

#### University of Moratuwa

### Faculty of Information Technology

LIBRARY UNIVERSITY OF MORATUWA, SRI LANKA MORATUWA

# Archives Management System For National Archives Department Of Sri Lanka

D.U.R SUMANAWEERA

Registration No: PGIT/09/095

Index No: 108576H

Supervised by: Dr. Prasad Wimalaratne

University of Moratuwa

107135

004 "13"

This dissertation is submitted in partial fulfilment of the requirement of the Degree of MSc in Information Technology of the University of Moratuwa

107135

August 2013

#### Declaration

I declare that this dissertation does not incorporate, without acknowledgment, any material previously submitted for a Degree or a Diploma in any University and to the best of my knowledge and belief, it does not contain any material previously published or written by another person or myself except where due reference is made in the text. I also hereby give consent for my dissertation, if accepted, to be made available for photocopying and for interlibrary loans, and for the title and summary to be made available to outside organization.

Signature of Student

Randa

Name of Student: D.U.R Sumanaweera

Date: 29/08/2013

Signature of Supervisor

Name of Supervisor: Dr. Prasad Wimalaratne

Date: 29/08/2013

#### **Abstract**

Globalization has made the people around the world inter connected. Technology has become an increasing a vital component in the service sector today. The recent developments of technology have formed innovative concepts and environment in Sri Lanka. As a result of the development of the technology, one of the latest concepts merges to the National Archives Department of Sri Lanka. This project is about developing an e-commerce website with Content Management System (CMS) and advance forum for National Archives Department of Sri Lanka to trade their archives online and convert their current manual service process to computerized online service. It provides the users with a catalogue of different archives content available for purchase in the store and also users can request and purchase many services. There are many disadvantages of the current paper based system. Some of them are, the customers need to visit at least two times to the premises to get archival, time consuming, very low data share ability and security papers can be misplaced and will not be able to access the data.

The key objective of this project is to develop a proper e-commerce system with content manage system to help National Archives Department of Sri Lanka for convert current manual paper based system in to a computerized major proportions of their archives management activities and normal day to day activities. In order to develop content management system with an e-commerce system and advance forum system, a number of technologies must be studies and understood. This proposed system was developed using several free open source technology. Drupal was used to develop the CMS along with PHP and MySQL database management system. The proposed system will be running on an Apache web server. The proposed computer based solution is expected to be highly functional and user friendly enabling the staff of National Archives Department of Sri Lanka to perform well. The proposed system should eliminate data redundancy, data inconsistency. The proposed solution also improves employer abilities, employer skills, working efficiency, security and achieves the aspired targets. This website is expected to be attractive and be simple enough to understand by an average user.

## Contents

		Pa Pa	ges		
Chapte	er 1 -	Introduction			
1	l.1	Introduction	1		
1	l <b>.2</b>	Background	1		
1	1.3	Aims and Objectives of the Study	3		
1	l <b>.4</b>	Scope of the Study	3		
1	l <b>.5</b>	Structure of the Report	4		
1	1.6	Summary	4		
Chante	er 2 -	Background of the System			
		Introduction	5		
		Background of the system	_		
		Subsystems of Archives Management System			
_		2.3.1 Archives Service Request Process System			
		2.3.2 Archives Order from Archives Store System			
		2.3.3 Government or Semi Government Document Manage			
		Process System			
2		nparison with Similar Systems			
		2.4.1 Archives Service Request Subsystems and Other E-	· ·		
		Commerce System	8		
		2.4.2 Government and Semi Government Document Manage	. 0		
		Process and Other Forums	. 8		
		2.4.3 Archives Management System and Other Ecommerce			
		Software Base System	9		
2		nmary			
Chapte	r 3	Analysis			
3.	3.1 introductions 10				
3.	3.2 Current Process 10				
3.	.3 Dra	wbacks of the Current System	12		
3.	.4 Fun	ctional Requirements	12		
	- :	3.4.1 Functional Requirements for General System Features	12		

