BORANG PENGESAHAN STATUS TESIS^

JUDUL: **2D ANIMATION-EDUTAINMENT FOR KIDS**

SESI PENGAJIAN: **2005/2006**

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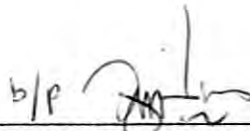
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DECLARATION

I hereby declare that this project report entitled

2D ANIMATON-EDUTAINMENT FOR KIDS

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

STUDENT : _____ Date : 25-NOV-05
              (MOHD HATIM B. MOHD SALLEH)

SUPERVISOR : _____ Date : 25-NOV-05
              (PN. NORAZLIN BT. MOHAMED)

DEDICATION

To my beloved parents in loving memory of my mother, Zaiton binti A.Rahman, my
father, Mohd.Salleh bin Abd. Rahman, whose inspiration and encouragement will
continue to guide me always
And to all my friends

ACKNOWLEDGEMENTS

First of all, thank you and gratefully to Allah S.W.T that give me the occasion, healthier, times and capability to complete the Project Sarjana Muda by on schedule. To my beloved parents and family that giving me the support to complete the thesis and the project..

A lot of thanks to Pn. Norazlin Bt. Mohamed as a project supervisor, on guiding and supervise me well for my project progress and reports. Cik Sharul Badariah as my co- supervisor helps me on giving a guide and an idea on writing a report. Also my thanks for all PSM committee members that give the best way to guide us on PSM especially to Bachelor Information Technology on Media Interactive (BITM) lectures.

My dedication also goes to all my friends on majoring BITM and also for all friends that give me a supports, ideas and spend time to complete the PSM together. May Allah bless you.

ABSTRACT

On multimedia, an animation is the one of element that can be used to represent the data to the users and audience. 2D animation-Education for Kids is a video animation project to represent some education concept on how the potato chips have been made to the audiences. Literature review discuss about how an animation can interact kids especially on education term. What the type of animation that suitable to represent such an education concept like this. What are factor that needed on animation that can attract the kids. The content of the project is an animation video that contains the step and procedure to make the potato chips. This animation video is a linear presentation so it disables the interaction with the audience. This project will try to attract the audience to experience and learn the process in enjoy and simple environments. The output of the project is suppose a short video animation that tell us about how the potato chips have been made started from the selected potato from the farm until it ready on distribute to the markets. The project will be delivered on cd-rom for easier carrying and access anytime and places.

ABSTRAK

2D Animation-Education For Kids merupakan projek yang mengimplementasikan elemen animasi sebagai perantara utama dalam menghasilkan video animasi bagi tujuan pendidikan kepada kanak-kanak. Kandungan projek adalah sebuah video animasi pendek untuk kanak-kanak yang mengisahkan bagaimana proses pembuatan kerepok kentang(*potato chips*) tersebut dijalankan. Kajian literasi adalah tentang bagaimana animasi dapat mempengaruhi minat kanak-kanak dalam proses pembelajaran mereka dan jenis animasi yang diminati dan sesuai untuk mereka. Visual animasi 2d ini mengandungi presembahan secara linear tanpa melibatkan interaksi dengan pengguna. Kanak-kanak didedahkan dengan proses bagaimana penghasilan tersebut dilakukan menggunakan visual persekitaran dan corak persembahan yang boleh menarik minat kanak-kanak. Hasil akhir projek adalah sebuah video animasi 2d pendek yang menerangkan tentang proses-proses yang terlibat bermula dari proses pemilihan kentang sehingga kepada proses siap untuk dipasarkan. Projek akan dimuatkan kedalam CD bagi tujuan pembelajaran untuk kanak-kanak jugat tujuan pengkormesialan .

