

PERJUANGAN TOK JANGGUT USING 2D ANIMATION

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This report is submitted in partial fulfilment 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

PERJUANGAN TOK JANGGUT USING 2D ANIMATION

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

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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
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(ASSOC. PROF. DR MOHD HAFIZ BIN ZAKARIA)

DEDICATION

This final project is entirely dedicated to my loving parents, who have been my source of inspiration, given me strength when I was about to give up, and provided support and assistance whenever and wherever I needed it. In addition, I'd like to thank my supervisor, Prof Dr Hafiz bin Zakaria, for his unending support and guidance as this final project progresses. Dr Ulka Chandini Pedit, my evaluator, for her comments and guidance on this final year assignment. Finally, I'd want to thank all of my dear friends who were always willing to lend a helping hand and provide words of advice and support as I worked on my final year project.



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ABSTRACT

The created project is related to 2D (2-Dimensional) animation. This animation project is the creation of a short storey about a leader named Perjuangan Tok Janggut. His full name is Haji Mat Hassan bin Munas, and he is a community warrior. The use of 2D animation as a learning tool in history is an innovative way to create an atmosphere that can capture students' attention. An animation can represent an idea, item, connection, scenario, or learning process. This approach offers several advantages in the learning process. Students can benefit from an easier learning experience when they use animation. Many students who study history have boring classes since there are so many facts that they must comprehend. Students may learn about the history of this Perjuangan Tok Janggut in a more fascinating and understandable way by using 2D animation. This animated video can help students learn more effectively about the history of this Perjuangan Tok Janggut.



ABSTRAK

Projek yang dibangunkan adalah berkaitan dengan animasi 2D (2-Dimensi). Projek animasi ini melibatkan penghasilan cerita pendek berunsurkan Perjuangan seorang pemimpin yang bernama Tok Janggut atau nama penuhnya Haji Mat Hassan bin Munas, seorang pejuang dalam kalangan masyarakat tempatan. Pelaksanaan animasi 2d sebagai alat pengajaran dalam mempelajari sejarah memangnya merupakan inovasi untuk mewujudkan persekitaran yang dapat meningkatkan minat pelajar. Animasi mampu memvisualisasikan sebuah konsep, objek, hubungan, keadaan dan proses pembelajaran. Kaedah ini banyak memberi maanfat dalam proses pembelajaran. Belajar menggunakan animasi dapat memberikan pengalaman belajar dengan mudah kepada pelajar. Ramai pelajar berpendapat bahawa pelajaran sejarah adalah pelajaran yang membosankan kerana fakta yang banyak dan peristiwa yang perlu pelajar fahami. Melalui animasi 2d sejarah Perjuangan Tok Janggut ini dapat disampaikan dengan lebih menarik dan mudah untuk difahami oleh pelajar. Video animasi ini dapat membantu pelajar dalam memahami sejarah perjuangan tok janggut ini dengan lebih efektif.

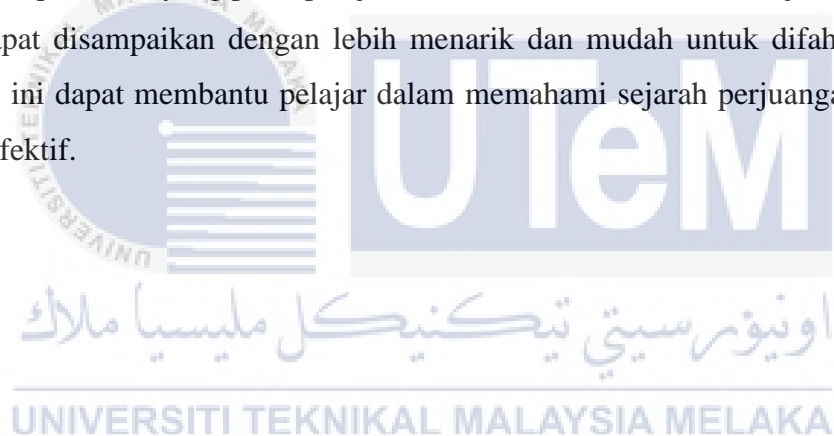


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CHAPTER 1: INTRODUCTION

1.1 Introduction

The demand for jobs in the twenty-first century would be based on quality rather than quantity. As a result, society does not ignore the government's efforts to develop these high-quality human capitals. The education sector is one of the key pillars of understanding this situation to generate quality manpower. Various types of rewards, such as research, efforts, and initiatives, are used to review the country's educational system so that it is in line with our country's atmosphere in terms of providing better human resources, as well as improvements and technological advances that are more advanced today.

Our technology is changing now, and the effects of modernization are said to be changing our world faster than we can expect, not least in the field of education, which is changing along with it. Education in Malaysia is rapidly expanding because of the information technology revolution, and it is getting closer to the national target of Vision 2020. In this regard, the advancement of information technology has now become one of the main drivers behind the paradigm shift toward developing Science and Technology in order to create human resources and a capable society that is successful in the field of technology in keeping with the State's mission and vision (Norjihan, 2005).

Various reforms were implemented to improve the standard and quantity of schooling. Malaysian education is constantly going to improve and grow the capacity of its human capital to be better. As a result, to raise Education quality requires a range of advancements in curriculum growth, learning technology, and the creation of educational facilities and infrastructure.

Planning the lesson is an important move that can decide whether a learning process succeeds or fails later. It is necessary to pay attention to two important elements of learning while preparing learning, namely learning approaches, and learning media that would be used to support students' awareness of the subject matter. The two things are related. The use of one learning method can influence the form of teaching medium used in conjunction with the chosen learning method.

Multimedia are various stimulants and resources that are used to increase students' ability to learn. The choice of learning media is not only based on the learning process, but also on the goals of teaching, the styles of activities and answers that are required to be learned by students after teaching takes place. The use of appropriate media is intended to stimulate students' emotions, feelings, attention, and desires, allowing the learning process to function smoothly, accurately, efficiently, and pleasantly, and to achieve the desired learning objectives.

1.2 Problem statement

According to my knowledge as a teacher who teaches Form 1 and Form 2 History subjects, the average student said that he had difficulty remembering facts in History subjects because there were too many facts to recall. This allows students to lose interest in the topic of history because it is boring, difficult to understand, and has nothing to do with their lives directly, resulting in passive teaching and learning of history. (Rohani, 2012). History is a required subject for all students in the secondary level. History is not new to our society and our country has its own history. The cultural aspects that have been introduced into the subject of History are intended to help students understand the significance of history.

Students regard the learning material in the History subject as historical since it includes historical facts or accidents. Furthermore, students find the history of the Malaysian Proclamation Incident tough, despite having previously researched it. History is a boring matter, according to the students since it only includes theoretical sentences with a few supporting pictures or explanations. The teacher who taught these subjects confirmed that students find it impossible to pursue the history learning method because they were too slow to read the ideas and events of their history textbooks.

The methods of learning used in history are consistent. Teachers' presentations, student memorization of content, and focusing on questions from student handbooks are all common learning practises in history classes. Students claimed that they were too tired to remember events, days, events that happened, and the characters involved. There are so many ideas and materials to memorise and recall, which decreases their participation in History classes. The next effect faced by students because of their poor reading interest in the subject being learned

is difficulty in creating summaries, small notes, and mind maps. Even though literacy is one of the most important aspects of history lessons.

Moreover, differences in student learning patterns mean that not all students can learn only by writing to memorise. In the fact that there are numerous learning methods teachers, history learning remains one of the most common. The learning approach is critical such that the learning experience is enjoyable and does not overwork the students, and students can immediately understand. "I will see and emphasize to teachers to teach this subject more interestingly especially for the millennial generation by diversifying digital education,"(Maznah, 2019)

Learning was limited using learning materials, tools, and media. Students' learning opportunities are limited to printed books and the knowledge of their teachers. When their research opportunities run out, they turn to the internet for more knowledge on the subject they've read. Learning media and materials used in History education are still in short supply. Other types of supportive media are rarely used by teachers. This situation is rather unfavourable because it would result in students becoming frustrated and bored, making the learning experience futile and unappealing for students who simply read books. In particular, learning by reading text only produces 10% memory retention, while learning by seeing and hearing produces approximately 50% retention, suggesting that learning that requires many senses would be able to increase the efficacy of human learning (Kustiono, 2010: 13). As a result, learning that requires several senses exhibited by humans will help understanding of the information being learned.

Audio, film, video, animation, illustration, simulation, and digital technology are all examples of media that can be used in education. Similarly, learning media is needed to promote history learning. Students should be able to learn about the events surrounding Malaysia's independence more quickly and enjoyably if they use learning animation. The instructional animation is a type of audio-visual media that is superior to other forms of animation because it combines audio and visual media. Furthermore, the benefit of video animation is that it can be used by teachers and students at any time and from any place. Video animation can be used repeatedly digitally and for a long time in the learning process if the quality of the animation is still important to the information being loaded.

1.3 Objective

There is the following objective of “Perjuangan Tok Janggut” using 2D animation are:

- i. To study how 2D animation is used to tech history subject at schools.
- ii. To develop a local 2D animation to tech history based on SMK Form 3 syllabus.
- iii. To evaluate the acceptance of the 2D animation.

1.4 Scope

This scope will explain the user who will be engaged in this system and the function that will be involved in this system. The main scopes of the system:

Target User: Student form 3

1.5 Project Significance

The following is the projected outcome of the proposed project development at the end of the project:

- i. The user will be able to recall information regarding history more easily.
- ii. The results of this research and development of students can increase student’s interest and motivation to learn about history subject.

1.6 Conclusion

In the existence of this application and an ever use of technology, it is hoped that this initiative will assist student in learning and gaining skills. I hope that this 2D animation will assist students in learning about history of Malaysian and in raising awareness of History of Malaysian for future generations.

CHAPTER 2: LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

This chapter discusses earlier or related work in 2D animation for "Perjuangan Tok Janggut." The process of reading, assessing, and analysing the extant literature relevant to the specified topic of a project in order to present a need for new research is referred to as a literature review. Research was conducted for this project literature review in order to comprehend and gain an overview of the existing project and associated technologies.

2.2 Domain



Figure 2.1 Animation

i. Animation

The term "animation" comes from the Latin word Anima, which meaning "to give soul, life, intellect, and spirit." The term "animation" refers to a type of display that mixes text, pictures, and sound in a moving process (Munir, 2013). Animation is a technique for creating audio and visual works that rely on time and visuals.

Stop-motion animation, traditional animation, digital animation, 2D animation, and 3D animation are the different forms of animation depending on the production technique.

To begin, stop-motion animation (stop motion) is a technique used to produce objects that are physically controlled to appear to move on their own. Second, classical animation is the most used method for creating animation. Traditional animation is created by drawing each action one by one.

Third, computer animation, which is performed entirely on a computer. All is performed on the screen, from designing the characters to controlling the action of the "actor" and the camera, casting the votes, and creating the special effects. Fourth, 2D animation (2 Dimensions) is often referred to as cartoon animations, where the object being animated has a length and width. Fifth, 3D animation (3 Dimensions), which has benefited from technical and computer advancements in its production. The object is called three dimensional since it has depth and space.

The benefit of animation media is that it combines many media components such as audio, text, video, images, graphics, and sound that can be presented together to match student learning modalities.

“Animation is used for everything online (advertising, entertainment), even if you don't realize it initially,” says Scott Claus, 2D Animation Mentor at CG Spectrum.

ii. History

A historical analysis of human life and history. The next generation will quantify the causes and effects of an accident using stories or pictures from the past (Kompas.com, 2019). History lessons are social sciences that require reading habits and an interest in history. History topics have a strategic significance in the development of a dignified nation's character and culture, as well as in the formation of Malaysians who have a sense of nationalism and love of homeland. One of the goals of implementing history education is to instil a sense of patriotism in pupils. It is hoped that by acknowledging and explaining past struggles, one can have a better understanding of the significance of past struggles.

According to Wasino (2005: 5), the goals of learning history in schools include, among other things, students gaining the ability to think historically and understand history,

raising awareness of the importance of time as a process of the past, present, and future, and training learners' critical thinking skills to correctly understand historical facts based on scientific approaches and scientific methods (history). The goal of studying History is for students to be able to think historically in order to appreciate History, to raise awareness of the importance of time as a continuum of the past, present, and future, to train learners' critical thinking skills in order to accurately understand the reality of History, and to foster an interest and appreciation of the relics of History as proof of civilisation. One of the goals of implementing History learning is to create a sense of patriotism in pupils. It is hoped that by knowing and explaining past challenges, we will be able to develop an appreciation of the significance of resistance in the past. Capability to understand In today's classrooms, students are expected to not only understand the content, but also to interpret, reason, and recreate it.



Figure 2.2 Tok Janggut

iii. Tok Janggut

During the Kelantan insurrection, Haji Hassan bin Munas (1853–25 June 1915) was a Malay fighter in Kelantan, Malaysia. He battled alongside the fearsome warrior Adib Burhan. Tok Janggut ('old man with a beard' in Malay) was the moniker given to Haji Mohd Hassan Bin Munas due of his lengthy beard that extended almost to his chest. Tok Janggut was born in 1853 in Kampung Jeram, Pasir Puteh, Kelantan. He obtained his early schooling (pendidikan pondok) in Kelantan and Mecca and was a master of silat, a Malaysian martial art. Panglima Munas, his father, was a commander in the Kelantan palace.

2.3 Existing System

Related products relate to a previously existing and utilised system. This is an example of a system:

Buku Sejarah Tingkatan 3 – Textbook



Figure 2.3 Textbook Sejarah Form 3

Textbooks are the most important resource in the teaching and learning process where teachers apply effective teaching techniques to achieve learning objectives in the classroom. "A book that contains detailed information about a subject for those who are studying that subject," according to the Cambridge International Dictionary of English. Textbooks, according to Dent (1955), are crucial learning instruments that are difficult to replace with other materials. In a press statement, Dr. Mohd Puad (2009) stated that school textbooks are created utilising diverse pedagogical approaches of teaching and learning to accomplish the goals of the National Education Philosophy, which is to holistically and integratedly shape individual capabilities.

Kahoot – Game Based Learning



Figure 2.4 Kahoot

Conventional testing tools that use pen and paper have long been practiced to test students' understanding and measurement of a subject. According to Ramlah, Shahabuddin and Mahani (2003), the use of conventional testing tools that help students think critically and students are too passive compilation of questions. Furthermore, students will use a long time to read questions that are too long for the time to answer all the questions becomes short time which requires students Due to that, students are unable to give focus and attention to the questions and will fail to answer the questions correctly (Azalina, 2013). According to a study conducted by Deterding (2011), one of the acceptable ways utilised by teachers as a testing tool in the twenty-first century is game-based learning. The Kahoot app, which includes game characteristics like as scoring, incentives, and interactions, promotes more active and enjoyable learning. The use of a combination of multimedia elements available in the Kahoot application enables cognitive theory-based learning to be deployed and broadened its use in History teaching and learning. This is due to the fact that students can pick between two types of quizzes on the Kahoot app: Classic mode (individual competition) and Team mode (group competition) (competition between teams). Each accurate response will be assigned a score, and the score and best player will be displayed at the end of the game. As a result, this study was carried out to investigate the impact of employing the Kahoot application as one of the methods for measuring student achievement in the subject of History.

Sejarah Tingkatan 1 - 2D Animation



Figure 2.5 2D animation (Youtube)

This project 2D animation about history of nomad are produced for people to learn and know about history of nomad. This animation can be found on YouTube. In the world of education, animation plays an important role as an attraction of students to learn and can help teachers to motivate students towards more enjoyable learning (Jamalludin & Zaidatun, 2003).

2.3.1 Comparison Application

Existing System	Digital buku teks Sejarah tingkatan 3	Kahoot – Game based learning	Sejarah tingkatan 1 – 2D Animation
Target User	All range	All range	All range
Platform	Textbook	Games	2D Animation
Software			Adobe Animate
Language	Malay	English, Spanish, French, Norwegian, Portuguese,	Malay

		Dutch, Italian	
Price	Free	Free	Free
User interface	No	Yes	No
Ease of use	Yes	Yes	Yes
Audio	None	Yes	Yes
Related Technology	E-book	Gaming	Animation
Strength	<p>-Features pictures, graphs, maps, and illustrative materials that facilitate student understanding. -It does not burden parents to buy textbooks because they are given for free by the government.</p>	<p>-Give more understanding to students</p> <p>-Student do not feel being tested and stressed</p> <p>-Student are also free to interact and make the teaching and learning process in an active state</p>	<p>- Simple and simple to control</p> <p>-users can pause, play, and rewind the course modules.</p> <p>-Narration, accompanying audio effects, and relaxing music</p>

Weakness	-Need to read -Static -Does not create an interesting learning atmosphere	-Require internet connection	-not according to the textbook syllabus
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Table 2.1 Comparison Application

2.4 Project Methodology

Agile

Before the production process begins, careful planning is required to ensure that "Perjuangan Tok Janggut" in 2D animation delivers good results. The agile method is a combination of iterative and incremental process models that emphasises process flexibility and customer satisfaction by delivering a functioning software solution quickly. Agile methods break a product down into small incremental builds. There are iterations of these builds available. Each round typically lasts one to three weeks. Every iteration comprises cross-functional teams working on several projects at once.

2.4.1 Instructional Design

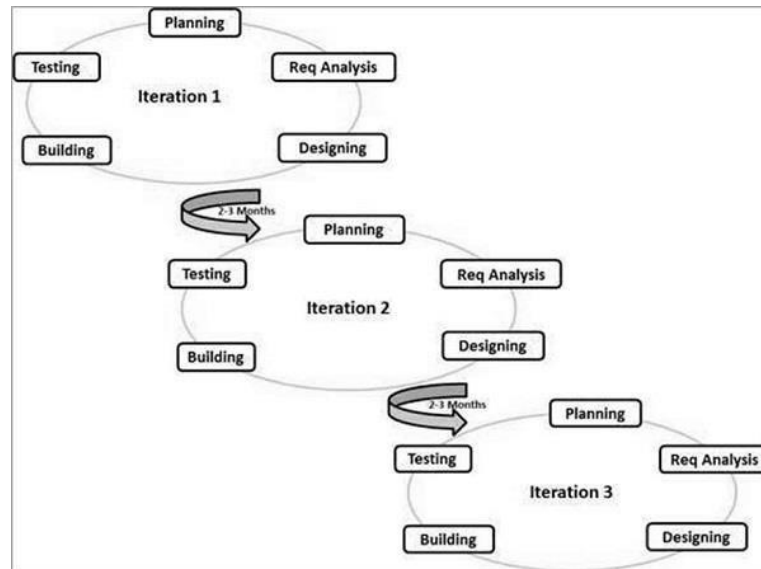


Figure 2.6 Agile methodology

2.5 Project Requirements

2.5.1 Software Requirement

Adobe Animate, Adobe After Effects, Adobe Photoshop, Adobe Illustrator, Adobe Premiere, and Audacity are the tools used to create "Perjuangan Tok Janggut" in 2D animation. The builder uses this programme as a tool to aid in the production of high-quality and effective 2D animation. Software that is suited for software development is critical because software is a comprehensive instruction that controls the functioning of a physical device, and each software application has distinct applications for its functionality.

