BORANG PENGESAHAN STATUS TESIS*

JUDUL : 3D ANIMATION WITH STEREOSCOPIC 3D

SESI PENGAJIAN : 2013 / 2013

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3D ANIMATION WITH STEREOSCOPIC 3D : SILENT KILLER

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

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
2013

DECLARATION

I hereby declare that this project report entitled

3D ANIMATION WITH STEREOSCOPIC 3D : SILENT KILLER

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

STUDENT   : _____   Date: _____

(NUR HAMIRUDIN BIN ISMAIL)

SUPERVISOR   : _____   Date: _____

(EN MOHD ADILI BIN NORASIKIN)

DEDICATION

Specially dedicated to my beloved parents and my family member

For my supervisor, EN MOHD ADILI BIN NORASIKIN
(UTEM)

For my evaluators, EN MOHD LUTFI BIN DOHALIT
(UTEM)

And lastly to my beloved friends and who have encouraged, guided and inspired me
throughout my journey in education

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ABSTRACT

Projek Sarjana Muda is required subject of the final year student in Universiti Teknikal Malaysia Melaka (UTeM). For PSM, each student needs to come out with a project. The project that has been chosen to be develop is '3D Animation with stereoscopic 3D'. This project will focus on 3D animation with stereoscopic 3D. Stereoscopic 3D is essentially the illusion of depth. In this project, animation is used to create an animation (Silent Killer). 3D animations are the best platforms to delivers the messages. This project is to investigate audience reaction between 3D animation with stereoscopic 3D and a normal 3D animation. The product is develop for kids, teenagers and young adults aged between 7 to 25 years old are the target audience for this product. This project was developed using Autodesk Maya 2011, Adobe After Effect CS6 and Adobe Premiere CS6. This project give the audience the experience of stereoscopic 3D effect. This project will also promote the usage of stereoscopic 3D to producer film in Malaysia.

ABSTRAK

Pelajar tahun akhir Universiti Teknikal Malaysia Melaka (UTeM) diwajibkan untuk mengambil subjek Projek Sarjana Muda (PSM). Setiap pelajar perlu menghasilkan satu projek untuk subjek PSM. Produk yang telah dipilih untuk dibangunkan adalah ' Animasi 3D dengan 3D stereoskopik. Projek ini fokus kepada animasi 3D dengan 3D stereoskopik. 3D stereoskopik pada asasnya ialah ilusi kedalaman. 3D animasi digunakan untuk membangunkan produk ini bertajuk Silent Killer. 3D animasi juga adalah platform yg terbaik untuk menyampaikan mesej cerita ini. Projek ini adalah untuk menyiasat tindak balas penonton antara animasi 3D dengan 3D stereoskopik dan animasi 3D tanpa 3D stereoskopik. Produk ini dibangunkan untuk kanak-kanak, remaja dan orang dewasa berusia antara 7 hingga 25 tahun. Mereka adalah penguna sasaran untuk produk ini. Projek ini telah dibangunkan dengan menggunakan Autodesk Maya 2011, Adobe After Effect CS6 dan Adobe Premiere CS6. Projek ini memberi penonton mengalami kesan 3D stereoskopik. Projek ini juga akan menggalakkan penggunaan 3D stereoskopik kepada pengeluar filem di Malaysia.

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LIST OF ABBREVIATIONS

PSM	-	Projek Sarjana Muda
Mp3	-	MPEG Layer 3
Wav	-	Waveform Audio File Format
GIF	-	Graphics Interchange Format
JPEG	-	Joint Photographic Experts Group
3D	-	Three Dimension
TV	-	Television
PC	-	Personal Computer
CGI	-	Computer Graphic Interface
Fps	-	Frame per second
Mb	-	Maya Binary
CD	-	Compact Disc
Wmv	-	Windows Media Video

CHAPTER I

1.0 INTRODUCTION

As we all know, there are many types of animation, stop motion, 2D, and 3D animation. This project will focus on 3D animation with stereoscopic 3D. Stereoscopic 3D is essentially the illusion of depth. It's an idea where you have two points you can send different images to your left and right eye and this allows the brain to be manipulate into thinking that you are seeing a real 3 dimensional object. In this project, animation is used to create an animation (Silent Killer). 3-Dimensional (3D) animations are platforms to delivers the messages. This project is to investigate audience reaction between 3D animation with stereoscopic 3D and a normal 3D animation. For this project purpose, Multimedia Production Process will be used for implementation. The expected result is a graph that represents the audience reaction between 3D animation with stereoscopic 3D and a normal 3D animation.

