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(HURUF BESAR)

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MELAKA SENTRAL WALKTHROUGH SYSTEM

NORMASNIZA BINTI MAT GHANI

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

FAKULTI TEKNOLOGI MAKLUMAT DAN KOMUNIKASI
KOLEJ UNIVERSITI TEKNIKAL KEBANGSAAN MALAYSIA
2005

ADMISSION

I hereby declare that this project report entitle

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STUDENT : _____ Date : _____

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DEDICATION

To my beloved parents,
thank you for your fully support and motivation.

ACKNOWLEDGEMENTS

IN THE NAME OF ALLAH, (AL MIGHTY) THE GRACIOUS, THE MOST MERCIFUL.

Big thanks to God and warmly thanks to Puan Halizah binti Basiron for giving assistant and attention to complete this project successfully. Thank you for spending time to answer all e-mails, calls and also during our meetings.

I would also like to thank my beloved parents who have been giving me support and motivation throughout my project. I had been exposed to the real environment where I had learned many new things from the task been given to me. I also got to learn how to work individually and learn to communicate with other people and at the same time tried to build self confidence within myself. I had been disciplined to follow rules and regulations of KUTKM guideline to finish this project. This include how to manage and submit every chapters of report at given time, as well as timekeeping skills.

I would like to thank the management of Melaka Sentral, especially to Mr Badrul Hisam bin Md Shah for his willing to spend time with me to be interviewed. Thank you for spending times to answer all the questions and also give permission to take pictures in Melaka Sentral. Lastly I would like to thank everyone who helped me to finish up this report and also help me to complete my PSM project as scheduled.

ABSRACT

KUTKM has made compulsory to every final year student to finish a final project for final year. This assignment called PSM (Projek Sarjana Muda), and the main purpose of this project is to produce the intellectual student with quality project. This project also teach students regarding all information systems projects move through the four phases of planning, analysis, design and implementation and also include all project requirement analysts to gather requirement, model business needs, and to understand of organizational behavior concepts. The project that has been developed is Melaka Sentral walkthrough virtual reality and the concept chosen is stand alone. For the main menu's virtual reality contents, it consists of two main aspects which are exterior and interior. Meanwhile, for Melaka Sentral virtual reality contents, it consists of plan of Melaka Sentral. The software used for this project are Adobe Photoshop and Macromedia Flash Professional 2004 for drawing images and 3D Studio Max for modeling. The requirement software for rendering application is also 3D Studio Max. However, the simulation of Melaka Sentral Walkthrough and the interactivity is using Eon Studio.

ABSTRAK

KUTKM telah mewajibkan kepada semua pelajar ICT untuk menyiapkan satu projek tahun akhir. Projek ini di kenali sebagai Projek Sarjana Muda (PSM) dan bertujuan untuk melahirkan pelajar yang intelektual dalam menghasilkan sesebuah projek yang berkualiti. Projek ini juga mengajar pelajar untuk lebih memahami tentang keperluaan maklumat dalam membina sesebuah projek, terdapat 4 fasa utama iaitu rancangan, analisis, rekabentuk, dan implementasi dan juga termasuk kesemua projek analisis iaitu mengumpul keperluan, model perniagaan yang dikehendaki, dan juga memahami tentang ciri-ciri sesebuah organisasi. Projek ini adalah mengenai Melaka Sentral –walkthrough virtual reality dan hasil akhir sistem ini adalah konsep stand alone. Untuk menu utama, virtual reality akan dibahagi kepada dua iaitu bahagian luar bangunan dan bahagian dalam bangunan. Sementara itu, Melaka Sentral virtual reality juga merujuk kepada plan bangunan Melaka Sentral itu sendiri. Software yang diperlukan dalam membangukan projek ini adalah Adobe Photoshop dan Macromedia Flash Professional 2004 untuk membuat rekabentuk dan 3D Studio Max untuk modeling. Software untuk aplikasi rendering pula juga menggunakan 3D Studio Max. Manakala, simulasi dan interaktif untuk Melaka Sentral Walkthrough adalah menggunakan Eon Studio

