OFFICE INTERIOR DECORATION DESIGN USING VIRTUAL METHOD

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

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SUPERVISOR: ___________________________ Date: 24 October 2005
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ABSTRACT

This project entitled Office Interior Decoration Design Using Virtual Method is developed for Bachelor’s Degree Project. It uses new technology approach which is Virtual Reality (VR) and three dimensional model (3D). The use of this technology is hoped to help office owner to do the interior design for their office besides for the use of interior designer. Interior designing business nowadays has developed as a result requested by consumers and office’s owner. Because of this reason, Office Interior Decoration Design Using Virtual Method has been chosen and thought as a suitable topic and help user to cope with the latest technology in the information technology era. The office interior design project is the first step before deciding the design and applying the services according to customer’s taste in design with the provided furnitures. Office spatial space is specially designed to be the sample and as a reference when decorating and arranging the furnitures. This project is developed according to ADDIE model methodology and stress on the sistem development which implementing each phase in order to produce a system with all the useful function needed. The final output is a non-immersive displayed on a monitor screen. As for the conclusion, this Office Interior Decoration Design Using Virtual Method is a system functioning to help lighten the interior design’s burden in designing the design for interior office and as a solution for the manual process problems.
ABSTRAK

# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>SUBJECT</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DECLARATION</td>
<td></td>
<td>ii</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td></td>
<td>iii</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td></td>
<td>iv</td>
</tr>
<tr>
<td>ABSTRAK</td>
<td></td>
<td>v</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td></td>
<td>vi</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>LIST OF DIAGRAMS</td>
<td></td>
<td>xi</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td></td>
<td>xiv</td>
</tr>
</tbody>
</table>

## CHAPTER 1  INTRODUCTION

1.1 Project Background 1
1.2 Problem Statements 2
1.3 Objectives 3
1.4 Scopes 4
1.5 Project Significance 5
1.6 Expected Output 7
1.7 Conclusion 7

## CHAPTER 2  LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction 9
2.2 Fact and Finding 10
2.2.1 Virtual Reality 10
2.2.2 Three Dimension (3D) Model 11
2.2.3 Virtual Reality in Interior Design 12
2.2.4 Virtual Reality in Walkthrough 13
2.2.5 Virtual Reality in Visualization 13
2.2.6 Non-immersive as a Virtual Reality System 15
2.3 Project Methodology 17
2.4 Project Requirement 19
2.4.1 Software Requirement 19
2.4.2 Hardware Requirement 21
2.4.3 Other requirements 22
2.5 Project Schedule and Milestones 23
2.6 Conclusion 25

CHAPTER 3 ANALYSIS 26
3.1 Introduction 26
3.2 Problem Analysis 28
3.2.1 Change 30
3.2.2 Time 32
3.2.3 Technology 32
3.3 Requirement Analysis 36
3.3.1 Functional requirement 36
3.3.2 Non-functional requirement 38
3.3.3 Task 40
3.3.4 Audience 41
3.3.5 Content 43
3.3.6 Resource 44
3.3.7 Delivery platform (Runtime requirement) 48
3.4 Conclusion 50

CHAPTER 4 DESIGN 52
4.1 Introduction 52
CHAPTER 5 IMPLEMENTATION 95

5.1 Introduction 95

5.2 Production and implementation 96
  5.2.1 Production of texts 97
  5.2.2 Production of graphic 98
  5.2.3 Production of audio 98
  5.2.4 Production of video 99
  5.2.5 Production of animation 100
  5.2.6 Process of integration 100

5.3 Software configuration management 101
  5.3.1 Configuration environment setup 106
  5.3.2 Version control procedure 107

5.4 Implementation status 108

5.5 Conclusion 109

CHAPTER 6 TESTING 111

6.1 Introduction 111

6.2 Test plan 112
  6.2.1 Test organizations 112
  6.2.2 Test environment 113
  6.2.3 Test Schedule 114

6.3 Test strategy 116
  6.3.1 Classes of tests 117
6.4 Test design
   6.4.1 Test description
   6.4.2 Test data
6.5 Test results and analysis
6.6 Conclusion

