COVID-19 AWARENESS THROUGH DIGITAL COMIC IN 2D ANIMATION VIDEO

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

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2021

DECLARATION

I hereby declare that this project report entitled

[COVID-19 AWARENESS TROUGH DIGITAL COMIC IN 2D ANIMATION VIDEO]

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

STUDENT : _____ _____ Date : __26 JUNE 2021__
(SITI NOR ATHIRAH BINTI ROSDAM)

I hereby declare that I have read this project report and found this project report is sufficient in term of the scope and quality for the award of Bachelor of [Computer Science (Interactive Media)] with Honours.

SUPERVISOR : ____ ____ Date : __26 JUNE 2021__
([ASS. PROF. TS. DR. HJH. NORASIKEN BAKAR])

DEDICATION

This final project is dedicated especially to my family for their support and motivation that keep me moving forward to complete my final project. Besides, I would like to thank my friend for helping and giving moral support if I gave up.

I also would like to dedicate my biggest appreciation to my Ass. Prof. Ts. Dr. Hjh. Norasiken Bakar for her guidance and useful advice that helped to accomplish this final project.

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Bismillahirrahmanirrahim,

Firstly, I would like to give all the praise to Allah S.W.T for giving me strength and patience for the whole process of completing this project. Without Him, I cannot complete this project according to what has been planned.

I would like to thank the people around me who keep supporting, guiding and helping me during the development of this project. Also, thanks to my supervisor, Ass. Prof. Ts. Dr. Hjh. Norasiken Bakar, for her guidance, constant supervision and kindness in completing this project.

I also would like to give special appreciation to my parents for their endless support of me.

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Also, thanks to my faculty as this project really teaches me a lot and tests my skills and knowledge about what I have learned for those 3 years in study.

Thank you.

ABSTRACT

As daily positive cases in Malaysia are growing rapidly, the project aims to develop digital comics that will help people become more aware of COVID-19 and evaluate the effectiveness of video-based digital comics. Adaptation in the digital age has led people to have an alternative approach to reading books through comics. The project still uses frames as separators between slots and is combined into one page to represent comic books. There are some simple 2D animations involved in each slot that will help viewers gain new knowledge on how to keep themselves from COVID-19. This digital comic is easy to read because it uses Malay as the language. The time it takes to complete this project is 22 weeks. The software used to produce this digital comic is Microsoft PowerPoint. To ensure this project is successful, two types of testing have been conducted which are alpha and beta testing. During the testing, there are several factors that need to be changed, including increasing the font size used and using more attractive animation techniques. In conclusion, this digital comic can enhance the effectiveness of comic readers. This digital comic can also be used by kindergarten teachers as a teaching material for students on ways to prevent the COVID-19 virus.

ABSTRAK

Disebabkan kes positif harian di Malaysia meningkat dengan pesat, projek ini bertujuan untuk mengembangkan komik digital yang dapat membantu orang ramai menjadi lebih peka terhadap COVID-19 dan menilai keberkesanan komik digital berasaskan video. Penyesuaian dalam era digital telah menyebabkan orang ramai mempunyai pendekatan alternatif dalam membaca buku melalui komik. Projek ini masih menggunakan bingkai sebagai pemisah antara slot dan digabungkan dalam satu halaman untuk melambangkan buku komik. Terdapat beberapa animasi 2D mudah yang terlibat dalam setiap slot yang akan membantu penonton untuk mendapatkan pengetahuan baru mengenai cara menjaga diri dari COVID-19. Komik digital ini senang dibaca kerana penggunaan bahasa Melayu sebagai bahasa penghantar. Tempoh masa yang diperlukan untuk menyiapkan projek ini adalah selama 22 minggu. Perisian yang diggunakan untuk menghasilkan komik digital ini adalah Microsoft PowerPoint. Bagi memastikan projek ini berjaya, dua jenis pengujian telah dijalankan iaitu ujian alfa dan beta. Semasa pengujian dijalankan, terdapat beberapa faktor yang perlu diubah, antaranya adalah meningkatkan saiz font yang digunakan dan menggunakan teknik animasi yang lebih menarik. Kesimpulannya, komik digital ini boleh meningkatkan keberkesanan para pembaca komik. Komik digital ini boleh juga diguna pakai oleh para guru tadika sebagai bahan mengajar kepada murid-murid terhadap cara-cara mencegah diri daripada dijangkiti virus COVID-19.

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LIST OF ABBREVIATIONS

2D	**-**	**Two-dimensional**
COVID-19	**-**	**Coronavirus Disease**
SME	**-**	**Subject Matter Expert**
IT	**-**	**Information Technology**

LIST OF ATTACHMENT

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CHAPTER 1: INTRODUCTION

1.1 Project Background

The coronavirus disease or COVID-19 is a new virus that began in Wuhan, China in December 2019. Coronavirus is an illness brought about by SARS-CoV-2 that can trigger what specialists call a respiratory plot infection. It can influence your upper respiratory tract (sinuses, nose, and throat) or lower respiratory parcel (windpipe and lungs). It spreads a similar way different COVIDs do, fundamentally through individual to-individual contact. Infections range from gentle to fatal. SARS-CoV-2 is one of seven sorts of COVID, including the ones that cause serious infections like Middle East respiratory condition (MERS) and unexpected intense respiratory disorder (SARS). The different COVIDs cause the wide majority of the colds that influence us during the year yet are insane not a genuine danger for in any case sound individuals. Some of the symptoms faced by frequently discovered patients are fever, dry cough and fatigue. The virus is spread very fast because the virus moves breathing or touch drops.

Digital comics or also known as electronic comics are the latest way to read comics. The first ever comic was *The Adventures of Obadiah Oldbuck* that was produced in 1842 (Chandran D, 2015). As time goes by, different genres of comics have been produced. Most international film productions make comics a platform to convey 'Easter eggs' to readers so that they can follow the storyline. For example, Marvel is one of the most well-known companies that publishes films based on comics. Digital comic earnings have made it easier for Marvel fans because they no longer have to wait for comic books to be delivered to their homes. Readers can access the comic through Marvel's official website or download the 'Marvel Comic' application. In Asia, digital comics have gotten exceptionally famous because of readers generally looking through titles on their cell phones and the lower obstruction to make their own

comics. In certain nations, digital comics have refreshed the business or even made them where they didn't exist previously. Digital comics are very suitable to be read using a tablet because of their wide size and seem to be the same size as a regular comic book.

1.2 Problem Statement

The Government of Malaysia has established a standard operating procedure (SOP) to reduce the spread of COVID-19 cases. In addition, various other initiatives are used to remind people how important care is in preventing the spread of the COVID-19 virus. Among them are placing posters at public transportation places and requiring the wearing of face masks as well as a fine of RM10, 000 if not done so. But there are still other Malaysians who take it easy on the SOP set by the government. They did not seem to be afraid of the virus until there was a group who said it was a scam designed by the westerners. Residents have separated various false info without checking its validity. This has caused doubt among the population. Earlier this year, the first COVID-19 vaccine arrived in Malaysia and the government was pleased to provide the vaccine for free to all Malaysians. There are still others who do not want to receive the vaccine and have been called anti-vaccine groups. These people have spread false information related to vaccines and caused a handful of people to panic and do not want to receive vaccines. According to the Minister of Health official website, the total number of COVID-19 positive cases in Malaysia was 5,293 as of 20 June 2021. Malaysia's chief health minister has repeatedly reminded people to always do their own quarantine by sitting at home if there is no important business outside to reduce the spread of this epidemic unnoticed. If this continues, there is no way positive cases in Malaysia will increase to thousands. The virus is not expected to disappear completely in the next few years.

1.3 Objectives

The objectives of this project are as below:

a) To develop a digital comic that can help kindergarten to be more sensitive to COVID-19.

b) To enhance the user experience when reading digital comics through video.
c) To evaluate the effectiveness of video based digital comics compared to old versions of comics.

1.4 Scope

The target user in this project is focused on kindergarten and it is also suitable for all. They can earn awareness campaigns about the COVID-19 in digital comics. This project is also suitable for people who want to try new ways to read digital comics as they can be easily accessed through YouTube because this project will be presented in a continuous video. Users can use their own smartphone, tablet or computer to read this digital comic. As this project is localized in Malaysia, this project will use Malay language to ensure that all Malaysian can understand and are able to read the digital comic.

1.5 Project Significance

As the digital comic focuses on the topic of awareness of COVID-19, ways to prevent the COVID-19 virus from spreading without realizing it will be shown in digital comics. This project will benefit everyone as they can learn knowledge through reading digital comics through video.

1.6 Conclusion

In conclusion, this chapter briefly explained about the purpose and the objectives that will be carried out along the project. For the next chapter, methodology of the project will be discussed.

CHAPTER 2: LITERATURE REVIEW & PROJECT METHODOLOGY

2.1 Introduction

This chapter will discuss the findings and research of the related topic about 2D animation and digital comics. Besides, this chapter also will cover the project methodology to show the process of development and the requirements such as software and hardware in order to develop the digital comic.

2.2 Domain

In this part, the concept of visualization will be discussed which are the concept of digital comics, style of comics, definition and concept of 2D animation.

2.2.1 Concept of Digital Comic

Like print comics, digital comics are a wide medium, and albeit huge numbers of comic-known things from a look, it's difficult to make a bunch of highlights that apply to all things that can be viewed as a digital comic. The advanced idea of comics can arrive at a few unique parts of creation and utilization. For instance, many printed comics are currently made utilizing computerized programming. There are digital book forms of comics accessible, just as applications. Some digital comics are intentionally made to be perused in computerized designs, while others are variations from print distributions. A part of these comics utilizes computerized innovation expressly through hyperlinks, movement, or sounds, while others firmly look like printed comics yet have been distributed on advanced stages. Any of these highlights seemingly permits comics to be alluded to as digital, while a few viewpoints, for example, digital born comic might be nearer to the overall impression of what digital comics mean than others like have been made utilizing programming bundles.

2.2.2 Styles of Comics

Comic books began in the late 19th century. Since then, a wide collection of comic books has been produced and various comic delivery styles have been introduced. For example, many comic artists now use digital platforms to draw their comics because digital comics have more place in the hearts of comic readers in this age of information technology. Comic artists have used various types of art styles.

2.2.2.1 Franco-Belgian Comic

In 1908, the Franco-Belgian comics were first published through newspapers as “episodes” and became sarcastic materials addressed to peers and government bodies (UKEssays, 2018). Currently, speech bubbles are not yet in use because it is still in accordance with the traditional text comic format where the text is written under the image. People can get this comic book nowadays as a hardcover book which contains a compilation of stories with different genres. Among the famous characters through the Franco-Belgian comics is "The Smurfs". In Franco-Belgian comics, all the pages are arranged in neat tiers and usually are highly stylized drawings like exaggerated proportions, bug eyes and large nose. The gutters are white and evenly sized. The colors used are black and white or saturated colors with very shading. Speech bubbles, onomatopoeia and character never spill outside the frames.

Figure 2-1 Example of Franco-Belgian Comics Style

2.2.2.2 Graphic Comic

Graphic novels are typically interpreted as a long comic story for mature people, distributed in hard or soft covers and sold in book shops, with pure scientific subjects and fine craftsmanship. Graphic novels are often not unique in distribution, but are responded to by various types of comics distributed in a subsequent manner. Although some materials are shipped mainly to the graphic novel market, bookstores and libraries do not make authentic adaptation, so graphic novel terms often fill no

genuine expressive reasons (Murray, 2017). Nowadays, graphic novels help children practice reading because they contain texts and images same as the comic strip style.

Figure 2-2 Example of Graphic Novel Comic's Style

2.2.2.3 Superhero Comic

Superhero comics have existed for 80 years ago and the characters that appear are not superheroes who have superhuman powers. They began with ordinary characters such as Popeye (1929) and The Phantom (1933) (Staff, 2017). Comic fans and collectors divide the era of superhero comics into 4, Golden (1938-1950), Silver (1956-1970), Bronze (1970-1985) and Modern (1985-present). In 1938, Superman was introduced by DC as the first superhero character to wear a costume. Superhero comics are used as references to create great movies nowadays.

Figure 2-3 Example of Superhero Comic

2.2.2.4 Manga

Manga comics is one of the styles of comics originating in Japan and has a place in the hearts of comic lover. These comics are very different from previous comics due to their right-to-left reading methods and their frames are more dynamic and flexible. For some, they consider these manga comics to be just reading for children, but manga comics can be read by all ages because they have a very large genre.

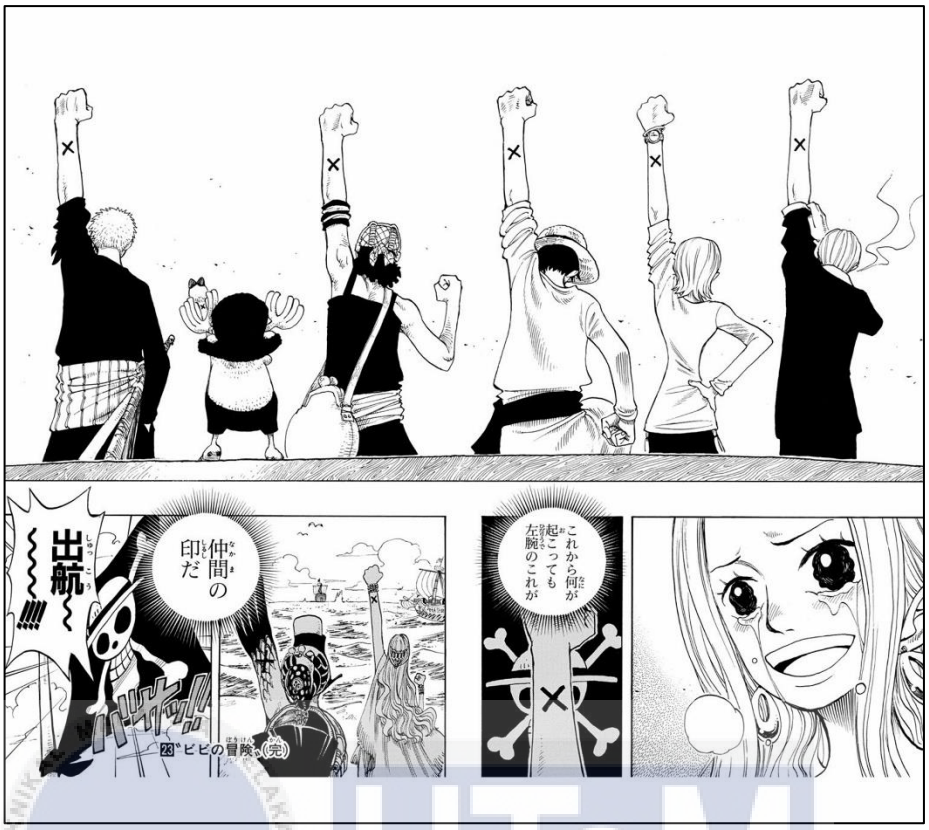


Figure 2-4 Example of Manga Comic

2.2.2.5 Webtoon

Chollian was the internet service engine in 2000 and established Chollian Webtoon for readers and that's where webtoon became famous (Yun, 2019). It's almost manga-like features make it easy to be accepted by comic readers. The difference between webtoon and other comics is the way they are read vertically. Without need to toe the line of complex panel arrangement, readers can directly look on the image-by-image format that has been arranged (Astatabrata 2019). Various digital comic applications using webtoon comic's style.

2.2.3 Definition and Concept of 2D Animation

A 2d animation is defined as a drawing or graphic that changes on each frame or cell. 2d animations also come in various shapes such as moving objects, drawings and even text. It has been used as a medium for conveying messages and storytelling. Traditionally, cells or frames have been drawn one by one and placed in an elongated order. While in today's era, 2d animation is very easy to design using software but still

uses the same concept. The 2d animation is not like a 3d animation that has volume to make it more realistic. It is more famous for its flat and neat nature.

2.3 Existing System

From the research, most existing systems for comic books are already implemented such as the printed comic and interactive comic. Below is the existing system that is related to this project.

2.3.1 Comparison of Existing System

This section will discuss the comparison between printed comics, interactive comics and digital comics.

Table 2-1 Comparison between Printed Comic, Interactive Comic and Digital Comic

	Printed Comic	Interactive Comic	Digital Comic
Printing cost	High	High	Low
Environmentally friendly	No	No	Yes
Number of people can approach	Limited	Limited	Unlimited
Chapter updated	Need to compile a few chapters before publishing	Need to compile a few chapters and character before publishing	Easy to update whenever complete a chapter

Internet access	No	Yes	Yes, if read on website, No if it has downloaded

2.4 Project Methodology

Methodology is the analysis of the principles or procedures of inquiry in a particular field or a particular procedure or set of procedures. A system of ways of doing, teaching or studying something. This project will be developed using the Process Multimedia Production methodology. Multimedia Production Process is to develop efficient products that meet cost, quality and time constraints. This methodology cycle is divided into three stages namely pre-production, production and post-production and each consists of two different phases starting with analysis, design, development, implementation, testing and evaluation.

