AN INTERACTIVE MULTIMEDIA COURSEWARE FOR PRIMARY SCHOOL
STUDENT TO LEARNING ENGLISH LANGUAGE
BY
WONG WEI JIE

A REPORT

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(Kampar Campus)

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UNIVERSITI TUNKU ABDUL RAHMAN

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___ Jeram , 31850, Kampar_____   ____ Tey Chee Chieh ____

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Date: ___15 September 2023__   **Date**: _____

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY

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It is hereby certified that _____***WONG WEI JIE***_____ (ID No: __***19ACB04686***___) has completed this final year project entitled An Interactive Multimedia Courseware For Primary School Student to Learning English under the supervision of ___ Tey Chee Chieh ____ (Supervisor) from the Department of _____Information System_____.

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DECLARATION OF ORIGINALITY

I declare that this report entitled "**METHODOLOGY, CONCEPT AND DESIGN OF A 2-MICRON CMOS DIGITAL BASED TEACHING CHIP USING FULL-CUSTOM DESIGN STYLE**" is my own work except as cited in the references. The report has not been accepted for any degree and is not being submitted concurrently in candidature for any degree or other award.

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Date : 15 September 2023

ACKNOWLEDGEMENTS

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ABSTRACT

With the development of science and technology, internet-based learning has become one of the emerging and most common learning methods in recent years. Interactive multimedia courseware is one of the critical terms in order access to high-quality educational environment. The reason is multimedia have brought out improvement in the learning and teaching process. Nowadays, English as a global language and the most common language that people use to communicate. It led to more parents' great importance placed on the English language education for their children. The proposed of this paper is to develop an interactive multimedia course for children to learn English. This system consists of a learning module, practice module and quiz module that is suitable for children whose ages range between 7 to 9. Through this system, the ultimate goal is able to improve the proficiency level of children.

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LIST OF ABBREVIATIONS

UI   User Interface

SPM   Malaysian Certificate of Education

UPSR   Ujian Pencapaian Sekolah Rendah

CHAPTER 1 : INTRODUCTION

1.1 Introduction

With the rapid development of science and technology, the English language has been viewed as an asset to achieve development and acquire knowledge [7]. As the English language became international language, there is more emphasis and focus on the importance of the English language. Malaysia is one of the countries that emphasize English and accorded English as a second language status as stated in Article 152 and given due attention, according to N. H. Jalaluddin et al. [5]. In order to improve the proficiency English level of Malaysia students, the Ministry of Education Malaysia has developed strategies to improve student proficiency in English and incorporate in Malaysia Education Blue Print, 2013-2025.

In recent years, the proficiency English of level students in Malaysia has been unsatisfactory even though they had learned English from the kinder garden for 10 years even longer. The student performance in the Malaysian Certificate of Education (SPM) had shown this fact. According to the research of Zakaria and Abdul Aziz [3], the percentage of failed English papers in 2017 is 20.1%, which was 412,308 students, and 82,874 of them failed English papers. In years 2018, the failure rate for English papers is 20.6%, which was 80,113 students failing English papers for SPM 2018, out of 388,899 students. Besides, the percentage of failed English papers in 2019 same as in previous years which was the year 2018, according to Abu Karim [2].

However, the student cannot score well on English papers due to the fact that the student view learning English such as grammar and writing as difficult. Thus, improving the teaching and learning process through interactive multimedia courseware in order to help student focus and be interest in learning English.

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1.2 Problem Statement

a. **Different learning abilities and style of each student**

Each student with different learning abilities as well as learning style in a class, even though student in a classroom may all be the same age. For example, some student may be visual learner, others may auditory learner. While some student may learn through writing and reading, others may not be able to write and read at all. In order to teaching student with different learning abilities, the teacher require to keep changing teaching method to adapt each student.

b. **Failure to follow the school's syllabus**

In traditional ways of learning, the teacher only passes on knowledge to the student and students learn through memorization skills. The student who fast learning able to follow the step of teaching. However, the student who slow learner may not follow the step of teacher. In addition, the student may not fully understand while used traditional ways of learning and teaching. The reason is because, student lack of imagination and experience. Therefore, each student has their own pace in learning.

c. **Loss of focus and interest in learning**

In traditional ways of learning and teaching, the most common teaching material that used is hardcopy such as textbooks, cards, printing notes book and etc. Besides, there also has been used softcopy as teaching material such as CD and DVD. However, the disadvantage of this type of software teaching material is less or even no interaction with users. Learning itself is very boring and uninteresting course material and class content will cause students loss of focus and interest in learning. Thus, while providing one-way communication the student may loss of focus and interest in learning.

1.3 Motivation

Language is human major means of communication which is how we communicate our ideas, thought and feeling with others. English as a global language and most common language that people use to communicate. Based on the statistic of Statista Research Department [6], there have around 1,500 million people worldwide who spoke English either natively or as a second language. With the increasingly fierce of globally competitive in education, English be of considerable significance. The reason is because each student required to learn English from the beginning of their education. On the other hand, every Malaysian student would have been introduced to the English as early as kindergartens and continue to learn English until they reach form five which 17 years old. Besides, English subject is one of the subjects that Malaysian student must participant in the national examination which are Ujian Pencapaian Sekolah Rendah (UPSR) and Sijil Pelajaran Malaysia (SPM). Since English language be of great importance, the children can learn the English at an early age. Khalifa Gawi [1] indicated that the proficiency level of children who start learning foreign language very early generally higher than those who begin at later stage. Therefore, the aim of the thesis is to propose solve the issues that stated as the problem statement and apply multimedia courseware with a view to enhance proficiency English level of student.

1.4 Project Objective
    a. To increase student' interest in learning English.
    b. To improve proficiency English level of student.
    c. To allows student self-learning to enhance knowledge.