3.4.1.1 Add link to top menu in the site 1	2
3.4.1.2 Change the site content 1	2
3.4.1.3 Configured the Products and Services from	om
backend 1	3
3.4.1.4 Provide Search Facility 1	3
3.4.1.5 Maintain Customer Profile 1	3
3.4.1.6 Provide Personalized Profile1	3
3.4.1.7 Email Confirmation 1	3
3.4.1.8 Detailed Invoice for Customer1	3
3.4.1.9 Provide Shopping Cart Facility1	3
3.4.1.10 Provide Multiple Shipping Methods 1	4
3.4.1.11 Online Tracking of Shipments	4
3.4.1.12 Allow Payment Methods1	4
3.4.1.13 Allow Online Change or Cancellation of Order	14
3.4.1.14 Online Purchase of Products or Service1	4
3.4.2 Functional Requirements to Archives Service Requ	est
Process1	4
3.4.3 Functional Requirements to Government or Se	mi
Government document management process system1	15
3.5 Non Functional Requirements	15
3.5.1 Usability	.15
3.5.1.1 Graphical User Interface	15
3.5.1.2 Performance	.15
3.5.2 Security	.16
3.5.2.1 Data Transfer	.16
3.5.2.2 Data Storage	.16
3.5.3 Supportability	.16
3.5.3.1 Configuration Management Tool	16
3.5.3.2 Design Constraints	.16
3.6 Proposed Suggestion	.16
3.7 Summary	.21

# Chapter 4 – Design 4.2 Design of the New System...... 22 4.2.3 Government and Semi-Government Document Management Process......27 4.3 Summary......28 Chapter 5 – Implementation and Testing 5.1 Introduction.......29 5.3 Hardware Interfaces......29 5.4 Software Requirements......29 5.5 Software Interfaces......29 5.6 APIs......30 5.7 Payment Gateway......30 5.8 Graphical User Interfaces of the System......31 5.9 Test Plan and Test Results......42 5.9.1 Main Test Plan......42 5.9.2 Functionality Test......42 5.9.3 Browser Compatibility......43 5.9.4 Page Display......43 5.9.5 Shopping, order processing and purchasing......43 5.9.6 Internationalization......44 5.9.7 Performance......44 5.9.8 Login and security......44 5.10 Summary.......45 Chapter 6 - Evaluation 6.1 Introduction.......46 6.2 Feasibility Study Phase of Current Paper Base System.......46 6.3 Requirements Gathering Phase and Used Techniques......46

6.4 System Design, Development and review phases47
6.5 System Implementations, Testing and user train phases47
6.6 Summary47
Chapter 7 - Conclusions & Further Work
7.1 Introduction48
7.2 Conclusion48
7.3 Future Work49
References50
Appendix A52
Appendix B53
Appendix C54
List of Tables
Table 1: Archives Service Request Process18
Table 2: Archives Order from Archives Store19
Table 3: Government and Semi Government Document Request Process20
Table 4: Other Process20
List of Figures
Figure 1: Archives Service Order
Figure 2: Archives Order from Archives Store
Figure3: Government and Semi Government Document Management Process

## List of Acronyms and Abbreviations

- 1. SQL Structured Query Language
- 2. HTML Hyper Text Mark-up Language
- 3. GUI Graphical User Interface
- 4. PDF Portable Document Format (Open Standard File Format)
- 5. MySQL Free Open Source Database Management System
- 6. Linux Free Open Source Operating System
- 7. BSD Free & Open Source Operating System
- 8. RAM Read Access Memory
- 9. Adobe™ Reader Adobe's Free PDF Reader
- 10. Evince Free Open Source PDF Viewer for Linux
- 11. CMS Content Management System
- 12. SMS -Short Message Service
- 13. OZEKI NG SMS gateway use HTTP SMS connections
- 14. PHP Hypertext Pre-processor Programming Language
- 15. Drupal Open source content management system
- 16. IP Internet Protocol
- 17. SEO Search Engine Optimization



## Acknowledgments

It gives me great pleasure in expressing my gratitude to all those who have supported me and had their contributions in making this dissertation possible.

First and foremost, I would like to express my deepest gratitude to my supervisor, Dr. Prasad Wimalaratne for his excellent guidance, encouragement and advice he has provided throughout this study.

It is with immense gratitude that I acknowledged the support and the encouragement of Dr. SarojaWettasingha, my project assessor throughout my study. I would also like to thank all the lectures who shared their valuable knowledge with us and members of staff at University of Moratuwa who helped me in numerous ways during my study.

Finally, I would like to thank my family, friends and all others who helped me to make this study a reality.