

**INSPIRING 2D ANIMATION STORIES FOR PROMOTING LIFE
MORAL VALUES: MY WAY**



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

INSPIRING 2D ANIMATION STORIES FOR PROMOTING LIFE MORAL
VALUES: MY WAY

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This report is submitted in partial fulfillment of the requirements for the
Bachelor of [Computer Science (Interactive Media)] with Honours.

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
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2021

DECLARATION

I hereby declare that this project report entitled

[INSPIRING 2D ANIMATION STORIES FOR PROMOTING LIFE MORAL

VALUES: MY WAY

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

STUDENT :

(MOHAMAD ARFANDI BIN AHMAD)

Date : 23 AUGUST 2021



I hereby declare that I have read this project report and found

this project report is sufficient in term of the scope and quality for the award of

Bachelor of [Computer Science (Interactive Media)] with Honours.

SUPERVISOR :

Signature
(ASSOC. PROFESSOR YS. DR. AHMAD NAIM BIN CHE PEE)

Date : 23 AUGUST 2021

DEDICATION

To my beloved parents, thank you so much for everything you have sacrificed to give me the opportunity to further my studies until this level. I will do my best to pay back for what you have done for me. Furthermore, I will prove that I will become a proud son in our family and in others perspective. Not to forget, my respectful lecturer, teacher, and fellow friends, thank you so much for always giving me moral and physical support whenever I got down and having problem in studies. I will do my best in this Final Year Project and get excellent grade for this project.

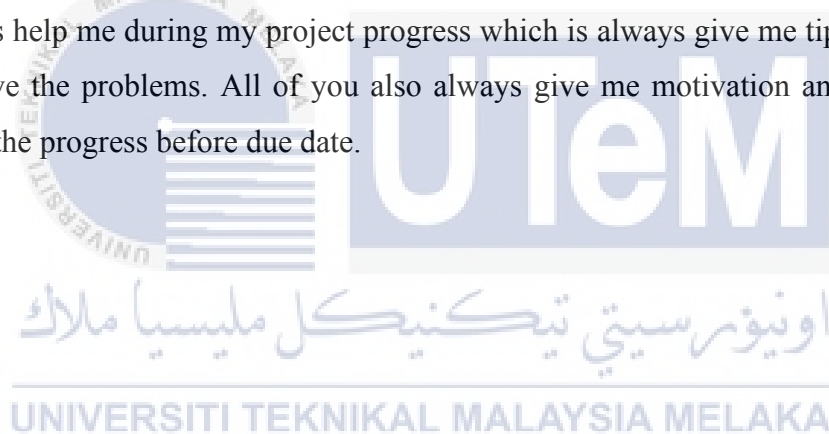


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I would also like to thank my beloved parents who have been giving me support and motivation throughout my project progress and never tired to ask me anything if I need some help or not.

Furthermore, not to forget my fellow friends, I also want to thank you for always help me during my project progress which is always give me tips and method to solve the problems. All of you also always give me motivation and reminder to make the progress before due date.



ABSTRACT

The purpose of this 2D animation story is to promote moral values in life. Motivation and moral values is an important life skill. This is because each person is unique and has a purpose. Having a good motivation and moral values able to helps dreams become a reality especially when someone is down on his/her luck. Motivation and moral values can be expressed in various mediums such as in quotes, videos, audios, films, speech and behavior. Motivation and moral stories can be as much powerful medium to convey positive message to the target audiences. Compared to video motivational and moral values, it is much harder to produce and can be expensive. This is because videos required real actors, location of shooting and can be time consuming. Text motivational and moral values on the other hand, is lack of graphical elements and does not helps the audience to understand visually. Audio medium only limited to sound and audio to convey the motivational and moral values and this can sometimes does not able to send across the messages intended. Animation is one of the best mediums as it enables the use of graphical, audio, text and special effects. The backstory of this 2D animation story revolves around “Never Gives Up” story theme. This short animation uses music background and sound effects with limited text only.

ABSTRAK

Tujuan cerita animasi 2D ini adalah untuk memupuk nilai-nilai moral dalam kehidupan. Nilai motivasi dan moral adalah kemahiran hidup yang penting. Ini kerana setiap orang itu unik dan mempunyai tujuan. Mempunyai motivasi dan nilai-nilai moral yang baik dapat menolong impian menjadi kenyataan terutama ketika seseorang merasa sedih dan kurang motivasi. Nilai motivasi dan moral dapat dinyatakan dalam pelbagai medium seperti petikan, video, audio, filem, ucapan dan tingkah laku. Cerita motivasi dan moral dapat menjadi media yang kuat untuk menyampaikan mesej positif kepada penonton. Berbanding dengan nilai motivasi dan moral video, lebih sukar dihasilkan dan boleh jadi ia lebih mahal. Ini kerana video memerlukan pelakon sebenar, lokasi pengambilan gambar dan memakan masa. Teks nilai motivasi dan moral sebaliknya, kekurangan elemen grafik dan tidak membantu penonton memahami secara visual. Media audio hanya terhad kepada suara dan audio untuk menyampaikan nilai-nilai motivasi dan moral dan ini kadang-kadang tidak dapat menghantar mesej yang dimaksudkan. Animasi adalah salah satu medium terbaik kerana membolehkan penggunaan grafik, audio, teks dan kesan khas. Latar belakang kisah animasi 2D ini berkisar pada tema cerita "Never Gives Up". Animasi pendek ini menggunakan latar muzik dan kesan bunyi dengan teks terhad sahaja.

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LIST OF ABBREVIATIONS

FYP - **Final Year Project**



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CHAPTER 1: INTRODUCTION

1.1 Introduction

It is important to have the right moral values and motivation in life. Moral values can be regarded as principles or a system of belief which are based on a proper or acceptable ways of behaving. Having a strong determination and motivation will help an individual's dreams to become reality. When a person is motivated, the energy level will rise and this will become one of the main factors to achieve the goals that have been set. This 2D animation story is to promote how moral values and determination able to encourage individuals to work hard thus achieve the goal. As we know, animation is one of the multimedia elements that can be used to show or to promote a good storyline.

1.2 Problem Statement

The identified problem statements are as follows:

- i. There are still some negative perceptions that gaming is somehow a waste of time and does not have a prospect future career.
- ii. There is a lack of local motivational and moral values 2D animation stories regarding on how gaming can be a successful factor in life.
- iii. There is a lack of awareness that gaming profession can be a great career as most other successful profession.

1.3 Objective

To clearly solve the following problems, the objectives are needed to be clearly stated. This project embarks on the following objectives:

- i. To identify the 2D animation elements in delivering a positive message to the audience.
- ii. To create a short 2D animation that promote motivational and moral values.
- iii. To evaluate the audience's understanding on the 2D animation.

1.4 Scope

The scope of this project resolves around the following components:

i. Research elements:

- a) Identifying the characteristics of a good moral values based on the use of behavior and body language portrays in the animation.
- b) The elements that might be used are facial expression, body language, music (dramatic/suspend/sad or etc.), and sound effect.

ii. Target audience:

- a) Target audience of this 2D animation short movie is high school students and young adults since the genre is school life which is suitable for teenagers.

1.5 Project Significant

This project helps people to understand more about the future of gamers and aware about games benefit. Even though games might be a huge distraction for most of students in their study, it also is a big aspect in their life which is one of the best entertainments for them to release stress and to strengthen their bond between friends. If majority of people know about the benefit and the future of games, games might be one of the highest carriers in many countries. It depends on how gamers think of their future in game carrier.

1.6 Conclusion

As a conclusion, this project focuses on the development of a 2D animation story that inspires and promote motivation to never give up in life. This 2D animation story also highlights the life of a student that really into playing games and want to make gaming as a career in the future. Hopefully this project could be carried out and the animation is developed with the given time. The next chapter discusses the methodologies that have been implemented.

CHAPTER 2: LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

In this section it explains about relevant domain, the current framework and the project methodologies that have been implemented. A literature review is a search and evaluation of the available literature in your given subject or chosen topic area. It documents the state of the art with respect to the subject or topic you are writing about. A literature review has four main objectives. Firstly, it surveys the literature in your chosen area of study. Secondly, it synthesizes the information in that literature into a summary. Third, it critically analyses the information gathered by identifying gaps in current knowledge by showing limitations of theories and points of view and by formulating areas for further research and reviewing areas of controversy. Last but not least, it presents the literature in an organized way.

Methodology refers to the overarching strategy and rationale of your research project. In a scientific paper, the methodology always comes after the introduction and before the results, discussion and conclusion. The same basic structure also applies to a thesis, dissertation, or research proposal.

2.2 Domain

This section discusses on the raising public interest of balancing hobby and academic importance in 2D animation short film. Besides, there also included a description about 2D animation and raising public interest. Existing 2D animation story also are being discuss to compare the 2D animation stories based on certain requirements. Then, the used of animation video in teaching to enhance the imagination and visualization of student in engineering drawing also explained in this chapter. Furthermore, project methodology, project requirements such as software and hardware requirements describes all the functionalities. Last but not least, there also

states the 12 principle of animation and certain of the techniques that used in this 2D animation stories, My Way.

2.2.1 Raising Public Interest

The public interest is such a complicated and tricky term to understand as it has grown as undefined and mutable purposely. This has no overarching definition since its scope and intention are contextually defined. what can be considered in today's public interest may not be in a decade, it changes with social standards and mores. The public interest is not a clearly identifiable, indivisible concept. It will also be multifaceted, and the decision-maker will have to consider and determine the relative weight of these considerations before making a final judgment about where the public interest emerges. Most will never have reason or desire in an absolute way to engage with the public interest, we leave that to politicians, officials, judges, inquiry chiefs, etc. Wheeler places the responsibility squarely on their shoulders (Jane Johnston, 2017).

An animation video to raise public interest about playing games is being created in this project. In many cases, a video of teenagers as known as students like to play games but also have a great potential in their academic performance in school. So, in this 2D animation short movie, there are many positive elements that might be an inspiration for students to think more seriously about their future carrier which is they can focus both on their studies and games interest at the same time. Just depends on their determination in which one they want to make the main carrier in their life.

2.2.2 2D Animation

Animation is an attractive learning tools that involve audio, text, video and animation. According to Wow How Studio (2018) in the word "2D animation," 2D stands for two-dimensional, meaning that 2D artists make images and characters in a two-dimensional format and animate them with expressions. This style of animation is called the typical form of animation with simple, non-volume characters going up, down, left, and right as shown in figure 2.1. There are many ways to develop 2D characters and bring it to life.

One of them is an old-school animation, all you need is a pen/pencil and a lot of sheets of paper (for black-and-white animation). In order to obtain a colorful animation, add a color palette to the package. Although 3D animation became incredibly common at the end of the second century and continues to take the lead in the world of animation today, 2D is far from dead. 2D animators seem to be in demand and do a wide range of projects for their customers.



Figure 2.1 : Animation Basics for Beginners

2.3 Existing 2D Animation Story

This section describes and discusses the existing motivation and moral values animation. Existing 2D animation story used for describing and comparing several 2D animation story with another story, especially when it might be changed, replaced, or create new ideas. The existing 2D animation story needs to be changed.

Furthermore, for this 3D animation short film project, there are three local 2D animation short films that being used as references. As for references, these stories are strongly related with the skills to animate the story in terms of movements, angle, storyline and etc. Not to forget, these stories also strongly related with the moral values

and motivations that needs to be conveyed to the audiences through 2D animation stories.

Therefore, there are three local 2D animation that used for existing 2D animation stories which is “Hikayat Sang Kancil”, “Anak-anak Sidek”, and “Pada Zaman Dahulu” as shown in table 2.1. These selected stories used because it has many moral values and 2D animation skills that can be used to create new 2D animations which is can be applied in it. It also has motivation that will changed certain audience’s mentality even a little.

Besides, in these 2D animation stories, techniques and the elements of the animation also can be compared among them to investigate and used for creating new 2D animation story especially in developing “My Way”, 2D animation short film Final Year Project. As for these stories, there are table of comparison between three of animation stories based on the year of distribution, company/studio, type of character, and moral values.

Table 2.2-1 : Existing Animation Comparison

Comparison	Title	Hikayat Sang Kancil	Anak-anak Sidek	Pada Zaman Dahulu
Year of distribution		1983	1999	2011
Company/studio /animator		Hassan Abdul Muthalib	Kumpulan Pelukis J.A.S Sdn Bhd	Les’ Copaque Production
Type of character		Animals	Human, animals, and things	Animals
Moral values		This story tells about how a clever character named “Kancil” was going to survive in the forest from getting tricked and might become a food for another carnivore there.	This story tells about lessons that people need to remember or cautious when they make some mistakes. This story focus on a family name “Sidek” and his family.	This story tells about how a clever character named “Kancil” was going to survive in the forest and help its friends out from getting eaten by the carnivore named “Harimau”

2.3.1 The Use of Animation Video in Teaching to Enhance The Imagination and Visualization of Student in Engineering Drawing

Ismail, Irwan Mahazir, Othman, Amiruddin, and Ariffin (2017) describe interactive learning through the use of digital technology and the use of Internet. E-learning is a term for electronic learning; it is a new method of teaching and learning using electronic media, especially as a learning method for the Internet. Electronic multimedia can be an efficient and productive medium for its ability to integrate various text, audio, video and animation types to be displayed on the screen simultaneously. Several studies and survey have been done to prove that a virtual learning is can be used as an educational material.

2.4 Project Methodology

The project methodology that used in this Animation is the Multimedia Project Development Process which is will be discussed in details. The reason is among all of the methodologies on internet, which used for Multimedia production or film production these methodologies meet all the aspects and requirement for this Animation. The title of this animation is “How 2D animation raise public interest of endangered animals”, There are three phases of Multimedia Project Development Process which is shown in Figure 2.2 and Table 2.2.



Figure 2.2 : Multimedia Project Development Process

Table 2-2.2 : Activities in Design Process

Steps	Activities
Pre-Production	• Storyboard • Sound and Audio (Voice over and Music) • Writing and Planning (Scripts, synopsis)
Production	• Modelling character • Animation (Animating scene)
Post-Production	• Editing scene (Adding or recreating the scene for improvements) • Final Output

2.5 Project Requirements

This section discusses the project requirements for this 2D animation story. The requirement includes software requirement, hardware requirement and other requirements. These requirements are also needed during testing phase as to ensure the system run according specifications.

