

**MOBILE DIGITAL COMIC FOR BASIC
JAPANESE LANGUAGE LEARNING**



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

**MOBILE DIGITAL COMIC FOR BASIC
JAPANESE LANGUAGE LEARNING**

SITI SOLEHAH BINTI AZIT



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

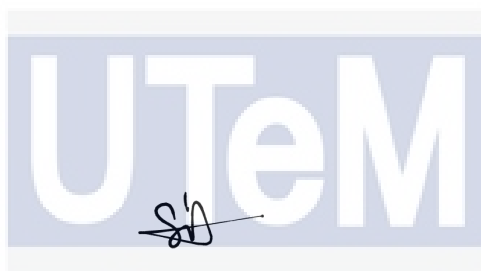
FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2021

DECLARATION

I hereby declare that this project report entitled
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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
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DEDICATION

To my beloved parents,

I dedicate this project to you for many reasons. First, as a thank you for all the things you have done to for me as I've grown up, who have been my source of inspiration, gave me strength when I thought of giving up, support and help whenever and wherever I need.

Dear my mom, thank you for all the thousands of times you made dinner for me, for all the times you checked my health in doing my assignments, for all the times you advices me for not give up on my final project, for all the times you were there for me when I was sick and for everything else you've done for me.

Dear my dad, thank you for being great mentor on how to be a woman of character, for being an example for us, for teaching me how to be a hard worker and tough in this time of pandemic in completing my final year project. I truly appreciate what you have done to me in giving me support all this time. Thank you for being my awesome dad which I can be proud of.

I would like to thank you again to my beloved parents for their support in both emotional and financial throughout my project. I feel very grateful and blessed to have these people in my life.

In addition, to my supervisor, Dr Mohamad Lutfi Dolhalit who always committed, endless support and guide me while the progress of this final project.

Lastly, to all my beloved friends who always there to help me through anything and shared their words of advice and encouragement to finish my final year project.

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Bismillahirrahmanirahim, In the name of Allah, thank you for the guidance, strength and giving me a healthy life. Alhamdulillah, with his permission I am able to finish and completed my final year project.

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Secondly, I would like to express my sincere gratitude to my supervisor Dr. Mohamad Lutfi Dolhalit for giving assistant to complete this entire project duration.

I feel grateful for the advices and improvement from my supervisor on how to complete my final project. I really appreciate the kindness from my supervisor in dealing with my project. Without the help from my supervisor, I will be lost to what to do in improving my final year project. Thank you for all of your help and advices in the making of this final year project.

To wrap things up, I would also like to thank my beloved friends who have been giving me support and motivation throughout my project. I feel so grateful and blessed to have these people in my life.

Thank you.

ABSTRACT

Foreign languages have become more popular and in-demand among Malaysians especially for the people who really love to learn a new language. In Malaysia, there are many public and private institution has provided the third language as one of the subjects but there are not many e-learning platforms for Malaysia people who want to learn the Japanese language. The focus on developing this project is for people who want to learn basic Japanese language which they can learn at this e-learning platform easily. This project involved using E-learning with some of the digital comics put in it to make it more special and more interactive in the learning module. This study aims to investigate the use of mobile digital comics in Japanese language learning so the people who learn the Japanese language will have better coverage in learning the basic Japanese language. Nowadays, not many e-learning platforms teach the basic Japanese language to Malaysian people. This project is expected to successfully be one platform that can teach basic Japanese language to the Malaysian people out there who willing to learn.

ABSTRAK

Bahasa asing telah menjadi lebih popular dan diminati di kalangan rakyat Malaysia terutamanya bagi orang-orang yang sangat suka belajar bahasa baru. Di Malaysia, terdapat banyak institusi awam dan swasta yang menyediakan bahasa ketiga sebagai salah satu mata pelajaran tetapi tidak banyak platform e-learning untuk orang Malaysia yang ingin belajar bahasa Jepun. Fokus untuk membangunkan projek ini adalah untuk orang yang ingin belajar bahasa Jepun asas yang mereka dapat belajar di platform e-learning ini dengan mudah. Projek ini melibatkan penggunaan e-learning dengan beberapa komik digital yang dimasukkan untuk menjadikannya lebih istimewa dan lebih interaktif dalam modul pembelajaran. Kajian ini bertujuan untuk mengkaji penggunaan komik digital mudah alih dalam pembelajaran bahasa Jepun sehingga orang yang mempelajari bahasa Jepun akan mendapat liputan yang lebih baik dalam mempelajari bahasa Jepun asas.

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LIST OF ABBREVIATIONS

FYP - **Final Year Project**



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CHAPTER 1: INTRODUCTION

1.1 Project Background

According to research (M.I Mohd Hassan,2019), motivation is a crucial aspect of learning a far off language. It becomes even more crucially important for learners of Japanese as a far off language (JFL) because Japanese falls into an equivalent category as Arabic and Mandarin, all of which are very difficult to find out and master.

Unlike Arabic and Mandarin which can even be a primary or second language to some Malaysian people especially students, Japanese largely remains as a far off language to several of them.

There are many online resources available for learning the Japanese language, but a couple of have provided a correct guide to find out or strategy pattern when learning the Japanese language in Malaysia. it's vital to think about the challenges in acquiring of these metalinguistic features just like the language may have deeper pronounce depend upon different environment or situation.

1.2 Problem Statement

Nowadays the Malaysian people interest in learning new foreign languages which are very good for them to gain some new knowledge which they can use to interact with foreign people or in their work. The Japanese language is currently very foreign for the Malaysian people as they don't know which platform that good for them to learn the Japanese language in Malaysia. A foreign language such as the Japanese language only can be learned in private classes and at university. Even some of the e-learning platform has the method to teach Japanese language but there are so many of e-learning platform which lack of visual interaction for people to understand the content especially when the people is still in their early stage for learning basic Japanese language.

Therefore, most of the people who wish to learn the Japanese language start from basic does not know how to fully understand the basic of the Japanese language. They having difficulty understanding when to use the sentence in making some conversation with the others. Usually, they don't know which suitable word that they should use as they still in their beginner in learning the Japanese language.

1.3 Objective

The objectives of developing this project are:

- (a) To investigate the user experience of mobile digital comic in Japanese language learning.
- (b) To develop mobile digital comic based on digital comic instruction.
- (c) To evaluate the user experience of the digital comic instruction in Japanese language learning.

1.4 Project Scope

The scopes in developing this project are :

- (a) Drawing.
- (b) People (age 10 above).
- (c) Teaching Japanese Language.
- (d) Mobile platform.
- (e) Assessment tools include video clips and direct instruction.

1.4.1 Target Audience

This e-learning for mobile digital comic is targeting for public.

1.4.2 Content

There are several module will be used in this application. The features on part of the e-learning for mobile digital comic Japanese Language will be displayed such as

- a) Introduction of Japanese language.
- b) Background of Japanese language.
- c) Characteristic of Japanese alphabet such as Hiragana and Katakana.
- d) Daily speeches of Japanese language using digital comic.
- e) Number in Japanese language.
- f) Exercise in Japanese language.

- g) Introduction of self in Japanese language.
- h) Explain of the grammar in Japanese language.
- i) Explain of each places , things, and times in Japanese language.

1.5 Project Significant

The purpose of this project is to introduce foreign languages especially Japanese languages to the Malaysian people and make more opportunities for the people who want to learn basic Japanese language easily. In addition, this project will give great knowledge and experiences to the Malaysian people who study the Japanese language here. This will improve their understanding of learning the Japanese language and they can easily start to practice for communicate in the Japanese language. Thus, the new platform of e-learning for mobile digital comics can be improved.

1.6 Conclusion

From this project, the expectation is to investigate the use of mobile digital comic in Japanese language learning. The application is developed by using Adobe Captivate that specifically in making e-learning platform. The problem statements identify the situation from the current scenario and why it is necessary to develop this project. The objectives are clearly stated from the problem statement. The objectives should be realistic and attainable. Thus, research interests clarify the specific target user, framework and usability.

CHAPTER 2: LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

This chapter are going to be discussing on identifying the related domain, existing systems and therefore the project methodology implemented for this project.

The methodology is an organized arrangement of strategies, cycles, practices, and systems used to be accomplished. It's highly recommended to overcome this situation and eliminate vulnerability because it's one of the most important success factors, as well as the management team's core expertise. It's simple to lead the team through the phases, processes, and activities of the project delivery.

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2.2 Facts and findings

Chapter 2 will be discussed about the essential idea of e-learning in terms of definition and some issues related to e-learning. Plus, this part will likewise examine the idea of the education industry and the system in advancing the education industry division. Some existed e-learning platform that gives collaboration highlight will examine and be included in the correlation cycle in this section.

2.3 Domain

The domain for this project is based on the e-learning of mobile digital comic in basic Japanese language. Through this application, users can learn the basic of Japanese language. Besides, users can also learn the basic alphabet of Japanese

language such as Hiragana and Katakana. With this application, the users will be able to get basic knowledge in learning Japanese language and they can apply it in their daily life.

2.3.1 E-learning definition

E-learning might even be a part of the new trend which is defining educational systems at the beginning of the 20th century. The concept of digital, like society, will always be evolving. Furthermore, It seems to be challenging to come up with a single concept of e-learning that is available to the general of scholars. Conceptions of e-learning are influenced by different organizational perspectives and inclinations.

2.3.2 Types of E-learning

Several academic specialists have recognised different types of e-learning related to learning technologies, while others have decided to focus on criteria such as synchrony and learning content. There are several types of e-learning that are software learning (CML), asynchronous online learning, interactive online learning, and adaptive e-learning.

The concept is described as follows as website model within e-learning. This summarizes the e-learning sector, including its fundamental structure, lexicon, and challenges. When it comes to integrated e-learning,, the system into account isn't restricted to a computing system but concerns the whole organization of the tutorial system. An 'integrated e-learning system' (IEL) is a tutorial system that supports its primary educational functions with network-based learning technologies (Rob Koper,2005).

Researchers and practitioners are interested in studying approaches to style and develop effective e-learning programmes as the quantity of online education and training programmes grows. The choice of medium to communicate the information of such programmes is one of the most important design decisions that affects learning effectiveness. Within the evolution from text to graphics to audio to video, the prevalent trend appears to be to use a "richer" medium for planning and developing e-

learning programmes. However, it's unclear if a "richer" medium results in proportionately increased learning efficacy (V Sahasrabudhe, S Kanungo,2014).

Aside from that, an e-learning project's life cycle is divided into many processes, concepts, products, and stakeholders involved in educational activities. For tutorial institutions, the processes that organise the life cycle of a virtual educational project are frequently supported empirical experiences. Processes are created based on successful e-learning project implementation experiences, and there is no universal or general formula to follow. Because of the variety of implementation models, the International Organization for Standardization (ISO) adopted ISO/IEC 19796 as a quality standard (ISO,2005).

2.3.2.1 Computer-managed learning (CML)

Computer Managed Learning is the electronic administration of a student's learning information. It's a major use of technology for student accountability and paperwork, with electronic documents, sorting, and reporting of his learning results. The computer's primary function in CML is record-keeping, and it does not provide direct instruction to the learner. It tends to take over the teacher's other role and responsibility, such as grading students' response sheets, gathering and sharing information about each learner and updating it on a regular basis, locating the resource options available for each individual student to seek out a topic, and monitoring the scholar's training while he's using the tutorial programme chosen to suit his abilities. Evaluation, record-keeping, report retrieval, identify resources possibilities, and prescribe and control instruction are only a few examples. Although indirect, this style of training aids in determining the learner's current level of knowledge, weaknesses, and gaps.

2.3.2.2 Asynchronous online learning

Asynchronous learning refers to the fact that the instructor and hence the students in the session interact with the course information at separate times (and from different locations). The instructor assigns students to a series of modules that they must complete as their schedules allow. Assigned readings or uploaded media, online

quizzes, discussion boards, and other resources may be used in each unit. The instructor mentors the students, provides feedback, and assesses them as needed.

2.3.2.3 Interactive online learning

Moving beyond the passive one-way nodes of reading, hearing, and viewing static content, interactive online learning requires going beyond the passive one-way nodes of reading, listening, and watching static content. Rather than waiting for information and digesting it, you may pluck out the exact stuff you want and manipulate it. Having said that, it's critical to master these four elements in order to fully comprehend what interactive online learning entails.

2.3.2.4 Adaptive e-learning

Adaptive learning is a method of education that employs computers as interactive teaching tools and orchestrates the allocation of human and mediated resources to meet each learner's individual needs. Adaptive learning is more than just personalization; it's about getting the learning programme or content to adjust to the learner's goals, needs, and preferences.

2.4 Existing System

The existing system that is used for the project references are from the subject matter expert (SME) that contain several ideas that will contribute ideas to this project.

2.4.1 Application of Duolingo

This application of Duolingo is produced for the people to learn and know about many different types of foreign languages including the Japanese language. Duolingo Japanese is not perfect. But it's a fun and effective thanks to learn some basic Japanese. If you actually only have five minutes during a day to review , Duolingo is perhaps one among the foremost effective ways to spend some time . As for this, there are few example regarding their application.

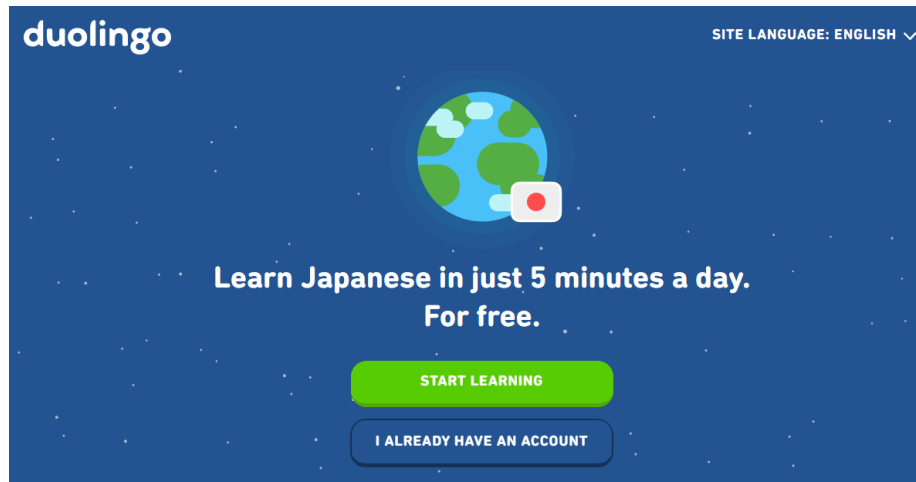


Figure 2.1: Example of application of Duolingo



Figure 2.2: Example of application of Duolingo

What sound does this make?

ち

1

2

3

Figure 2.3: Example of application of Duolingo

2.4.2 Desktop-Based JapanesePod101


JapanesePod101 may be a good, engaging resource, especially for beginners and lower levels. Their bite-sized approach to review materials makes it a perfect option for busy people – especially those that like better to study on the go. It's by no means a shortcut, though, and you'll need self-discipline to get through it. JapanesePod101.com may be a language course podcast and accompanying website that gives lessons in Japanese. It is a part of pod101 websites of Innovative learning USA LLC.




Figure 2.4: Example of Desktop Based of JapanesePod101

Top 5 Complaints in Japanese


I'm tired.
疲れているんです。
Tsukarete iru n desu.




It's hot.
暑いです。
Atsui desu.




It's noisy.
うるさいです。
urusai desu.



It's cold.
寒いです。
Samui desu.



It's too expensive.
これは高すぎる。
kore wa takasugiru.