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ABBREVIATION	DEFINITION
KUTKM	Kolej Unversiti Teknikal Kebangsaan Malaysia
PSM	Projek Sarjana Muda
VR	Virtual Reality
3D	3 Dimensional
CD	Compact Disc
PC	Personal Computer
HCI	Human Computer Interaction
HTML	Hypertext Markup Language
GUI	Graphic User Interface
HTTP	Hypertext Transfer Protocol
OS	Operating System
Mhz	Mega Hertz
GB	Giga Byte
RAM	Random Access Memory
CAD	Computer Aided Design
WoW	Window on a World
ICT	Information and Communication Technology

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CHAPTER I

INTRODUCTION

1.1 Project Background

This chapter describes about the system that was been developed. In this chapter, the illumination about the project background included objectives, problem statements, scope, project significant, and also the expected output of the system. The following chapters are describing the details about the developed system.

This system has been developed for the Melaka Sentral terminal which is located at Peringgit, Melaka. This terminal has been opened for business since 14th. May 2004. Melaka Sentral is an ultra-modern air conditioned bus (express & local) terminal similar to the Kuala Lumpur International Airport (KLIA). The taxi terminal is also located next to the bus terminals. This bus station is also one of the common transportation for public whether people in Malacca or from outside Malacca and the bus platform is separated into two platforms; international and domestic. Because of this function, Melaka Sentral is the focus location whether for local people or people from outside Malacca. The architecture of this terminal was inspired by combination of Malaysia tradition and modern styles. This wide single storey building has been design with high roof and opening light structure. The building has different sections for bus and taxi.

Each section has been designed with a tropical garden in the middle cavity. This section completes with facilities such as cafeteria, restaurants, and shops. Every section is been provided by an information counter for public. There are twenty four ticket counters and twenty four bus platforms for bus express services. However, for domestic services, there is twelve counters ticket and eighteen bus platforms. Besides, taxi services for domestic and international journey.

The title of this project is Melaka Sentral Walkthrough System. The concept of this system is walkthrough that it will view the real environment in Melaka Sentral based on Virtual Reality (VR) technology. The system focuses on the architecture of Melaka Sentral building and navigates users to understand about each location in Melaka Sentral. The purpose of this virtual reality for Melaka Sentral is to introduce Melaka Sentral terminal to public. Beside that, many shops that can attract tourists to visit Melaka Sentral. The system can be used as one of alternatives to promote Melaka Sentral.

This project used a conventional computer monitor to display the visual world. This is called Desktop Virtual Reality or a Window on a World (WoW). This concept traces its lineage back through the entire history of computer graphics. A variation of the WoW approach merges a video input of an user's silhouette with a 2D computer graphic. The user watches a monitor that shows his body's interaction with the world. This project used the WoW concept, which is the virtual reality display on monitor and users interact by using mouse and keyboard. The concept of this project is stand alone and also called the interactive Compact Disk (CD interactive).

1.2 Problem statements

Currently, the methods of introducing Melaka Sentral are by kiosk, template, magazine, newspaper and internet. These methods are basically normal to public people who are not too interested to read articles on internet, newspaper, magazine or template. People can only read the articles and see the photo of Melaka Sentral and do not know the real environment in Melaka Sentral. Melaka Sentral was opened for business from 15th. May 2004, and it is still new to public. On the other hand, there is not yet to have virtual reality about Melaka Sentral and this virtual reality is a new method to acquaint Melaka Sentral to public. Why this virtual reality of Melaka Sentral should be developed Melaka Sentral is one of the new destinations that were built to show advancement in Malacca. It's also an interesting place to promote Melaka Sentral for tourism purposes. Besides that, the virtual reality can show the sophisticated architecture of Melaka Sentral by using 3D environment application.

1.3 Objective

Objectives of this system are:

- To introduce Melaka Sentral to the public.
  - Melaka Sentral already has a kiosk, but still not has virtual reality yet.

- To develop a virtual reality for Melaka Sentral.
  - The virtual reality help people to know better about Melaka Sentral and also gain more information include

map for explain every location in Melaka Sentral. The system will view the environment in Melaka Sentral including bus platform, car parking, ticket counter and shops.

- The tools in virtual environment are user friendly, easy and enjoyable for users to use and also help users to understand each area in Melaka Sentral.

- To overview Melaka Sentral to tourist.
  - Melaka Sentral is which one of interesting place to visit because there a lot of shops besides functioning as bus station.