CHAPTER 7 CONCLUSION
7.1 Observation on Weakness and Strength
7.2 Proposition for Improvement
7.3 Conclusion

REFERENCES
BIBLIOGRAPHY
APPENDIXES
<table>
<thead>
<tr>
<th>TABLE</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Qualitative Performance of Different VR Systems (Kalawsky, 1999)</td>
<td>16</td>
</tr>
<tr>
<td>2.2</td>
<td>Software requirement and functionality</td>
<td>19</td>
</tr>
<tr>
<td>2.3</td>
<td>Hardware requirement and functionality</td>
<td>21</td>
</tr>
<tr>
<td>3.1</td>
<td>Hardware and System Requirement for 3D Studio Max 6.0</td>
<td>45</td>
</tr>
<tr>
<td>3.2</td>
<td>Hardware and Minimum Requirement</td>
<td>48</td>
</tr>
<tr>
<td>3.3</td>
<td>Hardware Requirement for Run Time Requirement</td>
<td>49</td>
</tr>
<tr>
<td>4.1</td>
<td>Office furniture by the compartment</td>
<td>70</td>
</tr>
<tr>
<td>5.1</td>
<td>Description on the Implementation Status</td>
<td>108</td>
</tr>
<tr>
<td>6.1</td>
<td>Hardware and Software for testing</td>
<td>113</td>
</tr>
<tr>
<td>6.2</td>
<td>Alpha 1 Test Schedule (30%)</td>
<td>114</td>
</tr>
<tr>
<td>6.3</td>
<td>Alpha 2 Test Schedule (60%)</td>
<td>114</td>
</tr>
<tr>
<td>6.4</td>
<td>Alpha 3 Test Schedule (90%)</td>
<td>115</td>
</tr>
<tr>
<td>6.5</td>
<td>Beta 1 Test Schedule (45%)</td>
<td>115</td>
</tr>
<tr>
<td>6.6</td>
<td>Beta 2 Test Schedule (90%)</td>
<td>116</td>
</tr>
<tr>
<td>6.7</td>
<td>Functional testing technique</td>
<td>117</td>
</tr>
<tr>
<td>6.8</td>
<td>Nonfunctional testing technique</td>
<td>118</td>
</tr>
<tr>
<td>6.9</td>
<td>Table of test description.</td>
<td>119</td>
</tr>
<tr>
<td>6.10</td>
<td>Test result and analysis</td>
<td>121</td>
</tr>
</tbody>
</table>
# LIST OF DIAGRAMS

<table>
<thead>
<tr>
<th>DIAGRAM</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>ADDIE model</td>
<td>17</td>
</tr>
<tr>
<td>2.2</td>
<td>Gantt Chart for Office Interior Decoration Using Virtual Method proposal development</td>
<td>24</td>
</tr>
<tr>
<td>3.1</td>
<td>Interface of IKEA interior design for office system</td>
<td>29</td>
</tr>
<tr>
<td>3.2</td>
<td>Office compartment environment</td>
<td>29</td>
</tr>
<tr>
<td>3.3</td>
<td>Interface furniture selections</td>
<td>29</td>
</tr>
<tr>
<td>3.4</td>
<td>Interface 3D furniture arrangement</td>
<td>30</td>
</tr>
<tr>
<td>3.5</td>
<td>Interface viewing the furniture arrangement in 2D</td>
<td>30</td>
</tr>
<tr>
<td>3.6</td>
<td>Old workflow process without office interior decoration design application.</td>
<td>34</td>
</tr>
<tr>
<td>3.7</td>
<td>New workflow processes using the office interior decoration design using virtual method application.</td>
<td>35</td>
</tr>
<tr>
<td>3.8</td>
<td>Interactions between users and system</td>
<td>41</td>
</tr>
<tr>
<td>4.1</td>
<td>First example of furniture arrangement</td>
<td>54</td>
</tr>
<tr>
<td>4.2</td>
<td>Second example of furniture arrangement</td>
<td>55</td>
</tr>
</tbody>
</table>
4.3 Third example of furniture design pattern for office

4.4 First example of furniture arrangement.

4.5 Second example of furniture arrangement.

4.6 Closed plan is an appropriate planning approach for organization with strong privacy requirement and for which planning flexibility is not priority.