No	Software	Usage
1.	Adobe Animate	-Design vector graphics and animation -Sketch and draw more expressive characters

2.	Adobe Photoshop	- Used to create the animation's backdrop and layout.
3.	Adobe Illustrator	-To design interface, model, poster, and logo application
4.	Microsoft Word 2020	-Used to make the documentation and proposal
5.	Adobe Premiere	-compile all scene
6	Audacity	-Used to edit voice over and narration

Table 2.2 Software requirement

2.5.2 Hardware Requirement

Hardware is made up of physically controllable components. To avoid technological issues throughout the software development process, hardware should be chosen carefully. The hardware required by the developer to make Perjuagan Tok Janggut in 2D animation is listed below as a minimum.

No	Hardware	Usage
1.	ASUS VivoBook	(Operating system: Windows 10) (Processor: AMD Ryzen 5 3500U) (Memory: 12GB RAM)
2.	Wacom tablet	To editing or touch up image
3.	External Hard Disk	To backup all project data

Table 2.3 Hardware requirement

2.6 Conclusion

This chapter provides an overview of the system's idea. A literature review is necessary to assist the developer in identifying problems from prior systems that may be improved or as a guideline for the flow of the new system. In this chapter, it is also necessary to compare some of the same projects or applications developed by others. Furthermore, it aids the developer's knowledge of the system and the approaches selected.



CHAPTER 3: ANALYSIS

3.1 Introduction

The analysis stage is critical in the majority of extant methods. Essentially, inquiry necessitates an examination of the problem in terms of the investigation methodologies employed, as well as the research objectives, qualities, and conveyance level. This part will go through the problem and the investigation required for the assignment. The phase of logical thought is the road to comprehending challenges and describing comparisons. A move toward determining how to blur the lines. The requirement evaluation includes functional, non-functional, and additional needs. Specifications many of the criteria that will be covered in the development phase, as well as their comprehensive applications, will be described. Hardware and software requirements are critical in the development of the system. Without precisely outlining the requirements, the system will have a difficulty and will not work correctly in the actual environment.

3.1.1 Current Scenario Analysis

the current scenario of the Tok Janggut in the previous chapter is different. The division of this data is intended to make it easier for the researcher to analyse the data and, in the end, to give the reader a simple and straightforward of the study's material.

3.1.1.1 Comparing Existing Animation

There are a few applications that have comparative capacity with history subject with 2D Animation. The following is the flowchart for existing framework.

Buku teks Sejarah tingkatan 3 – Textbook

Textbooks are the main reference in the process of learning and teaching in the classroom. The certified textbooks have passed all forms of censorship, especially their alignment with the national syllabus and philosophy of education.

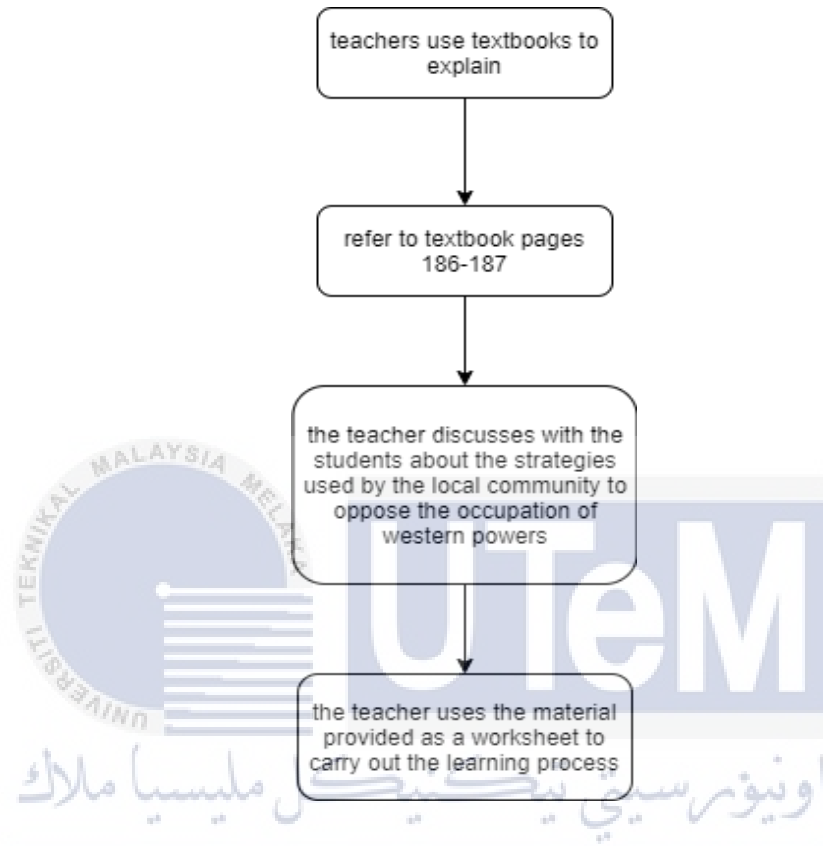


Figure 3.1 Flowchart about process of learning and teaching in classroom

Kahoot – Game-based learning

The scenario is an intuitive game for students, this history quiz app consists primarily of school-related history questions. A history lesson is a class that covers the history of Malaysia as well as the history of the world. To make learning history more fun and dynamic, this programme presents historical information to users in the form of multiple-choice quiz questions.

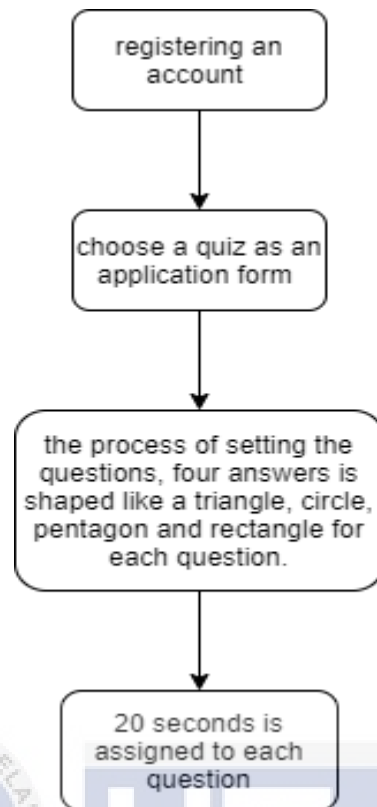


Figure 3.2 Process flow diagram of the game

Sejarah tingkatan 1 – 2D Animation

A more vibrant and realistic 2D animation can better capture a person's emotions than photos or other static media. For example, when delivering a message on the risks of war, an animation display portraying the suffering of war victims can readily touch the audience's emotions, tempt their souls, and so on. This can more easily and quickly affect a person's mentality in an indirect way.

3.2 Requirement analysis

Requirement analysis is the way toward characterizing the desires that led dependent on the necessities of the undertaking to be created.

3.2.1 Project Requirement

The project requirements investigate the system to be created. It will specify the activities, processes, or other requirements that must be met by the project. It will be assessed based on the requirements obtained as well as the fundamental approach of the project. The criteria for this project will include a clear knowledge of the activities that must be completed.

3.2.1.1 Requirement Gathering

Gathering requirements is frequently the most crucial action to be done in conveyance and data arrangement. There are two kinds of requirements gathering: qualitative requirements and quantitative requirements. Subjective evaluations use words or relative qualities to describe risk, expenditure, and impact. A quality assessment is required when there is inadequate time, resources, or data to undertake a quantitative review. During an interview, qualitative evaluation is used in the majority of situations. Maahad Muhammadi Pasir Pekan, the history teacher, will be questioned. During requirement collecting, the project timeframe, plot, script, characters, and raw data for design will all be discussed. The specific approaches used in the development of this project are also examined. The findings of the study will aid in the creation of the animation.

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3.2.2 Software Requirement

Unity, Adobe Photoshop, and Adobe Illustrator are the principal foundation of building application for this undertaking.

No	Software	Usage
1.	Adobe Animate	-Design vector graphics and animation -Sketch and draw more expressive characters

2.	Adobe Photoshop	- Used to create the animation's backdrop and layout.
3.	Adobe Illustrator	-To design interface, model, poster, and logo application
4.	Microsoft Word 2020	-Used to make the documentation and proposal
5.	Adobe Premiere	-compile all scene
6	Audacity	-Used to edit voice over and narration

Table 3.1 Software requirement

3.2.3 Hardware Requirement

Hardware is crucial in the creation of the application. It will be used in conjunction with the software. Which hardware is used is determined by the programme? If the hardware can handle the software requirements, it will be picked. The hardware is important since it will act as the project's platform, and its functionality will affect how quickly it can be finished. The hardware, along with its specifications and functionalities, is detailed below.

No	Hardware	Usage
1	ASUS VivoBook	(Operating system: Windows 10) (Processor: AMD Ryzen 5 3500U) (Memory: 12GB RAM)
2	Wacom tablet	To editing or touch up image
3	External Hard Disk	To backup all project data

Table 3.2 Hardware requirement

3.3 Project Schedule and Milestones

This section will go through the venture's timeline and accomplishments. The work is performed over the course of one semester, which lasts fourteen (14) weeks. The project's timetable and completion are important, and they must be properly planned to assure the job's success. The timeline and milestones for this project are indicated in the table below.

Activity Description	Duration (Working days only)	Start Date	End Date
1. Brainstorming	7 days	29/1/21	14/1/21
1.1 Select project title	4 days	29/1/21	1/2/21
1.2 Find the information related the title	3 days	2/1/21	4/2/21
2. Proposal	13 days	5/2/21	17/2/21
3. Project Preparation	13 days	18/2/21	2/3/21
3.1 Install the needed software	4 days	18/2/21	21/2/21
3.2 Learn how to use the software	9 days	22/2/21	2/3/21
3.1. Analysis	14 days	3/3/21	16/3/21
3.1.1 Describe project background	2 days	3/3/21	4/3/21
3.1.2 Identify target user	1 days	5/3/21	5/3/21
3.1.3 Identify project significance	1 days	6/3/21	6/3/21
3.1.4 Define literature review	5 days	7/3/21	11/3/21
3.1.5 Identify project methodology	2 days	12/3/21	13/3/21
3.1.6 Analysis project requirement	2 days	14/3/21	15/3/21
3.1.7 Review project plan	1 days	16/3/21	16/3/21

4. Development	77 days	17/3/21	1/6/21
4.1 Design 2D object	15 days	17/3/21	31/3/21
4.2 Modelling 2D object	15 days	1/4/21	15/4/21
4.3 Develop scene	15 days	16/4/21	30/4/21
4.4 Integrate object into Animate	16 days	1/5/21	16/5/21
4.5 Develop user interaction	16 days	17/5/21	1/6/21
5. Testing	7 days	2/6/21	8/6/21
6. Development	7 days	9/6/21	15/6/21
6.1 Edit scenes	4 days	9/6/21	12/6/21
6.2 Improve the interface	3 days	13/6/21	15/6/21
PSM 2			
7. Development	28 days	16/6/21	13/7/21
8. Implementation	21 days	14/7/21	4/8/21
9. Testing	21 days	5/8/21	25/8/21
9.1 Testing	11 days	5/8/21	15/8/21
9.2 Evaluate	5 days	16/8/21	20/8/21
9.3 Publish	5 days	21/8/21	25/8/21
10. Documentation	14 days	26/8/21	8/9/21
11. Final Preparation	21 days	9/9/21	29/9/21

11.1 Make correction of project report	16 days	9/9/21	24/9/21
11.2 Submit project report	1 days	25/9/21	25/9/21
11.3 Present final project	1 days	26/9/21	26/9/21
11.4 Finalize project report	1 days	27/9/21	27/9/21
11.5 Submit final project report	1 days	28/9/21	28/9/21
11.6 Project Complete	1 days	29/9/21	29/9/21

Table 3.3 Project Schedule and Milestones

3.4 Conclusion

This chapter covers the research, which is organised into four components and attempts to collect data about 2D animation via a survey. This research investigated the issues, solutions, and improvements. The researcher expects that this medium will be effectively adopted, resulting in a society that is not just technologically literate, but also historically literate.



CHAPTER 4: DESIGN

4.1 Introduction

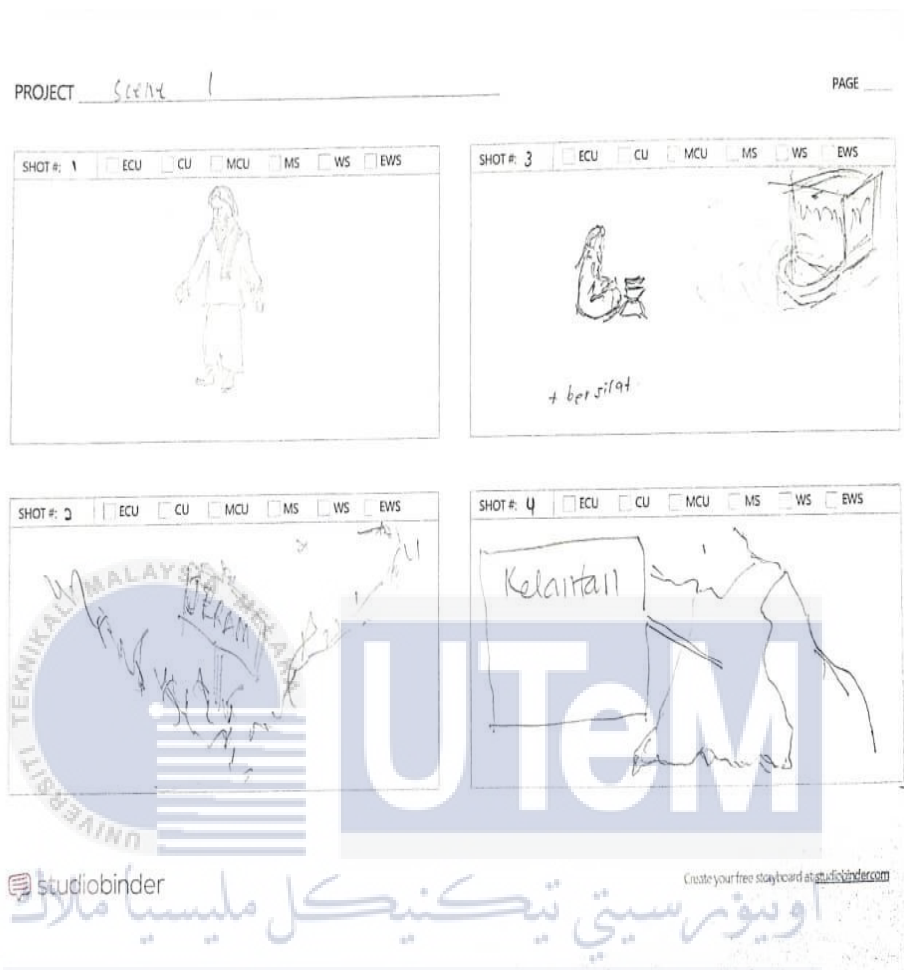
This chapter elaborates on the findings of the preceding chapter's review. The design stage includes several progressions for learning objectives, evaluation devices, planning, and workouts. During the design stage, the developer will design and arrange the functionality. It is founded on the project's concept and ideas. By sketching the idea, structure, and design, the developer will have a basic framework for what to include in the expanded interface. The approach of this design application will be discussed in further detail in the following chapter.

4.2 Scene Sequence Diagram

Tok Janggut, or Haji Mat Hassan bin Munas, as his full name was, was a warrior who did not become a stranger to the local population. Tok Janggut's battle in Kelantan is also known as "Kebangkitan Pasir Puteh, 1915." His battle is not an isolated and personal one, but this movement is backed by a number of other local leaders, including Engku Besar Jeram Tuan Ahmad, Penghulu Adam, Haji Said, Panglima Ishak, Tok Laboh, Pak Nik Abas, Tok Husin, and Tok Deraman, as well as at least two thousand individuals. This conflict may be considered to have begun on April 29, 1915, when Sergeant Che Wan (sent by the Colonial Officer, Mr. Latif) was stabbed in an altercation by Tok Janggut. Tok Janggut and his men marched from Kampung Tok Akib to Pasir Puteh in the evening of the same day in order to control Pasir Puteh and reinforce the temporary administration there. The British government then dispatched a squad to apprehend Tok Janggut and his supporters. The nearly month-long conflict concluded on May 24, 1915, when Tok Janggut was killed.

