

**BORANG PENGESAHAN STATUS TESIS\***

JUDUL: APPLICATION OF ROTOSCOPING AND LIP SYNCING IN THE DEVELOPMENT OF 2D ANIMATED VIDEO

SESI PENGAJIAN: 2007/2008

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**APPLICATION OF ROTOSCOPING AND LIP SYNCHING IN THE  
DEVELOPMENT OF 2D ANIMATED VIDEO**

**PATHMARAJAN S/O THURAIPPAH VARATHARAJAN**

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


**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY  
UNIVERSITY TEKNIKAL MALAYSIA MELAKA  
2007**

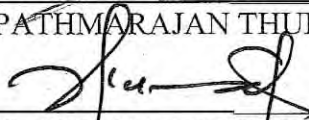
## DECLARATION

I hereby declare that this project report entitled

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

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## DEDICATION

Dedicated to my beloved parents..

## ACKNOWLEDGEMENTS

I would to take this golden opportunity to show my gratitude to a few fellow people who have contributed to my effort in completing the thesis.

Firstly, I would like to thank both my parents, who have guided me through thick and thin, through sunny and rainy days. They never once doubted my efforts and capabilities, thus, inspiring me to complete this report.

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## ABSTRACT

This thesis shall explain in detail the end product of the project in partial fulfilment of the final year project requirements. Chapter I explains the project background, problem statements which initiate to research of the project, objective, and scope and project significance. In Chapter II, we discuss the literature review and research findings based on published materials such as journals, books and also articles posted on the Internet. In addition, project requirements and project schedule and milestone are drawn for thesis. Chapter III analyzes previous or similar projects and the problems that follow that could be helpful in completing the project. In requirement analysis, functional requirement and the project objective is further defined and clarified. In Chapter IV, we will study the specifications of the preliminary design and part of the detailed design of the project. It defines the results of the analysis of the preliminary design and the result of the detailed design of this application. The design phase ensures the systematic development of the project.

## ABSTRAK

Laporan tesis ini akan menerangkan dengan teliti *end product* yang akan dihasilkan sebagai memenuhi keperluan projek tahun akhir. Bab I menerangkan latarbelakang projek, pernyataan masalah yang mendorong kepada penyelidikan projek, objektif, skop dan kepentingan projek. Bab II menjelaskan hasil dapatan kajian literatur berdasarkan bahan penerbitan, contohnya rujukan jurnal dan metodologi projek yang bersesuaian dikenalpasti dan dihuraikan. Bab III pula membincangkan analisis projek-projek yang pernah dibangunkan sebelum ini dan kekangan yang wujud dalam pembangunan projek tersebut. Analisa keperluan menjurus kepada keperluan fungsi dan objektif projek yang akan dijelaskan. Dalam Bab IV, spesifikasi dan rekabentuk awalan projek akan dikaji dengan teliti. Ia juga akan menentukan hasil projek berdasarkan rekabentuk yang dihasilkan.

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**LIST OF ABBREVIATION**

<b>ABBREVIATION</b>	<b>DESCRIPTION</b>
ICT	Information Computer Technology
UteM	Universiti Teknikal Malaysia Melaka
PSM	Projek Sarjana Muda
TV	Television

**LIST OF APPENDICES**

<b>APPENDIX</b>	<b>TITLE</b>
Appendix A:	Gantt Chart
Appendix B:	Storyboard
Appendix C:	Attendance Log Book

## CHAPTER I

### INTRODUCTION

#### 1.1 Project Background

This video is an animated video that's main purpose is as a promotional video for a music band. It uses 2D animation developed at a length of a movie video.

The video is basically a form of promotional video to promote one of our local bands. There are many other methods of promotion such as 3D animation and film video, but they are quite costly to develop. 2D animation has been used as promotional music videos before this but they are not very popular. This project is also to study on various animation methods involved to make the animation better such as lip synching and others.



## 1.2 Problem Statement

The problem statements are as below:

### 1.2.1 Other forms of promotions are too common

Music video is a very good way to promote the artist and their music. However film music videos are becoming too common and bland nowadays. An animated music video would offer more diversity to the viewers as it is something uncommon and hence, a little more interesting to watch. And when it has captivated the attention of the viewers, they would definitely pay attention to the song as well.

### 1.2.2 A Cheaper Solution

Film video and 3D animated videos are very expensive to produce and thus, it is quite a burden for the artist, or record label to fork out a fortune to produce it, considering the earning power of our local scene. 2D animation is far cheaper than the other two methods mentioned and would serve as a good option for promotion.