1.5 Project Scope
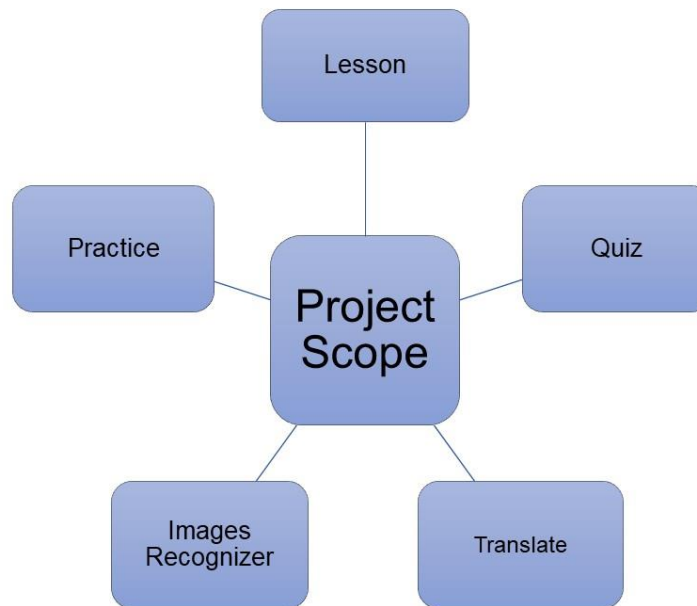
Figure 1.1 Structure of the Proposed System

This project is aim to develop an interactive multimedia courseware with a view to enhance proficiency English level of primary school student. The proposed system has included 3 module that allow student learning English which are learning module, practice module, and quiz module. The structure of the proposed system is designed based on the KBSR English syllabus. The reason is because the primary school student has not confused the knowledge that learn from school. Through this system, the student can enhance the proficiency English level.

    a. **Learning Module**

        Learning module, a self-pace learning materials that allow students to learning English at their own pace and interest. In this module, there have categorized learning material that follow the school syllabus. The learning material have included 5 multimedia element which are text, graphics, video, audio and animation. Therefore, the student can learn English completely in their hand with interesting way.

    b. **Practice Module**

Practice module is design to enhance student knowledge that learnt before. In this module, there have different chapter of exercise as a daily task that allow student to complete in. The design of this module also includes 5 multimedia element which are text, graphics, video, audio and animation with the aim of practice while reinforce student' memory.

c. Quiz Module

The quiz module develops with the proposed of test their knowledge with module quiz question. After completed the quiz the student can get feedback about the quiz. This module consists of 5 media elements in order to allow student better understanding the question of the assessment.

d. Images Recognition

Image Recognition module develop with the proposed of help with language acquisition. The students can point their devices at objects in their environment and the images recognition able to recognize and label those objects in target language. It can help the students learn vocabulary in a fun and interactive ways.

e. Translate

Translate module develop with the proposed of help students understand new words in different language. When student enter a words or sentences, the translate module can provide translation along with pronunciation guidance.

CHAPTER 2 : LITERATURE REVIEW

2.1 Overview of Multimedia

Multimedia is integrating of more than one media type such as text, video, graphic, audio and animation for the proposed of people to interact and communicate information [4]. With the development of science and technology, multimedia technology is one of the critical terms in order access to high quality education environment. The reason is multimedia have brought out improvement in learning and teaching process.

2.2 System Review of Existing System

2.2.1 English Club

Figure 2.1 Main page of English Club

English Club is an online English learning website that provided content-rich English learning materials to users. English Club have provided various of lesson that has been classified which are grammar, vocabulary, pronunciation, listening, reading lessons and etc. The users can select

and access the learning material that would like to learnt from the main page to proceed to learning.

Strengths

    a. Content-rich learning materials

    English Club have provided content-rich learning materials to users. From the navigation bar, there shown precise classification of learning material. For example, grammar, vocabulary, pronunciation, listening, reading lessons and etc. The users can learn English through English Club with content-rich learning materials and without refer learning material from others platform or system.

    b. Easy to access

    Due to English Club is a web-based system, the user can quick access to website and directly go through learning space. This can reduce time consuming to access the system. Sometimes, the users may login the system by the complex process such as enter username and password and cause the users to abandon their desire to learn.

Weaknesses

    a. Poor interface design and classification

    The obvious weaknesses of English Club are poor interface design and classification. From the main page, we can observe that there only consists of a lot of text and graphic. The content focus on the middle of the page and lead to low contrast. Since there little differences between interface components, the content will look like blends and become difficult to read and all look the same. It may confuse users and cause the users loss of focus and interest in learning when using this website.

    b. Low interactivity in this system

    In this website, the user can only refer the learning material in text and graphic to learn. When require user's response, the users just click a choice of a few buttons. By low interactivity in the system, the users no sense of engagement and loss of focus and interest in learning.

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2.2.2 British Council

Figure 2.2 Main page of British Council

British Council is an English language website that set up by British Council for children to learn English language through video, and games. In this application, there has consist of large collection of English children song, poems, flashcard and etc. There also full coverage of content in this website, for example, listen, watch, read, write and speak.

Strengths

a. **Consists of colorful interface**

Colorful interface is a key to attract users' attention and lead users focus and interest in learning. The attention span of children is limited and the colorful things able to eliciting children's concentration. Hence, the colorful interface of multimedia courseware considered as one of the strengths.

b. **Precise classification of content**

British Council have categorized the learning material based on the types of learning material. It makes users easier to find what he/she want from various of learning material. For example, if a user would like to learn English through a song, he/she can

find from listen category. Hence, categorized content look neater and easier to find the target.

<u>Weaknesses</u>

a. **Lack of assessment module**

Although British Council has provided various of learning material for children to learning English, there still lack of assessment module such as quiz module to test student's knowledges. This module is vital because the student can identify their weaknesses and level from the assessment and improve weakness through assessment module.

b. **Lack of exercise or homework resources**

British Council also lack of exercise or homework resources for children to do the revision after learning. Homework is a most effective that allow student revise that learn. It also may increase the likelihood of students remember key information and the student no required to learn by rote. Thus, the student memorizes the knowledges what their learnt through exercise or homework.