2.5.1 Software Requirements

This 2D animation story requires the following software, as shown in the table 2.3 below:

Table 2.2-3 : Software Requirement

Software	Description
Clip Studio Paint	Clip Studio Paint is a versatile digital painting program that is ideal for rendering and inking with its many useful and unique features. For this project, this software used for creating all the characters, scenery, and animate the story based on the storyboard.
Adobe Premiere Pro CC 2020	Premiere Pro is the industry-leading video editing software for film, TV, and the web. Creative tools, integration with other apps and services, and the power of Adobe help to craft footage into polished films and videos. For this project, this software used for compiling all the scene that have been created in Clip Studio Paint. Then adding the sound effects and background music and credits of the animation. This software is the medium to compile all things to make one complete 2D animation short film for this project.

2.5.2 Hardware Requirements

The hardware requirement included for this 2D animation story is shown in **Table 2.4** below:

Table 2.2-4 : Hardware Requirements

Hardware	Description
Laptop	Laptop is basic thing used for starting the progress of the project since all the software need to be used in laptop.
Drawing Tablet	Drawing tablet is a tool that used to draw all the characters and scene of the story.
Mouse	Mouse used also for drawing certain things like house and anything that mostly related with line. Thus, of course it is used for interacting in all the software in laptop.

2.6 2D Animation Principle

The 12 basic Animation Principles were created and described in the reference book for animators: "The illusion of life". This book was co-written by 2 top 2D Disney animators named Ollie Johnston and Frank Thomas.

These principles accurately transcribe certain aspects of the laws of physics related to movement. They also describe how to amplify and exaggerate them to give more life and personality to the characters and objects that are being animated.

1) Squash and stretch

Squash and stretch are used to give drawn things a sense of weight and flexibility. It may be used on simple things like a bouncing ball or more complicated structures like a human face's musculature. The most essential element of this concept in realistic animation, however, is that an object's volume does not vary whether crushed or stretched. When a ball's length is stretched vertically, its breadth (and, in three dimensions, its depth) must shrink horizontally in response. Example of squash and stretch technique are shown as figure 2.3 below :

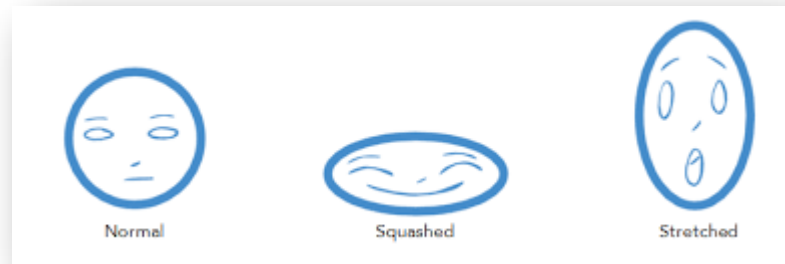


Figure 2.3 : Squash and Stretch

2) Anticipation

Anticipation is a technique for preparing the audience for a specific action and making it look more genuine. A ballerina must bend her knees first before springing off the floor, while a golfer must swing the club back first. The method may also be utilized for non-physical movements like a character gazing off-screen to anticipate someone's approach or a character's concentration focused on an object. Example of anticipation technique applied in 2D animation shown as figure 2.4 below:

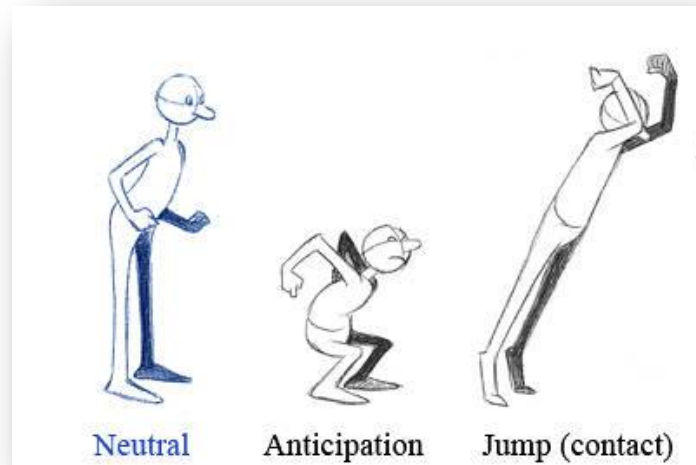


Figure 2.4 : Anticipation

3) Staging

This concept is similar to staging, which is used in theatre and cinema. Its goal is to draw the audience's attention to the most important aspects of a scene; Johnston and Thomas described it as "the presentation of any concept in such a way that it is totally and clearly obvious," whether the idea is an action, a personality, an emotion, or a mood. This may be accomplished using a variety of techniques, such as the placement of a figure in the frame, the use of light and shadow, or the camera's angle and position. The essence of this approach is to maintain your attention on what matters while eliminating superfluous detail. Example of staging technique used in 2D animation shown as figure 2.5 below:

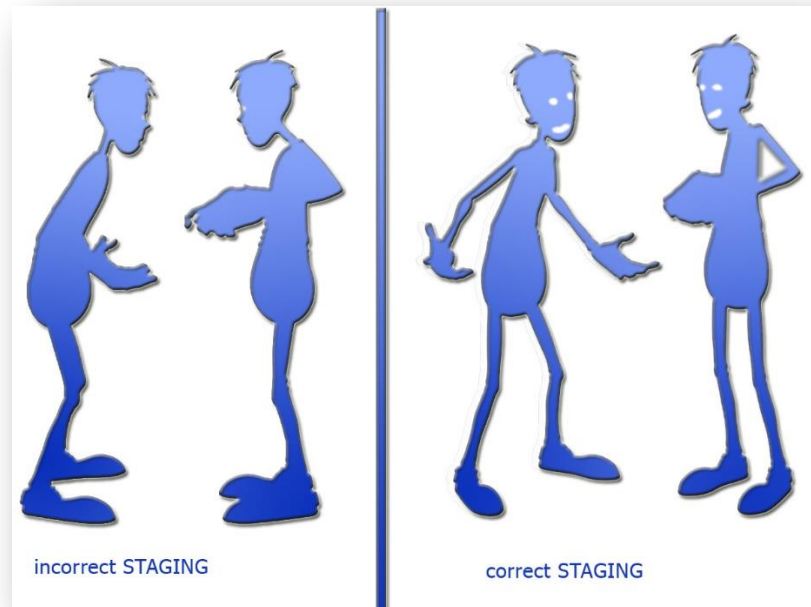


Figure 2.5 : Staging

4) Straight ahead action and pose to pose

These are two distinct approaches to the process of drawing. Straight forward action scenes are drawn frame by frame from start to finish, whereas "position to pose" requires sketching a few essential frames first, then filling in the gaps later. "Straight forward action" produces a more fluid, dynamic appearance of movement and is therefore superior for creating realistic action sequences. On the other hand, maintaining proportions and creating accurate, believable postures along the process is difficult. "Pose to pose" is more suited to dramatic or emotive settings, when composition and relationship to the environment are more important. Frequently, a mix of the two approaches is employed. Example of straight ahead action and pose to pose technique used in 2D animation shown as below:

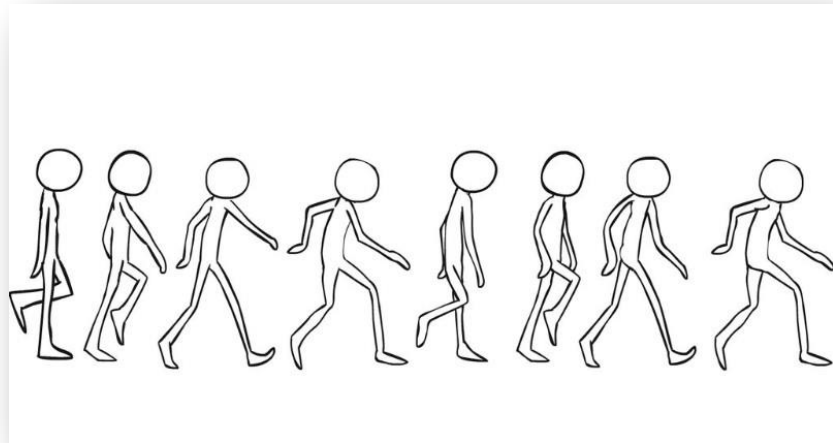


Figure 2.6 : Straight Ahead Action and Pose to Pose

5) Follow through and overlapping action

Follow through and overlapping action are two closely related approaches that help to represent movement more realistically and give the idea that characters obey physical laws, such as the principle of inertia. "Follow through" refers to weakly linked sections of a body continuing to move after the character has stopped, and continuing to move beyond the point where the character stopped only to be "drawn back" towards the center of mass or showing varied degrees of oscillation damping. The tendency for portions of the body to move at various rates is known as "overlapping action" (an arm moves on different timing of the head and so on). A third, related technique is "drag," which involves a character moving and pieces of them catching up after a few frames. These pieces can be inanimate objects like clothing or a car's antenna, or body parts like limbs or hair. The torso is the core of the human body, with arms, legs, heads, and hair appendages that follow the torso's movement. Large belly and breasts, as well as the loose skin on a dog's back, are more prone to independent movement than bonier body parts. Exaggerated usage of the method can provide a comedic impression, whereas more realistic animation requires precise timing of the actions to achieve a believable

outcome. Example of follow through and overlapping action technique used in 2D animation shown as figure 2.7 below:

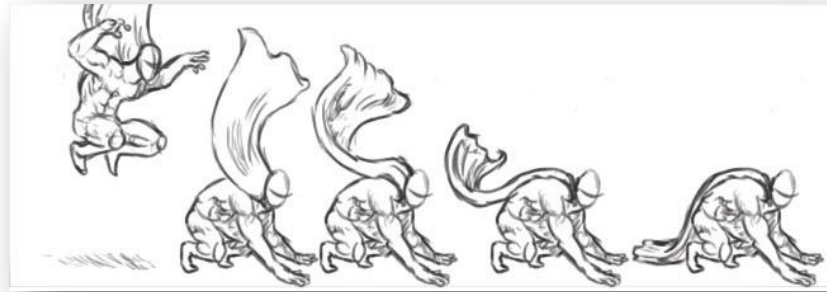


Figure 2.7 : Follow Through and Overlapping Action

6) Slow in and slow out

Real-world items, such as the human body, animals, automobiles, and so on, require time to accelerate and slow down. In order to generate more lifelike movements, additional pictures are drawn near the beginning and finish of each action, generating a slow in and slow out effect. The extreme poses of the object are highlighted in this concept. Thus, to emphasize rapid activity, fewer graphics are drawn in the center of the animation. This approach applies to characters transitioning between two extreme stances, such as sitting and standing, as well as inanimate, moving things, such as the bouncing ball in the figure above. Example of slow in and slow out technique used in 2D animation shown as figure 2.8 below:

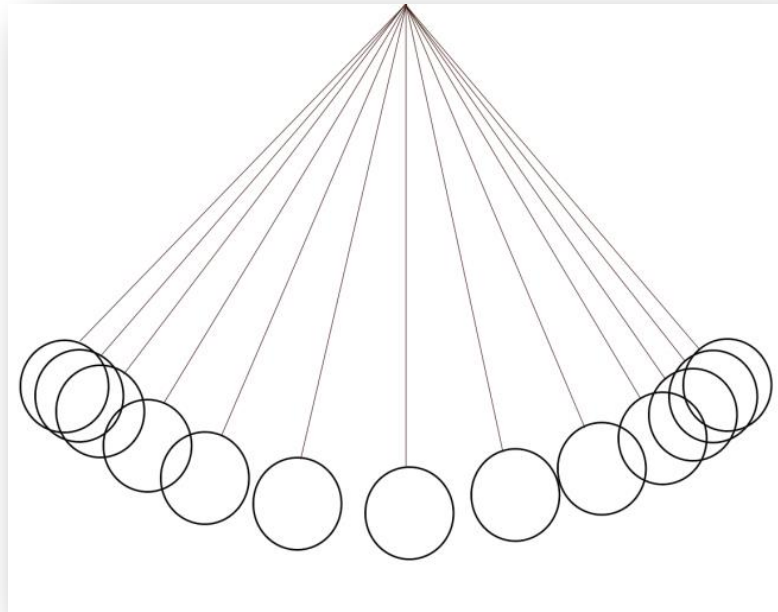


Figure 2.8 : Slow in and Slow out

7) Arc

The majority of natural action takes an arching path, and animation should reflect this idea by following inferred "arcs" for added realism. This approach can be used to rotate a joint on a moving limb or a thrown object on a parabolic trajectory. Mechanical movement, on the other hand, usually moves in straight lines. Arcs tend to flatten out in forward motion and broaden in turns as an object's speed or momentum rises. In baseball, a fastball tends to go in a straighter line than other pitches; in figure skating, a fast skater is unable to turn as sharply as a slower skater, and must cover more area to complete the turn. When a moving item deviates from its natural arc for no obvious cause, it appears erratic rather than fluid. When animating a pointing finger, for example, the animator should ensure that the fingertip follows a logical arc from one extreme to the next in all drawings in between the two extreme stances. Traditional animators sketch the arc on the paper gently for reference, then remove it later. Example of arc technique used in 2D animation shown as figure 2.9 below:

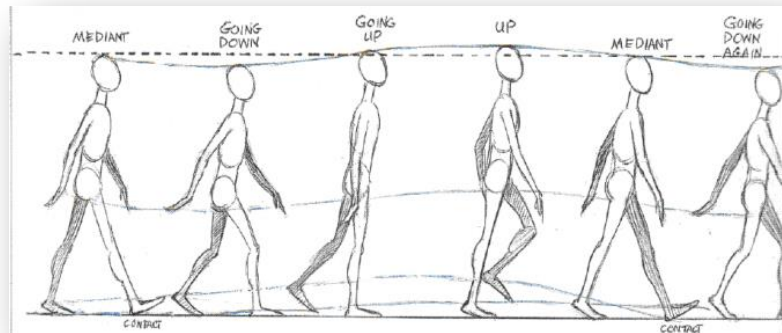


Figure 2.9 : Arc

8) Secondary action

Adding supplementary actions to the main action can serve to bring the scene to life and complement the main action. Walking allows a person to swing their arms or keep them in their pockets, speak or whistle, and show emotions through facial expressions all at the same time. The crucial thing to remember about secondary acts is that they enhance the main activity rather than divert attention away from it. If the latter is true, certain acts should be avoided. Facial emotions, for example, often go unnoticed during a dramatic movement. In these circumstances, it is preferable to incorporate them at the start and finish of the movement rather than in the middle. Example of secondary action technique used in 2D animation shown as figure 2.10 below:

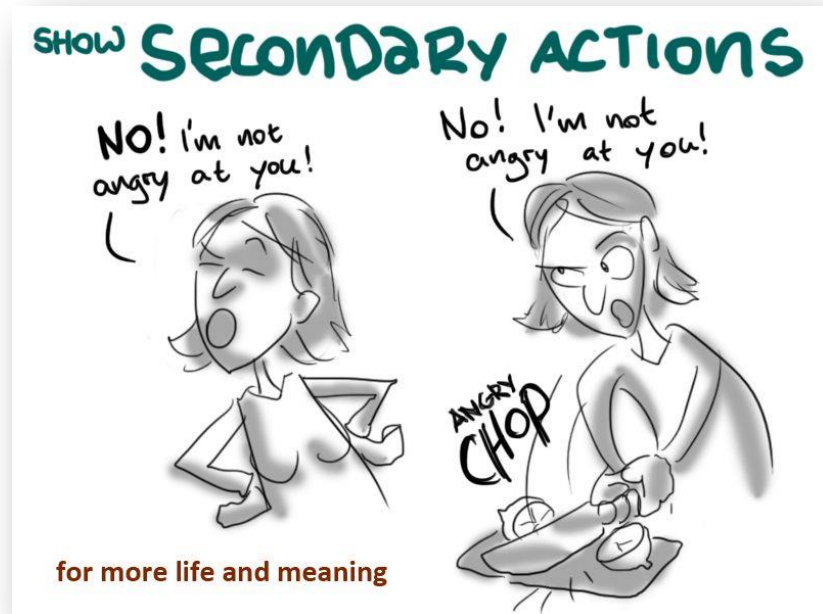


Figure 2.10 : Secondary Action

9) Timing

The number of drawings or frames for a given motion, which translates to the speed of the action on film, is referred to as timing. Correct timing appears to make objects obey the rules of physics on a strictly physical level. For example, an object's weight influences how it responds to an impulse, such as a push; a lightweight object would react faster than one that is heavily weighted. When it comes to developing a character's mood, emotion, and reaction, timing is crucial. It can also be used to convey information about a character's personality. Example of timing technique used in 2D animation shown as figure 2.11 below:

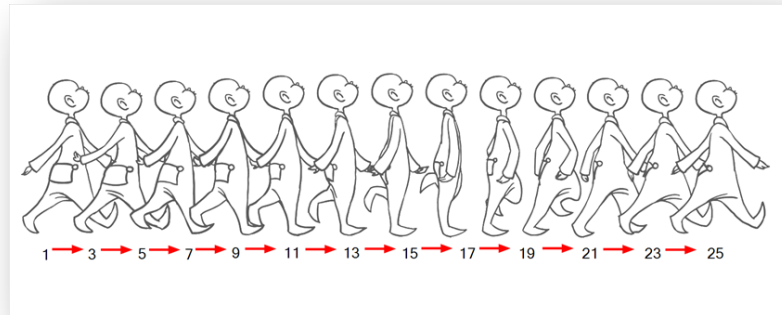


Figure 2.11 : Timing

10) Exaggeration

Exaggeration is a beneficial effect in animation since animated motions that try to be an exact replica of reality might appear static and dull. Exaggeration varies depending on whether the goal is realism or a specific style, such as a caricature or an artist's manner. Disney used the conventional definition of exaggeration, which was to stay true to reality while portraying it in a wilder, more exaggerated manner. Other types of exaggeration include the supernatural or surreal, changes in a character's physical traits, or elements in the tale itself. When using exaggeration, it's necessary to keep a certain amount of restraint in mind. To avoid misleading or overawing the audience, if a scene has numerous aspects, there should be a balance in how those parts are exaggerated in relation to one another. Example of exaggeration technique used in 2D animation shown as figure 2.12 below:

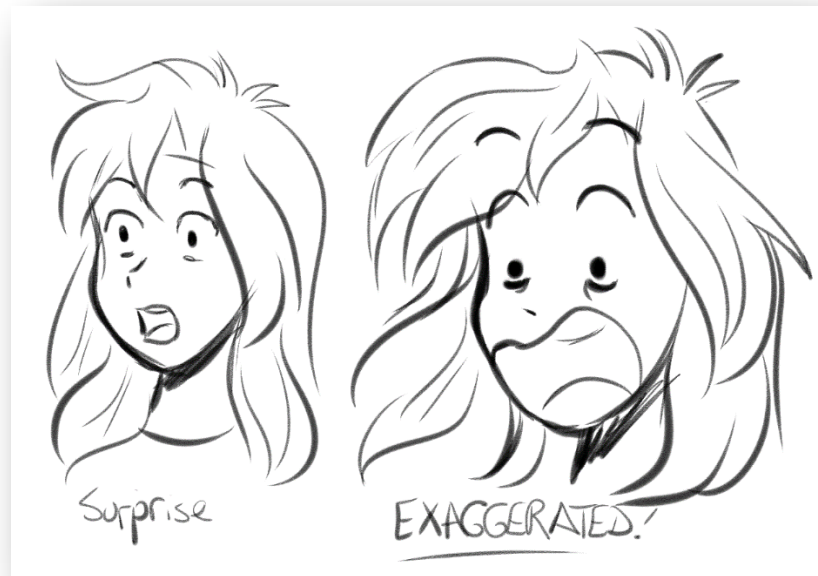


Figure 2.12 : Exaggeration

11) Solid drawing

The solid drawing principle entails taking into consideration forms in three-dimensional space, or assigning volume and weight to them. An animator must be a good artist who is familiar with the fundamentals of three-dimensional shapes, anatomy, weight, balance, light, and shadow, among other things. This entailed taking painting school and sketching from life for the traditional animator. Making "twins," or characters whose left and right sides matched each other and appeared lifeless, was something Johnston and Thomas specifically advised against. Example of solid drawing technique used in 2D animation shown as figure 2.13 below:

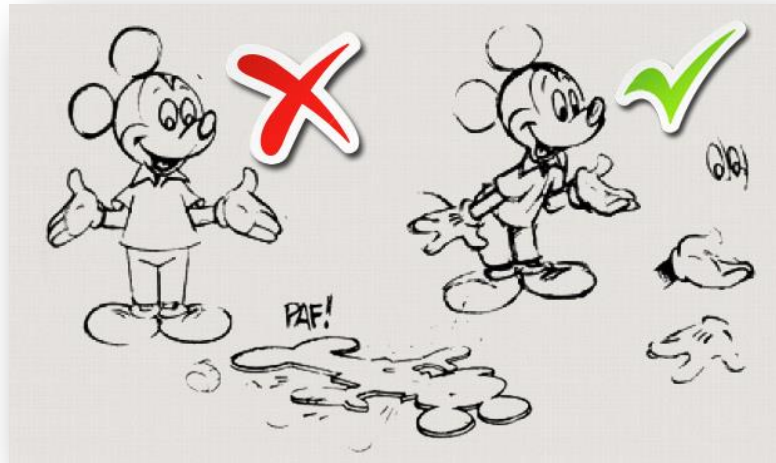


Figure 2.13 : Solid Drawing

12) Appeal

In a cartoon character, appeal correlates to what an actor would call charisma. An appealing figure does not have to be sympathetic; villains or monsters can be intriguing as well. What matters is that the audience feels the character is real and interesting. A symmetrical or very baby-like face is effective for likeable characters; for unlikable characters, a symmetrical or particularly baby-like face is effective. The composition of the stance or character design will lack attractiveness or 'captivation' if the face is intricate or difficult to understand. Example of appeal technique used in 2D animation shown as figure 2.14 below:

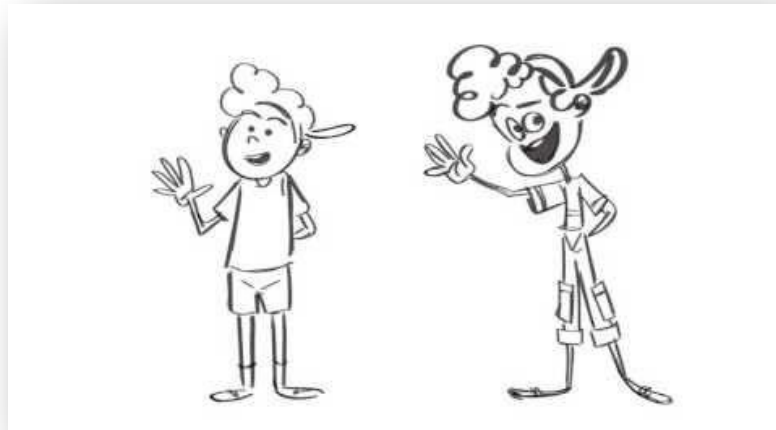


Figure 2.14 : Appeal

2.6.1 Animation Principle used in 2D Animation Story (My Way)

In this project, My Way 2D animation story, not all of the animation technique have been used to develop this animation but there are several techniques among of the twelve principle of animation have been used. Therefore, the technique that have been used are as listed as below:

1) Secondary action

In the beginning of the story, there is a scene that secondary action technique was applied to the scene which is when Alif's daughter, Alia poke him to ask about the picture in the frame, she also waving her leg. The scene can be shown as figure 2.15 below:



Figure 2.15 : Beginning Scene (Secondary Action)

2) Anticipation

In the beginning of the story, there is a scene that anticipation technique was applied to the scene which is the scene when the owl wants to fly. The scene can be shown as figure 2.16 below:



Figure 2.16 : Beginning Scene (Anticipation)

3) Staging

In the middle of the story, there is a scene where staging technique was applied to the story which is the body posture of Alif and his friends are in the right position. The scene can be shown as figure 2.17 below:

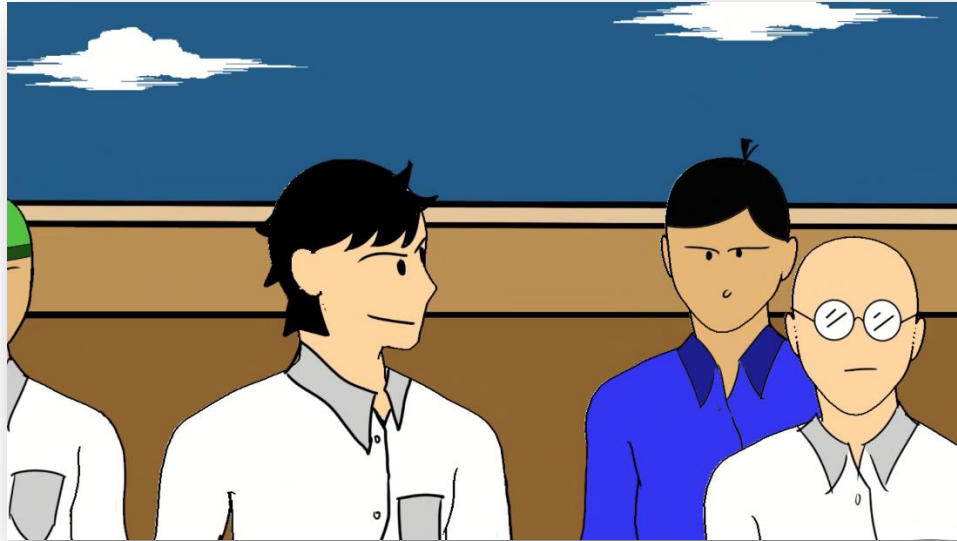


Figure 2.17 Middle Story Scene (Staging)

4) Straight ahead action and pose to pose

In the beginning of the story, there is a scene where straight ahead action and pose to pose technique was applied to the story which is Alif and his friends were running after school ended. The scene can be shown as figure 2.18 below:



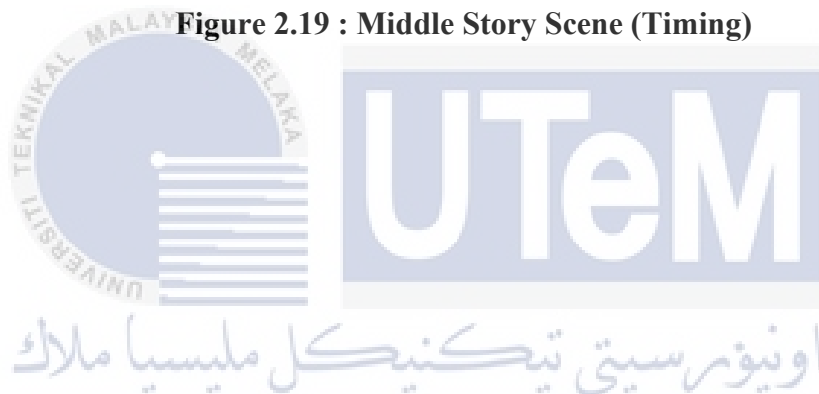
Figure 2.18 : Beginning Scene (Straight Ahead Action and Pose to Pose)

5) Timing

In the middle of the story, there is a scene where timing technique was applied to the story which is the scene when Alif was walking at the hall. The scene can be shown as figure 2.19 below:



Figure 2.19 : Middle Story Scene (Timing)



2.7 Reason of Selected Animation Techniques

In this 2D animated short films, there are five animation principles or techniques that have been selected and chosen to make this animation story. The selected principles consist of Secondary Action technique, Anticipation technique, Staging technique, Straight Ahead Action and Pose-to-pose technique, and last but not least is Timing technique.

This short story is about simple student life who loves to play games and at the same time concerned about academic study. Regarding to the storyline and concepts of the story, this animation does not require advance principle of animation which is what others animation need. For example, the techniques that action animation story must be consist of many animation principle to produce an amazing animation product.

However, this story just a simple school life story which is just consist of these five-animation principle already enough to make the animation good. Plus, based on my personal animation technique, these-five animation principle that have been selected are already challenging for me as a beginner. So, these are the reason why only five animation principle were selected rather than all the animation principle.

2.8 Concepts and Art Style Used

Regarding to the storyline and my personal skills in animation, the concepts and art style used to make this animation are based on Japanese Manga Animation Technique. Even though it seems still to far away to be compared with the Japanese Manga Animation Technique, the technique and art style might be the best choice for me since I cannot make the animation like a professional animator who make Anime.

