MOBILE PLUS EXPRESSWAYS TRAVEL ASSISTANT SYSTEM
(M-PEX)

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ABSTRACT

Most frequent PLUS Expressways users found it was difficult for them to access point-of-need information (e.g. toll fare, RSA, Touch 'n Go and etc.) while travelling on the expressways. Currently, the only way to do so was through the web based application. Thus, the purpose of this study is to develop a mobile application, Mobile PLUS Expressways Travel Assistant System (M-PEX) that will be able to assist PLUS Expressways users by providing on the spot information. M-PEX will focus on five main functions which are toll fare calculation, travel duration calculation, facilities, services provided by PLUS and PLUS user guide. M-PEX was developed using Rational Unified Process (RUP) methodology. A user acceptance testing and evaluation has been performed to evaluate the user's acceptance of M-PEX. The results of the testing show high reliability of M-PEX's ability to assist user by providing on the spot information. They also show some interesting differences in user response between the users who owns transportation and users who does not owns transportation, due to differences in the frequency of using PLUS Expressways.

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LIST OF ABBREVIATION (S)

ABBREVIATIONS	TERM
PLUS	North South Highway Project
M-PEX	Mobile PLUS Expressways Travel Assistant
RUP	Rational Unified Process
UML	Unified Modelling Language
CAS	College of Arts and Sciences
ELITE	Middle Link Expressway
LINK	Second Link Highway
KLBK	Butterworth-Kulim Expressway
RSA	Rest and Service Area
OBR	Overhead Bridge Restaurant
CSC	Customer Services Centre
J2ME	Java 2 Micro Edition
NKVE	New Klang Valley Epressway
FHR2	Federal Highway Route 2
SPDH	Seremban Port Dickson Highway
SDLC	System Development Life Cycle

ABBREVIATIONS	TERM
SPSS	Statistical Package for the Social Sciences
CLDC	Connected Limited Device Configuration
MIDP	Mobile Information Device Profile
SE	Sony Ericsson
JP-6	Java Platform 6
IDE	Integrated Development Environment
SDK	Software Development Kit
CHIN	Canadian Heritage Information Network
WAP	Wireless Application Protocol
JAR	Java Archive File
JAD	Java Application Descriptor
KMPH	Kilometre Per Hour
ATM	Automatic Taylor Machine
T'nG	Touch n Go
GPS	Global Positioning System
ICT	Information Communication Technology

CHAPTER 1
INTRODUCTION

1.1   Overview

Today's people are living in a more technical world than ever, a world that to a greater extent consists of surroundings and objects created by mankind (Edstrom & Rosberg, 2003). In this technical world the use of information technology is of significant importance (Edstrom & Rosberg, 2003). Recent advancement in mobile and wireless technology has helped to improve many activities such as services (Siau & Shen, 2003), facilities and commerce (Siau, Lim, & Shen, 2001; Krogstie, Lyytinen, Opdahl, Pernici, Siau & Smolander, 2003; Galanxhi-Janaqi & Nah, 2004). Mobile technology is strategic to many organizations and activities (Nah, Siau & Sheng, 2005; Sheng, Nah & Siau, 2005).

While the world is becoming more technical the people that populate it become more mobile. Today's people travel longer distance than ever, people's work situations are more challengeable than they used to be and we seem to be an on our way at all times. People are on the move, both at work and otherwise. At most workplaces of today, people face situations in which they must be mobile in carrying out ordinary tasks (Krisoffersen & Ljungberg, 1999). This increased mobility among people in our information society increases the need of being able to access information independent of location (Dahlbom & Ljungberg, 1999). One way of accessing necessary information when being mobile is to use Mobile Internet services. Mobile application works closely with the client. It can become a wireless or not wireless environment.

Mobile application that was developed is an application that is related to Projek Lebuhraya Utara-Selatan (PLUS) expressways. Today PLUS is recognized as a major service provider in the Malaysian transportation industry, having successful undertaken the implementation of the single largest privatization project in the country. PLUS Expressways is involved in investment holding and the provision of expressway

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