

**FRAMEWORK FOR SELANGOR STATE GOVERNMENT TOWARDS  
ELECTRONIC GOVERNMENT**

**HARJEET SINGH**

**UNIVERSITI UTARA MALAYSIA 2001**

---

# **FRAMEWORK FOR SELANGOR STATE GOVERNMENT TOWARDS ELECTRONIC GOVERNMENT**

A thesis submitted to the Graduate School in partial fulfillment of the  
requirements for the degree Master of Science (Information Technology),  
Universiti Utara Malaysia

by

Harjeet Singh

© Harjeet Singh, July 2001. All rights reserved

---



Sekolah Siswarah  
(Graduate School)  
Universiti Utara Malaysia

SERTIFIKAT LEMBAR KERTAS PROJEK  
(Certification of Project Paper)

Saya, yang berandatangan, memperakukan bahawa  
(I, the undersigned, certify that)

**HARJEET SINGH**

calon untuk ijazah  
(candidate for the degree of) **MASTER OF SCIENCE (INFORMATION TECHNOLOGY)**

telah mengemukakan kertas projek yang bertajuk  
(has presented his/her project paper of the following title)

**FRAMEWORK FOR SELANGOR STATE GOVERNMENT TOWARDS ELECTRONIC  
GOVERNMENT**

Duplikat yang tercatat di muka surat tajuk dan kulit kertas projek  
(as it appears on the title page and front cover of project paper)

bahawa kertas projek tersebut telah diterima dari segi bentuk serta kandungan,  
dan dianggap memuaskan. (that the project paper is acceptable in form and content, and that a satisfactory  
knowledge of the field is covered by the project paper.)

Nama Pengajar  
(Name of Supervisor) : **PROF. MADYA SHARUM HASHIM**

Tandatangan  
(Signature)

Tarikh  
(Date)

**02 JULAI 2001**

## PERMISSION TO USE

In presenting this thesis in partial fulfillment of the requirements for a post graduate degree from Universiti Utara Malaysia, I agree that the University Library may make it freely available for inspection. I further agree that permission for copying of this thesis in any manner, in whole or in part, for scholarly purposes may be granted by my supervisor(s) or, in their absence, by the Dean of the Graduate School. It is understood that any copying or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to Universiti Utara Malaysia for any scholarly use which may be made of any material from my thesis.

Requests for permission to copy or to make other use of materials in this thesis, in whole or in part, should be addressed to:

Dean of Graduate School,  
Universiti Utara Malaysia,  
06010 UUM Sintok,  
Kedah Darul Aman.

## **ABSTRAK**

Tujuan kajian ini ialah untuk menyediakan sebuah kerangka bagi Kerajaan Negeri Selangor ke arah pencapaian kerajaan berelektronik. Memandangkan Koridor Raya Multimedia (MSC) terletak secara strategik di negeri Selangor, adalah penting bagi Kerajaan Negeri Selangor untuk menyokong sepenuhnya aspirasi Kerajaan Persekutuan dalam memastikan kejayaan kerajaan berelektronik dalam perkhidmatan awam.

Sehubungan itu, sebuah kerangka bagi Kerajaan Negeri Selangor ke arah kerajaan berelektronik akan menjadi sumber rujukan kepada jabatan-jabatan kerajaan yang berkaitan di negeri Selangor. Sudah tiba masanya untuk Kerajaan Negeri Selangor melaksanakan konsep kerajaan berelektronik serta mengambil langkah proaktif ke arah pelaksanaan konsep ini di dalam jentera kerajaan negeri.

Skop kajian ini adalah terhad kepada jabatan-jabatan kerajaan yang terletak di Bangunan Sultan Salahuddin Abdul Aziz Shah (SSAAS), Shah Alam serta pejabat-pejabat daerah. Pihak-pihak berkuasa tempatan di negeri Selangor tidak termasuk di dalam skop kajian ini.

Kaedah-kaedah yang digunakan dalam menjalankan kajian ini ialah kajian awalan, analisa, dan pembentukan kerangka. Data primer dan sekunder pula diperolehi melalui kaedah-kaedah berikut: penelitian dokumen, penyelidikan, pemerhatian dan perbincangan dengan pegawai Pusat Komputer Negeri Selangor.

