

**VIRTUAL REALITY APPLICATION OF TRADITIONAL MALAY HOUSE:
BRINGING TOURISTS INTO 3-DIMENSIONAL VIRTUAL WORLD**

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UNIVERSITI UTARA MALAYSIA

2010



**KOLEJ SASTERA DAN SAINS
(College of Arts and Sciences)
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**VIRTUAL REALITY APPLICATION OF TRADITIONAL MALAY HOUSE:
BRINGING TOURISTS INTO 3-DIMENSIONAL VIRTUAL WORLD**

A project submitted to Dean of Postgraduate Studies and Research
in partial Fulfillment of the requirement for the degree
Master of Science of Information Technology
Universiti Utara Malaysia.

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ABSTRAK

Fokus projek ini adalah untuk membimbing satu tinjaun yang mengandungi senarai soalan di kalangan pelancong tempatan dan asing. Tinjaun ini adalah untuk mengumpul data terhadap teknologi realiti maya ke atas rumah tradisi Melayu bagi bertujuan promosi. Aplikasi yang sedia ada bagi rumah tradisi Melayu ini telah dibangunkan berasaskan teknologi reality maya dan di dalam bidang warisan maya. Di dalam bidang ini, warisan rumah tradisi Melayu akan ditunjukkan di kalangan pelancong tempatan dan asing . Tujuan aplikasi ini adalah untuk mempromosikan rumah tradisi Melayu sebagai salah satu warisan Melayu kepada pelancong. Satu penilaian ke atas penerimaan dan kebolehgunaan aplikasi ini diukur di kalangan mereka. Ianya akan menentukan respon atau maklum balas terhadap penggunaan teknologi reality maya di dalam mempromosikan bidang-bidang tersebut. Di akhir penyelidikan ini, satu kesimpulan ke atas potensi penggunaan teknologi reality maya untuk mempromosikan rumah tradisi Melayu sebagai warisan Melayu ke dalam sektor pelancongan boleh dilakukan.

ABSTRACT

The focus of this research is to conduct a survey questionnaire among local and foreign tourists to collect data towards virtual reality technology of traditional Malay house for the promotion. The existing application of traditional Malay house developed based on virtual reality (VR) technology and in the field of virtual heritage. In this field, the heritage of a traditional Malay house will be presented among local and foreign tourists. The purpose of this application is to promote the traditional Malay house as well as the Malay heritage to the tourists. An evaluation on the acceptance and usability of the application among them will be measure. This will determine their responses towards the utilization of VR technology in promoting these areas. At the end of this research, a conclusion on the potential use of VR technology in promoting the traditional Malay house as well as the Malay heritage in the tourism sector could be made.

ACKNOWLEDGEMENT

“In the Name of Allah the Most Gracious and Most Merciful”

Thank you Allah for blessing me with good health and getting on well on me to be able to complete this final research report. Special thank goes to people who involved during the research write up, without their cooperation, encouragement and suggestion this research would be incomplete.

Firstly, I would like to express my deepest gratitude to my supervisor, Assoc. Prof Abdul Nasir bin Zulkifli for his constructive suggestion, guidance, and consistence support during the research’s write up of the master project. I would also like to thank his continuous faith and support in me. Without his encouragement and guidance, it will not be easy for me to reach this extend in completion my report.

Secondly, I would like to thank all my dearest family members, especially to my parents, brothers who have given me their full support in my study. Their full support remains the mainstay for me in overcoming all the difficulties in completing this study. Next I would like to thank all the lecturers who have taught me before throughout the Masters Degree course because the knowledge they imparted have allowed me to be more knowledgeable and thus in a better position to complete this research.

Lastly, I would like to thank all my friends who had given me support and helping me at times of difficulties, especially thanks to Mohd Hairy bin Manap who is my roommate along study period. He was gave his hand for me in the processes of completing this report and also others supportive friends as Latifi, Najihah and others. Thank you all of them.

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LIST OF ABBREVIATION

Acronym	Meaning
CAVE	Cave Automatic Virtual Environment
FHW	Foundation of the Hellenic World
GUI	Graphical User Interface
HCI	Human Computer Interaction
SPSS	Statistical Package for the Social Sciences
TAM	Technology Acceptance Model
UCD	User-Centered Design
VE	Virtual Environment
VH	Virtual Heritage
VR	Virtual Reality
VRATMH	Virtual Reality Application of Traditional Malay House
VTT	Virtual Time Travel
WTO	World Tourism Organization
3D	Three Dimensional

CHAPTER 1

INTRODUCTION

1.1 Background

Nowadays, tourism sector is becoming more valuable, bringing profit and economic incomes for many countries. According to Yves, Dickson, Ho-fung & Patrick (2007), tourism has become the world's largest industry and has experienced consistent growth over the past several years. According to World Tourism Organization (2006), it estimated that tourist arrivals around the world would increase over 200% by 2020. Meanwhile, this sector is highly competitive in terms of business through tourism promotion of interesting places over the world where the advantage of it increasingly driven by the improvement in information technologies and innovation. Therefore, the introduction of virtual heritage (VH) in tourism sector has become increasingly important in the conservation, preservation and interpretation of traditional culture and historical heritage.

In this research, virtual reality (VR) technology used to develop a virtual environment application to allow tourists to learn and experience the traditional Malay house and its heritage. Multimedia elements including video, audio, text, graphic and animation with colorful and attractive screen layouts used in this application. These are to ensure that the application will be attractive, interesting and more informative to the tourists. The combinations among these elements fundamentally enhance tourists' interaction and help them to be presence and engage into the virtual environment (VE) through the VR application. Therefore, VH has become important in the conservation, preservation and interpretation of our cultural and natural history (Le *et al.*, 2005). Using the information application especially

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