CHAPTER I

INTRODUCTION

1.1 Project Background

Animation is one of multimedia element that categories into the two-dimensional (2d) animation and three-dimensional (3d) animation. An animation obviously can be defined as " a motion pictures made by taking photograph successive positions of inanimate objects (as puppets or mechanical parts), or Animated Cartoon, a motion picture made from a series of drawings simulating motions by means of slight progressive changes. "This is a fairy common understanding of the term animation, but it reflects a limited exposure to what the art form has to offer (Pilling.J, 1992)

By using the 2d animation definition concept, this project are state on education concept that specified on how the potato chip have been made and ready to deliver into the market. Narrator will define process or procedure in simple way to make sure audience will get the information as well.

Generally in Malaysia, 2d animation focus more on story plot for examples on folks such as *Puteh, Kluangman, Silat Lagenda*, and other 2d animations. An animation element widely use to deliver the storylines otherwise from the observation from those 2d animation that have been release on market, commonly

most of the 2d animation product prefer on cartoon consist in humor concept. In fact the audiences are limited to children in age between 6-11 years old. Base on this situation, this project try to develop by enhance 2d animation concept on education with the same aim to give audience general knowledge at the same time try to attract larger target user and also to gain and learn something new via an animation.

The title of PSM project 2d animation –Edutainment for Kids contain about 'how the potato chips have been made' using an animation as the main elements to represent the content project to the audiences. This content is suitable for audience to know the process since the potato chips are popular junk food among the audience especially the kids to gain general knowledge.

1.2 Problem Statement

Animation industries become more challengers along with the IT worlds. Animations nowadays become more powerful media element, realistic and more competitor on publishing creative and quality of multimedia presentation. Focuses on Malaysian animation industry, it a huge comparison mostly on how character movement, lip synchronizations, story line and media elements research are still at beginning level.

Mostly on Malaysian cartoon industry, 2d animation are used on creating humor and such as *Usop Sontorian* , on folks story like *Puteh* and story telling such *Abg Sidi* (every Tuesday 5.30pm- TV2).Animator on Malaysian still don't use an education as a main concept on their animations.

In this project, 2d animation are used to represent education knowledge term on how the potato chips have been made base on general knowledge for audience especially for the kids.Beside as an entertainment that as we know, kids most attract on the cartoons. At this age, mostly kids like to eat junks food beside their got strong

desired on learning about anything. For this, opportunity, this project helps children to find out those foods are made beside gain knowledge for themselves.

1.3 Objective

The propose of developing this 2d animation project are to achieve objective that is

i. Using one of the multimedia elements there are 2d animation as a platform to deliver the educational message for target audience beside to entertain them.

ii. Implement children psychology research on learning approach on using multimedia element for examples color, text object, audio and graphic that can attract children.

iii. Research on content deliverables that can make kids interest to stay watching the animation such as simplicity the content, using simple and common wording, and explanation for easy to them to understand and catch up the contains.

1.4 Scope

The scopes for this project refer for target audience, scope on research about kids influence and type of animation and technique that suitable for the kid's ages.

i. Target audiences are about kid's ages between 6-11 years old on wiling to learn and enjoy watching the television especially cartoons.

ii. How the media element such as colour, shapes, audio and animation influence and improve kids learning ability refer to children psychology.

iii. Time duration for these projects is between 5-10 minutes. From a research, kids only can pay attention on something just around 5-7

        minutes. "If you spread 5-10 minutes of total playtime over three days instead of two, kids can remember that skill for two weeks" Carolyn Rovee-Collier (2001).

iv.   Data such a wording and storyline of the animation that will be used are the basic and simple term for kids to understand and realize the content given.

v.   The functionality on an animation just a linear presentation, no interaction with users.

vi.   By developing the 2d animation project base on animation platform under time constraint and limitation on animating capability , the project should be consider not complete and perfect as much as compare to the 2d animation that using technology , animator and having expertise on this field.

1.5 Project Significance

    This 2d animation project has significance especially to the target user. Target user consists of kids ages between 6-11 years old. For those, the target users are the teachers and parents. The benefits from this project consist on education on entertainment concept. This edutainment approach hope can give some a new way on learning and teaching concept for kids.