The project will begin with an analysis phase where the need for the project is to identify and understand. Previous studies of this project will be analyzed to study the existing systems and the lack of current systems. In this phase, the goal of the project is defined to determine the function and operation of the intended product. In addition, this phase involves the process of collecting and interpreting facts and diagnosing. Project goals will be further assisted by analysis of end-user needs and imperfect and insufficient changes in these requirements.

In the design stage, desired features and tasks are portrayed in detail. In the development stage, the development of the 2D graphics and animation video will be created. The software required will be added. The next stage is implementation. The implementation process is assembling all the data and configuration to develop the video to suit the viewer needs.

The following stage is testing. All modules are united into an exceptional testing climate. In the last stage is evaluation. This is an estimating stage where to test the proficiency and adequacy of the video. The viewer feedback is gathered during this

stage. When the program passes this stage, the undertaking is fit to be delivered for public use.

2.5 Project Requirement

2.5.1 Hardware Requirement

a) Laptop

2.5.2 Software Requirement

a) Adobe Illustrator

b) Microsoft Office Word 2013

c) Microsoft Office PowerPoint 2013

d) Audacity

e) YouTube

f) Google Form

2.6 Conclusion

As a conclusion, this chapter described the digital comics and 2D animation video. There are a few domains in this project which are the definition of comics, style of comics, definition and concept of 2D animation. Project requirements including hardware and software requirement have also been mentioned in this chapter.

CHAPTER 3: ANALYSIS

3.1 Introduction

This chapter focuses on a detailed study of the project to understand more about this project. The needs analysis section, an information collection is carried out for analysis. The information collected is based on a questionnaire conducted to 20 respondents to find out their level of knowledge on personal care from the COVID-19 virus. The analysis will also determine the source requirements for successfully developing this 2D animated video. This includes related software and hardware requirements that will provide the best assistance during the development phase. The analysis being carried out will help and make the development of the project sailing smoothly.

3.2 Requirement Analysis

Requirement analysis is carried out based on project specifications to be proven. This analysis includes project requirements, software requirements, hardware requirements, and other requirements.

3.2.1 Project Requirement

The project requirement will be gathering the requirements and specific techniques that are used in this project.

3.2.1.1 Requirement Gathering

The requirement gathering type that was used for this project is questionnaire. The set of questionnaires is distributed to the public to obtain data from their experiences.

(a) Questionnaire

A questionnaire is a research instrument consisting of a series of questions for the purpose of gathering information from the respondents. Questionnaire is a kind of written interview and can be carried out by phone, computer, face to face and so on.

A set of questionnaires was distributed to 20 respondents. The questionnaire was divided into third parts and contained 20 questions. The first part of the questionnaire is about personal information, the second part is about how well they know about COVID-19 and the last part is about digital comic basic knowledge.

The first question is the gender of the respondent. There are 18 respondents with a percentage of 90% are female while 2 respondents with a percentage of 10% are male. The number of females who answered this questionnaire is more than male respondents.

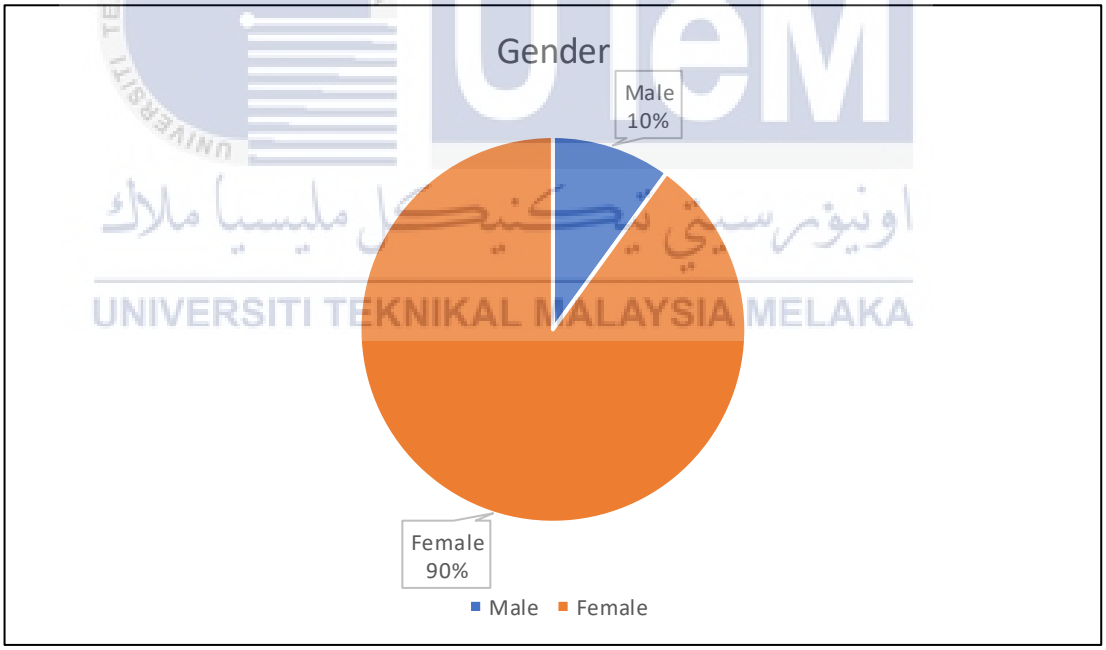


Figure 3-1 Gender of Respondents

The next question is the race of the respondent. 100% of the respondents are Malay. Figure 3-2 shows the result.

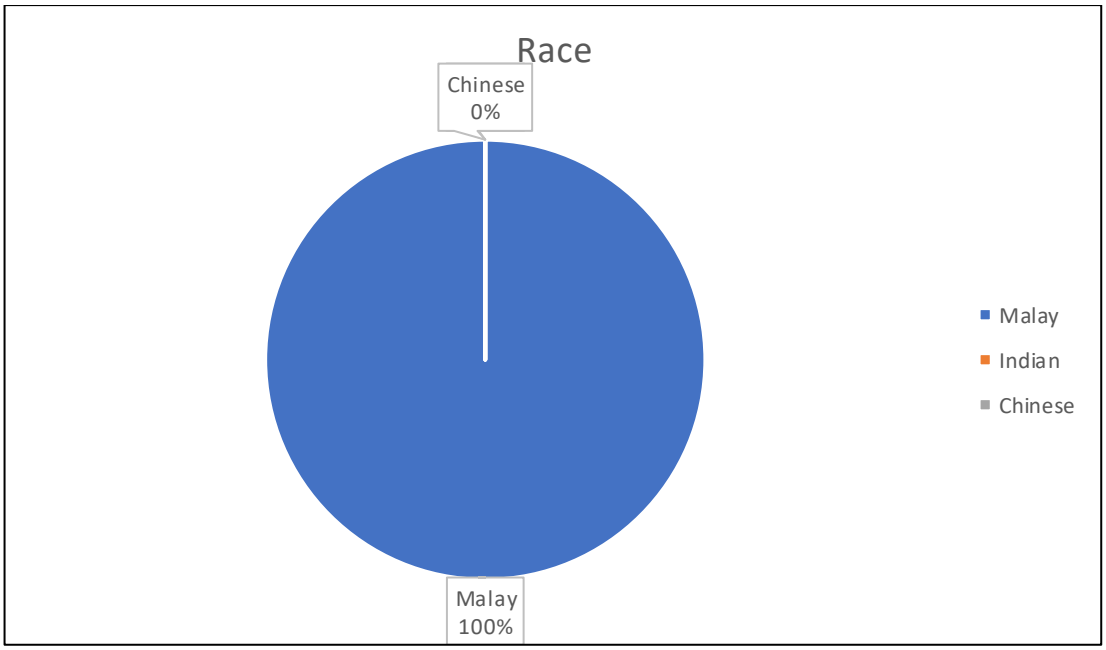


Figure 3-2 Race of Respondents

The third question is the age of the respondents. There are 15 respondents (75%) are from the age 18-24, 3 respondents (15%) are from the age below 18 and age 35-44 and 45-54 years have 1 respondent for both with a percentage of 5%.

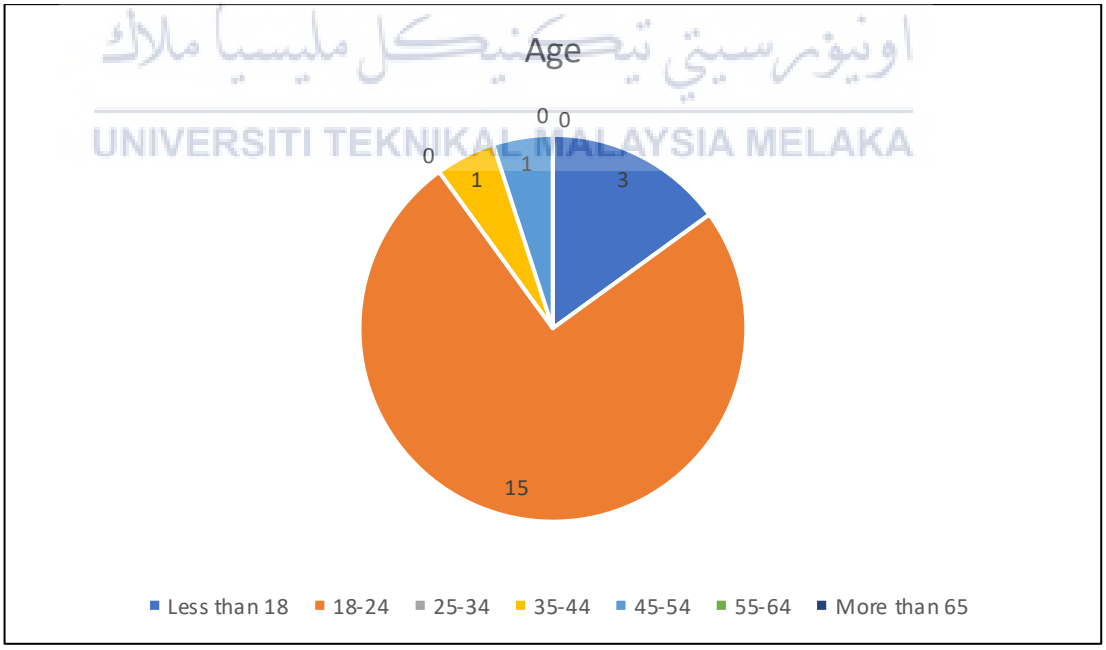


Figure 3-3 Age of Respondents

The next figure shows the education level of respondent. 9 of respondents (45%) from diploma, 7 respondents (35%) from degree, 3 respondents (15%) from high school and there is a respondent that are uneducated (5%).

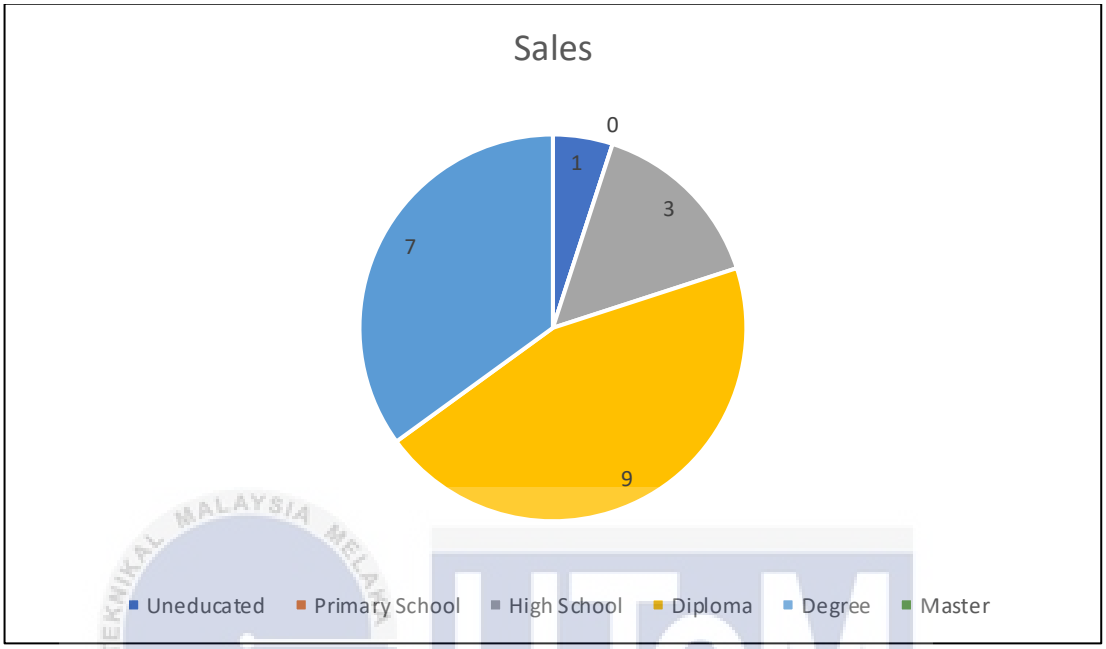


Figure 3-4 Education Level of Respondents

For section 2, respondents need to answer questions on basic knowledge about COVID-19. From Figure 3-5, there are 11 respondents (55%) that know COVID-19 virus, 8 respondents (40%) are not sure if they know enough and there is a respondent that did not know well about the virus.

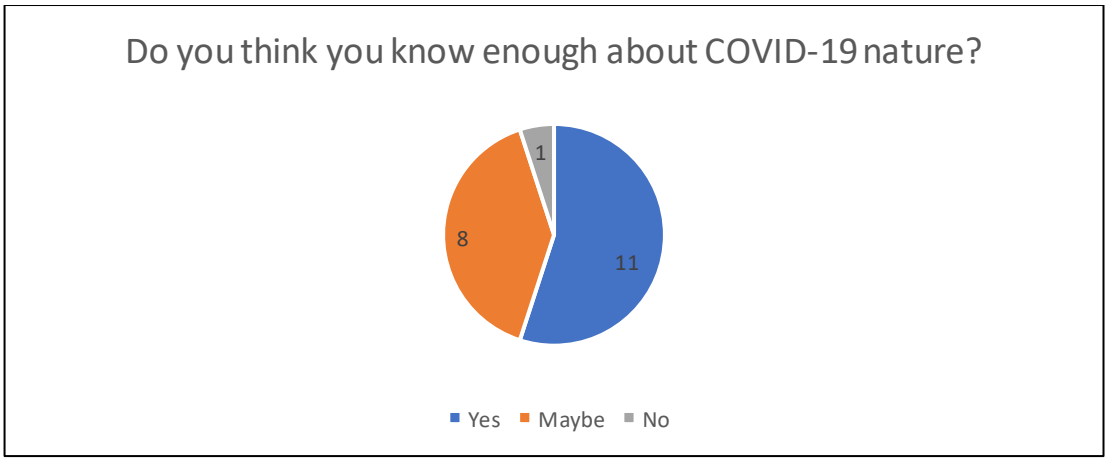


Figure 3-5 Do Respondents Know Well COVID-19

The next question is about if the respondents know about COVID-19 precautionary measurements. The majority of the respondents (95%) know well and there is a respondent who is not sure if she knows well enough about COVID-19 precautionary measurements.

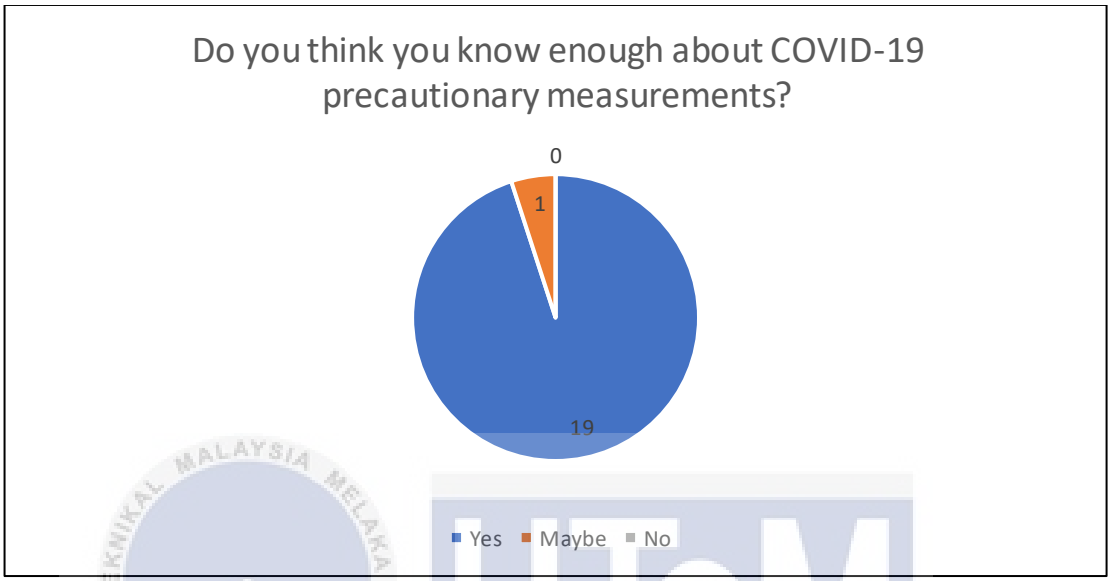


Figure 3-6 Do Respondents Know COVID-19 Precautionary Measurements

The figure shows the source of information about COVID-19. The majority of respondents choose social media (90%) as their main source of information, followed by the Minister of Health website (80%), the message application (70%) and electronic media (70%), print media (40%) and YouTube (5%).

