DEVELOPMENT OF MOBILE MESSAGING APPLICATION USING WIFI TECHNOLOGY: A STUDY IN PROMOTING CLASSROOM PARTICIPATION AND INTERACTION

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A thesis submitted to the Graduate School in partial
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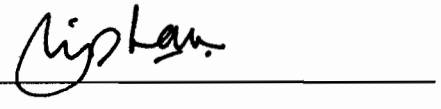
(Signature) : 

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ABSTRAK

Objektif kertas kerja ini adalah untuk menjalankan penyelidikan bagi mempromosikan penglibatan dan interaksi pelajar dan pensyarah di dalam bilik kuliah dengan menggunakan applikasi penhantaran mesej secara mobil. Dengan menggunakan applikasi penhantaran mesej ini, pelajar dapat menghantar mesej kepada pensyarah melalui peralatan mobil mereka. Rintangan yang menhalang interaksi antara pelajar dan pesyarah telah dibentangkan berdasarkan hasil daripada kaji selidik dan kajian pemerhatian. Hasil daripada ujikaji menunjukkan bahawa penggunaan applikasi penhantaran mesej boleh mempromosikan penglibatan pelajar di dalam kuliah dan mempromosikan interaksi antara pelajar dan pensyarah. Penggunaan applikasi haruslah disertakan dengan panduan terperinci dan dikuatkuasakan untuk memastikan kejayaan dalam mempromosikan interaksi antara pelajar dan pensyarah.

ABSTRACT

The goal of this qualitative paper was to conduct a study to promote classroom participation and interaction using a mobile messaging application that enable students to send messages to instructor using mobile devices. The study focused on the interaction between instructor and students. Barriers and challenges to students and instructor interaction are outlined based on literature reviews and observation studies. Results from the experiment shows that mobile messaging application promotes participation and increases interaction between students and instructor. Clear guidelines on use of mobile messaging application in classrooms must be drafted and enforced for successful implementation in promoting students and instructor interaction.

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LIST OF ABBREVIATIONS

3G	Third Generation
AOL	America Online
ATM	Ashyncronous Transfer Mode
CADP	Center of Affiliate and Diploma Programme
CFS	Computer Feedback System
CITS	Center for Information Technology Services
CLDC	Connected Limited Device Configuration
CVM	C Virtual Machine
DSL	Digital Subscriber Line
GSM	Global System for Mobile
HP	Hewlet Packard
HTTP	Hypertext Transfer Protocol
IEEE	Institute of Electrical and Electronics Engineers
IGX	ISDN Gateway Interface
IM	Instant Messaging
ISDN	Integrated Services Digital Network
ISP	Internet Service Provider
J2EE	Java 2 Enterprise Edition
J2ME	Java 2 Micro Edition
J2SE	Java 2 Standard Edition

JSR	Java Specification Request
JVM	Java Virtual Machine
KVM	K Virtual Machine
LAN	Local Area Network
LCD	Liquid Crystal Display
MIDP	Mobile Information Device Profile
MMS	Multimedia Message Service
MMU	Multimedia University
MP3	Media Player 3
MSN	Microsoft Network
MSU	Montclair State University
OS	Operating System
PC	Personal Computer
PDA	Personal Digital Assistant
PDAP	Personal Digital Assistant Profile
PIX	Private Internet Exchange Firewall
POSE	Palm OS Emulator
PRC	Palmpilot resource file
RIM	Research in Motion
RMIP	Remote Method Invocation Profile
SDSL	Symmetric Digital Subscriber Line
SMS	Short Messaging Service
SMSE	Scenario, Message, Synchronization, Evaluation
TCP/IP	Transmission Control Protocol/Internet Protocol
TMNET	Telekom Malaysia Network

UCD	User Centered Design
UDP	User Datagram Protocol
VPN	Virtual Private Network
WAN	Wide Area Network
WAP	Wireless Application Protocol
WLAN	Wireless Local Area Network

CHAPTER 1

INTRODUCTION

1.1 Preface

Mobile devices offer a lot of convenience to users and are known to increase productivity when users are away from their workplace. Mobile devices limitations are mainly its limited battery life, smaller screens compared to desktop computers and Internet connection speed is currently low. Besides this, mobile devices are also less robust compared to desktops, out of date very quickly, poor security level and upgrade difficulties (Satyanarayanan, 1996; Yuen & Yuen, 2005).

In view of the current limitations of mobile devices however, going mobile is increasingly becoming more common as more people are buying cell phones and other mobile devices. Mobile computing devices, also known as portable electronic tools, for example cell phones, personal digital assistants (PDAs), laptops and tablet PCs are changing our day-to-day lives by allowing us to communicate with others and accessing wide array of information no matter where we are.

Evans, Martin and Poatsy (2006) listed down six main reasons for the need to get mobile devices. They are the need to communicate with others, accessing

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