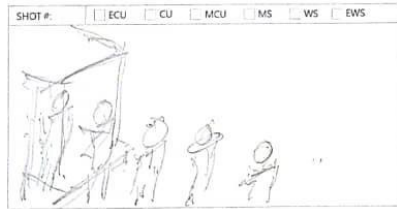
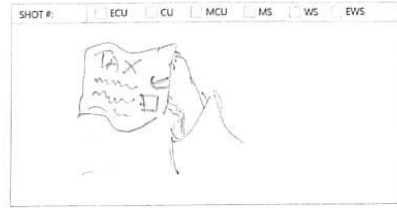
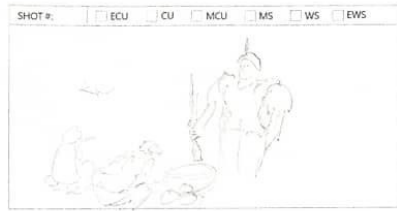
4.3 Preliminary Design

4.3.1 Storyboard Design



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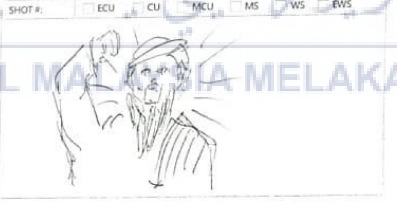


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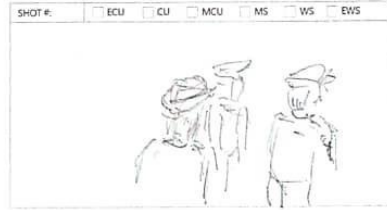
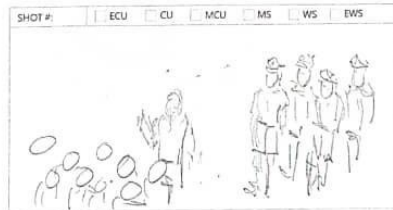
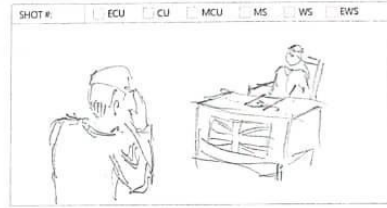
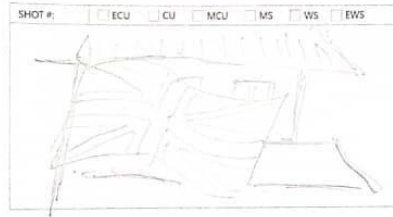


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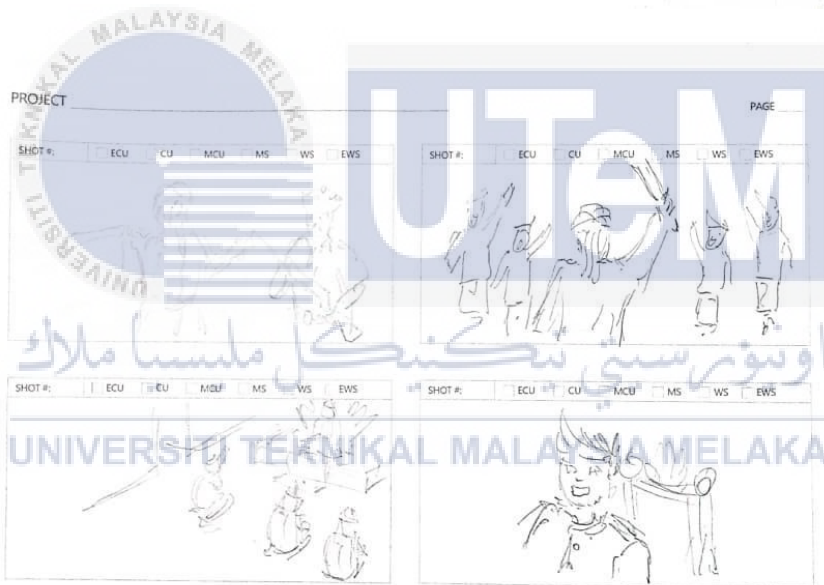
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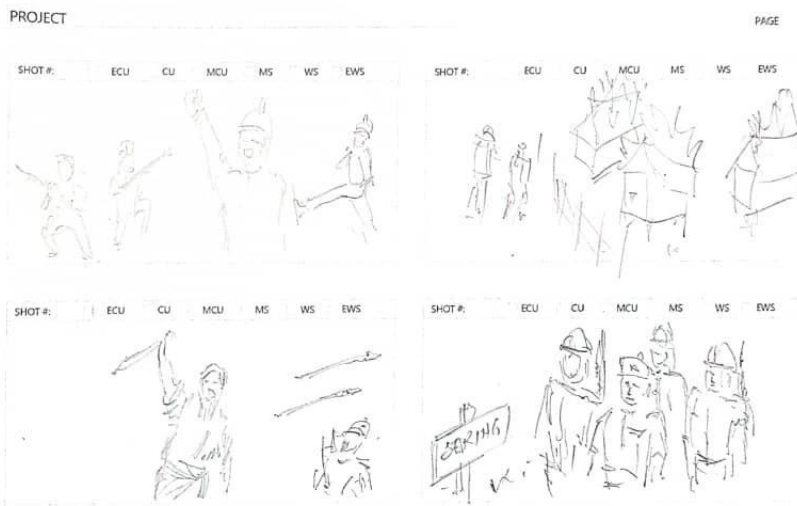
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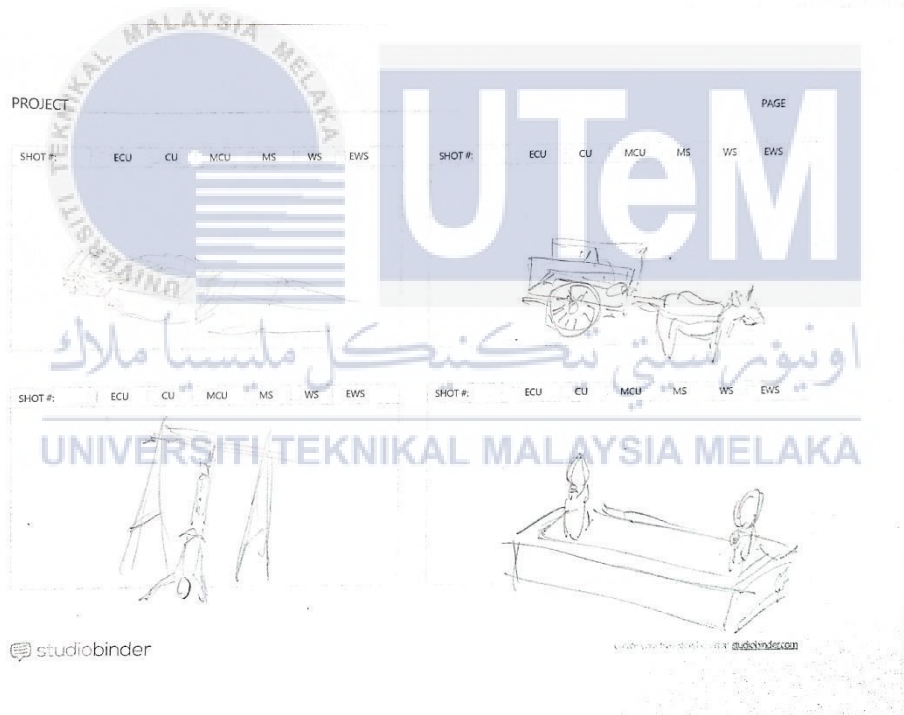
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Table 4.1 Storyboard design

4.3.2 Script

Scene	Video	Skrip
1	Tok janggut,	Narrator: Haji Hassan bin Panglima Mat Munas yang lebih dikenali sebagai tok janggut kerana memelihara janggut sampai ke parasa dada, beliau dilahirkan pada tahun 1853 di kampung jeram pasir puteh di Kelantan, beliau seorang penentang penjajahan British berkenaan cukai oleh pihak British. Beliau juga seorang tokoh agama islam yang menarik banyak sokongan pengikut di Kelantan, Tok Janggut mendapat Pendidikan di mekah.
2	Kedudukan negeri Kelantan dalam peta	Narrator: Pada tahun 1915 tanah melayu juga dikenali sebagai Malaya merupakan tanah jajahan British, negeri Kelantan juga tidak terkucuali daripada dijajah British
3	Pegawai British berjumpa orang kampung untuk meminta cukai	Pegawai: kamu semua mesti membayar cukai, sekiranya kamu gagal mematuhi arahan ini kamu akan diambil tindakan yang tegas
4	Penduduk sedang memegang cukai	Narrator: cukai kepala \$1.00 setahun, pokok buah-buahan 12 1/2 sen sepokok, pokok kelapa 3 sen sepokok, sirih 5 sen sejung, kerbau dan lembu 20 sen seekor, anjing dan babi 50 sen seekor, pokok kayu keras seperti tembusu, medang dan lain-lain yang boleh dijadikan bahan binaan rumah \$1.00 sepokok, hasil tanah 60 sen seekor.

5	Penduduk kampung sedang beratur di hadapan pejabat daerah	Narrator: Pungutan cukai dijalankan di Pejabat Daerah Pasir Putih
---	---	--

	Tok janggut sedang beratur diantara penduduk kampung	Orang kampung 1: aku dengar hanya seorang pegawai yang bertugas untuk memunggut cukai Orang kampung 2: sudah tiga hari aku disini tok keadaanya masih sama Tok Janggut: pihak British memang suka menyusahkan kita
6	Orang kampung beredar dari pejabat daerah	Narrator: seminggu kemudian orang kampung telah beredar dari pejabat daerah kerana hampa dengan layanan pihak British
7	Tok janggut dan pengikutnya sedang bermesyuarat	Tok janggut: kita perlu bagitahu penduduk supaya tidak usah membayar cukai. Penghulu adam: betul itu tok, kita mesti bagitahu semua penduduk.

8	Tok janggut sedang berucap kepada orang kampung	<p>Tok janggut: kita tidak perlu membayar cukai. orang British hanya mahu menyusahkan kita.</p> <p>Orang kampung 1: kami setuju</p> <p>Orang kampung 2: ye betul, kami setuju</p>
9	Ketua polis berjumpa dengan pegawai jajahan	<p>Pegawai jajahan: sarjan che wan, kamu ditugaskan untuk menangkap tok janggut kerana tok janggut dan pengikutnya mempegaruhi penduduk supaya tidak membayar cukai.</p> <p>Sarjan che wan: baik tuan</p>
10	Sarjan Che Wan Sulaiman yang diiringi oleh enam orang anggota polis telah menemui Tok Janggut yang sedang berucap.	<p>Narrator: Pada 29 April 1915. Ketika tiba di kampung itu, tok janggut sedang berucap di hadapan kira-kira 1,000 penduduk yang kebanyakannya bersenjata.</p> <p>Sarjan che wan: tok janggut, kami telah mendapat arahan untuk menangkap kamu kerana keengaganan membayar cukai.</p>

11	<p>Tok janggut menikam sarjan che wan</p> <p>Sarjan che wan terdampar meninggal dunia selepas ditikam</p>	<p>Narrator: tok janggut telah menikam sarjan che wan kerana diperlakukan macam seorang pesalah</p> <p>Narrator: melihat peristiwa tersebut polis yang lain tidak berani melawan dan telah dibiarkan pergi oleh tok janggut setelah merampas senapang mereka.</p>
12	<p>Pertarungan antara tok janggut dan pengikutnya dengan tentera British</p>	<p>Narrator: Tok Janggut bersama rakan-rakannya dan pengikut mereka seramai lebih kurang dua ribu orang telah menyerang dan menawan pekan Pasir Putih.</p>
13	<p>Tok janggut Berjaya menawan pasir putih</p>	<p>Tok Janggut: Allahhuakbar !! akhirnya kita Berjaya</p>
14	<p>Keadan pasir putih harmoni</p>	<p>Narrator: tok janggut dan pengikutnya menubuhkan kerajaan sendiri.</p>
15	<p>Sultan dan pihak british sedang bermesyuarat</p>	<p>Ketua daerah: tuanku, beta rasa tok janggut dan rakan-rakannya telah memberontak dan sedang menuju ke istana bagi merampas tahkta</p>

		<p>Sultan: berani tok janggut memperlakukan sedemikian kepada beta!</p> <p>Sultan: Beta titahkan kepada sesiapa dapat menangkap salah seorang dari mereka Tengku besar, haji said, penghulu adam dan che ishak akan diberi wang hadiah sebanyak rm500</p>
16	<p>Mereka membakar rumah penduduk dan rumah tok janggut</p> <p>Askar inggeris melapor pada ketuanya</p>	<p>Narrator: sepasukan askar Inggeris seramai 100 orang yang terdiri daripada askar Sikh dan sukarelawan Melayu telah dihantar ke Pasir Putih.</p> <p>Askar inggeris: kami merampas harta benda, membinasakan sawah padi serta membakar rumah penduduk termasuk rumah tok janggut dan pengikunya. Tapi kami tidak dapat mencari tok janggut</p>
17	<p>Tok janggut dan pengikunya membuat kubu</p>	<p>Narrator: tok janggut dan pengikutnya membuat persedian sebelum menyerang kubu British.</p>
18	<p>Tok Janggut bersama lebih kurang 2,500 orang pengikutnya telah menyerang askar Sikh</p>	<p>Narrator: Askar Inggeris telah menyerang kubu tersebut yang menyaksikan pasukan Tok Janggut berjuang bermati-matian menghadapi serangan tersebut</p>
19	<p>Tok janggut dibunuh oleh askar inggeris</p>	

20	mayatnya diarak	Narrator: mayatnya diarak sekitar pasir puteh sebelum dibawaa ke kota bharu
21	tok janggut digantung dengan kaki ke atas, kepala ke	Narrtor: tok janggut digantung dengan kaki ke atas, kepala ke bawah di padang merdeka
22	Kubur tok janggut	Narrator: tok janggut dikebumikan di pasir pekan, tumpat Kelantan

Table 4.2 Storyline



4.3.3 Character

Character: Tok Janggut



Figure 4. 1 Front view of Tok Janggut



Figure 4. 2 Side view of Tok Janggut

Character: Haji Said



Figure 4. 3 Front view of Haji Said



Figure 4. 4 Side view of Haji Said

Character: Che Sahak

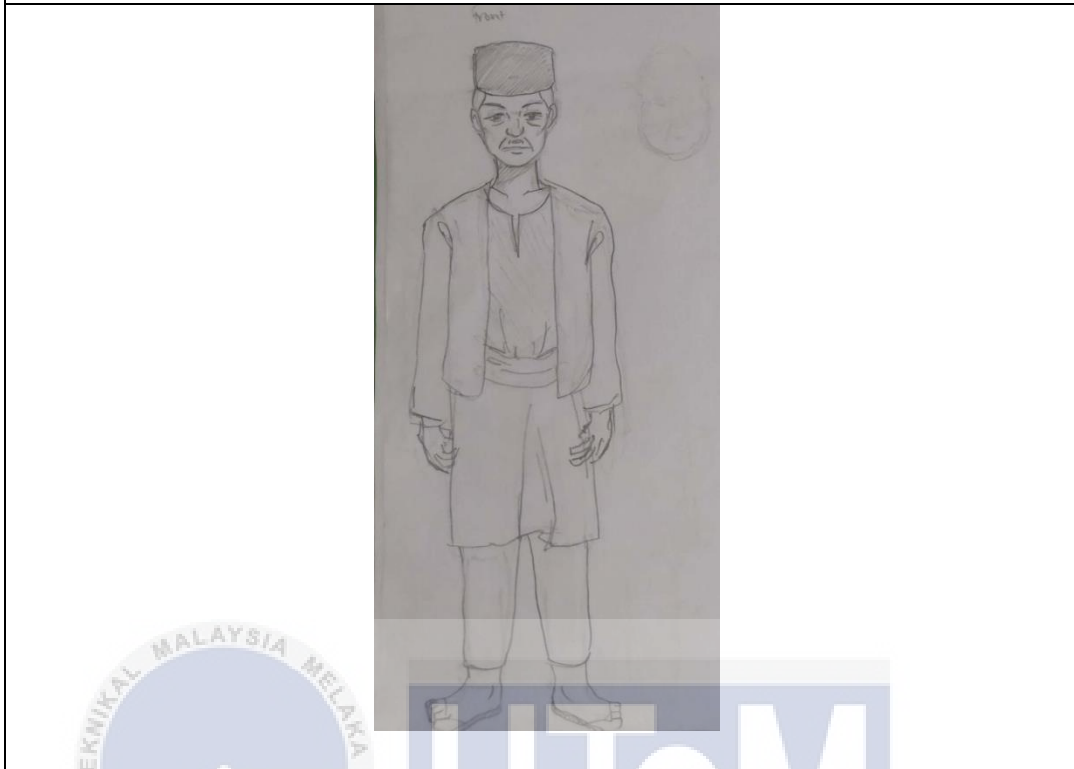


Figure 4. 5 Front view of Che Sahak



Figure 4. 6 Side view of Che Sahak

Character: Penghulu Adam



Figure 4.7 Front view of Penghulu Adam



Figure 4.8 Side view of Penghulu Adam

Character: Pegawai Jajahan



Figure 4. 9 Front view of Pegawai Jajahan



Figure 4. 10 Side view of Pegawai Jajahan

Character: Sarjan Che Wan



Figure 4. 11 Front view of Sarjan Che Wan



Figure 4. 12 Side view of Sarjan Che Wan

Character: Sultan

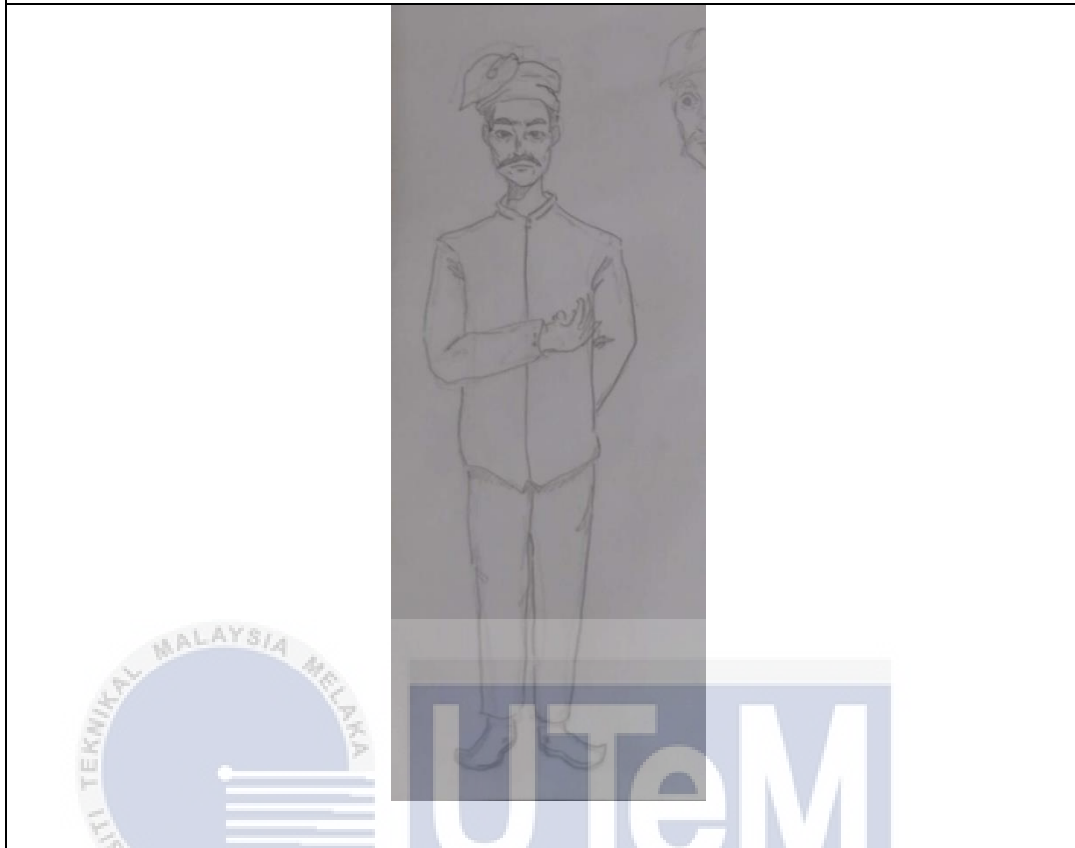


Figure 4. 13 Front view of Sultan



Figure 4. 14 Side view of Sultan

Character: Orang Kampung



Figure 4. 15 Front view of Orang Kampung



Figure 4. 16 Side view of Orang Kampung

Character: Askar

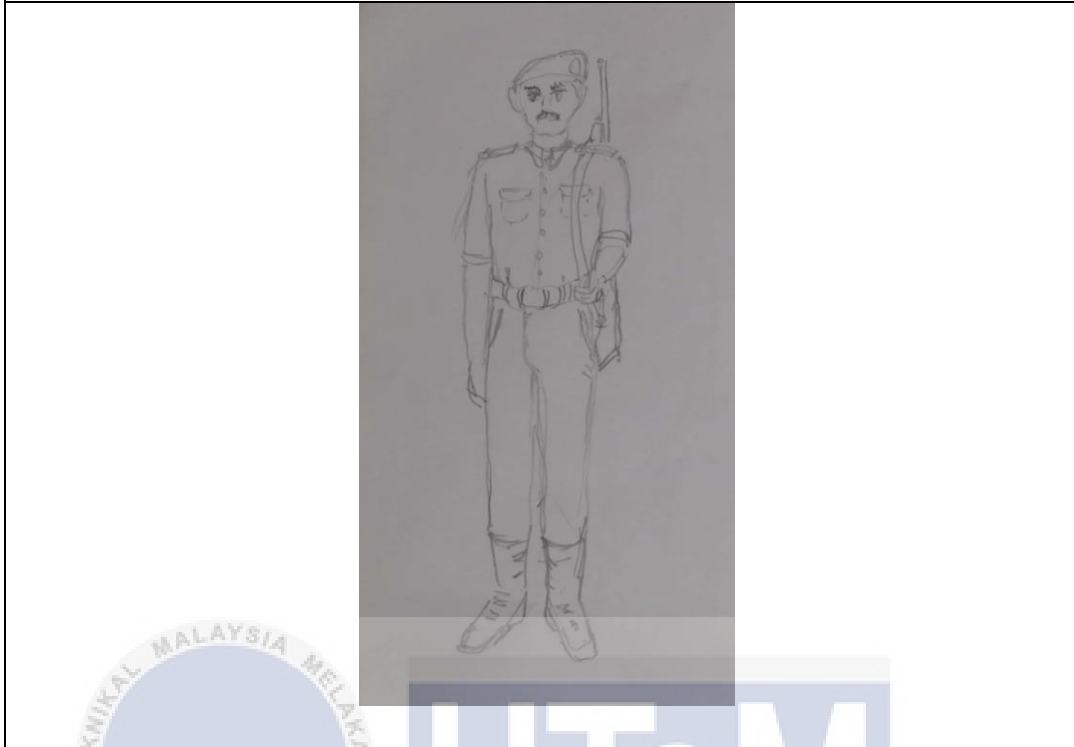


Figure 4.17 Front view of Askar



Figure 4.18 Side view of Askar

4.4 Conclusion

The design stage is critical for developers since it is at this step that the developer gets the concept for the animation. Following the drawing on the storyboard, another stage will take place to produce the animation. Finally, the framework's design will emerge from this step. The following chapter will go through the utilisation phase, which covers the implementation method and exercises, as well as the project's progress.



