

**M-Commerce with MMS Receipt**

by

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Dissertation Submitted in Partial Fulfillment of  
The Requirement For The  
Bachelor of Technology (Hons)  
(Information and Communication Technology)

MAY 2008

Universiti Teknologi PETRONAS

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# **CERTIFICATION OF APPROVAL**

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**Nadathul Shima Bt. Johan**

**A project dissertation submitted to the  
Information and Communication Technology Programme**

**Universiti Teknologi PETRONAS**

**in partial fulfillment of the requirement for the**

**Bachelor of Technology (Hons)**

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**May 2008**

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## **CERTIFICATION OF ORIGINALITY**

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

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**NADATHUL SHIMA JOHAN**

## **ABSTRACT**

This paper describes the development of an M-Commerce application integrated with MMS Receipt. This project is a wireless application which provides a convenient system for customer to buy or shop using their mobile handheld devices such as PDA's or handphones. By integrating with an MMS receipt, it can provide a better trustworthy service to customer as they always seek for a secure and trustworthy transaction when buying online. In addition, the MMS receipt can be viewed using internet browser and later can be printed and used as a legal receipt of purchasing mobile.

## ACKNOWLEDGMENT

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# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 BACKGROUND OF STUDY**

The main concern of this project is to apply Multimedia Messaging System (MMS) receipt as a proof of purchase in the M-Commerce system widely. In addition, this project will enhanced the purchasing done using M-Commerce from Short Messaging System (SMS) receipt to MMS receipt to gain mobile consumer's trust.

### **1.2 PROBLEM STATEMENT**

Many purchasing have being made by mobile consumer's in daily life using M-Commerce service on their hand phones and PDAs. But the service failed to provide a more trustworthy proof of purchase which is the receipt after the transaction to the consumer's. By offering M-Commerce implemented by an MMS receipt, this will make M-Commerce be more realistic and trustworthy to the consumer to use M-Commerce widely.

#### **1.2.1 Problem Identification**

Recently, M-Commerce will only use SMS as the receipt to be the proof of purchase providing purchasing number, name, price, date and time of purchase. However, there are drawbacks of using SMS as the receipt of purchase which is failed to be print and if it is erased or deleted from device it cannot be recalled or resent. Providing MMS as the receipt would provide the interface of a receipt of the company with the purchasing

number, name, price, date and time of purchase. In addition, the MMS receipt can be viewed through internet browser and be printed as the receipt of purchase of M-Commerce.

### **1.2.2 Significant of the Project**

This system is intended for all sorts of users using mobile devices that have access to GPRS where they could purchase and do transaction with their mobile devices. With the implementation of MMS as the receipt of purchase, M-Commerce would be more trustful to be made by mobile consumers, thus increase the usage of M-Commerce widely.

## **1.3 OBJECTIVE & SCOPE OF WORK**

### **1.3.1 Objectives**

There are several objectives of this project which are:

- To develop M-Commerce application
- To produce a prototype application that could generate MMS receipt as the deliverables of the purchase

### **1.3.2 Scope of Study**

This project is concerned with the functionality and significance of M-Commerce in integrating with the MMS receipt. An application will be developed to integrate M-Commerce with MMS. MMS will enhance existing M-Commerce applications where it is currently possible to make a purchasing of item using mobile devices.

### **1.3.3 The Relevancy of the Project**

This project is applicable to the M-Commerce application providers to provide mobile consumers with value added services and facilities such as trustworthy transaction and purchase when using M-Commerce. In order to increase the usage of M-Commerce, we need to make the mobile consumer to be more confident in dealing with M-Commerce application.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2. INTRODUCTION**

##### **2.1 M-Commerce**

The definition of Mobile Commerce is the exchange or buying and selling of services and goods, both physical and digital, from a mobile device. This means in this context, the concept of capabilities for a consumer to engage in commerce from a non-fixed location and without physical transfer of monies or the monetary equivalent. Specifically the ability to use a device that can easily be moved and can perform the financial transaction using a stored/aggregated account like an operator managed billing system, or without the physical presence of monetary instrument like cash, credit or debit card issued by a bank or a financial institution.

Mobile commerce is concerned with the use, application and integration of wireless communication technologies and wireless devices within the business systems domain. The area of m-commerce includes reference to the infrastructure and electronic technologies necessary for wireless data and information transfer, in all its multimedia forms. It also incorporates the study of the various wireless technologies, and the portable mobile devices, used to send and receive data and information.

The use of wireless technologies extends the nature and scope of traditional electronic commerce by providing the additional aspects of mobility and portability. Therefore, m-commerce is sometimes referred to as mobile e-commerce. M-commerce can be

considered to be a flexible solution to many of the negative aspects of fixed-wired E-Commerce. M-Commerce is referenced to mobile computing and pervasive computing systems, theory and practice. Therefore, M-Commerce is succinctly defined as the interconnection of portable computing technologies, and the wireless telecommunication networking environments necessary to provide location independent connectivity within the business information systems domain.

M-Commerce has been likened to having *"your best salesman in the pocket of your best customer"*. Rask and Dholakia (2000) claim that m-commerce has two distinct advantages over e-commerce: the typical m-commerce consumer is more time than money conscious, and is accessible at any time, at any place. Barnet et. al. (2000) list three main features of m-commerce that improve personalization: mobiles are carried everywhere and are kept switched on, operators can detect a user's exact location, and operators are uniquely able to determine the identity of the user (unlike e-commerce where access may be from several PCs, and where PCs may be shared). The ubiquity of access creates a blurring of personal and business boundaries, as Rask and Dholakia (2000, p 11) point out, *"With growth in m-commerce, it will become increasingly difficult to maintain role distinctions"*. The mobile creates the opportunity to engage users about work issues at home, or about home issues at work; users are unlikely to carry two phones or maintain separate accounts, so this will result in a blurring of roles. They distinguish three locations: home, office and elsewhere, and two roles: on and off duty, to produce six location-role combinations. Although the actual location of the user may be known, his role, i.e. whether he is on or off duty, is usually not known.

## **2.2 MULTIMEDIA MESSAGING SYSTEM (MMS)**

Multimedia Messaging Service (MMS) is a store and forward messaging service that allows mobile subscribers to exchange multimedia messages with other mobile subscribers. Multimedia Messaging Service (MMS) is an important emerging service, which allows the sending of multiple media in a single message, and the ability to send a message to multiple recipients. Each Multimedia Message contains a number of pages. On each page, there can be one image and one set of text. An audio file can also be attached. The time that each page is displayed can be specified. [Steffen Fiksdal and Thomas Kvalvag, 2003].

