

**JOJO SI KURA- KURA – 2D ANIMATION FOR PROTANOMALY (RED)
COLOUR BLIND CHILDREN**

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UNIVERSITI TEKNIKAL MALAYSIA MELAKA

BORANG PENGESAHAN STATUS TESIS*

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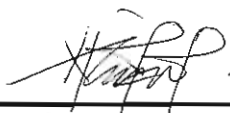
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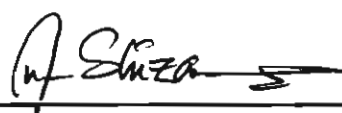
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**JOJO SI KURA- KURA – 2D ANIMATION FOR PROTANOMALY (RED)
COLOUR BLIND CHILDREN**

NUR HIDAYU BINTI KAMARUZAMAN

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
2011

DECLARATION

I hereby declare that this project report entitled

JOJO SI KURA-KURA – 2D ANIMATION FOR PROTANOMALY (RED) COLOUR BLIND CHILDREN

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

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DEDICATION

To my beloved parents who always support me and give me an inspiration in completing this project.

To my supervisor, who always correct all my slip-up and always give suggestion to me.

To all my friends, thanks for your help and support.

ACKNOWLEDGEMENT

First and foremost, I would like to thank to my supervisor of this project, Mr. Ahmad Shaarizan Bin Shaarani for the valuable guidance and advice. He inspired me greatly to work in this project. His willingness to motivate us contributed tremendously to my project. I am also would like to thank him for showing us some tutorial and example that related to the topic of our project.

Besides, I would like to thank the authority of Universiti Teknikal Malaysia Melaka (UTeM) for providing us with a good environment and facilities to complete this project. Also, we would like to take this opportunity to thank to the Faculty of Information and Communication Technology (Interactive Media) for offering this course, bachelor of degree in Interactive Media (BITM). It gave me a great opportunity to participate and learn many things.

Finally, an honorable mention goes to my family and friends for their understandings and supports on me in completing this project. Without helps of the particular that mentioned above, I would face many difficulties while doing this project.

ABSTRACT

This project entitle “JOJO SI KURA- KURA – 2d Animation For Protanomaly (Red) Colour Blind Children” is an animation that is develop to attract the protanomaly children to watch an animation as well as to enhance problem solving technique for those group of children. There are many different types and degrees of colorblindness or more correctly called color vision deficiencies. People with normal cones and light sensitive pigment are able to see all the different colors and subtle mixtures of them by using cones sensitive to one of three wavelength of light that are red, green, and blue. For this project, the target user is for red colour blindness children. This animation also aims to educate the children about the moral values that have in this story. For this 2D animation, the moral values can deliver to the children while they playing the simple activities and watch the animation. In this animation the puzzle games will come out after the main character asking help from the viewers and will resume until the games is finish. This animation is constructed using Adobe Flash CS4 and this animation successfully produced and meets all the criteria.

ABSTRAK

Projek ini diberi tajuk "SI JOJO Kura-Kura - Animasi 2d Untuk Kanak-kanak yang mengalami rabun warna Merah (protanomaly) " merupakan animasi yang dibangunkan supaya kanak-kanak ini dapat menonton animasi serta dapat meningkatkan teknik penyelesaian masalah. Terdapat banyak jenis dan darjah rabun warna atau lebih tepat dipanggil kekurangan penglihatan warna. Orang yang mempunyai kon normal dan pigmen sensitif cahaya dapat melihat semua warna berbeza dengan menggunakan kon sensitif kepada salah satu daripada tiga gelombang cahaya yang merah, hijau, dan biru. Untuk projek ini, pengguna sasaran adalah untuk kanak-kanak mempunyai rabun warna merah. Animasi ini juga bertujuan untuk mendidik kanak-kanak ini mengenai nilai-nilai moral yang terdapat dalam cerita ini. Untuk animasi 2D ini, nilai-nilai moral boleh disampaikan kepada kanak-kanak ketika mereka bermain aktiviti mudah dalam masa yang sama menonton animasi ini. Dalam animasi ini juga, permainan teka-teki akan keluar selepas watak utama meminta bantuan dari penonton dan cerita tersebut akan disambung semula apabila permainan tersebut selesai. Animasi ini dibina menggunakan Adobe Flash CS4 dan animasi ini berjaya dihasilkan dan memenuhi semua kriteria.