CHAPTER 5: IMPLEMENTATION

5.1 Introduction

The implementation step follows the design phase in the creation of a multimedia process. It is an important stage in the creation of 2D animation since the animator will build the actual character and model that were sketched during the design phase. This 2D animation short story's implementation method includes critical phases such as pre-production, production, and post production. Aside from these three primary phases, there will be various minor phases within:

Pre-Production

- Script
- Storyboard
- Character Design
- Animatic
- Dialogue Recording
- Color Styling/Color Scripting
- Character Animation
- Background Layout

Production

- Key Animation

Pencil Test

Cleanup



- Background Painting

Post-Production

- Inking and Painting
- Compositing
- Rendering
- Additional Sound Recording
- Final Edit
- Final Export

5.2 Media Creation

Media creation refers to the development of substance in any sector of correspondence, diversion, or data. Media production students will learn about the era of substance, text, animation, realistic games, and sound and video segments. Whatever procedure and technique the components are expected to face will be described more firmly and explicitly throughout the cycle. In order to construct the final practical object, the whole component will be collected.

5.2.1 Production of Text

This project relies heavily on text as an interactive media component. Text is being used to offer information to the crowd so that they may understand the nature of this endeavour. Text is a valuable medium for delivering information for description, instruction, and depth. The language and phrases utilised in this endeavour are simple and plain, with the goal of enhancing the crowd's comprehension.

5.2.2 Production of Graphic

The graphic of this project is the visual image or arrangement that it generates. It is critical to make this project more enjoyable and intriguing. The shading, literary style, and realistic effects will be adjusted in Adobe Illustrator and Adobe Animate. This project, which was created with Adobe Illustrator and Adobe Animate, is 2D realistic throughout. The main cycle comprises the growth of the concept and framework for a number of reasons, including an instructional board, a goal standard, and more realistic content. An original work sketch was created to ensure that the structure of this enterprise is enjoyable and affordable. Following the completion of the development sketch, it will be copied into Adobe Illustrator in vector format to digitalize the structure, with minor adjustments and alterations made in Adobe Animate to finish the plan. After the measure has been adjusted, the structure will be swapped in accordance with their ideas, whether for printing or as a vector resource for activity.

5.2.3 Production of audio

The term "audio production" refers to all of the stages of the production process that occur between real studio recording and mastering. Audio production includes the steps of sound design, sound editing, audio mixing, and ultimately the inclusion of effects. Noise reduction and loudness normalisation are two popular techniques for editing and improving voice-based media. Audio production with an emphasis on vocals has grown more common with the advent of podcasts. There is a growing need for consistent sound because of the availability of sound recording equipment with varying features and capabilities, such as dynamic range. Using a variety of approaches, with numerous approaches designed specifically for spoken audio, the area is gaining recognition as distinct from music creation. This is the level of inventiveness that contributes to the final, produced piece of music sounding better.

5.2.3 Production of Animation

The purpose of using animation is to capture the audience's attention and make the material more accessible to them. The objective of employing animation movement is to draw people in while also providing information to the viewer. An example of a good application of animation is when it successfully integrates the audience and simplifies complicated replies. Aside from that, it may assist in making deliveries more memorable. The animation for this project was created using Adobe Animate. The first stage is to come up with a concept and sketch up a storyboard. After the storyboard has been sketched, the asset will be created in Adobe Illustrator in vector base format.

5.3 Media Integration

Adobe Animate includes all of the animation content components. Before they can be released, a 2D sketch and animation are created in Adobe Animate. Character 2D and backdrop vector are created in Adobe Illustrator and loaded into Adobe Animate. Audacity was used to record the voice over, which was then imported into Adobe Animate. After all of the procedures are completed, this animation will be saved as a.swf file. As a result, users may view it.

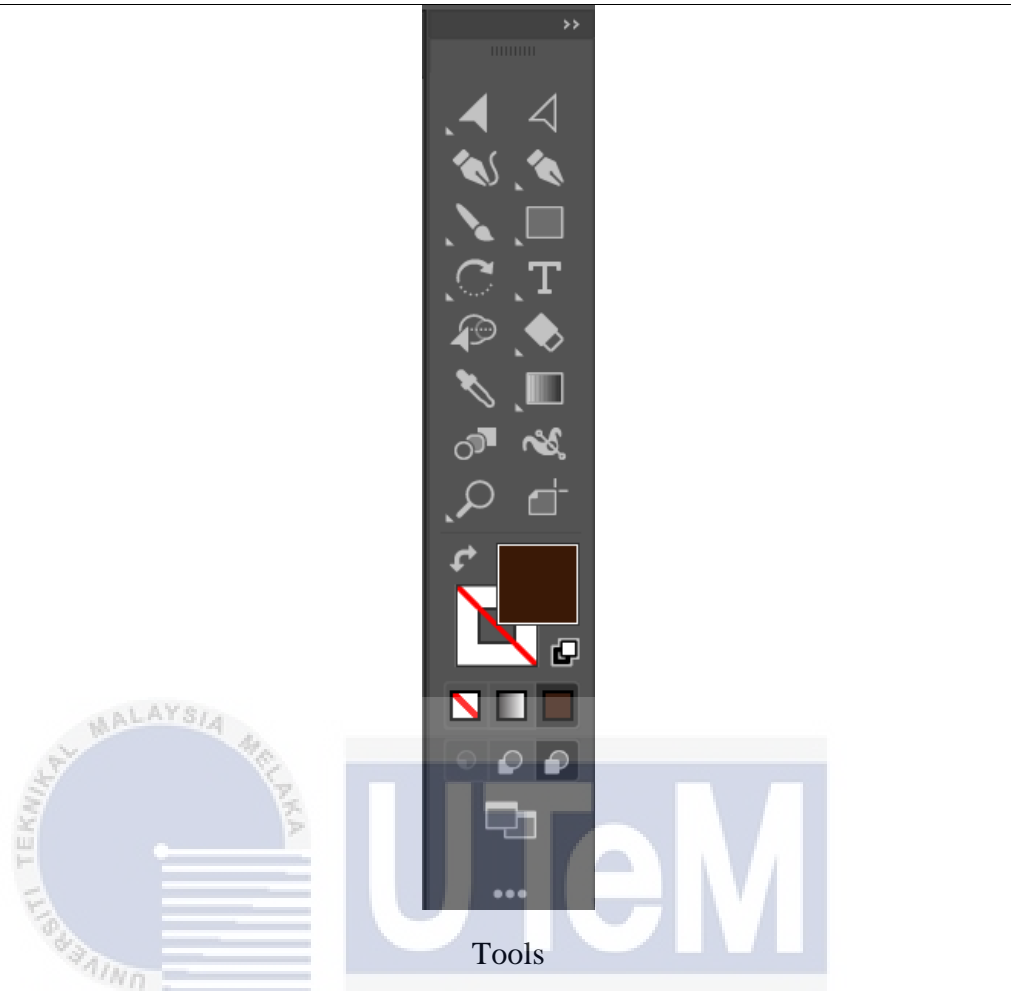
5.4 Product configuration management

Product configuration management is the process of ensuring that the whole setup of a product has been completed in order to get the desired outcome. It also provided adjustment control and explanation regarding the design condition course of action.

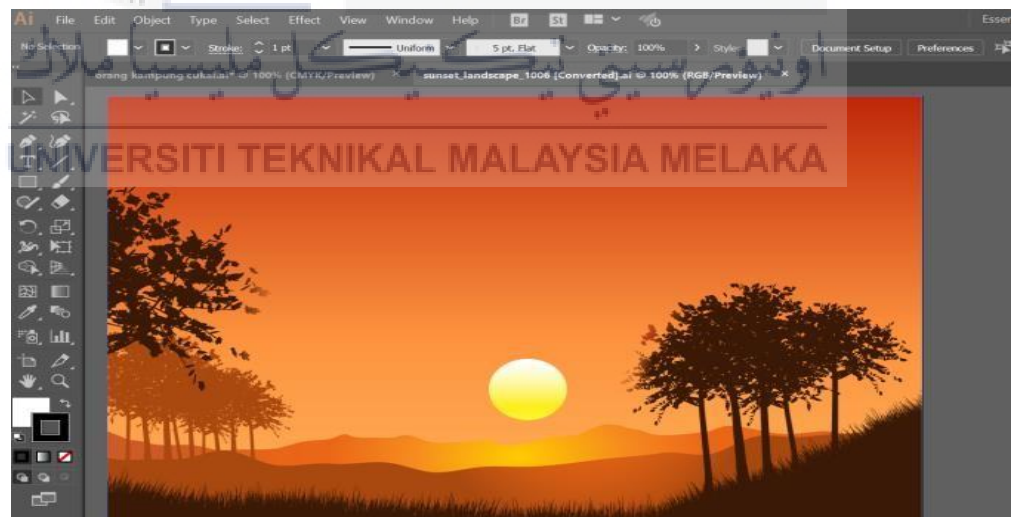
5.4.1 Configuration environment Setup

The settings necessary in the programme used to build and manufacture the substance are clarified by the configuration environment setup. To create the animation material, numerous software programmes such as Adobe Illustrator and Adobe Animate were used to create all the content for this project. Before beginning any development or activity, a few sketches should be prepared. This arrangement is necessary to ensure that the final product is true to form and functions properly. The setup settings of this project are shown in.

Application Software	Setting
Adobe Illustrator	 <p>The image shows two panels from Adobe Illustrator. The top panel is the Properties panel, specifically the Color section, which displays CMYK values: C 74.97%, M 67.92%, Y 67.05%, and K 90.15%. Below the sliders is a color selection tool. The bottom panel is the Layers panel, showing a hierarchy of layers under 'Layer 1', including several groups and paths.</p> <p style="text-align: center;">Properties Setting</p> <p style="text-align: center;">Layer setting</p>