JapanesePod101.com

Figure 2.5: Example of Desktop Based of JapanesePod101



Topics for Conversation in Japanese

	current events	時事	jiji
	family	家族	kazoku
	food	食べ物	tabemono
	hobbies	趣味	shumi
	jobs and work	職業と労働	shokugyō to rōdō
	TV and movies	テレビと映画	terebi to eiga
	music	音楽	ongaku
	cultural differences	文化的な違い	bunkateki na chigai

JapanesePod101.com

Figure 2.6: Example of Desktop Based of JapanesePod101

2.4.3 Game-Based Learning Learn Japanese with Tako

It's known as "Tako's Japanese," and it's an off-the-cuff educational tool that helps you learn the stroke sequence of the three Japanese writing systems: hiragana, katakana, and kanji. It has a detailed orthography that supports touch controls, allowing users to learn the stroke orders of various characters. The ludological stripes of "Learn Japanese with Tako" are earned. Playing baseball, serving clients as an octopus waiter, and enjoying a version on everyone's favourite game for releasing pent-up fury are among the mini-games that work as learning reinforcements or summaries of the teachings you've previously accomplished. Whac-A-Mole. Lower-level students who want to do well on the JLPT (Japanese Language Proficiency Test)



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Figure 2.7: Example of Game Based of TakosJapanese



Figure 2.8: Example of Game Based of TakosJapanese



Figure 2.9: Example of Game Based of TakosJapanese

2.5 Project Methodology

The methodology implemented during the event stage is by Software Development Life Cycle. it's a framework that describes the activities performed at each stage. (Sheetal Sharma, 2012) They are several models like waterfall, agile and v-shaped. Will use agile model for this project. Unlike an easy linear waterfall model, agile projects contains variety of smaller cycles-sprint (Agile Project Management: Best Practices and Methodologies, 2016). The agile process follows the software development life cycle which incorporates analysis, design, coding and testing as figure 2.10.

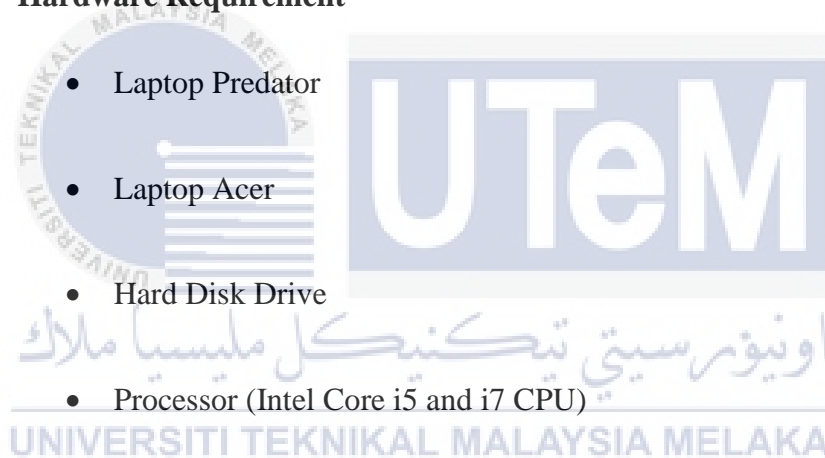


Figure 2.10: Software Development Cycle

2.6 Project Requirements

The project requirements are the software and hardware needs that must be used to ensure the project's success. It provides a great e-learning that needs to be finished on time by using the tools that are needed.

2.6.1 Hardware Requirement

- 
- Laptop Predator
 - Laptop Acer
 - Hard Disk Drive
 - Processor (Intel Core i5 and i7 CPU)
 - RAM (Installed 12.0 GB of RAM)
 - Windows 10 pro

2.6.2 Software Requirement

Software requirement is a listing of what software programs or hardware devices are required to operate the system (Anon., 2020). The software used has been determined before the development process to ensure a smooth progress.

- Adobe Captivate
- Adobe Illustrator

- Adobe Photoshop
- Adobe Premiere Pro
- Filmora9
- Clip Studio
- Browser : Google Chrome
- Microsoft 365

2.7 Conclusion

As conclusion, this chapter explained about the review of existing systems and methodology to be used to develop the project successfully. All of the requirements such as software and hardware requirement also have been stated in this chapter clearly. The next chapter explains the analysis for the project's development.

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CHAPTER 3: ANALYSIS

3.1 Introduction

Analysis stage is the essential stage in the vast majority of existing strategy. Essentially, investigation requires an issue examination in the investigation procedures utilized, prerequisite investigation, assets and conveyance stage. This part will survey the issue and the prerequisite investigation of the task. The way toward recognizing issue is the way toward characterizing contrasts, so the cycle of critical thinking is the way toward figuring out how to lessen the distinctions. Requirement analysis is additionally including functional, non-functional and other requirements. All the involve requirement which can be utilized in developing process are going to be list down with their detail usages. Hardware and software requirement play a crucial role in developing the system. Without identify the need clearly, the system will have a drag and not function properly in real environment. Current Scenario Analysis

Current scenario analysis contains the generic flow of existing scenario representation. The analysis of the current system is an important activity where to get an idea of how the current system is operating.

3.1.1 Comparing Existing E-learning

There are a few applications that have comparative capacity with learning basic Japanese Language by e-learning. Nonetheless, every one of them has contrast includes that separate them. The following is the flowchart for existing framework.

3.1.2 Game-Based Learning of Japanese Language

After every game the user has the likelihood to ascertain his or her results, and features a option to either play an equivalent game again, return to the most screen to settle on a special game, or quit the appliance . In later development, the appliance flow could have more actions, for instance screen for points and comparison with other users, a profile page and more differing types of games. Never the less for the prototype phase we wanted to make as simple application flow as possible to perform because the backbone of the app.

The game flow is straightforward and it's illustrated in figure 3.1. The user starts the appliance waits for it to load, and within the main screen chooses a game and plays it.

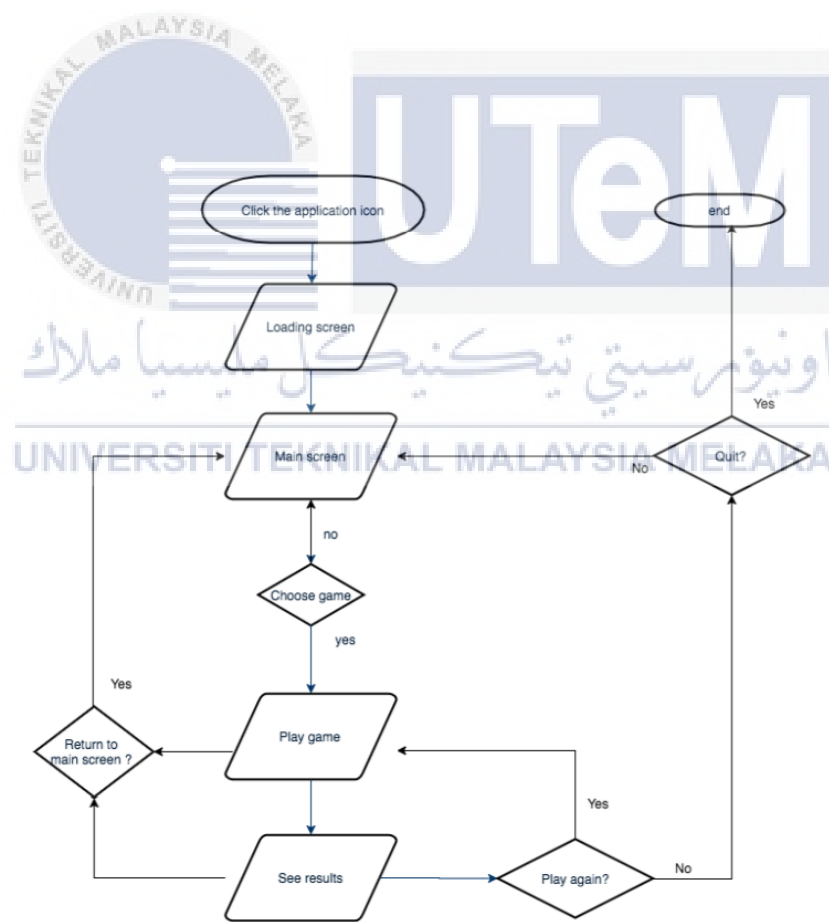


Figure 3.1 Game Flow

3.2 Requirement Analysis

Requirement analysis is a method of describing the desires that lead to the creation of the project.

3.2.1 Project Requirement

In the project requirements, the system to be developed is analyzed. It will describe the action, processes, or other conditions the project needs to meet. It will analyze based on the requirement gathering and specific technique that used in this project. These project requirements will provide a clear clarification of the works that need to be done.

3.2.1.1 User Analysis

The aim of developing this project is for who want to get the content table of a module that must be developed in the e-learning. Scenes, topics ,videos ,digital comics ,game and label are the category that will have. In addition, e-learning which contain easy understanding for the new users to start their learning will have more advantages. So this e-learning will giving them more benefit and effective for the user to use in learning basic Japanese Language.

3.2.1.2 Technical Analysis

Technically, this project design by using Adobe Illustrator, Adobe Photoshop, and Adobe Captivate. The content of the project mostly about the basic module in learning of Japanese Language. To write the content in e-learning is using the Adobe Captivate. Make a few videos using the Adobe Premiere Pro and Filmora9. Some of the character gif, object and the background scene is inspired from the website. Then, develop digital comic using Clip Studio and Adobe Photoshop. Create a game by using Adobe Captivate. To draft and write the PSM's report by Microsoft365.

3.2.1.3 Requirement Gathering

The researcher needs to have requirement analysis during the analysis phase. The analysis can be done by interviewing the customer, target user and stack holder

The interview will be conducted with the people which live in Japan. All of the project functionality, proposed interaction, and the analysis of raw data and sources will be discussed in requirement gathering. The specific technique used when developed this project also be analyzed. The analysis result will be contributed to the e-learning development. Table below shows the detail about the interviewer.

Table 3.1: Interviewer information

Name	Soichiro Tsuruta
Position	University student
Date	1 Jun 2021
Venue	Online Meeting in Google Meet
Type of information gathering	Interview

3.2.2 Software Requirement

Software requirement is a listing of what software programs or hardware device are required to operate the system (Anon., 2020). The software used have been determined before development process to ensure a smooth progress.

a) Adobe Captivate

Adobe Captivate is really suitable for the user who want to use it as place to make the awesome e-learning on it. It is really easy to use and we can choose for it to be responsive on it or either way.

b) Adobe Photoshop

Adobe Photoshop can edit photo and it also very popular software which people always buy and use it. You can edit as many awesome things as you like in there. Furthermore, you also can do the drawing on it and also painting.

c) Adobe Illustrator

Will be used to design the object and interface that needed in the e-learning.

d) Adobe Premiere Pro

Will be used to combines the scenes made in Canva and add audio element in the video.

e) Clip Studio

Clip Studio Paint that has many good features in it such as custom brush and you can draw many things in there.

f) Filmora9

Wondershare Filmora9 is an easy to use video editing program from Wondershare. Filmora9 has an intuitive and easy to follow interface making it easy to edit and share your videos fast. It's a nice program for Youtubers, content creators, and other social media teams.

3.2.3 Hardware Requirement

Hardware also is an important part in develops the application. It will be the supporting tool for the software. Hardware is chosen based on the software being used. If the hardware has the ability to support the requirement of software, it will be chosen. Hardware is important as it will be the platform and the functionality will determine the fastest to deliver the project. Below is the list of the hardware, its specification and the function.

a) Laptop

Will be used to access the software listed and for system development.

b) Hard Disk Drive

Will be used for storing the animation.

c) Processor

Using Intel® Core™ i5-7200U CPU.

d) RAM

Using Installed 12.0 GB space of RAM.

e) Mobile Devices

The mobile device is used to run the application.

3.3 Project Schedule and Milestone

This section will clarify about venture timetable and achievement. Task is actualized in one semester comprising of fourteen (14) weeks. Undertaking timetable and achievement is significant and vital and must be well intend to guarantee the task accomplished its goal. Table below shows the project schedule and milestone of this project.

Table 3.2: Description of Project Schedule and Milestone

Activity Description	Duration (Working days only)	Start Date	End Date
1. Brainstorming	7 days	21/2/21	27/2/21
1.1 Select project title	4 days	28/2/21	3/3/21
1.2 Find the information related the title	3 days	4/3/21	6/3/21
2. Proposal	13 days	7/3/21	20/3/21
3. Project Preparation	13 days	21/3/21	3/4/21
3.1 Install the needed software	4 days	21/3/21	24/3/21

3.2 Learn how to use the software	9 days	25/3/21	2/4/21
3.1. Analysis	14 days	3/4/21	17/4/21
3.1.1 Describe project background	2 days	3/4/21	4/4/21
3.1.2 Identify target user	1 days	5/4/21	5/4/21
3.1.3 Identify project significance	1 days	6/4/21	6/4/21
3.1.4 Define literature review	5 days	7/4/21	11/4/21
3.1.5 Identify project methodology	2 days	12/4/21	13/4/21
3.1.6 Analysis project requirement	2 days	14/4/21	15/4/21
3.1.7 Review project plan	1 days	16/4/21	16/4/21
4. Development	60 days	17/4/21	17/6/21
4.1 Design the interface	15 days	17/4/21	2/5/21
4.2 Edit the content	15 days	3/5/21	18/5/21
4.3 Develop scene	10 days	19/5/21	29/5/21
4.4 Improve the design	5 days	30/5/21	3/6/21
4.5 Develop user interaction	2 days	4/6/21	5/6/21
5. Testing	7 days	6/6/21	12/6/21
6. Development	7 days	13/6/21	19/6/21
6.1 Edit the content	4 days	13/6/21	16/6/21
6.2 Improve the interface	3 days	17/6/21	19/6/21
PSM 2			
7. Development	28 days	25/6/21	21/7/21
8. Implementation	21 days	22/7/21	12/8/21

9. Testing	21 days	13/8/21	2/9/21
9.1 Testing	11 days	13/8/21	23/8/21
9.2 Evaluate	5 days	24/8/21	28/8/21
9.3 Publish	5 days	29/8/21	2/9/21
10. Documentation	10 days	3/9/21	13/9/21
11. Final Preparation	5 days	14/9/21	18/9/21
11.1 Make correction of project report	1 days	14/9/21	14/9/21
11.2 Submit project report	1 days	15/9/21	15/9/21
11.3 Present final project	1 days	16/9/21	16/9/21
11.4 Finalize project report	1 days	17/9/21	17/9/21
11.5 Submit final project report	1 days	18/9/21	18/9/21
11.6 Project Complete	1 days	19/9/21	19/9/21

3.4 Conclusion

As summary, the e-learning for mobile digital comic in learning basic Japanese language will require the basic software and hardware requirement for e-learning. A laptop to work in, the e-learning software to make the project responsive, the software to compile all the scenes made and a software to design the character and object. All this process will take most of the time and to meet the deadline on time, researcher will need to follow the Gantt chart and Milestone for reference.

CHAPTER 4: DESIGN

4.1 Introduction

This chapter outlines elaboration on the outcome of the review carried out in the shown. The design phase comprises different advances concerning the learning goals, assessment apparatuses, preparing, and works out. The design phase is where the developer will design and structure the application. It is based on the concept and idea of the project. The idea, layout, and design will be sketched for the developer to get the basic layout on what to add to the project interface. The process of this design application will be elaborated more in the chapter.

4.2 Preliminary Design




4.2.1 Storyboard

A storyboard may be a graphic organizer consisting of sequentially displayed illustrations or images for pre-visualizing a sequence of movie images, animations, motion graphics, or interactive media.