4.7 Massing diagram illustrates support areas located immediately around the building core to create regular planning and circulation areas

4.8 Separation of office compartment (staff compartment)

4.9 Planning consideration for furniture system workstations clusters

4.10 Typical circulation planning considerations to accommodate handicapped access.

4.11 Typical reception area plan

4.12 Early evolution of primary types of furniture system

4.13 Standard work surfaces

4.14 Standard type of sitting for the office environment

4.15 Standard vertical and lateral file cabinet

4.16 Type of high-density filing system.

4.17 Sample office compartment

4.18 Work flow the office interior decoration design using virtual method

4.19 Flow chart office interior decoration design using virtual method system

4.20 Office compartment model first view
<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.21</td>
<td>Office compartment model second view</td>
<td>86</td>
</tr>
<tr>
<td>4.22</td>
<td>Office compartment model third view</td>
<td>86</td>
</tr>
<tr>
<td>4.23</td>
<td>Office compartment model fourth view</td>
<td>87</td>
</tr>
<tr>
<td>4.24</td>
<td>Office compartment model fifth view</td>
<td>87</td>
</tr>
<tr>
<td>4.25</td>
<td>Office compartment model sixth view</td>
<td>87</td>
</tr>
<tr>
<td>4.26</td>
<td>Furniture model for office table</td>
<td>88</td>
</tr>
<tr>
<td>4.27</td>
<td>Office furniture model for file drawer</td>
<td>88</td>
</tr>
<tr>
<td>5.1</td>
<td>First step to set up the unit setup for unit measure modeling</td>
<td>102</td>
</tr>
<tr>
<td>5.2</td>
<td>Second step to set up the unit setup for unit measure modeling</td>
<td>102</td>
</tr>
<tr>
<td>5.3</td>
<td>Third step to set up the unit setup for unit measure modeling</td>
<td>103</td>
</tr>
<tr>
<td>5.4</td>
<td>First step to set up the unit setup for material</td>
<td>103</td>
</tr>
<tr>
<td>5.5</td>
<td>Second step to set up the unit setup for material</td>
<td>104</td>
</tr>
<tr>
<td>5.6</td>
<td>Third step to set up the unit setup for material</td>
<td>104</td>
</tr>
<tr>
<td>5.7</td>
<td>Fourth step to set up the unit setup for material</td>
<td>105</td>
</tr>
<tr>
<td>5.8</td>
<td>Fourth step to set up the unit setup for material</td>
<td>105</td>
</tr>
</tbody>
</table>
### LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSM</td>
<td>Project Sarjana Muda</td>
</tr>
<tr>
<td>3D</td>
<td>Three dimension</td>
</tr>
<tr>
<td>VR</td>
<td>Virtual reality</td>
</tr>
<tr>
<td>VE</td>
<td>Virtual environment</td>
</tr>
<tr>
<td>IT</td>
<td>Information technology</td>
</tr>
<tr>
<td>FPS</td>
<td>Frames per second</td>
</tr>
<tr>
<td>CPU</td>
<td>Computer Processor Unit</td>
</tr>
<tr>
<td>RAM</td>
<td>Random access memory</td>
</tr>
<tr>
<td>HD</td>
<td>Hard Disk</td>
</tr>
<tr>
<td>CD</td>
<td>Compact disk</td>
</tr>
<tr>
<td>CDR-W</td>
<td>Compact disk-rewriteable</td>
</tr>
<tr>
<td>LOD</td>
<td>Level of detail</td>
</tr>
<tr>
<td>GB</td>
<td>Gigabit</td>
</tr>
<tr>
<td>MB</td>
<td>Megabit</td>
</tr>
<tr>
<td>MHZ</td>
<td>Megahertz</td>
</tr>
<tr>
<td>PIV</td>
<td>Pentium four</td>
</tr>
<tr>
<td>PIII</td>
<td>Pentium three</td>
</tr>
<tr>
<td>SP1</td>
<td>Service pack one</td>
</tr>
<tr>
<td>SP2</td>
<td>Service pack two</td>
</tr>
<tr>
<td>LCD</td>
<td>Liquid crystal displays</td>
</tr>
<tr>
<td>TCP/IP</td>
<td>Transport Control Protocol / Internet Protocol</td>
</tr>
</tbody>
</table>
CHAPTER 1