According to Forum Nokia, the 3GPP has been focusing on the development of the Multimedia Message Service (MMS). MMS features include the exchange of message containing polyphonic melodies, large images, video elements sometimes organized with a multimedia presentation such as SMIL or XHTML. MMS will be supported by 2.5G and 3G networks. MMS specifications have reached a fairly mature stage and MMS commercial solutions are appearing on the market. Unlike EMS, MMS has been specified by the 3GPP as a service independent from the underlying network technologies. In parallel to the 3GPP standardization process, other organizations have specified network-specific implementations of MMS such as the WAP implementation defined by the WAP Forum.

Mobile messaging is practically the first data communication service in the wireless domain. It is a major advance on the conventional practice of providing only voice communication service over the wireless interface. Thus, mobile messaging is the initial step to bring the Internet to wireless terminals and has considerable importance both for mobile communication and the Internet. Mobile Messaging provides an in-depth description of messaging technologies supported by mobile networks. It covers the Short Message Service (SMS), Enhanced Messaging Service (EMS) through to the more complex and emerging Multimedia Messaging Service (MMS).

Commercial MMS service include person-to-person MMS, which is greatly enriched version of SMS with the capability of sending photographs, pictures and voice or sounds together with text messages. Also available is a range of content-download services allowing users to deliver ready-made color postcard type of messages to friends with their favorite pictures or animated cartoons.

*"With MMS over high-speed GPRS, our service offering will be greatly expanded, providing enriched experience to all of our customers in the near future. We are pleased to work closely with such a leading player in MMS as Nokia and continue our long cooperation"*, says Vadim Konevskiy, Director of New Technologies Department North-West Branch OJSC MegaFon.

*"MMS will be a key to the future of mobile services, making it a very important service for operators' business and giving them a head-start as we move to future mobile services,"* says Denis Malyshev, Senior Account Manager, Nokia Networks.

## 2.3 PROBLEM

Recently, mobile technologies are widely growth and one of it is M-Commerce. However, when the purchased of item being made using M-Commerce, the consumer will only received an SMS with few details of purchased as the proof of purchase or receipt. This would affect consumer's confident in using M-Commerce application as the receipt does not convinced them that the purchased that have been done is valid and verified.

Mobile commerce, the emerging subset of e-commerce also known as mobile e-commerce or m-commerce, faces the same problems troubling e-commerce plus a few of its own. Gaining customer trust in mobile commerce, which uses radio-based wireless devices to conduct business transactions over the Web-based e-commerce system [Siau, K., Lim, E., Shen, Z. Mobile commerce: promises, challenges, and research agenda, *Journal of Database Management* 12, 3 (2001), 4–13.], is a particularly daunting task because of its unique features. Whereas mobile devices are terrifically convenient for anytime shopping, their small screens, low resolution displays, and tiny multifunction keypads make developing user friendly interfaces and graphical applications a challenge. Mobile handsets are also limited in computational power, memory, and battery life.

The concept of trust has been studied in disciplines ranging from business to psychology to medicine, and perspectives on it differ, but it can be loosely defined as “*a state involving confident positive expectations about another's motives with respect to oneself in situations entailing risk*” [ Boon, S. and Holmes, J. The dynamics of interpersonal trust: Resolving uncertainty in the face of risk. In R. Hinde and J. Groebel (Eds.). *Cooperation and Prosocial Behavior*. Cambridge University Press, Cambridge, UK:1991, 190–211.]. This definition highlights three characteristics of trust. First, a trust relationship involves two parties: the trustor and the trustee, reliant on each other for mutual benefit. Second, trust involves uncertainty and risk. No perfect guarantee ensures the trustee will live up to the trustor's expectation. Third, the trustor has faith in the trustee's honesty and benevolence, and believes the trustee will not betray his/her risk-assuming behavior. Business relationships



would be nonexistent without trust, which is expressed in various business contexts such as laws, contracts, and regulations, as well as in company policy and personal reputations, and long-term relationships. Not surprisingly, studies show trust also plays an essential role in successful Internet retailing [Ambrose, P. and Johnson, G. A trust based model of buying behavior in electronic retailing. In *Proceedings of America Conference of Information System*, 2000.].

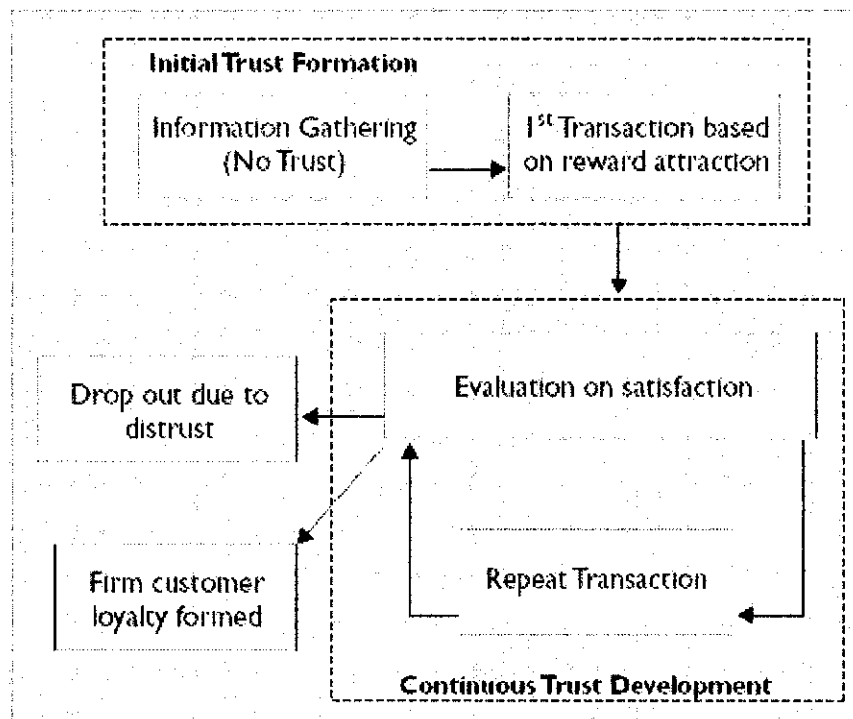


Figure 2.1 : The e-commerce trust development life cycle

## 2.4 CURRENT IMPLEMENTATION

Nowadays, M-Commerce have been implemented widely throughout the world, thus has become one of the biggest revenue in communication field. According to the findings of the recently published report, Mobile Proximity Payment Services, there will be 60 million users of transport-related mobile payments services in Europe by 2010 as compared to less than 30 million in Japan and South Korea. The market for mobile transactions is expected to be worth just over US\$380 billion by 2010. This shows that M-Commerce have a great market value in the market futurehead. [Yang, Y. (2003).

UMTS Investment Study. Seminar Report, Telecommunications Business II, Helsinki University of Technology.]