Table 4.2: Visualize the storyboard of digital comic used to complete this project

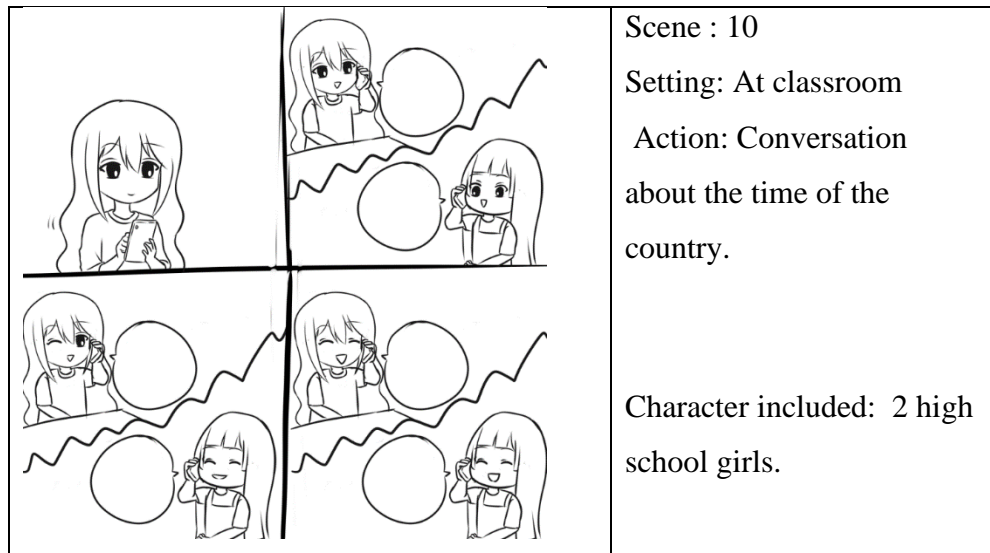
Storyboard of digital comic

Title : Mobile Digital Comic For Basic Japanese Language Learning

Scene	Description
	<p>Scene : 1</p> <p>Setting: At classroom</p> <p>Action: First time meeting with the friends.</p> <p>Character included: 2 high school girls.</p>
	<p>Scene : 2</p> <p>Setting: At outside</p> <p>Action: Say sorry for the mistakes that have done.</p> <p>Character included: 1 boy and 1 girl.</p>
	<p>Scene : 3</p> <p>Setting: At classroom</p> <p>Action: Conversation about the something they like while give books.</p> <p>Character included: 2 high school boys.</p>

	<p>Scene : 4</p> <p>Setting: At one of the girls house.</p> <p>Action: Conversation about the country they live.</p> <p>Character included: 2 girls.</p>
	<p>Scene : 5</p> <p>Setting: At classroom</p> <p>Action: The girl gives some paperwork and tell the class monitor to attend meeting.</p> <p>Character included: 1 high school boy and 1 high school girl.</p>
	<p>Scene : 6</p> <p>Setting: At boy home</p> <p>Action: The other boy give something to the other boy when he go to his house.</p> <p>Character included: 2 boys.</p>

		<p>Scene : 7</p> <p>Setting: At classroom</p> <p>Action: Teacher teach and ask her students about the subjects.</p>
		<p>Character included: A teacher and some classmates.</p>
		<p>Scene : 8</p> <p>Setting: At shoes shop</p> <p>Action: Conversation about the shoes.</p>
		<p>Character included: 1 assistant and 1 buyer.</p>
		<p>Scene : 9</p> <p>Setting: At outside</p> <p>Action: Conversation about their work.</p>
		<p>Character included: 2 working man.</p>



4.3 User Interface Design

The user interface acts as a medium that permits the client to cooperate with the enlarged reality. It is significant because the greater part of the great expanded the truth is depending what number of clients can see how to utilize the enlarged reality application. In this way, the way toward planning user interface must be legitimate to make the communication between the client and the increased reality compelling.

4.3.1 Main Page Design

The main page of this e-learning for mobile digital comic has been designed by including the design of content in Adobe Captivate.



Figure 4.1: Main Page Design Page 1

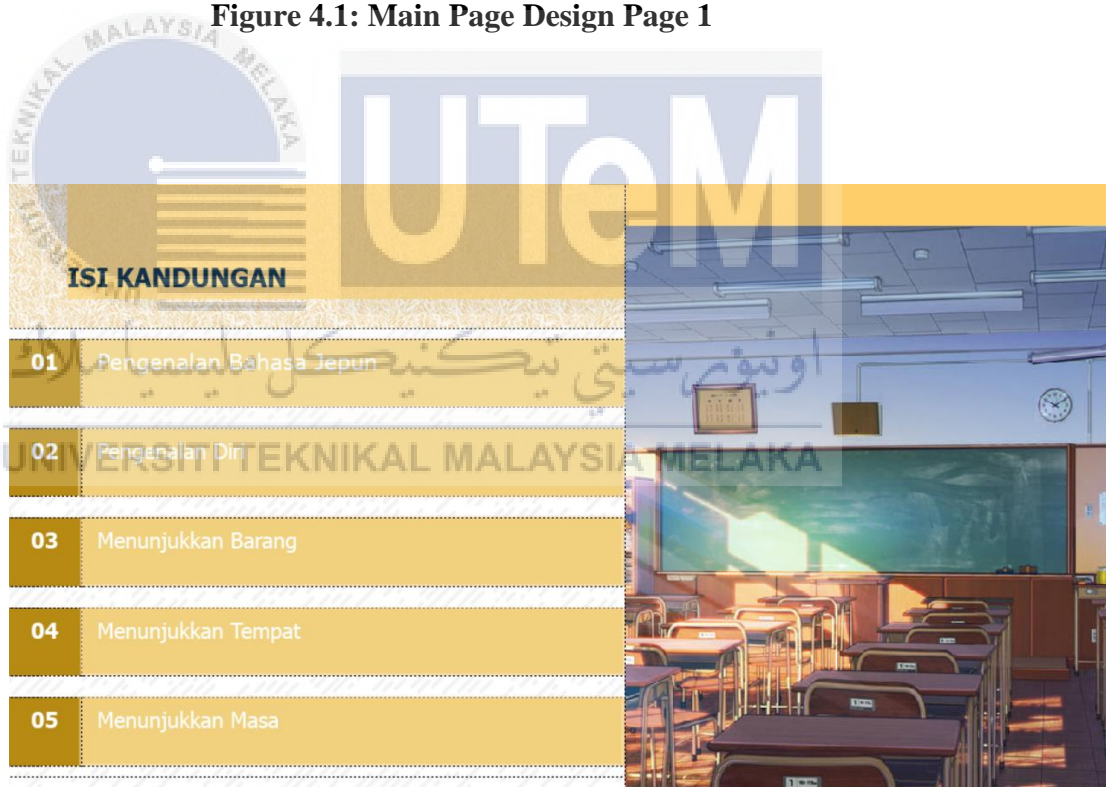


Figure 4.2: Main Page Design Page 2

4.4 Conclusion

Design phase is important for developer because in this phase the developer will get the idea to design the application. After that, the next phase will follow the sketch on the storyboard to develop the application. The idea of the e-learning of mobile digital comic for basic Japanese language learning have been visualized. In the next chapter is discussing on the implementation phase of this project.



CHAPTER 5: IMPLEMENTATION

5.1 Introduction

In this execution stage, the way toward actualizing and making the sight and sound components into this E-Learning platform will be intricate. All the cycle related with media creation will be talked about in this section. Learning and teaching by the use of the internet, web applications, social media platforms, and mobile apps have made easier and information for both students and teachers in today's eventful life routines. E-learning concept refers to the use of various electronic equipment such as computers, CDs (ROMs), recorded videos tapes, and other various tools in remote learning. However, in modern theories eLearning is an exploitation of advanced innovations like PDAs, smartphones, tablets with the broadband network to web and social media with great mobility, plentiful resources have removed barriers of time, distance, pace, or people and provided affordable learning chances to students anywhere anytime. In this section, the rendition control technique and the earth arrangement additionally will be examined. The point is with respect the insight concerning module, the adaption of the item well as the way toward actualizing this undertaking. There is some control to be taken while doing the item setup to the board.

5.2 Media Creation

The generation of substance in any sphere of correspondence, distraction, or data is referred to as media creation.(Amir Manzoor) Media production will get insight into the age of substance, text, animation, and realistic games, as well as sound and video parts. To become full and active participants in today's technologically saturated society, young people need to become creators (and not just consumers) of interactive media. Developing the requisite abilities and capacities is not a wholly individual

process; young people need to have access to communities where they can collaborate and share ideas. This uses the Scratch online community for exploring how different forms of participation and collaboration can support and shape how young people develop as creators of interactive media.

a) Production of Text

Text is one of the significant interactive media components in creating this undertaking. Text is being used to convey data to the crowd with the goal that the crowd recognizes what is this undertaking about. Text is the significant medium to convey the substance for depiction, guidance, and subtleties. The word and sentences use in this venture is clear and direct with the goal that the crowd will see better.

The entirety of the content utilized in this venture is utilizing the San serif text style. San serif is utilized in light of the letters is all the more simple to peruse and reasonable for everybody and it is significant for the crowd to see each word in this task. San serif text style likewise has most keen differentiation better than serif text style family and it will deliver the best outcome in PC or cell phone screens. There is 3 distinctive kind of San serif text style that is utilized in this undertaking, is Tahoma, Georgia, Bahnschrift, Cooper Std and Kozuka Gothic Pr6N .



Figure 5.1: Text titles

01	Pengenalan Bahasa Jepun
02	Pengenalan Diri
03	Menunjukkan Barang
04	Menunjukkan Tempat
05	Menunjukkan Masa

さようなら
Sayonara

Figure 5.2: Text contents

**SALAH!
SILA CUBA LAGI
YA!**

Tatabahasa 4 : Partikel も

PARTIKEL も

Partikel も adalah digunakan apabila topik yang ingin diperkatakan adalah sama dengan topik yang sebelumnya. Partikel ini も juga boleh digunakan menggantikan partikel も bagi topik yang berulang. Jika di dalam bahasa Melayu, partikel も ini boleh ditafsirkan sebagai "juga".

Figure 5.3: Text contents

b) Production of Graphic

Graphics are one of the media elements that can give information. A graphic is a form of visualizing an image that gives information. There are two types of graphics, vector, and raster. Raster image will be pixelated when zooming the image while vector is not, this is because the vector

image is formed from a mathematical formula that tells how the image will be shaped, while raster image is composed of the colored pixel that is arranged to display an image. In this project the image produces is using vector and raster depending on the situation of the image produced. The objects that are made is using a vector to ensure the quality of the images when exporting the animation. The images are made by using Adobe Illustrator while some of the backgrounds are extracted from the website Freepik. This e-learning is using 2D images. Figure 5.0 shows the interface that has been used in the project



Figure 5.4: Chapter 1

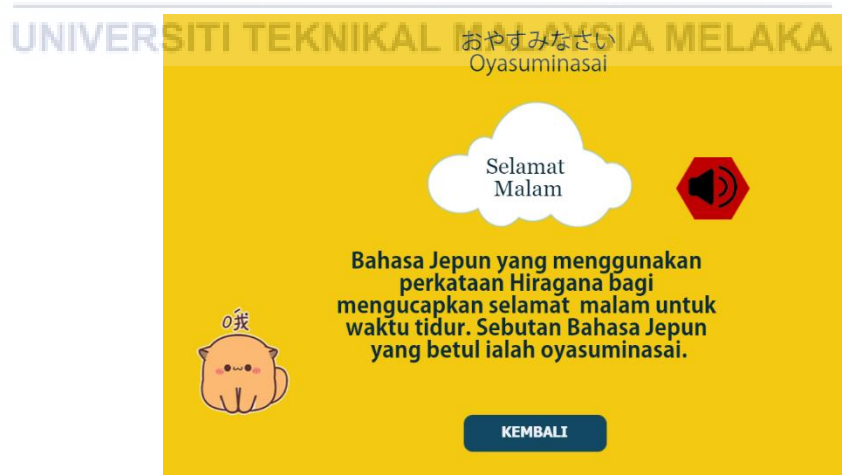


Figure 5.5: Chapter 1

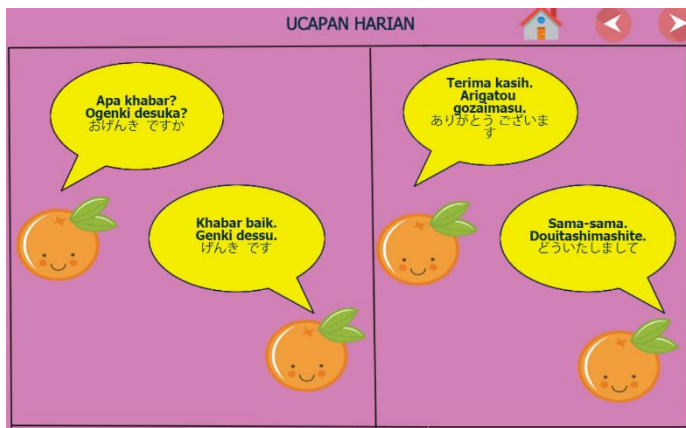


Figure 5.6: Chapter 1



Figure 5.7: Chapter 2

UNIVERSITI TEKNIKAL MALAYSIA MELAKA



Figure 5.8: Chapter 2

c) Production of Animation

The use of animation is purpose to attract an audience and make the information deliverables to the audience. The utilization of animation movement is a reason to pull in people and make the information output to the audience. Good use of animation is that it can effectively integrate the audience and make complicated responses simpler information. Besides that, it can make messages deliverables more memorable. The animation in this project is only mainly focused on the digital comic which using the Clip Studio and then it will being edit using Adobe Photoshop to put the dialogue and the sound effect of the dialogue using the Adobe Captivate.

d) Production of Audio

The sound and voice over are edited by using Adobe Captivate. The narrator voice is recorded and being edited according to the animated timeline.

5.3 Media Integration

The animation consists of various multimedia elements. The graphics and objects used were created by using Adobe Illustrator, Adobe Photoshop, and Clip Studio. The graphics are saved into a .AI file and will be imported in Adobe Captivate and will be converted in the software for editing.

5.4 Product Configuration Management

This project uses Clip Studio to illustrate the character and the object to ensure the image is in vector. The images then are imported to Adobe Photoshop as .AI file and will be converted to layered comp to input the subtitle. The scene will be exported in png file and the imported to Adobe Captivate to combine with another multimedia element such as audio. The final product will be in html link after live preview on the device.

5.5 Implementation Status

Implementation status is used to keep track and record the development process for this project. This section later will be discussing in the development Progress of each module based on the Gantt chart.

Table 5.1: Development Progress

Module	Duration	Description
Design character and object	1 weeks	The character and object that will be used will be design in this week
Create draft and actual comic scenes	2 weeks	Created the draft of the scene one by one by using Clip Studio.
Input the sound effect and sound background	1 weeks	Sound effect and sound background will be search and input to the e-learning platform.
Input the text and dialogue in the digital comic	1 weeks	The text media and animation will be input.
Compile all the digital comic in the adobe captivate.	1 weeks	Compile all the animated scene to Adobe Captivate.

5.6 Conclusion

In the conclusion, the implementation phase is important for developing this animation. The overall production of the graphic has been discussed in this chapter. The media integration has shown the process of developing the animation and the role of each software used in this project. The next chapter will be discussing the testing and the evaluation of this project that has been carried out.



CHAPTER 6: TESTING

6.1 Introduction

Testing is another stage that must be done after the implementation stage is finished. The testing stage will clarify about testing and assessing the output of this project finishing all the cycle and process being developed stage. It is critical to run this testing and assessment so the genuine information can be measure and contrast with a guarantee it can meet the target expressed in chapter 1. Before the venture can be appropriated, all the functionalities of this undertaking must be tested with the goal that it can run easily true to form. The purpose of the testing phase is to find out whether the project objective is achieved or not. This chapter also cover the test user, test schedule, and test strategy to gather real data and analyzed the result. It is to determine the success of this project depends on the project's objectives.

6.2 Testing Plan

The test plan comprises three sections which are test user, test schedule, and test strategy. The entirety of the test plan in this testing stage will be quickly clarifying in the entirety of this part. This is a plan to set up the beginning phase of the testing stage. The test plan is basic since it will cover the significant issue in testing to guarantee its persuading to accomplish this current task's target. The proper test should be decided by the developer and designer with the goal that it can bring off for the objective user. All of the item testing range, what project will be the test, time testing, and all the individuals who will test the project will be recorded and archived in the test plan. It is vital and critical to guarantee the undertaking stream is on target follow as needs be as plan without bugs.

6.2.1 Test User

In this system, the main target user is to public people who is willing to learning basic Japanese language in this platform. The reasoning for this is that these people have a hard time in understanding the basic Japanese language when they still beginner. The name that they need to memorize is very hard to remember at once as the name is not familiar and long. This test will be aiming for 40 people, 3 multimedia experts and 2 subject expert. Table 6.1 below shows the details of tester that involved in this testing.

Table 6.1: Test Organization for Testing

Profession	Public	Multimedia Expert	Subject Matter Expert
General Information	Anyone who is interested in learning basic Japanese languages	Multimedia designer that experience in multimedia field	Someone that is expertise in Japanese languages.
Number of Respondent	40	3	2

6.2.2 Test Environment

The test environment specifies the place and conditions in which the research will be conducted. It also specifies the hardware that will be used throughout the test. The testing environment is beneficial in ensuring that the testing procedure is completed without difficulties. The arrangement and preparation of the software and hardware has been verified as shown in table 6.2.

