WEB-BASED REAL ESTATE MANAGEMENT SYSTEM

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Declaration</td>
<td>ii</td>
</tr>
<tr>
<td>Acknowledgments</td>
<td>iii</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>iv</td>
</tr>
<tr>
<td>List of Figures</td>
<td>xi</td>
</tr>
<tr>
<td>List of Tables</td>
<td>xiv</td>
</tr>
<tr>
<td>Abstract</td>
<td>xv</td>
</tr>
<tr>
<td>Abstrak</td>
<td>xvii</td>
</tr>
</tbody>
</table>

## 1 AN OVERVIEW

1.1 Introduction          | 1    |
1.2 Problem Statement     | 2    |
1.3 Objectives            | 3    |
1.4 Scope                 | 3    |
1.5 Methodology           | 3    |
   1.5.1 Problem, Opportunity and Objective Identification | 3    |
   1.5.2 Information Requirement Determination          | 4    |
   1.5.3 System Analysis                                    | 4    |
   1.5.4 System Design                                     | 4    |
   1.5.5 System Development and Implementation            | 5    |
   1.5.6 System Testing                                    | 5    |
   1.5.7 System Evaluation                                 | 5    |
1.6 Expected Outcome      | 5    |
   1.6.1 Program Modules                                    | 6    |
   1.6.2 Database                                           | 6    |
   1.6.3 Input                                              | 6    |
   1.6.4 Output                                             | 6    |
1.7 Significance of Research                                    |      |
1.7.1 Contribution To Property Owner 6
1.7.2 Contribution To Buyer or Renter 7
1.8 Thesis Outline 7

2 LITERATURE REVIEW
2.1 Introduction 9
2.2 Client / Server Concept 9
2.3 GIS In Real Estate 10
   2.3.1 The Architecture of Web-based GIS Applications 11
      2.3.1.1 Client-side Architecture 11
      2.3.1.2 Server-side Architecture 13
      2.3.1.3 Comparison Between Server-side And Client-side Architecture 14
2.4 A Review On Existing Systems 15
   2.4.1 Carey Properties - Real Estate Agent in Kuala Lumpur 15
   2.4.2 PropertyZoom, Malaysia 17
   2.4.3 Mecklenburg County GIS Real Estate System, North Carolina 23
2.4.4 Summary 31
2.5 Scripting Language 32
   2.5.1 JavaScript 32
   2.5.2 VBScript 33
   2.5.3 Active Server Pages (ASP) 33
2.6 ASP Email 4.5 34
   2.6.1 System Requirements for ASP Email 4.5 35
2.7 Review on Web Servers 35
   2.7.1 Microsoft's Personal Web Server 35
   2.7.2 Microsoft's Internet Information Server(IIS) 36
   2.7.3 Web Site Pro 2.0 37
   2.7.4 Comparison of the Web Servers 38
2.8 Review On GIS software