2.2.3 Epic
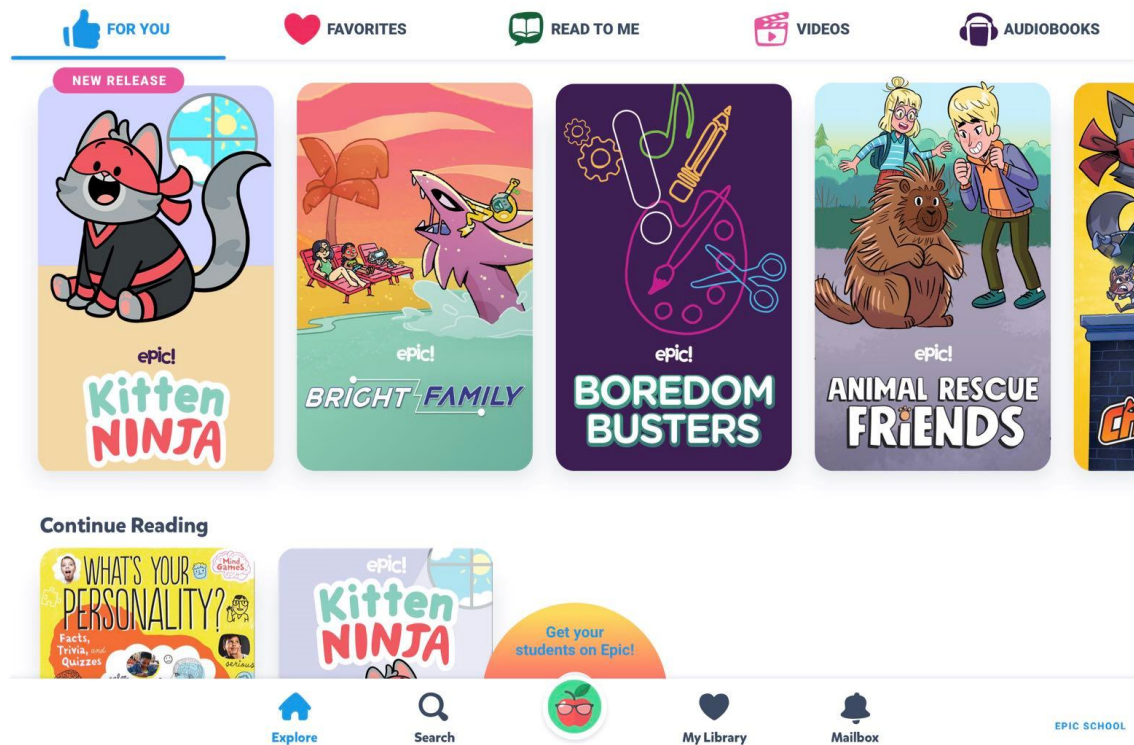
Figure 2.3 Home page of Epic

Epic is a children English language learning application. This application main focus on children' reading experience and it allows children who between the ages of 6 and 12 learn English based on audio book and video in the application. The users may view the progress for time spent reading, number of pages, number of pages flipped and books read on the reading on a reading stats page.

<u>Strengths</u>

a. **Consists of colorful interface**

Epic consists of colorful interface in the application. On a reading page, there are different colorful cartoon character based on the audio content. The colorful cartoon character may attract children' attention in order to lead the children focus and interest in learning English.

b. **Content-rich reading materials**

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Epic have provided a various theme of reading material for children learning. The children can choose the reading material based on the interested from the application bookshelf.

Weaknesses

a. **Lack of others module**

One of the issues of Epic is lack of others module such as exercise and quiz module. After reading the English material that Epic provided, the student doesn't have exercise to enhance knowledge learnt in the reading material. The assessment module able to provided level of attainment students achieve against the learning for their parent or teacher. From the feedback of assessment module, the student able to identify their weaknesses and improve it.

b. **Low interactivity with users in this system**

Epic also low interactivity with users. The activity of learning English through this application is only streaming and listen the reading material. Although there has provided interest content to users, there still lack of activity that allow users perform through this application. Thus, low interactivity also considers one limitation for users.

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2.3 Compare and Contrast among the Existing System

2.3.1 Compare Multimedia Elements among the Existing System

Table 2.1 Compare Multimedia Elements among the Existing System

System	Text	Graphics/ Images	Video	Audio	Animation	Image Recognition
English Club	✓	✓				
British Council	✓	✓	✓	✓		
Epic	✓	✓	✓	✓	✓	

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2.3.2 Compare Feature among the Existing System

Table 2.2 Compare Feature among the Existing System

System	English Club	British Council	Epic
Functionalities	• English website that provided various of English lesson that has been classified	• Offered children learn English through video, and games	• An application main focus on children' reading experience
Strengths	• Content-rich learning materials • Easy to access	• Consists of colorful interface • Precise classification of content	• Consists of colorful interface • Content-rich reading materials
Weaknesses	• Poor interface design and classification • Low interactivity in this system	• Lack of assessment module • Lack of exercise or homework resources	• Lack of others module • Low interactivity with users in this system

CHAPTER 3 : SYSTEM METHODOLOGY/ APPROACH

3.1 Overview

To develop the proposed system, there are some processes should firstly determine such as hardware and software requirement, story board, development method and project planning.

3.2 System Specifications

3.2.1 Hardware Requirement

Table 3.1 Hardware requirement

Description	Specifications
System	64-bit operating system (OS)
Processor	Intel Core i5-8250U
Memory	4GB RAM or higher
Hard Drive Capacity	1TB
Graphic Card	32-bit (or higher)
Sound Card	32-bit (or higher)
Screen Resolution	1024 x 768 (96dpi)
Free Disk Space	5GB free space and above

3.2.2 Software Requirement

Table 3.2 Software requirement

Description	Software/Website Used	Description
Text	Microsoft PowerPoint, Microsoft Word	To create text style
Video	YouTube	To create and edit video that needed
Audio	Voice Maker	To generate background music and sound effect

Animation	Lottie files	To get and search animation that needed
Graphic	3D Paint, Freepik, Canva	To generate, edit graphics and remove images background
Authoring Tools	Thunkable	To develop the proposed system

3.3 Development Method
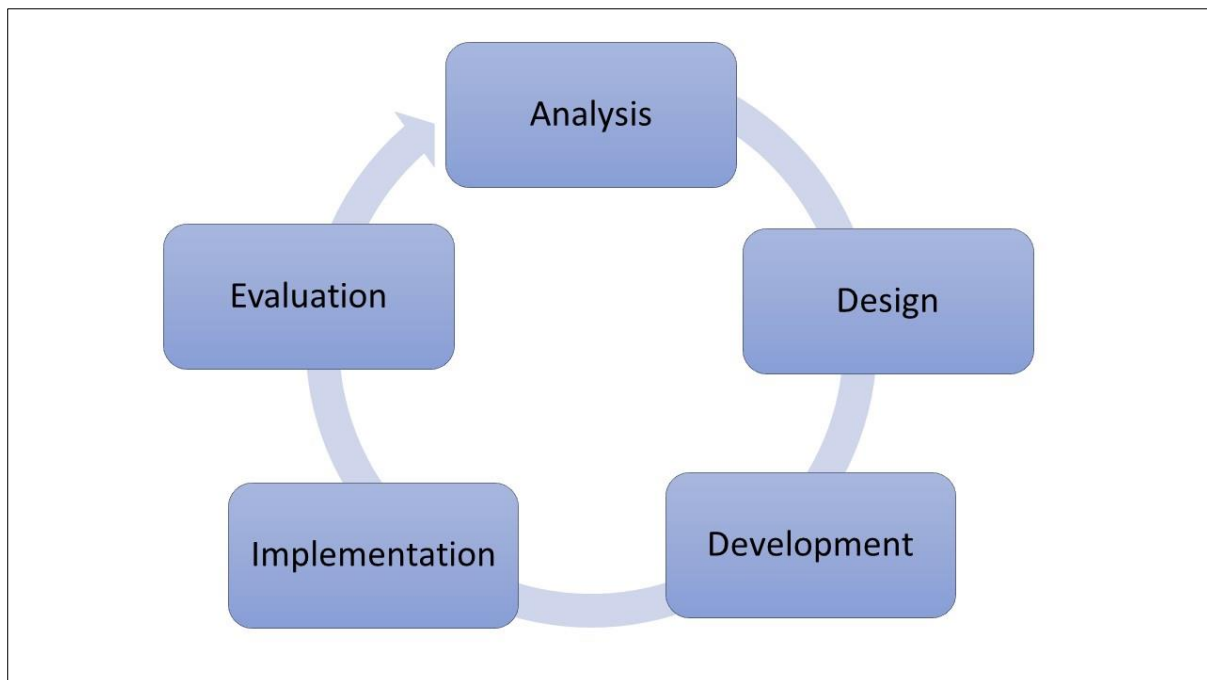
Figure 3.1Diagram ADDIE Model [8]

The development method that used by proposed system is ADDIE Model. The ADDIE have included 5 phases which are Analysis phase, Design phase, Development phase, Implementation phase and Evaluation phase. The reason that used ADDIE to develop the proposed system is because it easy to measure time and costs and ensure project can delivery in the short time.