INTRODUCTION

1.1 Project Background

Office Interior Decoration Design using Virtual Method is projects that focus in the three dimension (3D) virtual reality to design the office interior decoration environment by walkthrough to go and view each compartment. Interior decorations designer or the decoration design company will be the client for develop their business especially in office interior decorations design courier. Meanwhile, the customers that buy the services will be a user to use this project. Beside that, it will be a first image for the early stage before design the real office interior decoration and will be a guide to the designer in developing stage. Customer will choose a design of the furniture pattern that available in this system. Resources all of furniture that place in this system are gain from the furniture pattern and design that offer by the furniture supplier in the internet and also from their broachers. After that, arrange it depend to the customer choice and requirement consider to a size of compartment that decide from their real office.

Now, there are already have a project like this from one of the famous furniture company, but for this project, it will be more concentration to the 3D office interior design with walk through compartment by compartment that different from the existing one. Beside that, there are a few minor differences between the existing system and the office interior decoration design by using virtual method like the software that use for development, the furniture that contain, design compartment.
building and etc. The specific purpose of this project is to be a commercial system to
the designer and company in designing interior decoration courier especially for
office, by helping them to make a view from customer requirement for their office
decorations design before develop it.

1.2 Problem Statement

Now a days, there a many design of building that influence the shape of
compartment and the separations of each other. More adorable the buildings are more
complex in shape of it compartment. It nice to see and comfortable for working,
however the selected furniture and it arrangement must be consider. Therefore, to
follow attractive as building creations, process to achieve the target also must be up
to date and easy to use either for the customer or for the designer. The lack of using
the manual system now a day make will make the low productions of services.
Because of that, this product will be help and change the manual usage to the more
easily application by using to the interior designer especially in office environment.

It is no wonder for people today to change from manual to the system that can be
more easily to use and help them for the next stage of task because now, there are
already available the equipment to develop the system and a base to run and use for
the services that are offer. The problem now is the people are dislike to use the
complicated system that need to complete the strange requirement. System that
available also maybe is not full fills their requirement that want to be use. The
system that offers must be the helper for the client and user for the applications like
the system will be the middle agent between the customer and the designer. The
difficulties that arise without using the suitable system will be a problem to the
designer because they cannot view and imagine what the customer wants for the first
sight. It does not enough for the designing business that just dealing just by words
without some sketching, maybe if one or two customer come for the first time can do
like that, but if the company are more roll forward after that, it is impossible to them
to scathe and design to show to the customer what they should do and know about
their service and the design that want to make.
For the mistake, all people will do the mistake either with accidentally or careless. However, all of this situation must try to be avoid if the company want their service will be use by the customer for the next time like in giving the last result of designing as what the customer want. The services that offer from the system must be the helper for the task that will be done. At least it has the proof of what has been deal before. The user satisfactions must be obtained. So, all of probability to the lack of service in the mistake must be avoid.

