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JUDUL: LEARN THE WAY TO PASS YOUR LICENSE COURSEWARE
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LEARN THE WAY TO PASS YOUR LICENSE COURSEWARE

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

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
2008

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DECLARATION

I hereby declare that this project report entitled

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STUDENT : _____ Date : 2 MEI 2008
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DEDICATION

To my beloved parents, brother, sisters and friends...

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ACKNOWLEDGEMENTS

I praise Allah for His favour to me in completing this thesis. My gratefulness to the Almighty for good health and compelling strength through out the system development.

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ABSTRACT

The "Learn the Way to Pass Your License" courseware will be developed for education area. It is develop for the driving student, instructor of driving school and the individual age around 18 above that have the interest in driving learning. It will be covered about the rules of driving, safety guide before driving, the function of signboard, and driving practice. This courseware is using simulation and animation approach created by using the Macromedia Flash 8. The objective to develop this courseware is to provide the learning tools for instructor to teach a driving student about the rules of driving, the safety guide before driving, and the function of the signboard. It is also created as guidance for the driving student before take the license. The Constructivism learning theory is applied in this courseware in order to determine the courseware effectiveness. The constructivism allows the instructor to lead the student to understand the driving learning. ADDIE model will be used to develop this courseware in order to maintain the progress of this project. Upon the completion of the project, the main output to be expected is a courseware that able to help the instructor to deliver the information about the driving learning in interactive and efficient way. In the end of the project this courseware is a stand alone project that will be running on desktop system or can be store into CD ROM.

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ABSTRAK

"Learn the Way to Pass Your License" akan dibangunkan untuk bidang pendidikan. Ia dibangunkan untuk pelajar memandu, instruktor sekolah memandu dan individu yang berumur 18 tahun ke atas yang berminat dalam pembelajaran pemanduan. Pembelajaran ini mengandungi tentang peraturan jalan raya, panduan keselamatan sebelum memandu, fungsi papan tanda dan latihan memandu. Courseware ini mengunakan pendekatan simulasi dan animasi yang dihasilkan dengan menggunakan perisian Macromedia Flash 8. Objektif membangunkan courseware ini adalah untuk menghasilkan alat bantuan mengajar untuk instruktor bagi mengajar pelajar tentang peraturan memandu, panduan keselamatan sebelum memandu dan fungsi papan tanda. Ia juga dibangunkan sebagai panduan kepada pelajar sebelum mengambil ujian memandu. Teori pendidikan konstruktif digunakan dalam Courseware ini bagi menentukan keberkesanan Courseware. Teori Pendidikan Konstruktif membenarkan pengajar mengajar pelajar untuk memahami tentang pembelajaran pemanduan. ADDIE model akan digunakan untuk membangunkan courseware ini bagi memastikan kemajuan projek. Setelah projek ini siap dibangunkan, output yang dihasilkan adalah sebuah courseware yang dapat membantu instruktor untuk menyampaikan maklumat tentang pembelajaran pemanduan dengan cara yang lebih berkesan dan interaktif. Di akhir pembangunan, projek ini akan dilancarkan untuk sistem desktop atau disimpan didalam CD ROM.

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LIST OF ABBREVIATION

ABBREVIATION	DESCRIPTION
VR	Virtual Reality
HMDs	Head Mounted Displays
LISITT	Laboratorio Integradode Sistemas Inteligentesy Tecnologias de la informacionen Trafico
SIRCA	SImulador Reactivo de Conduccion de Autómoviles
VRML	Virtual reality Modelling Language
JPJ	Jabatan Pengangkutan Jalan
LDL	Learning Driving License
KPP	Kurikulum Pendidikan Pemandu
CD	Compact Disc
ADDIE	Analysis Design Development Implementation Evaluation
PC	Personal Computer
CD ROM	Compact Disc Read Only Memory
MPEG	Motion Pictures Experts Group

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CHAPTER I

INTRODUCTION

1.1 Project background

Today, the growth of technology has lead into the development of many aspects. The education area is the one that has been change with the growth of technology. Based on this scenario, there are many learning tool like courseware has been market to provide benefit and increase the quality of learning. The use of multimedia courseware in teaching and learning environment has given a lot contribution in education area. Courseware is a medium that is created to help to deliver the information in learning process rather in education area or other area. The content of this courseware usually is the information that will be help to improving the skill or to give a guide in anything subject or thing.