Furthermore, the chosen concepts and art style chosen also because it also might be possible for to make one compared to the American 2D Animation Style. American (Western) style probably impossible for me to be followed since it used all the Animation Principle and need enough experience for an animator to make the animation that good. For example, Mickey Mouse is one of the American (Western) animation styles which is used all the animation principle in the story. We can see that the movement of the character was very smooth and clear.

2.9 Conclusion

This chapter discusses the literature review and the project methodology of the 2D animation story. The project methodology that was chosen for this 2D animation story is the Multimedia Project Development Process which involved three main phases (Pre-production, Production and Post-Production). Animation is an attractive tool that can be used to convey strong motivational & moral value stories. For this case, it will inspire gamers that playing games not just having fun and wasting time but also can turn into a prospect career. Next chapter discusses the analysis of the 2D animation story.

CHAPTER 3: ANALYSIS

3.1 Introduction

In this phase, the requirement analysis was carried out. Process analysis is the action of conducting a review and gaining an understanding of the animation processes. It involves reviewing the components of a process, including inputs, outputs, procedures, controls, actors, applications, data, technologies and their interactions to produce a great result. Thus, in this chapter, it shows the analysis of the animation development process which is including animation specification and proposed storyline.

3.2 Analysis of Current 2D Animation

On social media platforms, there are various types of videos that are of public interest. The animations being interpreted to present successfully to the viewers are the commonalities in most animations. Typically, explainer videos depict animation in a basic but still understandable manner that directly and conveys the information precisely. Then, for developing a public-interest animation, the video time should be between 2 and 5 minutes, because longer movies might lower the viewer's attention span and lead to a loss of interest.

3.2.1 Existing 2D Animation Storyline (My Way)

This animation starts with the current age which is the real time of main character's age. Then, it continues with the flashback time after his daughter ask about the picture in the frame in front of them in the living room. After that, the animation is about the experience of Alif's life in school with his friends. Last but not least, the timeline of the story flow end with the beginning scene which is Alif's current age.

3.3 Requirement Analysis

Requirements Analysis is the process of defining the expectations of the users for an application that is to be built or modified. It involves all the tasks that are conducted to identify the needs of different stakeholders. Therefore, requirements analysis means to analyze, document, validate and manage software or system requirements. High-quality requirements are documented, actionable, measurable, testable, traceable, helps to identify business opportunities, and are defined to a facilitate system design.

3.3.1 Project Requirement

Project requirements are conditions or tasks that must be completed to ensure the success or completion of the project. They provide a clear picture of the work that needs to be done. They're meant to align the project's resources with the objectives of the organization. The final outcome of this project is the development of a 2D animation. The animation method uses Clip Studio Paint and Adobe Premiere Pro CC 2020.

3.3.2 Project Specification

The 2D animation story specification are listed in the Table 3.1 below:

Table 3.1: Animation Specification

Animation Specification	
Length	Duration of the video is estimated about 3 minutes and 20 seconds
Frame per second	30 fps
Video dimension	Width: 1920px; Height: 1080px
Animation resolution	72 ppi
Sound	Consists of sound effects and background music

3.3.3 Proposed Storyline

a) Beginning

The animation starts with the scene of adult Alif's house which is he already have a wife and a daughter. Then proceed with the scene of his daughter asked him about the picture in the frame at the living room. Then, Alif smile and start the story of his best experience in his school life.

b) Middle

Alif had his life routine as usual as a student which is after went home from school he doing his homework. After done doing his homework, he plays game and go to sleep. The next day at school, he found a notice at the information board in front of his class. The notice is about the e – sports tournament which is his school is having a game tournament which is the game that Alif and his friend always play together. They interested and joined the tournament. Although they want to win the tournament, they also want to score and get an excellent result in the upcoming examination. So, they study hard for their examination and also training hard for their game tournament. Several days later, they had their examination and got an excellent result. Not long after that, the day of their game tournament finally come. They fight so hard and play like a professional player and after several games, they got to go to the final.

c) End

Fortunately, they win the game and got their first throne in the school as the champion of the game. Then, the last scene is where they got their picture of the winning the tournament and got in the frame. Then, the ending goes with the scene of go back to the beginning of the story which is to the Alia which is Alif's daughter. The scene of Alif's daughter that she already asleep in her room with having the frame of the picture on her study table in her room.

3.3.4 Software Requirement

The software requirements for the project is summarize in **Table 3.2** below. Most software need license and quite expensive for a beginner to use. Thus, as for this project there are several software that suitable and easy to use to make a 2D animation.

Table 3.2 : Software Requirements

Software	Usage
Clip Studio Paint	To create the animation and animate the story according to the storyline
Adobe Premiere Pro CC 2020	To combine all the scene that made from the Clip Studio Paint and put it together as one short film. Then, add the sound effect and background music

3.3.5 Hardware Requirement

The hardware requirements for the project is summarize in **Table 3.3** below. Most hardware only has operating system requirements or compatibility. Thus, as for this project there are several hardware that required to make a 2D animation.

Table 3.3 : Hardware Requirements

Hardware	Usage	Source
Laptop	Software and animation platform	Self – owned
Tablet Graphics Drawing Pad	To draw the whole animation character and scene	Self – owned

3.4 Project Schedule and Milestones

A project schedule indicates what needs to be done, which resources must be utilized, and when the project is due. It's a timetable that outlines start and end dates and milestones that must be met for the project to be completed on time. The project schedule is often used in conjunction with a work breakdown structure (WBS) to

Table 3.5: Project Timeline PSM 2

No	Task	Week							
		1	2	3	4	5	6	7	8
1	Chapter 5								
2	Chapter 6								
3	Test Plan								
4	Alpha & Beta Testing								
5	Test result and analysis								
6	Chapter 7								
7	Final Presentation								
8	Correction								
9	Report Submission								



3.4.2 Project Milestones

The project milestones provide an estimated timeline for the life of the project. The milestones include all project activities and interim steps needed to implement the project. The schedule should include milestones for the planning, development, construction, evaluation and reporting of the project's implementation. The milestone dates are only projected dates based on an anticipated grant award. Those dates may change depending on the timing of the grant award.

Table 3.5: Project Milestone PSM 1

CHAPTER 4: DATE	TASK
1 18 – 24 Feb	Detailed discussion and analysis.
	Proposal correction if needed
	Research on Introversion
2 25 Feb – 3 Mar	Brainstorm ideas for storyline
	Create the plot and contents
	Drawing storyboard
3 4 – 10 Mar	Confirm the storyboard and visual features
	Script writing
	Development process
	Submission Report of Chapter 1
4 11 – 17 Mar	Development process
5 18 – 24 Mar	Development process
6 25-31 Mar	Development process
	Submission Report of Chapter 2

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7 1 – 7 April	Development process
8 8 – 14 April	Development process
9 15 – 21 April	Development process
	Submission Report of Chapter 3
10 22 – 28 April	Development and integration process
11 29 April – 5 May	Development and integration process
12 6 – 12 May	Development and integration process
13 13 – 19 May	Content and multimedia integration
	Testing and evaluation
	Correction
14 20 – 30 May	Testing and evaluation
	Correction
	Animation Finalization
15 23 June	Final Presentation and Report Submission

Table 3.6: Project Milestone PSM 2

Week	Task
1 12 – 18 July	Review session from evaluator comment and feedback in PSM 1 Presentation
2 19 – 25 July	Proceed for Chapter 5 report Make questionnaire and survey for Alpha and Beta Tester
3 26 July – 1 August	Blast the questionnaire and collect data Alpha and Beta Testing
4 2 – 8 August	Analysis of respondents and data collecting
5 9 – 15 August	Proceed for Chapter 6 report
6 16 – 22 August	Report correction Proceed for Chapter 7 report
7 23 – 29 August	Completing thesis writing Make slide presentation
8 30 August – 5 September	PSM 2 final presentation Report submission

3.5 Conclusion

As conclusion, in this phase, the analysis was done to work on this project. This also included with the requirement of the projects. Process analysis is the action of conducting a review and gaining an understanding of the animation processes. Thus, in this chapter, it shows the analysis of the animation development process which is including animation specification and proposed storyline. The chapter highlights the details of the requirements needed for the 2D animation story. The next chapter provides a visualization of the concept of the series of scenes and the design phases that been animated.



CHAPTER 4: DESIGN

4.1 Introduction

This section explains the scene, design of storyline and character. Besides, it also has the scene description which shows the introduction of 2D animation story, first challenge, second challenge, third challenge and conclusions of the animation designing process. Furthermore, in this chapter, there also shows the preliminary design and storyboard of 2D animation story.

4.2 Scene Sequence Diagram

The figure 4.1 illustrates the linear sequence of the animation in the time per second that visualizes the arrangement of the scene.

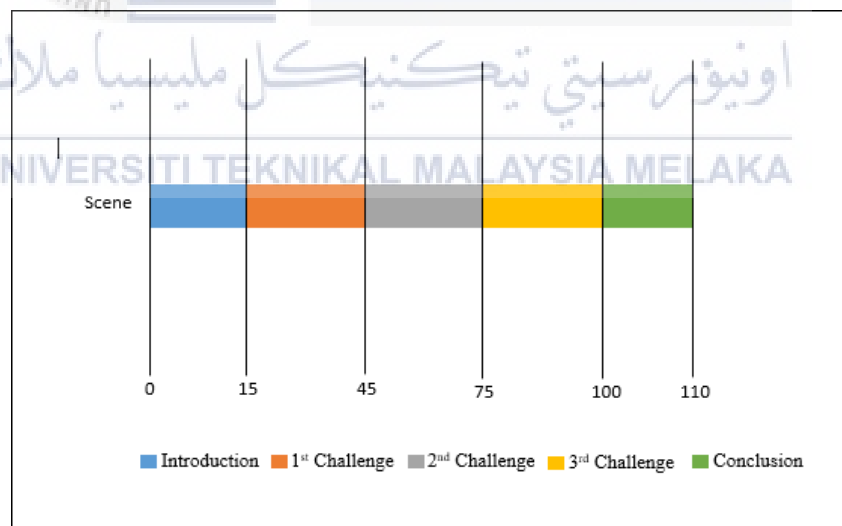


Figure 4.1 Sequence Diagram

4.2.1 Scene Description

a) Introduction

The introduction scene begins with the scene outside of the house and then proceed to the Alif and his daughter at the living room.

b) First Challenge

The following scene goes to the flashback scene which is the scene when Alif still teenager. In this scene, Alif done his usual daily routine during school day. After went home from school, he and his friends planning to play game together after done their homework.

c) Second Challenge

The next day, at school in the morning, Alif found a notice at the information board about a game tournament that his school held. Then, he and his friends plan to join the tournament. However, they not only want to win the tournament, but they also want to get an excellent grade in the upcoming examination.

d) Third Challenge

So, they study hard and training properly for their examination and game tournament. In several days later, they had an examination and got an excellent result. Not too long after that, the day of the game tournament finally come.

e) Conclusions

They fight so hard like a professional player and fortunately after a long journey and with their hard work, they win the game tournament and become a champion in the school.

4.3 Preliminary Design

Preliminary Design means that part of the Development Phase where all of the animation design elements, including a preliminary estimate of the preferred design solution are documented for input to the Detailed Design Stage. Besides, it is the stage in which general project location and design concepts are determined.

4.3.1 Storyboard

A storyboard is a graphic organizer that consists of illustrations or images displayed in sequence for the purpose of pre-visualizing a motion picture, animation, motion graphic or interactive media sequence. Thus, a storyboard is essentially a series of drawings based on the script, which are used as a visual guide throughout the rest of the animation production pipeline. Basically, a standard storyboard contains three main information categories: The sequence of scenes to tell the story. In this chapter, the summarization of the story (storyboard) are shown in figure 4.2 below:

	<u>Scene 1:</u> Looking at photos with daughter while she pointing her fingers at the photo. Alif smile start the story of his experience in school.
	<u>Scene 2:</u> //Flashback// Alif in class as usual.

	<u>Scene 3:</u> Going home with best friends while chatting about game.
	<u>Scene 4:</u> Alif doing his homework.
	<u>Scene 5:</u> Aware of the time that already 9 o'clock and getting ready to play the game with his friends (squad).
	<u>Scene 6:</u> Playing games until he sleepy and go to sleep.
	<u>Scene 7:</u> The next day at school, Alif and his friends found a notice about their school held a game tournament. They planned to join the tournament.
	<u>Scene 8:</u> They study hard for their upcoming examination and also train for their game tournament.

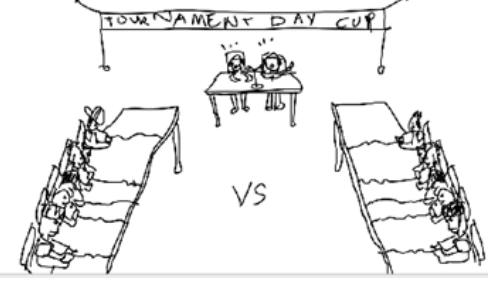
	<u>Scene 9:</u> Several days later, they had their examination and got excellent result.
	<u>Scene 10:</u> Not too long after that, the game tournament day comes and they play so hard and fortunately win the game.

Figure 4.2 Storyboard of 2D Animation Story

4.4 Conclusion

As conclusion, in this chapter shows the design that have been developed before the actual process of animation development and also the actual animation development. Besides, the flow of the animation story also can be seen clearer and more details since there included the animation storyboard and scene description. A storyboard is a visual organizer made up of illustrations or pictures that are shown in order for the aim of pre-visualizing a motion picture, animation, motion graphic, or interactive media sequence. The concept of this animation, which has been developed, is illustrated through storyboard and some of it might be added and improved.

CHAPTER 5: IMPLEMENTATION

5.1 Introduction

The creation of elements such as text, graphics, audio, video and animation are addressed in details in this chapter. Besides, it highlights the process of the animation making using certain software and combination of sound effects and background music in final output.

5.2 Media Creation

Media creation section indicates the animation process that used in this 2D animation short film. It gives more understanding to audience about the process of animation that implemented to create this story.

5.2.1 Production of Graphics

Production of graphics is the products that created before and in the making of the animation, which is the character design, background scene, etc. Storyboard design is drawn by hand using tablet graphic drawing pad in a storyboard website and has been exported in pdf file. This allows the animation process become easier since storyboard and the storyline are shown in a user friendly manner. Then, after the storyboard is done, the next step is to continue to create the animation character in the animation software which Clip Studio Paint. After that, the created animation scene are combined into one video as a short film using the Adobe Premiere Pro. In this process, the suitable sound effects and background music are concluded. Overall, the final output will be exported as .mp4 file and published in YouTube.