Beside that, the problems arise especially in selections of furniture to arrange it at the suitable place for tidy and attractive environment. Without the system, customer cannot view and imagine like the real environment by using 3D environment to make a selection as what they want. Something that they want to design must be correct and accurate that will be show by the system.

The important part that cannot buy and take it back is a time. It must be use as good as can to doing every stage for designing services. Starting at the first services that will be offer to customer that is the plan of what customer want with their office interior design. The early planning must be not wasting the time like found an error, repeat the same task, and do it again. Except the time, money also will be use to attain the task. To catch up all of this, one-step must take by using the appropriate system in taking and handling the customer requirement.

1.3 Objectives

For visualize interior design virtual tour, it important that use before started doing the interior design at the office compartment so the client can have a first visualization of the design and the decoration before they actually buy the furniture as the main purpose. The objectives of using it are:

1. To help reduce the problem of wrong decoration and arrangement of the furniture that can make the space looks very packed that depend on the user requirement.
2. To provide a commercial system the office interior designer to achieve their business in designing services can use that.
i. To provide an easier step for the designer to make a deal with the customer and another side like supplier of the furniture and equipment that will be use.
ii. To avoided the unsatisfied because the user can choose by themselves the furniture of their office with the suitable arrangement.
iii. To avoid wasting the time and the money by using this system to get the first visualization before to go to developing the real design.
iv. To be as a good planner for the customer to plan what equipment that need or not. After that, the cost can be avoid from the over estimations.

1.4 Scopes

Office Interior Decoration Design using Virtual Method will be created for use by the customer that wants to decorate their interior office design base to the sample of compartment that have been created (without specify the size of compartment). Client can walk through to every compartment in the office and the customer can choose, arrange, and move around the furniture that they want to the suitable place. After that, the furniture equipment that have been chose and arrange by the customer will be print or save in the database computer system to be prepare by the interior designer to apply to the real environments. Therefore, this project will be done by required outside assistance especially in the furniture supplier that will be the important element to design the interior decoration for each compartment. Beside that, the customer must play with their role by provide the requirement for design their interior office like giving the correct scale of their office compartment after the pattern of furniture and it arrangement are deal with the designer company.

The approaches that uses here are to provide something that can make a pleasure in the services by this two side are equal. The customer will get their expectation from the interior designer services in design their office meanwhile the company of designing also get the easier step to do their task by depend on the first visualization from the system. So, the process to achieve this approach will be apply to this project like walk through to the compartment and full visualization of each compartment that available in the office. This will be persistent by 3D image that look like as the real
shape of furniture, environments and the important one is the interior design. Client can do what they want with their choice by choose the furniture that available and move around the furniture as what they want around the compartment.

For the software that will be use to achieve the target like above are 3D studio max to be the modeler base. It will be use to make the 3D pattern of every environment and equipment shape that will be present to the client and user. After finish doing the model of every environment and equipment, the next step is making it functional to be use. To attain this application, eon trading software will be use because it suitable to function every requirement content of project.

Because of IT system development, the hardware that will be use are the computer device like monitor, high performance computer processor unit, keyboard, mouse, speaker and etc to use by the developer to produce the 3D virtual tour office decoration interior design. For the software, it will be use the 3D Studio Max 6.0 as the modeler and the EON Reality 5.0 as the main to make the office interior decoration design in functionality. Beside that, there are another software that will be consider to use during the office interior decoration design development like Microsoft Office Word 2003, Microsoft Office Visio 2003, Microsoft Office Project 2003, Adobe Photoshop 7.0 and etc. Beside the tools that are use to develop the office interior decoration design by using the virtual method, it also consider to the software and hardware that will be use by the user. For the hardware, system requires mouse and keyboard as the input device meanwhile the output device are computer monitor and printer. For the software, user must get the EON Viewer that are available as a package when install the EON Reality 5.0 software. This is to make sure that the office interior decoration design system can be run and use as what was mentions in the project scope.