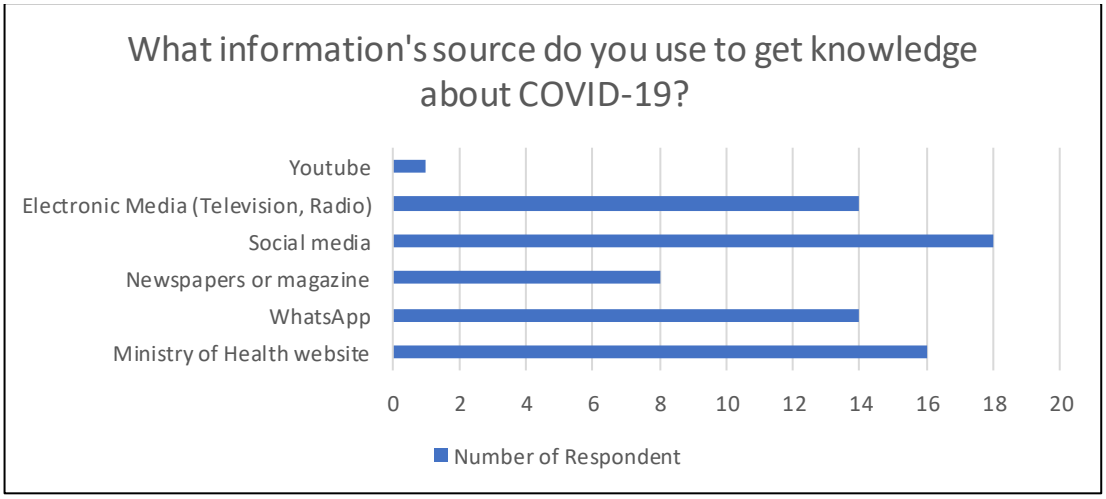


Figure 3-7 Source of Information about COVID-19

Respondents also need to answer a question regarding the infection symptoms of COVID-19. The highest symptoms that answered by respondent are fever and sore throat with the percentage of 95% for both symptoms, followed by difficulty breathing (90%), fatigue and weakness with headache (75%), chest pain (65%), dry cough (60%) also sneeze and diarrhea with percentage of 25% for both of it.

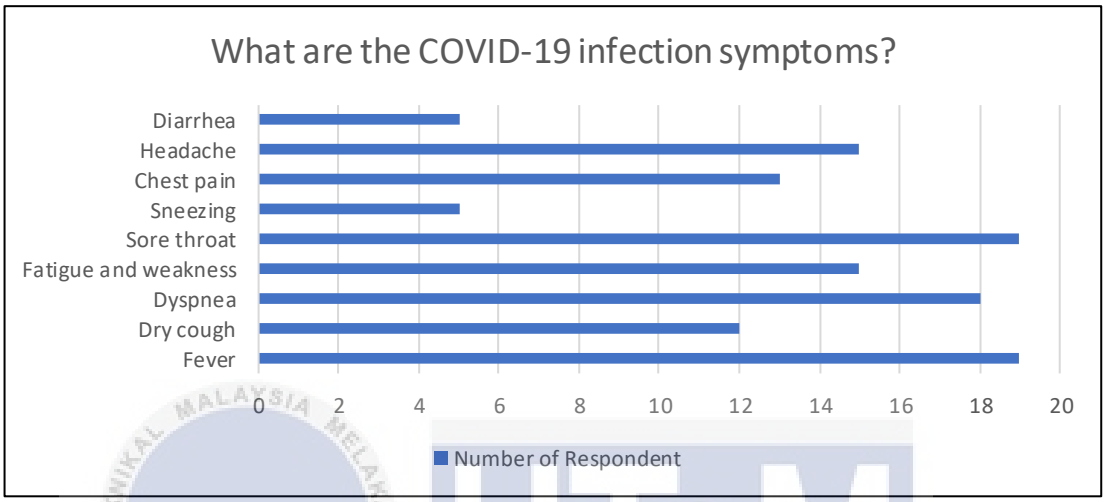


Figure 3-8 Infection Symptoms of COVD-19

The next question is about the most serious symptoms. The majority of the respondents (50%) answered difficulty breathing, fever and chest pain (10%), dry cough and headache (5%) and 20% of respondents did not answer the question.

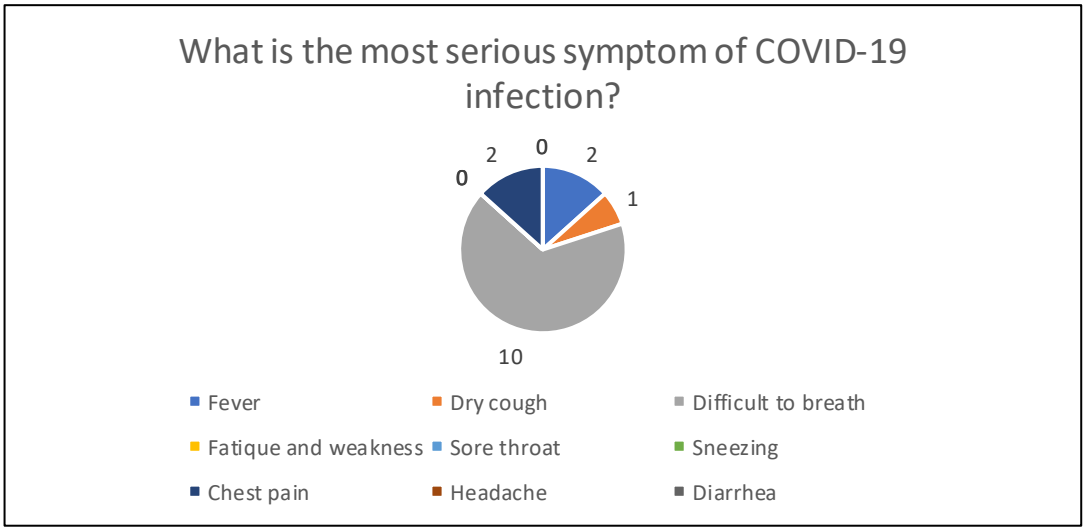


Figure 3-9 Most Serious Symptoms of COVID-19

The figure shows how COVID-19 can be transmitted. The majority of the respondents answer handshaking (90%), airborne (55%), droplets (50%), contact with contaminated surfaces (40%) and contaminated foods and drinks (15%).

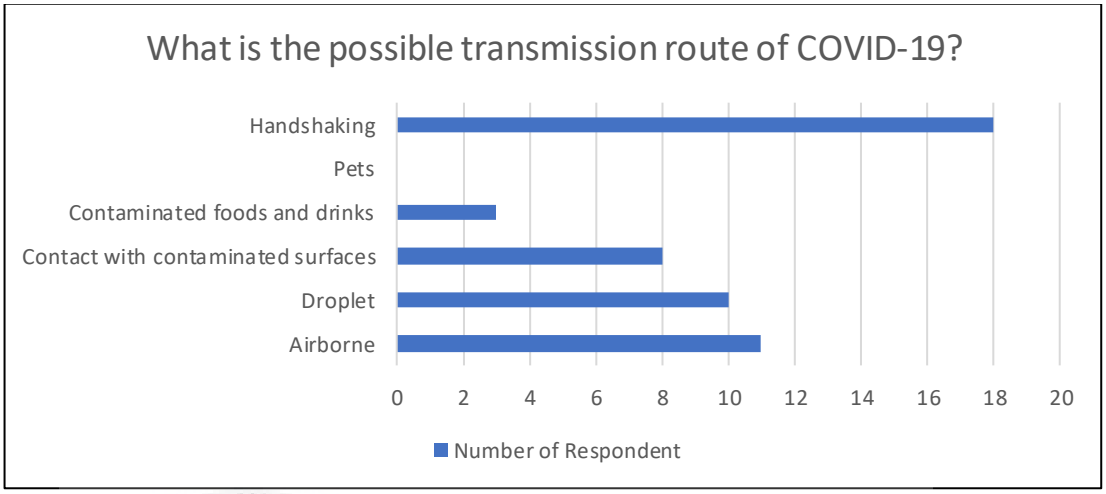


Figure 3-10 Possible Transmission Route of COVID-19

Respondents need to answer the precautionary measurements to reduce the risk of COVID-19. All of them answered by washing with alcoholic disinfectant and wearing face masks. Other than that, practicing social incarceration has the percentage of 95% along with avoiding confined space and hand washing with water and soap (90%), avoiding close conversation (85%) and placing a hand at the shoulder of the greeting sign (75%).

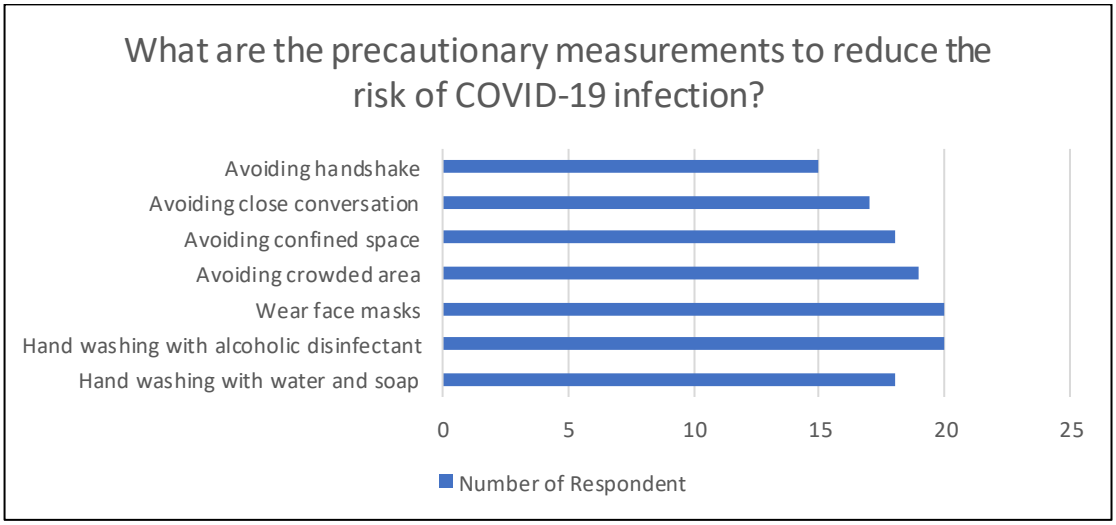


Figure 3-11 Precautionary Measurements to Reduce the Risk of COVID-19

The next question is about the consequences of COVID-19. 95% of respondents choose death, organ failure with 50%, permanent disability with 25% and no side effects with 5%.

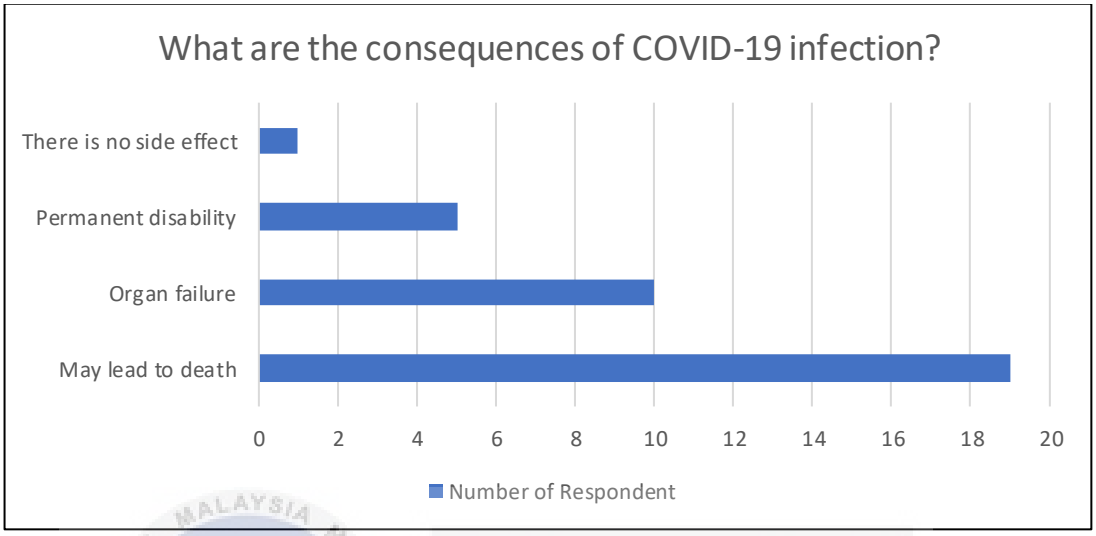


Figure 3-12 Consequences of COVID-19 Infection

The next figure shows the most susceptible group to death due to COVID-19. 11 of respondents answered all are susceptible (55%), 8 of respondents chose geriatric (40%) and a respondent answered pregnant women (5%).

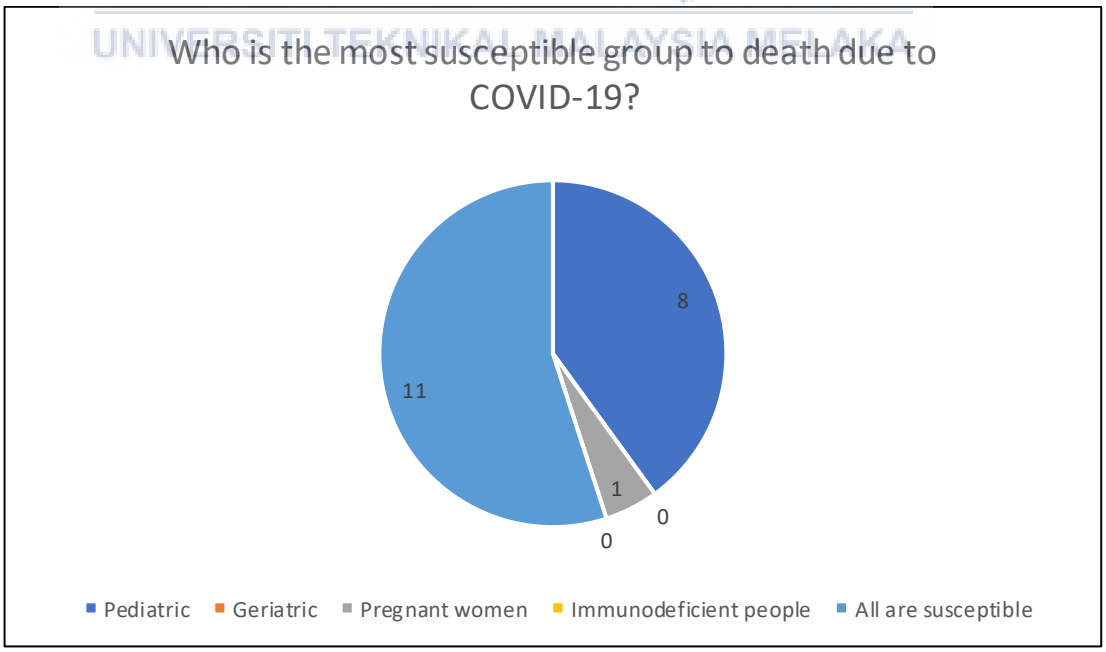


Figure 3-13 Most Susceptible Group to Death Due to COVID-19

For section 3, respondents need to answer questions on basic knowledge about digital comics. There 16 of respondents (80%) know digital comics and 4 of respondents (20%) otherwise.