- To vary the methods of introduce Melaka Sentral beside templates, articles, kiosk and others.
  - The interface of this virtual reality was developed in interactive mode, which user can move the mouse to view the walkthrough whether to left, right, front and back.

1.4 Scopes

The main purpose of this project is to introduce Melaka Sentral to public, and it is suitable to be watched by all levels of people. This system was developed for users who want to get more information about Melaka Sentral. This system involves with Malacca tourism because Melaka Sentral is one of interesting destination to visit by tourists besides its function as a bus station. The system also displays the map of Melaka Sentral and shows the direction for every location in Melaka Sentral including

bas terminal (domestic and international), shops, toilet, ATM machine, and ticket counters. The viewer will start from outside, which is view the whole building of Melaka Sentral including parking area. Then, walkthrough starts from the main entrance door of Melaka Sentral and shows the interior design of building including shops, bus counter, bus platform (internal and domestic location) and others important location such as toilet, ATM machines, and taxi stand. This virtual environment also has interactive functions such as the users can control movements by using mouse to move to front, right, left, and back.

1.5 Project significant

The virtual reality of Melaka Sentral functions as CD interactive application to introduce Melaka Sentral in an interesting way and also gives some information about Melaka Sentral. The system also involves in Malacca tourism because the main purpose of this system is to introduce the Melaka Sentral to public and also a place for tourism. The advantage of this system is to produce an interesting product by using new technique and sophisticated applications. This system is using Eon Reality (Eon Studio) software beside 3D Studio Max, Adobe Photoshop, Adobe Illustrator and others related software.

1.6 Expected output

At the final stage of this project, the virtual reality simulation will be included on the current course CD ROM. It will run directly from the CD ROM as a FLASH projector file in a browser window. The simulation will also be available from the current course CD ROM. The delivery product as CDs can be play on CD ROM drive.

1.7 Conclusion

In conclusion, the virtual reality of Melaka Sentral is to vary the methods to introducing the Melaka Sentral. This virtual reality of Melaka Sentral will view the real environment in Melaka Sentral by using interesting application.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

This chapter explains in detailed about literature review and project methodology which related to this virtual reality system. Virtual reality is the simulation of a real or imagined environment that appears as a three-dimensional (3-D) synthetic space that has dynamic properties specified by software. The Virtual Reality is a system that enables one or more users to move and react in a computer-simulated environment. Various types of devices allow the users to sense and manipulate virtual objects much as they would with real objects. This natural style of interaction gives participants the feeling of being immersed in the simulated world. Virtual worlds are created by mathematical models and computer programs. This chapter explains about the virtual environment of Melaka Sentral system, all research and information which collected from books, internet and other sources may be useful to this project.

2.2 Fact and Finding

This section concentrates on different perspectives related to the system developed. The Melaka Sentral Terminal was launched on 14th. May 2004, there not many advertisements that had been done to promote Melaka Sentral as a new terminal replacing the old bus station, the Sentral Station. The Sentral Station for both local and express buses moved from Jalan Tun Ali to Kg. Peringgit just off Jalan Tun Razak about 5 kilometres or so on the north side of the city. Old timers and locals are sure to miss the convenience and hustle and bustle of the old Sentral Station. Unfortunately many tourists who used to be able to walk to their hotel from the bus station will now need to take another bus into town or a taxi (approximately RM 15-20) making the trip into town much more expensive. The new Station Sentral is really quite impressive. The new terminal building is about the size of a small regional airport in the west and every bit as modern. With about 60 berths to embark and disembark and a huge parking lot for waiting buses not to mention wide roads leading into and out of the station, this is certainly a much better first (and last) impression of Melaka.

From review that has been done at the Melaka Sentral Terminal, there are several information that has been identify such as current system application, the structure of Melaka Sentral and what are advertisements that had been done to promote Melaka Sentral. The current system in Melaka Sentral Terminal is a kiosk system that was located in front of Melaka Sentral office. The kiosk system is commonly used to give information to users, but it is not shown the real environment or describing the real area in Melaka Sentral. The kiosk system only provides the information that was appears by using pictures and texts to explain the direction in Melaka Sentral. This virtual reality system wills focuses on how far people have the interest about virtual reality application.