

**WAP-based Library Services and Online E-book Service for
Rural Community**

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**UNIVERSITY UTARA MALAYSIA
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**WAP-based Library Services and Online E-book Service for
Rural Community**

A thesis submitted to the Graduate School in partial fulfillment of the
requirements for the degree Master of Science
(Information and Communication Technology)
UNIVERSITY UTARA MALAYSIA

By

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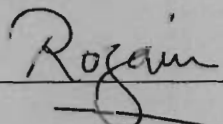
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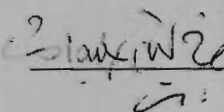
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ABSTRACT

Both the wireless data market and the Internet are growing very quickly and are continuously reaching new customers. The explosive growth of the Internet has fuelled the creation of new and exciting information services. Many rural people are not able to enjoy facilities and opportunities to improve their quality of lives as those in the urban. Thus the goals of this research were to develop library services application for rural community using WAP and Web technologies. The development process and problems encountered when designing the prototype were discussed. The usability testing conducted in this research revealed the application is effective.

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TABLE OF CONTENT	
PERMISSION TO USE	i
ABSTRACT	ii
ACKNOLOGMENT	iii
TABLE OF CONTENT	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF CHARTS	viii
LIST OF ABBREVIATIONS	ix
CHAPTER 1 INTRODUCTION	1
1.1 Introduction	1
1.2 Problem statement	8
1.3 Research objectives	10
1.4 Scope of the study	10
1.5 Research significance	11
1.6 Thesis Organization	12
1.7 Summary	13
CHAPTER 2 LITERATURE REVIEW	14
2.1 Mobile technology and rural communities	14
2.2 The importance of e-learning and e-book	15
2.3 Information and communication technology for development (ICT4D)	17
2.4 Background of telecentres	18
2.5 Features and advantages of telecentres	19
2.6 Telecentres and universities	21
2.7 Related works	22
2.8 Summary	25
CHAPTER 3 RESEARCH METHODOLOGY	26
3.1 Phase A: Conduct analysis study to the current system	28
3.1.1 Interviews	28
3.1.2 Analysis phase deliverable	28
3.2 Phase B: Design prospective system	29
3.2.1 Design phase deliverable	29
3.3 Phase C: Implementation phase	29
3.3.1 Implementation phase Deliverable	30
3.4 Phase D: Testing Phase	30
3.4.1 Usability test	30
3.4.2 Testing phase Deliverable	31
3.5 Summary	31

CHAPTER 4 RESULTS	32
4.1 System Analysis.	32
4.1.1 List of Requirements.	32
4.1.1.1 Functional Requirements.	32
4.1.1.2 Non- Functional Requirements.	33
4.1.2 Use case diagram.	34
4.1.3 Use Case Specifications.	35
4.1.3.1 Use case: Login.	35
4.1.3.2 Use case: Search book.	37
4.1.3.3 Use case: Borrow Book.	39
4.1.3.4 Use case: Renew Book.	40
4.1.3.5 Use case: Read E-book.	42
4.1.4 Sequence Diagrams.	43
4.1.4.1 Login use case diagram.	44
4.1.4.2 Search Book use case diagram.	44
4.1.4.3 Borrow Book use case diagram.	45
4.1.4.4 Renew Book USE use case diagram.	45
4.1.4.5 Read E-book USE use case diagram.	46
4.1.5 Collaboration Diagrams.	46
4.1.5.1 login use case collaboration diagram.	47
4.1.5.2 Search Book use case collaboration diagram.	47
4.1.5.3 Borrow Book use case collaboration diagram.	48
4.1.5.4 Renew Book use case collaboration diagram.	48
4.1.5.5 Read E-book use case collaboration diagram.	49
4.2 System Design	49
4.2.1 Database Design	49
4.2.2 Class Diagram	52
4.3 Implementation	53
4.3.3 Findings and Results	53
4.3.3.1 Introduction	53
4.3.3.2 Interface design for the system	54
4.4 System Testing	61
4.4.1 Description of the test case	62
4.4.2 Software Testing	64
4.4.2.1 Usability Testing	64
4.4.2.2 Usability testing results	65
4.5 Summary:	75
CHAPTER 5 DISCUSSIONS OF RESULTS	76
5.1 Summary	77
CHAPTER 6 CONCLUSION	78
6.1 Limitation	78
6.2 Recommendations	78
6.3 Future Works	80
6.4 Conclusion	80
6.5 Summary	80
REFERENCES	81

APPENDIX A: QUESTIONNAIRE	84
APPENDIX B: CODING	88

LIST OF TABLES	
Table 4.1, the functional requirements	33
Table 4.2, the non-functional requirements	34
Table 4.3, login table description	49
Table 4.4, user table description	50
Table 4.5, book table description	50
Table 4.6, booking table description	51
Table 4.7, list of Functionality test	63