Currently, there are few M-Commerce which implement SMS receipt as the proof of purchase. For an example, In Norwich, Norwegian telco Telenor has teamed up with the country's national airline to enable travellers to purchase flight tickets via their mobile handsets. Telenor is using an SMS-based system to allow mobile users to search for available flights and then book and pay for them all from their mobile phone [<http://www.cellular.co.za/mcommerce.html>]. Users will receive an SMS receipt of their booking that will be accepted at the check-in for their flight.

In Malaysia, Tanjong Golden Village, the largest Cinema Movie provider, also has been using M-Commerce for their customer in order to make the purchasing of movie ticket more convenient. In their current implementation, the system also use SMS receipt system after purchasing the ticket. SMS receipt which received by the purchaser only contains few details which are the number of purchase, receipt number and time and date of purchase.

## **2.5 SUPPORTS**

Presently, MMS has not been implemented as the receipt of purchase of any M-Commerce application. In addition, current SMS receipt do not provide any print functionality and are not able to be viewed through internet browser. With the rapidly growth MMS technologies, consumers will gain more trust and confident when purchasing using M-Commerce integrate with MMS receipt which can be viewed and printed and become the official receipt of any purchase.

In the first six months of 2005, 88 million MMS messages were sent in Norway. This equals 19 MMS messages per Norwegian customer on average in this period, making the Norway mobile user the most industrious user of MMSs worldwide by far. At a price of approximately 0.34 Euro, MMS messages generated almost 30 million Euros in this period for Norwegian operators. MMS, at the time at "age" two and a half years,

generated more revenue than SMS did, when it had the same “age”. To give an illustration of the growth in MMS usage in Norway: in the same period in 2004, the total number of MMS messages sent was only 20 million (Admanager, 2005). [An Overview of Today’s and Tomorrow’s M-Commerce in the Netherlands and Europe, Hong-Vu Dang]

## **CHAPTER 3**

### **METHODOLOGY**

The methodology used during the development of this system is the waterfall model. This model is known as the waterfall model because each of every phase is cascading from one another. The five phases of waterfall model are followed closely to ensure a systematic approach to system development. The core main phases are planning, analysis, design, testing and implementation.

#### **3.1 PLANNING**

In the planning phase, the system concept was developed to describe how the system will operate once it is implemented. Furthermore, is to assess how the system will give an impact to end users while performing their daily activities. Moreover, it is important to ensure that the system will provide the required capability on-time and within budget, project resources, activities, schedules and tools. Before moving on to the next phase, the author had clearly defined the problems, opportunities and directives towards the development of the proposed system. The outcome of this task are problem statements, objectives as well as significant of the system being developed.

As the author worked on the scope statement, a detailed project Work Breakdown Structure (WBS) was also being developed to provide the basis for deciding how to do the work. It also supplies an elementary platform for creating the project schedule.

After preparing the WBS, the author developed a Gantt chart which provides a standard format for displaying project schedule information by listing project activities and their corresponding start and finish dates in a calendar format. The tasks, duration estimates, and

dependencies were identified. All activities on the Gantt chart are coincided with the activities in WBS.

### **3.2 ANALYSIS**

Analysis is the most important phase of the methodology. The system's goals, constraints and services are established by consultation with the system user. Basically the purpose of analysis is to identify data, process and interface requirements for the users of the proposed system. The groundwork for this task was established in the problem analysis phase during identification of system objectives. The system was defined in more detailed with regard to system inputs, processes, outputs and interfaces. This definition process occurs at the functional level. The system shall be described in terms of the functions that need to be performed, not in terms of computer programs, files and data streams. The emphasis in this phase is on determining what functions must be performed rather than how to perform those functions.

An effective method for data gathering must be applied in order to be successful defining system requirements. Fact finding was used across entire development cycle, but it is extremely critical in the requirements analysis and definition phase. Fact finding is the formal process of using research, interviews, sampling and other techniques to collect information about problems, requirements and preferences. Technique that was employed in data gathering process was doing research on existing documentations of M-Commerce and MMS technology that can be attained at few search engines, relevant web sites, whitepapers and journals.

Use cases were developed that described the system functions from the perspectives of end users and in the manner and terminology they understand. Essentially, use case has proven to be an excellent technique to better understand and document system requirements. Use cases are triggered by external users called actors. Actors represent anything that needs to interact with the system to exchange information. At this stage the author considers the students as the key users that directly use the proposed system. the use cases are related to the system are

used to model functionality of the proposed system and are the starting point for identifying the data entities or objects of the system.

Finally, the high level architecture and logical design to support the system and functional requirement were defined in detail. A logical model was constructed that describes the fundamental processes and data needed to support the system functionality. This logical model showed how processes interact and how processes create and use data. Functions and entity types contained in the logical design were extended and refined from those provided in the planning phase. A detailed analysis of the current technical architecture, application software and data is conducted to ensure that limitation or unique requirements have not been overlooked.

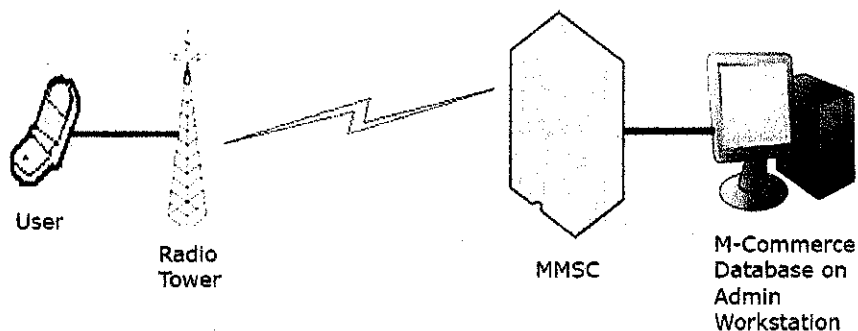


Figure 3.1 : System Architecture

Based on figure 2, user uses a 2.5G mobile devices accessing M-Commerce Application through Global Positioning Roaming System (GPRS) connection. Multimedia Message Service Center (MMSC) will verify all request and response content between user and server. This is the most proposed system architecture for the system.