Table 6.2: Test Environment

Hardware and Software	Description
Smartphone/Laptop	The device to test e-learning platform to the public
Internet Connection	Required to create and distribute the google form as a feedback of the system Required to create the Google Form questionnaire

Prior to testing phase, the public were informed about the objective of the project and what they can expect from the system and what they should do for the post-test. For that, a Google Form questionnaire was created for users to answer after testing the system.

6.2.3 Test Schedule

Table 6.3: Test Schedule

Task Name	Duration	Start	Finish
Test Planning	21 days	6 August	27 August 2021
Test Plan and schedule preparation	5 days	6 August	11 August 2021
Test Environment and questionnaire preparation	10 days	11 August	21 August 2021
Testing and bug report	6 days	21 August	27 August 2021

6.3 Test Strategy

In this system, the researcher will use Alpha and Beta testing for the test strategy. This testing helps in building confidence to launch the system. The system relies on real users and team feedback. For Alpha testing, the last done by the researcher and development phase after the acceptance testing and before releasing the software for the beta test. This system has gone through a few alpha tests that fixed the critical and major issues in the system. For Beta testing, the testing is carried out by the real users in the real environment. Beta testing will be the gathering of user feedback during the test. The student will be tested in a class environment to gain the real user perspective of opinion on the product.

6.4 Test Implementation

The process of executing a program or system with the goal of identifying flaws is known as software testing. Software testing frequently comprises code inspection as well as execution of that code in a variety of contexts and scenarios.

6.4.1 Test Description and Test Data

For testing, survey have been disseminated to the specific target user during the testing meeting. There are 40 complete respondents which is haphazardly pick and energetically to partake in the testing phase. All respondent will do the testing independently after the developer give a concise clarification to them about the project. They have to try out all the accessible. At that point, everything respondent require to answer a poll given by the developer to them.

6.4.1.1 Alpha Testing

Alpha testing is a type of acceptance testing that is used to identify all potential faults and bugs before delivering the final product to the most important users. Alpha testing is carried out by testers that work for the company as inside employees. The basic purpose is to identify and test tasks that a typical user could accomplish.

To put it as plainly as possible, this sort of testing is named alpha only because it's performed early within the software's development cycle, before beta testing. The goal of alpha testing is to use recorder and white-box approaches to imitate real users.

6.4.1.2 Beta Testing

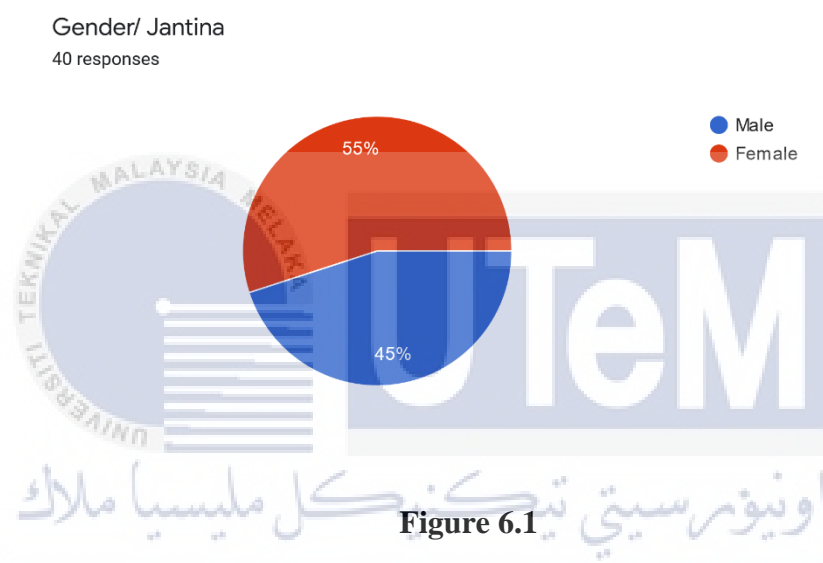
Beta Testing is a sort of Acceptance Testing that provides value to a product by validating it for functionality, usability, dependability, and compatibility by the end-user (intended real user).

End-user feedback aids in improving the product's quality and ensuring its success. This also helps in deciding to take a position further within the future products or an equivalent product for improvisation.

In beta testing, there will be 3 types of the questionnaire for 3 different professions. For the public's questionnaire, they will be asking more about the effectiveness between traditional learning and learning using e-learning. This question is needed to compare the effectiveness of both learning styles. For the multimedia expert, they will be asked more about the multimedia element that is in the project, such as the font, user experience, the layout, and animation technique. Their comment is also needed for the improvement of the project. Lastly, for the Subject Expert questionnaire, the question will be more towards the content for the project. Whether the content is suitable for the public, it will all be tested by the Subject Expert.

6.5 Test Results and Analysis

There are a couple of questions consists in Section A which is concentrated on the usability of the merchandise like instruction layout, use of color, use of music and sound, use of graphic and image and use of text. Figure below show the results of Section A and B. last, most respondents are satisfied with the interface design. From the questionnaire, it are often seen that it's not a problem with the great and easy design to grasp interactive design that the majority participants felt to use the appliance. They agreed that colors, fonts and graphics are simple to grasp.



Based on figure 6.1, 55% of the people are female while 45% of the people are male when answering this survey.

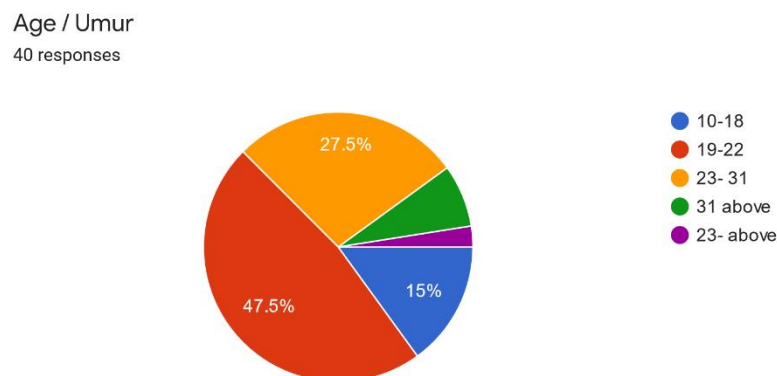


Figure 6.2

Based on figure 6.2,47.5% who answer this survey are 19 until 22 years old, while 27.5% are from age 23 until 31 years old. Thus, 15% are from 10 until 18 years old and 7% are people from 31 years above.

Occupation / Pekerjaan
40 responses

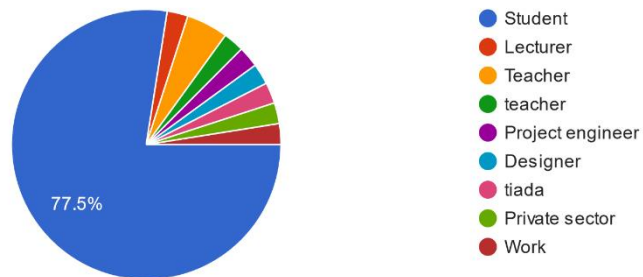


Figure 6.3

Based on figure 6.3,77.5% which answer is with a total of 31 students, while 7.5% are working as a teacher which is 3 people. Thus, 5% are working as a designer which is 2 people,7.5% are people project engineers which is 3 people and 2.5% are including 1 lecturer.

Have you try any type of e-learning based on using digital comic before? / Adakah anda pernah mencuba e-learning yang menggunakan komik digital sebelum ini?
40 responses

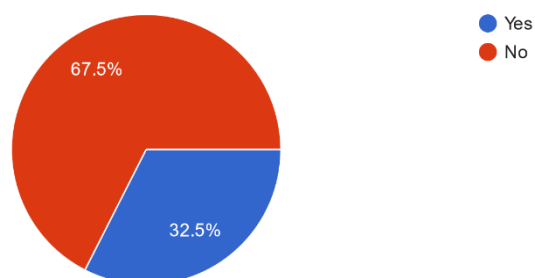


Figure 6.4

Based on figure 6.4, 67.5% of the respondent answer no while 32.5% of the respondent answer yes to the question asking them if they have tried any type of e-learning based on using digital comics before.

Do you like to learn basic Japanese Language? / Adakah anda suka belajar asas bahasa Jepun?
40 responses

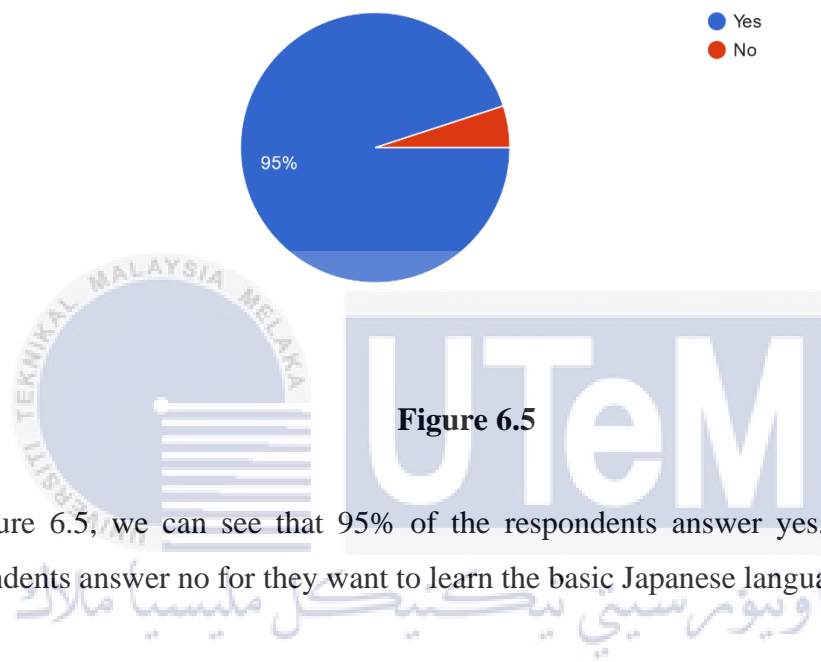


Figure 6.5

In figure 6.5, we can see that 95% of the respondents answer yes, and 5% only respondents answer no for they want to learn the basic Japanese language.

Before watching this video, do you know what is the basic Japanese Language Learning? /
Sebelum menonton video, adakah anda tahu apakah itu bahasa Jepun bahagian asas?
40 responses

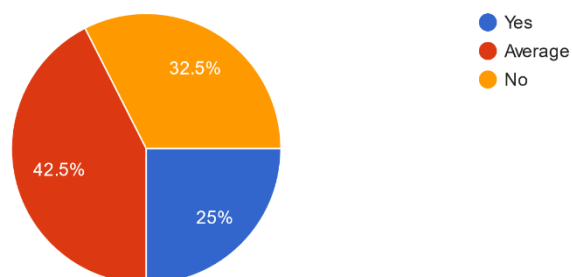


Figure 6.6

Based on figure 6.6, 42.5% from the respondent answer average. Thus, 32.5% of the respondent answer no and 25% of them said yes for the statement given which asking

them before watch this video, they already know or not what is the basic Japanese Language learning.

Is the explainer on the e-learning platform for the basic Japanese Language Learning give you good knowledge? / Adakah platform e-learning u...sa Jepun asas memberikan anda ilmu yang bagus?
40 responses

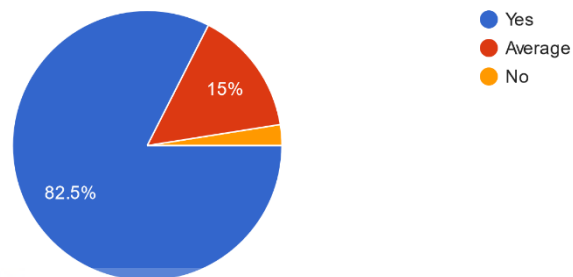


Figure 6.7

In figure 6.7, we can see that 82.5% choose yes and 15% choose average. However, 2.5% of the respondent say no from the statement given asking.

By watching this mobile digital comic for e-learning ,which one is the best to describe your understanding about basic Japanese Language Le...enai kefahaman anda tentang asas bahasa Jepun?
40 responses

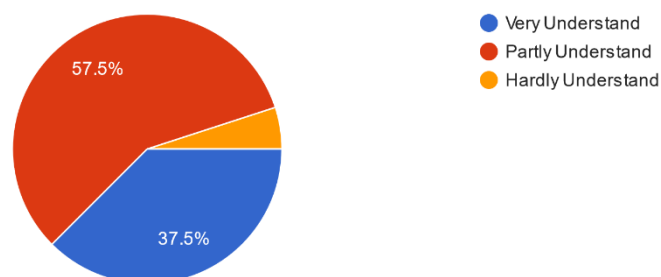


Figure 6.8

Based on figure 6.8, 57.5% of the respondent choose partly understand. On the other hand, 37.5% choose they very understand while 5% of them choose to say hardly understand from the question given.

By watching this mobile digital comic for e-learning, do you understand the content of the basic Japanese Language? / Selepas menonton e-learning... faham tentang isi berkaitan asas bahasa Jepun.
40 responses

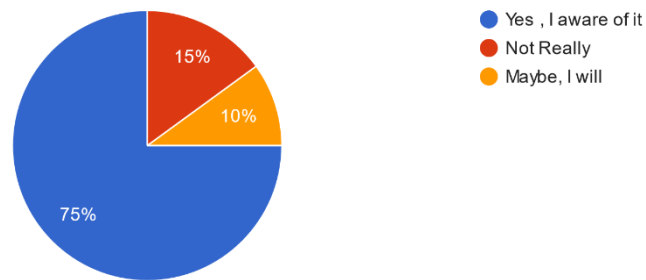


Figure 6.9

In the figure, 6.9, 75% of the respondent say yes, I am aware of it while 15% say not really. However, about 10% of them say maybe, I will from the question above about how do they understand the content of the basic Japanese Language.

By watching this mobile digital comic for e-learning, which part in the e-learning that give you new information about basic Japanese Language? / Sel...a informasi baharu berkaitan asas bahasa Jepun?
40 responses

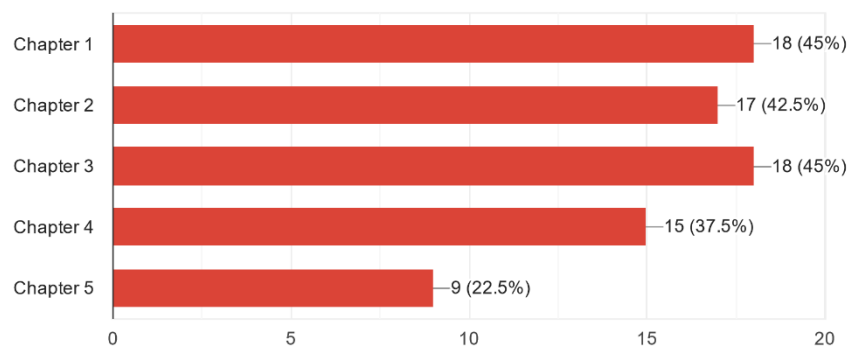


Figure 7.0

In figure 7.0, a total of 18 people choose chapter 1 which gives them new information about basic Japanese Language learning from e-learning. While 17 people choose chapter 2 and 18 people choose chapter 3. Thus 15 people choose chapter 4 and 9 people choose chapter 5.

When the e-learning was opened for the first time, is it hard for you to understand the function of every menu options? / Semasa pertama kali e-lear...anda untuk memahami fungsi setiap pilihan menu?
40 responses

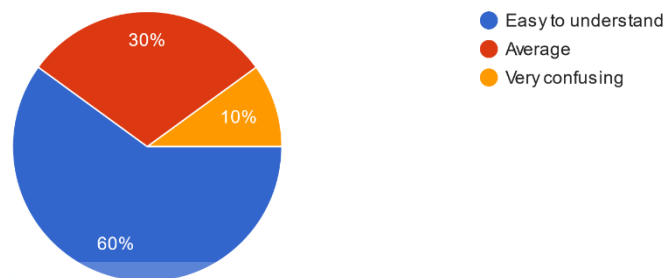


Figure 7.1

In figure 7.1, 60% from the respondent choose easy to understand the function of every menu option. Thus, 30% from them choose average and another 10% choose very confusing.