3.3.1 Analysis

In this analysis phase, there are some problems and issues will be first determined. The developer should identify the target audience and define project background and project objective. When determined target audience is determined, the developer can conduct quality analysis from the target audience to gather information.

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3.3.2 Design

In the design phase, a strategic plan for completing the application was created. There are some processes that will be done in this phase such as creating story boards, project planning, software and hardware that are used to develop an application and prepare multimedia material that may use in development phases.

3.3.3 Development

In this phase, the developer can start to develop an application by using authoring tools that were selected in previous stage. All the multimedia elements that are prepared in design phases will integrate using authoring tools. The UI design for the application depends on the storyboard that created before. There may have been some changes that occurred during this phase.

3.3.4 Implementation

In the implementation phase, the application has been completed and prepared for delivery to end users. The developer will deliver a completed application through several ways, such as web-based, computer-based, and so on. The delivery method for the proposed system is computer-based.

3.3.5 Evaluation

Evaluation phase is the last stage of project development. In this stage, the project is systematically tested to determine what, why, how, and when the task that was completed or not during the entire project. There have 2 ways to evaluate the project in this phase which are formative and summative evaluation. The aim of evaluation is ensuring the project objective and project scope have been achieved.

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3.4 Use Case Diagram and Description

3.4.1 Use Case Diagram

Figure 3.2 Use case diagram

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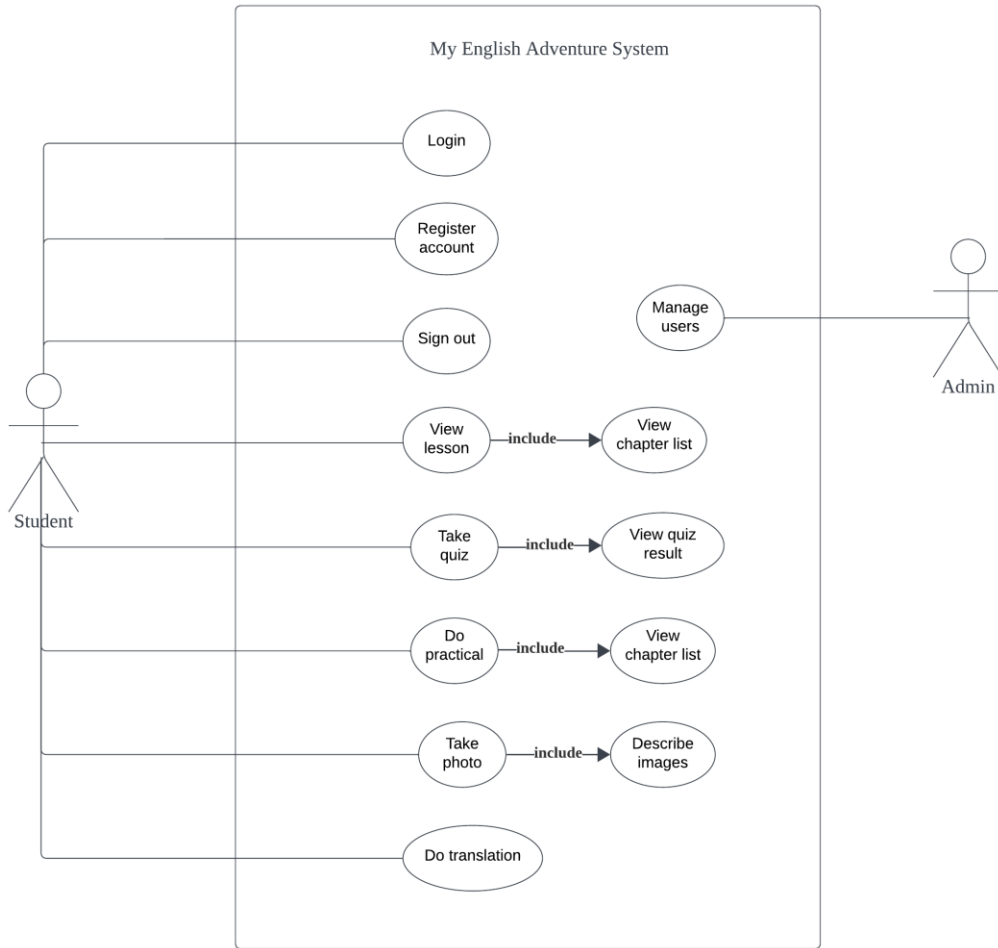
3.4.2 Use Case Description

Table 3.3 Use case description of view lesson

Use Case Name: View Lesson		ID: 1	Importance Level: High
Primary Actor: Student		Use Case Type: Details, Essential	
Stakeholders and interests: Student wants to view lesson to gain knowledge and understanding of course matter.			
Brief Description: This use case describes how view learning material in Lesson module.			
Tigger: Students wants to view the lessons by chapter. Type: External			

Relationships:
 	
   Association: Student
 	
   Include:
 	
   Extend:
 	
   Generalization:			

Normal Flow of Events:
 	
   1. Students navigate lesson module through home page.
 	
   2. Student is presented with options to select their grade level.
 	
   3. Student is presented with options to select chapters that want to studies.			

SubFlows: Not applicable			
Alternate/Exceptional Flows: 3. a. System display lesson content			

Table 3.4 Use case description of view quiz result

Use Case Name: View quiz result	ID: 2	Importance Level: High
Primary Actor: Student		Use Case Type: Details, Essential

Use Case Name: View quiz result		ID: 2	Importance Level: High
Primary Actor: Student		Use Case Type: Details, Essential	
Stakeholders and interests: Student wants to view quiz result after taking quiz.			
Brief Description: This use case describes how view quiz result after quiz.			
Tigger: Students completed the quiz. Type: External			

Relationships:
 	
  Association: Student
 	
  Include:
 	
  Extend:
 	
  Generalization:			

Normal Flow of Events:
 	
  1. Students navigate quiz module through home page.
 	
  2. Student is presented with options to select their grade level.
 	
  3. Student is presented the question.
 	
  4. Student select the answers for each quiz.			

SubFlows: Not applicable			

Alternate/Exceptional Flows:
 	
  4. a. System display score after each question.
 	