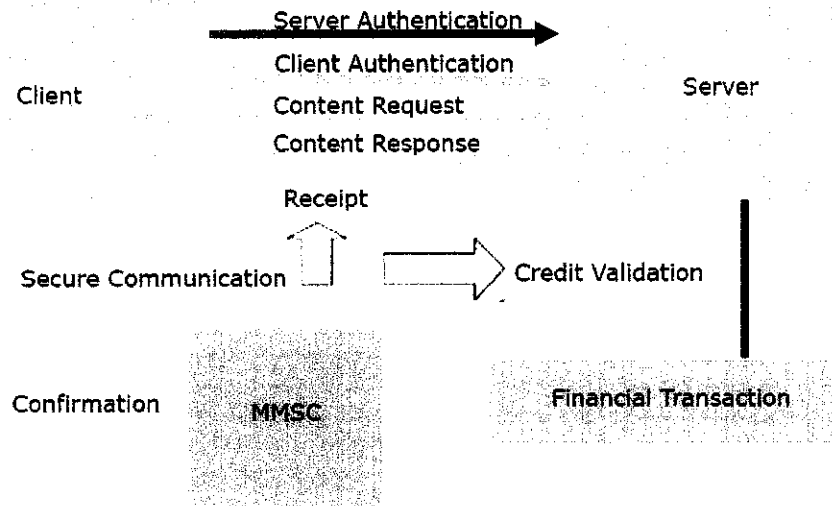


Figure 3.2 : Operation involved in System Architecture

There are few operations involved in the system. In order the user (client) and server to interact in a secure communication channel, MMSC will be required as it verify the content of request and response between both. User will be sending server authentication to the server and wait for the client authentication in order to proceed with another operation. As the user have been verified, then only it can request content from the server and the server will response to it. As to have M-Commerce successful, transaction is needed, as the credit of the client will be validate and the value will be deducted as to show the transaction have been done by the user. The next operation is the server will send a receipt for user's view and keeping.

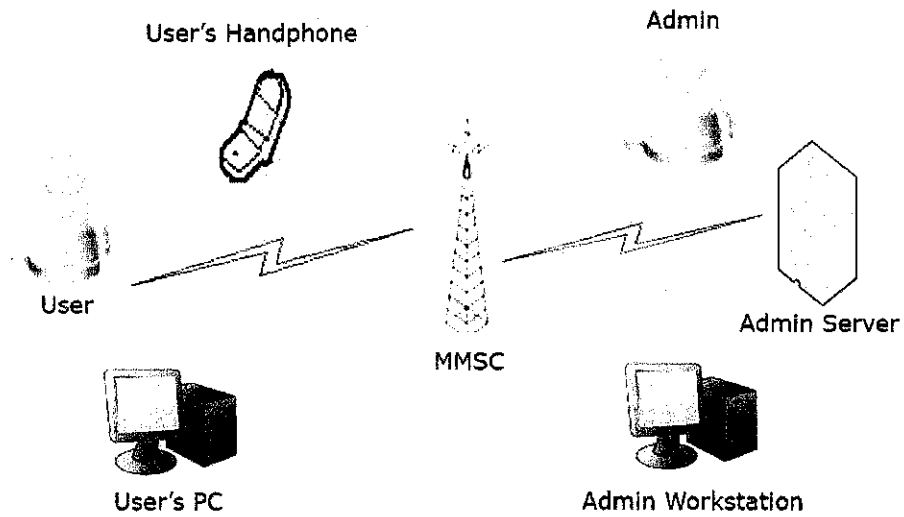


Figure 3.3 : Detailed System Architecture

Based on the proposed system architecture, the author developed UML Diagrams in order to create a good understanding of the system. A use-case and flowchart of the system is as below.