5.2.2 Production of Audio

Audio consists of background music and sound effects that downloaded from YouTube. The selected sound effects and background music were non – copyright sound and free to use. All this audio are used in the final product of animation throughout video editing process. The medium of editing process is also using Adobe Premiere Pro software as shown in figure 5.1.

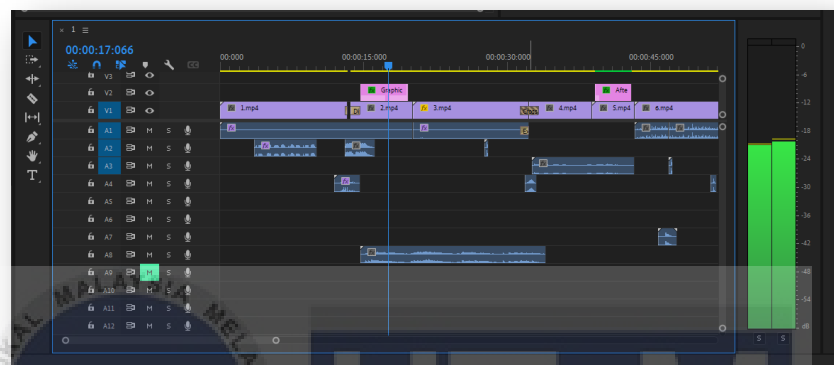


Figure 5.1: Audio Editing Process

5.2.3 Production of Video

In this phase, the video is carried out using Adobe Premiere Pro. Each of the scene are arranged according to the storyboard and are edited. Some of the timeline that not been needed are cut through and trimmed. After that, the file are rendered and exported using the H.264 file format, which is MP4 format as shown in figure 5.2 below :

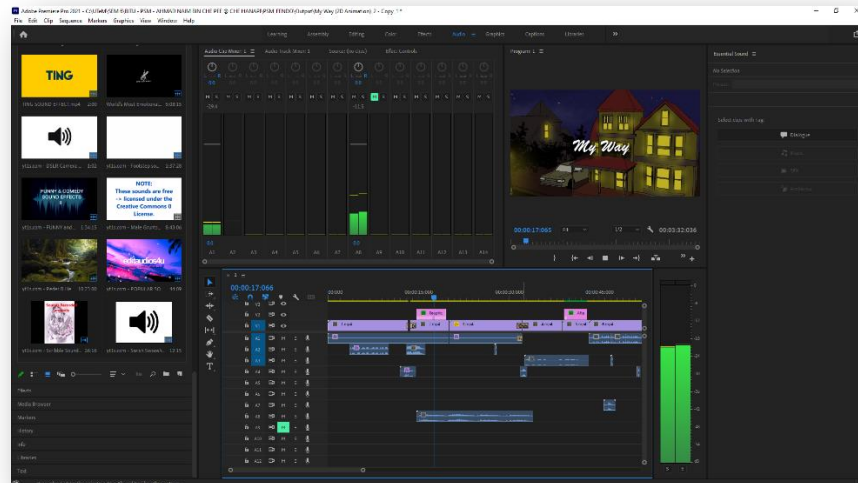


Figure 5.2 : Video Editing Process

5.2.4 Production of Animation

After the storyline and scripting have been completed, which is the storyboard, the animatic is done to determine the location of the animation main frame. The animation is animated using Clip Studio Paint and drawing table as shown in figure 5.3. Then, for the rendering parts, it is saved and exported in the MP4 file format which is needed and imported into the Adobe Premiere Pro software.



Figure 5.3 : Animation Production

5.3 Media Integration

All the media portion which are the scene of the animation created from Clip Studio Paint, background music, and sound effects are combined into the Adobe Premiere Pro and are being edited accordingly. The final output is a video that is a full short film. The output is in MP4 file format which is a video and published in YouTube platform.

5.4 Product Configuration Management

In this implementation part, it gives and show details explanation about the design of the project and process making 2D animation short film. Besides, it ensures that the outcomes of the product which is 2D animation short film meets the expectation of requirements.

5.4.1 Configuration Environment Setup

Setting environment variables and generating or editing files that pertain to the environment variables are how we customize our environment. The environment variables can then be set at the environment level, for a single user, or for a database session. Thus, for this project configure setup for animation software.

Table 5.1 : Animation

Software	Configuration Setup
Clip Studio Paint	Size: 1080 X 1920 Frame rate: 30fps Format: .clip

Table 5.2: Configuration Setup

Software	Configuration Setup
Adobe Premiere Pro 2021	Size: 1920 X 1080 Pixel Aspect Ratio: Square pixel (1.0) Frame Rate: 30fps Format: MP4 file format Audio sample rate: 48000Hz Display format: Audio samples

5.4.2 Version Control Procedure

Version Control Procedure is the practice of managing different draughts and versions of a document or record is known as version control. It's a program that keeps track of a sequence of draught papers until the final version is ready. It keeps track of the revisions and updates to these finalized versions. Thus, for this 2D animation project arranged the procedure with the weeks accordingly.

Table 5.3: Version Control Procedure

Version	Description
1	The storyline, storyboard, and design
2	Animation
3	Animation scene by scene and render
4	Integrate the animation scene and render into animation video (Alpha version)
5	Demo and testing Alpha
6	Improvement testing Beta
7	Improvement final animation (published)

5.5 Implementation Status

As for the implementation status, the tasks that have been implemented in order to make the 2D animation short film have been shown accordingly with the duration of the weeks which time consuming for the task implementation status as shown as below in **Table 5.4**.

Table 5.4: Implementation Status

Task	Duration (weeks)
Design storyline (storyboard)	1
Animate the scene	4
Animation process (touch – up and coloring)	4
Compile and video editing	2

5.6 Conclusion

As a conclusion, in this phase, all the process of the 2D animation short film making included shown in details accordingly based on the software or tools used. The creation of elements such as text, graphics, audio, video and animation will be addressed in details in this chapter. Besides, it shows the process of the animation making using certain software and combination of sound effects and background music in final output.

CHAPTER 6: TESTING

6.1 Introduction

In this part, testing and evaluating are conducted using certain platform. This is to test the understanding of the product in the audience perspective. The research approach implemented in this phase is to carry out 2 forms of testing which are alpha testing and beta testing.

6.2 Test Plan

In this phase, as the test plan, the questionnaire in form of survey will be provided to the audiences. The audiences mentioned is Alpha and Beta Tester. The link of 2D animated short film video also will be provided in WhatsApp medium which is the video was published in YouTube.

They can watch the animation story and will answer all the questions given in the following survey. The feedback and comments needed in order to analyze whether the objectives achieve or not.

6.2.1 Test User

There are two different test types which are the alpha tester and beta tester. The Alpha Tester are multimedia specialist with an animation experience and skills. They will give a proper feedback and comments as animator experts.

On the other hand, the Beta Tester for this project is the key target users which is public audiences. Public audience can be random people at any range of ages. After viewing the animation video, the audiences can give the feedback through the survey form which is consists of several questionnaire.

6.2.2 Test Environment

Testing is carried out using questionnaire only. The respondents can use any devices such as smartphone, laptop, or pc to watch the animation and give feedback through the survey form. The link of the animation video and link of the survey were given.

Table 6.1: Hardware Requirement for Testing

Hardware/Software	Description
Can be any devices; Smartphone, laptop, pc, etc.	To watch the animation in YouTube.
Can be any devices; Smartphone, laptop, pc, etc.	To answer the questionnaire.

6.2.3 Test Schedule

Test schedule is the data of the test which is related to the target tester, number of respondents, and the duration of the test.

Table 6.2: Test Schedule

	Alpha Testing	Beta Testing
Tester	Lecturer (Multimedia Expert)	Random audience such as teacher, student, parents, etc.
No. of Tester	1	35
Duration (minutes)	15	15

6.3 Test Strategy

Test strategy uses two types of strategy which are Alpha Testing and Beta Testing. Alpha Testing used to evaluate the product for expertise and knowledge, particularly in the multimedia aspect. The analysis by the multimedia expert is focused on professional criticism and suggestions that can help to improve the product. The tester is free to share his view and opinion.

Meanwhile, Beta Testing focuses mainly on the target user which is random audience to evaluate the audience understanding of the 2D animation among audiences. The results of the questionnaire will be decided whether or not the project meets the goal.

6.4 Test Implementation

As test implementation, the questionnaire in form of survey will be provided to the audiences. The audiences mentioned is Alpha and Beta Tester. The link of 2D animated short film video also will be provided in WhatsApp medium which is the video was published in YouTube. They can watch the animation story and will answer all the questions given in the following survey. The feedback and comments needed to analyze whether the objectives achieve or not.

6.4.1 Test Description

Alpha Testing is done via WhatsApp and YouTube with a multimedia specialist. Alpha tester need to click the link of the video which is shared through WhatsApp and will then open a YouTube application to watch the animation short film. After that, the respondent can click the link of the survey form which is also shared through WhatsApp and will answer the questionnaire to give his feedback and comments as an animator expert.

Beta Testing is done also via WhatsApp and YouTube which quite the kind of procedure as the Alpha Testing. However, the Beta Testing is carried out publicly and Alpha Testing will be done privately which is in personal meeting.

6.4.2 Test Data

The questionnaire obtained as well as the results are analyzed. After all the questions answered by the Alpha and Beta Tester, the results can be seen and analyzed through the Google Form responses. The results can be shown as below;

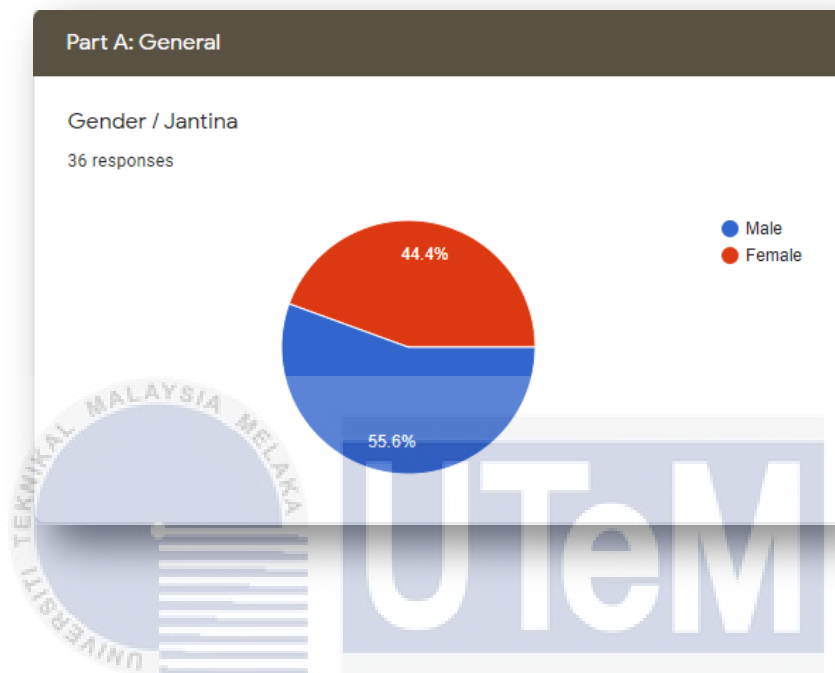


Figure 6.1 : Gender of the Respondents

Based on the given survey, there are 55.6% of respondents are male respondents and 44.4% are female respondents which is from 36 respondents in total.

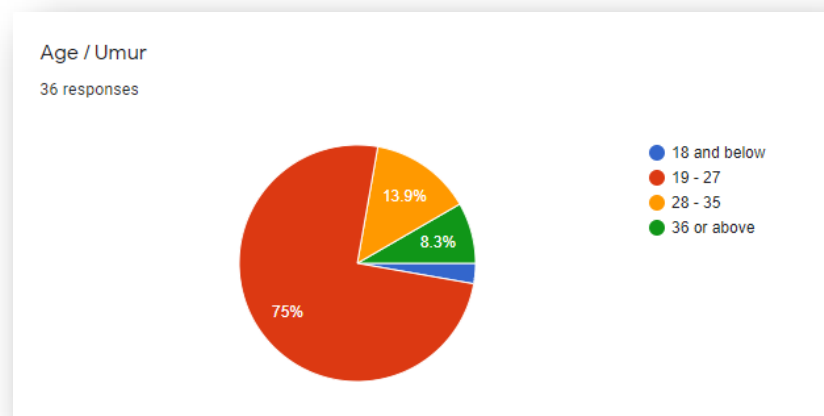


Figure 6.2 : Age of the Respondents

Based on the chart above, majority of the respondents age are from the range of 19 – 27 years old which might be student. On the hand, several people are from the range of 28 – 35 and 36 or above years old which is alpha tester, lecturer.

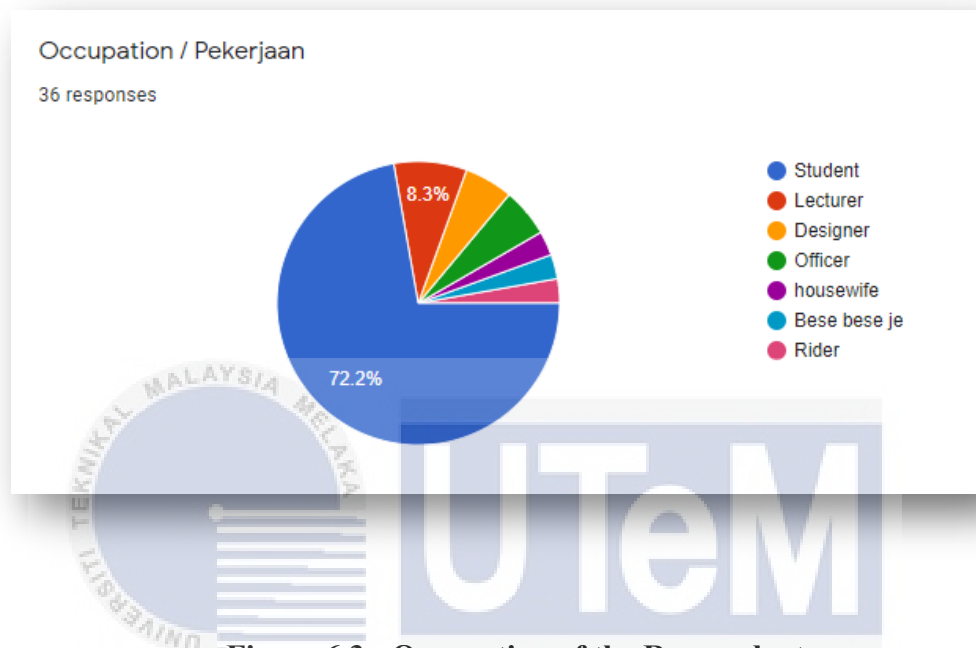


Figure 6.3 : Occupation of the Respondents

Majority of the respondents are students, and several are lecturer and designer which is alpha tester. This shown that probability of 2D animation fans are likely come from student category in reality.