What do you think of this mobile digital comic for e-learning ? / Apakah pandangan anda tentang e-learning untuk mobil komik digital ini?
40 responses

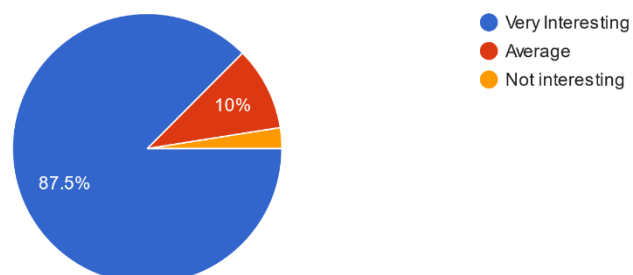


Figure 7.2

In figure 7.2, 87.5% of the respondent answer very interesting for what they think of this mobile digital comic for e-learning. Thus, 10% say average and the remaining of them say not interesting.

Do you think the digital comic in the e-learning is helping in giving the information? / Adakah anda rasa penggunaan komik digital membantu dalam menyampaikan maklumat?

40 responses

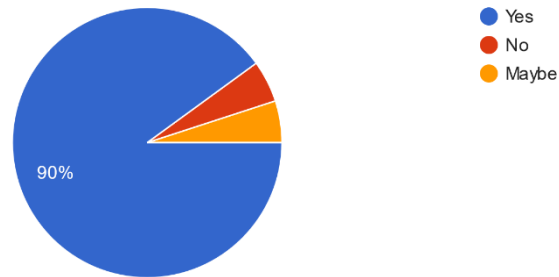


Figure 7.3

In figure 7.3, 90% of the respondent answer yes for the question which is asking about what they think about the digital comic in e-learning is helping in giving the information or not.

I think mobile digital comic for e-learning help me to understand the information better./ Saya merasakan penggunaan mobil komik digital untuk e... untuk lebih memahami informasi yang diberikan.

40 responses

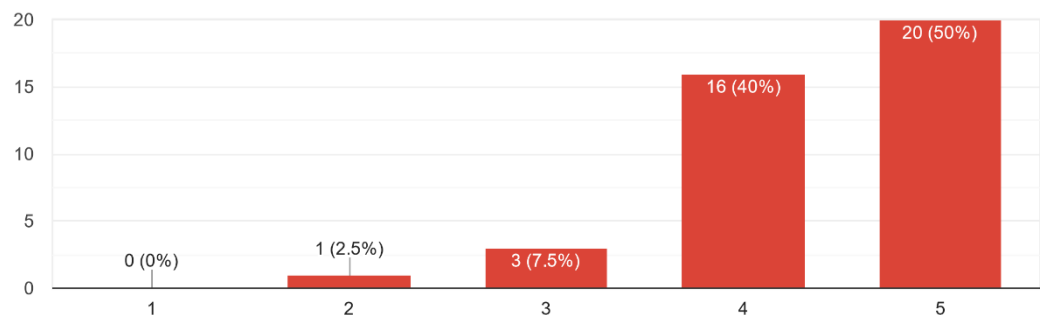


Figure 7.4

In figure 7.4,20 people of the respondent out of 40 think that the mobile digital comic for e-learning help them to understand the information much better.

I think mobile digital comic for e-learning is very effective way to convey an information / Saya merasakan penggunaan komik digital untuk e-le... sangat membantu dalam menyampaikan maklumat
40 responses

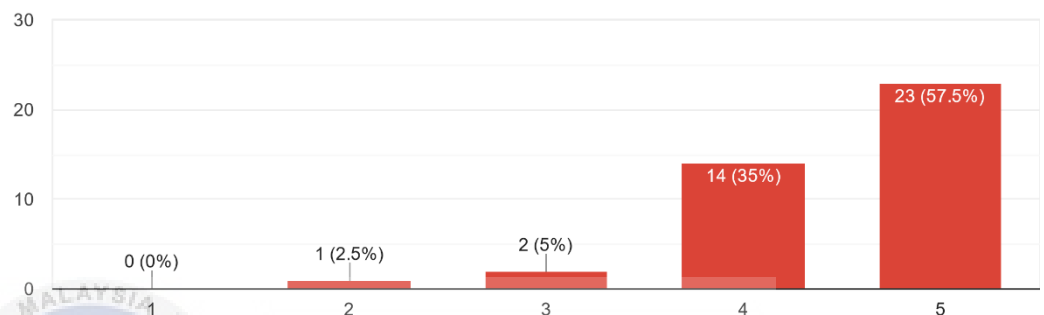


Figure 7.5

In figure 7.5,23 people of the respondent out of 40 think that mobile digital comic for e-learning is very effective way to convey an information.

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I think this mobile digital comic for e-learning is able to attract my attention / Saya merasakan mobil komik digital untuk e-learning ini mampu menarik perhatian saya.

40 responses

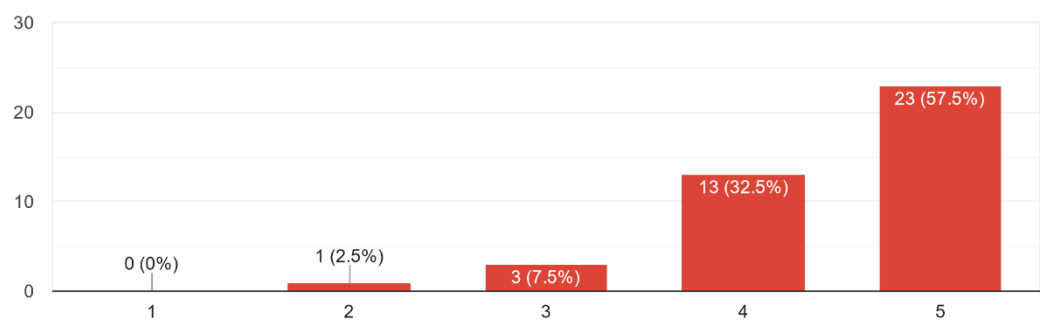
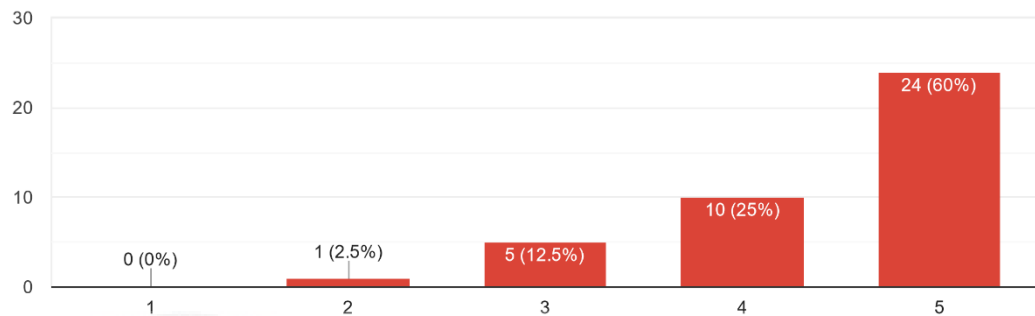


Figure 7.6

In figure 7.6, 23 people of the respondent out of 40 think that this mobile digital comic for e-learning is really able to attract their attention to it.

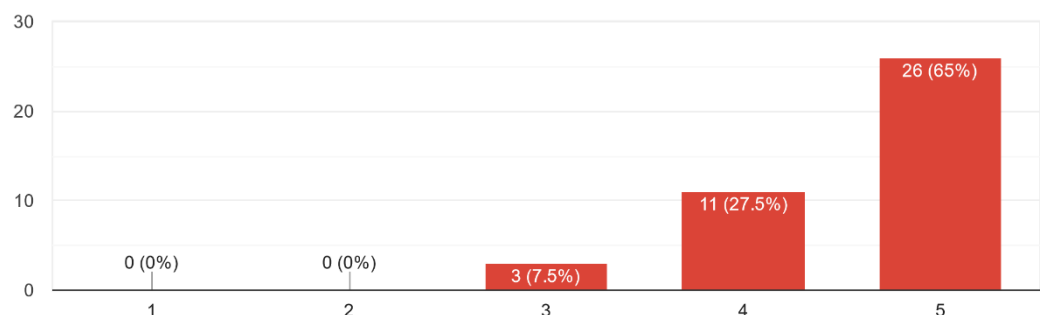
I think the system is easy to use/ Saya berasakan sistem ini senang untuk digunakan
40 responses

**Figure 7.7**

In figure 7.7, 24 people of the respondent out of 40 think this system is very easy to use.



I think short quizzes or mini games are able to help me to recall back what I just learnt/ Saya rasa kuiz pendek atau mini kuiz dapat membantu saya mengingat kembali apa yang baru saya pelajari.
40 responses

**Figure 7.8**

Based on figure 7.8, 26 people out of 40 people from the respondent choose 5 which is strongly agree to the question on what they think short quizzes or mini games are able to help me to recall back what they learnt.

The content arrangement are neat and effective in conveying information/ Susunan kandungan adalah kemas dan berkesan dalam menyampaikan maklumat.

40 responses

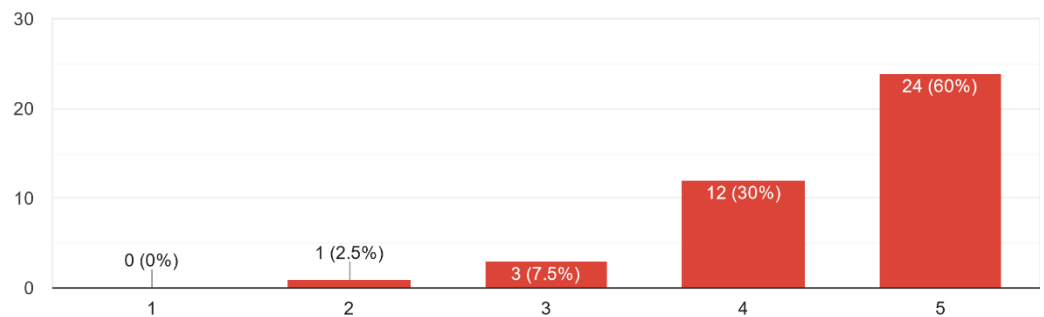


Figure 7.9

Based on figure 7.9, 24 people of the respondent out of 40 choose 5 which is strongly agree for the content arrangement very neat and effective in conveying the information.

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The color and font used in this e-learning is appropriate/ Warna dan jenis tulisan yang digunakan dalam aplikasi e-learning ini adalah bersesuaian.

40 responses

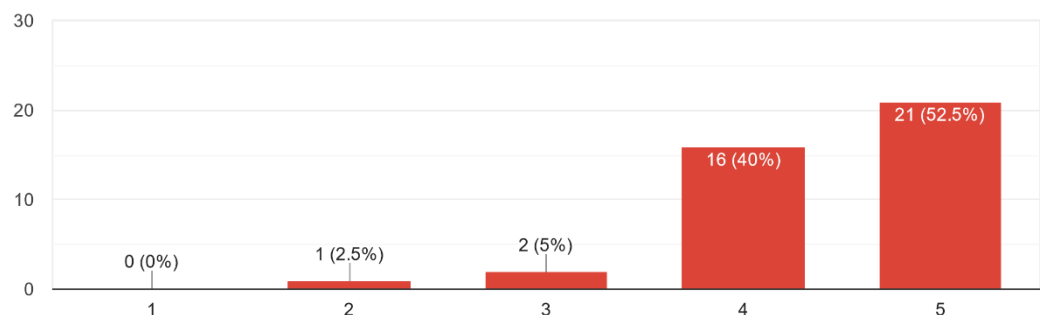
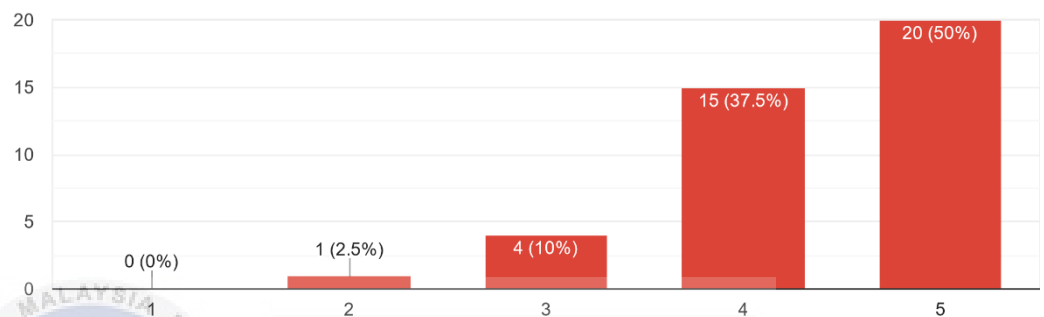


Figure 8.0

Based on figure 8.0,21 people of the respondent out of 40 choose number 5 which is strongly agree on the color and font used in this e-learning is appropriate.

I think everyone can easily understand the information / Saya merasakan bahawa orang lain juga turut memahami informasi yang disampaikan

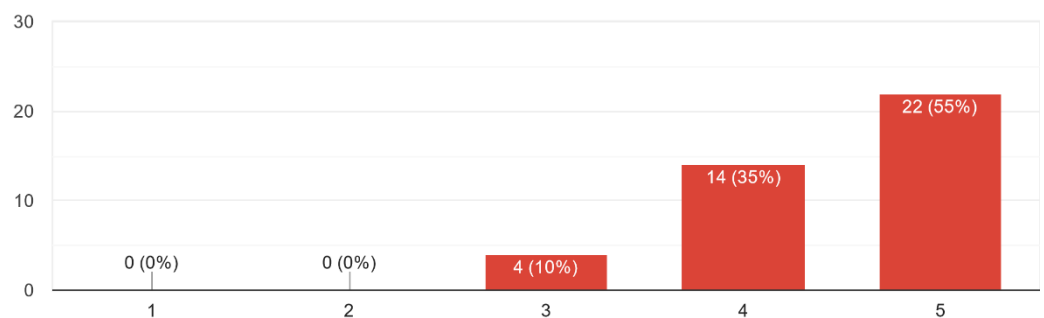
40 responses

**Figure 8.1**

Based on figure 8.1,20 people out of 40 choose number 5 which is strongly agree on how they really understand the information given.

I like the digital comic used in this system / Saya suke komik digital yang digunakan didalam sistem ini

40 responses

**Figure 8.2**

Based on figure 8.2, 22 people out of 40 choose number 5 which is strongly agree for they really like the digital comic used in this system.

The audio used in this application is good and clear / Audio yang digunakan dalam aplikasi ini adalah berkualiti dan jelas.

40 responses

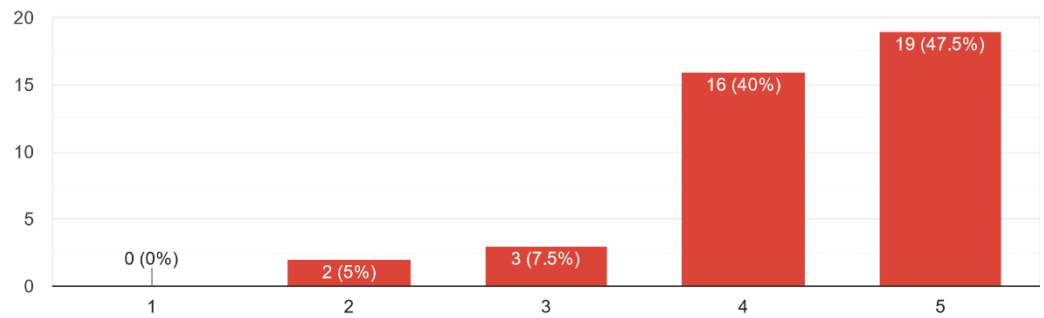


Figure 8.3

In figure 8.3, 19 people out of 40 choose number 5 which is strongly agree with the audio used in this application is very good and clear.