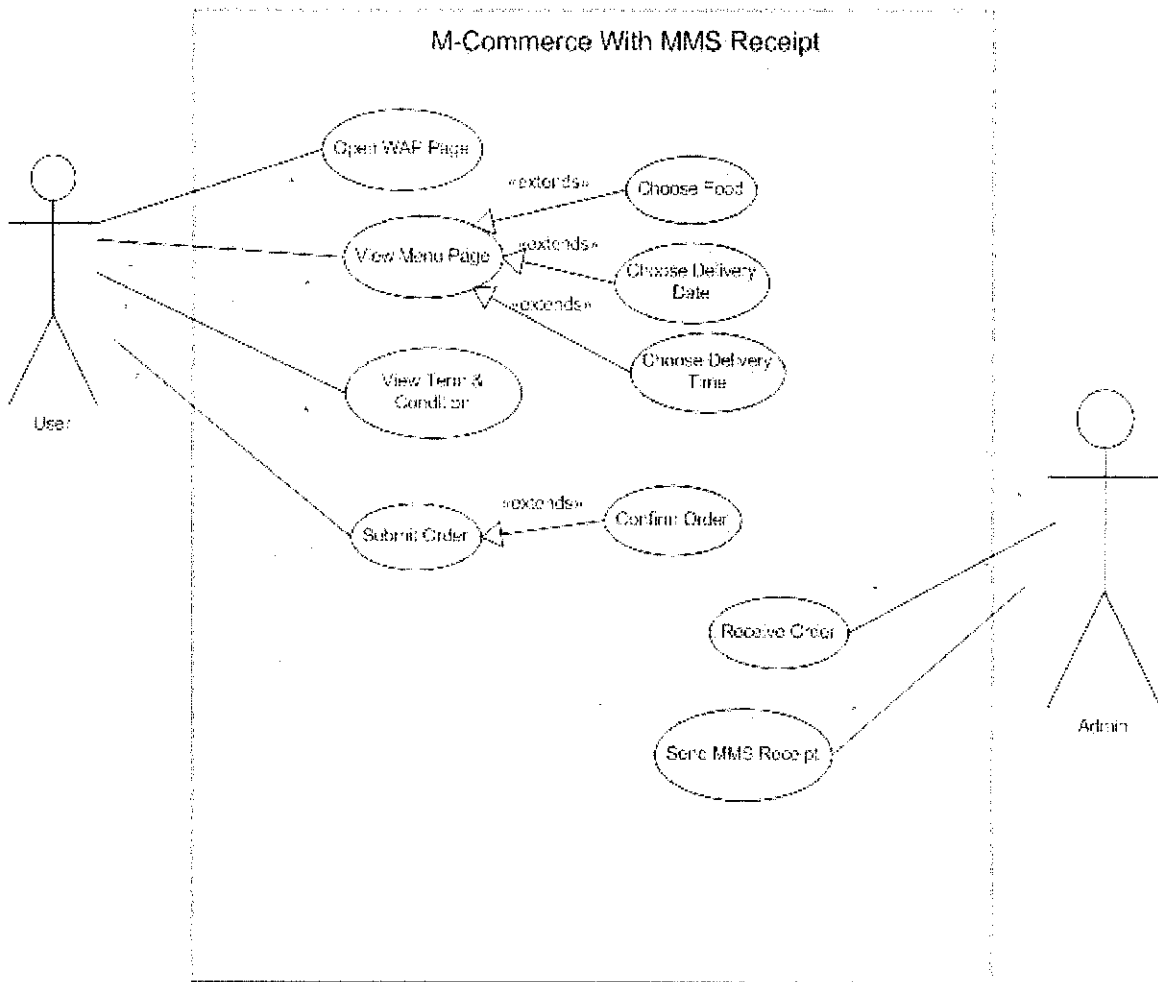


Figure 3.4 : Use Case of M-Commerce with MMS Receipt

## M-Commerce with MMS receipt

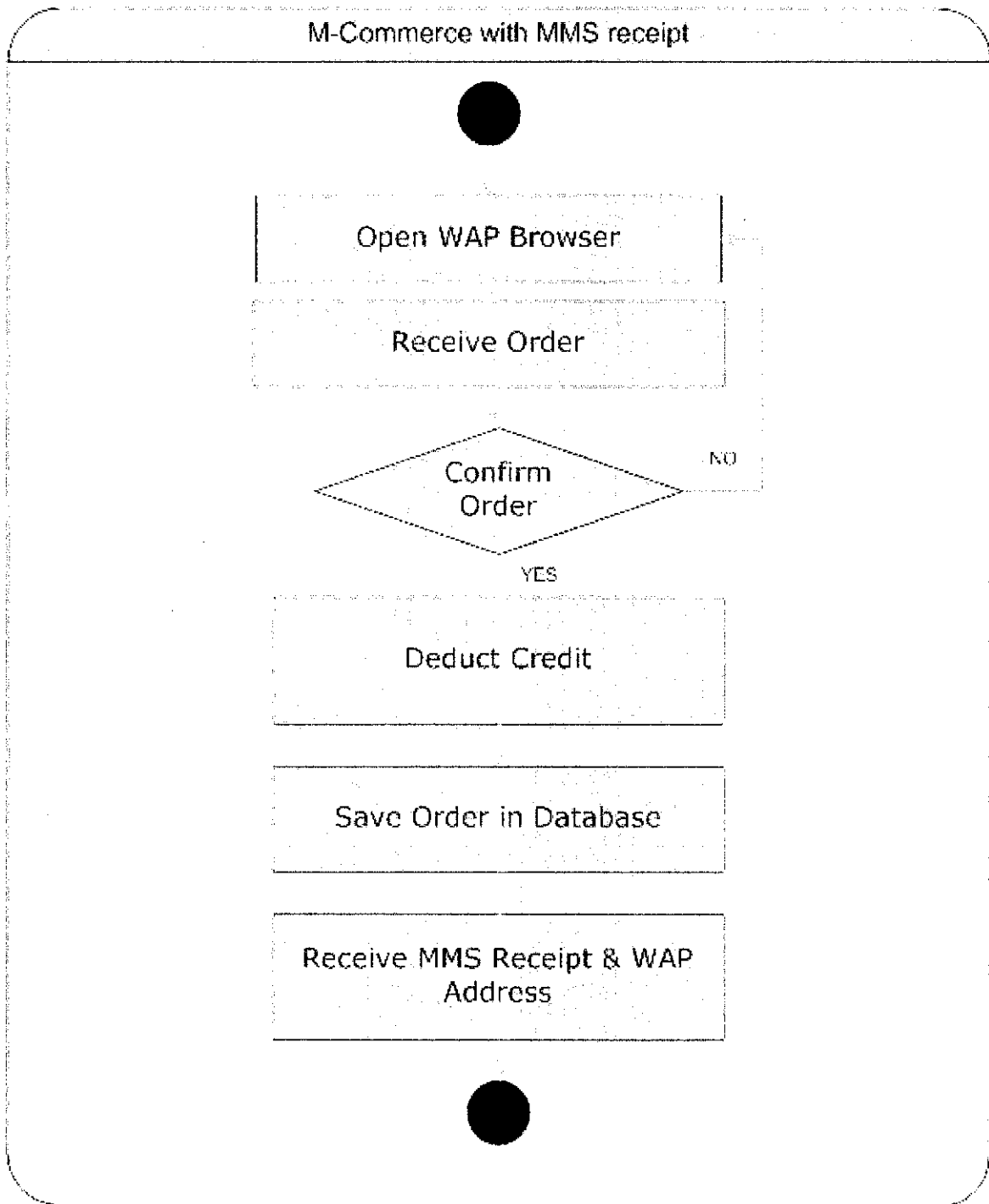


Figure 3.5 : Flowchart of the System

### 3.3 DESIGN

At this phase, the system will be constructed where the flow and the framework of the system will be designed. Also the application interface and database will be designed. The purpose of this phase was to develop a concrete flow of the system so that the system is ready to be implementing.

No.	Task / Activities	Description
1.	Design framework	<ul style="list-style-type: none"><li>- Design how the system works</li></ul>
2.	Design workflow and protocols involved	<ul style="list-style-type: none"><li>- Design project workflow and protocols that were going to be developed</li><li>- The workflow would show how many protocols involved when user wanted to use this system</li></ul>
3	Design storyboard and database	<ul style="list-style-type: none"><li>- Designed a project database comprised of some elements or field that should be included to ensure that the system will work properly</li><li>- Designed the database using PhpMyAdmin</li></ul>

Table 3.1 Design Activity Details

### **3.4 TESTING**

In system testing, individual program units or programs that have been integrated into a complete system will be tested to avoid possibilities of system failure. Testing will be conducted during this phase. Testing must not be deferred until after the entire program has been written. There are three levels of testing to be performed namely stub testing, unit testing and system testing. Stub testing is the test performed on individual events or modules of a program. While unit testing is a test whereby all events and modules that have been coded and stub tested for a program are tested as an integrated unit. Whereas system testing ensures that application programs written and tested in isolation will work properly when they are integrated into the total system. the integrated set of programs should be run through a system test to make sure one program properly accepts, as input, the output of other programs. Once the system test is complete and determined to be successful, the system will be put into use.

### **3.5 IMPLEMENTATION**

In implementation phase, the author will carry out to implement this system to any interested participant in the futures. For the meantime, the author will only implement this to a prototype company.

## **3.6 TOOLS & SOFTWARE**

### **Hardware**

- Nokia Handphone (3500) act as GSM Modem
- GSM Modem Maxis Sim card
- Personal Computer

### **Software**

- Openwave SDK 5.1
- Wamp Server Database
- Ozeki Message Server Gateway
- Macromedia Dreamweaver MX
- PHPMyAdmin
- WinWap Phone Emulator
- WapProof Phone Emulator

## CHAPTER 4

### RESULT & DISCUSSION

#### 4.1 RESULT

As for the result, the author has done the prototype of the M-Commerce System with functionality to be added into it. Figures below show the interfaces of step-by-step to place order for the system. The M-Commerce WAP Page are viewed using WapProof Phone Emulator, as the page has not been hosted yet on WAP Host Service.

For the welcome page of the M-Commerce WAP page, the user will be viewing the delifud.wml page which contains three links which are Menu, Terms & Condition and About Us link. All three links are clickable and user will be directed to different page after that.