6.5 Test Result and Analysis

After Alpha and Beta testing done, all the results obtained in Google Form responses will be reviewed. Then, the comments and feedback also will be analyzed and compared. Data obtained will be analyzed.

6.5.1 Alpha Testing

In this phase, the alpha testing was conducted with Dr. Mohamad Lutfi Bin Dolhalit which is a multimedia lecturer. Dr Lutfi are asked to review the animation video and has been asked to evaluate the multimedia element that consisted in the product. The main element that should be evaluate is the overall animation concepts.

Based on his feedback, overall animation is good and just need finishing in term of drawing and movement. He added, using expression in animation is not an easy task, somehow managed to make it properly. Plus, Dr Lutfi also mentioned the selection of color especially of color tone can support the animation which is such color to show the warm and happiness.

All the comments and feedback from Dr Lutfi seems to be very positive response as the alpha tester. As the conclusion, the third objective of this 2D animation short film meets the goal which is to evaluate the audience's understanding on the 2D animation.

6.5.2 Beta Testing

There are four parts of the form which are Part A, Part B, Part C, and Part D. The first part, Part A is general questions about the respondent information and interest in animation which can be refer to **Figure 6.1**, **Figure 6.2**, and **Figure 6.3**. The second part, Part B is content development part which is related to the character development, background, and other context related to the animation development.

The third part, Part C is user experience part which is related to the audience's impression and understanding of the animation short film. Last but not least, part D which is user feedback part. In this part, audience can give their feedback, comments, or opinion about the animation. They also can give any suggestion of the animation improvement.

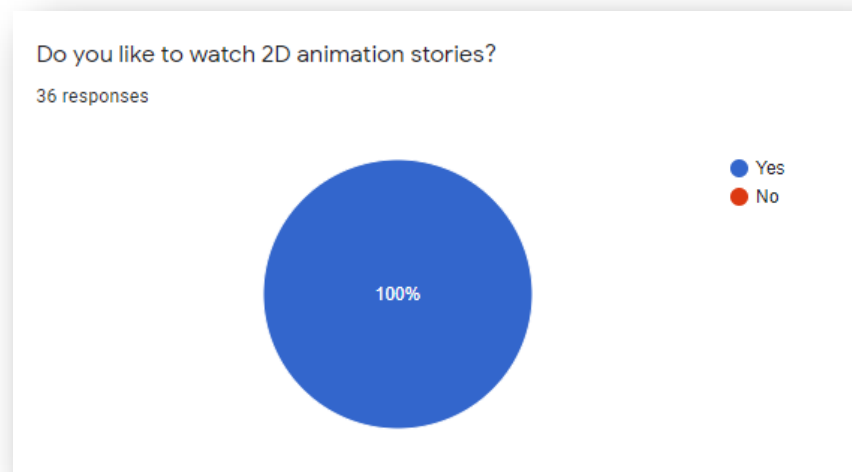


Figure 6.4 : Part A, Question 4

In part A which is general question for Question 4, it shows that 100% of the respondents love to watch 2D animation stories.

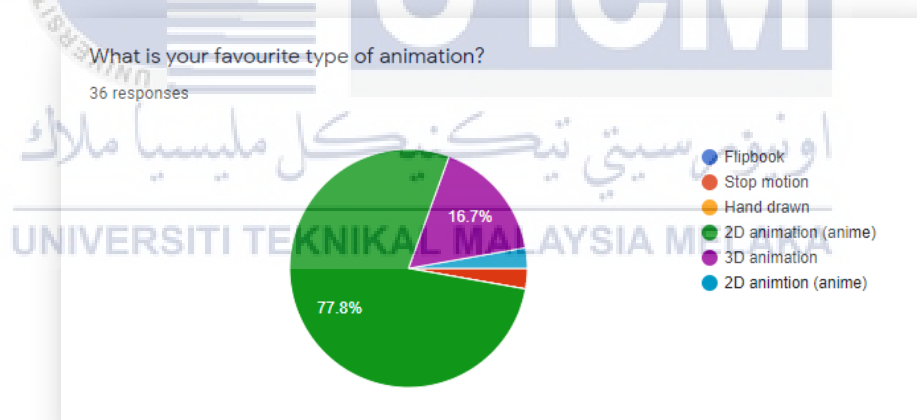


Figure 6.5 : Part A, Question 5

For Question 5, it shows that majority of the respondents like to watch 2D animation rather than other types of animation. So, it seems good news since this project is 2D animation short film.

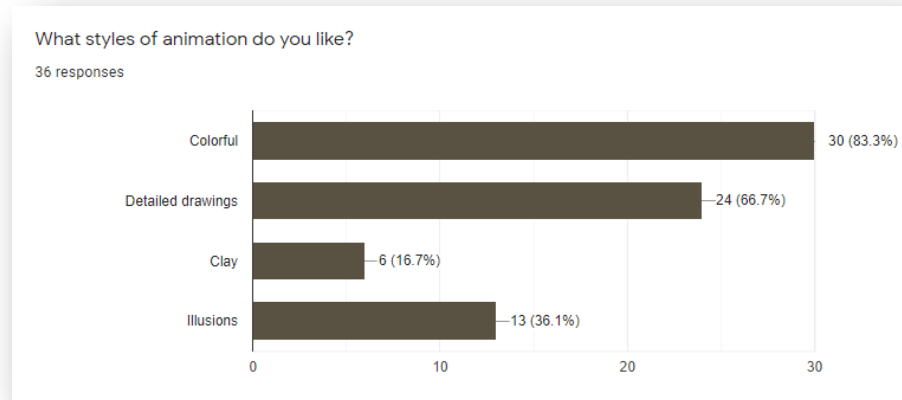


Figure 6.6 : Part A, Question 6

For Question 6, it shows that majority of the respondents vote for colorful and detailed drawings based on the styles of animation they like.

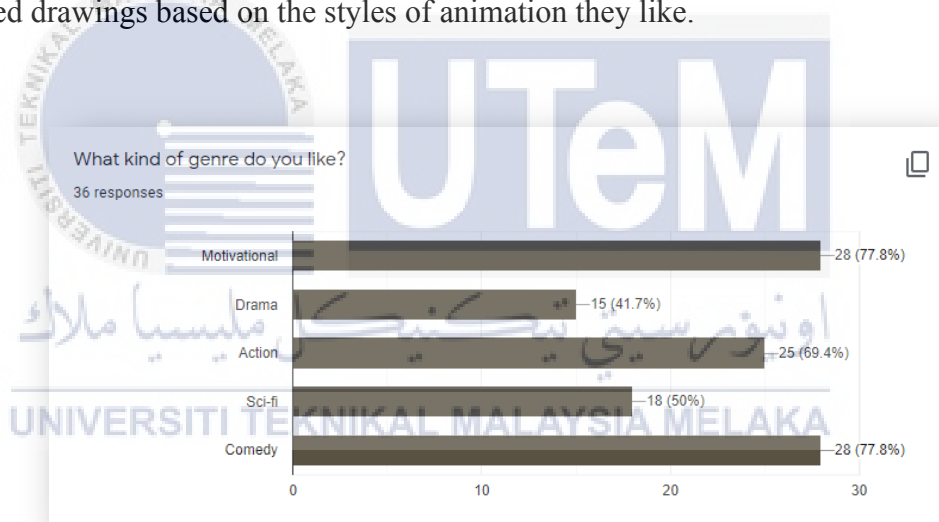


Figure 6.7 : Part A, Question 7

For Question 7, it shows that almost all the genres given were liked by the respondents which it seems average.

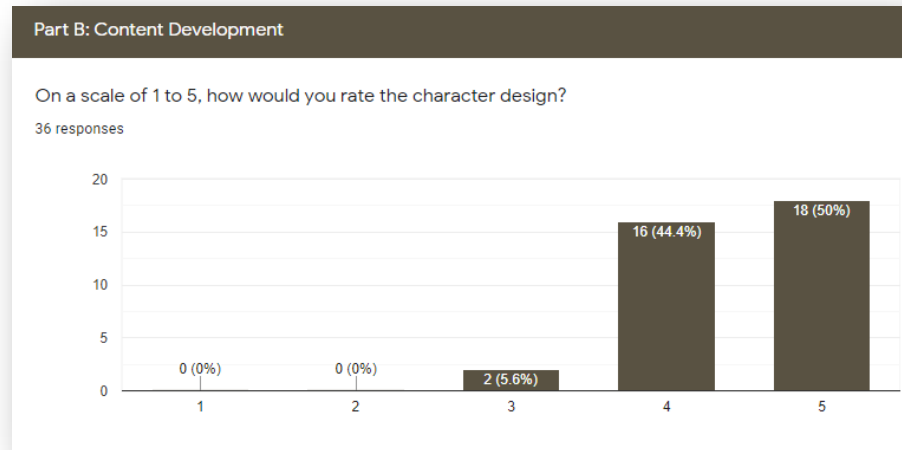


Figure 6.8 : Part B, Question 1

Based on Part B, for Question 1, the graph shows that most of the respondent's rate for 4 and 5 out of 5 the character design.

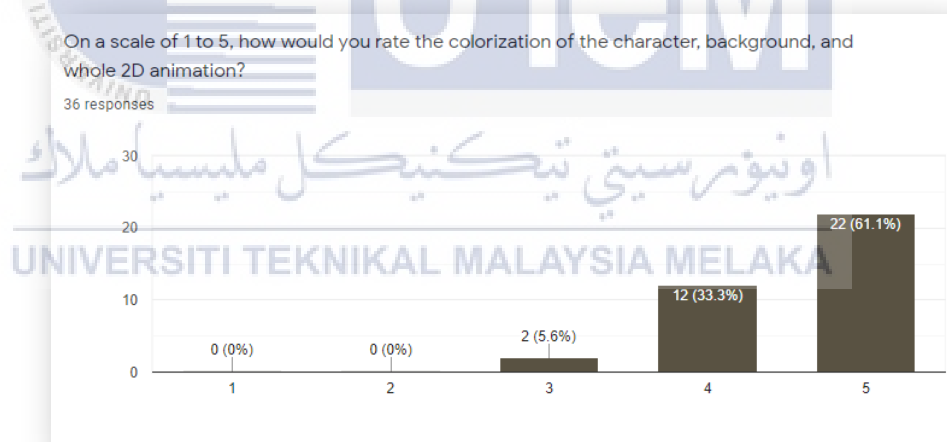


Figure 6.9 : Part B, Question 2

For Question 2, the graph shows that most of the respondents rate the colorization of the character, background, and whole 2D animation story, 4 and 5 out of 5.

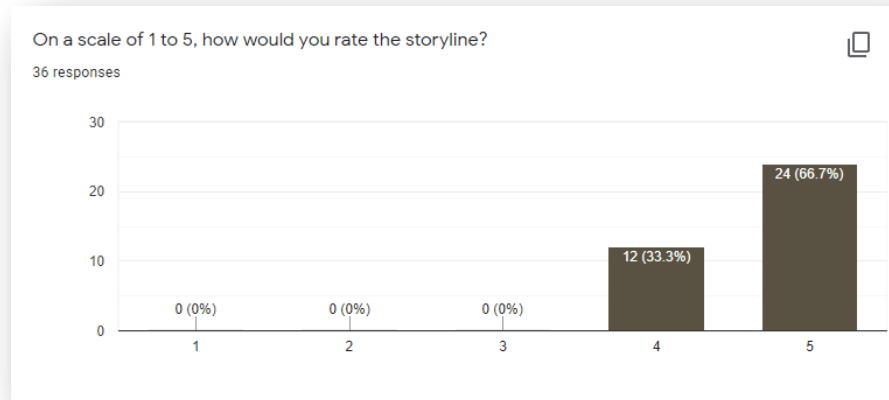


Figure 6.10 : Part B, Question 3

For Question 3, the graph shows that most of the respondents rate the storyline 5 out of 5 which seems to be good news and a great acceptance of storyline by the audiences.

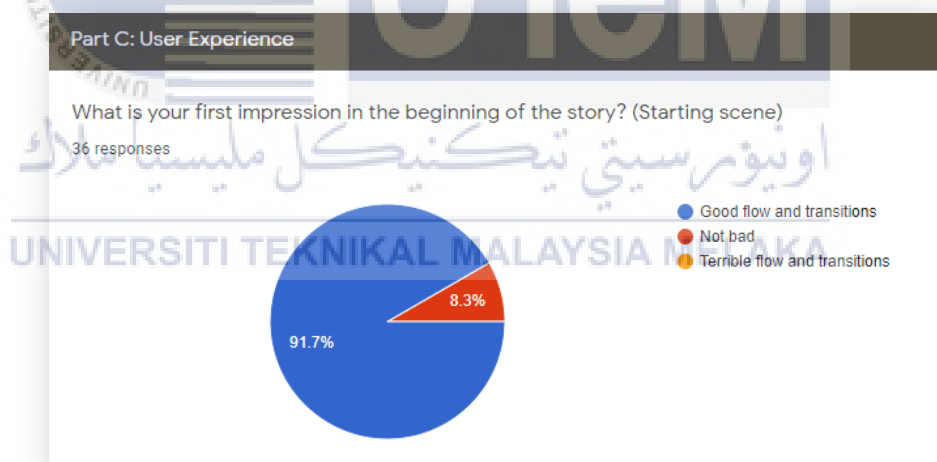


Figure 6.11 : Part C, Question 1

Based on Part C, Question 1, the chart shows that majority of the respondents vote for good flows and transitions of the beginning of the story impression. Its takeout 91.7% of respondents.