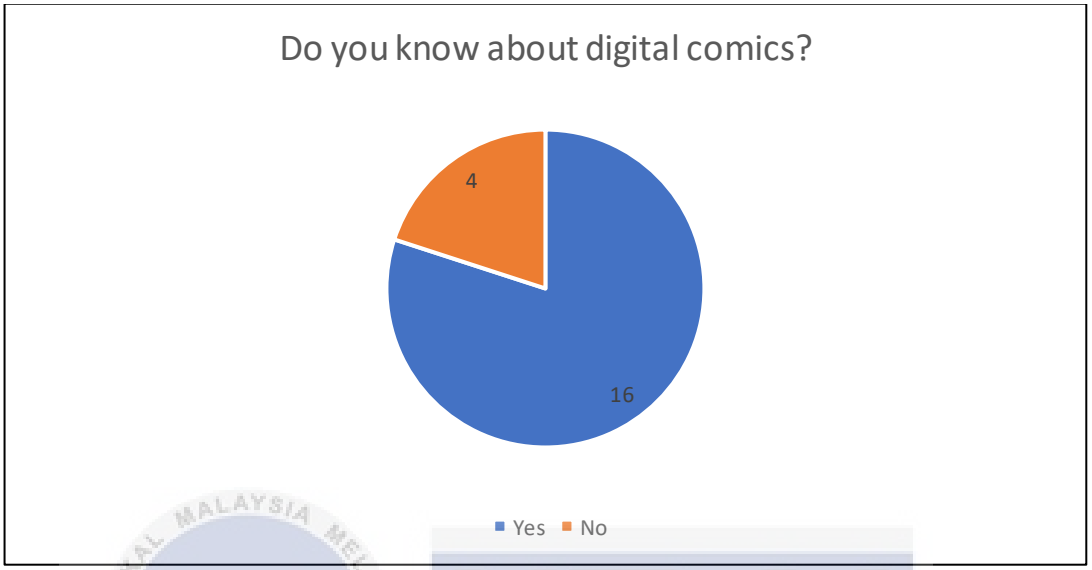


Figure 3-14 Respondent Know About Digital Comic

There are 16 respondents who have read or seen digital comics (80%) while 4 respondents have never read or seen digital comics (20%).

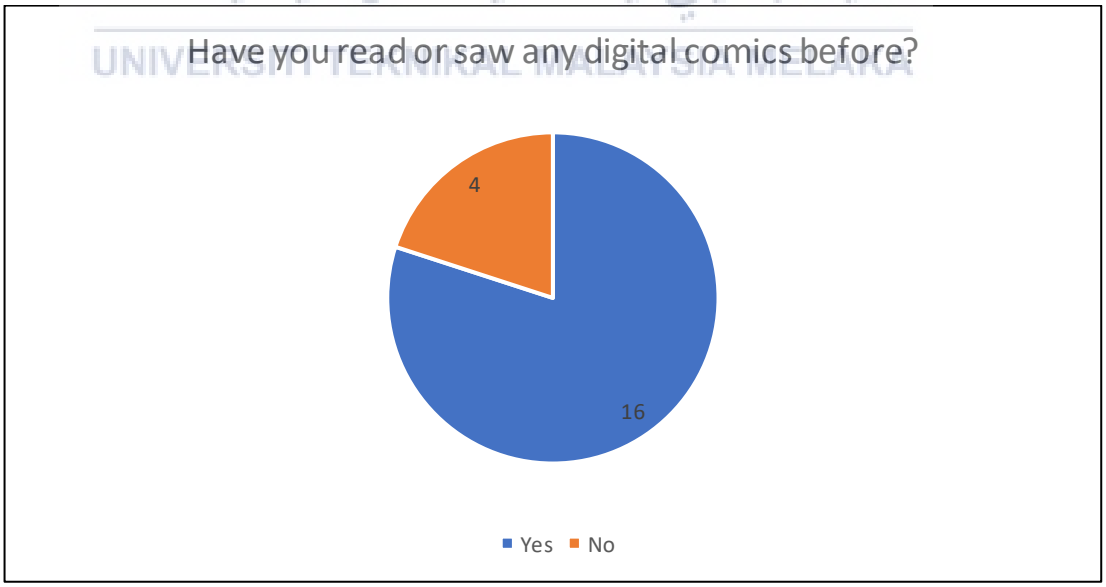


Figure 3-15 Number of Respondent that Have Read or Saw Digital Comic

37.5% of respondents read digital comics from both application and social media and 12.5% of respondents read at comic websites and 12.5% of respondents read from all choices provided.

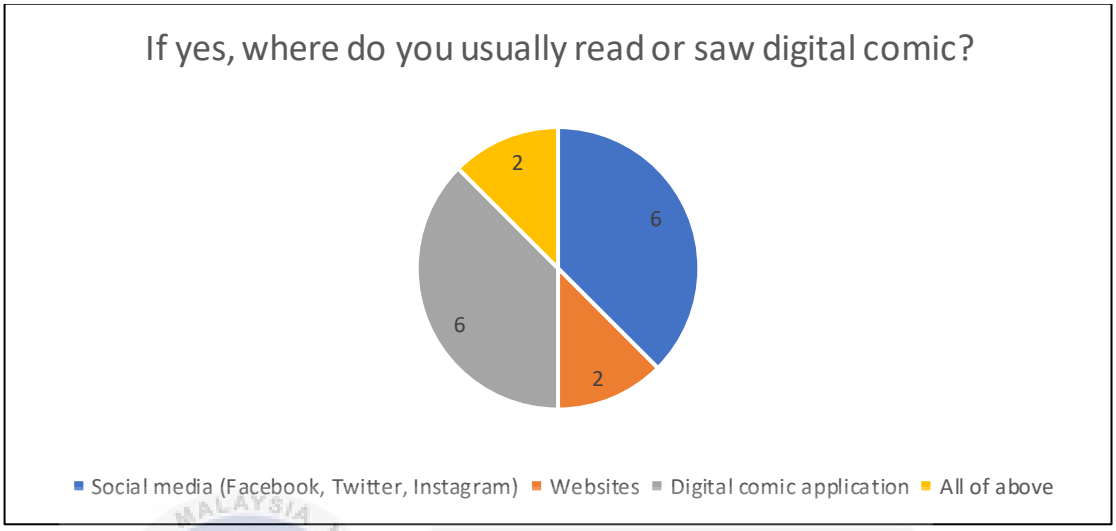


Figure 3-16 Source to Read Digital Comic

The Figure 3-17 below show how many people are interested in learning COVID-19 prevention through digital comics. 12 respondents answered yes (60%), 6 respondents said maybe (30%) and the rest are not interested (10%).

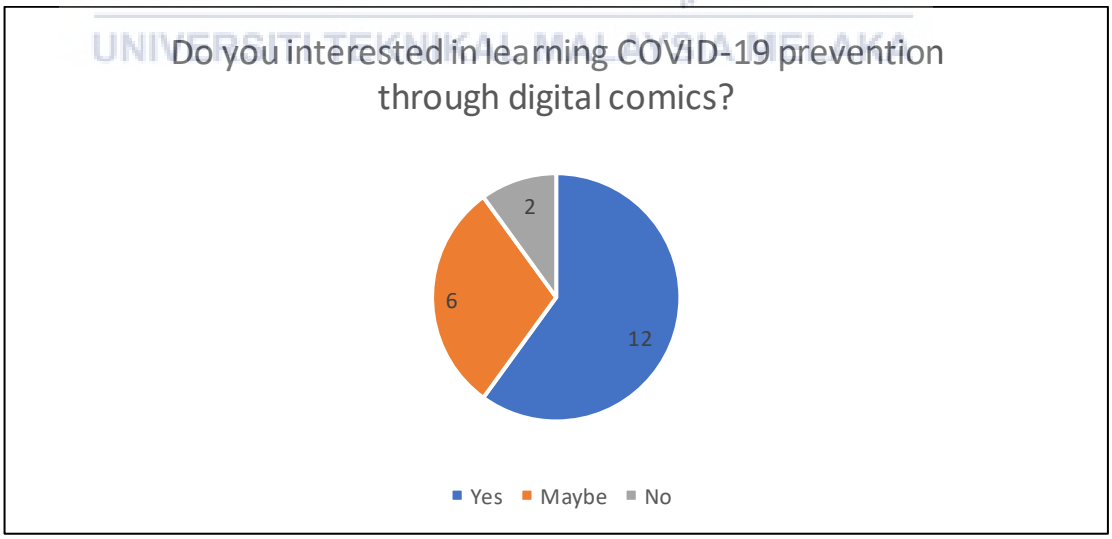


Figure 3-17 Number of Respondent that Interested to Learn COVID-19 Prevention through Digital Comics

For the next question, respondents must state reasons why they want to learn COVID-19 prevention through digital comics. To gain more knowledge and more attractive options gain the same percentage of respondents (50%).

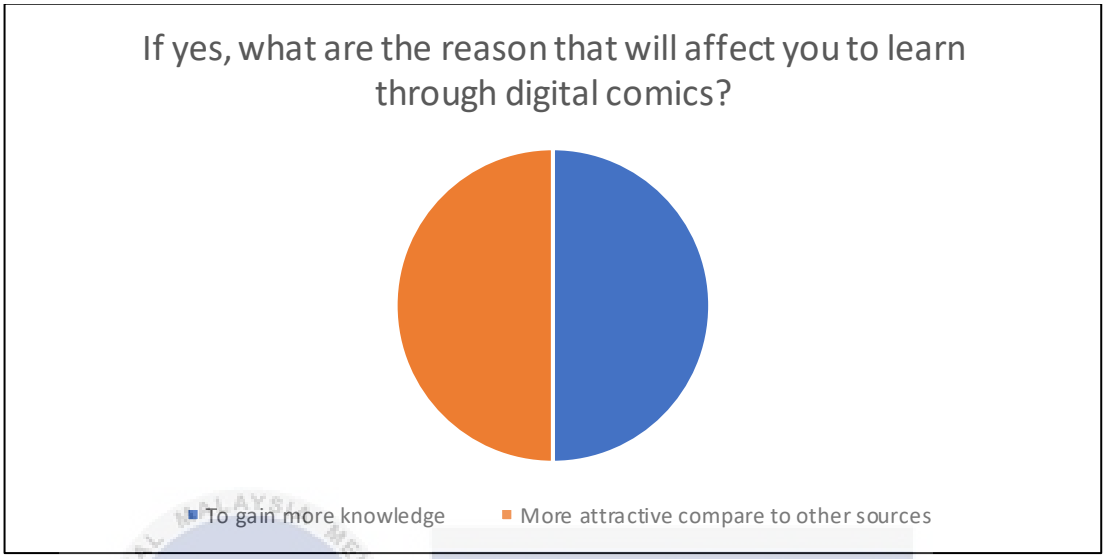


Figure 3-18 Reason to Learn COVID-19 Prevention through Digital Comics

All the respondents agreed that digital comics can help them in understanding the prevention of COVID-19 and digital comics can be presented through video. Figure 3-19 and Figure 3-20 show the result.

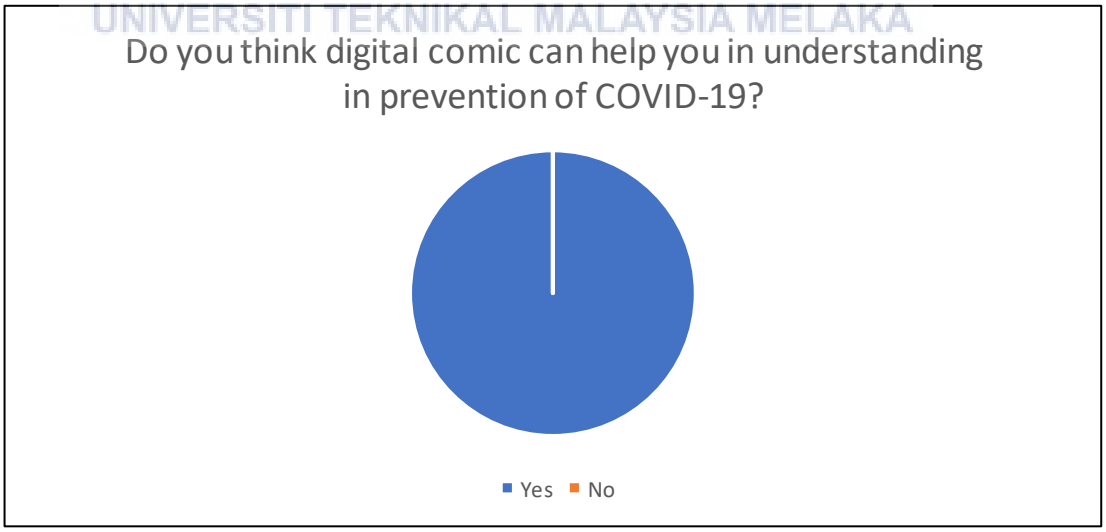


Figure 3-19 Number of Respondent Agree that Digital Comic can Help More Understanding in COVID-19 Prevention

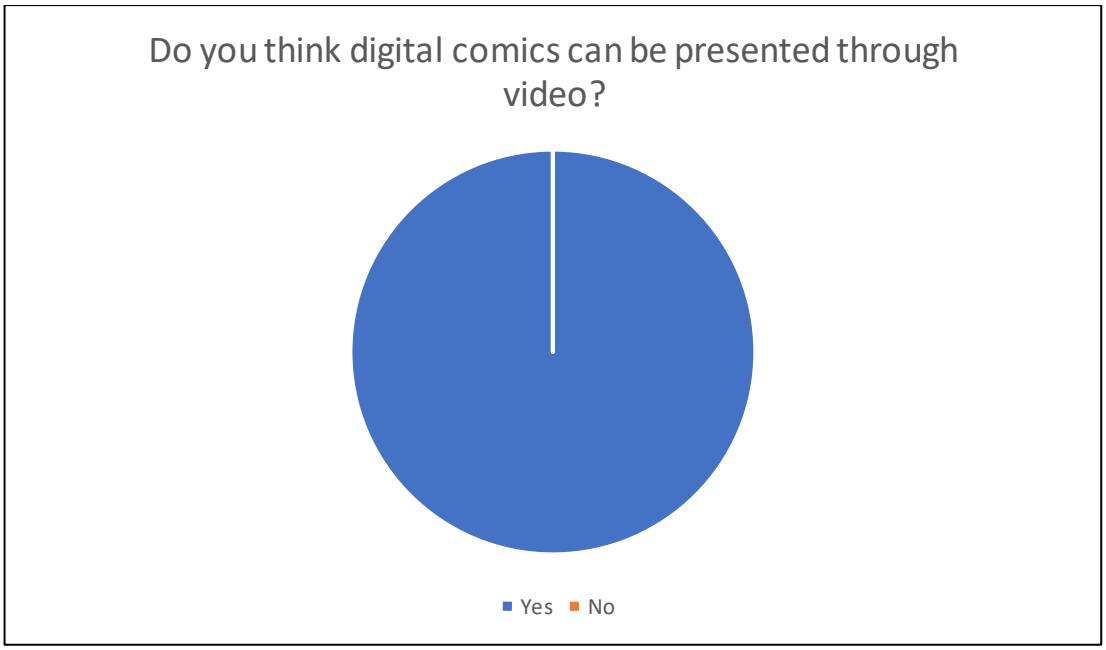


Figure 3-20 Number of Respondent Agree that Digital Comic can Presented in Video

3.2.2 Software Requirement

Table below shows the software requirement that was needed to develop this project.

Table 3-1 List of Software Requirement

Software	Purpose
Adobe Illustrator CC 2019	To design the graphics
Microsoft PowerPoint 2016	To combine and animate graphic, create presentation slide
Audacity	To record audio, edit and combine audio
YouTube	To upload animation video

Microsoft Word 2013	For documentation purposes
Google Form	To collect information from survey

3.2.3 Hardware Requirement

Table below shows, the hardware requirement that needed to develop this project.

