

# **WEB-BASED REAL ESTATE MANAGEMENT SYSTEM**

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*Demo (Visit <http://www.profshinzeeger.com>)*

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## 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.

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## ABSTRAK

Kebanyakan agen harta tanah dan pemilik harta tanah di Malaysia mengiklankan harta tanah yang hendak dijual atau disewa dalam suratkhobar atau majalah. Orang ramai, terutamanya pembeli dan penyewa terpaksa membuang banyak masa dalam mencari harta tanah yang diigini kerana pada kebanyakan 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 suratkhobar tidak memaparkan maklumat lanjut mengenai pinjaman. Jadi, mengiklankan harta tanah menerusi Internet menjadi satu alternatif yang sangat berfaedah. Walau bagaimanapun, kebanyakan sistem harta tanah dalam Internet hanya menggunakan teks sahaja dalam memaparkan maklumat harta tanah. Selain itu, kebanyakan 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

dihasilkan. Sistem ini akan memudahkan kedua-dua pihak, iaitu pemilik harta tanah (pengiklan) dan juga pembeli atau penyewa. Sistem ini berupaya membolehkan pemilik harta tanah menghantar maklumat harta tanahnya secara *online*. Bagi pembeli dan penyewa, mereka akan menikmati capaian maklumat yang lebih pantas dan efektif. Peta dinamik yang dihasilkan dengan konsep *Geographic Information System* akan membantu dalam proses membuat keputusan. Fungsi kalkulator pinjaman dalam sistem akan membantu pembeli mengenalpasti ansuran bulanan yang kena dibayar. Sistem ini tentu akan dapat membawa faedah kepada pemilik, pembeli dan penyewa harta tanah.

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# 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 Significant 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.

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