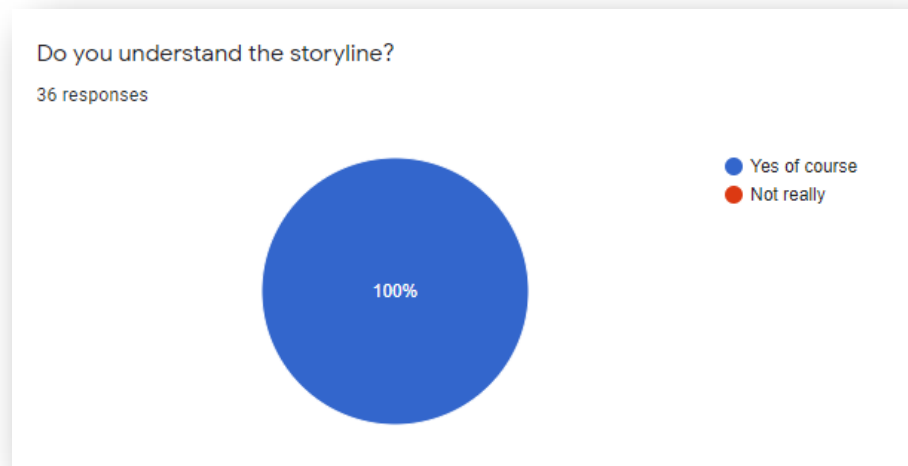


Figure 6.12 : Part C, Question 2

For Question 2, the chart shows that 100% of the respondents understand the storyline.

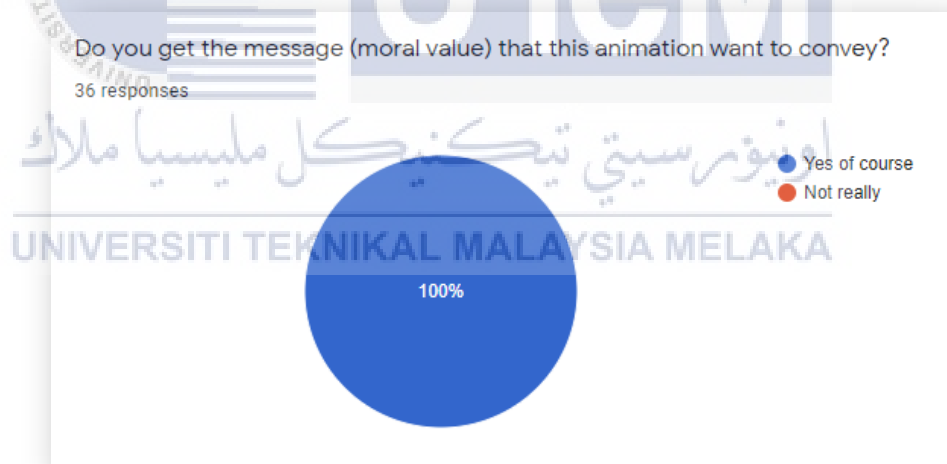


Figure 6.13 : Part C, Question 3

For Question 3, the chart shows that also 100% of the respondents understand and received the message (moral value) that this animation wants to convey.

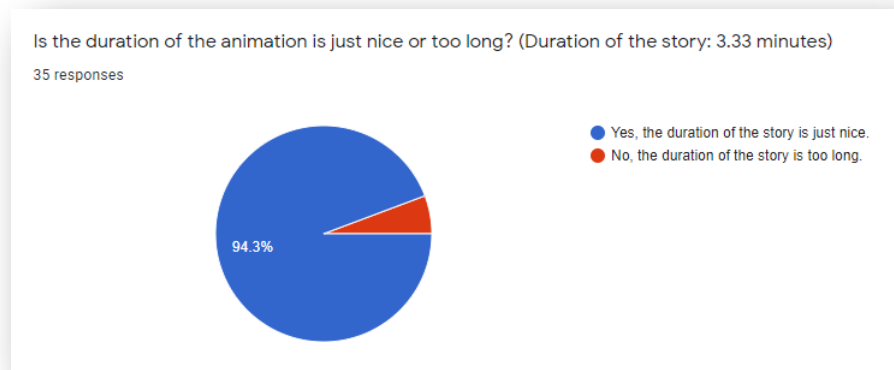


Figure 6.14 : Part C, Question 4

For Question 4, the chart shows that most of the respondents vote for yes, the duration is just nice for the duration of the animation with 94.3%.

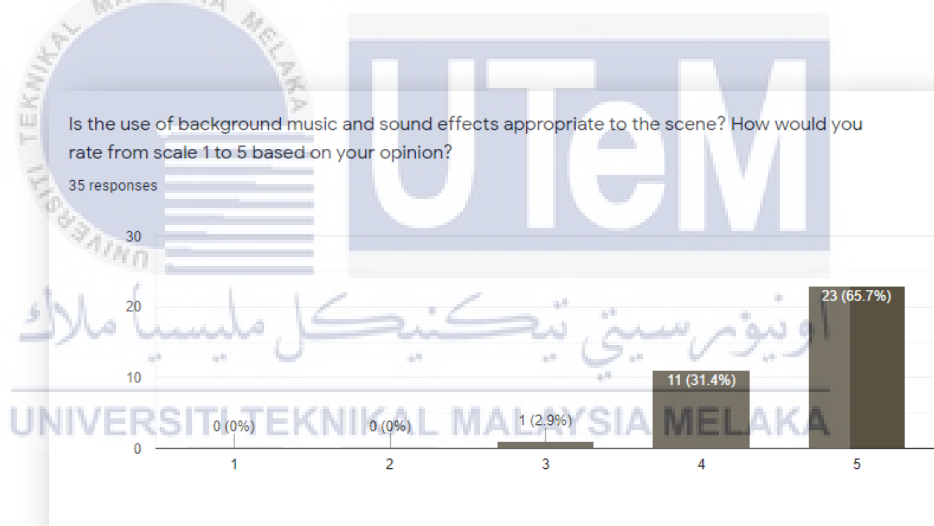


Figure 6.15 : Part C, Question 5

For Question 5, the graph shows that most of the respondents rate the background music and sound effects used in this animation 4 and 5 out of 5.

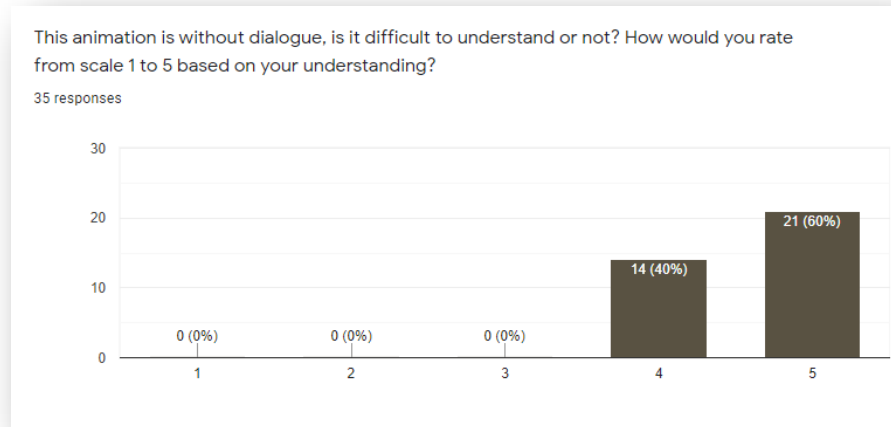


Figure 6.16 Part C, Question 6

For Question 6, the graph shows that most of the respondents rate the understanding of this animation 4 and 5 out of 5. This seems a great news since this animation is without dialogue however reached the audience's understanding.

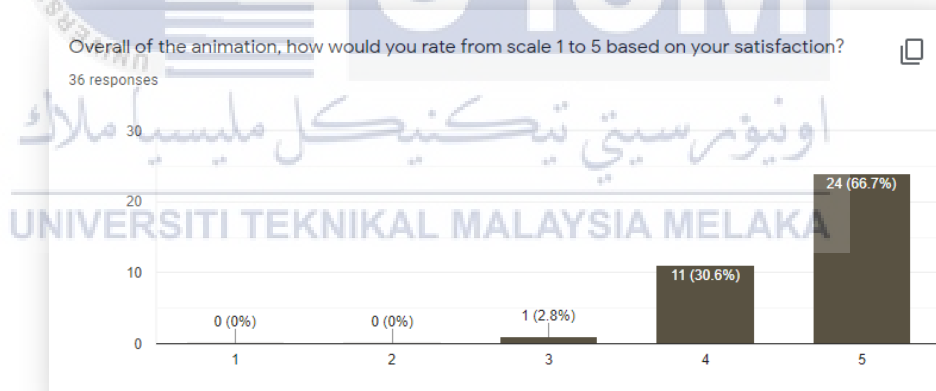


Figure 6.17 : Part C, Question 7

For Question 7, the graph shows that most of the respondents rate the overall animation based on their satisfaction 4 and 5 out of 5.

Part D: User Feedback

Do you have any comment(s) for this 2D animation short film? If YES, please state your answer.

36 responses

- No
- It is a good story and moral value
- Nice storyline
- adding voice over
- Its good.
- Maybe need to include dubbing voice for easy storyline
- Kipidap I can feel your passion
- it's very great and if you put more effort in this animation you can be a great animator
- You've done a great job , but there's always a space to be better. All the best!

Figure 6.18 : Part D, Question 1 (1)

Do you have any comment(s) for this 2D animation short film? If YES, please state your answer.

36 responses

- the message is delivered. well done but maybe you could improve on the angle and the character movements
- I like the storyline and the animation as well.
- Animasi yang sangat cantik! Disusun kemas, mudah difahami dan mempunyai mesej yang luar biasa. Semoga terus maju jaya!
- excellent.keep it up
- Good and interesting animation
- Yes
- Manteppp
- No comment it's enjoyable.

Figure 6.18 : Part D, Question 1 (2)

Do you have any comment(s) for this 2D animation short film? If YES, please state your answer.

36 responses

Nice moral values
Overall good, need finishing in term of drawing and movement. Using expression in animation is not an easy task. Somehow you manage to do it. Congrat.
Nope
Nice story
Great moral value dude
Goodjob
Good storyline
Gempakk
Good

Figure 6.18 : Part D, Question 1 (3)

Based on Part D, Question 1, it shows that many users feedback and comments written in the comment section. All the comments were from audiences which are the Beta Tester and most of them give the positive comments. However, the last comment, in the blue box, was from the lecturer, Dr Lutfi which is Alpha Tester. He gives the proper feedback and quite specific comment since he is an expert in this sector.

Do you have any opinion/suggestion(s) for this 2D animation short film? If YES, please state your answer.

36 responses

No
Nope
Make it more frame of animation
-
Make some details in graphic.
Good job bud
For now, nope
Make some shadow in your animation when they move.
We can try a smoother movement of the characters and transition.

Figure 6.19: Part D, Question 2 (1)

Do you have any opinion/suggestion(s) for this 2D animation short film? If YES, please state your answer.

36 responses

it is nicer if there are some dialogues
No.
Pendapat saya, latar yang digambarnya sangat detail, design karakternya simple dan terkesan dan muziknya sangat sesuai pada adegan2 inti. Secara keseluruhannya, animasi ini cukup sesuai direkomendasikan baik bagi yang menyukai filem animasi maupun pun tidak.
no
Not sure
Good luck
It would be good to have more illustration.
i would like if they playing other games other than mobile legends
Selection of color especially of characters can support the animation, such as color scheme, background

Figure 6.20: Part D, Question 2 (2)

Do you have any opinion/suggestion(s) for this 2D animation short film? If YES, please state your answer.

36 responses

Not sure
Good luck
It would be good to have more illustration.
I would like if they playing other games other than mobile legends
Selection of color especially of color tone can support the animation. such color to show happiness.
Make smoother animation
So far so good
Tambah unsur lawak
No comment

Figure 6.20: Part D, Question 2 (3)

For Question 2, it shows that many users opinion and suggestions written in the comment section. All the opinion and suggestion were from audiences which are the Beta Tester and most of the opinion are interesting. However, the last comment, in the blue box was from lecturer, Dr Lutfi which is Alpha Tester. His comment was quite specific about the animation development and seems also to be positive one.

6.6 Conclusion

After all the execution of the tests, the review of all the results shown turn out to be mostly successful and greatly done. So, the project has accomplished all the objectives which are to identify the 2D animation elements in delivering a positive message to the audience, to create a short 2D animation that promote motivational and moral values, and last one is to evaluate the audience's understanding on the 2D animation. The following page concludes the overall project, addresses the limitations and strengths found and proposes suggestions to enhance the product.

CHAPTER 7: PROJECT CONCLUSION

7.1 Observation on Weaknesses and Strengths

There are some weaknesses and weaknesses found in the developed product by observing and reviewing all the tests.

Based on the survey and questionnaire that have been provided, we can conclude that the character development needs to be taken more seriously done. The character development needs to be more details and lively. Furthermore, the colorization also needs to be warmer and livelier so that the animation story can be looks more happiness, since the storyline more towards happy and motivational storyline.

Besides, the animation also needs to be smoother movement of the characters and transition. This means that the animation needs to be made more details and more frames of movement. Not just frame, the graphic of the background needs to be more details and shadow can be added in the characters moving scene. Furthermore, several of the beta tester also mentioned that the animation would be better if there were some dialogues put in the animation. Unfortunately, this animation genuinely made without dialogue and just using sound effect and transition to deliver message.

Next, move to the strengths of the animation that we can conclude from these tests and questionnaire is that we can see majority of people nowadays love to watch 2D animation neither children nor teenager and adult. Based on the survey we also can conclude that the character design, colorization of the character, background, and the whole animation quite being accepted by the audiences which is alpha and beta tester. Most of them give high rate of the opinion rating and positive responses.

Thus, the project has accomplished all the objectives which are to identify the 2D animation elements in delivering a positive message to the audience, to create a short 2D animation that promote motivational and moral values, and last one is to evaluate the audience's understanding on the 2D animation.

7.2 Proposition for Improvement

There are a few suggestions that might enhance the video which is suggested by the alpha and beta tester. Based on the comment section, the first recommendation is to add voice over, that the voice of the characters. This will have dialogue and conversation in this animation which will make it more understandable.

Besides, the angle and the character movement might also be improved to make the realistic of the animation and will lead to feel the story livelier. The transition and the movement of the characters also can be made smoother which add and make more frames of the movement scene. With this, the awkwardness of the animation movement can be avoided.

Furthermore, based on the suggestion comment section, tester also mentioned that this animation would be good to have more illustration. Maybe to make more realistic of the story, the background and storyline can be made by the suitable and better place to give the illustration. For example, for storyline maybe can add the drama plot to make it more interesting.