I satisfied with this system / Saya berasa berpuas hati dengan sistem ini

40 responses

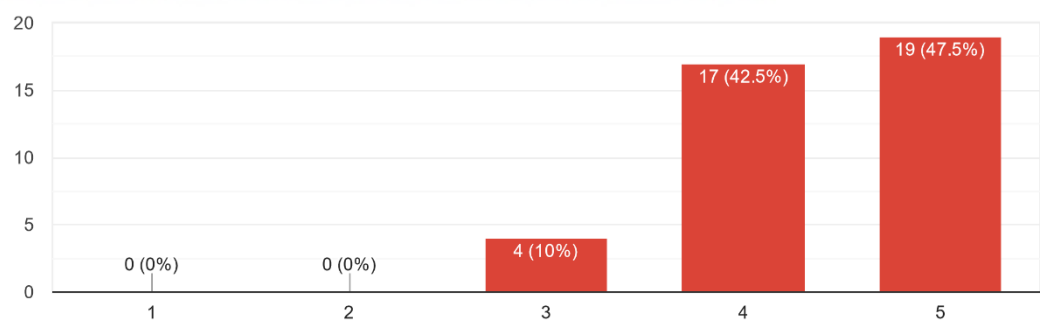


Figure 8.4

Based on figure 8.4, 19 people out of 40 choose 5 which is they feel very satisfied with this system.

I would like to recommend this system to my friends / Saya ingin mencadangkan sistem ini kepada kawan-kawan saya.

40 responses

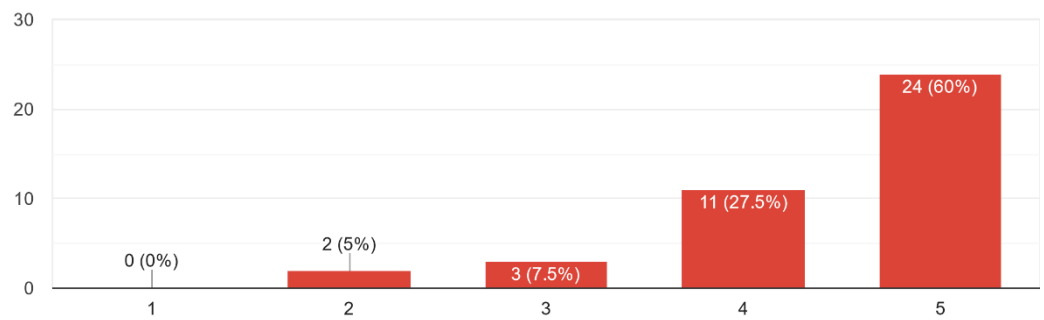
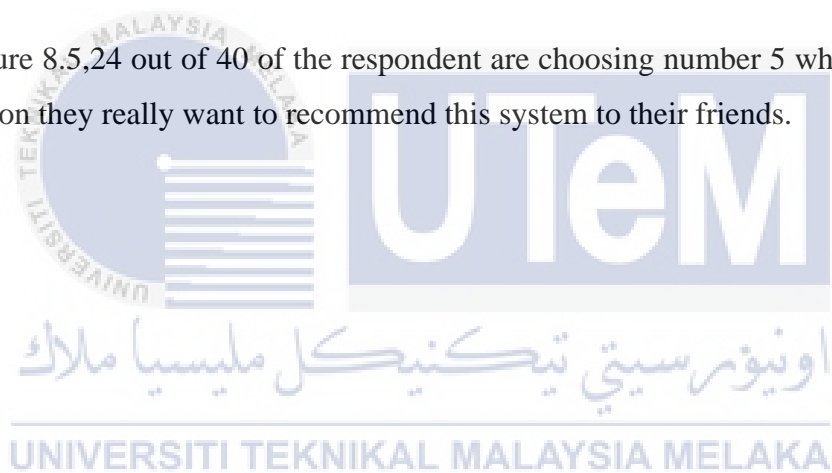


Figure 8.5

In figure 8.5, 24 out of 40 of the respondent are choosing number 5 which is strongly agree on they really want to recommend this system to their friends.



6.6 Analysis Testing

6.6.1 Analysis Testing for Alpha Testing

There are three multimedia expert that participated in this testing. One of them are from the designer from the respective company. Another one is from the project engineer and the other one is from the lecturer from the university.

Table 6.4: Test User for testing

Expert Questions	Multimedia Expert 1	Multimedia Expert 2	Multimedia Expert 3
1. Gender	Female	Male	Male
2. Age	26	34	55
3. Occupation	Designer	Project Engineer	Teacher
4. Flexibility	5 out of 5	5 out of 5	5 out of 5
5. Duration of testing	30 minutes	30 minutes	25 minutes
6. Ease of use	5 out of 5	5 out of 5	5 out of 5
7. Learnability	Very understand	Very understand	Very understand

The chart beneath shows the outcomes for the questions. The outcomes acquired shows that multimedia expert agree that the level of flexibility of this application is effective and attractive. The question is concentrates on the interface structure of use which is text style, and design of the application.

I think the system is easy to use/ Saya berasakan sistem ini senang untuk digunakan
 3 responses

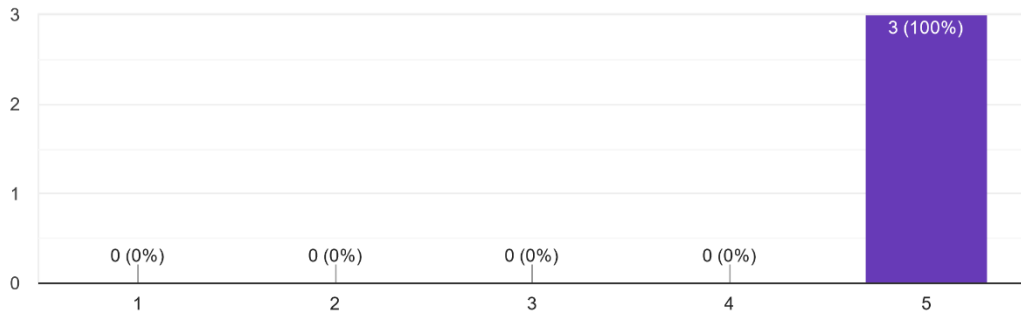
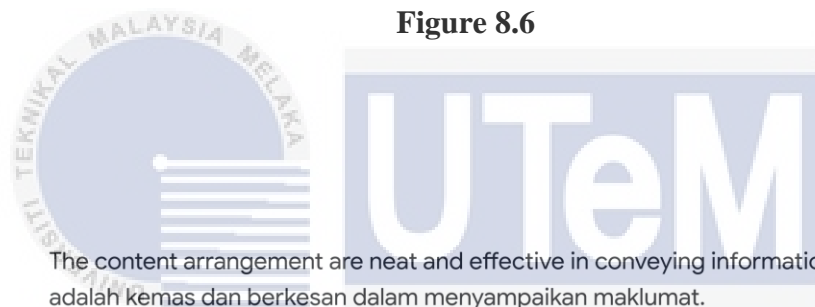


Figure 8.6



The content arrangement are neat and effective in conveying information/ Susunan kandungan adalah kemas dan berkesan dalam menyampaikan maklumat.

3 responses

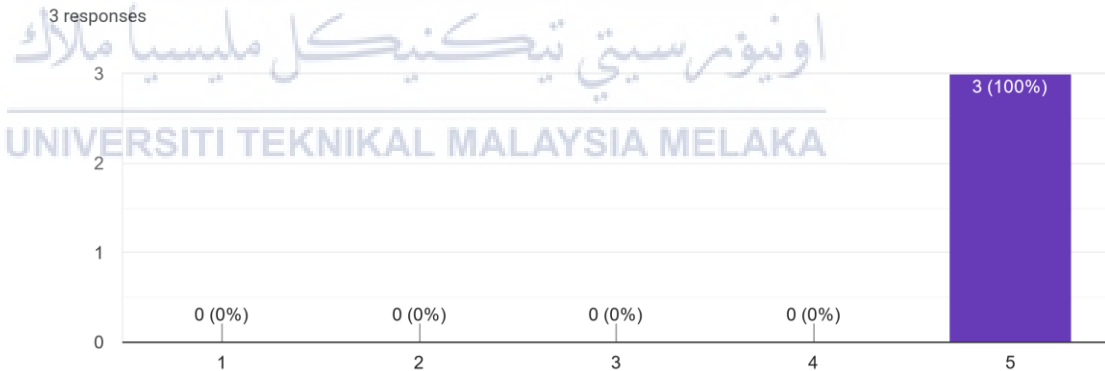


Figure 8.7

The color and font used in this e-learning is appropriate/ Warna dan jenis tulisan yang digunakan dalam aplikasi e-learning ini adalah bersesuaian.

3 responses

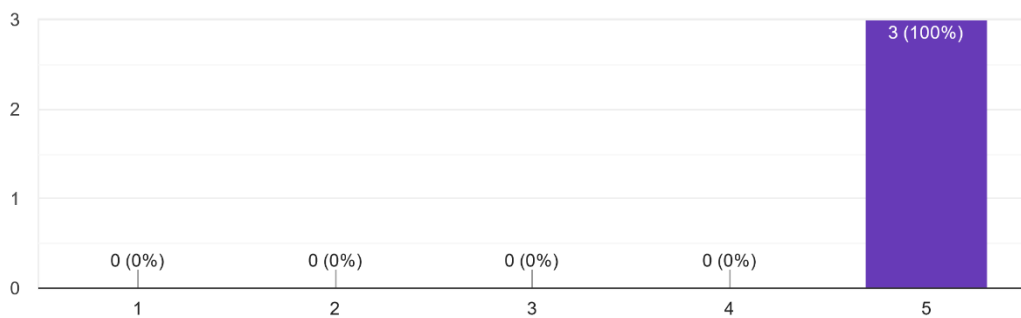


Figure 8.8

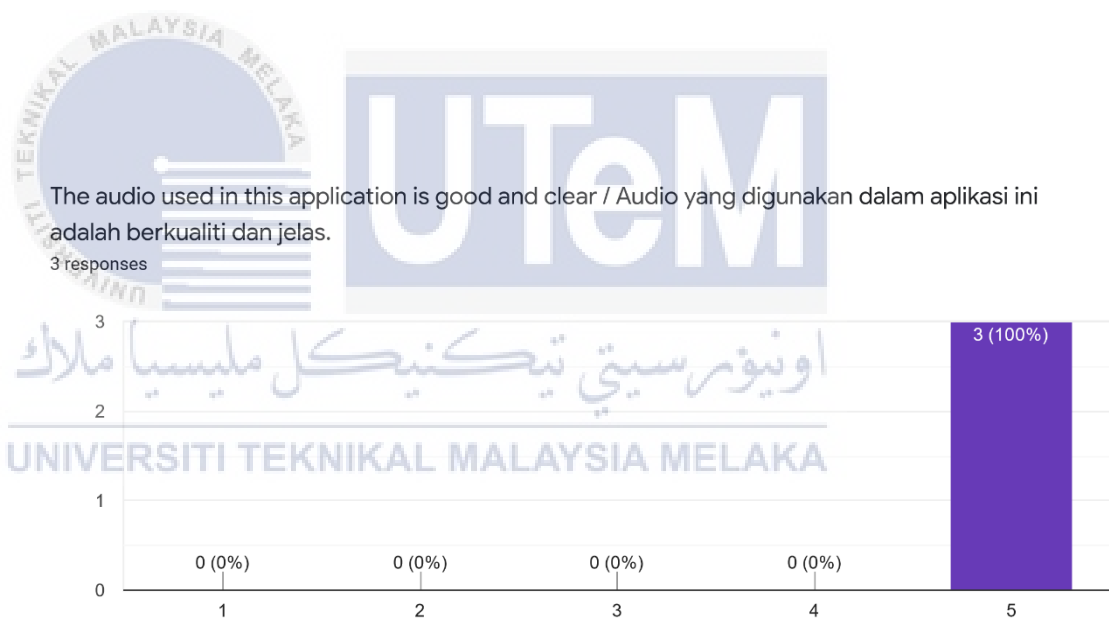


Figure 8.9

I like the digital comic used in this system / Saya suke komik digital yang digunakan didalam sistem ini

3 responses

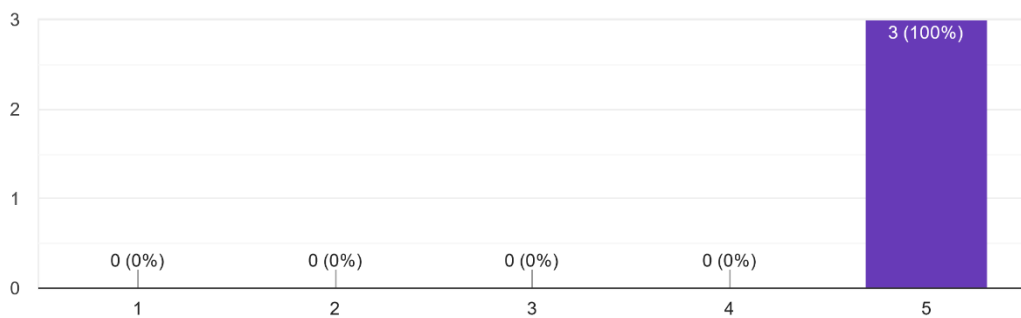


Figure 9.0

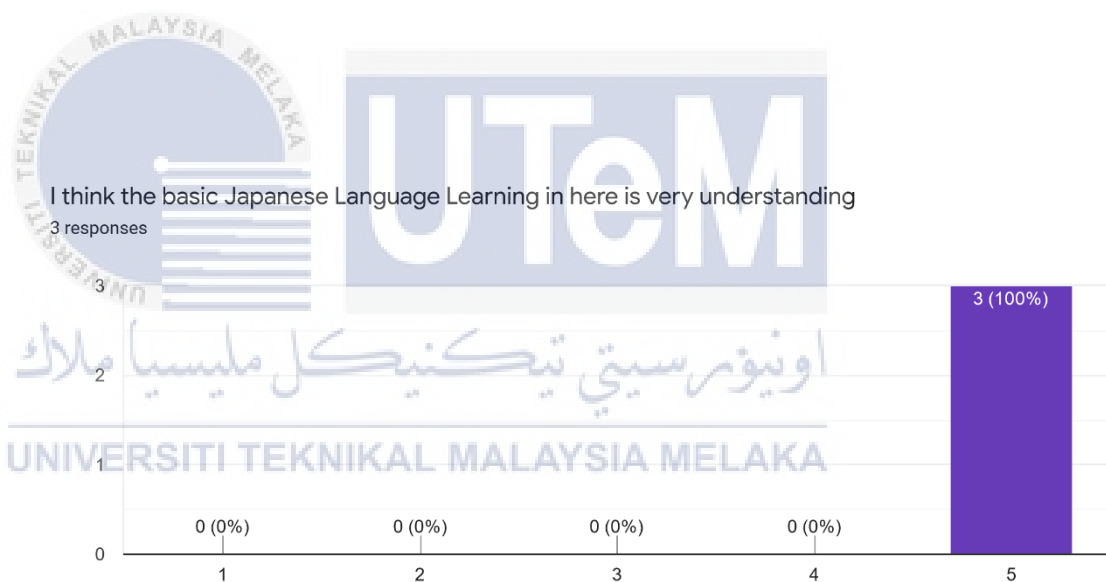


Figure 9.1

I think everyone can easily understand the information / Saya merasakan bahawa orang lain juga turut memahami informasi yang disampaikan

3 responses

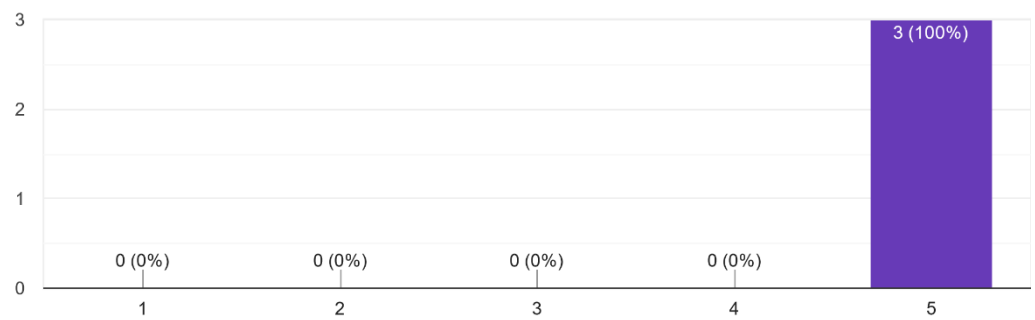


Figure 9.2

Table 6.5: Test User for testing

Expert	Subject Matter Expert 1	Subject Matter Expert 2
Questions		
1. Gender	Male	Male
2. Age	28	32
3. Occupation	Engineer	Teacher
4. Does the instructions stated in the application are clear to guide the user to use the application?	Yes	Yes

5. Duration of testing	30 minutes	30 minutes
6. This mobile digital comic really teach about the basic Japanese Language Learning?	Yes	Yes
7. Does the multimedia element (digital comic) is helpful to understand the teaching of basic Japanese language?	Very understand	Very understand

6.6.2 Analysis Testing for Beta Testing

For user acceptance, most of the user is satisfied with this system with some mistakes that can be changed for better user experience. Most of the respondent very agree with the help of mobile digital comic for basic Japanese language learning that is hard to understand to for the beginner.

