BORANG PENGESAHAN STATUS TESIS^

JUDUL : ONLINE CAR SELECTION USING DSS

SESI PENGAJIAN : 04/06

Saya MOHD RAHIMI ABDUL RAHMAN

(HURUF BESAR)

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^ Tesis dimaksudkan sebagai Laporan Projek Sarjana Muda (PSM)

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ONLINE CAR SELECTION USING DECISION SUPPORT SYSTEM

MOHD RAHIMI BIN ABDUL RAHMAN

This report is submitted in partial fulfillment of the requirements for the Bachelor of Computer Science (Software Development)

FACULTY OF INFORMATION AND COMMUNICATIONS TECHNOLOGY

KOLEJ UNIVERSITI TEKNIKAL KEBANGSAAN MALAYSIA

2006

DECLARATION

I hereby declare that this project report entitled

ONLINE CAR SELECTION USING DECISION SUPPORT SYSTEM

is written by me and is my effort and that no part has been plagiarized without citations

STUDENT : _____ Date : _____
(MOHD RAHIMI BIN ABDUL RAHMAN)

SUPERVISOR : _____ Date : _____
(CIK ZERATUL IZZAH BT MOHD YUSOH)

DEDICATION

To my God, Allah S.W.T.

To my beloved parent, Azhar Bin Abdul Rahman

To my supervisor, Cik Zeratul Izzah Bt. Mohd Yusoh

ACKNOWLEDGEMENT

Alhamdulillah, praise to ALLAH s.w.t., I am very pleased and grateful of being able to finish my PSM 2. I'm taking this opportunity to give my gratitude to a couple of parties for their help. First and foremost, I would like to thanks my supervisor Cik Zeratul Izzah Bt. Mohd Yusoh, whose expertise, understanding, and patience, added considerably to my success of completing this PSM 2. I appreciate her vast knowledge and skills in many areas and her assistance in writing and completing this report. I would also like to thanks my friends in and outside from KUTKM for their exchanges of knowledge and skills while completing my PSM 1 which helped enrich the experience. Although many people have contributed to this project and have helped to complete it, I take sole responsible for any errors. Wassalam.

ABSTRACT

The primary purpose of preparing this Projek Sarjana Muda 2 (PSM 2) is to fulfil Bachelor of Science Computer (Software Development) in Kolej Universiti Teknikal Kebangsaan Malaysia (KUTKM). This thesis contains a complete analysis about Projek Sarjana Muda 2. The Online Car Selection using Decision Support System (DSS) is a web-based application that allows users to access the web to get information and make to help potential buyer to make the best decision on selection of a desire car. This system is hope that can fulfill currently desire where it can prevent potential buyer from making the wrong decision on purchasing a new car. Besides that, this system can increase the utilization of ICT technology in the society of Malaysia. Some literature review has been done to determine the scope, technologies and approaches used in this project. Prototaip Model has been chosen as a methodology for this project and will be implemented along the system development process to ensure the objectives of the project can be fulfilled. The use of chosen methodology has helped to produce a better quality product, in term of software. With the implementation of the latest technology such as web services, the system was not only expected to be workable, but also efficient in terms of execution speed and response time. The design of the system was dynamic and was able to support concurrent users to interact with the system over the internet.

ABSTRAK

Tujuan utama dalam penghasilan Projek Sarjana Muda 2 (PSM 2) adalah untuk memenuhi program Ijazah Sains Komputer (Pembangunan Perisian Komputer) di Kolej Universiti Teknikal Kebangsaan Malaysia (KUTKM). Tesis ini mengandungi analisis lengkap mengenai Projek Sarjana Muda 2. Online Car Selection menggunakan DSS adalah system berdasarkan laman web yang member maklumat kepada pengguna dan membantu pembeli yang berminat untuk membuat keputusan dalam pemilihan kereta. System ini diharapakn dapat memenuhi kehendak semasa di mana ia dapat mengelakkan pembeli membuat kesilapan apabila ingin memilih dan membeli kereta baru. Selain itu, system ini diharapkan dpt meningkatkn penggunaan teknologi ICT di kalangan masyarakat Malaysia. Di dalam ulasan kuliah, telah diterangkan tentang skop, teknologi dan pendekatan yg digunakan dalam system ini. Bagi memenuhi objektif projek ini,Model Prototaip telah digunakan sebagai sebuah kaedah kerana model atau cara sebegini dapat menolong pembangun system untak keluarkan system yang berkualiti. Dengan pelaksanaan teknologi terbaru seperti perkhidmatan web, system ini akan lebih pantas dari segi tindak balas dan paparan. Rekabentuk system ini adalah dynamic dan menyokong pengguna untuk menggunakan system ini melalui Internet.