  4. b. System display total score after completed quiz.			

Table 3.5 Use case description of register account

Use Case Name: Register account	ID: 3	Importance Level: High
Primary Actor: Student	Use Case Type: Details, Essential	
Stakeholders and interests: Student wants to enter valid email and password to register an account.		
Brief Description: This use case describes how system will be registered.		
Tigger: Students already have their own account and can login freely. Type: External		

Relationships:
 	
   Association: Student
 	
   Include:
 	
   Extend: Create new accounts
 	
   Generalization:		

Normal Flow of Events:
 	
   1. Students must enter valid email and password.
 	
   2. System validate to email and password.
 	
   3. System created new user account.
 	
   4. Student successfully to login.		

SubFlows: Not applicable		
Alternate/Exceptional Flows: 2. a. System display error message "email or password invalid".		

3.5 Project Planning

3.5.1 Project 1 Gantt Chart

Figure 3.3 Project 1 Gantt Chart

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		**Final Year Project 1**	70 days	Mon 30/1/23	Fri 5/5/23	
2		**Analysis**	16 days	Mon 30/1/23	Mon 20/2/23	
3		Define title of the project	2 days	Mon 30/1/23	Tue 31/1/23	
4		Define background information	2 days	Wed 1/2/23	Thu 2/2/23	3
5		Develop problem statement	1 day	Fri 3/2/23	Fri 3/2/23	4
6		Develop project objective	1 day	Tue 7/2/23	Tue 7/2/23	5
7		Develop project scope	2 days	Thu 9/2/23	Fri 10/2/23	6
8		System review of exisiting system	3 days	Mon 13/2/23	Wed 15/2/23	7
9		Compare the existing system	3 days	Thu 16/2/23	Mon 20/2/23	8
10		**Design**	9 days	Tue 21/2/23	Mon 6/3/23	
11		Define hardware and software needed	2 days	Tue 21/2/23	Wed 22/2/23	9
12		Develop use case diagram	1 day	Thu 23/2/23	Thu 23/2/23	11
13		Develop story board	6 days	Fri 24/2/23	Fri 3/3/23	12
14		Formative evaluation	0 days	Mon 6/3/23	Mon 6/3/23	13
15		**Development**	24 days	Mon 6/3/23	Fri 7/4/23	
16		Develop module prototype	24 days	Mon 6/3/23	Thu 6/4/23	14
17		Formative evaluation	0 days	Fri 7/4/23	Fri 7/4/23	16
18		**Implementation**	3 days	Fri 7/4/23	Wed 12/4/23	
19		Testing module	3 days	Fri 7/4/23	Tue 11/4/23	17
20		Formative evaluation	0 days	Wed 12/4/23	Wed 12/4/23	19
21		**Evaluation**	11 days	Wed 12/4/23	Thu 27/4/23	
22		Prepare final report	7 days	Wed 12/4/23	Thu 20/4/23	20
23		Present final project	1 day	Wed 26/4/23	Wed 26/4/23	22
24		FYP1 completed	0 days	Thu 27/4/23	Thu 27/4/23	23

Project: FYP1 Planning.mpp
Date: Mon 24/4/23

Task		Inactive Summary	External Tasks
Split		Manual Task	External Milestone
Milestone	◆	Duration-only	Deadline
Summary		Manual Summary Rollup	Progress
Project Summary		Manual Summary	Manual Progress
Inactive Task		Start-only	
Inactive Milestone		Finish-only	

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3.5.2 Project 2 Gantt Chart

Figure 3.4 Project 2 Gantt Chart

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CHAPTER 4 : SYSTEM DESIGN

4.1 Story Boarding Design

Table 4.1 Storyboard 1

Storyboards No: 1
Title: Landing Page
Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V)

Figure 4.1 Storyboard of Landing Page

Flow Chart	Instruction
Start → Display G1, T1, An1, An2 → Click An2 → Go to Sign up and login page → End	**G1:** Background image **T1:** Title of software **An1:** Animation **An2:** Animation button can navigate to "Sign up and Login page"

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Table 4.2 Storyboard 2

| Storyboards No: 2 |
| Title: Sign up or Login Page |
| Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V) |

Figure 4.2 Storyboard of Sign up or Login Page

Flow Chart	**Instruction**
	T1: Welcome title **T2:** Title of software **Au1:** Audio for welcome title **An1:** Animation **B1:** Go to Sign up **B2:** Go to Login **G1:** Background image

Table 4.3 Storyboard 3
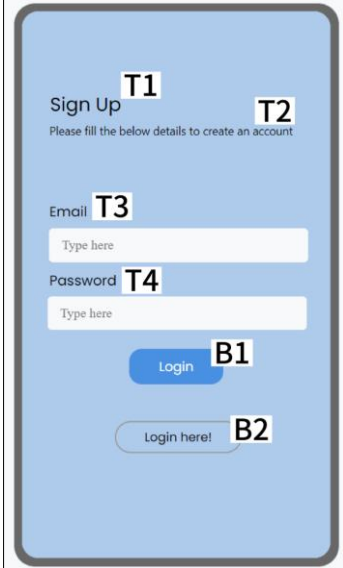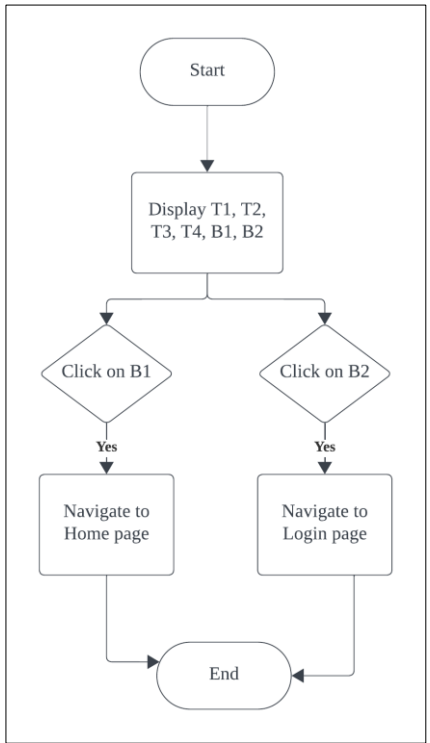
Storyboards No: 3
Title: Sign Up page
Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V)