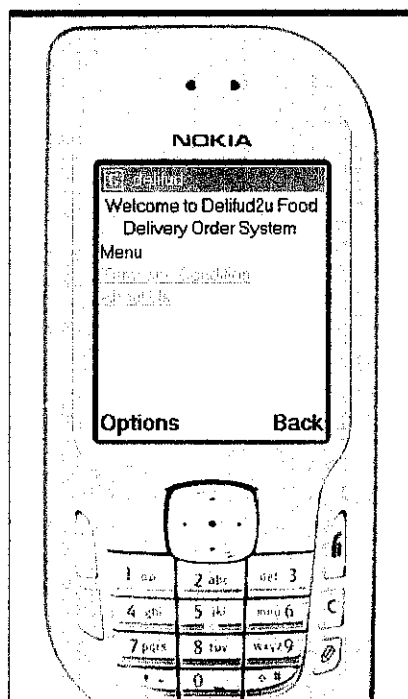


Figure 4.1: Delifud.wml

Next, the user will choose which link to be viewed. Assuming the user choose Menu link, the user will only need to click the Menu link and will be directed to the next page which is Menu.wml. In Menu.wml, the user will have the option to view the list of food and also back link as to return to Delifud.wml page.

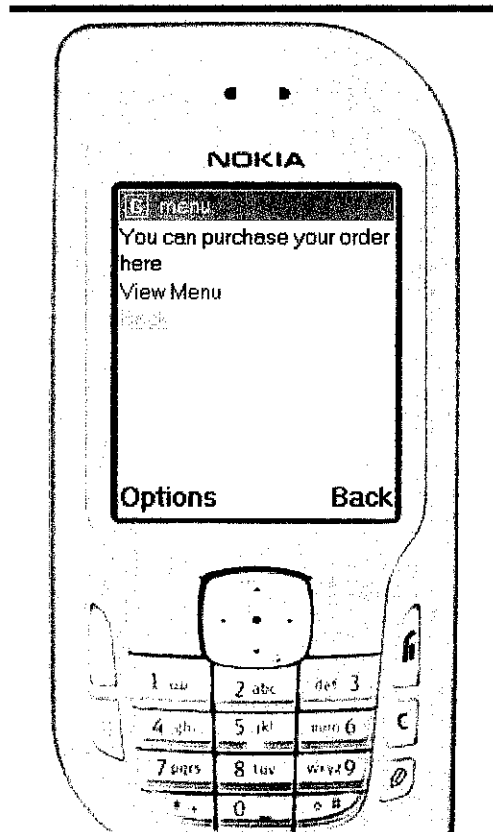


Figure 4.2: Menu.wml

Assume the user would want to view the list of food provided in the M-Commerce service. The user will click on View Menu link and later will be directed to List.wml page. As for the prototype, the author will only list three list of food which are Tropika Fried Rice, Seafood Spaghetti and Indo Kebab. All three list are clickable for the user. In this page, the user have to click the radio button select option after deciding which item to be choose.



Figure 4.3: List.wml

After selecting one of the lists of food, assuming the user chooses to order Tropika Fried Rice, the user will be directed to Order.wml. In Order.wml, the user will view the details of menu chose before. The details will be the name of food and its price. In Order.wml page also, the user will have to click the place order link so that they can place order.



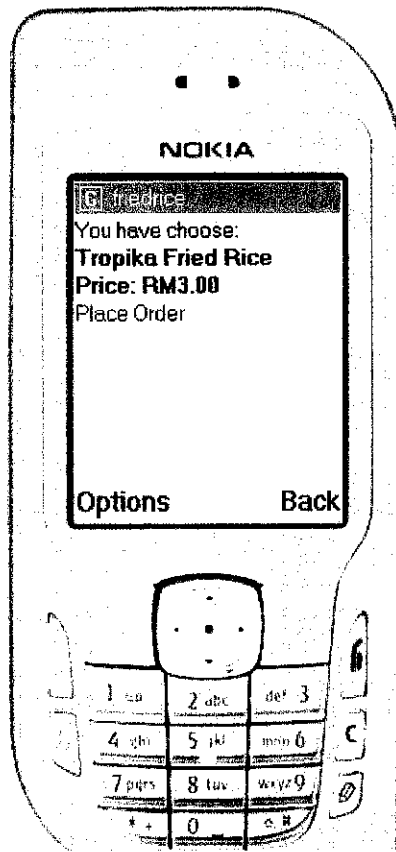


Figure 4.4: Order.wml

Next, the user has to confirm their order as to make sure that the user alert with the action that they have done. The user will be ask either they are confirm with the order. If they are sure, then they have to click confirm order link.

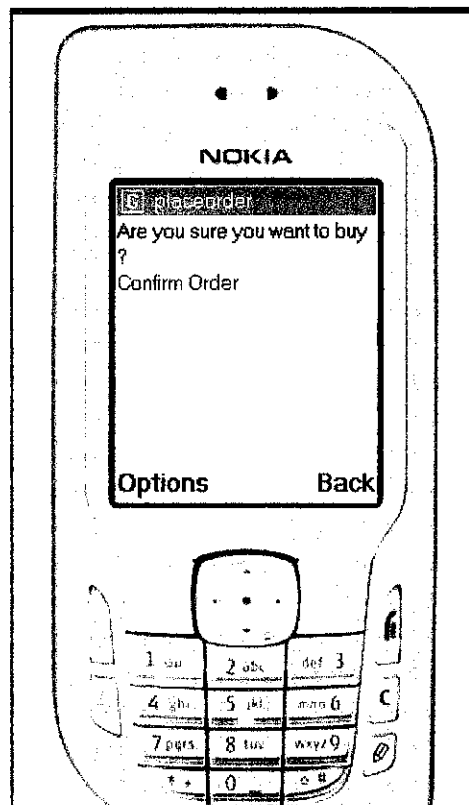


Figure 4.5: Confirm.wml

After the user click the confirm order link, they will be directed to Usercard.wml page. In this page, the user will be asked to enter their membership card number. For this service, all the user must have Delifud Card as it will have the credit inside the card, and they will only have to enter the card number and later the system will automatically deduct the balance inside the card every time the user do transaction online.

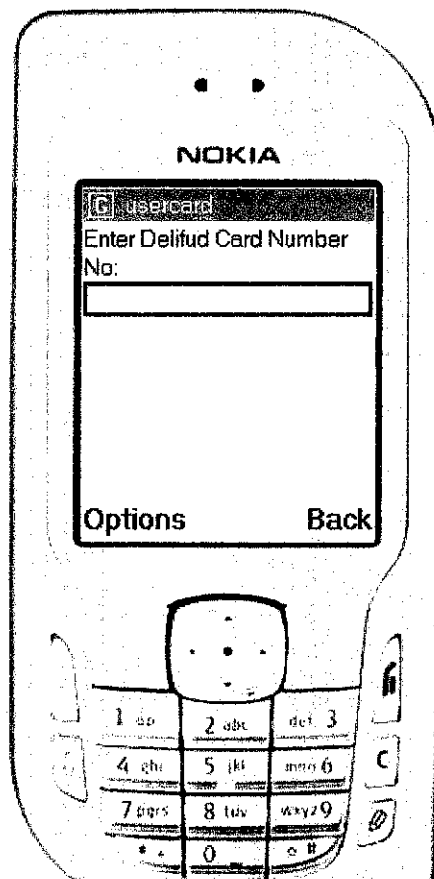


Figure 4.6 : Usercard.wml

After entering the user card number in the input text page, the system will search the details of the user and display them in CardBalance.wml page. The user also will be informed with the balance of the card, item chose, price of item and card balance after the current transaction. The user will have to click Get Receipt link at the bottom of the page as to enquire an MMS Receipt of the transaction.