## 1.3 Objectives

- **To promote the band among existing fans and new listeners**

As the band is a relatively old band that has not had much radioplay to promote them, the best way to do so is to release a promo video that could be broadcasted on television or even downloaded from the internet. This is the best way to expose the band to new listeners or to those who have not heard of them. The reason so is because people tend to

be attracted more to videos more than to take the trouble of buying the album and experimenting. The album could also act as a teaser for the new fans to what they can expect of the bands style and quality of music.

- **To apply lip synching methods**

Lip synching is a form of animation technique that is popular at present to create a natural expression of the characters when they are speaking. This requires the characters lip movements to be in sync with the words pronounced.

- **To apply rotoscoping techniques**

Rotoscoping is a technique whereby the animator traces the actual image or movement of a character into an animated image where the image resembles the actual image or movement.

- **To apply on the atmosphere of the video based on the atmosphere of the song**

As heavy metal is a unique genre of music, where the lyrics and music resembles the atmosphere they are trying to portray, a music video should also have the similar atmosphere to complement the song.

#### **1.4 Scope**

The target viewers of this video are the fans of the band and new listeners who wish to have a taste of what the band sounds like. The animation would be developed mostly on Flash MX, with additional touches using Adobe Photoshop, Paint, Adobe Streamline and 3DMax. The development will have to start off with a storyboard at first, as a guide for the plot of the video. The duration of the video is approximately around four minutes.

## 1.5 Project Significance

This project is mostly beneficial to the band as it is an aid to help promote themselves to the existing and potential audience or listeners. It is also to help the developer to develop the project by using various techniques, mainly rotoscoping and lip synching. By using these two techniques, it would improve the video to be a better and more realistic one.

## 1.6 Expected Output

It is hoped that this video could help promote and establish the band's popularity even further among listeners and in the local music scene alike. I also hope that it could enlighten the industry about another option in promoting artists' besides contemporary film music video.

## 1.7 Conclusion

In this chapter, we learn about the objectives, problem statements, scope and the significance of the project and the importance of achieving them. In the following chapter, we will discuss on the literature review of similar projects that would help in developing and perhaps, improve the project proposed. We would also discuss on the methodologies involved in developing the project along with the schedules and requirements needed. The project methodologies would help determine the best method to develop and complete the project, while the scheduling helps in the developer keep track of the project's progress and to ensure the progresses meet the intended deadlines.

## CHAPTER II

### LITERATURE REVIEW AND PROJECT METHODOLOGY

#### 2.1 Introduction

In this chapter we will discuss on the literature reviews and methodologies that would be adapted and applied in order to develop the project.

The literature review includes studying published journals, books and similar projects for similarities and techniques that could prove helpful in completing this project.

The methodologies explain in brief the techniques and practices that could be best applied in developing the project. The methodology adapted could very well determine the quality of the project's output. Methodologies help the developer produce his project in a more organized manner.

## **2.2 Facts and Findings**

### **2.2.1 Domain**

The project, which is a computer generated 2D animation, is an animated music video clip of a song that could be used as a promo video.