Figure 4.3 Storyboard of Sign up

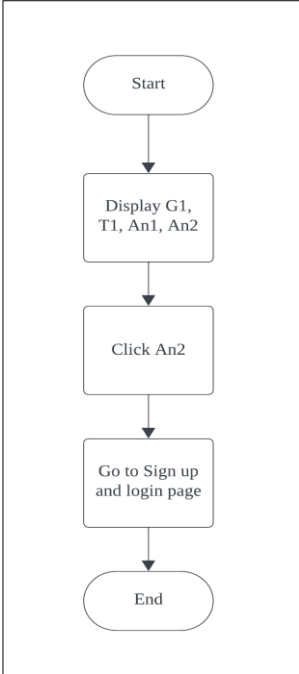| Flow Chart	Instruction
	T1: Title of sign-up page **T2:** Description of sign-up details **T3:** Email to sign up **T4:** Password to sign up **B1:** Go to Home page **B2:** Go to Login page

Table 4.4 Storyboard 4
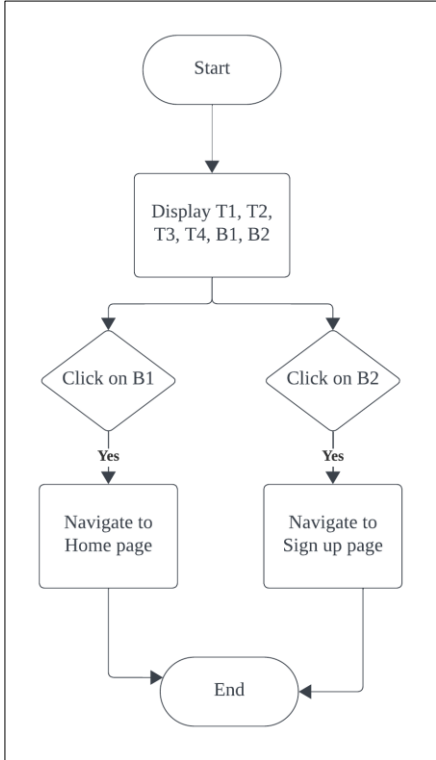
Storyboards No: 4
Title: Login page
Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V)

Figure 4.4 Storyboard of Login

Flow Chart	**Instruction**
	T1: Title of login page **T2:** Description of login details **T3:** Email to login **T4:** Password to login **B1:** Go to Home page **B2:** Go to Sign up page

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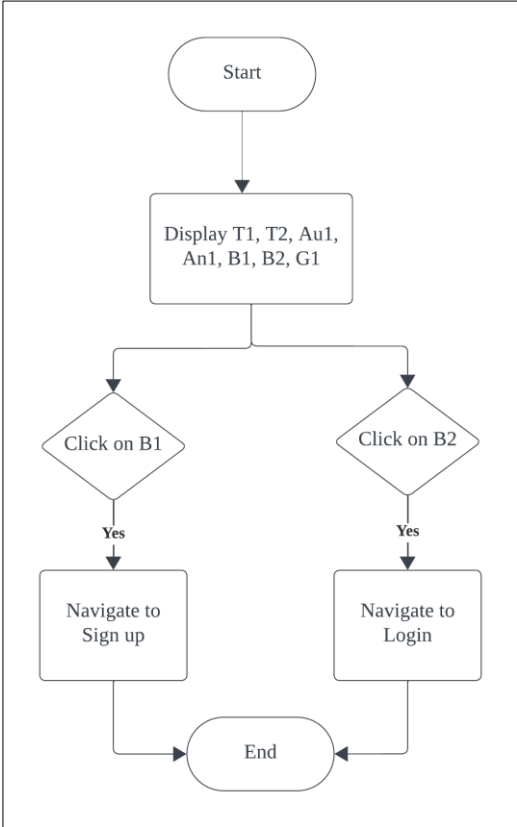
Table 4.5 Storyboard 5
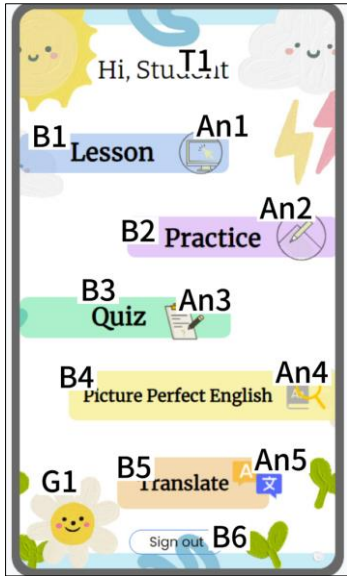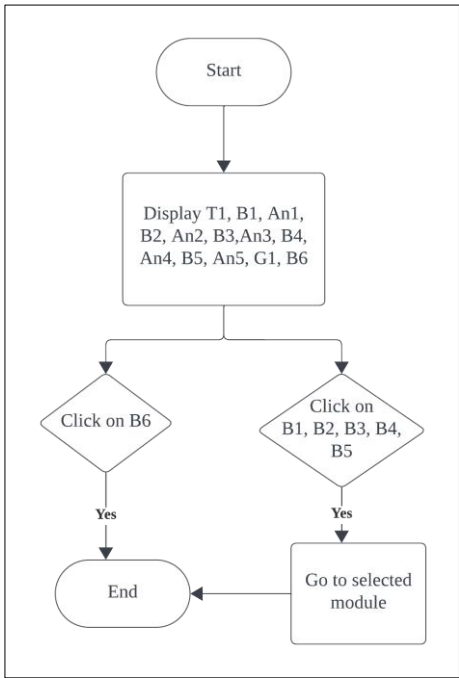
Storyboards No: 5
Title: Home page
Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V)

Figure 4.5 Storyboard of Home page

Flow Chart	Instruction
	T1: Title of home page
	B1: Go to Lesson Module
	An1: Animation of lesson
	B2: Go to Practice Module
	An2: Animation of practice
	B3: Go to Quiz Module
	An3: Animation of quiz
	B4: Go to Image recognition Module
	An4: Animation of image
	B5: Go to Translate Module
	An5: Animation of translate
	B6: Go to Sign in and Login page
	G1: Background image