How likely you recommend this application to your friends?/ Seberapa besarkah kemungkinan anda akan mengesyorkan aplikasi ini kepada rakan anda?

40 responses

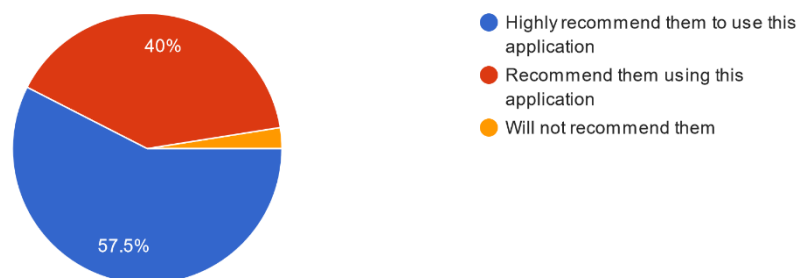


Figure 9.3

Based on figure 9.3, 57.5% of the respondent said they choose highly recommend this application to their friends while another 40% of the respondent choose recommend this application.

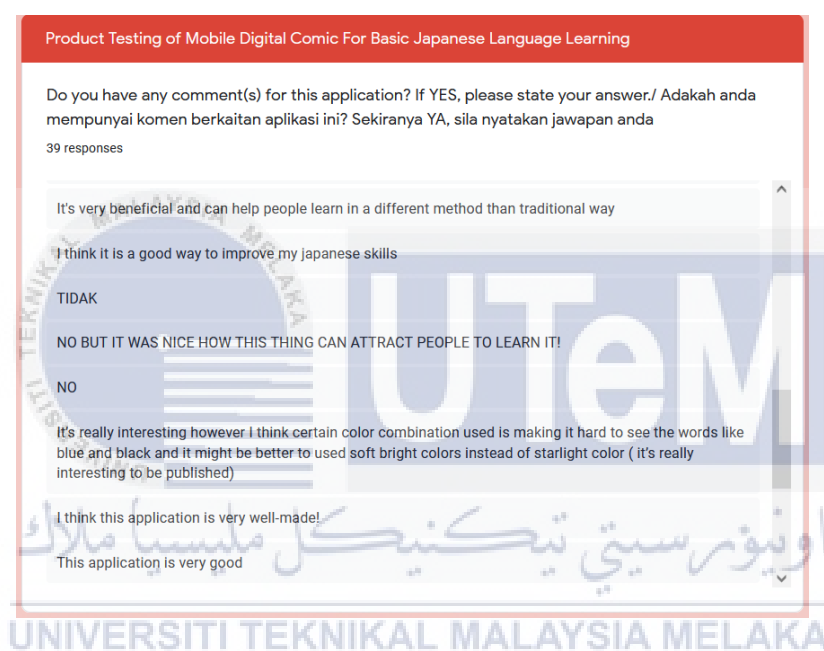


Figure 9.4

Product Testing of Mobile Digital Comic For Basic Japanese Language Learning

Do you have any comment(s) for this application? If YES, please state your answer./ Adakah anda mempunyai komen berkaitan aplikasi ini? Sekiranya YA, sila nyatakan jawapan anda

39 responses

interesting to be published)

I think this application is very well-made!

This application is very good

SETIAP KOMIK MEMENTINGKAN JALAN CERITA. SEBAGAI CONTOK MANGA TOKYO GHOUL DAN AOT MEMPUNYAI JALAN CERITA YANG MENARIK DAN BARU WALAUPUN LUKISAN ARTIS KELIHATAN COMOT DAN TIDAK BERAPA KEMAS. SAYA LEBIH MEMENTINGKAN JALAN CERITA BERBANDING GRAFIK

No
No

YA

Keep it up sis

Sangat bagus kerana mudah difahami

Figure 9.5

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Do you have any opinion/ suggestion(s) for this application? If YES, please state the answer. / Adakah anda mempunyai sebarang pendapat / cadangan berkaitan aplikasi ini? Sekiranya YA, sila nyatakan jawapan anda.

25 responses

اونيور سيتي تيكنيكل مليسيا ملاك

Ya

Tiada

Memperbanyakkan penggunaan animasi untuk menarik perhatian pelajar khususnya kanak-kanak

TIDAK

The apps is really interesting and kind of excited to see someone making it to learn Japanese. Sorry but I like to suggest to add on the best method to write every step alphabet of the hiragana and katagana and it would be perfect (step in number to write the alphabet)

The quality of audio can be improve more, but overall fantastic!

NO COMMENTS. BAGI SAYA OK

YA

Figure 9.6

6.7 Conclusion

In conclusion, the testing phase is very important as it can improve the consistency and performance of the system. With testing phase, it can help to improve the quality of the product and the software can be more reliable for the user. In the next chapter, we will discuss the strength, the weakness, and the opportunities for improvement in the system.



CHAPTER 7: PROJECT CONCLUSION

7.1 Introduction

This final chapter discusses the strengths and weaknesses of this E-Learning project. The strength and weaknesses of the product are achieved in this project from the testing phase. There are a few weaknesses of this product that need to improvise and enhanced in the future this e-learning system. In addition, from this project what contribution on e-learning for a mobile digital comic for basic Japanese language learning for today will be explained.

7.2 Observation on Weakness and Strength

In developing the mobile digital comic for basic Japanese language learning for the people, there are a few features that can affect it in user experience which is either using the system which can be helpful or not. Therefore, in doing this system identifying the strength is very important, but identifying the weakness is even more important to improve the system. A well-planned testing phase that has been conducted is useful to help in identifying the strength and the weakness of the project by observing the respondent using the system and the result of the test and analysis. These strengths and weaknesses that have been gathered were acquired from the result will make the system is unique and different from the others. Understanding the strength and the weakness means that there is the room that can be made for improvement in the system. Table 7.1 shows the strength and the weakness of the system.

Strength	Weakness
<ul style="list-style-type: none"> • The information provided in the mobile digital comic for the e-learning is easy to understand. • The mobile digital comic for e-learning is very interesting. • Contain variation of the multimedia elements. • Can attract people to learn this e-learning. • It is very beneficial and can help people to learn in a different method than the traditional way. 	<ul style="list-style-type: none"> • On the page of learning hiragana and katakana need to write every step alphabet in number for each of hiragana and katakana so they can clearly understand the content which they need to learn first. • The inconsistency of the sound for a few pages. • The animation needs to increase in the system. • The color combination used on the hiragana and katakana pages is hard to see. • The digital comic needs to have a good storyline on it.

Table 7.1: Strength and weakness of the system

7.3 Proposition for Improvement

Based on the testers' weaknesses, it was discovered that the majority of users were content with the overall user experience, but that there is still potential for development in the system that can be leveraged to improve the user experience. The quality of the system and its functionality will be among the areas where ideas for improvement will be made.

The system weakness is the color of the box from chapter 1 when learning the characters hiragana and katakana which is very hard to see the character because of the bright blue color in it. Some people might have a problem reading the character carefully and might have a slight problem due to its color. The suggestion here is to change the color of the box to soft bright colors instead of starlight colors so the user can see the character in it.

The system having weaknesses on the page of learning hiragana and katakana. Chapter 1 section which included the basic learning on the character of hiragana and katakana does not have step by step on which the new user should try to memorize first rather so they having a bit of difficulty on that. Thus, the solution is it will need to write every step alphabet in number for each of hiragana and katakana so they can clearly understand the content which they need to learn first so the understanding of learning hiragana and katakana character will be more smooth.

The system also having difficulties with sound inconsistency on every page so it affects the user to listen to it very clearly. Then, it will be solved to improve the sound quality which needs to stabilize and boost the sound according to the right volume on every page so it will listen clearly to the user again.

For the digital comic, the problem is from the storyline. The storyline for the digital comic is not very powerful enough to get the user very impressed with it because they want a good storyline even though the graphic or drawing is bad. The suggestion is that it will need to make a powerful storyline follow by the good graphic on the digital comic. Another suggestion is to put more animation on it.

7.4 Project contribution

This project is focused on the learning elements. As there are some difficulties for the new people who want to learn a new language and to learn this topic, thus the e-learning which is focused on the mobile digital comic was created for a better learning experience for the students. This project focus on people understanding the topic and helping them in remembering what they have learned same as in the face-to-face class. The quizzes and the games that were provided is for the student to remember back all the thing they have learned to test their understanding toward the topic. The learning element on the system such as a button to navigate to the topic that they are interested in to can help the people to focus more on the topic that they have a problem with. This project also can contribute to better visualization for the topic as there is some part that hard to be explained.

7.5 Conclusion

In conclusion, the objective of this project has been achieved successfully. The requirement for developing the mobile digital comic for the e-learning project has been successfully achieved even with some small problems. Most of the functions stated during the development phase are function successfully thought out the project alpha and beta testing. During the analysis phase, various digital comic, and systems that have been compared to identify the elements that can be needed to create the better learning e-learning system. The effectiveness of the elements is tested carefully and successfully validated after the testing phase. The main reason is for the people to understand more about basic Japanese language learning when using this system. The testing that has been done using alpha and beta testing has agreed that the system is attractive, and the information can be gain clearly in the system. In any case, this system has still more room for improvement to give the best user experience for the target user. Improvement will be made in the future so that the system can be part of students learning techniques in the future. In short, this system can help the student in understanding basic Japanese language learning in class.

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APPENDIX A

Section 1 of 4

Product Testing of Mobile Digital Comic For Basic Japanese Language Learning

Assalamualaikum and Hi.

I am Siti Solehah Binti Azit. I am final year student of Universiti Teknikal Malaysia Melaka, would like to invite you to watch Mobile Digital Comic For Basic Japanese Language Learning made by me.

I would like to collect your feedback about your thought about the mobile digital comic for basic Japanese Language Learning after watching the explainer video.

My aim in making this e-learning is to teach a basic Japanese language learning in the e-learning platform using mobile digital comics .Usually people don't know where to learn a basic Japanese language so i have make this e-learning to make people more understand a bit of basic Japanese language learning for Malaysian people. So I hoped this e-learning made by me will be beneficial to the people who willing to learn Japanese languages.

Hope you enjoy.

Please watch my project video demonstration in Youtube link below :

<https://youtu.be/S3dPCz5ER4E>

Thank you very much for participating in giving the feedback.

PART A : GENERAL

Description (optional)

Gender/ Jantina *

Male اونيورسيتي تيكنيكل مليسيا ملاك

Female **

Age / Umur *

10-18

19-22

23- 31

31 above

Occupation / Pekerjaan *

Student

Lecturer

Other...

Have you try any type of e-learning based on using digital comic before? / Adakah anda pernah mencuba e-learning yang menggunakan komik digital sebelum ini? *

Yes

No

Do you like to learn basic Japanese Language? / Adakah anda suka belajar asas bahasa Jepun? *

Yes

No

After section 1 Continue to next section

Section 2 of 4

Product Testing of Mobile Digital Comic For Basic Japanese Language Learning

Description (optional)

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PART B : CONTENT APPLICATION

In this part you will be ask about your understanding of the content in the video " Mobile Digital Comic For Basic Japanese Language Learning

Before watching this video, do you know what is the basic Japanese Language Learning? /
Sebelum menonton video, adakah anda tahu apakah itu bahasa Jepun bahagian asas? *

- Yes
- Average
- No

Is the explainer on the e-learning platform for the basic Japanese Language Learning give you
good knowledge? / Adakah platform e-learning untuk bahasa Jepun asas memberikan anda ilmu
yang bagus? *

- Yes
- Average
- No

By watching this mobile digital comic for e-learning ,which one is the best to describe your
understanding about basic Japanese Language Learning? / Dengan menonton e-learning untuk
mobil komik digital ,yang manakah penjelasan terbaik anda mengenai kefahaman anda tentang
asas bahasa Jepun? *

- Very Understand
- Partly Understand
- Hardly Understand

اونيورسيتي تيكنيكل مليسيا ملاك

By watching this mobile digital comic for e-learning, do you understand the content of the basic
Japanese Language? / Selepas menonton e-learning untuk mobil komik digital ini, adakah anda
faham tentang isi berkaitan asas bahasa Jepun. *

- Yes , I aware of it
- Not Really
- Maybe, I will

By watching this mobile digital comic for e-learning, which part in the e-learning that give you new information about basic Japanese Language? / Selepas menonton e-learning untuk mobil komik digital ini, bahagian manakah di dalam e-learning itu yang memberikan anda informasi baharu berkaitan asas bahasa Jepun? *

- Chapter 1
- Chapter 2
- Chapter 3
- Chapter 4
- Chapter 5

After section 2 Continue to next section

Section 3 of 4

Product Testing of Mobile Digital Comic For Basic Japanese Language Learning

Description (optional)

PART C : USER EXPERIENCE

This part will ask you about your user experience (UX) and user interfaces (UI) of the mobile digital comic for Basic Japanese Language Learning.

When the e-learning was opened for the first time, is it hard for you to understand the function of every menu options? / Semasa pertama kali e-learning dibuka, adakah susah bagi anda untuk memahami fungsi setiap pilihan menu? *

- Easy to understand
- Average
- Very confusing

What do you think of this mobile digital comic for e-learning ? / Apakah pandangan anda tentang e-learning untuk mobil komik digital ini? *

- Very Interesting
- Average
- Not interesting

Do you think the digital comic in the e-learning is helping in giving the information? / Adakah anda rasa penggunaan komik digital membantu dalam menyampaikan maklumat? *

- Yes
- No
- Maybe

In the scale 1-5, please tick the best option for the following question. / Dalam skala 1-5, sila tandakan pilihan terbaik untuk soalan berikut

(5- Strongly agree/ Sangat bersetuju - 1-Strongly disagree/Sangat tidak setuju)

I think mobile digital comic for e-learning is very effective way to convey an information / Saya merasakan penggunaan komik digital untuk e-learning sangat membantu dalam menyampaikan maklumat *

Strongly disagree 1 2 3 4 5 Strongly agree

I think mobile digital comic for e-learning help me to understand the information better./ Saya merasakan penggunaan mobil komik digital untuk e-learning membantu saya untuk lebih memahami informasi yang diberikan. *

Strongly disagree 1 2 3 4 5 Strongly agree

I think mobile digital comic for e-learning help me to understand the information better./ Saya *
merasakan penggunaan mobil komik digital untuk e-learning membantu saya untuk lebih
memahami informasi yang diberikan.

1 2 3 4 5
Strongly disagree Strongly agree

I think this mobile digital comic for e-learning is able to attract my attention / Saya merasakan *
mobil komik digital untuk e-learning ini mampu menarik perhatian saya.

1 2 3 4 5
Strongly disagree Strongly agree

I think the system is easy to use/ Saya berasakan sistem ini senang untuk digunakan *
pelajari.

1 2 3 4 5
Strongly disagree Strongly agree

I think short quizzes or mini games are able to help me to recall back what I just learnt/ Saya rasa *
kuiz pendek atau mini kuiz dapat membantu saya mengingat kembali apa yang baru saya
pelajari.

1 2 3 4 5
Strongly disagree Strongly disagree

The content arrangement are neat and effective in conveying information/ Susunan kandungan *
adalah kemas dan berkesan dalam menyampaikan maklumat.

1 2 3 4 5
Strongly disagree Strongly agree

I satisfied with this system / Saya berasa berpuas hati dengan sistem ini *

1 2 3 4 5

Strongly disagree Strongly agree

I would like to recommend this system to my friends / Saya ingin mencadangkan sistem ini kepada kawan-kawan saya. *

1 2 3 4 5

Strongly disagree Strongly agree

After section 3 Continue to next section

Section 4 of 4

Product Testing of Mobile Digital Comic For Basic Japanese Language Learning

This part will ask about your own opinion towards my mobile digital comic for Basic Japanese Language Learning. Feel free to give your honest opinion here. Thank you for your precious time!

