

HEURISTIC DESIGN FOR E-GOVERNMENT PORTAL

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To my beloved parents and family

ABSTRACT

e-Government has received an enormous attention recently and becomes a powerful tool in providing services to the government, citizens and business. However, there are too many styles and designs for e-Government Portal and no standardization has been set up yet. Thus, there is a need that e-Government Portal be standardized. Therefore, a need for standard design and function in e-Government Portal becomes more apparently these recent years in order to increase e-Government Portal effectiveness. One of the means of solving this problem is by following a standard design guideline. Hence, existing design guideline and the knowledge of heuristic must be explored and studied so that a specific guideline for e-Government Portal could be created. Previous studies reported that, there are lacks of design guideline for developing good e-Government Portal in terms of format and function. Usability in the website has become a crucial factor that should be considered. It reflects how a user browses through a website. In order to enhance user experience, usability guideline is needed while developing a website. This research focuses on the main issue in designing e-Government Portal and tries to solve the main question, which is “How to develop heuristic design model for website that based on website functions?” This research aim is to study and understand the concept of e-Government Portal and design guideline. The author has provided a heuristic design model as a design guideline in developing e-Government Portal. The author hopes that the proposed model will be more suitable with the context and the target user of the portal and at the same time can solve usability problems that have been faced by e-Government Portal.

ABSTRAK

e-Kerajaan telah berkembang dengan pesatnya dan merupakan salah satu medium atas talian yang memberikan perkhidmatan secara berkesan kepada kerajaan, warganegara dan sektor perniagaan. Walau bagaimanapun, terdapat pelbagai rekabentuk dan fungsi yang tidak seragam yang ada pada portal e-Kerajaan. Hal ini bermaksud, tiada satu rekabentuk yang khusus dalam menghasilkan dan membangunkan sesuatu laman portal e-Kerajaan. Seharusnya, satu panduan diperlukan dalam mereka bentuk laman portal e-Kerajaan. Hal ini penting untuk memastikan laman portal e-Kerajaan itu memenuhi piawaian yang telah ditetapkan. Daripada kajian yang telah dilakukan, terdapat kekurangan pada panduan rekabentuk yang telah sedia ada dalam membangunkan laman portal e-Kerajaan yang berkesan dari segi fungsi dan format. Kebolehgunaan juga merupakan faktor yang paling penting bagi sesuatu laman web. Ia melambangkan bagaimana pengguna melayari sesuatu laman web. Adakah pengguna mudah untuk melayari laman web tersebut dan dapat menggunakan aplikasi yang terdapat pada laman web tersebut? Oleh sebab itu, panduan untuk mereka bentuk laman web adalah amat penting agar apa maklumat yang hendak disampaikan dapat diterjemahkan dengan jelas kepada pengguna. Kajian ini bertujuan untuk membina satu model panduan dalam mereka bentuk antara muka laman portal e-kerajaan berdasarkan fungsi-fungsi yang terdapat pada portal tersebut. Model yang dibina diharap dapat menyelesaikan permasalahan yang timbul khususnya antara muka laman web yang merupakan elemen terpenting ketika pengguna melayari sesuatu laman web.

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CHAPTER 1

INTRODUCTION

1.2 Introduction

Over the last five years, governments worldwide have launched more than 500 programs to deliver public services online such as vehicles registration, taxes payment, download forms, and electronic filings. It is called digital government or e-Government that aims to provide all citizens with an efficient and alternative medium for accessing public services and for interacting with public sector agencies. World Wide Web has emerged and internet became the most important vehicle in the development and delivery of e-Government products and services. The internet is one of the convenient and cost-effective channels for governments in delivering information and providing online transactions.

Recently, most government services are delivered through e-Government Portal that acts as “one stop” for citizen to do e-services and interact with the government agencies. The active and effective use of e-Government Portal is dependent on the general ability of people to access and use the Internet, to navigate

and seek information and to utilize electronic public services offered by e-Government.