Table 4.6 Storyboard 6
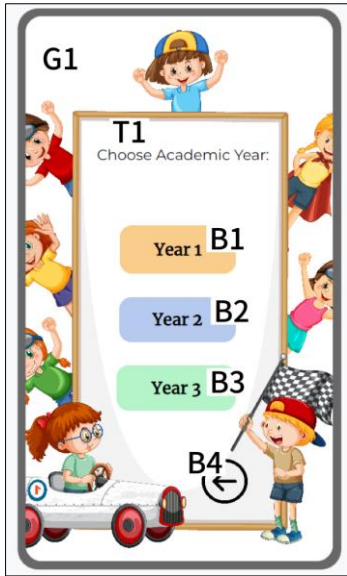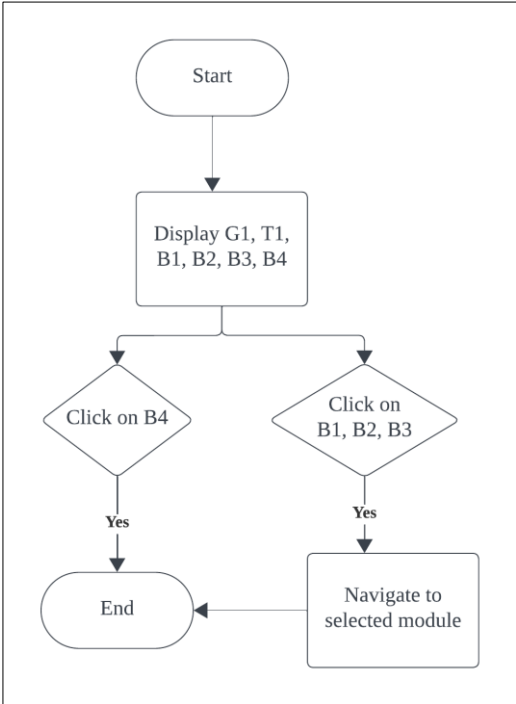
Storyboards No: 6
Title: Selection Grade page
Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V)

Figure 4.6 Storyboard of Selection Grade page

Flow Chart	**Instruction**
	G1: Background image **T1:** Title of selection **B1:** Go to grade 1 **B2:** Go to grade 2 **B3:** Go to grade 3 **B4:** Go to home page

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Table 4.7 Storyboard 7
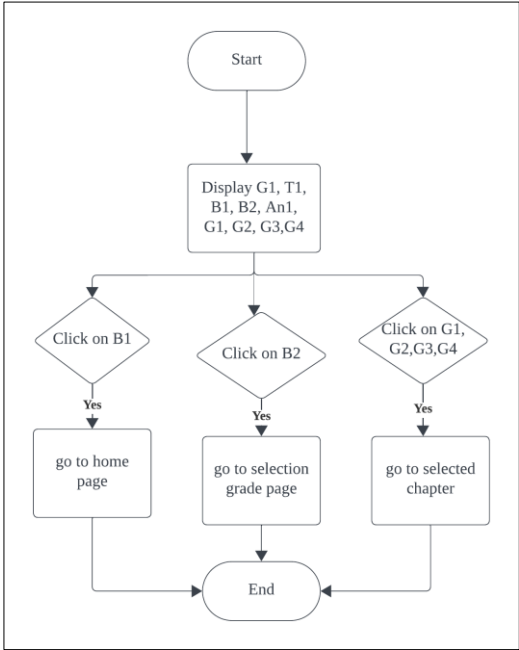
Storyboards No: 7
Title: Chapter Menu
Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V)

Figure 4.7 Storyboard of Chapter menu

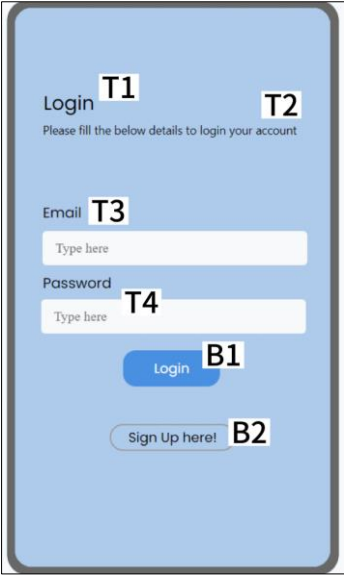| **Flow Chart**	**Instruction**
	An1: Animation of Chapter **T1:** Title of chapter menu **B1:** Go to home page **B2:** Go to Selection Grade Page **G1:** Go to Chapter 1 **G2:** Go to Chapter 2 **G3:** Go to Chapter 3 **G4:** Go to Chapter 4 **G5:** Background image

Table 4.8 Storyboard 8

Storyboards No: 8
Title: Lesson
Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V)

Figure 4.8 Storyboard of lesson

Flow Chart	Instruction
	B1: Go to home page **B2:** Go to Selection Grade Page **G1:** Title of chapter **V1:** Video to learning **G2:** Title of notes **G3:** Learning material **T1:** Chapter end heading

Table 4.9 Storyboard 9
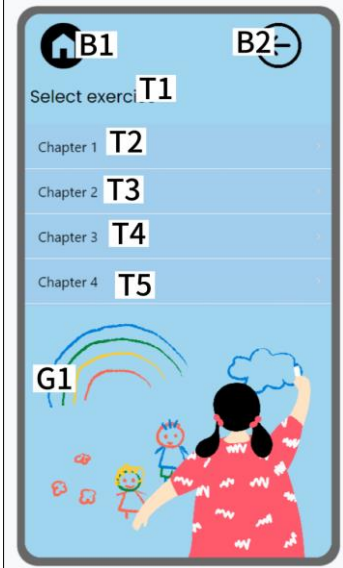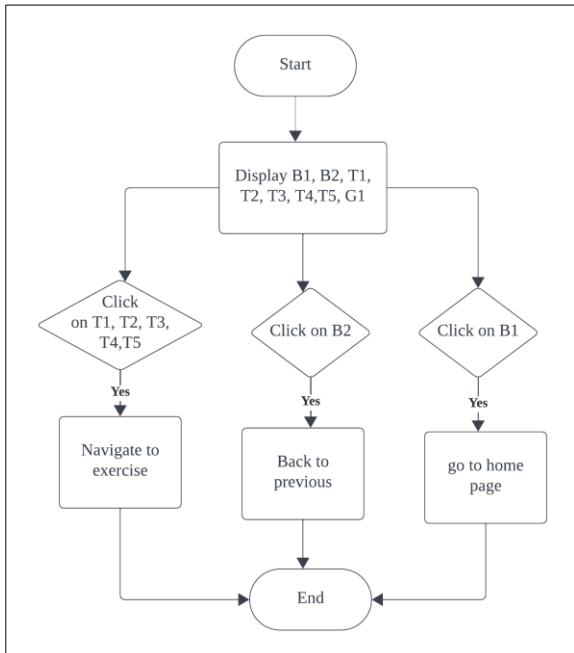
Storyboards No: 9
Title: Practice Chapter List
Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V)

Figure 4.9 Storyboard of Chapter list

Flow Chart	**Instruction**
	B1: Go to Home page **B2:** Go to Selection Grade Page **T1:** Go to Chapter 1 exercise **T2:** Go to Chapter 2 exercise **T3:** Go to Chapter 3 exercise **T4:** Go to Chapter 4 exercise **G1:** Background image

Table 4.10 Storyboard 10

Storyboards No: 10
Title: Practice
Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V)