1.1 Project Background

Stereoscopic 3D, or "stereoscopy," referring to how the eyes and brain create the impression of a third dimension. For animation the content is very easy to generate. To get a movie like "Brave" into stereoscopic 3D, animators create two versions each frame, one from the perspective of each eye. Because computer generated movies does not need cameras, it's much easier to correct any mistakes in post-production. Animation is used to create movement on screen. The movement is made up of many still images, on its own frame. Animation can be built either in two or three dimensions. Three dimension (3D) animations is one of platforms to delivers the message for this project.

"Silent Killer" is a 3D animation that will be produced for this project. The story involves two characters which is the killer and Dato Kamal the business man which is the target. Dato Kamal walks waiting for someone. The killer is in the building across the road, he is using a sniper to shot Dato Kamal. The killer shot misses Dato Kamal. Then, Dato Kamal runaway, the killer jumps from the building and chase Dato Kamal. After the chasing, they confront each other. The killer punches Dato Kamal until him unconscious. Dato Kamal is selling drugs.The duration of this 3D animation is about 1 minute. The animation will be in two versions, a normal 3D animation and 3D animation with stereoscopic 3D.

1.2 Problem Statement

3D animation film has developed by many productions since the market is growing bigger. Animation nowadays shows that 3D animation has high demands especially in film and broadcast field. Local animation producer nowadays are more interested to produce a 3D animation such as, Boboiboy, Upin dan Ipin, Dunia Eicak and many more.

Most of conventional animation stories are not using stereoscopic 3D. Furthermore, stereoscopic 3D is very new in Malaysia animation industry. Our ability to produce high end 3D animation especially in stereoscopic 3D is still less quality because they have limited skills and knowledge about stereoscopic 3D.

1.3 Objectives

The objective of developing this project is:

1. To investigate techniques to produce a stereoscopic 3D.

2. To develop a 3D animation with suitable stereoscopic 3D.

3. To measure audience reaction to 3D animation with stereoscopic 3D.

1.4   Research Questions

1. What is the technique to produce stereoscopic 3D?

2. How to produce 3D animation with stereoscopic 3D?

3. How the audience react to 3D animation with stereoscopic?

1.5 Project Scope

Project scope of this project is, kids, teenagers and young adults aged between 7 to 25 years old are the target audience for this product.

The duration of "Silent Killer" is about 2 minutes. The screen resolution for this short animation is in 1080p. This project will focus on stereoscopic. The project will be viewed to public audience to make the testing, 3D anaglyph glasses will be provided during the testing.

1.6 Project Framework

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                              ┌──────────┐
                              │  Start   │
                              └────┬─────┘
                                   │
                              ┌────▼─────┐
                              │ Analysis │        PRE PRODUCTION
                              └────┬─────┘
         ┌─────────┐    ┌──────────────────┐    ┌──────────────────┐    ┌──────────────┐
         │  Story  │───▶│ Character Design │───▶│ Storyboard Design│───▶│  Production  │
         │         │    │                  │    │                  │    │   Planning   │
         └─────────┘    └──────────────────┘    └──────────────────┘    └──────────────┘

         ┌───────────────┐    ┌────────────────┐    ┌─────────────┐
         │Character Setup │◀───│ Texture Mapping│◀───│  3D modeling│      PRODUCTION
         └───────────────┘    └────────────────┘    └─────────────┘

         ┌───────────┐    ┌──────────────┐    ┌──────────────┐    ┌──────────────┐
         │ Animation │───▶│  Lighting &  │───▶│ Stereoscopic │───▶│ Compositing  │
         │           │    │  Rendering   │    │              │    │              │
         └───────────┘    └──────────────┘    └──────────────┘    └──────────────┘

         ┌──────────────┐    ┌──────────────┐    ┌──────────────┐
         │ Final Render │◀───│  Editing &   │◀───│ Sound effect │
         │              │    │  Correcting  │    │   & Music    │
         └──────────────┘    └──────────────┘    └──────────────┘
                                                                  POST PRODUCTION
         ┌────────────────┐    ┌──────────────┐    ┌──────────────┐
         │ Implementation │───▶│  Evaluation  │───▶│ Final Report │
         └────────────────┘    └──────────────┘    └──────────────┘