    On how this project gives the advantages are by applying psychology research on kids on how media element can give an effect on kids learning abilities. By exploring the power of animation authoring tools and implement on the projects can give such significance to the developer totally because there is the first time involved on animation production without the production house. It can be more challenges on getting up the project insist to complete a few weakness compare to others animation production house.

The expected output for this 2d animation project, refer to the features and storylines driven are the whole complete edutainment animation that combine all sort of media element that deliver on 5- 7 minutes on video format. The format includes either on macromedia projector files or .avi files. User can auto-run the file using Flash Player that support the projector files using. This player commonly used on webpage or user can easily download from internet. For .avi format files, use easily can use Windows Media Player. For distribution, the project files will compile on CD-rom as a storage devices. This type of device are the cheaper, easy and compatibles for distribution.

1.6 Conclusion

In the effort to develop the 2d animation project , the main target to achieve is to deliver the content on a simple, fun and easy environment to the audiences in fact this is an another way to improve the learn and teaching approach that using on school regularly. As a chapter conclusion, this introduction phase will predetermine the needed and draft of idea to develop the 2d animation project.

On the Literature Review and Project Methodology chapter, focus on what the research that will be done to implement into the project. Beside that what the methodology that needs to refer as a guide on developing the project. The research that being done need to implement on the project to evaluated the result on the final chapter. Other main point that will be evaluated on next chapter is project requirement such as software and hardware requirement .Beside that, the project planning schedule and milestones during the development until complete the final project.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

In term of a literature review, *literature* means the works you consulted in order to understand and investigate your research problem. (Language Center, www.language.ait.ac.th). Methodology is a technique needed to design and develop multimedia applications – problem definition, scope definition, top-down (Robert Godfrey, 1999)

A literature review summarizes, interprets, and evaluates existing literature or published material in order to establish current knowledge of a subject. The purpose for doing so is relates to ongoing research to develop that knowledge. The literature review may resolve a controversy, establish the need for additional research, and define a topic of inquiry.

By this chapter, the methodology is the important guide to entire project. By define the suitable methodology driven that helps on managing projects wisely. By determine the project requirement to pre define the project scope, budgets. Beside the

project milestones and schedule also need to specify as a references on next project development phase.

2.2 Fact and finding

For 2d animation-edutainment for kids, some case study have been conduct to evaluate and determine the idea and anything that should and as a main references on developing the 2d animation project.

2.2.1 Kids and media influence

Kids are the categories on human with a new on all aspects, such as maturity, thinking skill, speech, appearance. Some review says, "Kids are the ages that spend more time on playing compare sit and learning compare with the teens, men or older ages." (A.Wesley, 1962).Nowadays the technology grown bigger and bigger, kid nowadays most prefer to sit down and watching TV compare when they playing, reading on their learning process.

Base on enquirer.com "mostly children spend nearly as much time with TV, computer and other media daily as they do in the classroom".(John Kiesewetter and Cindy Kraz, 1998).This is an examples why kid nowadays get the major influence on the media especially TV and computers. They are prefers to learn something interactive which mean that allows them to interact with the system and get the feedback on the spot.

56% children spend their time watching TV, videos or movies. That mean most kids like to watch TV rather than others activities and a cartoon or animation is the most popular

programmers base on Nickeledeon.com survey (Nickelodeon, 2000).This the way how the parent, use the entertainment as one of the platform to educate the kids. Besides being an entertainment for kids, cartoon also can be manipulated on being as role model on education term. It also has some education value that is delivered message on general knowledge. This can help those kids by learning something using their media curiosity.

Compare with the text books or reading skill approach, kid only can improve the reading skills in one times and it not effective when their reading session more than 10 minutes. Kids more curios on something with media element such as watching TV's playing interactive that more on using the human sense. With that, kids can learn something new by referring to Ellen A. Wartella , Dean of the College of Communication at the Universities on Text at Austin say" kids age 8 and older use media an hour and 15 minute more daily on media that is major force in a child's development and socialization and we don't know enough about it"(Kids & Media @ The New Millenium.2000).