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CHAPTER I

INTRODUCTION

1.1 Project Background

Like other countries in the world, animations industries in Malaysia are rapidly develop. At the Malaysia market there are a lot of animations have been produced and there also many people who love to watch animation whether in 2D or 3D format. Due to this, there are many animations that have been produced in this country. This project will use the same method as ordinary animations with the enhancement of avoiding using a particular colour. This hopefully will help colour blind children to augment problem solving technique and watch the animation. At the same time, this colour blind children can feel the fun watching the animation.

There are misconceptions among many people regarding the concept of colour blind. This is because most of community thinks that colour blind is referring to people who can only see black and white. It is extremely rare to be totally colour blind. It is estimated that 8% of males and less than 1% of females have color vision problems. Most color vision problems are inherited and already present at birth. There are many different types and degrees of colorblindness or more correctly called color vision deficiencies. People with

normal cones and light sensitive pigment are able to see all the different colors and subtle mixtures of them by using cones sensitive to one of three wavelength of light that are red, green, and blue. There are three groups of inherited color vision defects that are Protanomaly, Deuteranomaly and Tritanopia.

Deuteranomaly are the most common forms of color-blindness. People with these conditions have cones that are insensitive to medium wavelengths (greens), but the end result is similar to protanomaly with the exception that reds do not look as dark. Deuteranomaly probably cannot see reds and greens in the same way that color-normal people can, they can often differentiate between the shades of reds and greens somewhat accurately. Intended for Tritanopia is the insensitivity to short wavelengths the blues. In general blues and greens can be confused, but yellows are also affected in that they can seem to disappear or appear as lighter shades of red.

Protanomaly is referred to as "red-weakness". Any redness seen in a color by a normal observer is seen more weakly by the protanomalous viewer, both in terms of its "colouring power" that are saturation, or depth of colour and its brightness. Red, and orange appear somewhat shifted in towards green, and all appear paler than they do to the normal observer. The redness component that a normal observer sees in a violet or lavender color is so weakened for the protanomalous observer that he may fail to detect it, and therefore sees only the blue component. Concerning of that, the type of colour blindness that review in this 2D animation is Protanomaly .

This animation combines linear animation storyline and interactive puzzle activities. With regarding of that, the combinations of multimedia element are use in this animation such as voice over, sound, graphics and more to make the animation more attractive. This animation consists of three parts first, user will see the montage where it introduce the characters. The first part of the story will keep on until the user or audiences see the first puzzle. User need

to solve this puzzle, therefore the story will carry on to a second part. These parts the main character will meet the second challenge that arranged by the bad character. After the second challenge had done, the third part of the story will start from the race between the Sang Arnab and Sang Kura-Kura. There will be a mission that Sang Arnab made for Sang Kura-Kura to complete, to make Sang Kura-Kura lose the race. Sang Kura-Kura need to complete all the tasks that given by Sang Arnab to conclude the story.

As mention earlier, at the same time this animation is to educate the children about the moral values. For this 2D animation, the moral values can deliver to the children while they playing the simple activities and watch the animation. The moral values that contain in this story are not to underestimate people around us, always be humble and do not be selfish and also arrogant. While the children gain the knowledge, at same time, these children can have fun trough the simple activities and animation.

1.2 Problem Statement

Nowadays, 2D animation development is extensively. There are various kinds of 2D animations in the market. The different types of animations were develop for different type of user such as children, teenagers, and adult. Sometimes, 2D animations can receive awards same like normal movies because of the interesting storyline and realistic graphics.