2.8.1 ArcView 3.x

2.8.2 ArcExplorer 3.1- Java Edition

2.8.3 MapObjects Internet Map Server (MOIMS)

2.8.4 MapObjects

2.8.5 AltaMap Server

2.8.6 Summary

2.9 Conclusion

3 REQUIREMENT SPECIFICATION AND DESIGN

3.1 Introduction

3.2 General Description of the New System

3.2.1 Product Perspective

3.2.2 Target User

3.3 System Requirement

3.3.1 Functional Requirement

3.3.1.1 Membership Module

3.3.1.2 Login Module

3.3.1.3 Property Search Module

3.3.1.3.1 Basic Map Manipulation

3.3.1.3.2 Identify and Hyperlink

3.3.1.3.3 Buffering

3.3.1.4 Property and Services Advertisement Submission Module

3.3.1.5 Loan Calculator Module

3.3.1.6 Feedback and Information Exchange Exchange Module

3.3.1.7 Administration Module

3.3.1.7.1 Add Record

3.3.1.7.2 Update Record

3.3.1.7.3 View Report

3.3.1.7.4 Off-line Update Mapping

Demo (Visit http://www.pdfsplitmerger.com)
3.3.2 Non-Functional Requirement

3.3.2.1 Software

3.3.2.2 Hardware

3.4 System Design

3.4.1 Level 0 Diagram

3.4.2 Web Server Architecture

3.4.3 Map Server Architecture

3.4.3.1 Choosing Internet GIS Mapping Application Architecture

3.4.3.2 Server-side Architecture of Internet Mapping Application

3.4.4 Mail Server Architecture

3.4.5 User Interface

3.4.5.1 Input

3.4.5.2 Information Display

3.4.5.3 Presenting Information

3.4.6 Database Design

3.4.6.1 Spatial Data and Non-spatial Data

3.4.6.2 Relational Database Design

3.4.6.2.1 Structure of Relational Database for web-based Real Estate Management System

3.4.6.2.2 Identifying Objects and Relationship

3.4.6.2.3 Identifying Properties

3.4.6.2.4 Identifying Primary Key

3.5 Conclusion

4 PROTOTYPING DEVELOPMENT

4.1 Introduction
4.2 Setting Up Environment For Programming

4.2.1 Setting Up Personal Web Server (PWS) 77
4.2.2 Setting Up MapObjects Internet Map Server (MOIMS) 78
4.2.3 Setting Up Environment For Mapping Application 80
4.2.4 ASP Email Component and Mail server 81

4.3 User Interfaces 82

4.4 Public Access System 84

4.4.1 Membership Module 85
  4.4.1.1 Member Registration 85
  4.4.1.2 Edit Membership Profile 87

4.4.2 Member Security Module 87
  4.4.2.1 Member Login 87
  4.4.2.2 Change Password 87

4.4.3 Property Search Module 88
  4.4.3.1 Basic Map Manipulation 96
  4.4.3.2 Identify and HyperLink 98
  4.4.3.3 Buffering 99

4.4.4 Property and Services Advertisement Submission Module 102
  4.4.4.1 Property For Sale/Rent Submission 102
  4.4.4.2 Services Advertising Submission 104

4.4.5 Loan Calculator Module 105

4.4.6 Feedback and Information Exchange Module 106
  4.4.6.1 Comment 106
  4.4.6.2 Send To Friend 106

4.5 Administration System 107

4.5.1 Administrative Security Module 107
  4.5.1.1 Administrator Login 108
  4.5.1.2 Administrator Logout 109

4.5.2 Add Record Module 110
  4.5.2.1 Add New Property Record 110
4.5.2.2 Add New Services Record 110
4.5.2.3 Add New Property Type/Building Type Record 110
4.5.3 Update Record Module 111
4.5.3.1 Update Property Record 111
4.5.3.2 Update Services Record 111
4.5.3.3 Update Property Type/Building Type Record 111
4.5.4 View Report Module 112
4.5.4.1 Property Sold/Rent Report 112
4.5.4.2 Property Searched Report 113
4.5.4.3 Statistical Report 114
4.5.4.4 Off-line Update Mapping Application 115
4.6 Conclusion 118

5 RESULT AND EVALUATION
5.1 Introduction 119
5.2 Testing 119
5.3 Evaluation 119
5.3.1 System Functionalities 120
5.3.1.1 Public Access System Evaluation 120
5.3.1.2 Result And Analysis of Public Access System 121
5.3.1.3 Administrative Access System Evaluation 134
5.3.1.4 Result And Analysis of Administrative Access System 134
5.3.2 User Interface Evaluation 137
5.4 Conclusion 138
6 CONCLUSION AND FUTURE WORKS

6.1 Introduction 139
6.2 Objectives Achievement 139
6.3 Project Limitation 141
  6.3.1 Limited Coverage Map Data 141
  6.3.2 Limited of Advance Search 141
  6.3.3 Limited Functionalities of Internet Mapping Application 141
6.4 Future works 142
  6.4.1 Wider Coverage of Map Data 142
  6.4.2 Advanced Property Searching 142
  6.4.3 Map Navigation Toolbar Designed 142
  6.4.4 Additional GIS Operation 143
6.5 Conclusion 143

