3D ANIMATION
GRUMPY

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DECLARATION

" We hereby certify that all the materials in this thesis are original except quotations, excerpts, summaries and references, which have been duly acknowledged."

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ABSTRAK

3D Animation: Grumpy

Animasi 3D membuat kartun animasi atau meletakkan sesuatu untuk hidup dengan teknik memberi ilusi pergerakan oleh siri imej model 3D yang menunjukkan kedudukan berturut-turut. Isunya ialah terdapat kekurangan 3D animasi cerita pendek di Malaysia. Kemashuran telah menjadi budaya dalam masyarakat. Isunya ialah kemasyhuran telah mewujudkan kebanggaan dan kejahilan dalam generasi ini dan ia adalah membimbangkan. Satu projek yang menyampaikan "Fame bukan segala-galanya "dengan menggunakan animasi 3D dalam bentuk cerita pendek dibangunkan. 50 soal selidik yang terdiri daripada 9 soalan telah diedarkan di kalangan penonton sasaran berusia 10 hingga 21 tahun dengan menggunakan Borang Google dikuasakan oleh Google Docs untuk menganalisis pasaran. Kajian literatur Tha menyokong penyelesaian kepada bagaimana ia boleh menyelesaikan masalah. Dapatan soal selidik menunjukkan bahawa penonton berminat untuk animasi 3D tetapi tidak menyedari animasi tempatan dan mereka tidak pernah melihat apa-apa animasi 3D tempatan. Mereka biasanya mendapat mesej yang dimaksudkan dan berpendapat bahawa jalan cerita yang baik adalah tarikan utama animasi. Separuh daripada mereka berkata bahawa mereka akan cemburu jika seseorang yang mereka tahu adalah lebih terkenal dan menjadi terkenal adalah sangat penting. Semua penemuan dan analisis menyokong hipotesis dan kajian literasi dibuat untuk projek ini. Reka bentuk projek ini percaya untuk menjangka kriteria cerita yang hendak disampaikan dengan cekap . Projek ini terdiri daripada dua watak perayaan, Santa Claus dan Bunny Paskah. Bunny Paskah mencemburu Santa kerana menjadi terkenal apabila tidak ada yang tahu Bunny di Malaysia. Bunny berjuang untuk kemasyhuran , manakala Santa mengingatkan Bunny bahawa kemasyhuran bukan segala-galanya . Tetapi untuk berkongsi makna sebenar Krismas dan Paskah adalah kebahagiaan yang sebenar. Keputusan dari ujian projek berjaya dan semua mereka bersetuju bahawa projek itu disampaikan bahawa kemasyhuran bukan segala-galanya .

ABSTRACT

3D Animation is making of animated cartoons or putting something to life with a technique of giving an illusion of movement by the series of 3D model images that show successive positions. The issue is that there is a lack of 3D short story animation in Malaysia. Fame has become a culture in the community. The issue is that fame has created pride and ignorance in this generation and it is alarming. A project that conveys "Fame is not everything" by using 3D animation in the form of a short story is developed. 50 questionnaires that consists of 9 questions have been distributed among the target audience of 10 to 21 years old by using Google Forms powered by Google Docs to analyses the market. The literature review supports the solution on how it can solve the problems. The findings of the questionnaire shows that the audiences are interested in 3D animation but there are not aware of the local animation and they have not seen any local 3D animation. They usually get the intended message and thinks that a good storyline is the main attraction of an animation. Half of them said that they would be jealous if someone they know is more famous and being famous is very important. All these findings and analysis supports the hypothesis and the literature review we made for this project. The design of this project believes to anticipate the criteria of the story to be conveyed efficiently. The project consists of two festive characters, Santa Claus and Easter Bunny. Easter Bunny is being jealous of Santa for being famous when no one knows Bunny in Malaysia. Bunny fought for fame, instead Santa reminded Bunny that fame is not everything. But to share the true meaning of Christmas and Easter is the true happiness. The results from the project testing were successful and all of them agree that the project conveyed that fame is not everything.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

According to the Oxford dictionaries, animation is the making of animated cartoons or putting something to life with a technique of giving an illusion of movement by the series of photographed drawings that show successive position. In term of computer animation, it is the combination of both computer graphics and animation. In computer animation, reality is completely reconstructed. Modern 3D animation has a rapidly growing user community where anything can be altered based on the preferences of the creator. Animation helps create an illusion that can create scenarios to entertain and yet bring messages across to audiences. It is in fact, a rapid sequence of consistent images that creates an illusion of motion to our eyes.