The "Learn the way to pass your license" is a courseware project that will be developed to give guidance to teach the driving student about the rules and a right way in driving. It is focus on driving learning as a preparation for student before the oral training in driving is done. It is cover about the rules of driving, safety guide before driving and the function of signboard. This project will be developed within several modules to give a different approach. This module consist the introduction for the transportation part, safety guide before driving, driving practice and signboard function. The 2D animation for the signboard will be included with the help of narration.

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The activity module also will be included to help the student to memorize what they have learned in this courseware. The purpose of this project is to study about simulation and perspective view using 2D animation. Besides that, the objective of this project is to give the first impression to student about the real driving world. This courseware is created to help student in learning process to make them understand and easy to remember the rules and signboard function.

1.2 Problem statement

This project is performed due to some of the problem that has been discovered, and the way to solve the problem is by developing this project. Described below is the problem that has encountered that cause the development of this project and how it will be solved with the implement of the project

i) There is lack of learning tool in driving learning.

There is no such learning tool in driving learning to help the instructor during their speech. Before this, the instructor will deliver the information to the student in manual way and using the static picture during their speech. With this courseware, the instructor will have one learning aid to help them deliver the information to their student in interactive and efficient way.

ii) Old fashion way in teaching not interesting and bored

Old fashion way in delivering the information makes the learning process bored. The student needs to hear the speech from instructor about the rules of driving and the function of signboard in class without the learning aid. To overcome this problem, this courseware will be developed with the media element to make the learning process more interesting and interactive.

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iii) There is lack of references for student in driving learning.

Student only have the book as reference in help them to understand the rules in driving to pass their license. With this courseware, student can have other reference to help them remember the rules in driving and signboard function in interactive way. There also can use this courseware to revise what they have learned as the preparation before they took the driving test.

1.3 Objective

The objectives for this project are:-

- To provide the learning tools for instructor to teach a driving student about the rules of driving, the safety guide before driving, and the function of the signboard. The instructor can use 2D animation to teach the student to make the learning process become easier and understanding.
- To produce a stand alone courseware for a new student to take driving courses.
- To apply the constructivism learning theory in this courseware. The instructor will use this courseware to teach a student to understand the driving learning.

1.4 Scope

This project will be developed for education area. It is developed for the driving student, instructor of driving school and the individual age around 18 above that have the interest in driving learning. It will be covered about the rules of driving, safety guide

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before driving, the function of signboard, and driving practice. This courseware is use non linear method that contains several modules which are the simulation module will be focus on the part of the car and the safety guide before driving, animation module is used to teach a signboard function with the aid of narration and the activity module about the rules of driving as an exercise for the student.

This courseware will be created by using Bahasa Melayu that the language use in the driving learning and focus on the class D license. This project is the stand alone project that will be delivered the information in CDROM. Window XP and Macromedia Flash 8 will be using to develop this courseware. The user must have a basic knowledge to use the computer or desktop system to use this courseware.

1.5 Project Significance

Driving student

This project will give benefit to the end user of this courseware. As for the driving student, they will have a great tool in helping them to understand the rules of driving and the function of the signboard that will be lead them to pass their license.

Instructor

For the instructor, this courseware will become one of the learning tools for them to deliver the information to the student in the efficient way that will make the learning process becomes so easy to understand with the aid of media element. .

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1.6 Conclusion

The "Learn a way to pass your license" is a newly courseware that will be develop for education area especially in driving learning. This courseware will be included with the simulation and 2D animation to make the learning process more interest and easy to understand. A lot of research and guidance from existing project is needed to create this courseware.