Instead, children who watch cartoons and other types of entertainment television program, they were less likely spend time with books or other print media (Wright & Huston,1995).From the study case, we can know how strong animation (cartoons) effects on kid's likeliness. In fact by using an animation as a platform, it generally can attract the kids on a new learning ways. Television can influence the acquisition of this early reading skill in two days. Reading fluency only comes with practice. Most children need frequents practice of reading skills before reading become a pleasure. When television displaces the time a child would otherwise spend on reading practice, that child is delayed in acquiring reading skills (Comstock,1991).

Another fact that shows how children spend their days refer on a bar graph (refer to figure 2.2 on appendixes, pages :   )commonly conduct by Kids & Media @ New Millennium. From the highest bar average, it shows how the television

affects the children on everyday. Form these surveys, children still get the knowledge if the programs that they are watching more on educational, it can help children to gain the knowledge after meanwhile the educational hope will achieve the objective to give general knowledge to the target user with combination of media element base on kids psychology to attract kids to get the message from the animation.

2.2.2 2D animation Technique and Software

Authoring tools that provide the full utilize on 2d animation cartoon is Toon Boom Studio. This software allows the animator to expend their creativity and their capability by reduced the time and energy for animator to get enclose with the software. The advantage of the software will help animator wisely. Other than that is Macromedia Flash MX, where this tools help animator to integrate the element media that being consist on the 2d animation projects.

2d animation have many type and technique such as traditional animation, rotoscoping, computer animation, cutout animation, analog computer animation, motion capture, stop motion animation divide on claymation and pixilation, limited animation, pin screen animation and Drawn on film animation (Wikipedia,2000).

Most popular of 2d animation are traditional, computer and cutout animation. These 3 type animation have the influence on 2d animation industries. The traditional animation is the most popular among those three. This animation refers to sometimes also called cel animation or hand drawn animation, is the oldest and historically the most popular form of animation. In a traditional-animated cartoon, each frame is drawn by hand.

Cutout animation is the most simple and low budget and it suitable for amateur instead it doesn't need a very detail of aspect for the characters, background and animating soon. Cutout animation define as a technique for producing animations using flat simple characters, props and background cutting from material

such as paper, card, stiff fabric or even photographs. Today, cutout-style animation is propose using computers by scanned images or vector graphics taking the place of physically cut materials. The most popular cartoon that uses a cutout animation is *South Park*. This cartoon concept used a cutout character with a minimum movement but the storyline and message are so strong and it become a most popular cutout animation now days.

2.3 Project Methodology

For this 2d animation project, Video Production Methodology has been chosen as a project methodology. This methodology suitable on 2d animation production because the concept that used is same on video animation.

    i.   Pre-production.
    ii.   Production.
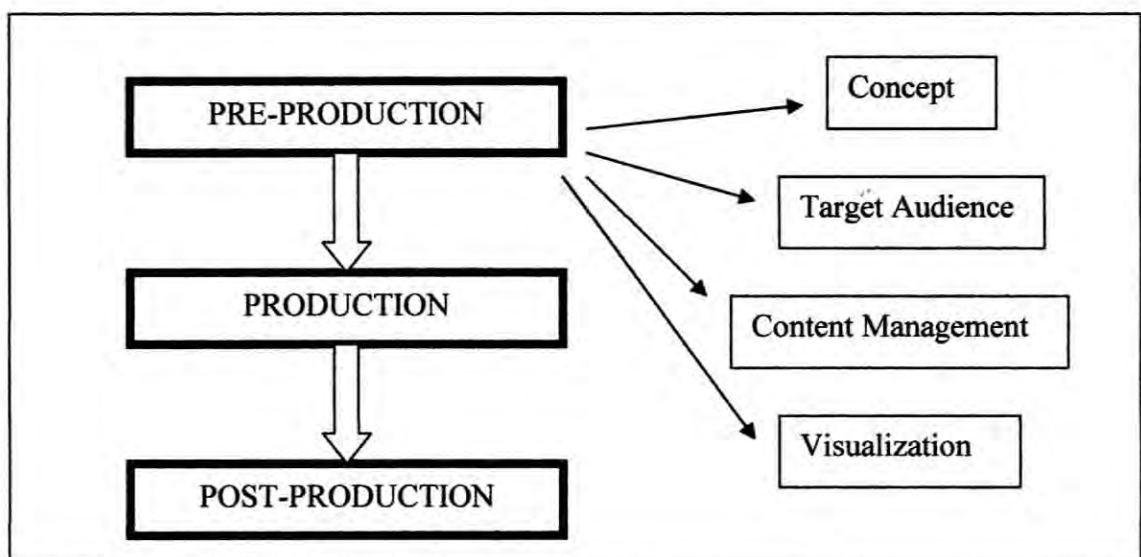   iii.   Post production.