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CHAPTER 1

INTRODUCTION

1.1 Project Background

Nowadays, the most appropriate and comfortable way to commute from one place to another in our country is car. According to the statistic produced by the Ministry of Transportation, there are almost seven million vehicles includes all kind of cars are on the road in Malaysia. They estimated that the addition of cars would be increased from year to year.

Therefore, by means of the momentum in information technology in our country, the all new computerized system will be developed as an impact to increase the Information and Communication Technology (ICT) usage within Malaysian. It is a web-based system where users need to key in some information and answering several questions. This system will make the most appropriate decision according to the information that was given by the users. This system also will give some suggestion on the types of cars that are suitable to buy for the potential buyers based on several criteria.

1.2 Problem Statement

Majority of the car-dealer web sites available in the Internet only provided the raw information and some promotion of the cars. However, it does not help users on making a choice on car selection. The potential buyers does not know anything about car so it was very hard for them to decide the best type of car which are right for them to purchase because the buyers never be exposed to budget management or the quality of the cars. As the result, the buyers have to bear with car insurance that are compatible with their salary.

Buyers normally have to face difficulties to get the right information about their desire car. So, as a feature, this new system has references for buyers about their desired car and therefore gets the best result for the car that they really want to buy. A part from that, time and location also play an important role. Normally, buyers need to visit each show room that available in town or anywhere without knowing whether the showroom has the car that they desired to gain more information and advices. But in this proposed system, the buyers only need to visit the show room that short-listed by the system and this will save their time and money. Currently in Malaysia, there are no such systems that can assist buyers to discover on car selection. The as-is system that exists in our country is only provided on company's information and the types of vehicle, which are produced and promote by the company.

1.3 Objective

In order to ensure that the system run smoothly, objectives of the project must be stated clearly. This will not only ease the development of the proposed system but also others who are using this system. Below are objective for this system.

a) To help buyer to discover the best decision in car selection.

In this proposed system, the users that consist of potential buyers can make precise decision on car selection. The decisions are based on several criteria and questions that had been answered by the users.

b) To develop an online system of Decision Support System (DSS) for Car Dealer.

This to-be system that will be develop, is an online system that can be access anywhere and can save users' time. Therefore, buyers only need to visit show room that had been identified.

c) To help car dealer promote cars.

This system also is able to help car dealers to promote their car sales. They can use it as a platform to give the best information about the cars that they are promoting. Potential buyers just have to identify the car dealers based on the assist decision and continuously they can contact appropriate car dealers.

1.4 Scope

There are three categories as the scope of the project which is the users, function of the system and platform in this system. Below are the scopes defined for this project:-

a) User

The user for the system would be:

a. Buyer

The buyer can search the web and answer some question to get the best result based on their criteria.

b) Functions of the system

i. Authentication

Users have to register in order to have access to this proposed and to use the system, they have to log on before using this system.

ii. Questionnaire and results

This system will provide several questions, which consist of general, technical and non-technical. All the questions are related with the factors that are considered in car selection. In each question will be given along with the answers that will be choose by the users. After users have finished answering all the questions, this system automatically will generate the result that is suitable with user's answers. System will display the most appropriate car and the reason why the chosen car being the best choice.

iii. Car information

This web-site also will display all the information about the best car selection to the users. Besides that, it will give information on the development of automotive industry in Malaysia

c) Platform

WINDOWS. It will be using the existing operating system in the PC. Furthermore, Internet connection is a way that buyers can surf this online system. Browser Internet Explorer (IE) was suggested in order to get the best interface.

1.5 Project Significant

This system is develop because normally potential buyer does not have full knowledge on car and certain buyers did not have times to do survey and analysis on their desire cars. So this system can lead and guides buyers to make good decision on purchasing a car without wasting their times, energy and money to go to each show room. They just visit the show room recommended by the system. Via the movement that had planned, this will save the use of petrol, which had become more costly in the market. This system also can guide users on their budget, technical and general aspect and many more. The questions are consisting of questions that are connected with the factor in car selection of resident in Malaysia. The decision is made according to the answers or desires of potential buyers.