Daripada analisa yang dijalankan, kajian ini dapat mencadangkan sebuah kerangka kerajaan berelektronik kepada Kerajaan Negeri Selangor yang merangkumi: aplikasi sistem, "portal", jabatan teknologi maklumat dan komunikasi, ketua pegawai maklumat (CIO), rangkaian, pengguna dan keselamatan.

Kerangka yang dihasilkan akan memberikan panduan Kerajaan Negeri Selangor bagi pengurusan teknologi maklumat secara lebih efektif bagi mencapai objektif kerajaan negeri, iaitu memberikan perkhidmatan yang berkualiti kepada masyarakat.

Sehubungan itu, Selangor sebagai negeri yang terunggul di Malaysia, perlu memainkan peranan yang penting dalam melaksanakan konsep kerajaan berelektronik. Memandangkan teknologi akan semakin pesat berkembang, Kerajaan Negeri Selangor perlu menghadapi cabaran kerajaan berelektronik dalam abad ke-21.

## **ABSTRACT**

The purpose of this study is to develop a framework for the Selangor State Government towards achieving electronic government (EG). This is due to the fact that the Multimedia Super Corridor (MSC) is strategically located in the Selangor, and it is crucial for the state government to fully support the aspirations of the Federal Government in ensuring the success of EG in the public sector.

Therefore, a framework for the Selangor State Government to achieve electronic government will be a reference for all the relevant departments in the state. The time is now ripe for the Selangor State Government to internalize the EG concept and to take proactive actions towards implementing EG in the state machinery.

The scope of this study is confined to government departments that are located at Bangunan Sultan Salahuddin Abdul Aziz Shah (SSAAS), Shah Alam and District Offices. The local authorities, such as municipal and district councils, would not be covered in this study.

The methods undertaken by this study are preliminary investigation, analysis, and design and developing the framework. In order to collect data (primary and secondary) for this paper, the following methods were used: document review, research, observations, and discussions with the officers of the Selangor State Computer Centre.

From the analysis conducted, this paper was able to propose a framework for the Selangor State Government that covers: application systems, portal, Information and Communication Technology department, Chief Information Officer, network, users, and security.

As a result, this framework provides a guide for the effective management of information technology by the Selangor State Government. The primary role of information technology is to support the business objectives of the Selangor State Government and facilitate government departments efforts to provide efficient and effective services to the people of Selangor and those who need its services.

Selangor, as the leading state in Malaysia, should therefore play a significant role towards successfully implementing the EG concept. Since technology will continue to advance rapidly, the Selangor State Government must face the challenges of electronic government to thrive in the 21<sup>st</sup> century.



## **ACKNOWLEDGEMENTS**

I would like to gratefully acknowledge the contributions of several people who have helped me to complete this project. Firstly, I would like to acknowledge the opinion and suggestions given by my colleagues from the Selangor State Computer Centre, namely Puan Fatmah Mahmud, Encik Rosni Ali Mokhtar, Puan Ruzidah Mansor and Puan Norhata Idris.

Next, I would like to express my gratitude to my project supervisor, Associate Professor Shahrum Hashim, for his tireless guidance.

Last, but not least, I would like to thank my former head of department at Unit Perancang dan Pembangunan Negeri, Pejabat Setiausaha Kerajaan Selangor, Y.Bhg. Dato' Mohd. Sinon bin Mudzakir, for creating and nurturing a culture at the office that actively promotes learning and personnel development. His dynamic leadership is very much appreciated.

To both my loving parents,  
my wife, Amreeta,  
and my daughters, Anisha Haveena and Aveeta Hareena.