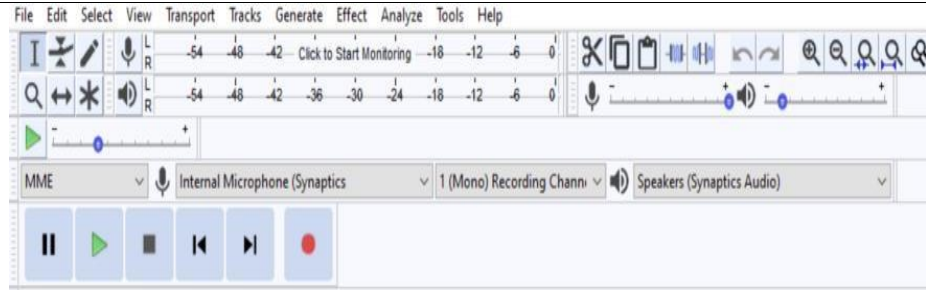


Tools

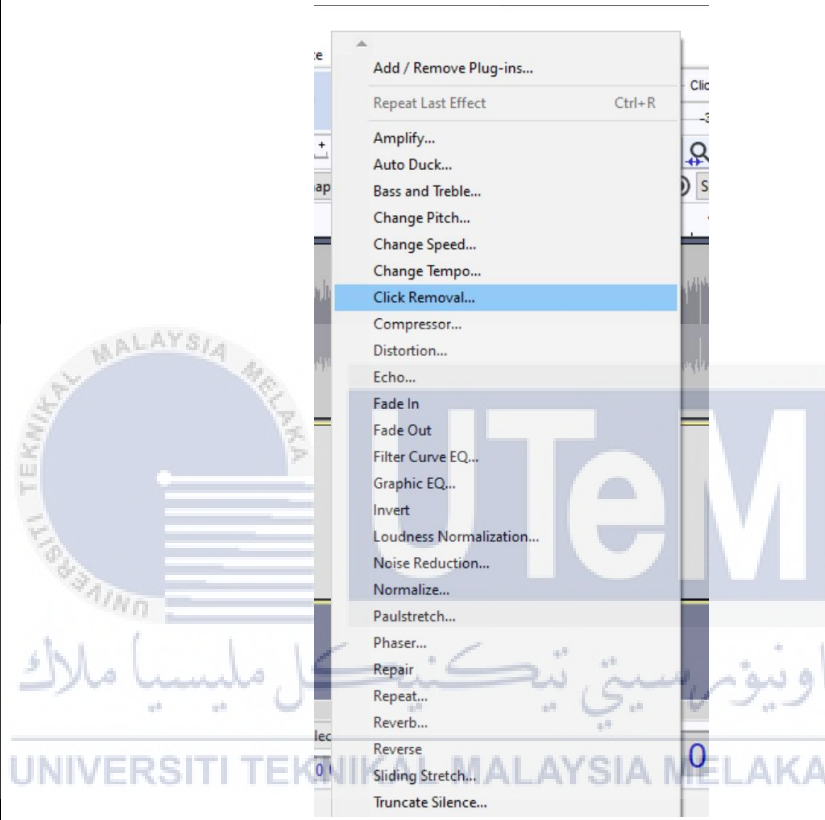


Background landscape

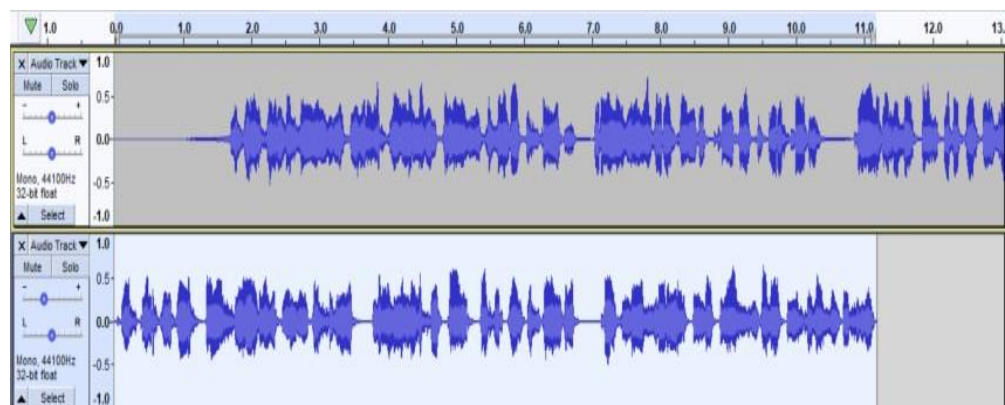
Audacity



Tools Setting

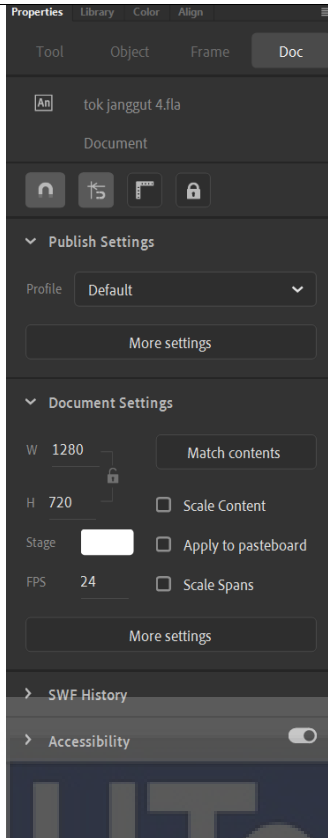


Change Effect

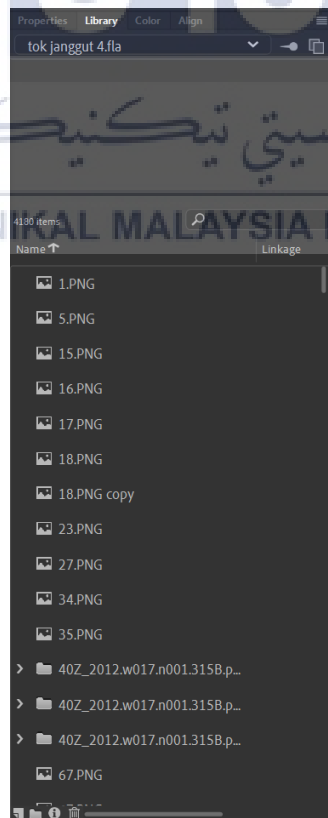


Combine sound

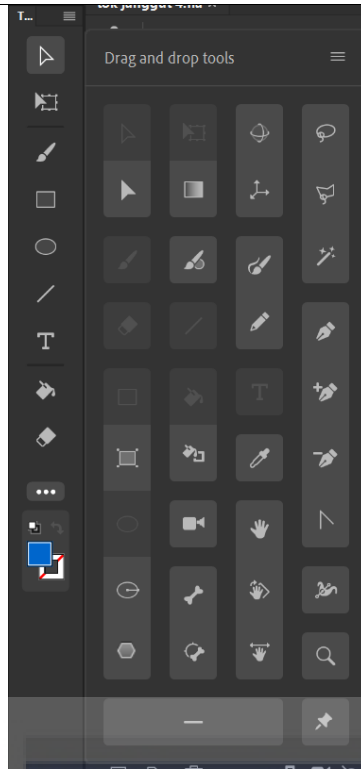
**Adobe
Animate**



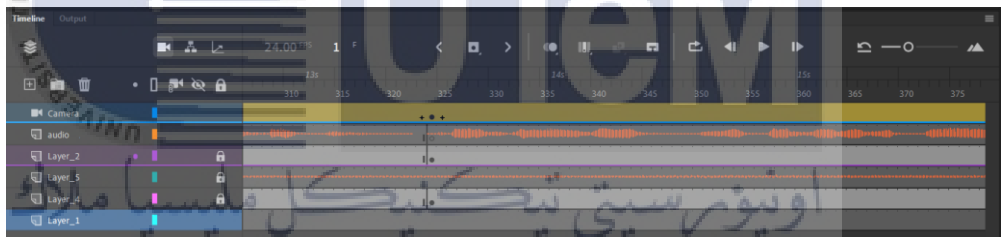
Properties Setting



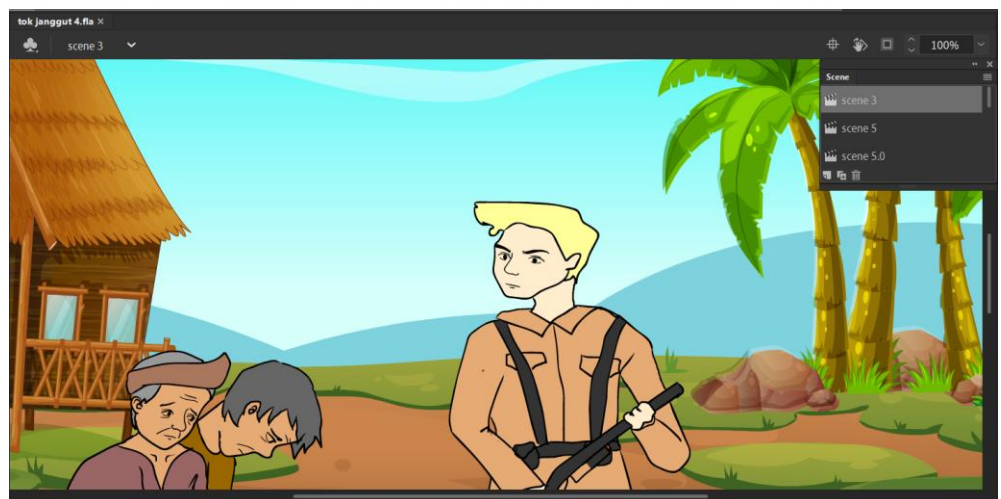
Library Setting



Tools Setting

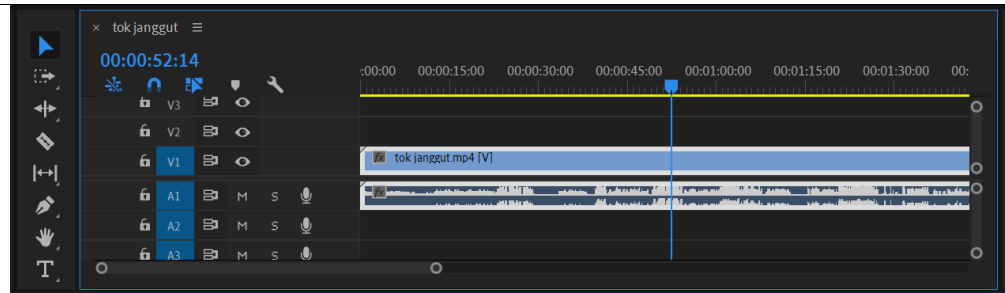


Timeline Animate



Scene Animation

**Adobe
Premiere**



Edit Scene



Combine all scene

Table 5.1 Configuration of the Environment

5.4.2 Version Control Procedure

One of the elements that led to the changes made in this project throughout the implementation phase was requirement needs. The changes were made in response to the project supervisor's feedback. Tables 5.2 show the processes for version control.

Version	Module	Modification
Version 1	Character	Sketch using Adobe Illustrator
Version 1.1	Character	Sketch character using Adobe Animate
Version 1.2	Character	Change the character design according to history

Version 1.3	Background	Change background based on the environment of the past
Version 2	Animation	Improvement of animation
Version 3	Final Touch Up	Improve animation of character

Table 5.2 Version Control Procedure

5.5 Implementation Process Status

From time to time, the state of the implementation process is utilised to signify development progress. This progress must be documented in order to determine the version and specifics of the progress made. The current status of this project's implementation is shown in Table 5.3.

Component/Module	Description	Status
Module 1 (Research and explore)	This project's information collecting comprises obtaining information on the media elements that will be used.	Completed
Module 2 (Create Development Plan)	As a guideline, sketch the design concept and storyboard.	Completed
Module 3 (Design content)	Process of designing all media elements in the project.	Completed
Module 4 (Development of multimedia element)	Combination of all multimedia element such as text, graphic, interaction, sound and animations.	Completed
Module 5 (Implementation of Animation)	The process of integrating necessary parts to create the final product	Completed

Table 5.3 Status of component implementation

5.6 Process of diagram

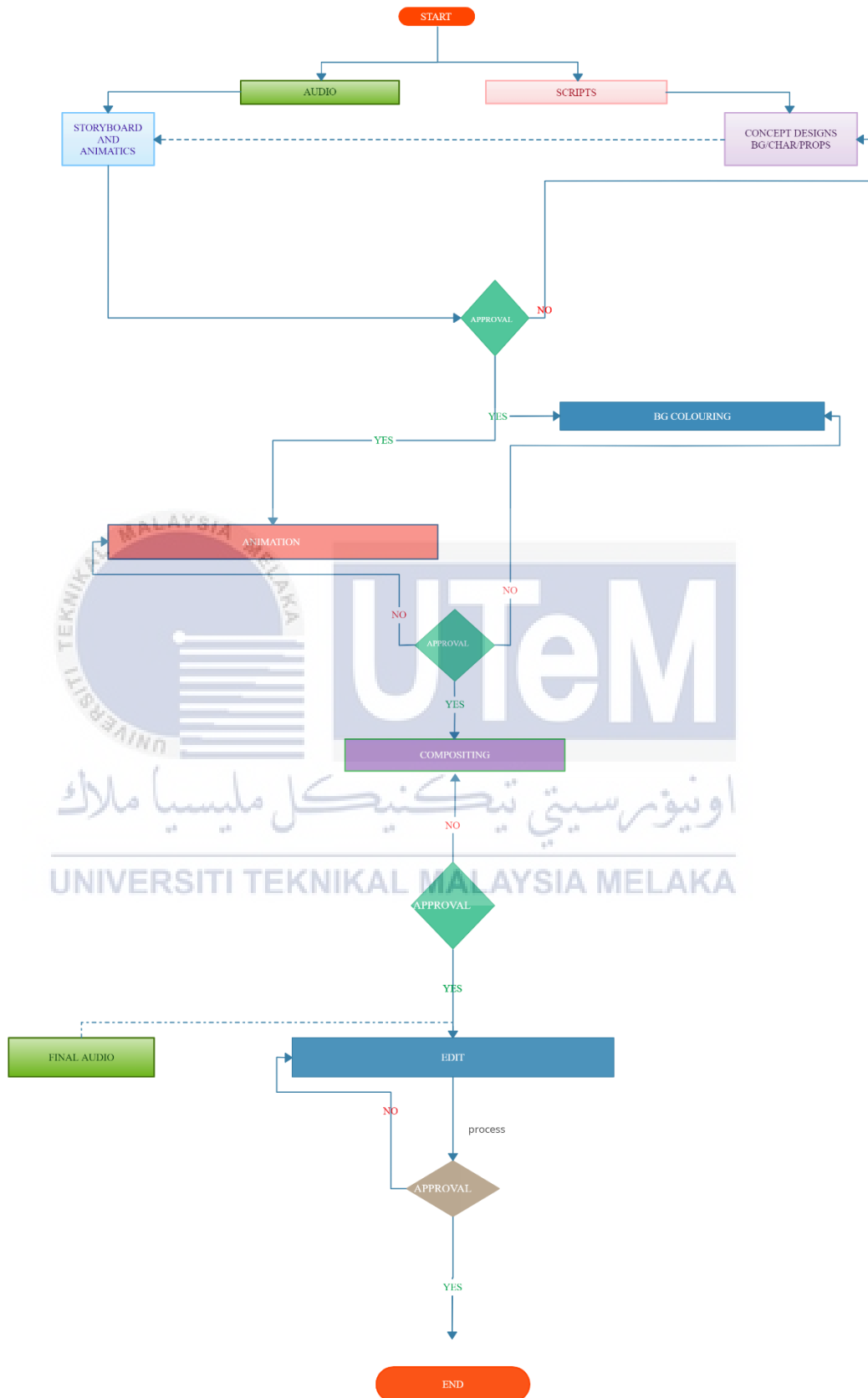


Figure 5. 1 Process of diagram

5.7 Conclusion

This section includes information about the media component that is utilised throughout the execution stage to create the final result. It also ensured the adoption of the most effective approach for coordinating the final surrender and state of each module using the Gantt Chart. It clarifies the processes of content development, animation creation, video creation, graphics creation, media integration, configuration management, and implementation status. All testing will take place within the following range.



CHAPTER 6: TESTING

6.1 Introduction

Testing is an essential component of any application development process. The testing is done to ensure that the system (in this example, the 2D short narrative animation) works as intended by the developer and satisfies the needs of the user. Typically, the most important aspect of appraisal. Testing should not be regarded as a single part of the design process, but rather as something that should be eliminated at each stage of the design process. The assessment aims of this project are to confirm that the 2D animation functionality satisfies the project objectives, to analyse the intended user experience of the 2D animation, and, finally, to identify particular problems with the animation being produced. The functioning of the system must be tested to verify that the 2D animation being produced fulfils the needs of the user. There are three types of users to be completed: multimedia experts, target users, and subject matter experts. Both forms of testing will be subjected to three distinct types of user evaluation. The functionality will be tested by multimedia expert, while the project's target users will undergo user acceptability testing. Furthermore, subject matter specialists will focus on the substance and information of the product.

6.2 Test Plan

The test plan is critical since it will handle the main issue in testing to assure its persuasion to accomplish the current task's aim. This is a technique for kicking off the testing phase. The animator should select the right test in order to elude the objective user. The test plan will document and maintain the whole item testing range, the project being tested, the time frame for testing, and all of the individuals who will test the project. To ensure the efficacy of the testing phase, the test plan will explicitly specify all specifics regarding the testing module, testing factors that must be addressed, who will do the test, and the duration of the test. The product must function at full capacity, smoothly, effectively, and efficiently during testing before it can be declared fully operational. The completeness of the relevant perspectives for the test, for example, may distinguish the testing environment and test platform. The rules will serve as the examination strategy, allowing the exam to be finished quickly. The selection of consumers for the project test is critical since their feedback will be critical for improving and upgrading the product.

6.2.1 Test User

The number of participants included in the testing, which is the tester of this activity, will be depicted by the test user. The testing phase for this Perjuangan Tok Janggut utilising 2D Animation involves three distinct meetings of users who will complete the test, including the multimedia expert, subject matter expert, and the actual target user.

6.2.1.1 Multimedia Expert

A multimedia specialist is someone who is knowledgeable and talented in the field of multimedia and information technology. The project will be tested by 3 people. This is due to the fact that the programme must be launched before it can be sent to the user. This test is performed at the conclusion of the development process and before the product is released. They will test the application with an emphasis on usability.

6.2.1.2 Public

The general public is the initiative's major target audience. Thirty responders will be picked at random and will independently test the product. The purpose of user acceptance testing is to evaluate the target user's comprehension and efficacy of this animation. Respondents must test the animation and answer a questionnaire focused on the efficacy and substance of the project. They were evaluated based on their acceptance and understanding of the project. It is being carried out in order to obtain input from actual users in order to minimise the chance of product failure and improve overall product quality. It is the last test before releasing the finalised product.

6.2.1.3 Subject Matter Expert

A person with a deep grasp of a historical topic who can help to the enhancement of a product or manage a specific situation. The history instructor did this evaluation for Perjuangan Tok Janggut 2D Animation to see whether the information or content in the application conforms to historical facts. The history instructor was selected to take the exam. She will test the project independently and offer comments on the application.

Testing	Multimedia Expert	Target user	Subject Matter Expert
Profession	Position: Lecturer University: Management Science University (MSU) No of respondent: 3 respondents	Student	Teachers
General information	Working experience 3 years above	15 years old	Working experience 20 years above
No of respondent	3 respondents	31 respondents	2 respondents

Table 6.1 Test User for testing

6.2.2 Test Schedule

Running tests among testers might be hard if testing time is not managed properly. Users will test the application's functionality following a demonstration of the usage of Perjuangan Tok Janggut 2D Animation, which experts have recommended. The testing environment will be conducted online in accordance with the government's standard operating procedure. The user will be given the url of the short story in order to test it and offer feedback via a survey using the Google form provided as a record of the test results.

Tester	Number of Tester	Testing Date	Testing Venue	Platform (Online)
Multimedia expert	3 people	9/08/2021 - 15/08/2021	Anywhere	Google form
Public	31 respondents	9/08/2021 - 15/08/2021	Anywhere	Google form
Subject Matter Expert	2 respondents	9/08/2021 - 15/08/2021	Anywhere	Google form

Table 6.2 Test schedule for testing

6.3 Test Strategy

Setting up the right test strategy is critical for meeting the project's objectives. The test strategy will specify how the testing will be conducted and directed, as well as the sort of testing that will be performed dependent on the item itself. At various phases of the process, three sorts of testing are performed: multimedia expert, subject matter expert, and target user. The testing has a defined purpose, and the test technique must be carefully developed to guarantee that the goal is satisfied. Each tester will be allocated a certain type of test. They have five score ranges on this issue, ranging from one to five, equating to strongly disagreeing to strongly agreeing. The scoring information are shown in Table 6.3.

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1	2	3	4	5
STRONGLY DISAGREE/ <i>SANGAT TIDAK SETUJU</i>	DISAGREE/ <i>TIDAK SETUJU</i>	MODERATE/ <i>SEDERHANA SETUJU</i>	AGREE/ <i>SETUJU</i>	STRONGLY AGREE/ <i>SANGAT SETUJU</i>

Table 6.3 Scoring details for User Testing

6.3.1 Testing Instrument

Multimedia Expert

No	Question	1	2	3	4	5
1	The content arrangement makes the delivery of history more effective					
2	The history able to give an impact to the user					
3	User can see this animation anywhere they want					
4	The story is easy to understand					
5	Animated videos provide a visualization of the historical material being taught					
6	The content of the animation for the user to gain knowledge about history tok janggut is appropriate.					
7	The character used in this animation is appropriate and attractive.					
8	The narration used in this animation is easy to understand.					

Table 6.4 Questionnaire for multimedia expert

Public

No	Question	1	2	3	4	5
1	Does the storyline used in this animation the same as the history in the textbook? <i>Adakah jalan cerita yang digunakan dalam animasi ini sama dengan sejarah dalam buku teks?</i>					
2	Do the characters used in this animation appropriate?					

	<i>Adakah watak yang digunakan dalam animasi ini sesuai?</i>					
3	Do the music and sounds used in this animation appropriate? <i>Adakah muzik dan bunyi yang digunakan di dalam animasi ini sesuai?</i>					
4	Do you understand about this animation? <i>Adakah anda faham tentang animasi ini?</i>					
5	Does this animation provide a more interesting explanation of the material? <i>Adakah animasi ini memberikan penjelasan bahan lebih menarik?</i>					
6	In your opinion, do you think this method (animation) is more effective than the old method (e.g. textbook)? <i>pada pendapat anda, adakah anda rasa kaedah ini (animasi) lebih berkesan daripada kaedah lama (cth: buku teks)?</i>					
7	I was able to re-explain the topic of learning based on the use of animation. <i>Saya mampu menerangkan kembali topik pembelajaran berdasarkan penggunaan animasi.</i>					
8	I find it easier to understand a topic using animation than a mere textual description. <i>Saya lebih mudah faham terhadap sesuatu topik menggunakan animasi berbanding penerangan secara huraian teks semata-mata.</i>					
9	The understanding gained as a result of learning animation allows me to easily perform activities and answer the exercises given. <i>Kefahaman yang diperoleh hasil daripada pembelajaran animasi membolehkan saya mudah melakukan aktiviti dan menjawab latihan yang diberikan.</i>					

Table 6.5 Questionnaire for target user

Subject Matter Expert

No	Question	Yes	No
1	This animation tells about the history of tok janggut? <i>Animasi ini menceritakan tentang sejarah tok janggut?</i>		
2	Is the storyline arranged correctly? <i>Adakah jalan cerita disusun dengan betul?</i>		
3	Does the animated video provide a visualization of the historical material being taught? <i>Adakah video animasi memberikan visualisasi bahan sejarah yang diajarkan?</i>		
4	Does the animated video make the lesson material easier to understand? <i>Adakah video animasi membuat bahan pelajaran menjadi lebih mudah difahami?</i>		
5	Do animated videos make it easier to remember historical events? <i>Adakah video animasi membuat lebih mudah mengingati peristiwa sejarah?</i>		

Table 6.6 Questionnaire for subject matter expert

6.4 Test Implementation

The process of developing and structuring a test system, producing test information, or, alternatively, preparing test hardness and authoring automated test content is known as test implementation. During the testing phase, test implementation will define how the testing will be implemented for a certain target user. The relationship between the test description and the test data is carried out in accordance with the test strategy.

6.4.1 Test Description

During the testing session, a survey was distributed to the specified target user. After the developer provides them with a short explanation of the project, each respondent will conduct the testing independently. They must test every goal available to them. At that time, every respondent is required to answer a poll supplied to them by the developer.

6.4.2 Test Data

A test report is a document that summarises all of a testing project's test activities and final test findings. A test report is an assessment of how well the testing was carried out. The objective of both functionality testing and user acceptability testing is to determine whether or not this project meets the goal stated in the first chapter.

No	Tester	Number of respondents
1	Multimedia Expert	3 people
2	Student	31 people
3	Subject Matter Expert	2 people

Table 6.7 Test data for user testing

6.3.3 Test result and analysis

This animation has only undergone one sort of testing, which is usability testing. Respondents believe that this animation will improve the existing technique of studying history and that utilising this method will make learning easier for pupils. The animation is also straightforward to utilise, according to the respondents. This animation will have a beneficial impact on both sorts of roles, students and teachers. The findings revealed that the majority of respondents were pleased with the overall system.