REFERENCES 144
APPENDICES
Appendix A 148
Appendix B 151
Appendix C 156

Demo (Visit http://www.pdfsplitmerger.com)
LISTS OF FIGURES

Figure 2.1: Client/Server Diagram
Figure 2.2: Client-side Architecture
Figure 2.3: Server-side Architecture
Figure 2.4: The Interface Layout of The Carey Properties-Real Estate Agent In Kuala Lumpur
Figure 2.5: The Interface Layout of the PropertyZoom Web-based Real Estate System
Figure 2.6: The Interface Layout of the Mecklenburg County GIS Real Estate System, North Carolina
Figure 2.7: The Diagram Shows How Three Tier Architecture of the Internet Interaction.
Figure 3.1: Level 0 Diagram For Web-Based Real Estate Management System
Figure 3.2: Master diagram of a Web Database System Design
Figure 3.3: System Architecture of Internet Mapping Application
Figure 3.4: System Design Diagram For Internet Mapping Application
Figure 4.1: The Information Flow of Web-Based Real Estate Management
Figure 4.2: Personal Web Manager Administrator Dialog Box
Figure 4.3: Setting Up IMS Catalog Server Properties
Figure 4.4: Setting Up IMS Launch Server Properties
Figure 4.5: IMS Admin Properties
Figure 4.6: IT House Mail Server
Figure 4.7: Mail Server Properties Dialog Box
Figure 4.8: Interface for About Us Page
Figure 4.9: Interface for Property Search Module
Figure 4.10: Interface for Internet Mapping Application
Figure 4.11: Interface for Off-line Update Mapping Application Module
Figure 4.12: Code For Client Side Input Checking
Figure 4.13: Code for Change Password Module
Figure 4.14: Code for client / server transaction process function
Figure 4.15: Start Method for WebLink
Figure 4.16: Stop Method For WebLink
Figure 4.17: Code for create map
Figure 4.18: Code for create HTML
Figure 4.19: Code for Zoom in function
Figure 4.20: Code for Return Full Extent function
Figure 4.21: Code for Identify and hyperlink Module
Figure 4.22: Interface for buffering and report generation
Figure 4.23: Code for Buffering Module
Figure 4.24: Code to create an instance of AspUpload object
Figure 4.25: The Services Advertisement Page For Insurance.
Figure 4.26: Code for Loan Calculator Module
Figure 4.27: Code to Create An Instance of AspEmail Objects
Figure 4.28: Code for Send To Friend Module
Figure 4.29: Interface of the Administrator Management Page
Figure 4.30: Code for the Admin Login Module
Figure 4.31: Code for the Administrator Logout Module
Figure 4.32: Interface for Update Property Type and Building Type Record
Figure 4.33: Property Sold/Rent Report
Figure 4.34: Property Searched Report
Figure 4.35: A Pie Chart Statistic Showing The Percentage of buyers or renters.
Figure 4.36: Code for Search Function
Figure 4.37: Code for Zoom in, Zoom out and Pan
Figure 4.38: Code for Return Full Extent
Figure 5.1: The Member Login Page
Figure 5.2: The Change Password Page
Figure 5.3: The Property Search Page
Figure 5.4: The Map Window
Figure 5.5: The Map Window Result Which Have Been Zoom In
Figure 5.6: The Map Window After Click On Return to Full Extent
Figure 5.7: The Map Window Showing the Highlighted Properties Which Match the Search Criteria
Figure 5.8: Property Details Window
Figure 5.9: The Property Window That Enable Submission of Property Details for Buy/rent
Figure 5.10: The Step-by-step Way to Perform Buffering Function.
Figure 5.11: Result from buffering function
Figure 5.12: The Send Feedback Page
Figure 5.13: The Received Email for administrator in Out Look Express
Figure 5.14: The loan calculator for estimation of loan payment.
Figure 5.15: The services advertisement form
Figure 5.16: The Insurance Company Advertisement Page
Figure 5.17: The Administrator Login Page
Figure 5.18: Administrator login validation
Figure 5.19: The Administrative Management Page
LISTS OF TABLES

Table 2.1: Comparison Table of the advantages and disadvantages of server-side and client-side GIS applications.
Table 2.2: A Summary On The Features Of The System Being Reviewed
Table 2.3: Comparison Table of Web Server
Table 2.4: A Summary Of The Features On The Software Being Reviewed
Table 3.1: The Function of Basic Map Manipulation tools.
Table 5.1: Result of Public Access System evaluation
Table 5.2: Result of administrator Access System evaluation
Table 5.3: Design of the User Interfaces
Table 6.1: Objectives and Achievements of the Web-based Real Estate Management System.
ABSTRACT