User interface is one of the main issues in developing an e-Government Portal. The author has analyzed several e-Government Portals and found that there is lack of specific guidelines that can be used as a guide to develop e-Government Portal. The main challenge in developing an e-Government Portal is about suitable usability design guideline for e-Government Portal based on the portal functions. This is because, most government agencies tend to design their government portal based on existing guideline that do not related with the government context. Therefore, this study will focus on how to develop a heuristic design model for e-Government Portal.

1.2 Problem Background

A study stated by Ceaparu *et al* (2004) discovered that even experienced-personal computer users are frustrated with confusing menus, indecipherable dialog boxes, and invisible functions. Therefore, it should be ensured that interface design of a local government website supports the performance of internet users. In general, most government websites tend to follow design guidelines of commercial websites despite the fact that the two kinds of websites have different characteristics and consumers stated by Wang, Bretschneider and Gant (2005).

Based on the author investigation, there are no specific design guidelines that are suitable in developing e-Government Portal. This will be the issue for the designer and government in order to enhance the effectiveness of e-Government Portal. Thus, there must be specific guideline that focuses on specific e-Government.

Due to this problem, the designers always refer to commercial design guideline. There are differences between the objectives of commercial website and e-Government Portal. Therefore, the specific guideline for developing e-Government Portal needs to be created. The main purpose of e-Government Portal is to convey information and increase social participation. However, users face usability problem when they visit the portal such as consistent navigation, organizing information logically and ensuring links are easy to use, Harrison and Petrie (2007). The usability problems arise from a failure to prioritize users' needs at all stages. Users also face accessibility problem, which includes providing alternative text for graphics, not relying on color alone to convey information and ensuring compatibility with assistive technologies.

Currently, there are many design guidelines in web design. Somehow, there is still a problem in existing design guidelines. Actually, guidelines are available to address website usability and accessibility and these often rate the importance of different problems encountered by users. It could help developers create citizen-centered websites that are designed to satisfy customers and fulfill their expectations. In e-Government Portal context, many people expect many things such as services and information from current e-Government platforms. The design guideline should consider what is needed by the website. Every portal has its own functions. e-Government Portal also has its own functions that should be in the portal. Therefore, there must be a design guideline that considers all the functions in e-Government Portal. In order to overcome the problem addressed, this research will find the best heuristic design in developing e-Government Portal. Heuristic design consists of principle that every principle includes a list of guidelines addressing those principles.

1.5 Problem Statement

The main problem for e-Government Portal is “How to develop heuristic design model for website that based on website functions?”

1.6 Project Objectives

- i- To study and examine the heuristic concept, the design guideline and e-Government Portal.
- ii- To develop a heuristic design model that suitable for e-Government Portal.
- iii- To develop a prototype application based on the proposed framework.
- iv- To test the prototype of proposed e-Government Portal framework.

1.7 Project Scope

- i- This study is will focus on user interface for e-Government Portal.
- ii- This study focus on determine the heuristic design model for designing e-Government Portal.

1.8 The Project Importance

Design guideline in developing e-Government Portal is very important to make sure the portal developed is able to achieve its objective in delivering the best services to the citizen. This portal is being developed to contribute to the effectiveness of e-Government activities. The portal that does not deploy the best design can make the citizen feel frustrated and they will carry out the government transaction manually rather than do online. Better solution needs to be discovered in order to develop an application that can increase usability. This project will focus on the guideline in designing user interface for e-Government Portal. At the end of this project an e-Government Portal based on proposed design guideline model will be developed. Hopefully, that design guideline model will help designer in designing e-Government Portal and will increase the user experience in achieving the objective of e-Government Portal itself.

1.9 Summary

This chapter focuses on brief introduction of e-Government Portal and design issue. The problem background addresses all the problems that arise in this study and it helps the author to find the problem statements that need to be solved through this project. Three main objectives that need to be achieved in this study in order to produce the heuristic design model for e-Government Portal. A prototype of user interface for e-Government Portal will be developed at the end of this project based on heuristic design model that has been proposed.