Table 3-2 List of Hardware Requirement

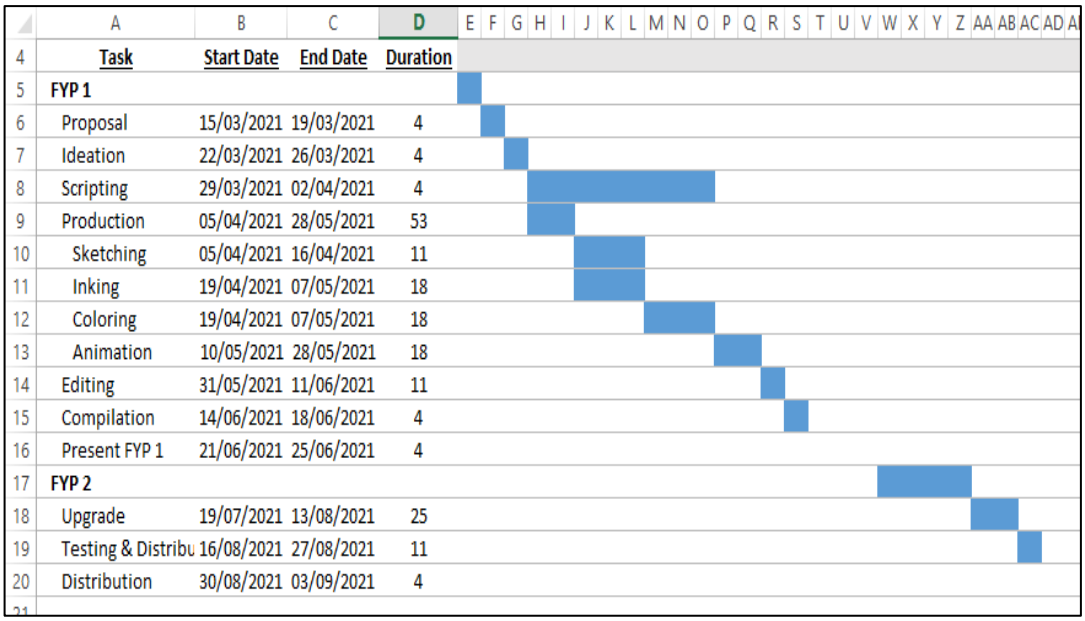
Hardware	Purpose
ASUS A456U • Processor Intel ® CoreTM i5-7200U • 4GB RAM • Windows 10 Pro 64 Bit	To design graphic and prepare documentation

3.3 Project Schedule and Milestones

In every project, schedule and milestones are important as a guideline to ensure the project can be delivered in an estimated time. In this project, Gantt chart and Milestone are used as a schedule as represented in the following.

Table 3-3 Project Milestone

Activity Description	Start Date (dd/mm/yyyy)	End Date (dd/mm/yyyy)	Working Duration (Days)
PSM 1			
Proposal	15/03/2021	19/03/2021	5
Ideation	22/03/2021	26/03/2021	5
Scripting	29/03/2021	02/04/2021	5
Sketching	05/04/2021	16/04/2021	12
Drawing & Coloring	19/04/2021	7/05/2021	19
Animation	10/05/2021	28/05/2021	19
Editing	31/05/2021	11/06/2021	12
Compilation	14/06/2021	18/06/2021	5
Presentation	21/06/2021	25/06/2021	5
PSM 2			
Upgrade	19/07/2021	13/08/2021	26
Testing & Distribution	16/08/2021	27/08/2021	12
Presentation	30/08/2021	03/09/2021	5



	Task	Start Date	End Date	Duration
5	FYP 1			
6	Proposal	15/03/2021	19/03/2021	4
7	Ideation	22/03/2021	26/03/2021	4
8	Scripting	29/03/2021	02/04/2021	4
9	Production	05/04/2021	28/05/2021	53
10	Sketching	05/04/2021	16/04/2021	11
11	Inking	19/04/2021	07/05/2021	18
12	Coloring	19/04/2021	07/05/2021	18
13	Animation	10/05/2021	28/05/2021	18
14	Editing	31/05/2021	11/06/2021	11
15	Compilation	14/06/2021	18/06/2021	4
16	Present FYP 1	21/06/2021	25/06/2021	4
17	FYP 2			
18	Upgrade	19/07/2021	13/08/2021	25
19	Testing & Distribu	16/08/2021	27/08/2021	11
20	Distribution	30/08/2021	03/09/2021	4

Figure 3-21 Project Gantt chart

3.4 Conclusion

All the requirements are important to be gathered and analyzed to summarize the important elements that should be implemented in the project. This chapter also stated the project schedule and milestone as a guideline for this project. Next chapter will explain the design of this project.

CHAPTER 4: DESIGN

4.1 Introduction

This chapter will define the results of the analysis of the preliminary design and the result of the detailed design. The design is a plan or drawing produced to show the look or functions of the project before it is made. An introductory preview of the project will be discussed in this chapter.

4.2 System Architecture

In the system architecture, the overall system will be briefly described. The concept of the 2D animation video that will be developed is to help viewers gain extra knowledge and information about how to prevent COVID-19 virus from being separated without notice. The 2D animation video will be uploaded to YouTube so the viewer does not have to install another application to watch the video.

4.3 Preliminary Design

The preliminary design is the phase of a product that should conclude with a comprehensive design review. The project is entered into the final detailed design phase of the project. Preliminary design is about the features that are available in the 2D animation video.

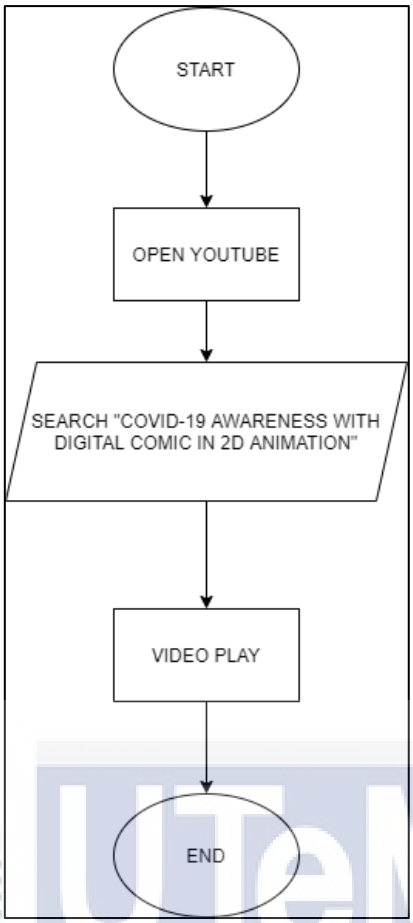


Figure 4-1 System Architecture of COVID-19 Awareness through Digital Comic in 2D Animation Video

4.3.1 Storyboard Design

The concept of the storyboard design for the 2D animation video is about a message video conducted by a mask that tells the viewer on how to prevent COVID-19 virus from being separated without notice. Digital comic main characteristic can be seen in this video which is every scene has a different frame with border and font used are the same as in digital comic.

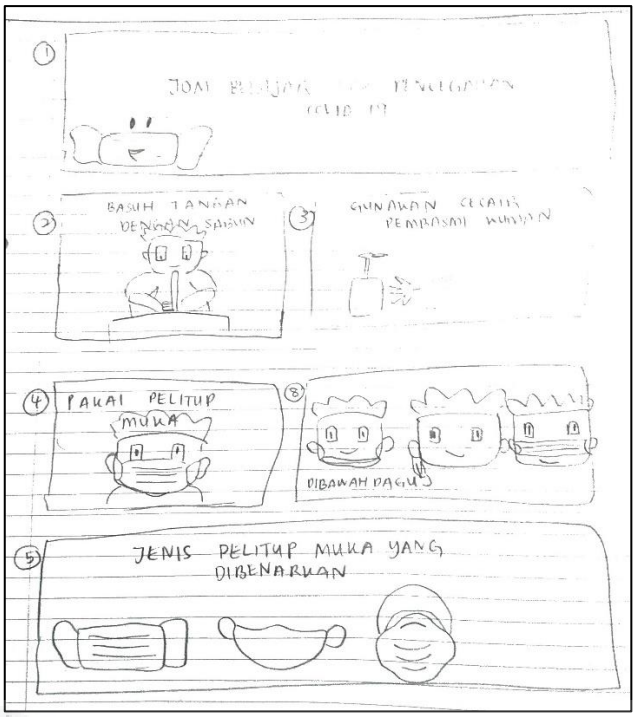


Figure 4-2 Storyboard 1

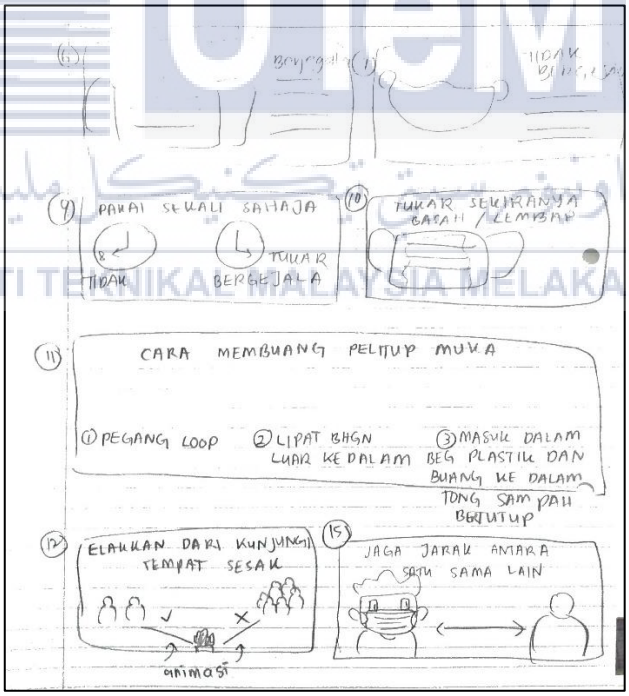


Figure 4-3 Storyboard 2

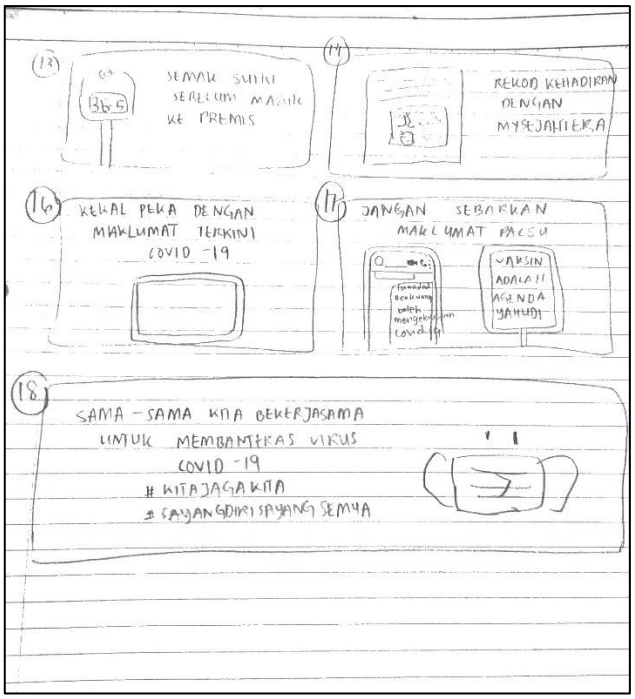


Figure 4-4 Storyboard 3

4.4 Conclusion

As a conclusion, the design of the system architecture, storyboard design, user interface design and navigation design were discussed in a conclusion for this chapter. This chapter was designed to be explained more for a better understanding not only to users, but for developers too. In the design phase, it is essential for a developer in the development of the system as the developer will be designing a system with efficient results.

CHAPTER 5: IMPLEMENTION

5.1 Introduction

The implementation method of this project will be delivering an explanation in this chapter. Project implementation will moreover be covered in this part. To ensure the mission moves along as planned the implementation system is required. This chapter contains documentations of media creation, media integration, production configuration management and implementation status.

5.2 Media Creation

Media creation includes five components of the multimedia process which are text, graphics, audio, video and animation. The entire component will be presented as the final product. Each production will be used throughout the project and will be discussed below.

5.2.1 Production of Text

Text is implemented as a significant part in the development of a project because it can deliver better understanding to users. Text can be applied to deliver messages when there is no audio or any assist system. The types of texts, fonts handling and text formats will be discussed in this chapter. The figures below will show the steps in creating different types of texts including different fonts that are used in different sections.

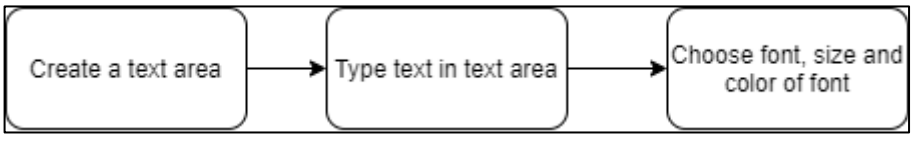
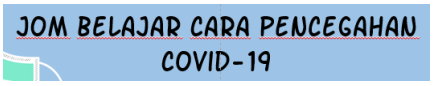


Figure 5-1 Step of Create Text in Microsoft PowerPoint 2013

Table 5-1 Sample Text Created in Microsoft PowerPoint 2013

Type of Text	Example	Font Type	Font Size
Title		SF Arch Rival	88
Text in every section		SF Arch Rival	36

5.2.2 Production of Graphic

Production of graphics is one of the techniques to communicate with users when reading the digital comic. For this project, the type of graphic that will be used is vector. Before creating a graphic, a few reference images will be found from the internet according to the suitable theme for the project. Figure 5.2 shows the step in creating the image graphics in Adobe Illustrator CC 2019 while Figure 5.3 shows the step of creating image graphics in Microsoft PowerPoint 2016.

Figure 5-2 Step of Create Graphic in Adobe Illustrator CC 2019

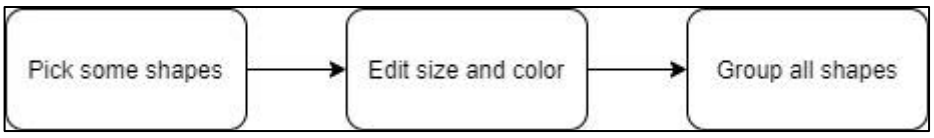
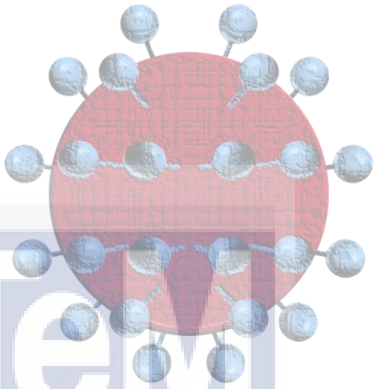
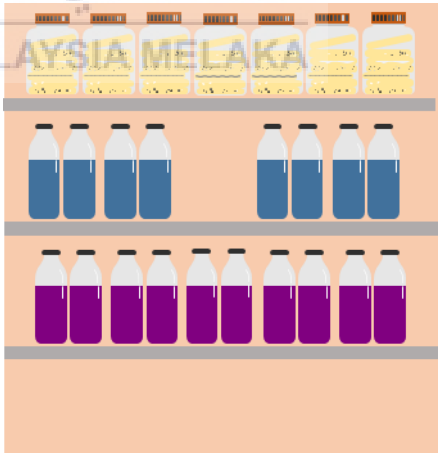


Figure 5-3 Step of Creating Graphics in Microsoft PowerPoint 2016

Table 5-2 Example of Graphic Image

Type of Image	Example
Character	
Mask	 
MySejahtera	 
Hand Sanitizer	

Infrared Thermometer	
Virus	
Shop's Shelf	

Television	
Shop's counter	

5.2.3 Production of Audio

There are two types of different audio used in this project which is voice over and background music. Voice over was recorded in Audacity and imported into Adobe Premiere Pro 2019 while background music was download from the internet. Figure 5.4 shows the step of creating audio using Audacity.

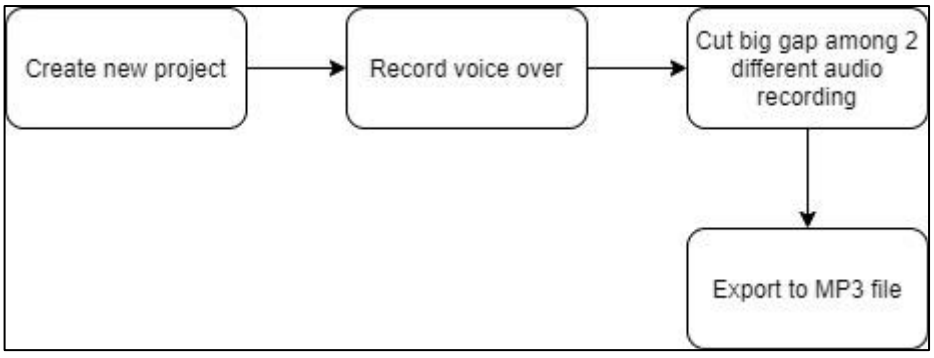


Figure 5-4 Step of Creating Audio using Audacity

5.2.4 Production of Video

Video is a consequence of recording moving images in multimedia elements and provides a powerful impact in multimedia system. Video is an efficient way of communicating information that cannot be conveyed by any other medium and in a short time because it can convey meaning. The video is created in Adobe Premiere Pro CC 2019 with the combination of animation that was created in Microsoft PowerPoint and audio that was created in Audacity.

