

# Sms bus ticket reservation



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CHAPTER 4 RESEARCH METHOD Introduction There are lots of methodology approaches in order to develop a project. For this project, the methodology used is the concept of System Development Life Cycle, which is a framework for describing the phases involved in developing and maintaining the system. Methodology that is going to be used for developing this project is summarized in the flow chart below. Data Collection In this phase, the appropriate title has been chosen for this project. It is decided to develop a hotel UiTM reservation system using SMS. In order to achieve the aim of this project the objectives, scope and significant was defined.

Outline descriptions of the project and how it will be used in the organization have be made. The information about reservation in Hotel UiTM gets by interviewing the hotel staff. Besides that, some research about customer wants and needs have to be done for hotel reservation service. After defining the objectives, scope, significant and problem description, it is start to collect information and explore deeper about the topic of this project. The articles and journals regarding this topic are reviewed. All the information is from the library and surfing through the Internet.

Data Analysis Data analysis involved a few steps, where one of them is reviewing all the collected data and analyzes the customer's needs. Then it is start to define the technique that will be used for this project. Hardware and software requirements also must be defined at this stage. Based on the information obtained from the data collection, some analysis has been made to know how the project will be implemented. It is a crucial part because from this analysis we can define user requirements for this project before it can proceed with the implementation phase.

Approach After analyzing all the requirements that are needed for this project, it was decided that there are two techniques involved. First approach is the development of a web-based application for hotel reservation system. Dreamweaver MX is used as a web application tool to create database driven web site. For the server side, PHP-Hypertext Preprocessor is used for scripting language and MySQL as the database. Second approach is developing the SMS application to enable customers make a reservation using SMS.

The information received on the mobile phone will be transferred to the hotel reservation system. System will then respond to the customers for approval. For process of sending and receiving SMS, the Microsoft Visual Basic will be used to develop software that enable the data from the database to be captured and send to the customer's mobile phone. Hardware Requirement In terms of hardware, this project need a personal computer that running Microsoft Windows XP platform as a web server, a mobile phone with an infrared application and infrared adapter.

Table below list the detailed hardware used for this project.

No	Name of Device	Requirement	Usage
1	Personal Computer	192MB RAM with Intel ® Celeron™ CPU	As a web server for the hotel reservation system.
2	Mobile Phone	SIM card of any services provider	As a GSM Modem to send and receive SMS
3	Nokia Data Cable		To transfer the SMS information from mobile phone to the system.

Table 4. 1: Hardware used for this project

Software Requirement To make the system function properly, there is some software needed. For the web-based application, it is use the

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Apache Web Server, PHP Hypertext Preprocessor, MySQL database and Macromedia Dreamweaver MX. Microsoft Visual Basic is used to develop software to capture data from mobile phone to database. The detailed of the software used are shown in the table below:

No	Software	Usage
1	Apache_2.0.40-win32-x86-no_ssl.exe	As a web server to enable the web based application viewed on the personal computer
2	PHP-4.3.1-Win32.zip	As a server side scripting language
3	MySQLI-4.0.12-win.ip	As a database for the system
4	Macromedia Dreamweaver MX	As a web application tool for database driven web site
5	Microsoft Visual Basic 6.0	To develop software that enable to capture data from database and send to mobile phone.

Table 4. 2: Software used for this project

Designing a model

At this phase, system architecture of how the project will work is designed. This process is involved both in client side and server side. The architecture for this project can be described as a three-tier architecture that include a database, hotel reservation system and the user who access the system. First, user as a client tier can make a reservation by sending SMS to the hotel's system. The hotel's system will act as application tier. Then the data save on the database that acts as a data tier and hotel's staff can reply the SMS message to the user as an approval for the application and information that are required.

The detail description about the workflow was described in chapter 2. Before the process of sending and receiving SMS can be done, the phone has to be attached to the computer and make sure it can communicate to each other. In order to connect them, Nokia data cable is used. Apart from that, the web-

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based application will also be taken into consideration. We have to determine what should be included into the hotel reservation system. It is important to design the architecture to make sure the SMS message can work with the hotel reservation system. Create Interface and Coding

After the entire requirements needed are identified and the system architecture has been designed, the phase of creating interfaces and coding for the hotel's system started. This project will be separated into three main tasks:

- o Create the database using MySQL in order to keep the data from the system.
- o Create the interface for hotel's system using Macromedia Dreamweaver MX.
- o Write a coding using HTML and PHP scripting language for the hotel's system and for send SMS from the mobile phone is using Microsoft Visual Basic.

Create Database using MySQL The database consists of five tables.

The tables are CUST, LOGIN, ROOM, SMSIN, SMSOUT and STORE. Brief explanation about the table involved are describe in the table below:

Table	Description
LOGIN	Contain hotel's staff information to log in to the system
ROOM	To record the customer's detail for reservation and check in
QUEUE	Use as a temporary storage before the data will be sends to customer.
STORE	Will store all the customer detail that was reserve and check in the hotel.

Table 4. 3: List of table in the database Create the interface using Dreamweaver MX The interface for the system is using Macromedia Dreamweaver MX. The interface consist of web page about Hotel UiTM and the hotel's reservation system that can link from the Hotel UiTM website. The reservation system has five interfaces that are main page, reservation, check-in, check out and help page.

The website is basically to introduce the hotel to public and advertise the new services provide by the hotel, which is the SMS services for reservation. There are six interfaces that consist of homepage, accommodation, facilities, location, services and reservation. Write a coding The reservation system and hotel UiTM website are using PHP-Hypertext Preprocessor scripting language. This system needs to be link to the database in MySQL using SQL query on PHP script. Meanwhile for the hotel ebsite, it is using HTML and PHP script for some pages. Microsoft Visual Basic is used for develop a software called SMS Alert that enable the data in the database to be captured and then send the SMS message to customer's mobile phone. Implementation and Testing As stated in the literature, most of the implementation applies the Open Source products. First step that will be implement is to develop the web server by using Apache web server. Next step is to develop the contents for hotel reservation system using SMS technology.

However, before the system can be implemented, the connection between and the web server and mobile phone have to be test using the Nokia Data Cable. Then the SMS Alert software that has been developed using Microsoft Visual Basic must be installed in the system. When all the requirement needed to send SMS message has been prepared, then this service can be test whether it can work or not. The testing can done by sending a message to the mobile phone that connected to the server. If the message received, then the staff will read the message and then take action by check the availability room regarding to the request.

Then the staff will reply the message with appropriate information that is required to the customer. The SMS Alert will capture data from the database

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before it can be sent to the customer. When the entire process successful, it can be said that this project is also successful. Conclusion Through this chapter, it was explained deeply on how the project were developed, how to configure certain application, the requirement of hardware and software for both sender and receiver, what are the programming language and so on.

The success in developing this project will encourage us to make a study for the next chapter. It hoped that this methodology would be a milestone to complete this thesis successfully. ————— Step 5 Implementation and Testing Step 4 Create Interface and Coding Step 3 Designing a Model Step 2 Data Analysis Step 1 Data Collection Figure 4. 1 – Methodology for Hotel Reservation System via SMS project