The common types of computer animation in the market consist of 2D computer animation and 3D computer animation. 2D animation is seen very commonly used in the market as it started in the early 20th century. However, 3D animation is now taking over the entertainment industry. No doubt that 2D animation is still popular among the people, but the advancement of animation has made 3D animation so realistic and very much easier to produce. 3D animation was once a process that requires a great deal of time, manpower, and complex equipment to accomplish. However, the on-going advancement of the computerize industry has made animation process so much simpler. A single person with a powerful home computer with the right software can now imitate what we see in real life instead the traditional way of pencils, cels, and paintings to create animation.

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With the findings above on how 3D animation can be used as a powerful tool to convey a message, two authors have come together to create a final year project on 3D animation. The authors of the project came out with a short story 3D animation production that conveys the message that Fame is clearly not everything. The title of the project would be "3D animation: Grumpy". This title was specially chosen to fit the 3D animation project that the authors will undertake. The problem statements were first identified. Then by using the problem statement, the authors found the best solution for the problem statement. The idea of the storyline was then well planned to fit the message the authors trying to convey.

The characters from the project are Grumpy, bunny and Santa Claus. The characters were chosen because Santa is well known while Bunny is not so in Malaysia. With these characters, the difference between them can be clearly seen and it can be understandable why Bunny tries to snatch Santa's limelight.

This project was done to support the idea of the project. This report was to research on the topics related to the project. This project has described the pre-production phases where the authors discussed on the problem statements of this project generating a storyboard for the project. All the contents are organized into chapters and each chapter has explained its phases and the requirements needed for this project. All the findings and analysis have been mentioned in detail to support the project. The implementation of the project has been stated out and testing was done on the project to see if the objectives and criterias were met. .

1.2   Problem Statements

i.   The lack of short story 3D animation that conveys good message in Malaysia Malaysia Animation Creative Content Center (MaC3) under the initiation of Koridor Raya Multimedia (MSC) has always supported and encouraged the growth in the creative industry in Malaysia by providing rendering facilities in Cyberjaya since April 2010. (MSC Malaysia) MaC3 Fund 2013 under MSC also focuses on providing funds

for TV series and movie as stated in the official portal of Multimedia Development Corporation. (MaC3 Fund | MSC Malaysia, 2010.). All these efforts from the government have encouraged local animators to produce local animations like the famous Laksamana Upin and Ipin, Geng: Pengembaraan Bermula, and many more. Even though the production of full length local animations have increased in the past years, there is still very few short story animations produced locally. It is stated very clearly that MSC only focus on providing funds for TV series and movie film animations while short story animations are not funded. That leads to lesser short story produced locally. Mr. Hassan Abdul Muthalib, pioneer of Malaysia animation, even saw the concern and began to produce a few valued based short story trailers like Destroy Denggi, Save Electricity, and a few more. Hassan has create a pathway for short story animation as animation as he believes that short story animation can be a very useful tool to impart advice, motivation, religious teaching, cultures and history factors through characters created. (Mad Lela, A. J., 2013).

ii.   People of all generation are brought up in a way that it teaches them that fame is very important.

People of all generations have always thought that fame is everything. This has become sort of like a necessity that needs to break in the culture of fame in younger generations. Instead, human should find true happiness and the true reasons in everything they do and not just for fame. Sometimes, fame comes alongside with pride; and ignorance comes with it without them knowing it. Even the famous author of Harry Potter and the Sorcerer's Stone, J.K. Rowling, quoted this, "Tut, tut - fame clearly isn't everything." (Quote by J.K. Rowling: Tut, tut — fame clearly isn't everything, 2012). The author of Harry Potter was conveying the same message in their movies as they also see the need to convey the message of fame is not everything to the younger generation.

1.3   Goals

- Develop a short story 3D animation that delivers the message that fame is not everything

1.4   Objectives

i.   To produce a short story using 3D Animation

ii. To tell a story that convey a message about how 'Fame is not everything.

1.5   Project Scope

The project scopes are also mentioned to know what the authors are supposed to be delivering at the end and the boundaries of this project.