6.4.3.1 Multimedia Expert

In the testing, 3 responders are lecturer in multimedia subject. Questionnaires have been used after they test the product to determine its usefulness and functioning. The multimedia specialist is requested to assess the efficacy of the multimedia which include content, audio, video, and animation, as well as the overall product. The collected data will be analysed and compiled. The mean and standard deviation of this questionnaire is calculated and the tabulated as shown in Table 6.8

No	Questions	Mean	Standard deviation
1	The content arrangement makes the delivery of history more effective	4.33	0.58
2	The history able to give an impact to the user	4.33	0.58
3	User can see this animation anywhere they want	4.67	0.58
4	The story is easy to understand	4.00	1.0
5	Animated videos provide a visualization of the historical material being taught	4.33	0.58
6	The content of the animation for the user to gain knowledge about history Tok Janggut is appropriate	4.00	0.0
7	The character used in this animation is appropriate and attractive	4.33	0.58
8	The narration used in this animation is easy to understand	4.33	0.58

Table 6.8 Subject matter testing mean and standard deviation

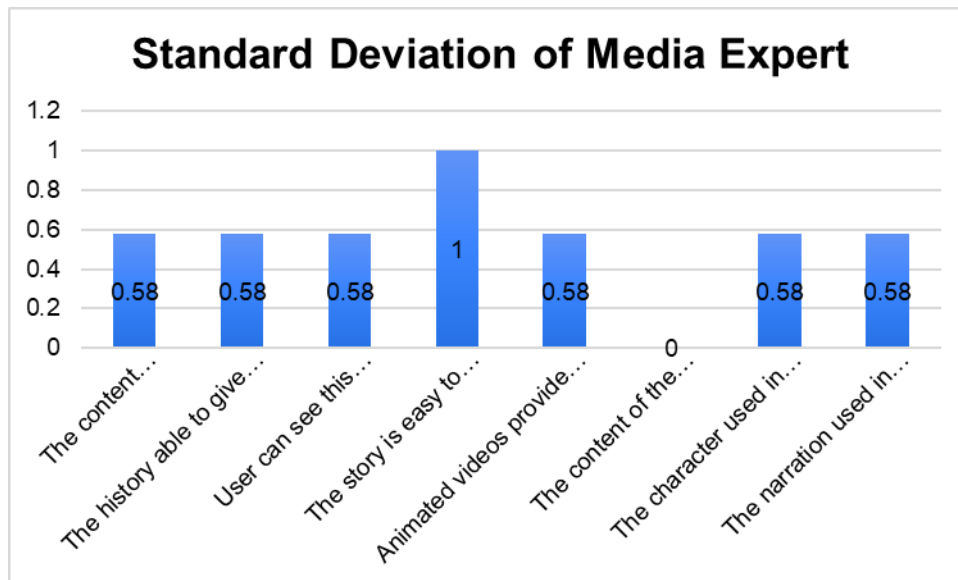


Figure 6.1 Standard Deviation of Media Expert

Table 6.8 and figure 6.1 is about Media expert Mean and Standard Deviation data. From this analysis the mostly the standard deviation is 0.58 except two question which is the highest is 1 and the lowest is 0.

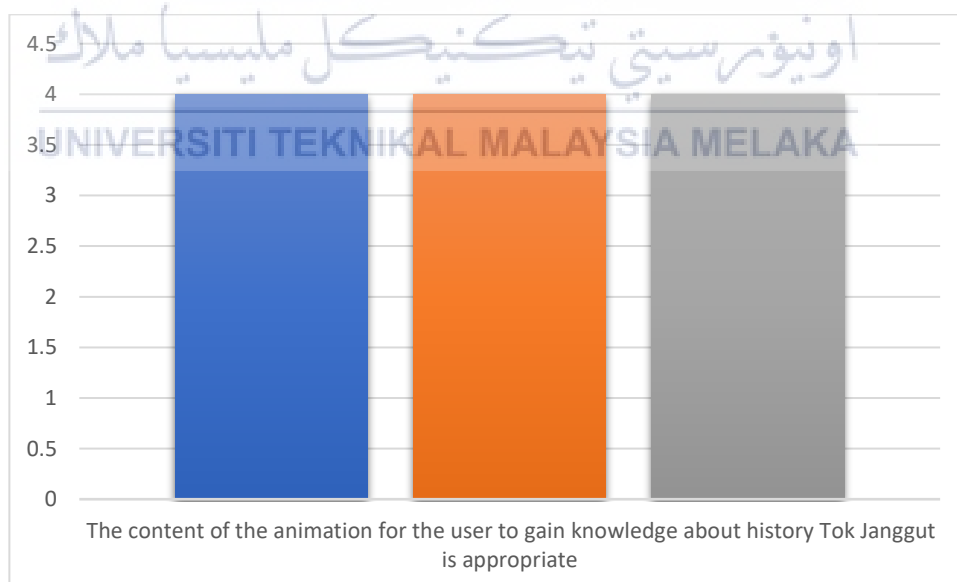


Figure 6.2 The content of the animation

Based on the findings of this questionnaire, the majority of respondents believe that this animation can assist students and teachers in using this animation as learning resources in their classroom. This animation's level of adaptability is excellent, according to the multimedia expert. Question 6 is about the content of the animation that will help the user learn about history. Because media experts agree on a mean of 4 and a standard deviation of 0.00, Tok Janggut is suitable in accessibility.

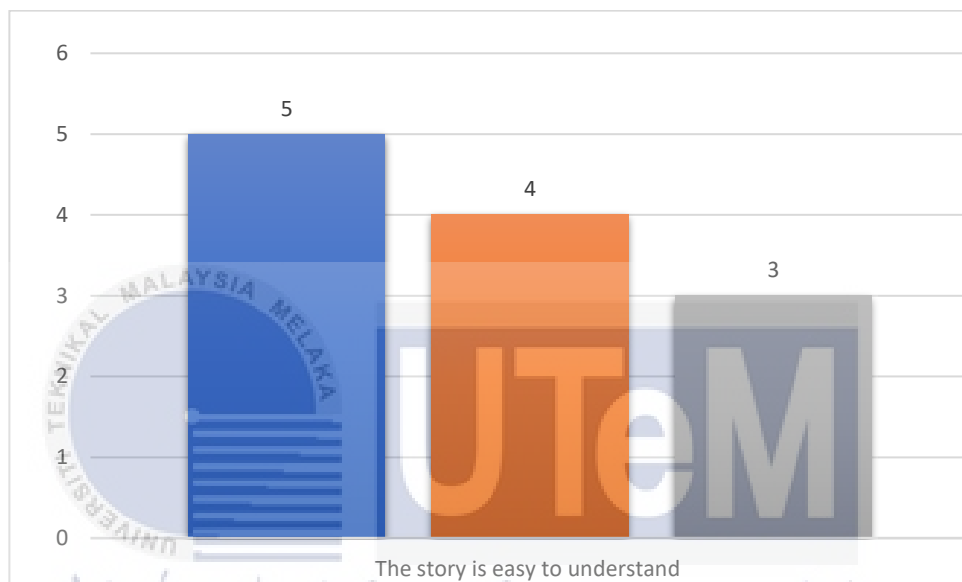


Figure 6.3 the story is easy to understand

In response to question 4, the findings show that multimedia experts have differing opinions on the efficacy of this animation due to the number of scenes but the short duration. There are several situations that are not clearly presented, and there are others who do not comprehend much of the storey.

6.4.3.2 Target User

The responders were 31 pupils from Maahad Muhammadi Pasir Pekan's Form 3 classrooms. the researcher already has a goal and an objective in mind. As a result, the selected respondents meet specific requirements; for example, because this study focuses on student perception, the respondent's perspective as a student can channel the information required for research. The type of sampling used in this study was consistent with the research goals. The informants are chosen to answer the purpose and objectives of the presented study.

No	Questions	Mean	Standard deviation
1	Does the storyline used in this animation the same as the history in the textbook?	4.55	0.51
2	Do the characters used in this animation appropriate?	4.61	0.62
3	Do the music and sounds used in this animation appropriate?	4.29	0.74
4	Do you understand about this animation?	4.52	0.63
5	Does this animation provide a more interesting explanation of the material?	4.48	0.77
6	In your opinion, do you think this method (animation) is more effective than the old method (e.g. textbook)?	4.94	0.25
7	I was able to re -explain the topic of learning based on the use of animation.	4.55	0.62
8	I find it easier to understand a topic using animation than a mere textual description.	4.74	0.51
9	The understanding gained as a result of learning animation allows me to easily perform activities and answer the exercises given.	4.61	0.62

Table 6.9 Target User testing result Mean and Standard Deviation

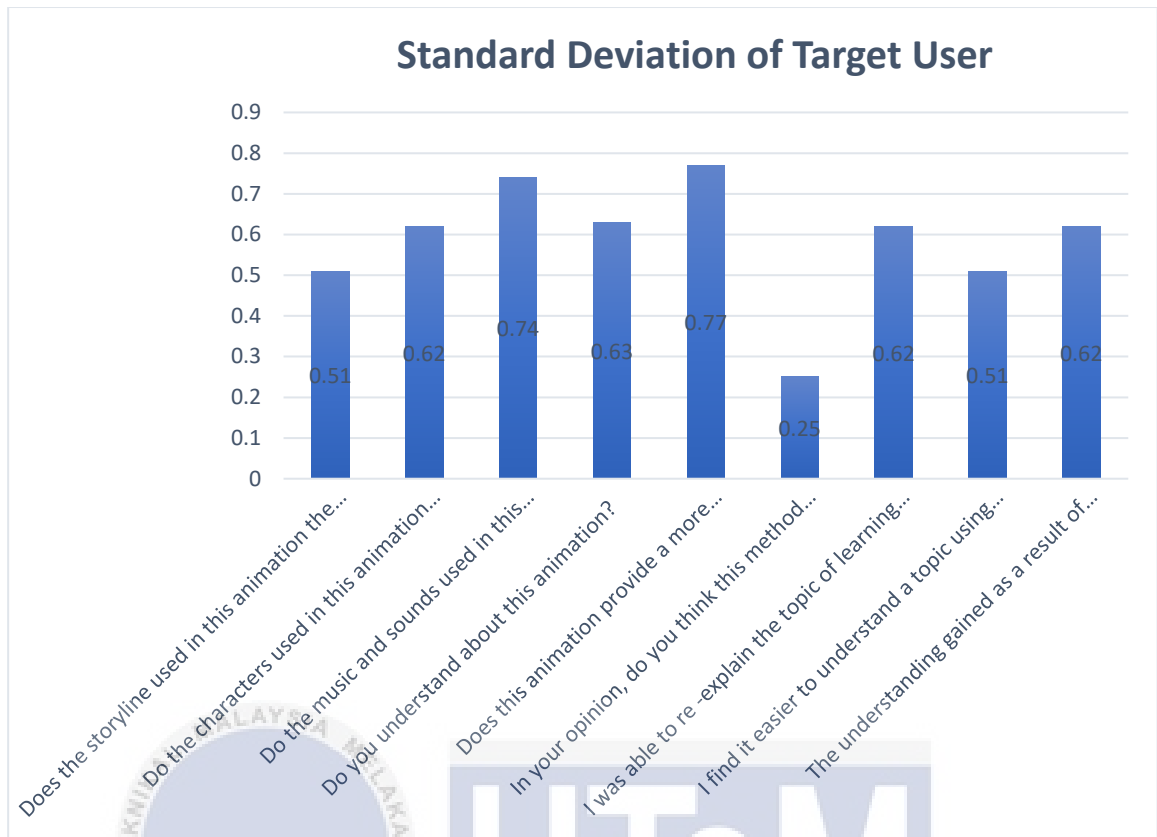


Figure 6.4 Standard Deviation of Target User

Target User Mean and Standard Deviation statistics are included in table 6.9 and figure 6.4. There are two of 0.51 and three of 0.62 based on this data. The standard deviation for questions concerning music and sound is 0.74, and 0.77 for questions about whether this animation gives a more enjoyable explanation of the topic. The question with the lowest standard deviation is whether respondents believe this approach (animation) is more successful than the old method (e.g. textbook).

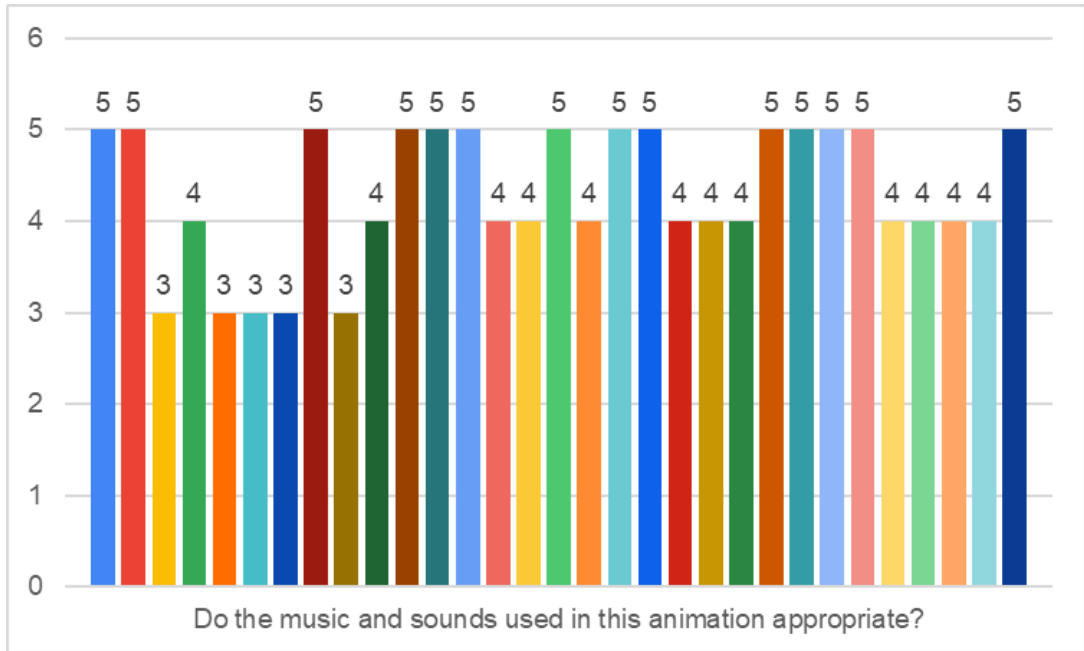


Figure 6.5 Result for questionnaire 3

This animation is about music and sound, as indicated by question 3 and as seen in the figure 6.3. 5 of them picked moderate since the animator is unable to produce lip sync technique to make an animated figure appear to talk requires determining the timings of the speech as well as the actual animation of the lips/mouth to match the dialogue track. In this animation, 14 students, or 45.2 percent, strongly believe that sound and music are more effective. Every character's voice over without lip sync helps students in understanding this narrative.

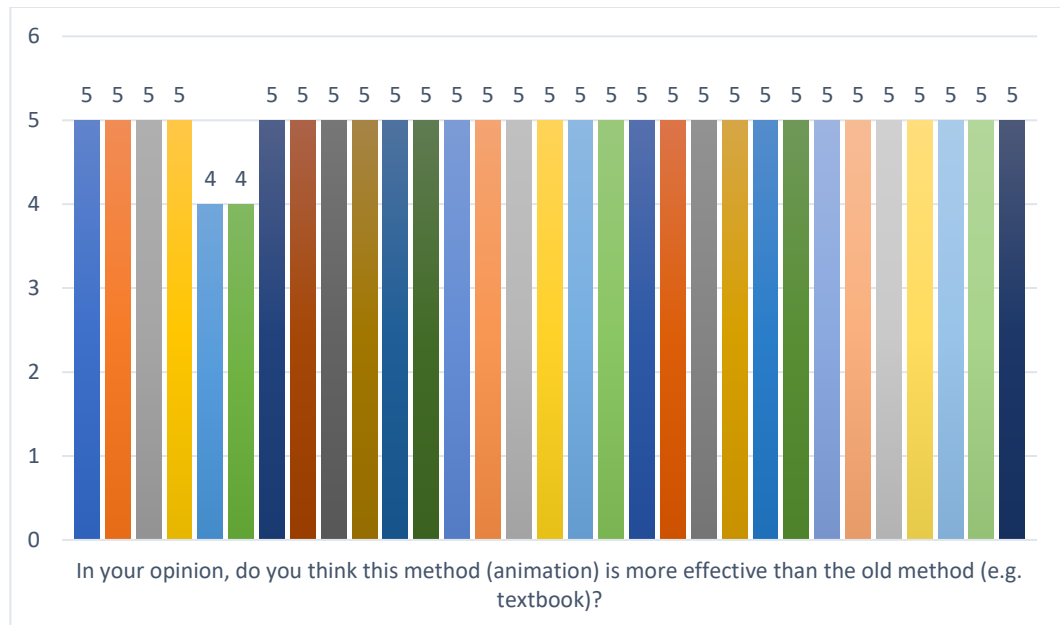


Figure 6.6 Result of questionnaire 6

Based on question 6 and shown in figure 6.4, this approach (animation) is total 29 student or 93.5 percent strongly agrees this method is more successful than the old method (e.g. textbook). Video animations, in particular, assist in imprinting teachings in students' memories since they may be as entertaining and distinctive as they are. Furthermore, the study demonstrated that the images and videos contained in the animation may help students grasp the material taught more quickly, as well as better and more successfully answer questions and execute the tasks offered in teaching and learning activities.

6.4.3.3 Subject Matter Expert

The subject matter expert is a history teacher in a public school. They requested that the effectiveness of presenting Perjuangan Tok Janggut using a new approach, 2D Animation, be evaluated.