                              ┌──────────┐
                              │   End    │
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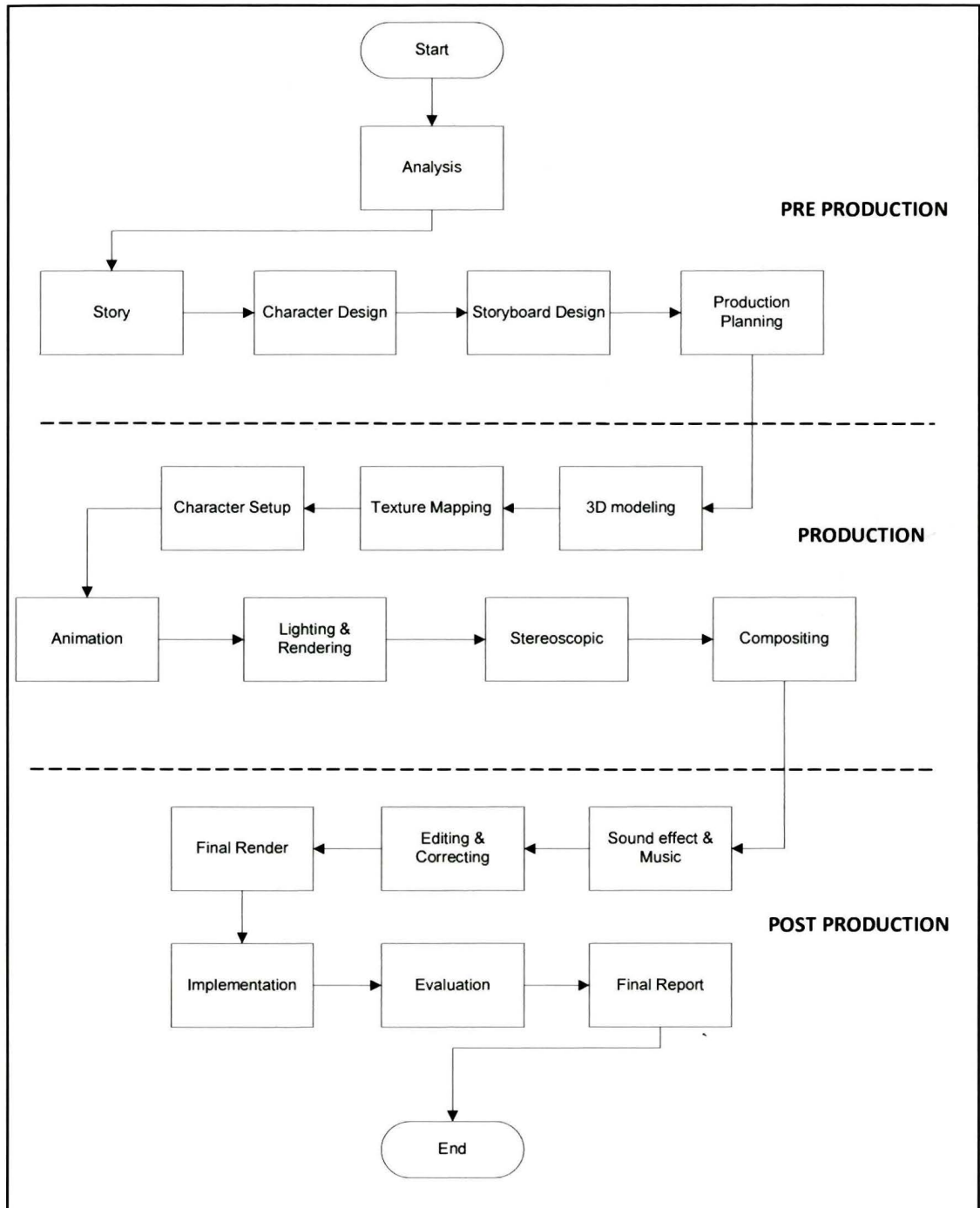
Figure 1.1   Project Framework

1.7 Project Significance

The significance of the project is to present a 3D animation with stereoscopic 3D. Stereoscopic 3D is very uncommon being developed in Malaysia. It will also give the audience the experience of stereoscopic 3D effect. This project will also promote the usage of stereoscopic 3D to producer film in Malaysia.

Summary

This chapter is the introduction of "Silent Killer" 3D animation with Stereoscopic 3D short story. It is illustrates and explains the project background, the problem statements, objectives, scope of the project, project significant and the expected output. This chapter determines the overall understanding of the project and the importance of it.

As the conclusion, these projects are developed with 3D animation short story. This project also focuses on Stereoscopic 3D. For the next chapter is literature review, it is about area of study of the project, current system/tools/output of the project and the comparison of existing systems. Literature review is an importance to determine what the suitable method that will be used in development process.

CHAPTER II

2.0 LITERATURE REVIEW

Introduction

A literature review is an evaluate report information found in the literature research to the related area of study. It is important to do research to gathers the information for this project. Literature reviews can give an overview for the project. Literature can include journal articles, internet (electronic journals) books, newspapers, megazines and thesis.As for this project, research on stereoscopic 3D in 3D animation will be done.