LIST OF FIGURES	
Figure 1.1, Penetration rate per 100 inhabitations in Malaysia rural communities	8
Figure 3.1, Research Methodology Phases	27
Figure 4.1 Use Case Diagram	35
Figure 4.2: Login Use Case	35
Figure 4.3: Search Book Use Case	37
Figure 4.4: Borrow Book Use Case	39
Figure 4.5: Renew Book Use Case	40
Figure 4.6: Read e-book Use Case	42
Figure 4.7: Sequence Diagram (Login Use Case)	44
Figure 4.8: Sequence Diagram (Search Book Use Case)	44
Figure 4.9: Sequence Diagram (Borrow Book Use Case)	45
Figure 4.10: Sequence Diagram (Renew Book Use Case)	45
Figure 4.11: Sequence Diagram (read e-Book Use Case)	46
Figure 4.12: Collaboration Diagram (Login Use Case)	47
Figure 4.13: Collaboration Diagram (Search Book Use Case)	47
Figure 4.14: Collaboration Diagram (Borrow Book Use Case)	48
Figure 4.15: Collaboration Diagram (Renew Book Use Case)	48
Figure 4.16: Collaboration Diagram (read e-Book Use Case)	49
Figure 4.17: library services system class diagram	52
Figure 4.18: Telecenter WAP Library services Main Page	54
Figure 4.19: WAP Library Services Login Page	55
Figure 4.20: Telecenter WAP Library Services search & renew Page	56
Figure 4.21: Telecenter WAP Library Services Search Page	57
Figure 4.22: Telecenter WAP Library Services Search Page details	58
Figure 4.23 Telecenter WAP Library Services Page (booking details)	59
Figure 4.24: Telecenter WAP Library Services book details and Renew Page	60
Figure 4.25: Telecenter E-book service home page.	61

LIST OF CHARTS	
Chart 4.1: Navigation Test (Q1)	65
Chart 4.2: Navigation Test (Q2)	66
Chart 4.3: Navigation Test (Q3)	66
Chart 4.4: Functionality Test (Q1)	67
Chart 4.5: Functionality Test (Q2)	67
Chart 4.6: Control Test (Q1)	68
Chart 4.7: Control Test (Q2)	68
Chart 4.8: Control Test (Q3)	69
Chart 4.9: Language Test (Q1)	69
Chart 4.10: Language Test (Q2)	70
Chart 4.11: Language Test (Q3)	70
Chart 4.12: Consistency Test (Q1)	71
Chart 4.13: Consistency Test (Q2)	71
Chart 4.14: Consistency Test (Q3)	72
Chart 4.15: Visual Clarity Test (Q1)	72
Chart 4.16: Visual Clarity Test (Q2)	73
Chart 4.17: Visual Clarity Test (Q3)	73
Chart 4.18: Visual Clarity Test (Q4)	74
Chart 5.1: System's Users Satisfactions	76

LIST OF ABBREVIATIONS

ASP.NET: Active Server Pages
CIDA: Community and Individual Development Association
DANIDA: Danish International Development Agency
E-Book: Electronic Book
E-Centres: Electronic centres
E-Learning: Electronic Learning
E-Mail: Electronic Mail
FAO: Food and Agriculture Organization
HREOC: Human Rights and Equal Opportunity Commission
HTTP: Hypertext Transfer Protocol
ICT: Information and Communication Technology
ICT4D: Information and Communication Technology for Development
IDRC: the International Development Research Centre
IT: Information Technology
ITU: International Telecommunications Union
ITC: International Association of Telecentres
IS: Information System
LS: Library Service
PC: Personal Computer
PDA: Personal Digital Assistant
TV: Television
UUM: Utara University Malaysia
UNDP: United Nations Development Programme
U.S: The United States
USA: The United States of America
UN: United Nations
UNESCO: United Nations Organisation for Education, Science, Culture and Communications'
UML: Unified Modeling Language
URL: Unified Modeling Language
WAP: Wireless Application Protocol
Web: World Electronic Broadcast
WHO: World Health Organization
WML: Wireless Markup Language
WWW: World Wide Web
XML: Extensible Markup Language
GPRS: General Packet Radio Services
ISP: Internet Service Provider

CHAPTER ONE

INTRODUCTION

1.1 Introduction

WAP is defined as an open specification that offers a standard method to access Internet based services and content using wireless devices such as mobile phones and PDAs. The WAP model is very similar to the traditional desktop Internet. WAP is also can be defined as an enabling technology that will bridge the gap between the mobile world and the Internet world, bringing sophisticated solutions to mobile users, independent of the user and network (Salvatore, 2006).

Web services; usually include some combination of programming and data, which are made available by web server for web users and other web connected programs. The accelerating creation and the availability of these services is a major computing trend as software is becoming increasingly distributed and also web-based. Web services are the next logical step for web-based computing and will have a great impact in the future on the way business is conducted on the web. As web services involve many different systems that communicate with each other, they are particularly important following the proliferation in the range of computing devices (PCs, PDA's mobile telephones, hand held computers etc). Web services extend the WWW infrastructure to provide the means to make software connect to other software applications. Applications can access Web services via ubiquitous Web protocols and data formats such as XML and HTTP, with no need to worry about how each Web service is

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