No	Question	Yes	No
1	This animation tells about the history of tok janggut?	100%	
2	Is the storyline arranged correctly?	100%	
3	Does the animated video provide a visualization of the historical material being taught?	100%	
4	Does the animated video make the lesson material easier to understand?	100%	
5	Do animated videos make it easier to remember historical events?	100%	

Table 6.10 Subject matter expert result testing

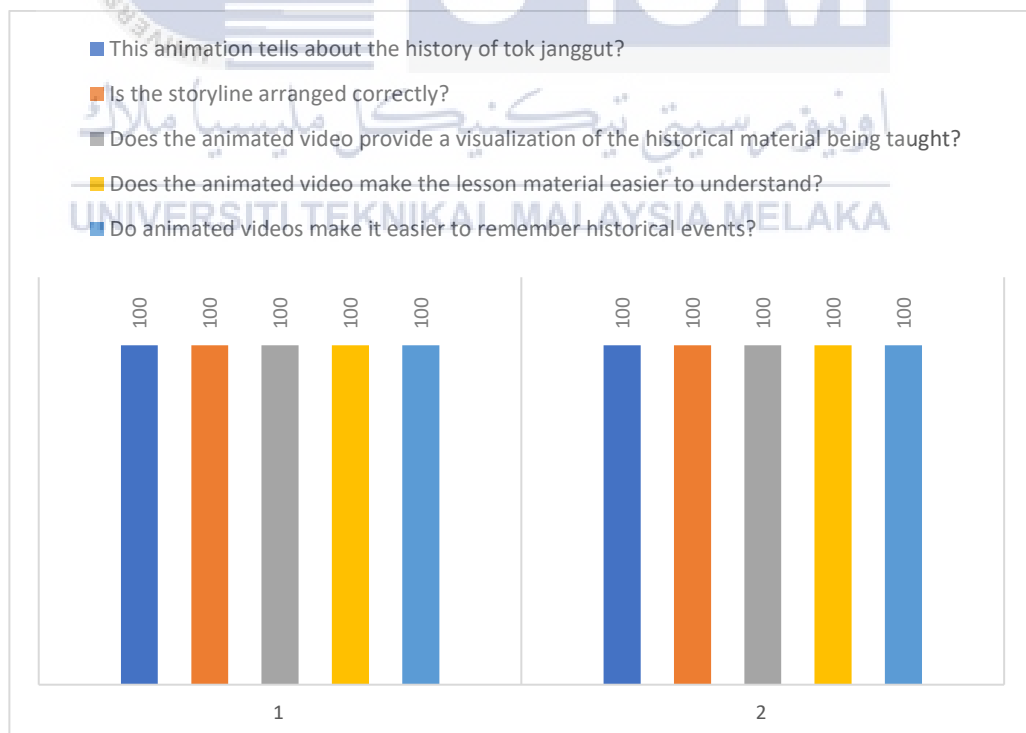


Figure 6.7 Result testing of Subject matter expert

The results of the questionnaire are shown in the table above. Both respondents, or 100%, responded yes to this question about the substance and facts of Perjuangan Tok Janggut. This animation follows the textbook's plot and visualises the historical content being taught. With the help of this animation, students may readily recall historical events.

6.5 Conclusion

As a result of the testing, it is clear that the animation met the project's objectives. Usability testing was used to get a direct reaction from the system's intended users. The input from the responders is critical in determining whether or not the goal of this animation was met. It is also intended to investigate how respondents feel about this animation, including whether or not they are satisfied with the features and user experiences.



CHAPTER 7: CONCLUSION

7.1 Observation on Weaknesses and Strengths

7.1.1 Weaknesses

The developers got several feedbacks during the testing and review procedure. All comments and ideas received will serve as instructions for the developer to fix the project's present flaws. It is tough for developers to come up with fresh ideas when working on this project. As a result, several of the models and scenes appear look static and uninteresting. The developers additionally encountered issues throughout the project's implementation as well as issues with the project's final output. The character model is less appealing, as it appears static and has less movement. The developers did their utmost to create the finest models possible. However, the developers encountered several issues, particularly during ragging. There are several frames available for ragging one by one. As a result, the character models have less animation. The developer is experiencing Adobe Animate difficulties, such as Adobe Animate not responding and missing scenes throughout post production.

7.1.2 Strengths

Animations can visualise and simplify anything, no matter how complicated it is. The best element of animated learning videos for instructional designers and instructors is the visualisation. Educational animations are required in history classes where students need more than a basic explanation to understand certain subjects. They take complex information and transform it into drawings, which are then animated to demonstrate a process. This is owing to the fact that most of the historical knowledge that pupils want is situated far away from them. Because students have never pondered or observed complicated historical facts, they have little grasp of them; consequently, animations may offer an overview of historical events while still addressing the actual world. For example, during a lecture on the Perjuangan Tok Janggut, the instructor may show this animation of the Perjuangan Tok Janggut so that the students may see their own surroundings and activities. Animated video can make visual aids more vibrant, enjoyable, and intuitively understood, as well as simpler and less cluttered.

7.2 Propositions for Improvement

The tester who used the animation during the testing stage provided the advice and proposal for the development of this project. There are several recommendations for enhancing this animation that might set it apart from others of its kind. First and foremost, create an appealing teaser in the first intro so that the audience is eager to see the preceding animation. Furthermore, in Chapter 7, develop the entire issue, not just a portion of Perjuangan Tok Janggut.

7.3 Project Contribution

This animation will be useful to a wide range of users, particularly Form 3 students studying History. This animation is simple to use and understand. Using multimedia components in this e-learning animation, this animation gives a platform for students to grasp historical subjects much more simply and to enhance their knowledge. Animation achieves the dual aims of teaching complex topics and capturing students' attention in the learning process by combining aural instructions with personalised visual signals and visuals.

7.4 Conclusion

This chapter provides an overview of this project, including its accomplishments, issues encountered throughout project development, and proposed future work to improve the animation's efficiency in the future. 'Perjuangan Tok Janggut' is a 2D animation that may provide students with a memorable and interesting learning experience. The animator also believes that this animation would have a far-reaching impact beyond the numerous sectors and industries. For example, being able to collaborate with any Malaysian school.





"PERJUANGAN TOK JANGGUT" USING 2D ANIMATION

Assalamualaikum and hi, I am Wan Nur Adibah binti Wan Mohd Radzi, student of 3 BITM from Faculty of Information Technology and Communication. The objective of this project is to assess the effectiveness in delivering Perjuangan Tok Janggut of utilizing new method is 2D Animation. Thank you for answer this survey.

Assalamualaikum dan hai, saya Wan Nur Adibah binti Wan Mohd Radzi, pelajar 3 BITM dari Fakulti Teknologi Maklumat dan Komunikasi. Objektif projek ini adalah untuk menilai keberkesanan dalam Perjuangan Tok Janggut menggunakan kaedah baru iaitu Animasi 2D. Terima kasih kerana menjawab kajian ini.

Functionality Testing Questionnaire
(To be completed by Multimedia Expert)

 adibahradzi2015@gmail.com (not shared) [Switch account](#) 

Gender

Male

Female

اونيورسيتي تيكنيكل مليسيا ملاك

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Experience in this field

Below 1 year

1-3 years

More than 3 years

Section B : User Testing

Direction: Please rate the following question according to the following scale

1	2	3	4	5
STRONGLY DISAGREE/ <i>SANGAT TIDAK SETUJU</i>	DISAGREE/ <i>TIDAK SETUJU</i>	MODERATE/ <i>SEDERHANA SETUJU</i>	AGREE/ <i>SETUJU</i>	STRONGLY AGREE/ <i>SANGAT SETUJU</i>

The content arrangement makes the delivery of history more effective

1 2 3 4 5

Strongly disagree ○ ○ ○ ○ ○ Strongly agree



The history able to give an impact to the user

1 2 3 4 5

Strongly disagree ○ ○ ○ ○ ○ Strongly agree



User can see this animation anywhere they want

1 2 3 4 5

Strongly agree ○ ○ ○ ○ ○ Strongly disagree

The story is easy to understand

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

Animated videos provide a visualization of the historical material being taught

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

The content of the animation for the user to gain knowledge about history tok janggut is appropriate.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

The character used in this animation is appropriate and attractive.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

The narration used in this animation is easy to understand.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree



"PERJUANGAN TOK JANGGUT" USING 2D ANIMATION

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 adibahradzi2015@gmail.com (not shared) [Switch account](#) 

Direction: Please rate the following question according to the following scale

1	2	3	4	5
STRONGLY DISAGREE/	DISAGREE/	MODERATE/	AGREE/	STRONGLY AGREE/
<i>SANGAT TIDAK SETUJU</i>	<i>TIDAK SETUJU</i>	<i>SEDERHANA SETUJU</i>	<i>SETUJU</i>	<i>SANGAT SETUJU</i>

Adakah jalan cerita yang digunakan dalam animasi ini sama dengan sejarah dalam buku teks?

Sangat tidak setuju 1 2 3 4 5 Sangat setuju

Adakah watak yang digunakan dalam animasi ini sesuai?

	1	2	3	4	5	
Sangat tidak setuju	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sangat setuju

Adakah muzik dan bunyi yang digunakan di dalam animasi ini sesuai?

	1	2	3	4	5	
Sangat tidak setuju	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sangat setuju

Adakah anda faham tentang animasi ini?

	1	2	3	4	5	
Sangat tidak setuju	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sangat setuju

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Adakah animasi ini memberikan penjelasan bahan lebih menarik?

	1	2	3	4	5	
Sangat tidak setuju	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sangat setuju

Pada pendapat anda, adakah anda rasa kaedah ini (animasi) lebih berkesan daripada kaedah lama (cth: buku teks)?

	1	2	3	4	5	
Sangat tidak setuju	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sangat setuju

Saya mampu menerangkan kembali topik pembelajaran berdasarkan menggunakan animasi.

	1	2	3	4	5	
Sangat tidak setuju	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sangat setuju

Saya lebih mudah faham terhadap sesuatu topik menggunakan animasi berbanding penerangan secara huraian teks semata-mata.

	1	2	3	4	5	
Sangat tidak setuju	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sangat setuju

Kefahaman yang diperoleh hasil daripada pembelajaran animasi membolehkan saya mudah melakukan aktiviti dan menjawab latihan yang diberikan

	1	2	3	4	5	
Sangat tidak setuju	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sangat setuju

"PERJUANGAN TOK JANGGUT" USING 2D ANIMATION

Assalamualaikum and hi, I am Wan Nur Adibah binti Wan Mohd Radzi, student of 3 BITM from Faculty of Information Technology and Communication. The objective of this project is to assess the effectiveness in delivering Perjuangan Tok Janggut of utilizing new method is 2D Animation. Thank you for answer this survey.

Assalamualaikum dan hai, saya Wan Nur Adibah binti Wan Mohd Radzi, pelajar 3 BITM dari Fakulti Teknologi Maklumat dan Komunikasi. Objektif projek ini adalah untuk menilai keberkesanan dalam Perjuangan Tok Janggut menggunakan kaedah baru iaitu Animasi 2D. Terima kasih kerana menjawab kajian ini.

 adibahradzi2015@gmail.com (not shared) [Switch account](#)



Animasi ini menceritakan tentang sejarah tok janggut?

- Ya
- Tidak

Adakah jalan cerita disusun dengan betul?

- Ya
- Tidak

Adakah video animasi memberikan visualisasi bahan sejarah yang diajarkan?

- Ya
 Tidak

Adakah video animasi membuat bahan pelajaran menjadi lebih mudah difahami?

- Ya
 Tidak

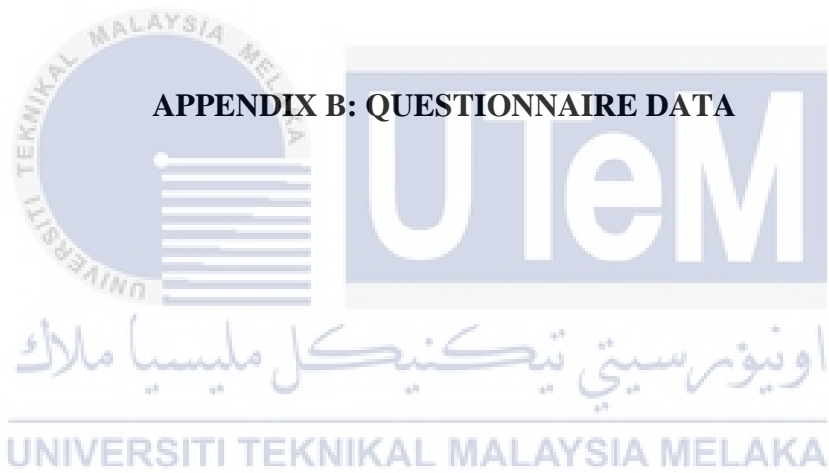
Adakah video animasi membuat lebih mudah mengingati peristiwa sejarah?

- Ya
 Tidak

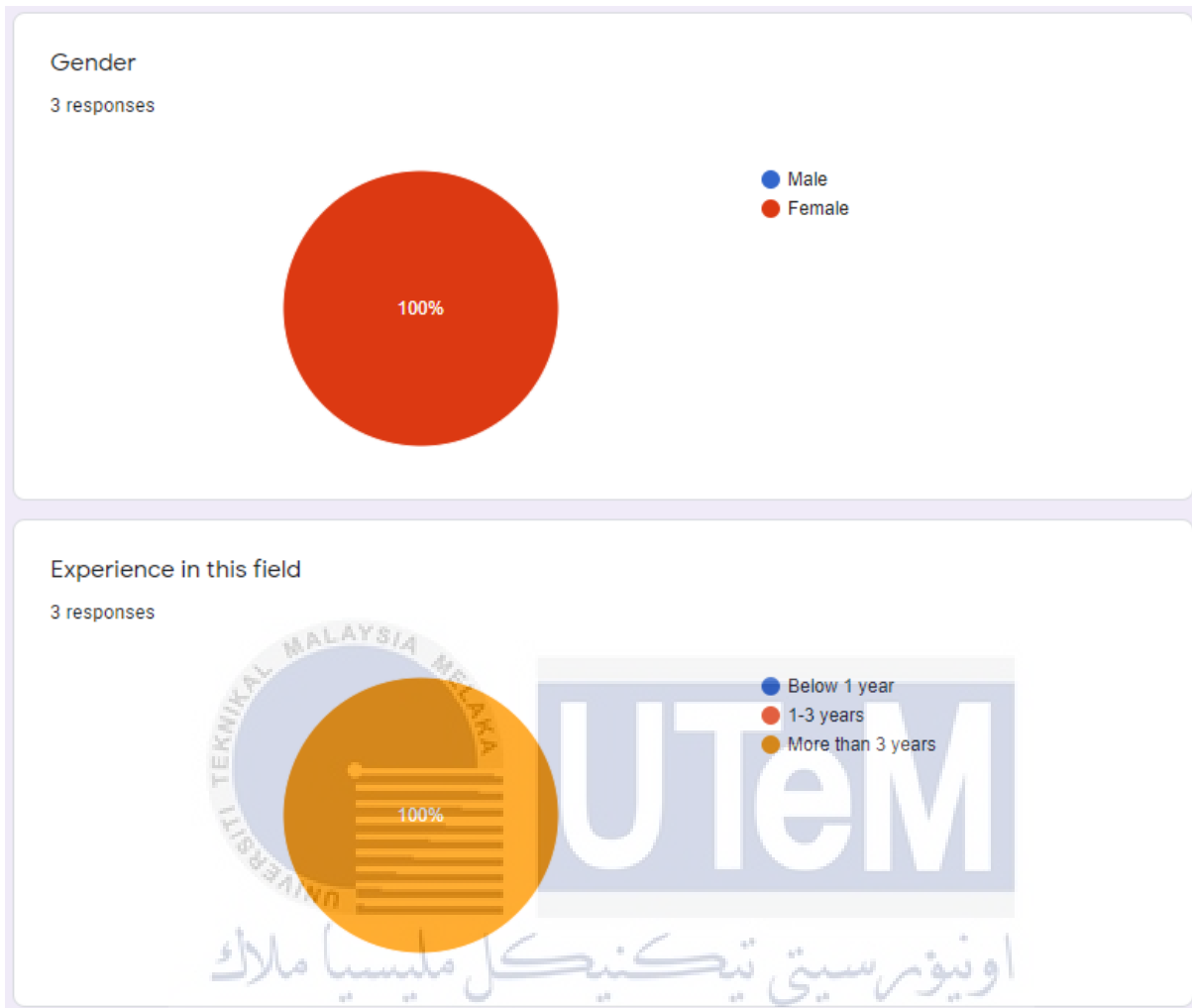


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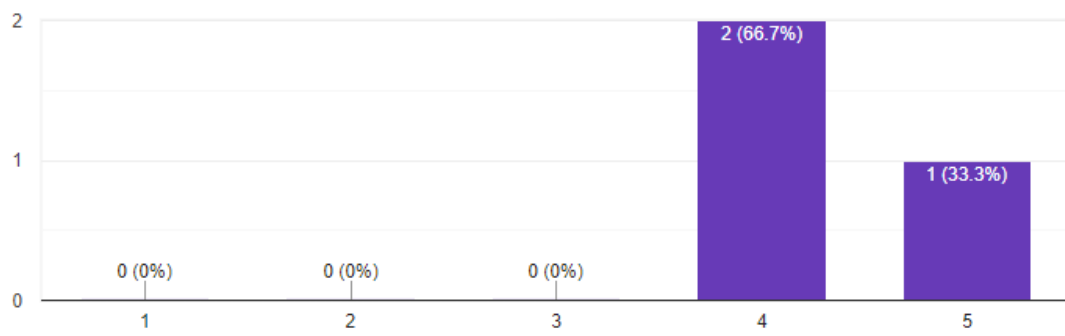


Multimedia expert testing result



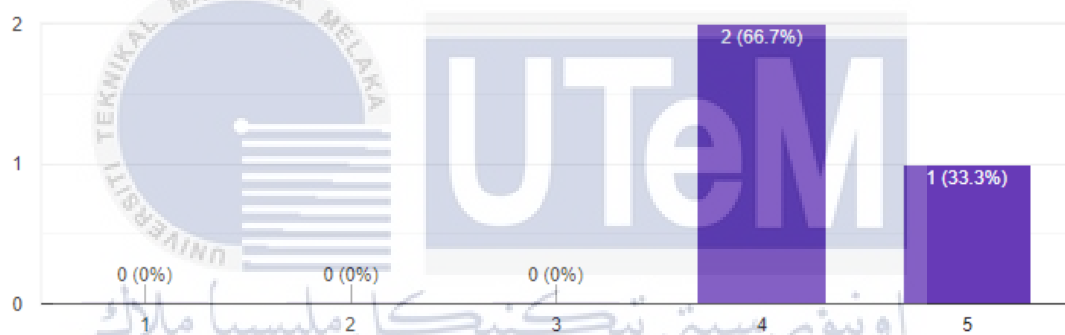
The content arrangement makes the delivery of history more effective

3 responses



The history able to give an impact to the user

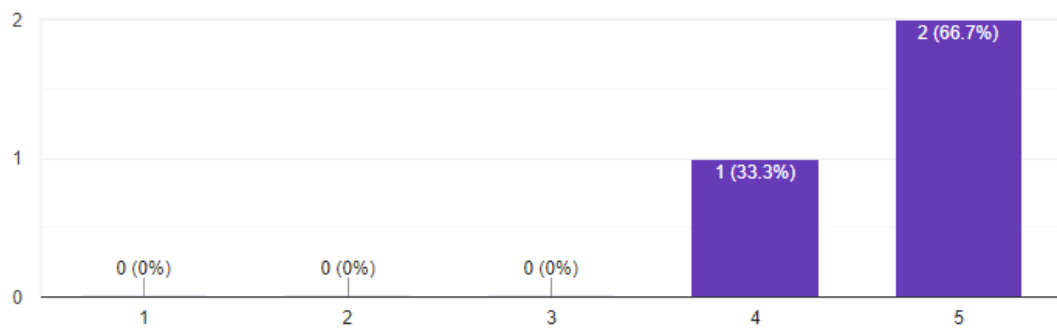
3 responses



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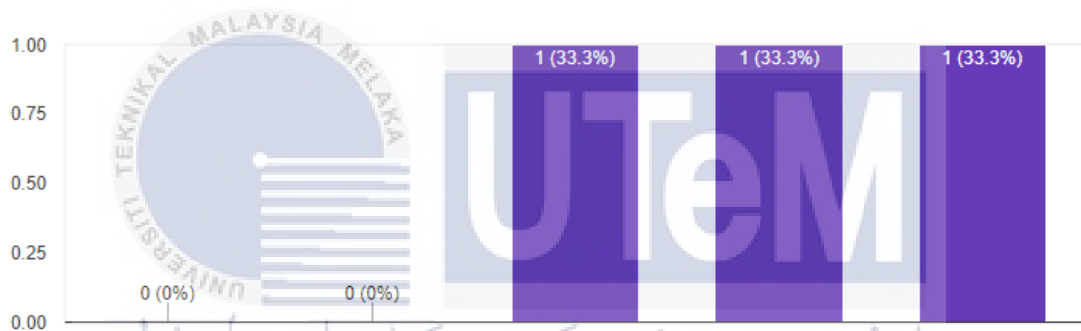
User can see this animation anywhere they want