### **2.2.2 Existing System**

#### **2.2.2.1 2D Animation in Malaysia**

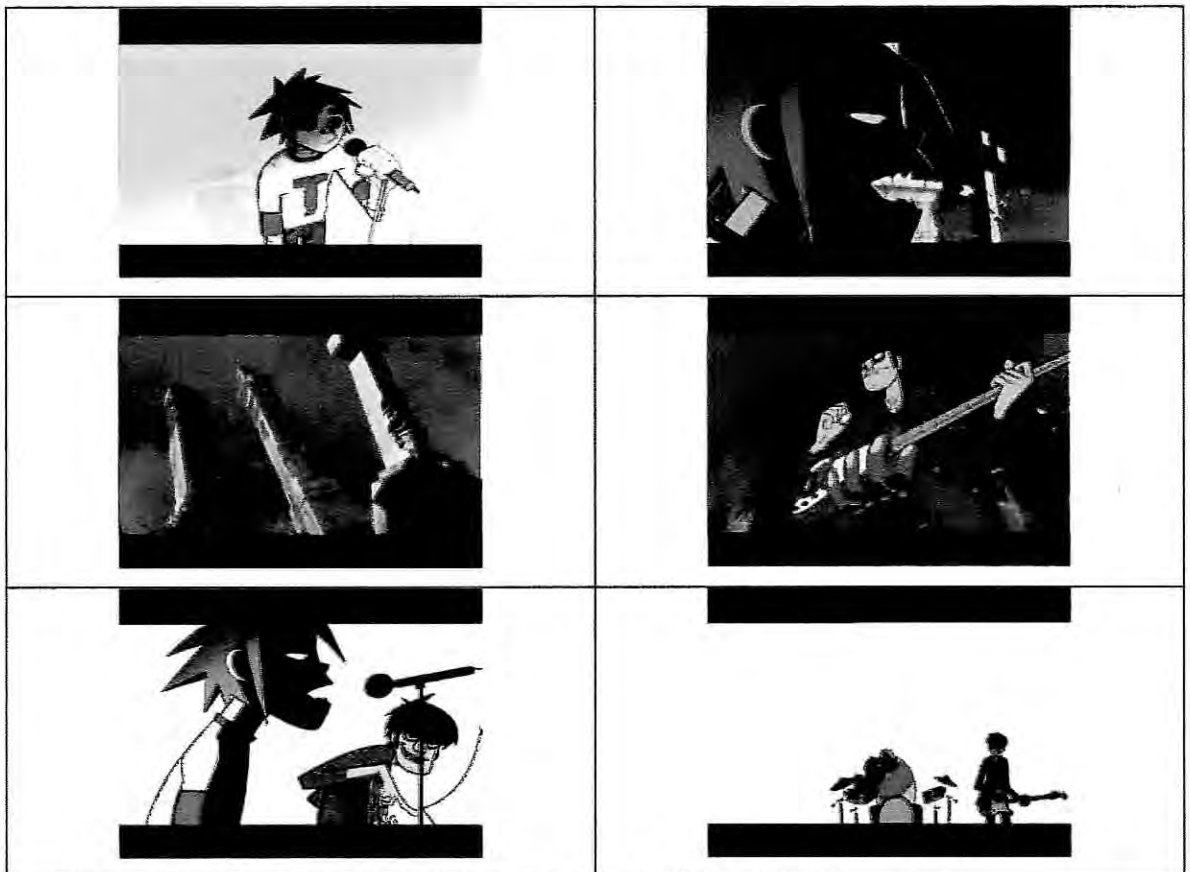
1946 was the year animation sprung into our local television with the founding of Unit Filem Malaya, which is known as Filem Negara at present. The first animated short film was 'Hikayat Sang Kancil', produced in 1978 by Anandam Xavier and later released for broadcasting in 1983. There were a number of other animated short films released between 1984 and 1987, 'Sang Kancil dan Buaya' and 'Arnab yang Sombong' among the few of them.

With the support and backing of the Malaysian Government in their stance of broadening digital technology in the early 80's, local producers ventured into more diverse fields that could apply 2d animation, [5]. As a result, the advertising industry invested in 2D animation for promotional values. Besides that, our first animated series, Usop Sontorian was born, produced by Kharisma Studios, who had veteran comic artist, Ujang, among their ranks, [4].

2D animation has been widely used in the advertising field for various concepts, such as promoting products, music videos and many more.

### 2.2.2.2 2D Animation in Music Videos – Gorillaz’s ‘Clint eastwood’

2D animation has been embedded in music videos over the pass 20 years. Even with the advent of advanced motion film technology and 3D animation, there are still a few who venture on producing 2D animated music videos. Among those, are electro-pop rockers, Gorillaz, who made fame with their debut single, ‘Clint Eastwood’ music video. The video, animated wholly in 2D, was released in 2001. The video included animated characters of the band members, each playing their instruments in a barren location.



**Figure 2.1 Scenes from Gorillaz’s ‘Clint Eastwood’ Video**

### 2.2.2.3 Metalocalypse Series

Metalocalypse is a 2D animated series from Adult Swim Entertainment which just commenced broadcasting since August 2006. It revolves around the life and adventures of Dethklok (pronounced death-clock), a death metal band supposedly the greatest and biggest band alive, only by their own comments. Each episode tells a new adventure for the band and their journey. The reason I chose this series as a reference is because it is very music related. It focuses on the band and their instruments which could be very helpful in developing my characters.



Figure 2.2 Scenes from the 'Metalocalypse' series

### **2.2.3 Technique**

#### **2.2.3.1 Rotascoping**

Rotoscoping is a technique where the animator traces the footages of a live action footage, frame by frame. By doing so, it gives the character realistic movements. I would like to use this technique to trace out the image of the band members to create more realistic looking characters in terms of their looks and built.

#### **2.2.3.2 Motion Tweening**

Keyframes of the scenes are drawn and in tween frames are added in between the keyframes to create motion, [1].

#### **2.2.3.2 Using additional animation softwares as options**

The use of additional animation softwares will also help to develop this project. Among the few I have identified that could be useful are Corel DRAW 2007, Animo V6.0, ToonBloom, and Manga Studio EX 3.0. With the help of different softwares, I believe it can add width to the project's development.

### **2.3 Project Methodology**

This project will adapt the simple film production methodology which consists of three steps, Pre-Production, Production, and Post-Production. Each step has essential impact on the end product and should be carried out without negligence.