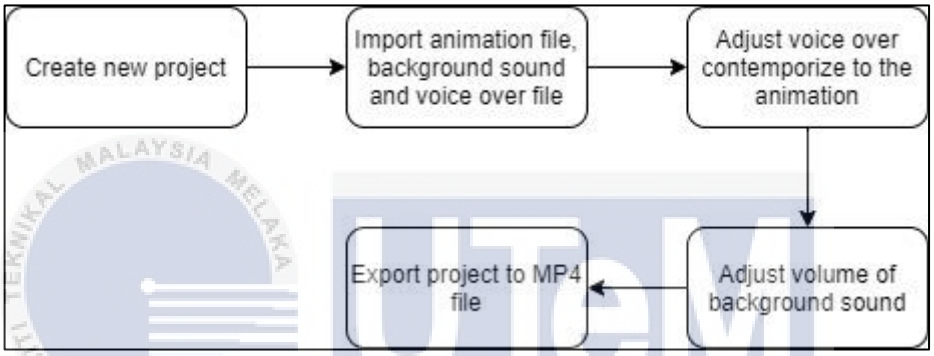


Figure 5-5 Step of Creating Video in Adobe Premiere Pro CC 2019

5.2.5 Production of Animation

Production of animation included the process of modeling which will be more stunning and can attract users because the animation will be moving and easy to understand compared to text only. Figure 5.5 shows the step of creating animation using Microsoft PowerPoint 2016. Table 5.3 shows the example of animation using Microsoft PowerPoint.

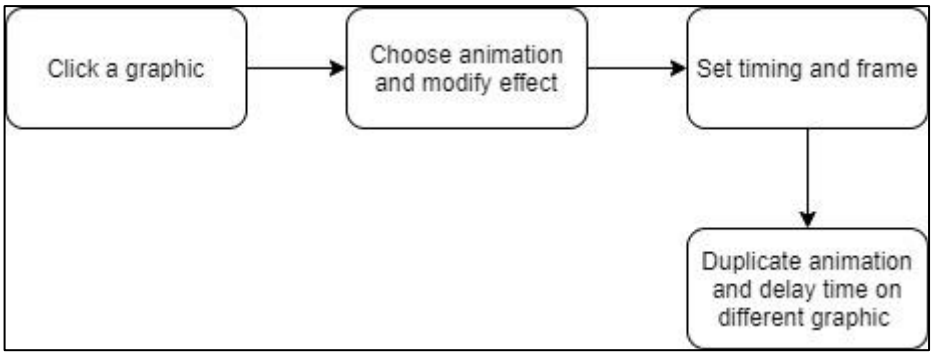
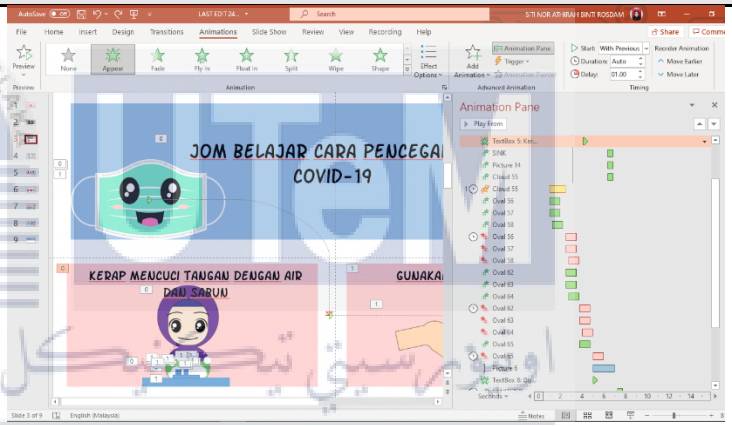
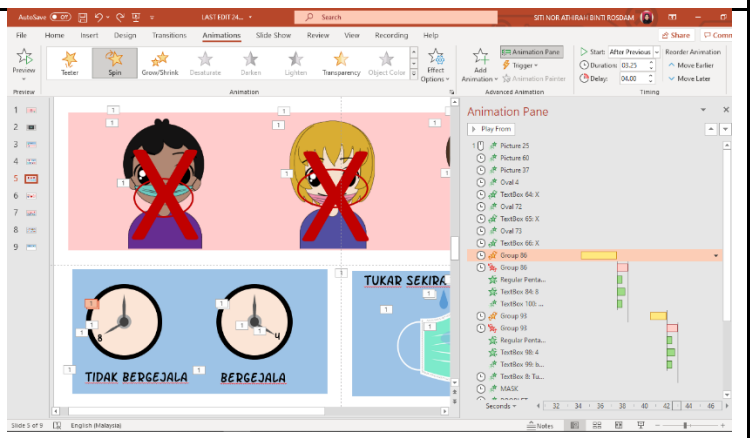
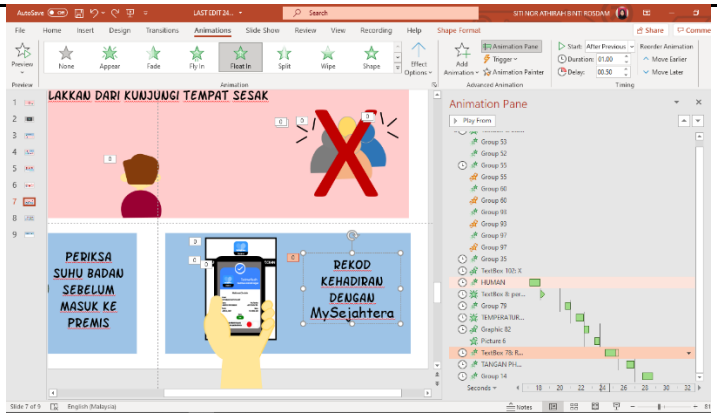


Figure 5-6 Step of Creating Animation in Microsoft PowerPoint 2016

Table 5-3 Example of Animation using Microsoft PowerPoint

Type of Animation	Example
Wash hand	
Moving clock	

Scanning MySejahtera	

5.3 Media Integration

In the media integration section, a combination of all the production used in the documentation and development phase will be mentioned. The production that has been used to implement the digital comic in 2D animation video are production of text, graphics, audio, video and animation. In Microsoft PowerPoint 2016, sketching of the comic, combine all the design from Adobe Illustrator CC 2019 and Microsoft PowerPoint 2016, add animation to the graphics and export project to MP4. The voice over record in Audacity and export to MP3 file. All files that have been exported to MP4 and MP3 files will be imported to a project in Adobe Premiere Pro CC 2019. After combining the files, export the final file to MP4 and upload to YouTube.

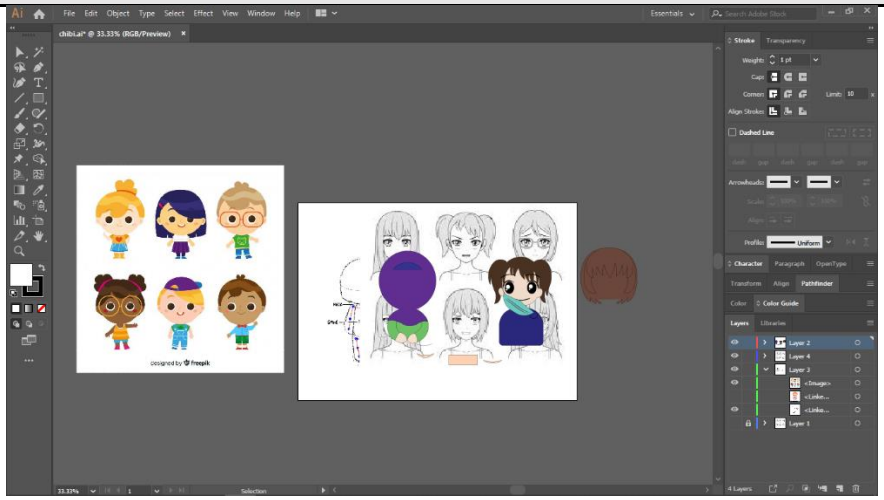
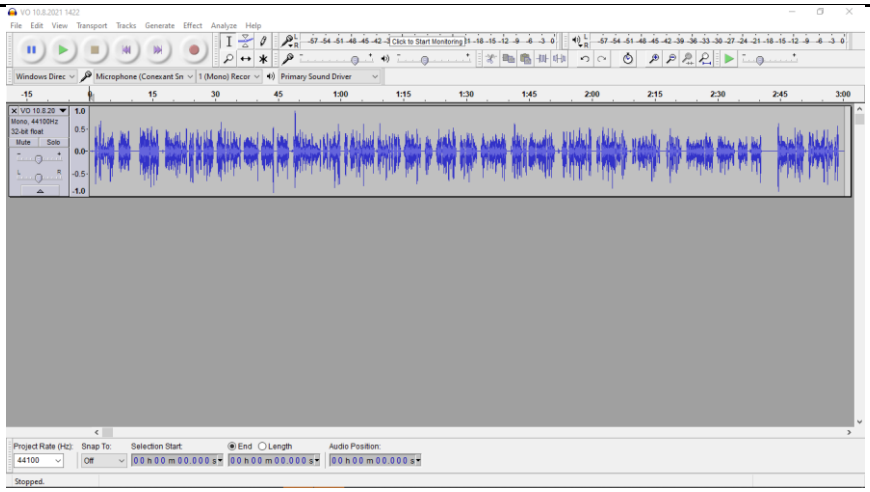
5.4 Production Configuration Management

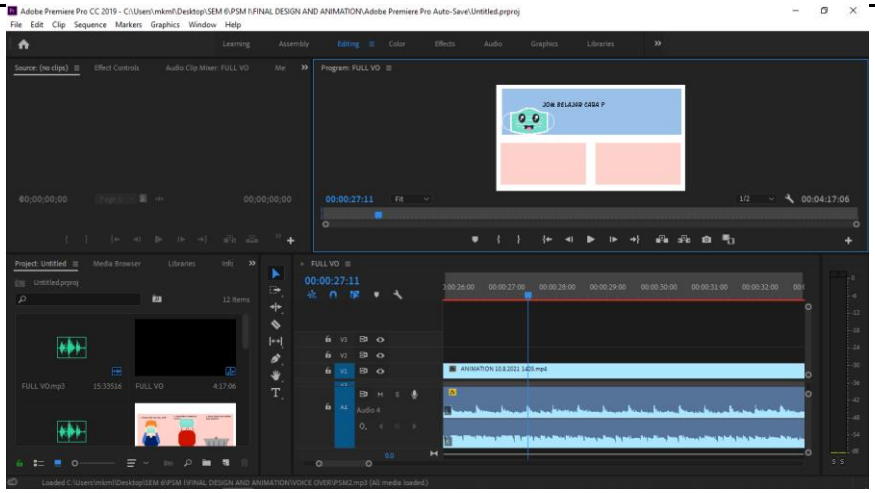
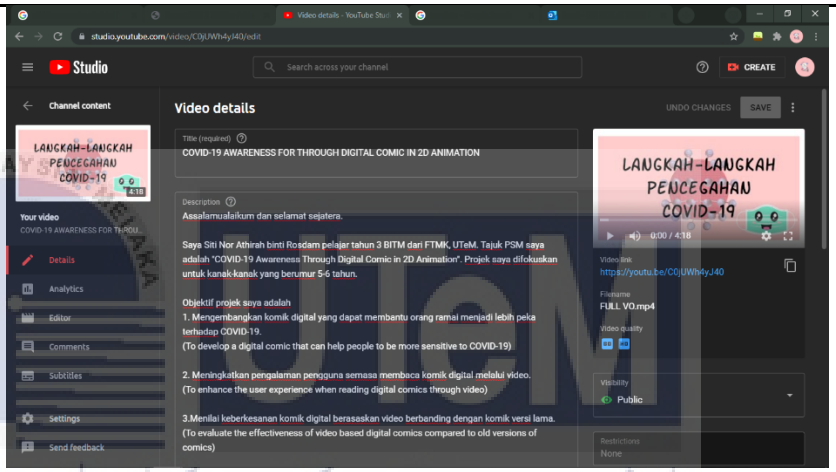
The configuration process is important and all the software used to develop this project needs to be implemented in terms of achieving required results.

5.4.1 Configuration Environment Setup

Table 5-4 shows the software setup which was used to develop the digital comic in 2D animation video.

Table 5-4 Software Setup

Software	Configuration Setting
Adobe Illustrator CC 2019	
Microsoft PowerPoint 2016	
Audacity	

Adobe Premiere Pro CC 2019	
YouTube	

5.5 Implementation Status

The implementation status will indicate approximate study for each of the modules included in the project. The tables below listed all the implementation statuses.

Module	Ideation
Duration	1 week
Description	Create storyline of the project

Module	Scripting
Duration	1 week
Description	Write a script for voice over

Module	Sketching and Coloring
Duration	4 weeks
Description	Design graphics that will be used in the project

Module	Animation
Duration	4 weeks
Description	Add suitable animation for the graphics

Module	Audio
Duration	1 week
Description	Record voice over and choose background sound

Module	Compilation
Duration	2 weeks
Description	Compile all the file

5.6 Conclusion

In conclusion, the implementation phase is very necessary for the project development process. This section describes the major developments of text, graphics, audio, animation and video that will be used for this project. The development of each element is expressed along with an explanation. The functionality of the software used is also briefly explained in this project. The next chapter will discuss the testing and evaluation of the project that has been carried out.

CHAPTER 6: TESTING

6.1 Introduction

In this chapter, the techniques on how testing is conducted will be discussed. Testing phase is an important phase to test whether the project achieves the objectives set at the initial phase of this project and can also detect problems that occur in this project. A complete test plan which includes the test user, test environment, test schedule, test strategy, test implementation, test result and analysis will be briefly detailed.

6.2 Test Plan

A test plan is a detailed document used to determine the test approach used in this application. It is used to collect test records for required results. The test plan will identify the types of tests used and the type of test data, actual results and expected results. The objectives and scope of the tests are defined in this phase. The identification method used in this test will also discuss the test environment and the test schedule

6.2.1 Test User

The study involved two different groups, namely the expert group and the end user group. The expert group consists of 2 subject matter experts (SME), 2 IT experts and four students who are 7 years old. The end user group are children aged 5 years. They were then divided into two groups, namely the control group and the experimental group. The experiment group was represented by 14 children who were students from Tabika Kemas Taman Merdeka Jaya B. For the control group, the children were randomly selected from acquaintances who had family members aged 5 years old.

6.2.2 Test Environment

Test environment is where the testing will be held. For this project, all testing will be conducted online as considering the current situation that does not allow face to face meetings The output product for this project is 2D animation video. Therefore, test users are required to have a stable internet connection to watch the video as the video is uploaded to YouTube. The hardware and software environment that is used for testing are shown in Table 6.1.

Table 6-1 Hardware and Software Requirement for Testing

Environment (Hardware/Software)	Description
Smartphone/Laptop	To answer online questionnaire
YouTube	To watch video
Quizizz	To answer online quiz

6.2.3 Test Schedule

The test schedule is to ensure the duration of each user's test is under control and to ensure the testing can be completed successfully in the given time. In addition, the respondents' quantity also should be planned in the test schedule. Details of the test schedule are in Table 6-2.

Table 6-2 Test Schedule

Type of Test	Date	Duration
Expert Test	13th August 2021 – 19th August 2021	1 week

Field Test	30th August 2021 – 1st September 2021	3 days

6.3 Test Strategy

A test strategy is a framework that outlines the evaluation approach to be carried out in this project. The test strategy determines the success of the test trial and the accuracy of estimates and test schedules. The test approach explains how to properly test the system from one or more elements to improve the system. Different test approaches can be used depending on the type of application to test and it also depends on the development method used. The test strategy used in this phase of testing is alpha beta testing. This strategy is used to collect test results from multiple users.

6.3.1 Alpha Testing

Alpha tests are tests performed to identify problems before launching a product to a real user. Alpha testing was conducted from 13 August 2021 to 19 August 2021 on the experts involved. These experts are asked to evaluate the product according to the linear scale prescribed. The questionnaire of the expert test is divided into five sections which are personal details, effectiveness, efficiency, interface design and feedback. The first part is the part where experts fill out their personal information such as the names and organizations they work for. For the second, third and fourth parts are questions where experts need to evaluate the product using a prescribed linear scale. They need to evaluate based on their skills in their area of expertise. This can help to detect if the project has a problem. In the last section, they can provide any suggestions to improve the product so that it is more acceptable to target users. **Appendix B: Questionnaire for Experts**

Table 6-3 shows the linear scale used in this test.

Table 6-3 Linear Scale used in Questionnaire

Score	Description
1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

6.3.2 Beta Testing

Beta testing is performed by real users of the product in a real environment. The target user for this project is kindergarten, so 28 kindergartens were chosen to participate in the testing. These kids are divided into two different groups which are the Control Group and Experimental Group. Both groups will answer pre-test questions to know their basic knowledge about COVID-19. The position of questions and answers is randomly arranged to ensure that the responders do not memorize the answers. The questions are online quizzes that are answered through links shared to them. The platform used to answer the quiz is Quizizz. The number of scores they get are recorded to assess their level of knowledge.

For Experiment Group, an online meeting was held through Google Meet with their teacher. During the meeting, the animation video is played for the kids and a bit of explanation about the video was given to them. The video was played two times to ensure the kids understood more. After the meeting ends, the parents will get a link for post-test questions and guide their kids to answer.