1.5 Project Significance

For the significance to Office Interior Decoration Design using Virtual Method project, it focus to the user that is designer or company in office interior
designing. It will be provide their service by using this system to their client that is their customer. This project that will be an intermediate device to connect two organizations to make it functional. The two organizations are the designer or company and their customer to buy their services. These two organizations are important for business operation and play their own roles especially focus in the office interior design and this project will be help in solving the agreement of pattern decoration in each other. For example, the client of this project that is customer interior design can make their own choice by some guide from the designer meanwhile the designer will face the easier step for their job because they has been view the customer requirement and just do as what they want.

In the information technology (IT) world now a days, all of task that are done must be faster and correct by helping the technology that provide. All of supplier in IT technology like electronic equipment, vehicle and other more are race each other to made and produce the own brilliant product that congruent with this era. Also like the office interior decoration design by using the virtual methods, beside develop for helping the designer and their customer in the office interior decoration design world, it also to catch up and follow the usage in the IT world. It will be faster and sophisticated than the manual style that use by the people before in handles their business like use a pen and the paper as the material in business running. Therefore, the user organization that is the designer will be more active, doing and handle the task. Beside that, the outcome also important to produce the brilliant and will be satisfied by the customer that buy the service.

The organizations that used the computer system in running their task and job everyday are look wiser than the organization that does not use it. By using the office interior decoration design system, the organizations will be worth that it has an arrangement task and job. This will be the systematic service and can make the brilliant work to the customer requirement. This system as the sign that the organizations are better in their services and will be follow by the product of design and the furniture that provide.
1.6 Expected Output

The result that will be made for the Office Interior Decoration Design using Virtual Method project are about it viewing of 3D modeling about office compartment like room, pantry, receptionist counter, waiting room and etc. The pattern and scale of this compartment as sample and the real one that will be built are depends to the customer requirement. The furniture as the important equipment that will be full fill the compartment are will be list in this project for the customers selection. Beside that, the designer cannot design die interior pattern design.

Beside the equipment and modeling, it functional also important. For this project, the first functions are viewing the office by walkthrough to go to the selected compartment. Next are the main functions that ability of choosing the furniture to put to the compartment and after that it can move around the compartment as what the clients want. All this function will be apply to the each compartment that available normally in the office as a sample pattern of it compartment and scale area.

1.7 Conclusion

For the conclusion to develop this project is about the 3D environment. This is to make sure something that will be show can be feeling and imagine by the user and client like the real environment in the office to apply to their real office. Every shape and movement of picture and image are depends to the client of the user and certain part are default and depends to the system application. The choices are on the clients of the user that are use this system to decorate their office interior environment. This system will be useful in the commercial field to helps the interior designer make their decorate and design like what their customer require and also the customer can have a lot of their own choice in determine their office interior design. With the 3D application of the whole environment and another element like walkthrough, selection of furniture and arrangement of the equipment will help the customer to make a correct choice for their office interior design. Therefore, their own choice as what they assume will be develop by the interior designer as same as
they want depends to this system. The elements that achieve in this part will be purpose to the next stage that is in the literature review, analysis and design phase to make sure that the office interior decoration design by using virtual methods will be produce as what was required.
CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Literature reviews are task about searching, collecting, analyzing, and drawing conclusions from debaters and issues raised in relevant body of literature. It will be implies depends on the successful of other people work before and will be demonstrate the past study and preposition solution or hypothesis to the problem related to the topic of this project that is Office Interior Decoration Design using Virtual Method.

To handle this project for the literature review, it will be analyzed to a few parts that related with the title of project. The reason by doing like this is for more detailed and can get more understanding for each element that will be utilize. To achieve the target of each element that have been approve by a few people before, this project will be use the instructional design model from ADDIE model as the framework for thoroughly planning, developing, and adapting instruction, based on leaner needs and content requirement. This approach provides a systematic system for the evaluation of developer needs, the design, and development of material, and the evaluation of the effectiveness of the development intervention.