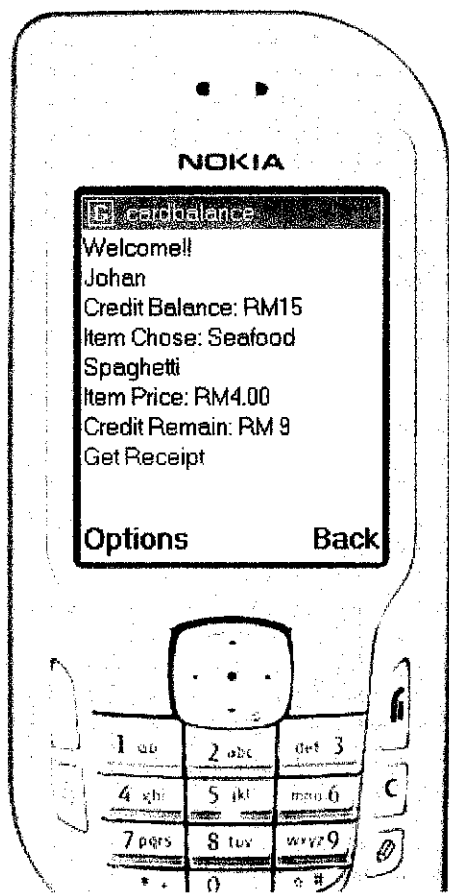


Figure 4.7 : CardBalance.wml

When the user click Get Receipt link, they will be directed to Thanks.wml page as to acknowledge the user that the receipt will be sent shortly to their inbox message after a while. The OK link below will direct the user back to Delifud.wml page. With that, it marks the end of one complete transaction process in Delifud2U Delivery Food Order.

## **4.2 DISCUSSION**

As for current development, this is the result of the author's project. The transaction of M-Commerce can be done, however the sending of MMS Receipt have not yet been developed. The author will have to discuss the prototype again with her supervisor to complete the development of this project and achieving both objectives of the project.

Through the author's final presentation, there are few things that have been discussed that maybe the system could have such as some security bridge when the user enter the card number, and to add a new functionality which is the delivery time and place that the customer want.

## **CHAPTER 5**

### **CONCLUSION & RECOMMENDATION**

M-Commerce have been widely used by customer nowadays in many transaction such as flight booking ticket, cinema booking ticket and restaurant booking service. And the number of usage of M-Commerce will grow rapidly as wireless technology is becoming the current technology today. So, as to satisfy the customer's necessity of buying mobile; at anywhere and anytime, M-Commerce provide that satisfaction to the customer.

The author's project finally has being concluded by a prototype of M-Commerce service. Despite the prototype do not achieve both the objectives of the project yet, the author will try her best to complete the project. Throughout the development of this project, the author has created a better understanding of mobile technology and how to develop mobile application. The author also has created a deep understanding of MMS technology and M-Commerce as it is the scope of this project. With the guidance of supervisors and colleagues, this project will be fully completed in further time.

## REFERENCE

Design and Evaluation of M-Commerce Applications, J.J. Wang, Z. Song, P. Lei, R.E. Sheriff, Mobile and Satellite Communications Research Centre, School of Engineering, Design and Technology, 2005 Asia-Pacific Conference on Communications, Perth, Western Australia, 3 - 5 October 2005

A Mobile Commerce Framework Based on Web Services Architecture, Yao-Chung Chang, Jiann-Liang Chen and Wen-Ming Tseng , Department of Computer Science and Information Engineering, National Dong Hwa University Hualien, Taiwan.

How to create MMS Services Version 3.2, Forum Nokia, 6th September 2002

Mobile Commerce Applications And Services: A Design And Developement Approach, A. S. Andreou, C. Chrysostomou, C. Leonidou, S.Mavromoustakos, A. Pitsillides, G. Samaras, C. Schizas, Department of Computer Science, University of Cyprus, Cyprus.

M-Commerce Crash Course, The Technology and Business of Next Generation Internet Services, P.J Louis, Mc-Graw Hill

The Get Started Guide to M-Commerce and Mobile Technology, Danielle Zilliox

Mobile Commerce and Wireless Computing Systems, Geoffrey Elliott and Nigel Phillips, Pearson, Addison Wesley

Wireless Application Programming Library, Kris Jamsa and Phil Schmauder, Prima Tech

Network Professional's Library, WAP A Beginner's Guide, Dale Bulbrook, Osborne

Inside WAP, Programming Applications with WML and WMLScript, Pekka Niskanen, Addison Wesley

Dynamic WAP Application Development, Soo Mee Foo, Christopher Hoover, Wei Meng Lee, Manning

Systems Analysis and Design with UML Version 2.0, An Object Oriented Approach Second Edition, Alan Dennis, Barbara Haley Wixom, and David Tegarden.

Now SMS/MMS Gateway, <http://tech.scomms.com/indocou.htm>

Ozeki Message Server, <http://www.ozeki.com/ozeki.htm>

Nokia Forum, <http://www.nokia.com/nokiaforum.htm>

Openwave Develop's Page, <http://developers.openwave.com/dev/>



# **APPENDIX**

Trans#: 0001

Delfud2u  
Receipt

Account No: 1234

Date: 12/04/08

Time: 12:38 PM

Item	Price
Tropika Fried Rice	3.00
Total	3.00
Card Balance:	27.00

Thanks!