3 responses



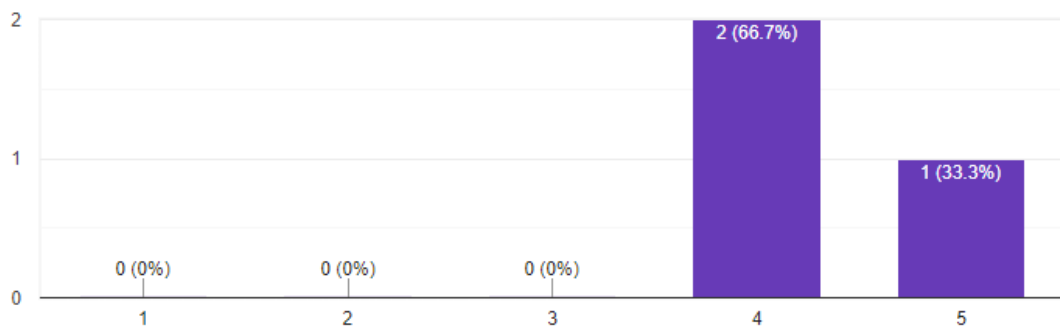
The story is easy to understand

3 responses



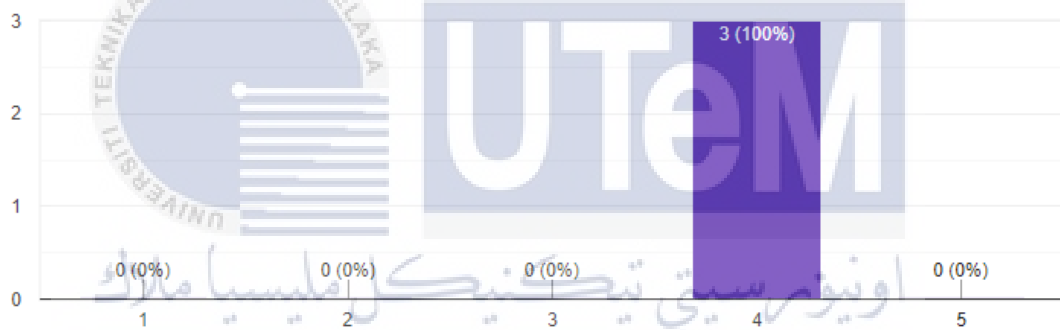
Animated videos provide a visualization of the historical material being taught

3 responses



The content of the animation for the user to gain knowledge about history tok janggut is appropriate.

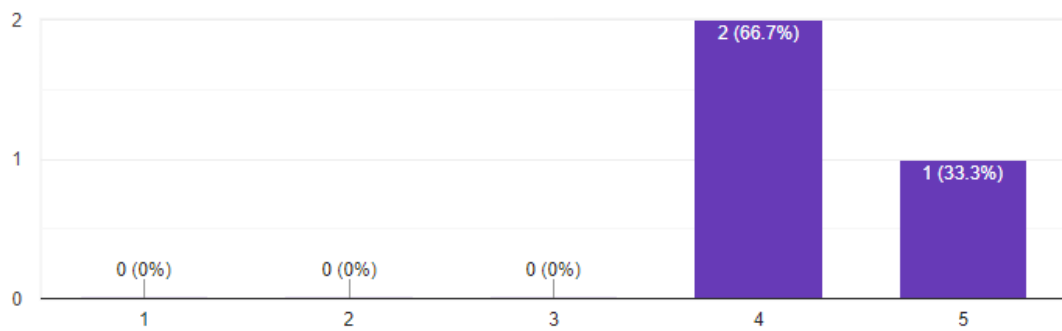
3 responses



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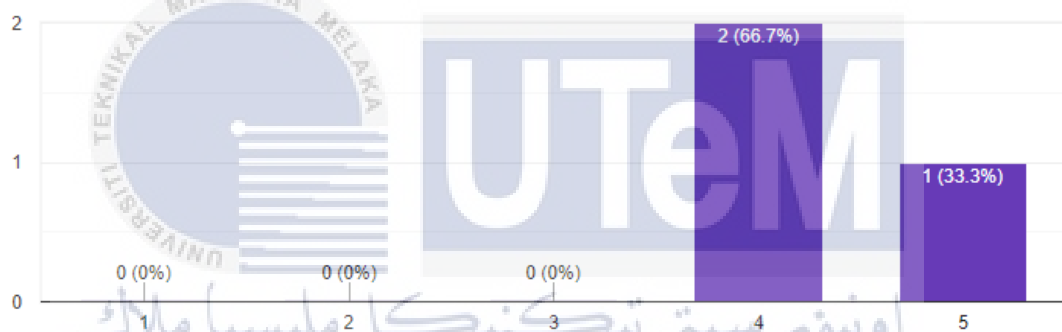
The character used in this animation is appropriate and attractive.

3 responses



The narration used in this animation is easy to understand.

3 responses



Section C: Comment and suggestion

Comment and suggestion:

2 responses

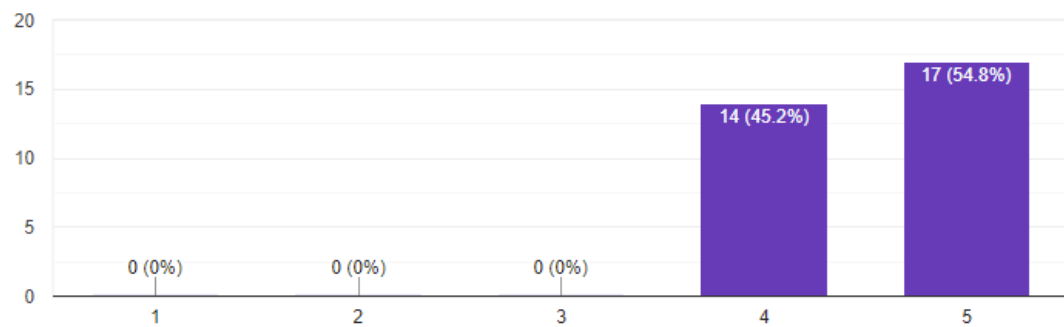
Good job 👍👍👍👍

Make an attractive teaser at first intro and the audience cant wait to see your previous animation. Well done

Target user testing result

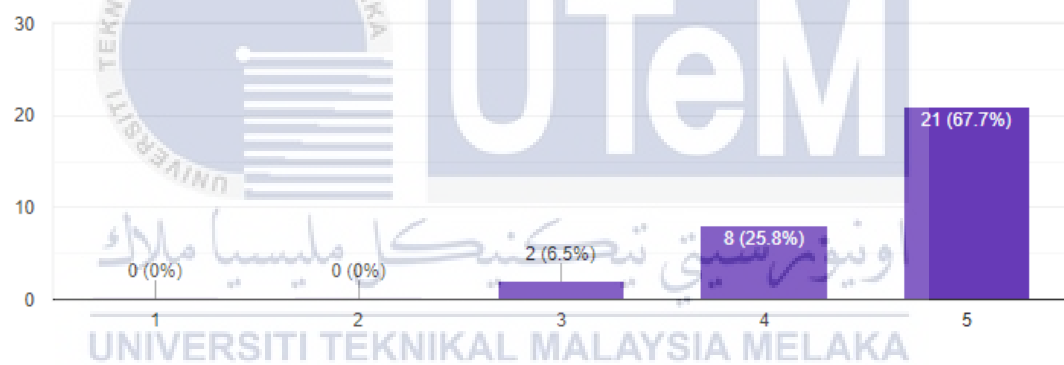
Adakah jalan cerita yang digunakan dalam animasi ini sama dengan sejarah dalam buku teks?

31 responses



Adakah watak yang digunakan dalam animasi ini sesuai?

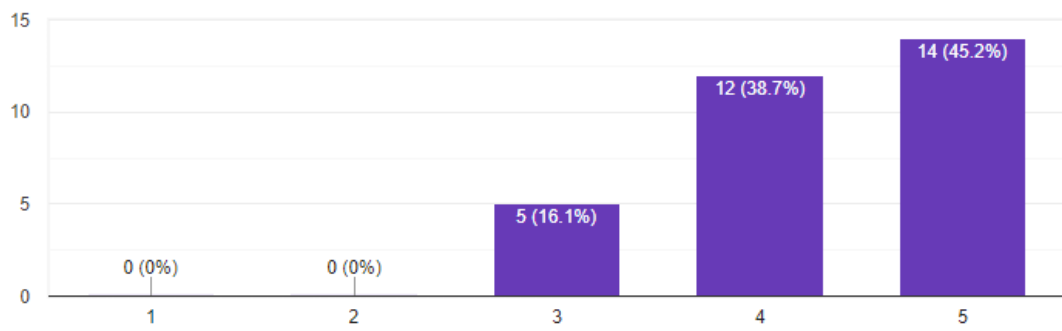
31 responses



Adakah muzik dan bunyi yang digunakan di dalam animasi ini sesuai?

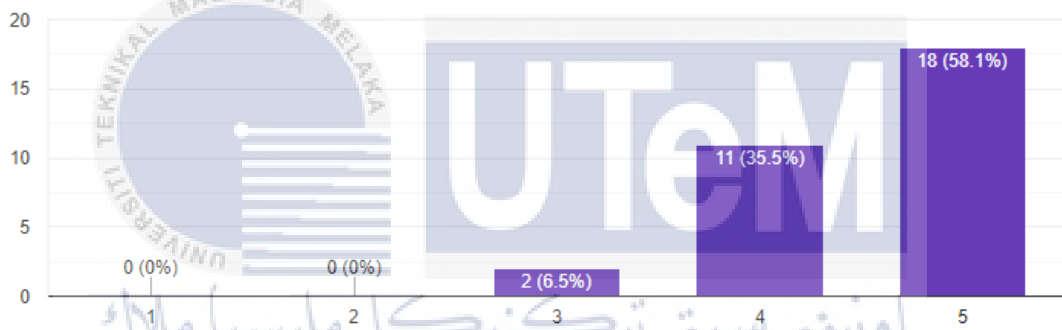


31 responses



Adakah anda faham tentang animasi ini?

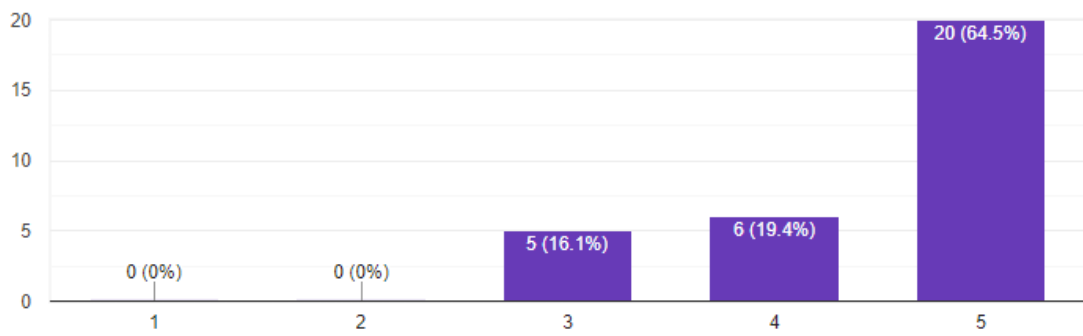
31 responses



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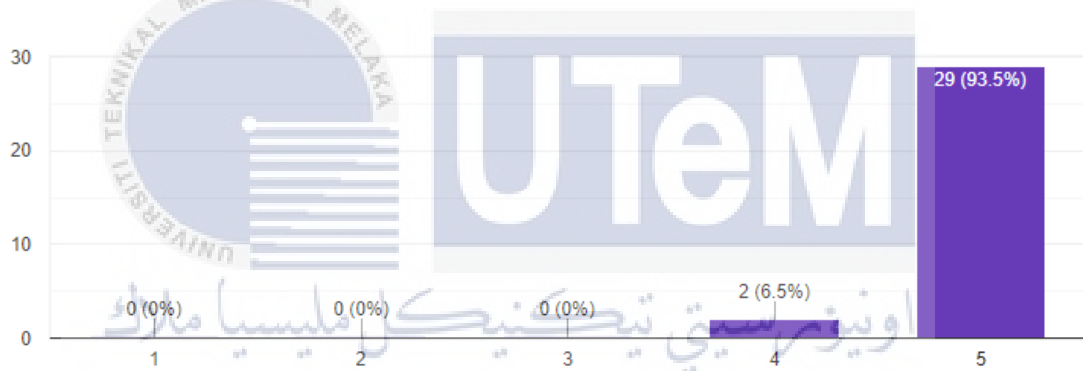
Adakah animasi ini memberikan penjelasan bahan lebih menarik?

31 responses



Pada pendapat anda, adakah anda rasa kaedah ini (animasi) lebih berkesan daripada kaedah lama (cth: buku teks)?

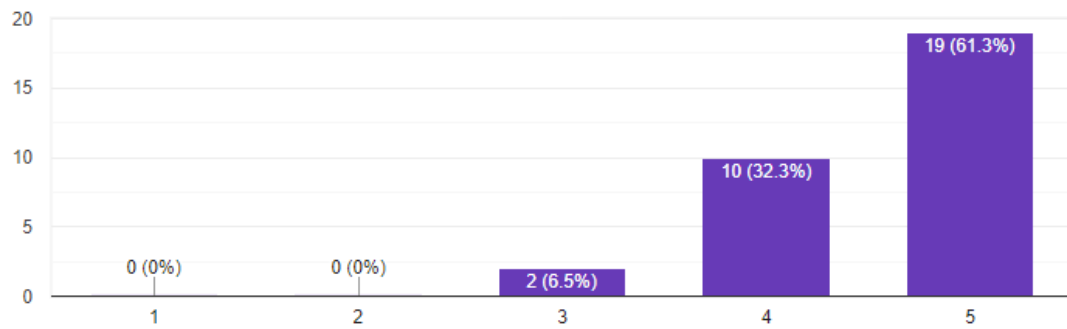
31 responses



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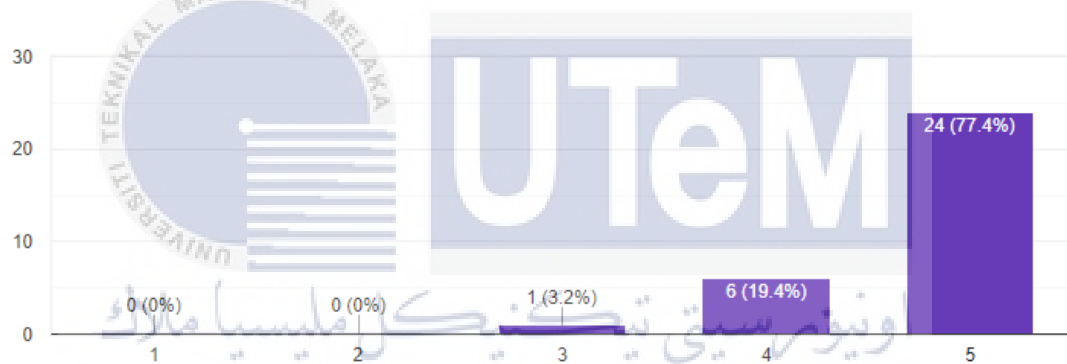
Saya mampu menerangkan kembali topik pembelajaran berdasarkan menggunakan animasi.

31 responses



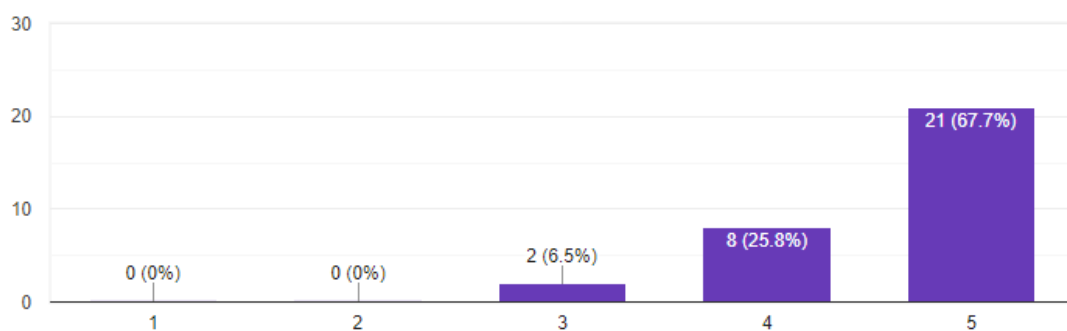
Saya lebih mudah faham terhadap sesuatu topik menggunakan animasi berbanding penerangan secara huraian teks semata-mata.

31 responses



Kefahaman yang diperoleh hasil daripada pembelajaran animasi membolehkan saya mudah melakukan aktiviti dan menjawab latihan yang diberikan

31 responses

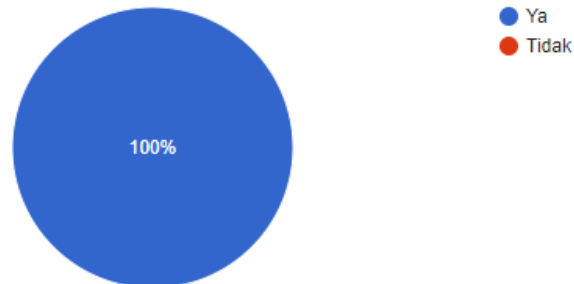


Subject matter expert testing result

Animasi ini menceritakan tentang sejarah tok janggut



2 responses



Adakah jalan cerita disusun dengan betul?

2 responses



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Adakah video animasi memberikan visualisasi bahan sejarah yang diajarkan?



2 responses



- Ya
- Tidak

Adakah video animasi membuat bahan pelajaran menjadi lebih mudah difahami?

2 responses



- Ya
- Tidak

Adakah video animasi membuat lebih mudah mengingati peristiwa sejarah?



2 responses



- Ya
- Tidak

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