Most of the real-estate agents and property owners in Malaysia advertise the property information on the newspapers or magazines. The public, especially the buyers and renters found that it was very time consuming for reading all the advertisement in newspapers and magazines in finding an ideal property. Furthermore, the buyers or the renters usually have no idea about where the property exactly located and how it looks like. Moreover, the newspapers and magazines usually not provide loan information for them. So, in this case, property advertising on the Internet would be a good idea. However, most of the existing web-based real estate system uses text only to display the property information. Most of the system uses static map and images to display property location and other property details. The users cannot manipulate the map or perform some functions such as pan, zoom in and zoom out or even query. The limited functionalities and information provided will not help user’s decision making. In this Final Year Project, a prototype of web-based real estate management system is developed. The system will bring convenience to both, the users (especially the buyers and renters) and the property owners (advertisers). The system will allow the property owners to submit their property information online. As for the buyers or renters, the system will allow them to access property information faster and effectively. Dynamic map created using Geographic Information System concept will lead to better
decision-making. In addition, the loan calculator featured in the system will help the users to estimate the monthly installment. This system will certainly benefit the property owners and the buyers and even the renters.
ABSTRAK

Kebanyakkan agen harta tanah dan pemilik harta tanah di Malaysia mengiklankan harta tanah yang hendak dijual atau disewa dalam suratkhabar atau majalah. Orang ramai, terutamanya pembeli dan penyewa terpaksa membuang banyak masa dalam mencari harta tanah yang diigini kerana pada kebanyakkan masanya mereka terpaksa mencari dan meneliti iklan yang dipaparkan satu demi satu bagi mencari harta tanah yang sesuai. Selain itu, pembeli dan penyewa sering kabur dengan lokasi sebenar dan rupa bentuk harta tanah kerana peta dan gambar tidak disertakan dalam sesetengah iklan. Tambahan pula, majalah dan suratkhabar tidak memaparkan maklumat lanjut mengenai pinjaman. Jadi, mengiklankan harta tanah menerusi Internet menjadi satu alternatif yang sangat berfaedah. Walau bagaimanapun, kebanyakkan sistem harta tanah dalam Internet hanya menggunakan teks sahaja dalam memaparkan maklumat harta tanah. Selain itu, kebanyakkan sistem yang sedia ada menggunakan gambar dan peta yang statik dalam menunjukkan lokasi dan rupa bentuk harta tanah. Orang ramai yang melayari laman web tersebut tidak akan dapat memanipulasi peta tersebut atau melakukan fungsi seperti pan, zoom in, zoom out dan juga query. Fungsi dan maklumat yang terhad tidak akan dapat membantu pembeli dan penyewa membuat keputusan (decision making) yang paling baik. Dalam projek tahun akhir ini, satu prototaip bagi web-based real estate management system akan
CHAPTER 1: AN OVERVIEW

1.1 Introduction

Real Estate is the land and anything permanently affixed to it, including buildings, fences and other items attached to the structure. There are four broad categories of properties in Malaysia under the National Land Code 1965, they are residential properties (detached house, semi-detached house, terraced house bungalows, apartment and condominium), commercial properties (2-storey shop house, 4-storey shop house, Townhouse, office space), industrial properties and land.

Many real-estate agents in Malaysia advertise the property on the newspapers or magazines. It is time consuming for reading all the advertisement in newspapers or magazines for finding an ideal property. Besides, the buyers or renters cannot have whole ideas where the property exactly located, and the newspapers or magazines usually do not display loan information for the readers. So, advertising property on the Internet sounds better solution in this case.

When the usage of the Internet becomes more and more, it is important to develop a Web-based Real Estate Management System because the system will bring convenience to both parties, users (especially buyers and renters) and property owners. The system helps to manage data
systematically and provides the properties information to the users at anytime, in anywhere.

1.2 Problem Statement

In Malaysia, most of the real estate agents advertise the property for rent or sale on the newspapers or magazines. The limited information on the advertisement will not help the decision-making process. The public, particularly the buyers still need to call up the owners to look for the property’s location and other further information like loan information.

Furthermore, there are limited numbers of web-based real estate system that provide detail information about properties in Malaysia to the public. The existing real estate system in Malaysia has very limited functionalities. From the review, it shows that most of the property online systems provides property listing to the users. Most of the systems use text only to display the property information without any maps or images to show the property location. This type of system cannot provide a good decision support to the users.