Respondents for the Control Group were randomly selected from acquaintances who had family members aged 5 years old. Instead of watching a video,

a digital comic is given to them and read by their parents. The content of the digital comic and the video are the same, but in the digital comic, there are just plain comics without animation and sound. After that, they will answer the post-test questions guided by their parents.

6.4 Test Implementation

Test implementation consists of test description and test data. The test data are collected from during the testing. Other explanation will brief below.

6.4.1 Test Description

Data attained from the questionnaire will be calculate by the mean of the data. If the mean of data is equal or greater than 4, the project can be proceeded for beta testing to users. Otherwise, the project needs to be improved according to the views given by experts.

The data obtained will compare between pre-test and post-test to find out the increased level of understanding and mastery of children after watching the video. The data obtained was analyzed in score form and translated in score graphs. If the score of post-tests is better than the score in the pre-test, it shows there has been a change in the understanding and knowledge of respondents in preventing the COVID-19 virus. The respondent's level of understanding is calculated based on the score obtained. A low score showed that respondents had a poor understanding while a high score indicated they had a high level of understanding of COVID-19 virus prevention measures.

6.4.2 Test Data

All test results are recorded for evaluation. The goal of alpha testing and beta testing is to rate whether the project achieves its objectives. Experts and respondents have answered questionnaires and quizzes. After the data is obtained, their analysis of findings will be processed. The description of the experts and characteristics of respondents are listed in the tables below.

Table 6-4 Description of the Experts

Experts	Gender	Type of Expert	Position in Organization	Years of Experience
Expert 1	F	SME	Kindergarten teacher at Tabika Kemas Taman Merdeka Jaya B	More than 5 years
Expert 2	F	SME	A nurse from Klinik Kesihatan Pandamaran	More than 5 years
Expert 3	M	IT	A senior lecturer from FTMK, UTeM	More than 10 years
Expert 4	F	IT	A designer from Nur Johan Production	More than 5 years
Expert 5	F	Student	A standard one student from SK Kampung Bukit Lanjut	-
Expert 6	M	Student	A standard one student from SK Malim	-
Expert 7	M	Student	A standard one student from SK Bukit Rimau	-
Expert 8	F	Student	A standard one student from SK Taman Merdeka	-

Table 6-5 Characteristics of Respondents

Group	Respondents' Gender	Frequency	Percentage
Experimental Group	Male	8	57%
	Female	6	43%
Control Group	Male	7	50%
	Female	7	50%

6.5 Test Results and Analysis

Test results and test analysis based on expert tests along with pre and post tests will be discussed in this section. These data are analyzed using Statistical Package for The Social Science or SPSS.

6.5.1 Testing Result for Expert

All the details of data for expert test are compiled at the **Appendix E**. Table below shows the mean obtained from expert test.

Table 6-6 Test Results from Expert Test

Element	Mean
Effectiveness	4.219
Efficiency	4.188
Interface Design	3.964
Overall	**4.124**

According to Table 6-6, overall mean obtain from the questionnaire is 4.124. Therefore, this project can proceed for beta testing to users.

6.5.2 Testing Result for User

The data obtained is analyzed using quantitative method statistics. The analysis aims to find a distribution of marks using a measure of the focus tendency that is min, mod and median. All the details of pre-test and post-test for Control Group data are compiled at **Appendix F**. The table below shows the distribution value of pre-test scores and post-test tests for the Control Group which are before and after the parents of the respondents read digital comics without animation to them.

Table 6-7 Measurement of Control Group for Pre-test and Post-test

Measurement	Pre-test	Post-test
Mean	5.429	8.571
Mode	6	8
Median	6	8

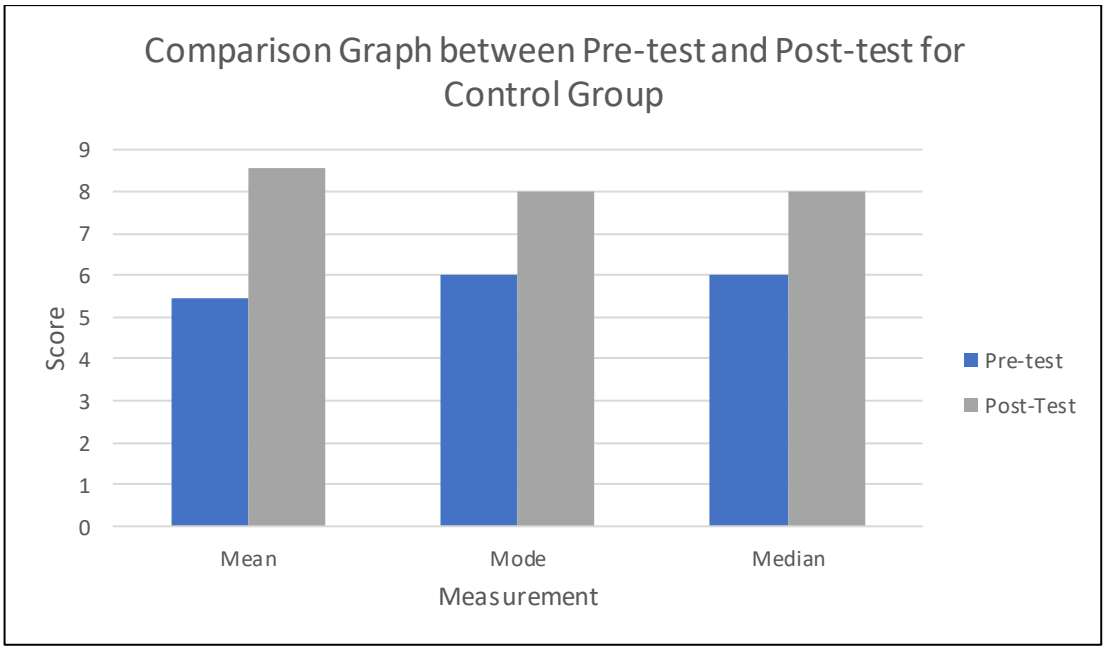


Figure 6-1 Comparison Graph between Pre-test and Post-test for Control Group

According to Table 6-7 and Figure 6-1, the mean comparison was found to have increased from 5.429 to 8.571. Modes and medians also increased, from the score modes 6 to 8 and from the median of the score of 6 to 8.

All the details of pre-test and post-test for Experimental Group data are compiled at **Appendix G**. The table below shows the distribution value of pre-test scores and post-test tests for the Experimental Group which are before and after the parents of the respondent watch the video.

Table 6-8 Measurement of Experimental Group for Pre-test and Post-test

Measurement	Pre-test	Post-test
Mean	6.214	9
Mode	6	9
Median	6	9

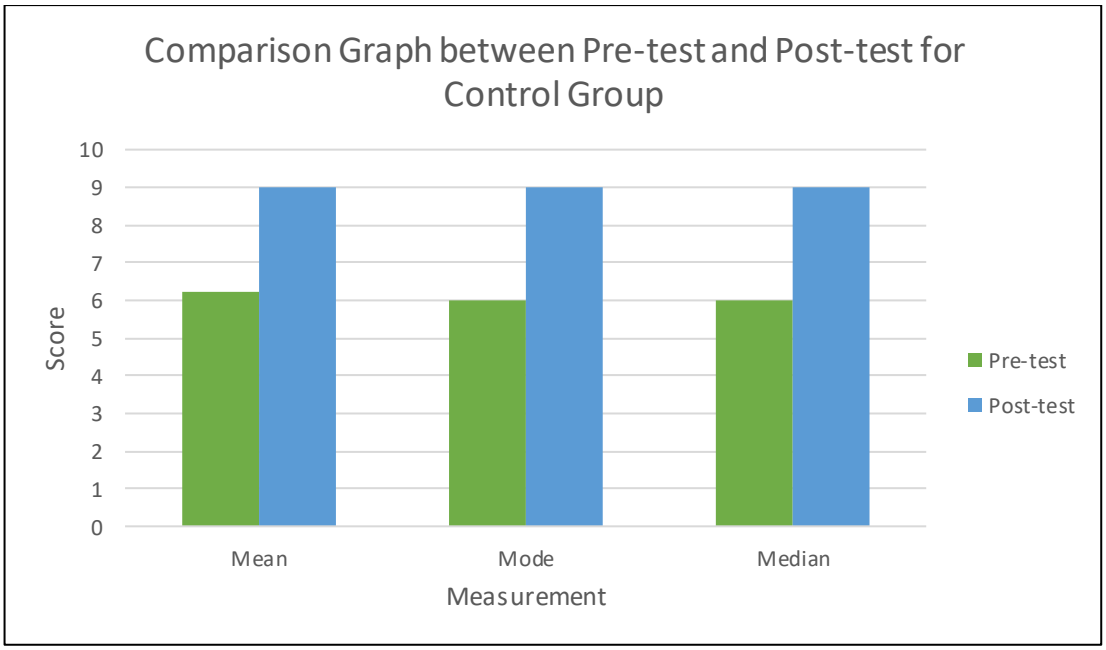


Figure 6-2 Comparison Graph between Pre-test and Post-test for Experimental Group

According to Table 6-8 and Figure 6-2, the mean comparison was found to have increased from 6.214 to 9. Modes and medians also increased, from the score modes 6 to 9 and from the median of the score of 6 to 9.

6.6 Conclusion

In conclusion, there are two types of tests that have been used in the testing phase, alpha testing and beta testing. Alpha testing is carried out through questionnaires given to experts to assess according to their expertise on the project. As for beta testing, two groups were formed to test the effectiveness of digital comics in animation videos and traditional digital comics. The findings showed that the project successfully demonstrated the effectiveness of digital comic reading through animation videos.

CHAPTER 7: PROJECT CONCLUSION

7.1 Observation on Weakness and Strengths

Every project development has strengths and weaknesses. Therefore, this chapter will discuss the weaknesses and strengths of the project as well as suggestions for improvement.

The weaknesses found in this project are during the testing phase. While pre-test and post-test questions are shared, parents' involvement in helping their children while answering quizzes is very high. This is because these activities are carried out at home where researcher is unable to prevent parents directly. The respondents' environmental factors were also considered as a drawback as time to answer the quiz for the respondents was according to their time. In addition, the font size used in the project must be increased as it is difficult to read it. The smooth running of animation also needs to be upgraded to be more appealing to the audience.

However, the project also has its own strengths. The third objective of this project was achieved which to evaluate the effectiveness of reading digital comics through animation videos as opposed to reading traditional methods of digital comics. It can be proven through the tests that were carried out as described in the last chapter. Users can experience innovative ways to read digital comics and easy to recognize graphics also enable the project to succeed.

7.2 Propositions for Improvement

To improve the weakness that have stated above, there are a few improvements that can be made. Firstly, increase the size of the font and use simple sentences so that it can be read by kindergartens easily. Next is to improve test results with face-to-face evaluation. According to Palloff and Pratt (2009), the result for online assessments

may not work quite as face-to-face assessments. Animation of the project can be upgraded to be more appealing to the audience.

7.3 Project Contribution

The development of this project can be contributed to kindergarten teachers to teach their students on the correct methods of preventing the spread of COVID-19 and can also be used by parents to their children.

7.4 Conclusion

To conclude, the project has successfully developed and fulfilled all the objectives set. The project was successfully developed according to the plan planned. Further improvements to this project can be developed and contribute to the community in the future. Finally, the project was successfully developed and it was over.

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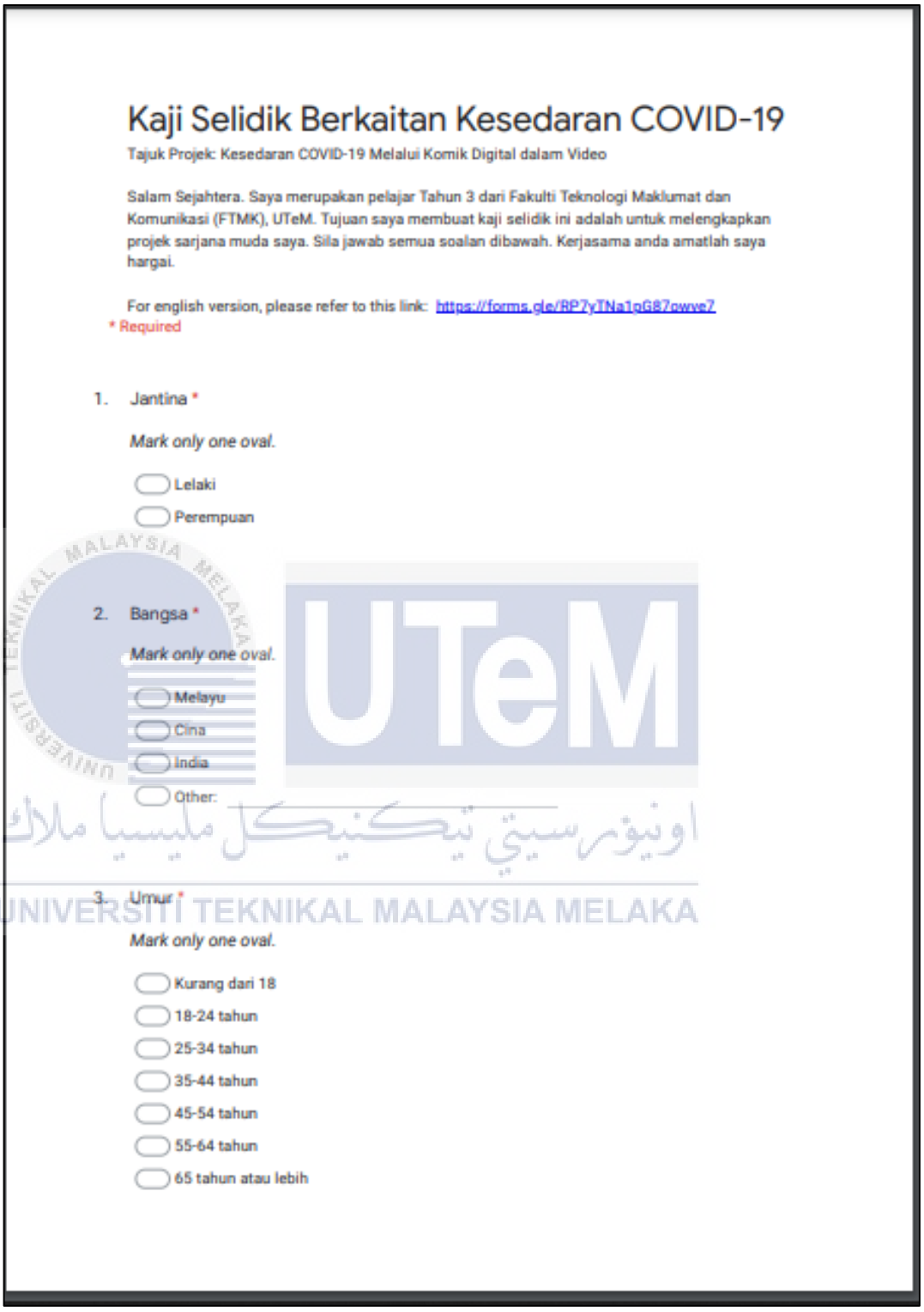
APPENDIX A



Kaji Selidik Berkaitan Kesedaran COVID-19

Tajuk Projek: Kesedaran COVID-19 Melalui Komik Digital dalam Video

Salam Sejahtera. Saya merupakan pelajar Tahun 3 dari Fakulti Teknologi Maklumat dan Komunikasi (FTMK), UTeM. Tujuan saya membuat kaji selidik ini adalah untuk melengkapkan projek sarjana muda saya. Sila jawab semua soalan dibawah. Kerjasama anda amatlah saya hargai.

For english version, please refer to this link: https://forms.gle/RP7yTNa1pG87qwve7

* Required

1. Jantina *

Mark only one oval.

- Lelaki
- Perempuan

2. Bangsa *

Mark only one oval.

- Melayu
- Cina
- India
- Other:

3. Umur *

Mark only one oval.

- Kurang dari 18
- 18-24 tahun
- 25-34 tahun
- 35-44 tahun
- 45-54 tahun
- 55-64 tahun
- 65 tahun atau lebih

4. Tahap pendidikan tertinggi *

Mark only one oval.

- Tidak bersekolah
- Sekolah Rendah
- Sekolah Menengah
- Diploma atau Matrikulasi
- Siswazah (Sarjana Muda)
- Pascasiswazah (Sarjana atau Doktor Falsafah)

Pengetahuan berkenaan COVID-19

5. Adakah anda cukup tahu tentang COVID-19? *

Mark only one oval.

- Ya
- Tidak
- Mungkin

6. Adakah anda cukup tahu tentang langkah berjaga-jaga COVID-19? *

Mark only one oval.