7.3 Project Contribution

Inspiring 2D animation stories for promoting life moral values; My Way, that have been developed is one of the techniques used to identify the 2D animation elements in delivering a positive message to the audience, to create a short 2D animation that promote motivational and moral values, and last one is to evaluate the audience's understanding on the 2D animation.

Besides, by making this motivational animation stories, it also can give awareness towards audiences. The awareness mentioned is about the benefits we can get if we truly work hard for what we want even though it might seem impossible. That being said, in our basis knowledge, we know that playing games is one of the things that can distracted our performance in study.

However, in this story, we can change our perspective towards the negativity of the statement which is game is not the thing that will ruin our study life. We can perform in both of academic study and games hobby if we can hundred percent managed the time consuming in playing games and study.

7.4 Conclusion

As a conclusion, the project has fulfilled all of its goals which are already identified the 2D animation elements in delivering a positive message to the audience, successfully created a short 2D animation that promote motivational and moral values, and also the audiences, all beta and alpha testers and YouTube viewers fully understands what this 2D animation stories wants to convey.

Furthermore, creating these motivating animation stories may raise audience awareness. The indicated awareness is about the advantages we may obtain if we genuinely strive hard for what we desire, even if it appears to be unattainable. That being stated, we all know that playing video games is one of the things that might detract from our academic performance.

However, in this scenario, we may shift our perspective to the negative side of the phrase, namely, that a game will not damage our academic lives. Thus, we can excel in both academic studies and gaming if we can effectively control the time we spend playing games and studying.

REFERENCES

- 1) Nadia Stefyn, (July 16, 2019), 2D animation definition;
<https://www.cgspectrum.com/blog/what-is-2d-animation>
- 2) Tammy Coron, (January 25, 2021), Understand Disney's 12 Principles of animation;
<https://www.creativebloq.com/advice/understand-the-12-principles-of-animation>
- 3) Clip Studio Paint; <https://www.clipstudio.net/en/>
- 4) Adobe Premiere Pro CC 2020;
https://www.adobe.com/sea/products/premiere.html?sdid=YFRVGN2T&mv=search&ef_id=Cj0KCQjw8vqGBhC_ARIsADMSd1CFcnx0TcCIPh4CoT4PRf9P-bWZ0fRnn0qPXbXtTLKqTL78G2TKSHsaAu0vEALw_wcB:G:s&s_kwcid=AL1308513!478897184062!e!!g!!adobe%20premiere%20pro!183934484!12769287764&gclid=Cj0KCQjw8vqGBhC_ARIsADMSd1CFcnx0TcCIPh4CoT4PRf9P-bWZ0fRnn0qPXbXtTLKqTL78G2TKSHsaAu0vEALw_wcB
- 5) Buzzworks, 2D animation technique;
https://www.buzzworksfilms.com/2d-animation-studio-in-malaysia/?gclid=Cj0KCQjw8vqGBhC_ARIsADMSd1BqNZKaPpY5b9M26lraASRjQlJR3z2z1Cwp3NTc63fYanRiATEEp-8aAsxsEALw_wcB
- 6) Toon Boom Animation Inc., Anticipation Principle;
<https://learn.toonboom.com/modules/animation-principles/topic/anticipation-principle>
- 7) Jaspreet Singh, (November 14, 2017), Methodologies and Techniques used in Animation;
<https://www.seocorporation.net/methodologies-and-techniques-used-in-animation/#:~:text=The%20animation%20methodology%20involves%20using,maybe%20thousands%2C%20of%20special%20effects.>
- 8) Toon Boom Animation Inc., Straight ahead action and pose to pose Principle;
<https://learn.toonboom.com/modules/animation-principles/topic/straight-ahead-and-pose-to-pose-principle>

- 9) Pluralsight, (October 25, 2014), The Fundamental of Timing Animation and Spacing Animation;
<https://www.pluralsight.com/blog/film-games/character-animation-fundamentals-timing-spacing>
- 10) Dream Farm Studios, Animation Storyboard Everything You Should know (tips and tricks);
<https://dreamfarmstudios.com/blog/3d-animation-storyboard/>



APPENDIX A

Questionnaire Form



Section 1 of 5

Product Testing of Inspiring 2D Animation

Assalamualaikum and Hello!

After section 1 Continue to next section

Section 2 of 5

Part A: General

Description (optional)

Gender / Jantina *

☐ Male

☐ Female

Age / Umur *

- ☐ 18 and below
- ☐ 19 - 27
- ☐ 28 - 35
- ☐ 36 or above

Occupation / Pekerjaan *

- ☐ Student
- ☐ Lecturer
- ☐ Other...

Do you like to watch 2D animation stories? *

- ☐ Yes
- ☐ No

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What is your favourite type of animation? *

- ☐ Flipbook
- ☐ Stop motion
- ☐ Hand drawn
- ☐ 2D animation (anime)
- ☐ 3D animation

What styles of animation do you like? *

- ☐ Colorful
- ☐ Detailed drawings
- ☐ Clay
- ☐ Illusions



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What kind of genre do you like? *

- ☐ Motivational
- ☐ Drama
- ☐ Action
- ☐ Sci-fi
- ☐ Comedy

After section 2 Continue to next section ▼

Section 3 of 5

Part B: Content Development

This part will ask about your feedback of the content development based on your knowledge and experience

On a scale of 1 to 5, how would you rate the character design? *

1 2 3 4 5

Terrible Very good

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On a scale of 1 to 5, how would you rate the colorization of the character, background, and whole 2D animation? *

	1	2	3	4	5	
Terrible	☐	☐	☐	☐	☐	Very good

On a scale of 1 to 5, how would you rate the storyline? *

	1	2	3	4	5	
Terrible	☐	☐	☐	☐	☐	Very good

After section 3 Continue to next section

Section 4 of 5

Part C: User Experience

This part will ask about your feedback of watching the whole 2D animation short film.

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What is your first impression in the beginning of the story? (Starting scene) *

- ☐ Good flow and transitions
- ☐ Not bad
- ☐ Terrible flow and transitions

Do you understand the storyline? *

- ☐ Yes of course
- ☐ Not really

Do you get the message (moral value) that this animation want to convey? *

- ☐ Yes of course
- ☐ Not really

Is the duration of the animation is just nice or too long? (Duration of the story: 3.33 minutes)

- ☐ Yes, the duration of the story is just nice.
- ☐ No, the duration of the story is too long.

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Is the use of background music and sound effects appropriate to the scene? How would you rate from scale 1 to 5 based on your opinion?

	1	2	3	4	5	
Terrible selection	☐	☐	☐	☐	☐	Very good selection

This animation is without dialogue, is it difficult to understand or not? How would you rate from scale 1 to 5 based on your understanding?

	1	2	3	4	5	
Hard to understand	☐	☐	☐	☐	☐	Very easy to understand

Overall of the animation, how would you rate from scale 1 to 5 based on your satisfaction? *

	1	2	3	4	5	
Terrible animation	☐	☐	☐	☐	☐	Very good animation

After section 4 Continue to next section

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Section 5 of 5

Part D: User Feedback



This part will ask about your comment towards the 2D animation based on your own opinion and basic



Do you have any comment(s) for this 2D animation short film? If YES, please state your answer. *

Long answer text

Do you have any opinion/suggestion(s) for this 2D animation short film? If YES, please state your answer. *

Long answer text

How likely you recommend this 2D animation short film to your friends? *

- ☐ Highly recommend them to watch
- ☐ Recommend them to watch
- ☐ Will not recommend them

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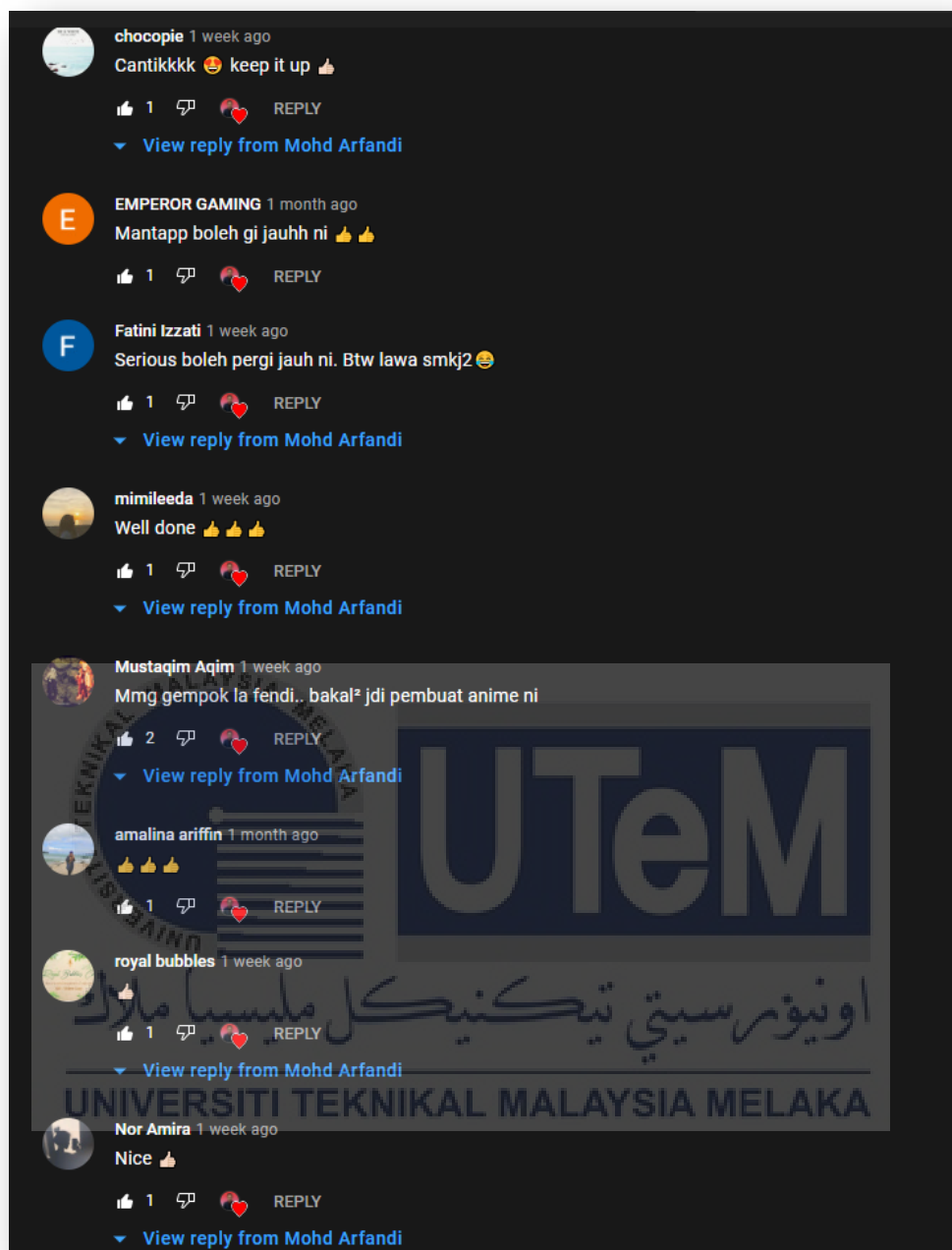
APPENDIX B

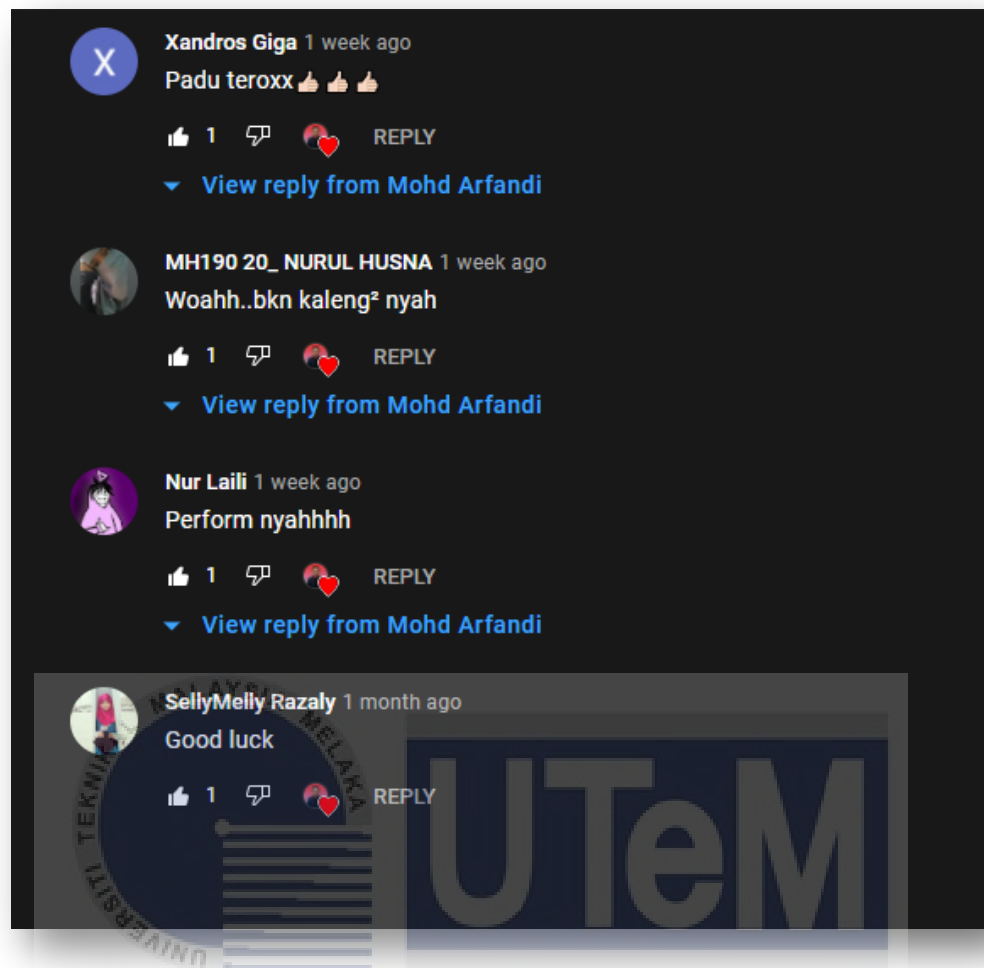
2D ANIMATED PUBLICATION ON YOUTUBE



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