Figure 2.1: Video Production Methodology

i.   **Pre-production**

At this phase, the task involved on determining conceptual design. This phase deal with data base on factual data on how the potatoes have been made' base on educational concept. Next task is defining the target audience for the project. This task is important because the target audience will decide what kind of media, how to present the content depend on categories of audiences. For content management task, this is important on how to manage the content, arrangement to make sure the message are received by audiences and make sure the content correct refers to the requirements.

On 2d animation project, visualization task is important to interpret the storyline, idea to visualize on storyboard about the characters, movement, and environment and so on. The details on media elements that used are important to decide earlier to make sure content and concept is equivalent.

ii.   **Production**

In the production phase, the developer will start to develop the characters such as potatoes, process machine and other objects step by step. Then, each character will be given the role to attract audience especially kid to deliver the message to them for each scene. After that, the characters, objects and the color details will be specified as well as the every movement. Next, the animations are generates using the computer and authoring tools that have been mentioned before.

The narrator will give the simple explanation with the text to make sure the audience can catch up the content and point the mention on the animation. Every scene create base on storyboard that sketch on pre-production phase. Coloring object and animated also the audio elements are important to improve kids comprehension

about something new. To achieve the objectives, the main process must being concern to make sure kids get the knowledge from the projects.

iii.   Post-production

In the phase, some activities that involved are editing, mastering and delivering. Certain part of dull scene can be touch up to make it more attractive and interesting by applying some effective editing task. The mastering is for the digital mastering in CD ROM or DVD formats and during the deliveries either form on CD's or other storage devices.

To evaluate the editing process, it needs to conduct some testing on target audience or other expertise that will doing soon on testing phase.

2.4 Project Requirements

2.4.1 Software Requirement

i.   Toon Boom

Toon Boom V2.2 is the most suitable 2d animation software that uses to develop this project. This software gets a lot of award from animator company and a one of OS company (Macintosh Apple) and The Complete Cartoon Animation Application for Aspiring Artists and Schools Award (Macromedia Community Week, 2004) .

"The complete cartoon animation application for aspiring the artists and schools features powerful drawing tools, time- saving lip sync tools and innovative 3D

camera and scene planning tools. Toon Boom Studio puts powerful creative tools in hand and increase productivity" (J Smith, Animator .2004)

ii.   Adobe Audition

Tools of choice for media professionals to create and edit digital audio files with absolute speed and precision. Acclaimed for its power stability and no-nonsense interface, its' the fasters way to get form raw audio to finished master.Audition capable to analyze, record and edit audio, produce music loops, digitize and clean-up the old recordings . mdoel acoustic environments crate streaming and master replication-ready CD's.

iii.   Flash MX

Most flexible software that used by multimedia develop.Software that capable to create, combine all media elements and come out with creative and interactive presentation products. Powered action script 2.0, Flash mx capable to integrate into one multimedia presentation for perfect marks.

iv.   Adobe Photoshop

Great software from adobe that allow user to manipulate the all graphic type of files by picture adding, color and editing process with some extraordinary design refer to the features and ability that provide on adobe.

v.   Microsoft Office

Tools help animator to the deliver company content on documentation styles. Microsoft project, excel, word and PowerPoint help animator to visualize the media element into documentation version.

