TESIS^ APPROVAL STATUS FORM

JUDUL: **ENHANCING MALAY <> ENGLISH BIDIRECTIONAL MOBILE DICTIONARY (MEDict)**

SESI PENGAJIAN: **2007/ 2008**

Saya **KOAY MIIN HUEY**

(HURUF BESAR)

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CATATAN: * Tesis dimaksudkan sebagai Laporan Akhir Projek Sarjana Muda (PSM). Jika tesis ini SULIT atau TERHAD, sila lampirkan surat daripada pihak berkuasa.

ENHANCING MALAY <> ENGLISH BIDIRECTIONAL MOBILE DICTIONARY (MEDict)

KOAY MIIN HUEY

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
2008

DECLARATION

I hereby declare that this project report entitled

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

STUDENT : _____ **Date** : _____

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SUPERVISOR : _____ **Date** : _____

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DEDICATION

To my beloved Family, I love you all.

To My Supervisor, Thank you so much.

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I would like to take this opportunity to express my gratitude to all the people who have helped, supported and guided me throughout the completion of Projek Sarjana Muda I.

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Last, I would like to thank you, the reader for taking your time to read this report.

Thank you.

ABSTRACT

Mobile phones available in the market today provide number of advanced functions, among which possibilities of running mobile applications seems to be the most interesting feature. This project aims at the enhancement of existing bi-directional (bilingual) Malay-English translation dictionary named MEDict. MEDict is an easy-to-use mobile dictionary that is ideal reference tool for all those requiring quick access to word translations. MEDict is a mobile application that provides bilingual dictionary which supports Malay<->English dictionary for any Java enabled mobile phones. It is applicable to all J2ME mobile phones with GPRS/ 3G/ WLAN/ Wifi connectivity. MEDict offer a great potential and benefits for users; it is a quick and easy-to-use and provides unlimited number of English <-> Malay and Malay <-> English translations lookup's 24 hours a day without any restrictions. The developed mobile dictionary is expected to meet the needs of a wide range of users such as language learners, native speakers, travelers and business professionals in Malaysia. The project incorporates the development of four main components: (1) java-based mobile client that provides interface for front-end query input; (2) A back-end database for serving dictionary contents; (3) A dictionary service for handling the exchange between the mobile client's queries and the database; (4) A web system that allows the administrator to manage the dictionary contents.

ABSTRAK

Telefon bimbit yang terdapat di pasaran kini membekalkan pelbagai fungsi yang canggih yang mana kebolehan untuk melarikan aplikasi mudah-alih menjadi tumpuan utama. Projek yang dicadangkan untuk dibangunkan adalah lanjutan daripada projek sedia ada yang dinamakan MEDict. MEDict merupakan kamus yang disediakan pada telefon bimbit yang amat berguna bagi mereka yang memerlukan terjemahan perkataan dengan cepat. MEDict adalah suatu aplikasi mudah-alih yang menyediakan fungsi kamus dwibahasa Inggeris <-> Melayu atau Melayu <-> Inggeris bagi telefon bimbit yang menyokong aplikasi Java. Ia boleh diaplikasikan pada semua telefon bimbit J2ME yang mempunyai sokongan rangkaian GPRS/ 3G/ WLAN/ Wifi. MEDict memberikan perkhidmatan yang membawa kebaikan kepada pengguna, dimana ia dapat dicapai secara cepat dan mudah dan membolehkan pengguna mencapainya bila-bila masa tanpa had. MEDict menawarkan potensi yang besar dan kelebihan kepada pengguna telefon bimbit yang mana ia adalah mudah dan cepat untuk digunakan dan mempunyai kandungan perkataan Inggeris <-> Melayu yang tidak terhad. MEDict dijangka akan membawa kebaikan kepada semua golongan terutamanya mereka yang berminat belajar bahasa, pelancong dan peniaga professional di Malaysia. MEDict terdiri daripada empat komponen iaitu aplikasi klien J2ME, pangkalan data kamus, servis kamus dan sistem web

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATONS

MEDict	-	Bilingual Mobile Dictionary
GPRS	-	General Packet Radio Service
J2ME	-	Java2 Micro Edition
PDA	-	Personal Digital Assistant
JVM	-	Java Virtual Machine
J2SE	-	Java2 Standard Edition
API	-	Application Programming Interface
CLDC	-	Connected Limited Device Configuration
MIDP	-	Mobile Information Device Profile
WAP	-	Wireless Application Protocol
OOAD	-	Object Oriented Analysis and Design
UML	-	Unified Modeling Language
JSP	-	Java Server Page
SQL	-	Structured Query Language
ERD	-	Entity Relationship Diagram

LIST OF APPENDIX

CHAPTER 1

INTRODUCTION

1.1 Project Background

A dictionary is an alphabetical listing of words with their meaning, spellings, variant forms, pronunciation, etymology, synonyms, antonyms as well as usage examples and usually in a single language.

A bilingual dictionary is a dictionary that translates words or phrases from one language to another. Bilingual dictionaries can be either *unidirectional*, meaning it translates only from language A to language B, or can be *bidirectional*, translating to and from both languages. The bi-directional bilingual dictionary usually groups words of one language alphabetically, with corresponding translations, in one section of the dictionary, dedicating the other section to the other language.

Currently, dictionaries are most commonly found in the form of a book, CD ROM or available on-line. The dictionary is an indispensable utility for every individual, but the convenience is however compromised when one is expected to carry the paper dictionary to access to words and their corresponding meaning. Besides that, by using paper dictionary, it can be such a hassle to flip through it page by page to search for a specific word. Technical, as all, dictionaries struggle to be kept up-to-date as most of the dictionaries are based on hard-copy editions. [1]

This project aims at the enhancement of existing bi-directional (bilingual) Malay-English translation dictionary named MEDict. MEDict is an easy-to-use mobile dictionary that is ideal reference tool for all those requiring quick access to word translations. MEDict will ideally suit J2ME mobile phones with GPRS connectivity.

1.2 Problem Statements

There are few problems and weaknesses identified from the current MEDict. Some of the problems are listed as below:

1.2.1 Limited translation content presentation

The initial mobile bilingual dictionary client application contains only the word entry, abbreviation, meaning of words and example usage of a word for word listing. The current MEDict does not provide the phonetic display function, so the mobile user may only knows the corresponding word translations without knowing the proper word pronunciation. [2] A phonetic transcription helps user to learn and pronounce the word accurately. So, the MEDict to be developed can have the phonetic content be added to provide more clear translation of a word such as phonetic.

1.2.2 Lack of user friendly

The user interface of the current MEDict is lack of user friendly. User may needs to navigate more screens in order to find certain function. Hence, the newer version that to be develop must improve the menu, provide more help tool and provide a clear and more quickly access to certain function. There is no proper labeling indicates the mode (English<>Malay/ Malay<>English) chosen by the user.

1.2.3 Lack of word readability

The initial version of MEDict's word entries are displayed only in one color formatted. Although it can be read clearly, however, it is difficult to differentiate each part, for example in English word entries, there are word class, translations and the word usage. Multi-color formatted word entries can be applied to enhance the readability of the content.

1.2.4 Limited search function

MEDict's user needs to enter the correct spelling of a word in order to get the exact word translation. It would be a problem if user unsure about the spelling of the exact word to search. This problem can be solved by providing sophisticated search using wildcards.