**Sample Receipt**

## Sample WML Coding

```
<?xml version="1.0"?>
<!DOCTYPE wml PUBLIC "-//OPENWAVE.COM//DTD WML 1.3//EN"
"http://www.openwave.com/dtd/wml13.dtd">

<!-- WML file created by the Openwave SDK -->

<wml>
  <card id="delifud" title="delifud">
    <p align="center"> Welcome to Delifud2u Food Delivery Order System </p>
    <br/>
    <p>
      <a href="#menu">Menu</a>
      <br/>
      <a href="#term">Term and Condition</a>
      <br/>
      <a href="#about">About Us</a>
    </p>
  </card>

  <card id="menu" title="menu">
    <p> You can purchase your order here</p>
    <br/>
    <p>
      <a href="#list">View Menu</a><br/>
      <a href="#delifud">Back</a></p>
  </card>

  <card id="term" title="term">
    <p> By using this application, you are obliged under this term and condition:
    </p>
    <br/>
    <p>1. Any transaction made, are on your own responsibility</p>
    <p>2. Receipt received can be used as real receipt or proof of purchase</p>
    <p>3. Any lost data can be retrieved back. Please contact our system
    administrator</p>
  </card>

  <card id="about" title="about">
    <p align="justified"> Delifud are mobile commerce application which provide
    online buying and order food system.
      Delifud offers delicious, halal and tasty food to be delivered on your
    doorstep.
      Do contact us at <a href="mailto:delifud@gmail.com">delifud@gmail.com</a>.
    Thanks!!
```

```
</p>
</card>
```

```
<card id="list" title="list">
<p>Please select from the list:
  <select name="options"      title="select"  multiple="true">
    <option value="Fried Rice: RM3.00" onpick="#list1">Tropika
    Fried Rice</option>
    <option value="Indo Kebab: RM 3.50" onpick="#list2">Indo
    Kebab</option>
    <option value="Seafood Spaghetti: RM4.00"
    onpick="#list3">Seafood Spaghetti</option>
  </select>
</p>
</card>
```

```
<card id="list1" title="friedrice">
<p>You have choose:
<br/><b>Tropika Fried Rice</b>
<br/><b>Price: RM3.00</b>
<br/><br/><a href="#place">Place Order</a>
</p>
</card>
```

```
<card id="list2" title="indokebab">
<p>You have choose:
<br/><b>Indo Kebab</b>
<br/><b>Price: RM3.50</b>
<br/><br/><a href="#place">Place Order</a>
</p>
</card>
```

```
<card id="list3" title="seaspaghetti">
<p>You have choose:
<br/><b>Seafood Spaghetti</b>
<br/><b>Price: RM4.00</b>
<br/><a href="#place">Place Order</a>
</p>
</card>
```

```
<card id="place" title="placeorder">
<p>Are you sure you want to buy <br/><br/>
<b>$(options)</b> ?
<br/><br/>
<a href="#confirm">Confirm Order</a>
```

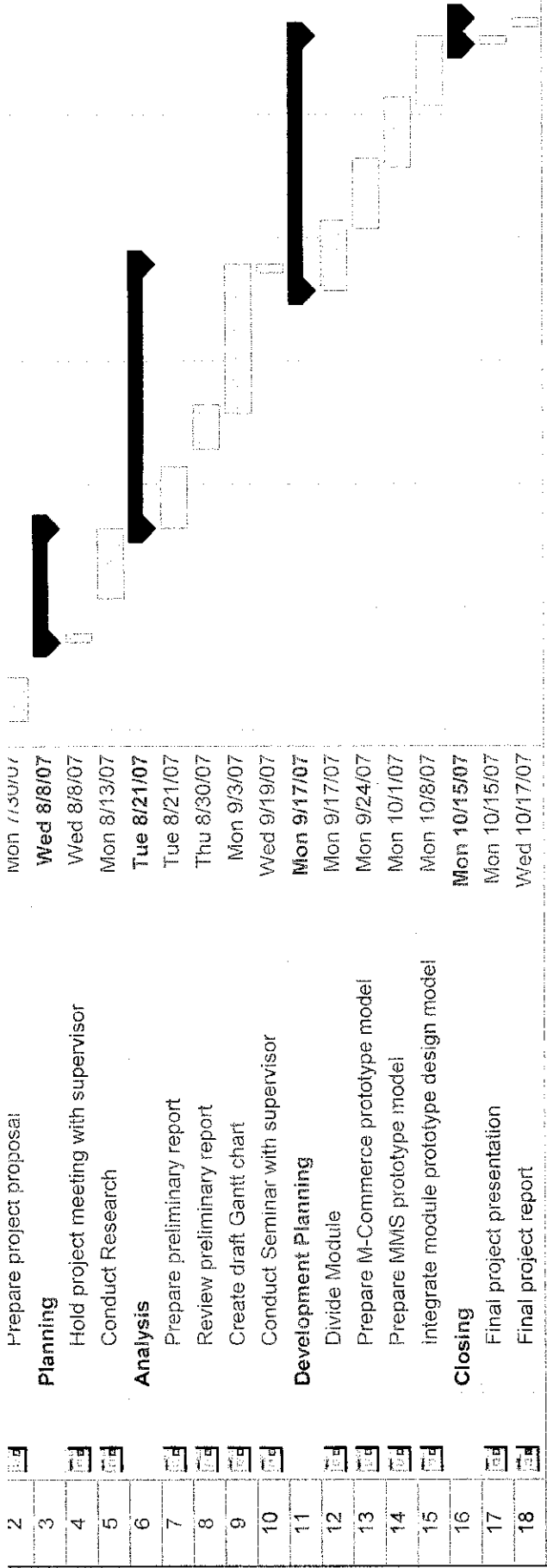
</p>  
</card>

<card id="confirm" title="usercard">  
<p>  
Enter Delifud Card Number<br/>  
No:<input type="text" name="cno" title="cardno"/>  
<a href="#balance">Submit</a>  
</p>  
</card>

<card id="balance" title="cardbalance">  
<p>Welcome!! <br/><br/>  
Faiz <br/>  
Credit Balance: RM30<br/>  
Item Chose: Tropika Fried Rice<br/>  
Item Price: RM3.00<br/>  
Credit Remain: RM 27<br/>  
<a href="#receipt">Get Receipt</a>  
</p>  
</card>

<card id="receipt" title="Thanks">  
<p>Thanks for buying with us!!<br/>  
Your MMS receipt will be sent shortly<br/>  
<a href="#delifud">OK</a>  
</p>  
</card>

</wml>



Task
 Milestone
 External Tasks

Split
 Summary
 External Milestone

Progress
 Project Summary
 Deadline

Project: fyp timeline  
Date: Tue 5/13/08

1	Initiating	Mon 1/28/08
2	Project Meeting with supervisor	Mon 1/28/08
3	Planning	Mon 2/4/08
4	Strategize development plan	Mon 2/4/08
5	List alternative development plan	Wed 2/6/08
6	Analysis	Mon 2/11/08
7	Decide development plan	Mon 2/11/08
8	Select safest and fastest approach	Thu 2/14/08
9	Development Planning	Mon 2/25/08
10	Divide Module	Mon 2/25/08
11	Prepare M-Commerce prototype model	Mon 3/3/08
12	Prepare MMS prototype model	Mon 3/24/08
13	Integrate module prototype design model	Mon 4/7/08
14	Closing	Wed 4/9/08
15	Pre-EDX Project Presentation	Wed 4/9/08
16	Final project presentation	Thu 4/24/08
17	Final project report	Fri 5/16/08

Project: fyp timeline  
Date: Tue 5/13/08

Task

Split

Progress

Milestone

Summary

Project Summary

External Tasks

External Milestone

Deadline