There are so many courseware in the market for the education but there is no one is created for the driving learning. In Malaysia there is no such courseware that teaches a driving learning but in the western country there is a courseware that teaches the driving lesson such as Driving Safety Interactive CD-ROM Courseware created by the J. J. Keller's. The purpose of this creation is to overcome the problem that have identified and being stated earlier. The Macromedia Flash 8 software and other software that is related will be using to complete this courseware. The simulation and perspective view using 2D animation will become the important aspect to look to make this courseware more interactive and suitable as a learning tool.

The next chapter will be cover the literature review of the project that will be included the concept of the development and the statement on previous or existing project. The methodology and project requirement also will be described in order to find the suitable method and requirement need that will be used in created this courseware.

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CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

Literature review and project methodology is the important part of the report to identify the fact and the source to develop this courseware. Literature review is useful to collect the related information from the previous and existing project to improve the project. Project Methodology is the method that use during the development of the project. In this chapter, all the method that will be used to develop this courseware will be identified and the one of suitable method will be considering in develop this project. Certain factors will be highlight to support the reason for the development of this project and the value that will be uncovered by doing the research problem.

This chapter will contain the description about the courseware, learning theory, and driving learning. Furthermore is about Flash 8 software and the methodology that is used in developing this project which include the explanation about the activities will be done in every stage.

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2.2 Domain

This courseware is a sort of animation, computer graphic and visualization application that is use as a kit for teach. Currently there are many applications and courseware in the market that use the same concept to develop interesting learning environment. Since courseware is use within the technology growth, the method to teach also changes with the help of this courseware.

2.2.1 Courseware

Courseware is a combination of the words 'course' with 'software'. It is an educational material intended as kits for teachers or trainers or as tutorials for students. According to Ineez Grutzner *et al.* (2004), Courseware is includes all kinds of educational material and content that is distributed via the web for training purposes from the users' point of view, as well as collections of multimedia documents interrelated by means of navigational structures. The quality is mostly concerned with four main factor which are the content of learning materials, the presentation of these materials, the way in which they are taught and the overall functionality of the courseware.

There are many types of courseware which are web-based courseware and stand alone courseware. Web based courseware is a courseware that store and managed by Multimedia Courseware Database and Server after being created. Users can access the available courseware by using web browser that support java environment. Stand alone courseware is the courseware that is stored in CDROM in order to deliver the information. There are many approach can be using to make the interactive courseware. In order to allow the user to explore more information in courseware, the content of the information must be perform well. The simulation and 2D animation can be use as an approach to deliver the information in courseware. Simulation and 2D animation can make the environment of learning more interesting and interactive to the user.

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2.2.1.1 Learning Theory in Multimedia Courseware

There are many learning theory that can be used in Multimedia Courseware. The three basic e-learning theories are the Behaviorism, Cognitive and Constructivism. Behaviorism theory is based on observable changes in behavior. It focuses on a new behavioral pattern being repeated until it become automatic. This theory is relatively simple to understand because it relies only on observable behavior and describes several universal laws of behavior. Its positive and negative reinforcement techniques can be very effective. Behaviorism often is used by teachers, who reward or punish student behaviors.

Cognitive theory is based on the thought process behind the behavior. Changes in behavior are observed, and used as indicators as to what is happening inside the learner's mind. Cognitive consider how human memory works to promote learning. So for example how the natural physiological processes of encoding information into short term memory and long term memory become important to educators.

Constructivism theory is based on the premise that we all construct our own perspective of the world, through individual experiences and schema. Constructivism focuses on preparing the learner to problem solve in ambiguous situations. Constructivism views learning as a process in which the learner actively constructs or builds new ideas or concepts based upon current and past knowledge. The teacher acts as a facilitator who encourages students to discover principles for themselves and to construct knowledge by working to solve realistic problems. This is also known as knowledge construction as a social process. Constructivism itself has many variations, such as Active learning, discovery learning, and knowledge building. Regardless of the variety, constructivism promotes a student's free exploration within a given framework or structure. In this courseware, the constructivism theory will be applied to make the learning process more interactive and adaptive to the end user.

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