Most of the real estate system web sites in Malaysia use static map images in JPEG or GIF to show the property location. The use of static images for publishing the property location is not effective. The users cannot manipulate the map or perform some simple functions such as pan, zoom in, zoom out or query.
1.3 Objectives

This project aims to develop a Web-based Real Estate Management System to assist the buyers or renters to find a suitable property and property owners to sell or rent out their properties.

The objectives of this project are listed below:

- To study the requirements of Web-based Real Estate Management System.
- To design a Web-based Real Estate Management System.
- To develop a prototype of Web-based Real Estate Management System.

1.4 Scope

The project scope is limited to develop a prototype of Web-based Real Estate Management System. The system will cover common features or functionalities of a Web-based Real Estate System. Kuching city has been selected as the case study for this project.

1.5 Methodology

The methodology to be used in the development of this project is based on the System Development Life Cycle (SDLC).

1.5.1 Problem, Opportunity and Objective Identification

Problems include shortcomings in present real estate management system on the Internet that needs to be improved. Opportunities include
ways to improve existing practices. Objectives identify the goal of the Web-based Real Estate Management System project. This may include a feasibility analysis to see which problem can be adequately addressed.

1.5.2 Information Requirement Determination

Determine which data and information are required to perform Web-based Real Estate Management system function.

- Review existing real estate system available on the Internet
- Users interviewing and questionnaires

1.5.3 System Analysis

System requirement are based on data requirement and decision-making process. Data Flow diagram is used as a tool to chart input, processes and output of the Web-based Real Estate Management System.

1.5.4 System Design

Involve the evaluation of the gathered information from the analysis phase. The architecture and the initial design of the user interfaces will be designed.
1.5.5 System Development and Implementation

This phase concerns the detail coding and design as well as the detail for user interfaces of Web-based Real Estate Management System. Set of program or program units are produced and will be implemented.

1.5.6 System Testing

Unit testing and integration testing are involved during system testing. System testing is important in order to verify that each unit meets the Web-based Real Estate specification. Correction of error will be carried out to fix the bugs or mistakes arising.

1.5.7 System Evaluation

Evaluation will be conducted to know the users’ feedback and comment in order to enhance the system. Prototype approach is used to help users to understand aspects of interaction with the Web-based Real Estate Management System. Subsequently, questionnaires and interview will be carried out to obtain feedback from the intended users regarding the system.

1.6 Expected Outcomes

The expected output will be a working prototype of a Web-based Real Estate Management System. Therefore, the prototype will consist of program modules, database, screen, input and output for interfacing system.
1.6.1 Program Modules

The modules are to provide map manipulation tools, perform map visualization, allow database validation, calculate monthly installment for loan and so on. These modules process input from the users.

1.6.2 Database

The attribute data are stored in the relational database.

1.6.3 Input

Some of the inputs are in the form of mouse click on the map and others are in the form of fill in text box and button click.

1.6.4 Output

Some of the outputs for the program modules are displayed on the map. Others are updated to database or in a summary form.

1.7 Significance of The Research

The Web-based Real Estate Management System can be used or contributed to property owners and the users who wish to buy or rent a house, land or factory.

1.7.1 Contribution To Property Owners

The Web-based Real Estate Management System allows the property owners to submit property information via Internet in case they wish to
sell or rent out their property. The process will become extremely fast, flexible and effective compared to the manual method.

1.7.2 Contribution To Buyers or Renters

The system can help this group of users in many ways. They can search property for specific criteria like location, size, and even price. The query result and interactive map display will help them make better decision.

1.8 Thesis Outline

This thesis is organized into six chapters. Chapter Two is Literature Review. A review on GIS in real estate, existing system in real estate and GIS software and scripting language were being done.

Chapter Three is more focus on the system requirement specification and design. The functional and non-functional requirements are determined at this chapter.

Chapter Four discusses the prototyping development of the system. This chapter focuses on the development tools that are being used for the completion of the project, which include GIS software, scripting language and web servers. It follows by the implementation of system components and system functions.
Chapter Five presents the results and analysis of the system based on the system functionality and performance.

Finally, the conclusion and future work are summarized in Chapter Six. The summary consists of the achievements on each of the objectives of the system. The proposed future works, which are not being implemented due to the time constraint, are also being suggested in this chapter.