1.6 Conclusion

As a conclusion, when the new system is fully implemented it will definitely help the potential buyer to make the best decision on selection of desire car which is suitable with their own wish. Each decision are based on desire of potential buyer and it will come along with the reason.

The next chapter, Literature Review and Project Methodology will be discussing about background domain, DSS of existing system and project schedule. Besides topics mentioned above, the project methodology will also be discussed in detail.

CHAPTER 2

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

This chapter will be focuses on the literature review and project methodology. The literature review is focused on the domain background of this system, some research about the Decision Support System (DSS) existing system and the new system that will be developed. It also consists of the definition of DSS, their characteristic, type of DSS and many more. The purpose of a literature review is to convey the reader about the knowledge and also can established the topic and what are the strengths and weaknesses.

This section is started by fact and finding. It will discuss about domain system background, where collection of information from the questionnaire can generated as a data. It will discuss and review about approach and related research, reference about this system. Besides that, it also states other approaches that will be used in this project after

comparison with previous approaches. In project methodology section, selected approach or methodology will be described the activities that may do in every stage. All the requirements in this system will be explained in high level project requirements and followed with project schedule and milestones. This chapter will be continued with conclusion whereby it will conclude about this chapter and also gives an overview about the next chapter 3, Analysis.

2.2 Fact on Finding

2.2.1 Domain Background

This part will discuss detail in about the domain system background. For this system, the main domain is about car selection. Before buying a car, user must get some information or study about what kind of car is suitable for them. Basically, potential buyer can visit each showroom to get more information. But as for nowadays technology, internet can be used as a medium to get the information. To get the precise selection, questionnaire about the customer are created. The questionnaire is a structured technique for data collection consisting for the series of questions, written or verbal, that a respondent answers.

A questionnaire is only one element of a data collection package that might also include field work procedure such as instructions for selecting, approaching and questioning respondents; some reward, gifts or payment offered to respondents and communication aids such as maps, pictures, advertisements, and products. Regardless of the form of administration, a questionnaire is characterized by some specific objectives. This questionnaire will cover every aspect in selection and purchasing car. Each aspect of selection and choosing car are detailed in this questionnaire. The elements that will be asked together with illumination are according to the table below: The table below is describing about the element of question and their explanation.

Table 2.1: Questionnaire element explanation

	Type of element	Explanation
1.	Age	To identify range of age are involved in this survey
2.	Salary	To know average salary Malaysian Citizen.
3.	Interested Car	To know which favorites car.
4.	Car to buy	To know which car they want buy.
5.	CC	To identify what cc are customer want.
6.	Gear Transmission	To know the favorites transmission
7.	Money of fuel	To identify how much to spent on mileage
8.	Accessories and component	To identify customers want full, standard or none accessories.
9.	Safety	To identify customer wants safety feature or not.
10.	Color	To know types of color.
11.	Door	To know three or five doors customer want.
12.	Brand Type	To know brand type yang popular
13.	Power Steering	To know whether user wants power stearing or not.
14.	Car fuel	To identify how much money to spend in a month for car fuel.
15.	Family member	To obtain how many family members will use this car.
16.	Career	To know the user's career status.
17.	Salary	To know the salary of a month

2.2.2 Case Study of Existing System

i. Case Study 1: **Decision Support System for Real Estate**

http://www.helpingyougrowhome.com

- **Objective**

DSS for Real Estate is build up for area development or building according to the rules and regulations. This system is to build a DSS for the prospective buyer, where they will choose the house sites or building based on their own choice. This process will make after several analysis on some facts were carried out. It will develop to become an information area system for construction. The location of house sites or building is divided into location and types of construction, facilities on site and off side and to build an information system on the aspect to be looked into while buying a site.

- **Conclusion**

The Decision Support System evolved for Real Estate will be highly useful to the public, Real Estate promoters and also to the concern Government departments. Such a system will make the public aware of the rules and regulations prevalent and also helps one to judge whether the investment made/to be made is worth. This system will also allow one to choose the dwelling units according to their choice. From the Real Estate developer's angle, this system will help the promoters to buy properties, which will satisfy the rules and regulations.