Do you have any comment(s) for this application? If YES, please state your answer./ Adakah anda mempunyai komen berkaitan aplikasi ini? Sekiranya YA, sila nyatakan jawapan anda *

Long-answer text

Do you have any opinion/ suggestion(s) for this application? If YES, please state the answer. / Adakah anda mempunyai sebarang pendapat / cadangan berkaitan aplikasi ini? Sekiranya YA, sila nyatakan jawapan anda.

Long-answer text

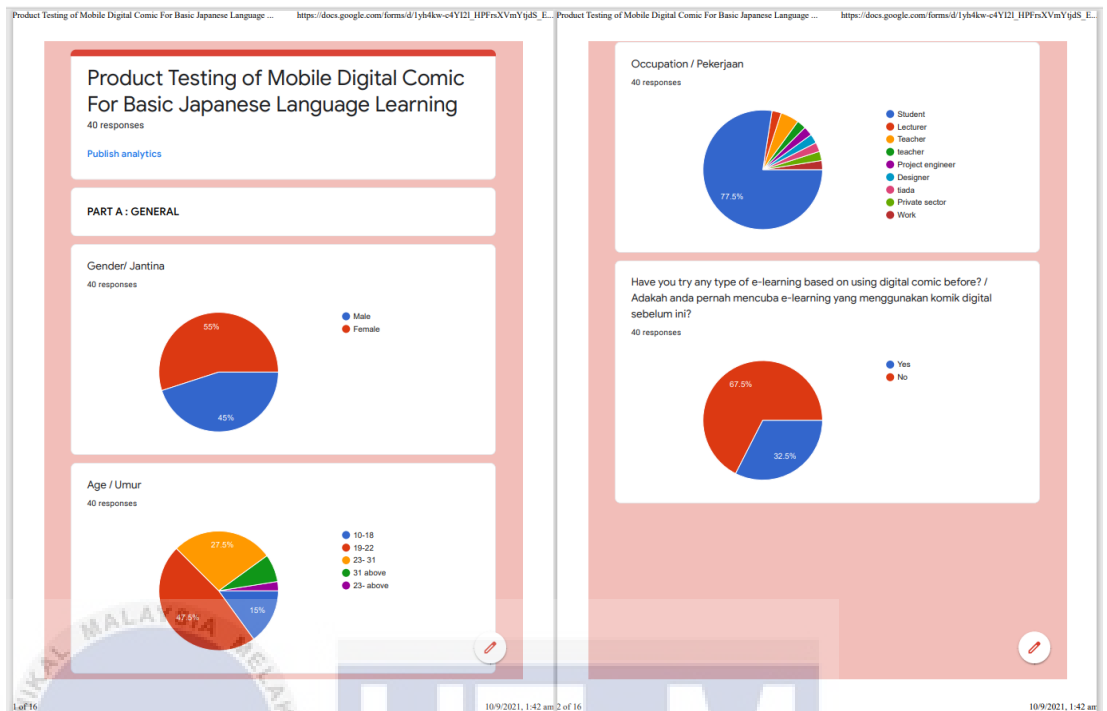
How likely you recommend this application to your friends?/ Seberapa besarkah kemungkinan anda akan mengesyorkan aplikasi ini kepada rakan anda? *

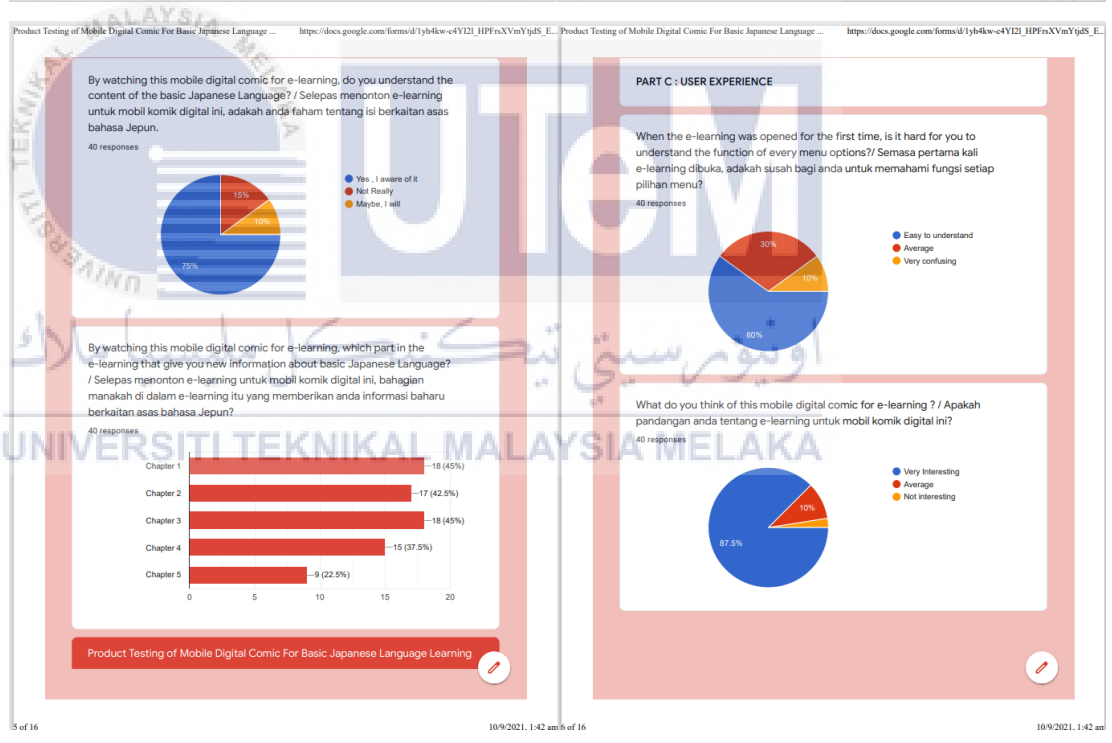
Highly recommend them to use this application

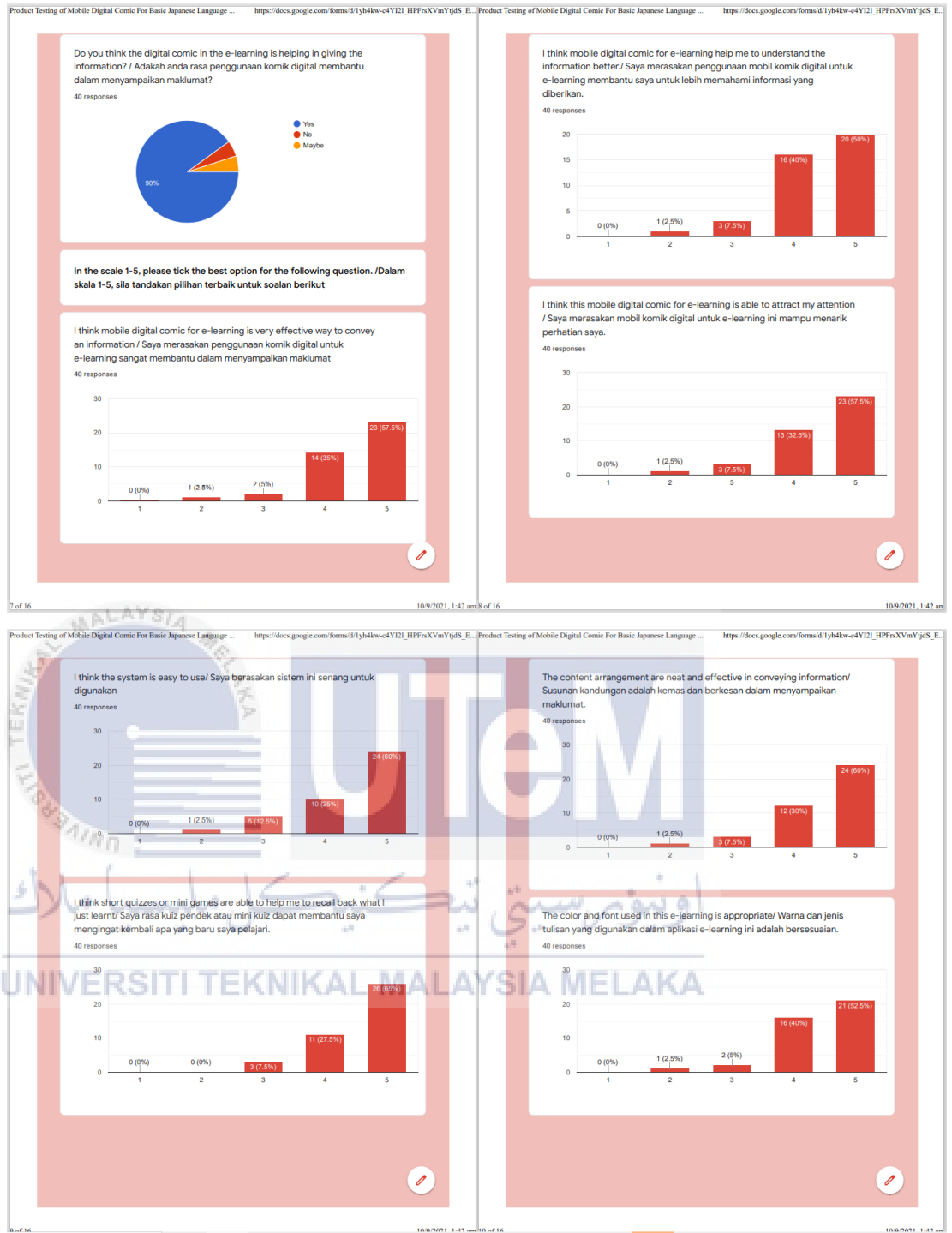
Recommend them using this application

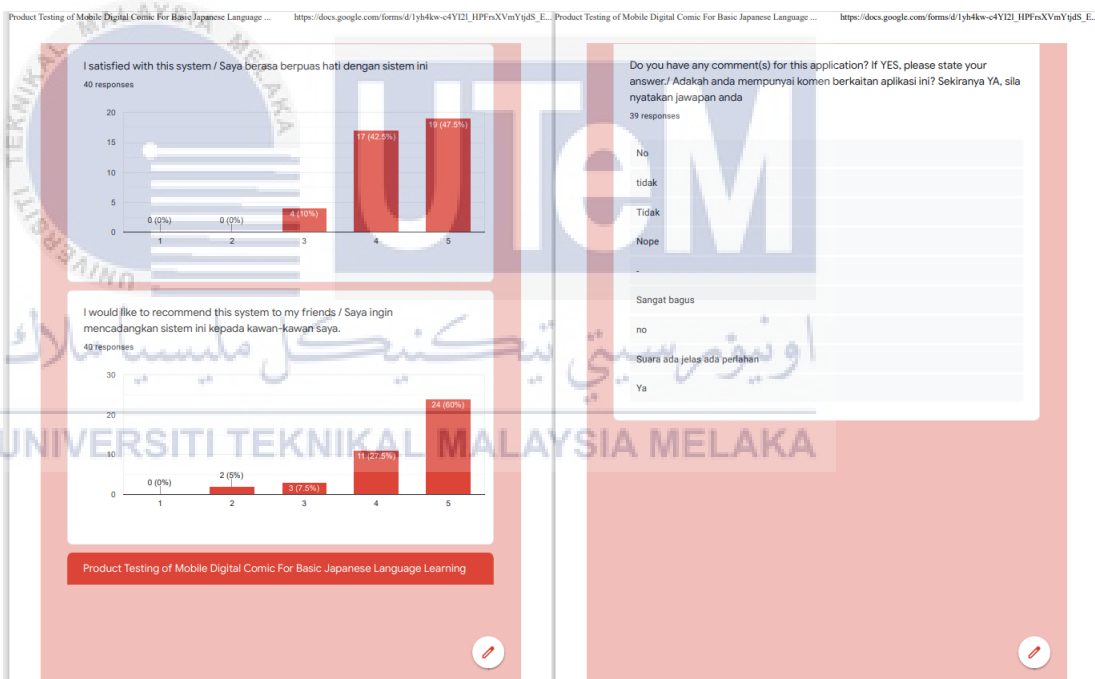
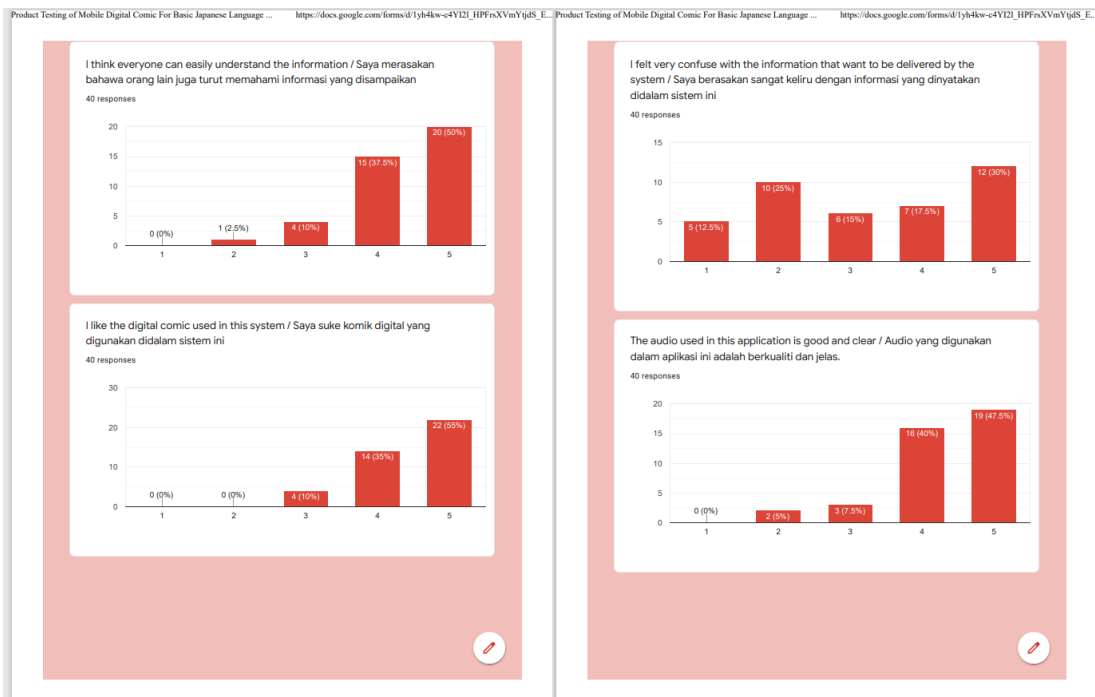
Will not recommend them

APPENDIX B









Product Testing of Mobile Digital Comic For Basic Japanese Language ... https://docs.google.com/forms/d/1yb4kw-c4Y121_HPFrsXVnVtpdS_E...
Product Testing of Mobile Digital Comic For Basic Japanese Language ... https://docs.google.com/forms/d/1yb4kw-c4Y121_HPFrsXVnVtpdS_E...

Do you have any opinion/ suggestion(s) for this application? If YES, please state the answer. / Adakah anda mempunyai sebarang pendapat / cadangan berkaitan aplikasi ini? Sekiranya YA, sila nyatakan jawapan anda.

25 responses

No

Tidak

Nope

NO

no

Ok dah, chek suara je ada jelas ada perlahan

tidak

Yes

How likely you recommend this application to your friends?/ Seberapa besarlah kemungkinan anda akan mengesyorkan aplikasi ini kepada rakan anda?

40 responses

Recommendation Level	Percentage
Highly recommend them to use this application	57.5%
Recommend them using this application	40%
Will not recommend them	2.5%

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Google Forms

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10/9/2021, 1:42 am



APPENDIX C





UCAPAN HARIAN

**Apa khabar?
Ogenki desuka?**
おげんき ですか

**Khabar baik.
Genki dessu.**
げんき です

**Terima kasih.
Arigatou
gozaimasu.**
ありがとう ございま
す

**Sama-sama.
Doutashimashite.**
どういたしまして

Keterangan
Tatabahasa 1,2,3,4,5
文法的な説明

Hi

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ULTAMA

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