2.4.2 Hardware Requirement

Multimedia PC- a minimum specification for multimedia development included the hardware, hard disc, scanner, speaker and microphones.

Specification:

800Mhz Intel® Pentium® 4 or higher processor

Microsoft® Windows® XP , 2000, ME,98

512MB of RAM or higher

1GB of available hard disk space

24-bit color display card with at leas 128MB Video RAM

Capable with 1024X768 pixels.

Graphics Tablet- as an input that allow user to draw the characters, process and background and implement into computer edited tools. Examples hardware is Wacom® Intussion Tablet.

2.4.3 Other requirements

Internet facilities- accessing privilege to the internet world as a larger multimedia resources as a guide, tutorial and information. Also the main references to complete the researches studies.

2.5 Project Schedule and Milestones

To make sure this project will meet its requirement and can complete on time, a project schedule or milestones will be use as a guideline. The project milestone is like in table below: The detail of project milestones refers to appendixes page

Activity	Start Date	Finish Date	Outcome
1. Attend briefing and start with project proposal while choosing a supervisor.	Week 1 (04/04/2005)	Week 1 (04/04/2005)	Distribution of list of supervisors and project title.
2. Hand in completed project proposal to supervisor.	Week 1 (04/04/2005)	Week 1 (06/04/2005)	Completed Project Proposal Form
3. Final assessment and AJK approval of proposal.	Week 1 (07/04/2005)	Week 1 (08/04/2005)	Approved Project Proposal Form
4. Completion of Introduction, Literature Review and Project Methodology chapters.	Week 2 (11/04/2005)	Week 3 (22/04/2005)	Introduction, Literature Review, and Project Methodology report is produced.
5. Requirements analysis and completion of Requirements Analysis chapters.	Week 4 (25/04/2004)	Week 5 (06/05/2005)	Requirement Analysis report is produced.
6. Preliminary Design and completion of Design chapters.	Week 6 (09/05/2005)	Week 6 (13/05/2005)	Design report is produced.
7. Evaluation of Project Development.	Week 6 (13/05/2005)	Week 6 (20/05/2005)	Status Confirmation

8. Completion of project report	Week 7 (16/05/2005)	Week 7 (20/05/2005)	Project Report
9. Project presentation and evaluation	Week 8 (23/05/2005)	Week 8 (26/05/2005)	Project Presentation Evaluation Report

Figure 2.2: Table of Project Milestones

2.6 Conclusion

This chapter consists on report about the research, fact and finding that have done .The general explanations about the 2d animation, the focuses issue that choose to be the thesis. The focus mainly about media influence on children, technique on 2d animation, advantages and disadvantages and also and how this 2d animation are being related with the project and thesis. Beside that, the project methodology need to be stated on what the benefits this methodology for the developments animations.

The next chapter will discuss about problems analysis and requirement analysis. The problem analysis will include the current advertisement and all the chapter will discuss about the current system, hardware requirement and software requirement.

CHAPTER III

ANALYSIS

3.1 Introduction

Analysis phase is one of the preliminary tasks that should be done on Multimedia Design Model (H Jeff, 1994). On this task, some sort of process need to be specified to make sure the data are appropriate in how data been collected, the sources of data, how this data will be presenting .The analysis task begins on needed assessments analysis by classified and evaluated data needed in detail. On gathering information, some methods have been used such as an interview, observation, survey an case study. All this method needs to be mentioned briefly and get the clear visualize on it.

From the previous system and feedback from the users, the problem that occurs will easier to identify and easy to evaluate. After that, the analysis should be done and come out with a solution to upgrade the system by avoiding the same mistake before. On content analysis, all the data that need to present should be evaluated to match up the requirements.

Other than that, the hardware and software requirement with deliver platform for the project should being evaluated to match the exactly on user requirements.