BORANG PENGESAHAN STATUS TESIS*

JUDUL: BLUETOOTH MOBILE MESSENGER

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BLUETOOTH MOBILE MESSENGER

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This report is submitted in partial fulfillment of the requirements for the Bachelor of Computer Science (Software Development)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
2007

DECLARATION

I hereby declare that this project report entitled

BLUETOOTH MOBILE MESSENGER

is written by me and is my own effort and that no part has been plagiarized without citations.

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(CIK INTAN ERMAHANI A. JALIL)

DEDICATION

To my beloved parents and family ...

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First of all, all praises and thanks to Allah, Lord of the worlds, for His guidance and will, for the revelation of some of His knowledge for me in the successful formulation of this Projek Sarjana Muda (PSM).

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I would also like to thanks all my friends who have helped in supporting and sharing their knowledge with me. I am fortunate to have friends that were really there when I need their help the most. Their opinion and critics have made me more confidents in my life's works.

Last but not least, to my beloved family. They are my source of confidents and power to complete this report in one piece. If not for their supports, this report must have been not completed. Thank you so much for understanding and supporting me.

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Thank you.

ABSTRACT

The main purpose of the Bluetooth Mobile Messenger development is to explore the capabilities to use the Bluetooth technology as a communication medium. Bluetooth Mobile Messenger will enable the user to send message to the receiver by using the Bluetooth technology. Bluetooth technology is one of the wireless network connections that offer short-range network connection. Bluetooth wireless network can only reach up to 100meters only. Currently, short message service or SMS is widely used by the user to send messages. Every messages send will be charged RM0.05 for sending messages to the same network provider and RM0.20 for messages being send to different network provider. By using this application, user can save up their credit because sending and receiving message are free. No hidden charges will be applied on the user when sending and receiving messages. Message also can be send if the user are in an area where there I no network coverage. RUP (Rational Unified Process) are used when developing the application. The RUP lifecycle is an implementation of the spiral model. The RUP lifecycle organizes the tasks into phases and iterations. The phases are inception phase, elaboration phase, construction phase, and transition phase. Through Bluetooth Mobile Messenger, user will have a lot of benefits. User can send and receive text messages for free. With it, user can save their credits. User also can communicate with each other when they are in an area where there is no network coverage. It is hope that with the development of this application, it will open up a new way in the telecommunication sector.

ABSTRAK

Tujuan aplikasi *Bluetooth Mobile Messenger* ini dihasilkan adalah untuk meneroka kebolehan teknologi *Bluetooth* dalam menjadi salah satu medium telekomunikasi. Aplikasi *Bluetooth Mobile Messenger* ini membolehkan pengguna menghantar dan menerima mesej hanya dengan menggunakan teknologi *Bluetooth*. Teknologi *Bluetooth* merupakan salah satu jenis rangkaian tanpa wayar yang menawarkan rangkaian dalam jarak yang pendek sahaja. Rangkaian tanpa wayar *Bluetooth* hanya boleh mencecah dalam linkungan 100 meter sahaja. Pesanan mesej ringkas atau SMS digunakan secara meluas oleh pengguna. Setiap mesej yang dihantar oleh pengguna dikenakan caj sebanyak RM0.05 bagi penghantaran pada talian yang sama dan RM0.20 bagi penghantaran pada talian yang berbeza. Dengan menggunakan aplikasi ini, pengguna dapat menjimatkan kredit panggilan mereka kerana penghantaran mesej melalui aplikasi ini adalah percuma. Tiada sebarang caj akan dikenakan ke atas pengguna semasa menghantar atau menerima mesej. Tidak seperti menghantar mesej melalui SMS yang ianya dicaj oleh syarikat telekomunikasi. Mesej juga dapat dihantar jika pengguna berada di kawasan yang tiada rangkaian telekomunikasi. Projek ini dibangunkan menggunakan metadologi RUP (*Rational Unified Process*). Kitar hayat RUP merupakan pelaksanaan bagi model *spiral*. Dalam kitar hayat RUP, proses-proses membangunkan projek ini dibahagikan mengikut fasa. Terdapat empat fasa di dalam kitar hayat RUP iaitu fasa *inception,* fasa *eloboration,* fasa *construction,* dan fasa *transition.* Aplikasi ini akan dapat memberikan manfaat yang banyak pada pengguna dengan membolehkan pengguna menghantar dan menerima mesej dengan percuma. Pengguna dapat menjimatkan kredit panggilan apabila berhubung dengan rakan-rakan yang lain. Pennggguna juga dapat berhubung dengan antara satu sama lain apabila berada pada kawasan yang tidak terdapat isyarat panggilan. Kesimpulannya, diharap dengan adanya aplikasi seperti ini, ruang telekomunikasi akan dapat diperkembangkan.