## TABLE OF CONTENTS

PERMISSION TO USE	Page I
ABSTRACT (BAHASA MALAYSIA)	II
ABSTRACT (ENGLISH)	IV
ACKNOWLEDGEMENTS	VI
LIST OF TABLES	XII
LIST OF FIGURES	XIII
CHAPTER 1 : INTRODUCTION	1
1.1 Problem Statement	1
1.2 Objective	4
1.3 Scope of study	5
1.4 Significance of study	5
1.5 Schedule	6
1.6 Deliverables	6
CHAPTER 2 : ORGANIZATION BACKGROUND OF SELANGOR STATE GOVERNMENT	7
2.1 Vision 2005	8
2.2 State Government machinery	11
2.3 Electronic government in Selangor	13
CHAPTER 3 : LITERATURE REVIEW	15
3.1 Definition of framework	15
3.2 Definition of electronic government	15

3.3	Electronic government in Malaysia	17
3.4	Vision for electronic government	19
3.5	Objectives of electronic government	21
3.6	Approach of electronic government	22
3.7	Scope of electronic government	23
3.8	Benefits of electronic government	29
CHAPTER 4 : METHODOLOGY		31
4.1	Data collection	31
4.2	Process in developing the framework	33
4.3	Reference model	33
CHAPTER 5 : SWOT ANALYSIS		35
5.1	Strengths	35
5.2	Weaknesses	37
5.3	Opportunities	40
5.4	Threats	44
CHAPTER 6 : APPLICATION SYSTEMS		47
6.1	Current scenario in Selangor	48
6.2	Proposed framework for Selangor State Government	49
CHAPTER 7 : PORTAL		54
7.1	Government portal	55
7.2	Current scenario in Selangor	57
7.3	Proposed framework for Selangor State Government portal	58

CHAPTER 8 : ICT DEPARTMENT	62
8.1 Organization structure	62
8.2 Objectives	65
8.3 Role of Selangor State Computer Centre	65
8.4 Proposed framework	66
8.5 Future of Selangor State ICT Department	71
CHAPTER 9 : CHIEF INFORMATION OFFICER	72
9.1 Attributes of a CIO	72
9.2 Current scenario at Pejabat SUK Selangor	75
9.3 Proposed framework: roles and responsibilities of CIO in SUK Selangor	76
9.4 Proposed machinery to back-up CIO at SUK Selangor	77
CHAPTER 10 : NETWORK	79
10.1 Current Selangor State network set-up	79
10.2 Proposed framework for network	82
CHAPTER 11 : USERS	85
11.1 Government employees	85
11.2 Government employees user survey	86
11.3 Government employees user survey findings	86
11.4 Proposed framework for government employees	90
11.5 Public	92
11.6 Current scenario on public literacy and usage of IT	93
11.7 Proposed framework for the public	93

CHAPTER 12 : IT SECURITY	95
12.1 Definition of IT security	96
12.2 The concern	97
12.3 Current scenario at Selangor State Government	98
12.4 Security framework for Selangor State Government	100
CHAPTER 13 : CONCLUSION	104
13.1 Achievement	104
13.2 Shortcomings and suggestions	105
13.3 Conclusion	105
REFERENCES	107
APPENDIX A	109

## **LIST OF TABLES**

<b>TABLE NO.</b>	<b>TITLE</b>	<b>PAGE</b>
1.1	Study Implementation Schedule	6
4.1	Electronic Government Reference Models	33
6.1	Major Systems Developed By Selangor State Computer Centre	47
6.2	Suggested New Consolidated Systems	51
7.1	URL Of Government Departments in Selangor	57
8.1	General Duties of Each Units	68
8.2	Key Personnel Needed For ICT Department	68
12.1	Data Obtained from Computer Break-ins	98

## LIST OF FIGURES

FIGURE NO.	TITLE	PAGE
2.1	Map of Selangor	7
2.2	Hierarchy of Selangor State Administration	12
2.3	Pejabat SUK Selangor Organizational Chart	13
3.1	Electronic Government in Malaysia	18
3.2	Vision for Electronic Government	20
3.3	Scope of Electronic Government	23
3.4	Electronic Government Applications	25
3.5	Scope for Electronic Procurement	26
3.6	General Office Environment Objectives	27
3.7	Human Resource Management Information System Objectives	28
3.8	Scope of Project Monitoring System	29
7.1	Typical Citizen's Transactions With Selangor State Government	58
7.2	- Ideal Citizen Interaction With The Selangor State Electronic Government	59
8.1	Selangor State Computer Centre Organizational Structure	64
8.2	Proposed ICT Department Organizational Structure	67
10.1	Selangor Net Network (Shah Alam to all districts in Selangor)	80
10.2	Ethernet LAN Network At Government Departments in Selangor	81
11.1	Users of Word Processor	88



11.2	Users of Presentation Software	88
12.1	The Defaced Selangor State Web Site	99

## **CHAPTER 1**

### **INTRODUCTION**

When the Multimedia Super Corridor (MSC) was introduced by the Federal Government to accelerate Malaysia's progress towards the Information Age, seven primary areas were identified to lead the development of the MSC.