- Ya
- Tidak
- Mungkin

7. Daripada manakah anda mendapat maklumat berkaitan COVID-19? *

Check all that apply.

- [ ] Laman sesawang rasmi Kementerian Kesihatan Malaysia
- [ ] Aplikasi pesanan segera (Whatsapp, Telegram, SMS)
- [ ] Media cetak (majalah dan suratkhabar)
- [ ] Media sosial (Facebook, Twitter, Instagram)
- [ ] Media elektronik (televisyen, radio)
- [ ] Other: _____

8. Apakah gejala jangkitan COVID-19? *

Check all that apply.

- [ ] Demam
- [ ] Batuk kering
- [ ] Sesak nafas
- [ ] Keletihan dan kelemahan
- [ ] Sakit tekak
- [ ] Bersin
- [ ] Sakit dada
- [ ] Sakit kepala
- [ ] Cirit

9. Apakah gejala jangkitan COVID-19 yang paling serius? *

Mark only one oval.

- ◯ Demam
- ◯ Batuk kering
- ◯ Sesak nafas
- ◯ Keletihan dan kelemahan
- ◯ Sakit tekak
- ◯ Bersin
- ◯ Sakit dada
- ◯ Sakit kepala
- ◯ Cirit

10. Bagaimanakah COIVD-19 boleh merebak? *

Check all that apply.

- [ ] Udara
- [ ] Titisan cecair
- [ ] Terdedah kepada permukaan yang tercemar
- [ ] Makanan dan minuman yang tercemar
- [ ] Haiwan perliharaan
- [ ] Berjabat tangan

11. Apakah langkah berjaga-jaga untuk mengurangkan risiko jangkitan COVID-19? *

Check all that apply.

- [ ] Kerap mencuci tangan menggunakan air dan sabun
- [ ] Menggunakan 'hand sanitizer'
- [ ] Memakai pelitup muka
- [ ] Mengamalkan penjarakan sosial
- [ ] Mengelakkan diri dari tempat sempit
- [ ] Mengelakkan perbualan rapat
- [ ] Letakkan tangan di bahu tanda salam

12. Apakah akibat daripada jangkitan COVID-19? *

Check all that apply.

- [ ] Maut
- [ ] Kegagalan organ
- [ ] Hilang upaya kekal
- [ ] Tiada kesan sampingan

13. Siapakah kumpulan yang paling mudah terdedah kepada kematian akibat COVID-19? *

Mark only one oval.

- ◯ Kanak-kanak
- ◯ Remaja
- ◯ Warga emas
- ◯ Perempuan mengandung
- ◯ OKU
- ◯ Semua terdedah

Pengetahuan tentang Komik Digital

18. Jika Ya, apakah yang menyebabkan anda ingin belajar melalui komik digital?

Mark only one oval.

- ◯ Untuk memperoleh lebih pengetahuan
- ◯ Lebih menarik berbanding sumber yang sedia ada
- ◯ Other: _____

19. Adakah anda rasa komik digital boleh membantu dalam mempelajari cara pencegahan COVID-19? *

Mark only one oval.

- ◯ Ya
- ◯ Tidak

20. Menurut pandangan anda, bolehkah komik digital dipersembahkan dalam bentuk video? *

Mark only one oval.

- ◯ Ya
- ◯ Tidak

APPENDIX B

Keberkesanan Kesedaran Virus COVID-19 melalui Komik Digital dalam Video 2D Animasi

Assalamualaikum dan selamat sejahtera. Saya Siti Nor Athirah binti Rosdam (B031710225) pelajar tahun 3 dari FTMK, UTeM. Saya sedang membuat tinjauan untuk Projek Sarjana Muda (PSM) 2. Tujuan tinjauan ini adalah untuk mengkaji keberkesanan kesedaran virus COVID-19 melalui komik digtal dalm video 2D animasi dari aspek- aspek yang berbeza. Video animasi tersebut boleh ditonton menerusi akaun YouTube saya, iaitu https://youtu.be/C0jiJWh4yJ40 .

Tinjauan ini telah diadaptasi daripada;

(1) Mahdi, M. S., Yunos, Y., & Yusoff, M. Y. M. (2020). PENERIMAAN PELAJAR TERHADAP ANIMASI UPIN & IPIN SEBAGAI ALAT BANTU MENGAJAR. JURNAL MELAYU SEDUNIA, 3(1), 48-78.

* Required

1. Nama *

_____

2. Jantina *

Mark only one oval.

- ◯ Perempuan
- ◯ Lelaki

3. Nama Organisasi *

_____

4. Kepakaran Utama *

Mark only one oval.

- ◯ Pakar Isi Kandungan (Content Expert)
- ◯ Pakar IT (IT Expert)
- ◯ Pelajar Tahun 1

Keberkesanan (Effectiveness)

Jawab pernyataan dibawah berdasarkan skala yang diberi

1- Sangat Tidak Setuju
2- Tidak Setuju
3. Tidak Pasti
4- Setuju
5- Sangat Setuju

5. Animasi ini memudahkan kanak-kanak memahami mesej yang ingin disampaikan *

Mark only one oval.

	1	2	3	4	5	
Sangat Tidak Setuju	◯	◯	◯	◯	◯	Sangat Setuju

6. Penyusunan kandungan menjadikan maklumat lebih berkesan *

Mark only one oval.

	1	2	3	4	5	
Sangat Tidak Setuju	◯	◯	◯	◯	◯	Sangat Setuju

7. Pergerakan animasi watak sesuai dengan pernyataan *

Mark only one oval.

	1	2	3	4	5	
Sangat Tidak Setuju	◯	◯	◯	◯	◯	Sangat Setuju

8. Penggabungan elemen mulimedia seperti teks, audio, grafik dan animasi memudahkan kanak-kanak mendapat maklumat dengan berkesan *

Mark only one oval.

	1	2	3	4	5	
Sangat Tidak Setuju	◯	◯	◯	◯	◯	Sangat Setuju

Kecekapan (Efficiency)

Jawab pernyataan dibawah berdasarkan skala yang diberi

1- Sangat Tidak Setuju
2- Tidak Setuju
3. Tidak Pasti
4- Setuju
5- Sangat Setuju

9. Grafik yang digunakan kelihatan menarik *

Mark only one oval.

	1	2	3	4	5	
Sangat Tidak Setuju	◯	◯	◯	◯	◯	Sangat Setuju

10. Penggunaan grafik dapat dikenali dengan mudah *

Mark only one oval.

	1	2	3	4	5	
Sangat Tidak Setuju	◯	◯	◯	◯	◯	Sangat Setuju

Reka Bentuk Antara Muka (Interface Design)

Jawab pernyataan dibawah berdasarkan skala yang diberi

1- Sangat Tidak Setuju
2- Tidak Setuju
3- Tidak Pasti
4- Setuju
5- Sangat Setuju

11. Warna-warna yang digunakan dalam animasi sesuai dan menarik kanak-kanak *

Mark only one oval.

	1	2	3	4	5	
Sangat Tidak Setuju	◯	◯	◯	◯	◯	Sangat Setuju

12. Jenis, warna dan saiz 'font' adalah sesuai untuk digunakan *

Mark only one oval.

	1	2	3	4	5	
Sangat Tidak Setuju	◯	◯	◯	◯	◯	Sangat Setuju

13. Kebolehbacaan teks yang jelas dan mudah difahami oleh kanak-kanak *

Mark only one oval.

	1	2	3	4	5	
Sangat Tidak Setuju	◯	◯	◯	◯	◯	Sangat Setuju

14. Antara muka dan paparan grafik adalah sesuai, jelas dan menarik *

Mark only one oval.

	1	2	3	4	5	
Sangat Tidak Setuju	◯	◯	◯	◯	◯	Sangat Setuju

15. Paparan skrin adalah sesuai, jelas dan meningkatkan minat kanak-kanak *

Mark only one oval.

	1	2	3	4	5	
Sangat Tidak Setuju	◯	◯	◯	◯	◯	Sangat Setuju

16. Pergerakan watak animasi membantu untuk memahami pernyataan *

Mark only one oval.

	1	2	3	4	5	
Sangat Tidak Setuju	◯	◯	◯	◯	◯	Sangat Setuju

17. Suara latar yang jelas dan mudah difahami oleh kanak-kanak *

Mark only one oval.

	1	2	3	4	5	
Sangat Tidak Setuju	◯	◯	◯	◯	◯	Sangat Setuju

18. Pendapat anda untuk penambahbaikan (jika perlu)

_____

_____

_____

_____

_____

APPENDIX C

Quizizz

NAME : _____

CLASS : _____

DATE : _____

Ujian Pra untuk Menguji Kesedaran COVID-19

10 Questions

1. Sebelum masuk ke kedai, kita perlu...

☐ a) 

☐ b) 

☐ c) 

☐ d) 

2. Pelitup muka yang boleh digunakan adalah...

☐ a) 

☐ b) 

☐ c) 

☐ d)

3. Pilih cara pakai pelitup muka yang salah

☐ a) 

☐ b) 

☐ c) 

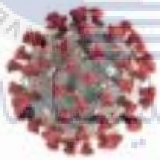
☐ d) 

4. Pakai pelitup muka yang sama berulang kali

☐ a) Salah ☐ b) Betul

5.  Adakah kita perlu untuk menukar pelitup muka yang basah?

☐ a) Tidak ☐ b) Ya

6.  Apakah nama virus ini?

☐ a) COVID-19 ☐ b) H1N1

☐ c) Influenza ☐ d) COVID-18

7.  Jika adik-adik batuk, adik-adik perlu memakai pelitup muka...

☐ a) Pelitup Muka Kain (Cloth Mask) ☐ b) Pelitup Muka 3 Lapis (3 ply Mask)

☐ c) Pelitup Muka N95 ☐ d) Tidak perlu memakai pelitup muka

8. Pilih cara yang betul apabila membuang pelitup muka

☐ a) 

☐ b) 

☐ c) 

☐ d) 

9. Apabila hendak keluar rumah, kita perlu...

☐ a) 

☐ b) 

☐ c) 

☐ d) 

10. Kita perlu menukar pelitup muka setiap ___ jam sekali.

APPENDIX D

Quizizz

NAME : _____

CLASS : _____

DATE : _____

Ujian Pasca untuk Menguji Kesedaran COVID-19

10 Questions

1. Pilih cara pakai pelitup muka yang betul

☐ a) 

☐ b) 

☐ c) 

☐ d) 

2. Adakah kita perlu untuk menukar pelitup muka yang basah?

☐ a) Ya ☐ b) Tidak

3. Sebelum masuk ke kedai, kita perlu...

☐ a) 

☐ b) 

☐ c) 

☐ d) 

4.  Jika adik-adik batuk, adik-adik perlu memakai pelitup muka jenis...

☐ a) Tidak perlu memakai pelitup muka ☐ b) Pelitup Muka N95

☐ c) Pelitup Muka Kain (Cloth Mask) ☐ d) Pelitup Muka 3 Lapis (3 ply Mask)

5. Memakai pelitup muka yang sama berulang kali

☐ a) Betul ☐ b) Salah

6. Apabila hendak keluar rumah, kita perlu...

☐ a) 

☐ b) 

☐ c) 

☐ d) 

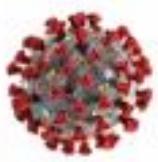
7. Pelitup muka yang boleh digunakan adalah...

☐ a) 

☐ b) 

☐ c) 

☐ d)

8.  Apakah nama virus ini?

☐ a) COVID-18 ☐ b) Influenza

☐ c) COVID-19 ☐ d) H1N1

9. Kita perlu menukar pelitup muka setiap ___ jam sekali.

_____

10. Pilih cara yang betul apabila membuang pelitup muka

☐ a)  ☐ b) 

☐ c)  ☐ d) 

APPENDIX E

No.	Element	Result				
Effectiveness		1	2	3	4	5
1.	The animation makes it easier for children to understand the message they want to convey	0	0	0	5	3
2.	Organized content makes information more effective	0	0	1	5	2
3.	Animation of the character corresponds to the statement	0	1	0	5	2
4	The combination of multimedia elements such as text, audio, graphics and animation make it easier for children to get information effectively	0	0	1	3	4
Efficiency						
1.	The graphics used look interesting	0	0	1	4	3
2.	The use of graphics is easily recognizable	0	0	1	5	2
Interface Design						
1.	The colors used in the animation are suitable and interesting for children	0	0	1	5	2
2.	The type, colour and size of the font are suitable for use	0	1	2	3	2
3.	Texts are clear and readability that can be understandable by kids	0	1	2	4	1
4.	The interface and graphical display are appropriate, clear, and attractive	0	0	1	6	1
5.	The screen display is appropriate, clear and enhances children's interest	0	0	1	6	1
6.	The movement of the animated character helps to understand the statement	0	0	1	6	1
7.	The background sound is clear and easily understood by children	0	0	1	4	3

APPENDIX F

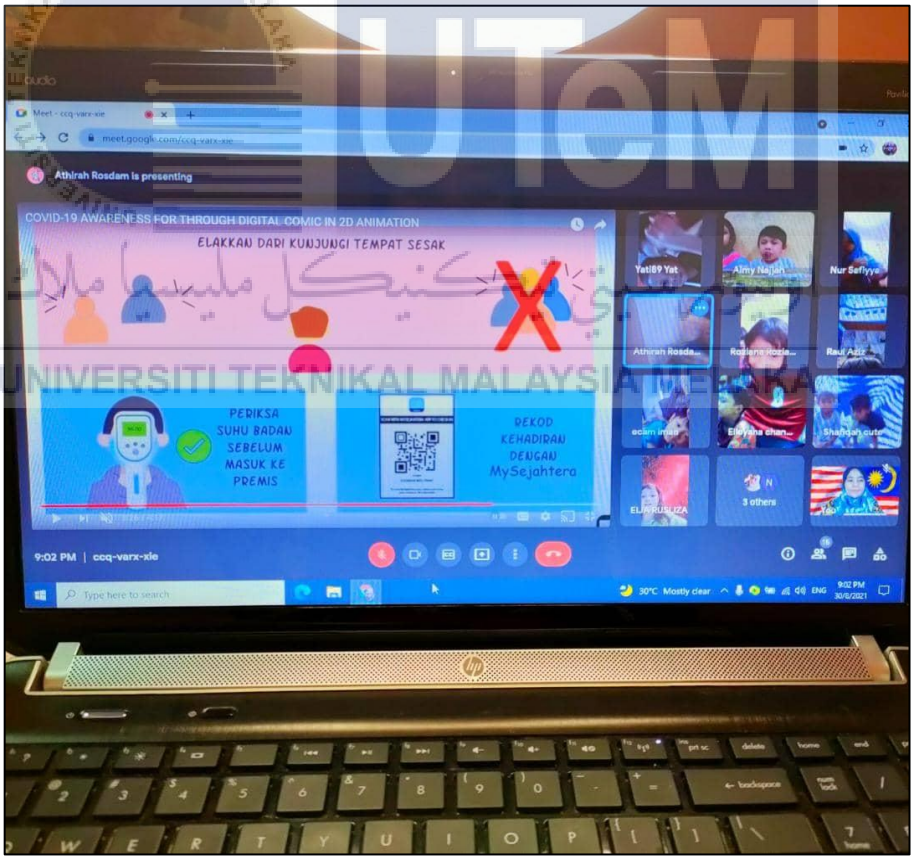
Number of Respondents	Pre-test's Score	Post-test's Score
C1	5	9
C2	6	9
C3	6	8
C4	5	10
C5	6	9
C6	5	8
C7	7	10
C8	4	8
C9	6	8
C10	7	10
C11	5	7
C12	6	8
C13	4	7
C14	4	9

APPENDIX G

Number of Respondents	Pre-test's Score	Post-test's Score
E1	7	9
E2	5	10
E3	9	10
E4	6	8
E5	6	9
E6	6	9
E7	7	9
E8	5	8
E9	7	9
E10	5	7
E11	6	10
E12	6	9
E13	5	10
E14	7	9

APPENDIX H


meet.google.com/ccq-varx-xie?pli=1&authuser=0
Elleyana channel
Feeza Feeza
Roziana Roziana
Yati89 Yat
Shafiqah cute
Najwa F1050
Aimy Najjah
Nur Safiyya
ecam iman
Neela Neela
Raul Aziz
EIJA RUSLIZA
You
9:13 PM | ccq-varx-xie


Athirah Rosdam is presenting
COVID-19 AWARENESS FOR THROUGH DIGITAL COMIC IN 2D ANIMATION
ELAKKAN DARI KUNJUNGI TEMPAT SESAK
PERIKSA SUHU BADAN SEBELUM MASUK KE PREMIS
REKOD KEHADIRAN DENGAN MySejahtera
9:02 PM | ccq-varx-xie