The scope of this animation refers to the target audience, purpose of the project, duration of the project, types of animation technique, the typical software and hardware specifications and the limitations of the project.

i.   Target audience is teenager's age range from 10 – 21 years old.

ii.   The usage of short story 3D animation to convey message effectively to teenagers.

iii. Approximated duration of the project: 8 - 10 minutes

iv.   The purpose to entertain the target audience and yet bring forth a message effectively.

v.   The functionality of the project is a linear presentation without any user interaction.

vi.   By developing the 3D short story animation base on animation platform under time constraint and limitation on animation capability, the project should not be consider complete or perfect as to compare to other commercial 3D animation in the market.

1.6   Target Audience

The target group audience for this animation was teenagers from the age range of 10 to 21 years old. This was because it was said that the initiative to impart moral lessons should start at a young age, as it is easy to mold the tender minds, as stated in How to Impart Moral Lessons to Your Kids article on Earnest Parenting Website. (Rebecca, 2012) As 21 years old is considered an adult in Malaysia, below 21 years old may be consider it as young age. That is why the authors target the audience at this age range of 10 years old to 21 years old.

1.7   Project Description

This project is a short story 3D animation to cater for teenagers of age 10 to 18 years old. This project consists of two components: report of the project and the actual implementation of the project. This project is targeted for completion in June 2014.

The story is about two festive characters, which is Easter bunny and Santa Claus. Easter bunny is a grumpy bunny where it is jealous with Santa Claus because Santa always gets the popularity while bunny was being forgotten. Easter bunny wanted the limelight like Santa. Bunny thought that by eliminating Santa would make bunny famous instead. He thought that Santa was famous because of his reindeers. So bunny journeyed all the way to the North Pole to steal Santa's reindeers but the mission was destroyed when Santa came over to surprise bunny. Bunny was so mad that bunny attacked Santa. Santa was calm and realized bunny intentions. Instead of fighting back, Santa took bunny around the world to give gifts and from there, bunny experience true meaning of Christmas and learn that fame is not everything.

1.8   Project Methodology

1.8.1   Initiation

The approaches that the authors took in successfully planning and delivering the project to fruition is as follows:

A Gantt chart was built to manage the task with the time given so that the production will finish in time and in way that it is efficient as possible. Brainstorm sessions were conducted to generate ideas for a good plot and storyline. The ideas were narrowed and the main ideas were finalized. A rough storyline was then created and the skeleton of the story was formed. The authors then read journals about the conflicting issues faced to make the storyline relevant to the community and the audience. The actual story plot was written but the authors do not put a full stop over the story plot, as it would change gradually over time. Then, a script is written.

Next, the characters were sketched and colored on papers. The 3 part views of the characters were sketched. The backgrounds of the story were also drawn out and colored. Then, the storyboard was formed according to the script scene by scene and by sequence. A full description of the visual content, which is the script, and the list of props and materials needed for the production were also included in the storyboard. The storyboard gave a clear idea on the angle of the cameras and the placement, how the scenes or characters was interpreted and it acts as a master document that every developer will refer to during production stage to avoid going on a wrong track. The whole storyboard was compiled into an animatic and the rough idea of the production was looked into. The time duration of the whole production was also estimated.

Moreover, technical and project risks were also identified. The technical risks that the authors may face are the incompatibility of the 3D software (Maya) on the hardware used (PC) to edit the production. It is sure that software crashes, incompatibility of software support should be looked into to avoid any production

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delay.

1.8.2   Specifications

The feasibility of this production was considered. Online researches were done to see whether other authors from the online community have encountered the problems encountered by the authors. Thus getting a solution from them. Besides that, learning from mistakes of the other authors in the online community. The requirement analysis is also researched by giving out questionnaires to the specific target audience. This is to determine whether the objectives of the objectives are met. Yet another feasibility test would be time boxing, a time management technique that bounds the time during which a task (or set if tasks) is achieved. (Tani.R, 2013). If the list of task is not able to achieve within the time frame, then the Gantt chart is rebuild and changes are made. Finally, a prototype is built before the production. A one-panel story board walkthrough is also made before proceeding to the production.

1.8.3   Design

The overall design of the project is designed to ensure that the audience of the target age is able to relate and understand the story in detailed. Even though this project is not interactive, user testing is also carried out to test whether the objectives proposed are achieved.

