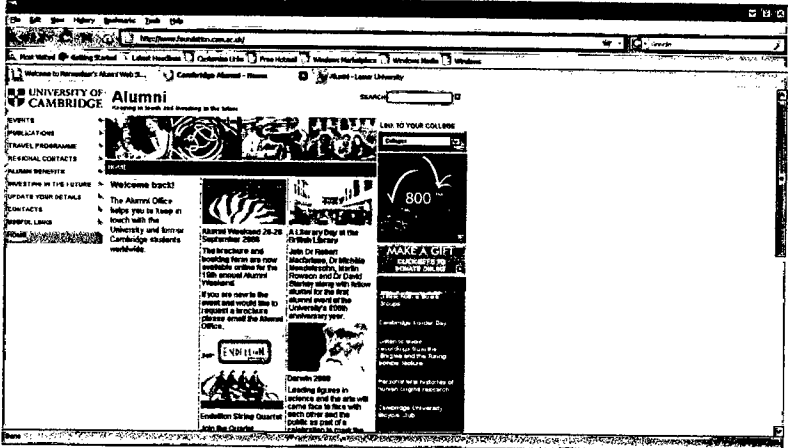## 2.2.2 International Alumni

c) LAMAR University Alumni

Table 2.3: LAMAR University Alumni Website

Name of website	LAMAR University Alumni
Purpose of website	N/A
Organization	N/A

Statistics	N/A
Mission	N/A
Vision	N/A
Function available	Search members of alumni, info board about education, latest news and event, advisory board and manage profile.
Page Update	Update on information
Register process	Automatic
Mobile registration	N/A

d) University of Cambridge Alumni

Table 2.4: University of Cambridge Alumni Website

Name of website	University of Cambridge Alumni
Purpose of website	N/A
Organization	N/A
Statistics	N/A
Mission	N/A
Vision	N/A
Function available	Tips for traveling, publication to get CAM Alumni Magazine, oversea directory, reports of alumni, and Yearbook. All members of alumni can have the benefits like services for CAM card, and credit card services.

Page Update	Update on information
Register process	Automatic
Mobile registration	N/A

2.2.3 Summary of all website

Table 2.5: Summary of all website

Website	Statistics	Technology	Special	Design
UTP	About 1000 members	Web	Many vision of built alumni website	Simple and not really crowded
TI Penang	N/A	Web	FAQ	Full window resolution and best arrangement
LAMAR University	N/A	Web	Updater information about alumni.	Simple
University of Cambridge	N/A	Web	Have benefits to alumni members	Interesting content, screen not center of the window

2.3   Mobile System

2.3.1   Technologies

a) Wireless Application Protocol (WAP)

i.   Definition of WAP

Wireless Application Protocol (WAP) define as suite of communication protocols, open international standard for application layer network communication and application environment which independent access to internet with advanced telephony services with wireless terminals and limited displays. WAP is network architecture for content delivery over wireless networks based on an International Standards Organization (ISO) "Stack" Model and has data transfer capabilities.

WAP is a specification for a set of communication protocols to standardize the way in which cellular devices use internet access, including World Wide Web (WWW), email, newsgroups and Internet Relay Chat (IRC) [12].

b) WAP Architecture

In WAP 2.0, new higher speed wireless bearers that need to be supported include GSM's General Packet Radio Service (GPRS) and 3rd Generation (3G) cellular. This version of WAP represents further convergence to the Internet standards.
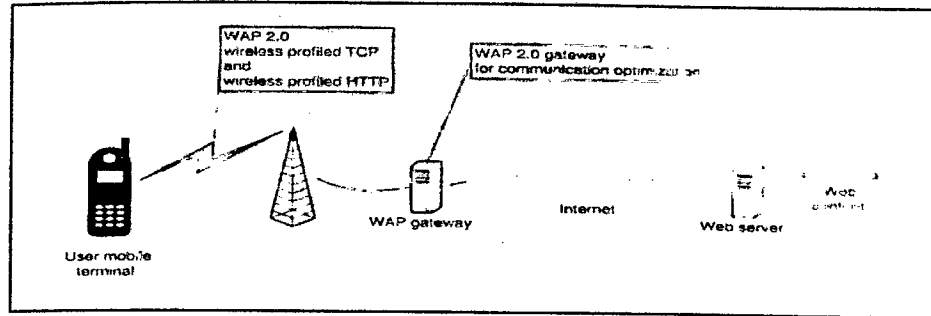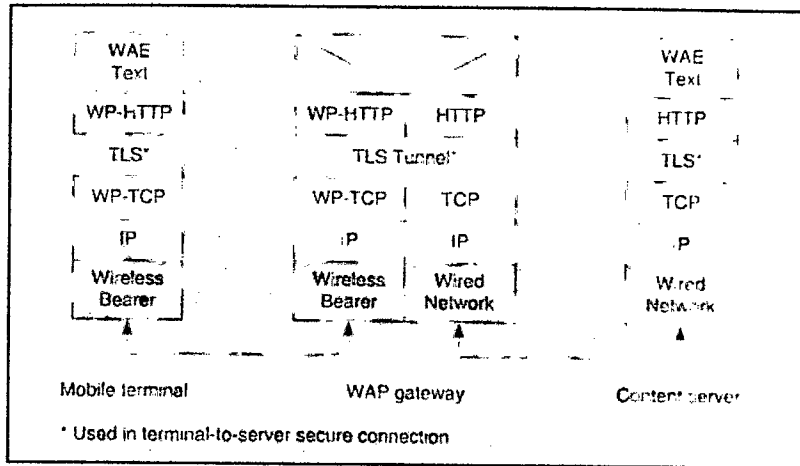
Figure 2.1: WAP 2.0 Architecture