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LIST OF ABBREATIONS

SMS	-	Short Message Service
BMM	-	Bluetooth Mobile Messenger
FK	-	Foreign Key
PK	-	Primary Key
DBMS	-	Database management system
ERD	-	Entity Relationship Diagram
GUI	-	Graphical User Interface
API	-	Application Programming Interface
P2P	-	Peer-to-Peer
ICT	-	Information and Communications Technology
GSM	-	Global System for Mobile communications
PDA	-	Personal digital assistant
OOAD	-	Object Oriented Analysis and Design
UML	-	Unified Modeling Language
OOA	-	Object Oriented Analysis
OOD	-	Object Oriented Design
RUP	-	Rational Unified Process
IDE	-	Integrated Development Environment
USB	-	Universal Serial Bus
CLDC	-	Connected Limited Device Configuration
TCP	-	Transmission Control Protocol
SDP	-	Service Discovery Protocol
RFCOMM	-	Radio Frequency Communication

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CHAPTER I

INTRODUCTION

1.1 Project Background

The Bluetooth Mobile Messenger will be developed to allow user to send free messages to others for free by using the Bluetooth technology. Bluetooth technology is an open specification that enables short- range (100 meters) wireless connections between devices.

Being an 'open specification' means that any manufacturer can make a Bluetooth device and it will talk to any other Bluetooth device from any other manufacturer. Since the Bluetooth mobile messenger uses Bluetooth wireless connections, user can send messages to others who currently located a 100 meters from the user.

The Bluetooth Mobile Messenger can replace the normal way user send messages which is via SMS but it is only applied for short distances. Sending messages via SMS required credits and network coverage. For the Bluetooth Mobile Messenger, it only requires the Bluetooth wireless connection. This mobile application is good for messaging others who are nearby. Users can also use the application as a wireless chat tool.

1.2 Problem Statement

The idea behind the Bluetooth Mobile Messenger development arises because of these problem statements:

i. **Text messages can't be sent without credits.**

User got to have credits in order to send messages to the receiver. Their messages can not be sent if their credits are zero.

ii. **Waste of credits when messaging someone in the same local area.**

College and schools students prefer to send message. They are likely to send message to their friends. When they are in school or campus, it is a waste of credits messaging their friends when they already know that their friends are nearby.

iii. **Messages can't be sent in an area without network coverage.**

In an area where there is no network coverage, messages can't be sent by user to the receiver.

iv. **Messaging others who use different network provider is costly.**

Mobile communication service provider charged RM 0.15 for messages delivery to other mobile service provider. This can be considered expensive to the student.

1.3 Objectives

The objectives of the Bluetooth Mobile messenger are:-

i. **To enable user to send free text message.**

User can send free text messages to other Bluetooth enabled mobile phones. The text messages are sent by using the Bluetooth signals.

ii. **To save user credits when messaging others in the same local area.**

User can save their credits when text messaging others in the same local area. The text messages can be send if the receiver is located not more than 100 meters from the user.

iii. **To enable user to send text messages in an area where there is no network coverage.**

This function allowed communications to be made in an area where there is no network coverage. Even there is no network coverage, user can still send and receive text message.

iv. **To explore Bluetooth technology as a medium to send messages.**

Bluetooth technology has been known as a medium to send and receive files for wireless application.

1.4 Scope

1.4.1 Target User

Individual that owns a mobile phone which supports Bluetooth technology and Java Application.

1.4.2 Environment

In a local area where the distance between the ender and receiver are not more than 100 meters.

1.4.3 Software

- Borland JBuilder Enterprise 2006 / Netbeans IDE 5.5
- Sun Java Wireless Toolkit 2.5