Currently, 2d animation development is general. Their aims are for people who love to watch animation. There are not many 2D animation develop for this kind of color blind users. These groups of children also love to watch animation but they do not get satisfaction when watching the animations. It is because they are certain colours in the animation that they cannot see well. By

making it interactive and avoid using certain colours with the latest technology and technique, this will attract these protanomaly colorblind children to watch it.

The animations these days also, use a linear storyline. This is too common for 2D animation. That's why the audience not tends to watch it. In this 2D animation, "*JOJO SI KURA-KURA*", there are combinations of puzzles with the linear storyline. This make the animation more interactive and the user can immerse with the story. Applying this puzzle for this project will make it unique and more attractive.

1.3 Objectives

This project develops specifically for the Protanomaly (red) colour blind children. The objectives for the project are:

- 1) To develop an interactive 2D animations especially to Protanomaly colour blind children.
- 2) To determine whether the children can accept the combination of linear 2D animation with interactive puzzle.
- 3) To construct an interactive 2D animation by combining linear 2D animation storyline with interactive puzzle.

1.4 Scope

The project is Interactive 2D animation for Protanomaly colour blind children. The features of the animation are suitable for the kind of children. The target user for this 2D animation project is Protanomaly Color Blind Children

that age around 4 to 10 years old. Since at this age the children already know how to do problem solving and like to learn new things.

In this animation, there will be a combination between the linear storyline and the interactive puzzles. These combinations make this animation is different than other animation. These interactive puzzles develop to enhance problem solving technique for those groups of children. The storyline is based on a traditional folklore which is one of the teaching methods used by the elders to teach the children and grandchildren about morality. So, from this animation, children may know how to differentiate between what is good and bad from the moral values.

The duration of this animation will be in between 5 to 7 minutes and the rendered animation will be delivered in CD format where audience can watch it through a CD player or personal computer and laptops. The reason why the animation will be delivered in CD format is because CDs can have interactive menus for users to interact with and CDs are widely used in delivering a movie nowadays.

1.5 Project Significance

This project will benefits the children where they can know the importance of moral values during their growing stages. Parents can teach their children about morality using these kinds of animations where children like to watch cartoons and animations nowadays. From this, we can produce future leaders with full of moral values so that our country will be a very nice and peaceful place to live.

This animation is suitable for children because it can enhance children's thinking and to stimulate them to solved the problems. This project combines the

linear storyline and the interactive activities such as puzzle. The aims of this animation are to attract protanomaly colour blind children to watch the animation and also to enhance their problem solving skill by playing the simple activities.

1.6 Conclusion

In conclusion, from this project, children will know about the importance of moral values in life and what will happen if a person doesn't have moral values. This project will produce an interesting interactive 2D animation by combining linear storyline and interactive puzzle. This project also is for protanomaly colour blind children and features that apply in this animation hopefully suitable for them.

This chapter consist project background, problem statement, objective, scope and project significant. To build this interactive 2D animation we have to know the scope, give the measureable objective, how to overcome the problem and also the significant of these 2D animations. Moreover, chapter 2 is literature review and project methodology will be covered on the next chapter.

CHAPTER II

LITERATURE REVIEW & PROJECT METHODOLOGY

2.1 Introduction

This chapter will explain and describes the literature review and project methodology. This literature review will provide the information from the findings. The information can be obtained from previous researches for protanomaly colour blind, surf the internet, and books. Literature review is aim to obtain the knowledge and ideas as well as to find out the advantages and disadvantages from the project. This chapter explains literature review and project methodology that will be conducted in order to complete this 2D animation development. Previous studies and researches from publish materials like case studies, technical documents and online library play an important role in literature review. Generally, the purpose of review the literature is to search, collect, analyzed and draw conclusion from all the material that have been read and studied. The result later will become supportive reference for the project topic which consists of a compilation from series of materials and sources.

Project Methodology describes a set of practices that will be carried out iteratively to produce the program. It is important to choose the right methodology because a successful and quality of the end product depend on the method chosen. In order to produce an effective computer based application, particularly where the project is large and complex, schedules need to be met, costs controlled, quality maintained and specifications