1.8.4   Production

This whole process of production was very challenging. The production starts from character designs of the production. Characters were developed and being looked into the details before the artwork began. This was to make sure that the characters suit the personality of each character. The character was developed in 3 perspectives of views. The different expressions were sketched on paper to create a behavior or personality for each of the character. The characters were then modeled in Autodesk

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Maya 2014. The other environments were also modeled respectively. Then, the models were modeled according to scenes. The animation was rendered and compiled in Adobe Premiere CS5. Effects were added to enhance the whole production.

1.8.5   Testing

Different tests were conducted to test whether the projects have met the objectives.

1.9   Project Timeline

Using a Gantt chart plans the project timeline. Refer to Appendix A

1.10 Report Structure Outline

This report consists of 7 chapters which is structured in a way where it covers an introduction of this project to readers, literature reviews on the study of previous research of 3D animation productions, analysis details of this project, designs of the project, implementation of the project, testing and evaluation where the testing of the final project is done and a conclusion where it contains a summary of this project.

The first chapter, an Introduction of this project contains a brief summary on the 3D production that the authors will be creating. This paints a big picture for the audience before going into the details in the other chapters. The problem statements are clearly stated to identify the research gap where the authors intend to research and deal with through this project. Objectives and goals of the project are also emphasized to set precise targets for the project. The target audience and the project descriptions are stated respectively. The project methodology and the project scope are included into the introduction as part of planning the project. Then, a Gantt chart and overview of report's content organization chapter by chapter are included.

The second chapter, Literature Review contains the study of specific research questions that have been identified that is then supported through summary of

subject field. Various types of sources like academic and professional journal articles, books, and web-based resources are used to support the research (Rowley and Slack, 2004). It includes the background research, animation, type of computer animation, animation as a tool to convey messages and a comparison between the existing applications and this project that is known as the application review.

The third chapter, Analysis details of the project, contains the details of the project. The functionality of the project is reassessed. The feasibility of the project is tested using technical feasibility, economic feasibility, legal feasibility, social feasibility and professional feasibility. This chapter basically covers the performance requirement, context diagram and context outline.

The fourth chapter, Design of the project, contains the elements of designs involved in this project. From the descriptions of character designs to development of the animation, all these aspects are included to show the process of design of the project. Besides that, the user testing is also specified.

The fifth chapter, Implementation, contains the actual implementation of the project where the steps on the different areas of the animation production were specified.

The sixth chapter, Testing, contains the different kinds of testing that was being carried out to see if the objectives were met in the project.

The final chapter, Conclusion, contains the summary of the whole project. The project constraints and recommendations for the next stage development are also being included.

1.11 Conclusion

This chapter introduces a brief description on the project. The problem statements of the project are then clarified to set a research gap for the authors to research on. The lack of short story 3D animation that convey messages in Malaysia are one of the problem statements in the project. Another problem statement would be the people of

all generation are brought up in a way that it teaches that fame is clearly everything. With the stated problems, the objectives of the project can be then stated out. The authors then come out with objectives which is to produce a short story using 3D animation and to convey a message that speaks of 'Fame is not everything.' The goal was also stated that is to develop a short story 3D animation that delivers the message that fame is not everything. The project scopes that are stated were the target audiences, the purpose of the project, the duration of the project, the type of animation techniques, the typical software and hardware specification and the limitations of the project. The project methodology is briefly describes the different phases of the project to show the initiation, specifications, design, production, and testing. A Gantt chart is then created to set milestones so that the project can accomplish in time. Lastly, the report structure outlines are laid out on the further chapters. In conclusion, this chapter is vital to introduce the foundations of the project.

CHAPTER 2

LITERATURE REVIEW

2.1   Introduction

Literature review is the specific research questions that have been identified which then is supported through summary of subject field. Various types of sources like academic and professional journal articles, books, and web-based resources are used to support the research. By doing this, it gives a clearer support and understanding on the issues raised. Creating a literature review involves the stages of: scanning, making notes, structuring the literature review, writing the literature review, and building a bibliography. (Rowley and Slack, 2004)

This project consists of literature review on the background research of the history of animation, then the animation perspective that is the definition of animation and computer animation, then the literature review continues with the types of computer animation, which is the brief description of 2D and 3D computer animation and the comparison of both 2D, and 3D computer animation. Next on the literature review would be computer animation as a tool to convey messages through the web because the authors find this topic very crucial. Lastly, the application reviews where a comparison between the existing applications and Grumpy will be discussed.

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