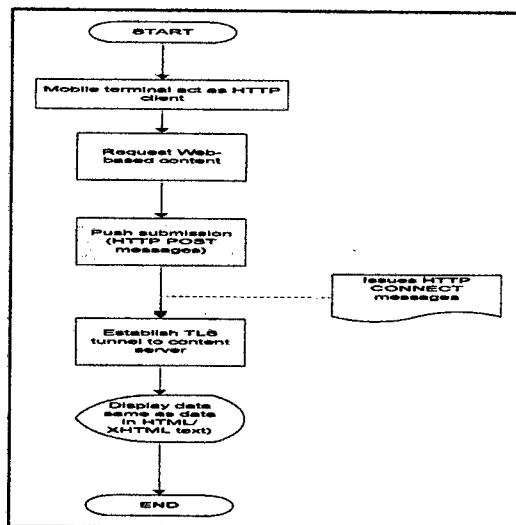**Figure 2.2:** WAP 2.0 protocol stacks (split mode)

Figure 2.3: WAP flowchart

c) WAP Gateway

The request from the mobile device is sent as a URL through the operator's network to the WAP gateway, which is the interface between the operator's network and the Internet.
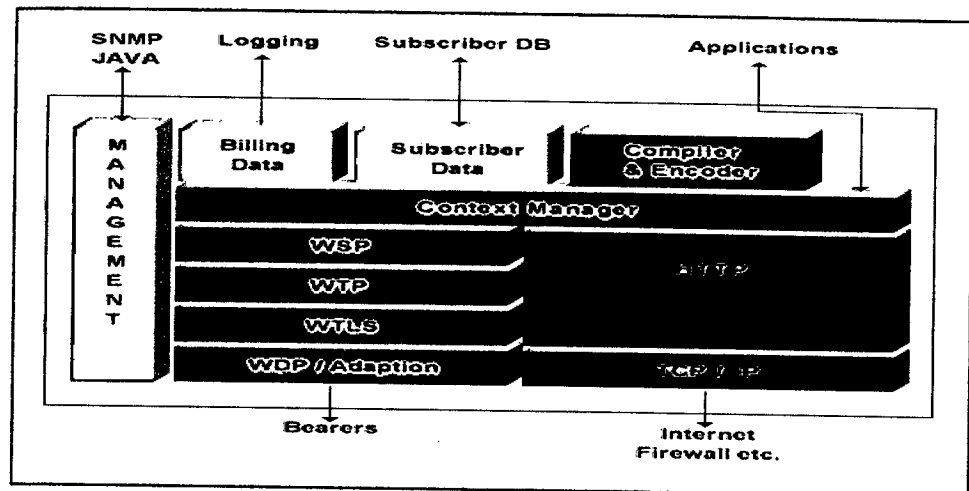

Figure 2.4: Architecture of the WAP Gateway

WDP-The WAP datagram protocol (WDP) is the transport layer that sends and receives messages via any available bearer network, including SMS, USSD, CSD, CDPD, IS-136 packet data, and GPRS.

WTLS-Wireless transport layer security (WTLS), an optional security layer, has encryption facilities that provide the secure transport service required by many applications, such as e-commerce.

WTP-The WAP transaction protocol (WTP) layer provides transaction support, adding reliability to the datagram service provided by WDP.

HTTP Interface-The HTTP interface serves to retrieve WAP content from the Internet requested by the mobile device.