Known as "flagship applications", these applications will initially be developed by the Government in partnership with companies, both Malaysian and international, to create opportunities for the leading-edge multimedia applications.

One of the seven flagship applications is in the area of Electronic Government. This application is aimed at reinventing government work processes. It seeks to improve the way the government operates and deliver its services to the people.

Services delivered by the government to the people are expected to be more convenient with the relevant offices becoming more accessible, coupled with quality interactions between government officers and the general public and corporate entities.

#### **1.1 PROBLEM STATEMENT**

Since the inception of the EG concept in 1996, the vision, objectives, implementation blueprint, policies, and standards of EG have been disseminated by the Federal Government to all government agencies, including the state governments. This is done through meetings, seminars

The contents of  
the thesis is for  
internal user  
only

## REFERENCES

1. McLeod, Raymond, 1998. **Management Information Systems**. 7<sup>th</sup>. Edition. New Jersey: Prentice-Hall International Inc. pp. 573 - 580.
2. Sellappan, P., 1998. **Information Technology In Business**. 2<sup>nd</sup>. Edition. Selangor: Times Offset. pp. 18-1 – 18-26.
3. Zwass, Vladimir, 1998. **Foundations of Information Systems**. 1<sup>st</sup>. Edition. Massachusetts: Irwin McGraw Hill. pp. 517 - 537.
4. Edwards, Chris, 1995. **The Essence of Information Systems**. 2<sup>nd</sup>. Edition. Hertfordshire: Prentice-Hall International Inc. pp. 173 - 174.
5. Alter, Steven, 1996. **Information Systems: A Management Perspective**. 2<sup>nd</sup>. Edition. California: Benjamin Cummings Publishing Co. Inc. pp. 99 - 100.
6. Gates, Bill, 1996. **The Road Ahead**. 1<sup>st</sup>. Edition. New York: Penguin Books. p. 301.
7. Stair, Ralph M., 1998. **Principles of Information Systems**. 3<sup>rd</sup>. Edition. Massachusetts: Course Technology. pp. 607 - 622.
8. Anuar Maarof, 1997. **Developing The Infrastructure For Electronic Government**. Kuala Lumpur.
9. Caldow, Janet, 2001. **Seven E-Government Leadership Milestones**. IBM Corporation.
10. Caldow, Janet, 1999. **The Quest For Electronic Government: A Defining Vision**. IBM Corporation.
11. National Electronic Commerce Coordinating Council, 1999. **Electronic Government: A Blueprint for States**. USA.

12. National Electronic Commerce Coordinating Council, 2000. **Critical Business Issues In the Transformation to Electronic Government**. USA.
13. The Council For Excellence In Government, 2000. **E-Government: The Next American Revolution**. USA.
14. Selangor State Government: **Wawasan 2005**
15. Microsoft E-Government News, 2001. <http://www.microsoft.com>.
16. Computerworld News, 2001. <http://www.computerworld.com>
17. Utah State Official Website. <http://www.cio.state.ut.us>
18. Unit Pemodenan Tadbiran Malaysia (MAMPU).  
[http://www.mampu.gov.my/EG/EG\\_Vision.html](http://www.mampu.gov.my/EG/EG_Vision.html)
19. <http://www.mampu.gov.my/EG/EGPMMessage.html>
20. <http://www.mail-archive.com/do-wire@tc.umn.edu/msg00056.htm>
21. [http://www.msc-2020.com/msc\\_elecgov.html](http://www.msc-2020.com/msc_elecgov.html)
22. The Collins Dictionary (New Edition), 1991.
23. The Oxford Advanced Learner's Dictionary, 1990.