Figure 4.10 Storyboard of Practice
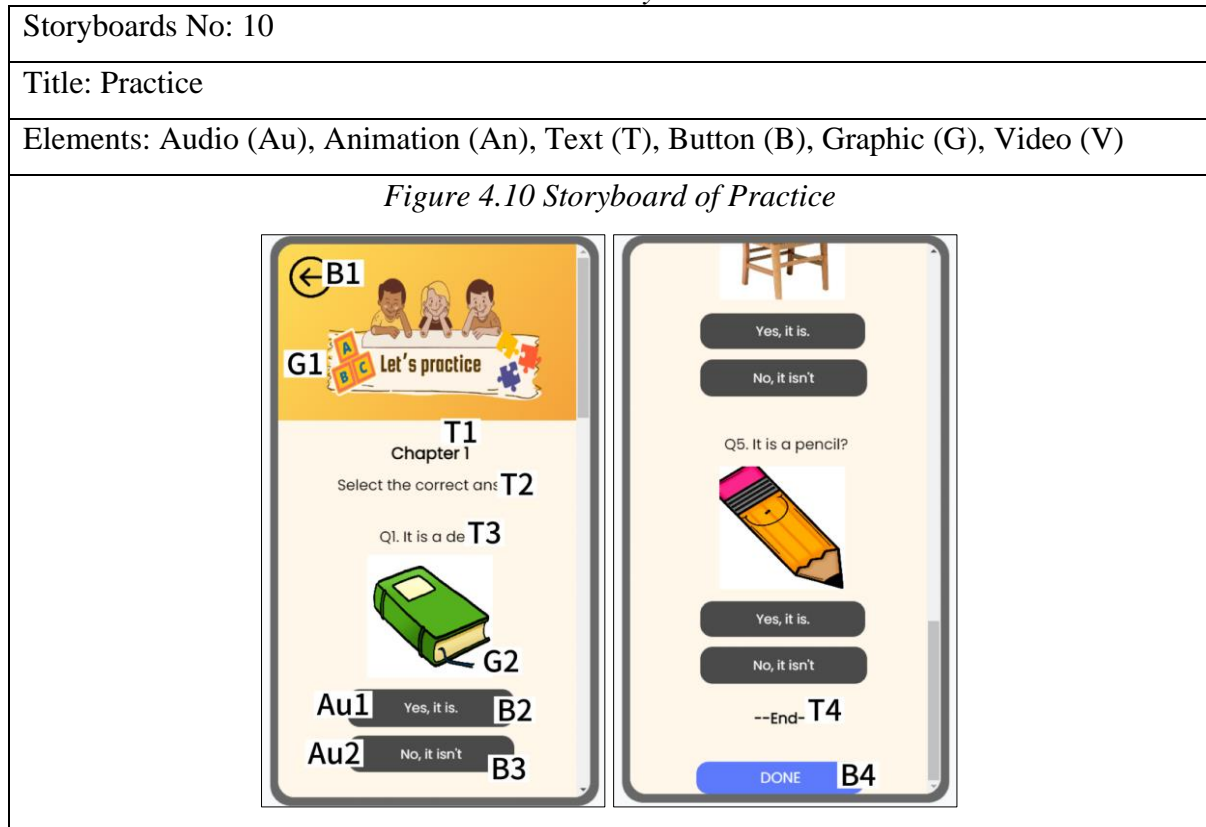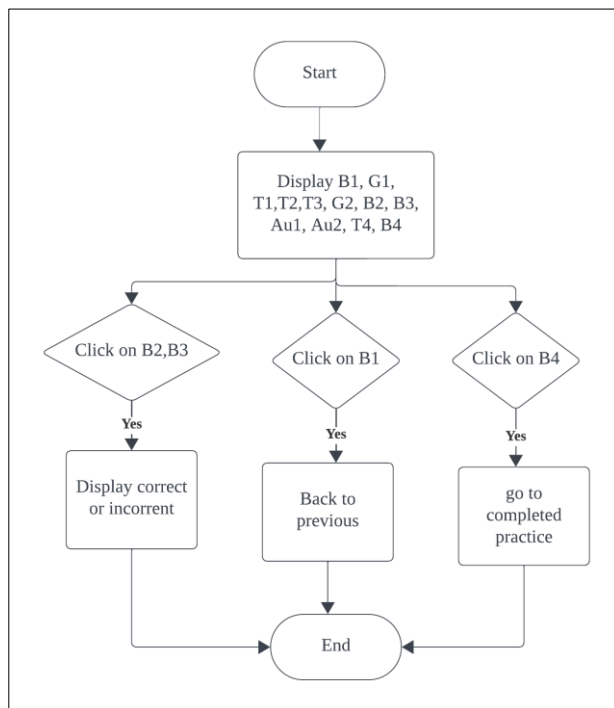
Flow Chart	Instruction
	B1: Back to Practice Chapter List **G1:** Background image **T1:** Title of chapter **T2:** Description of exercise **T3:** Question **G2:** Images for question **B2:** Button for correct answer **B3:** Button for incorrect answer **Au1:** Correct answer sound effect **Au2:** Incorrect answer sound effect **T4:** Chapter end heading **B4:** Go to Home page

Table 4.11 Storyboard 11
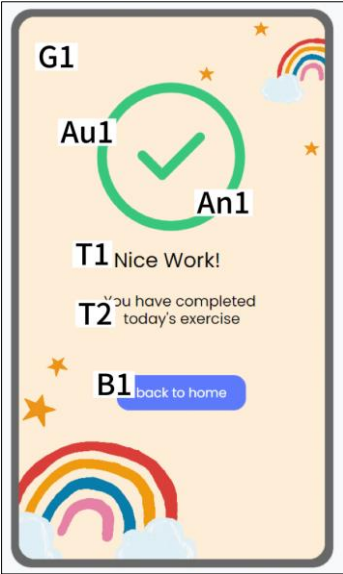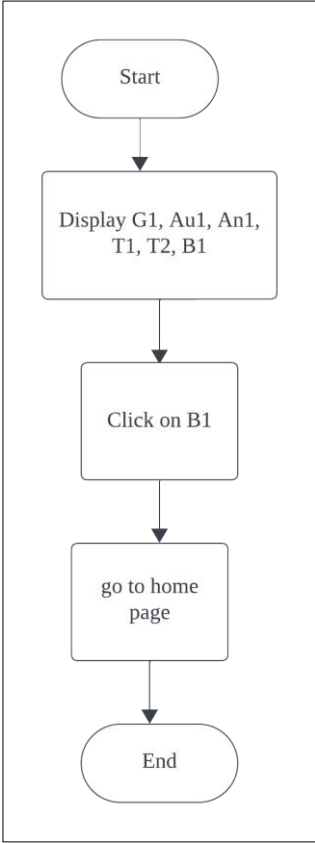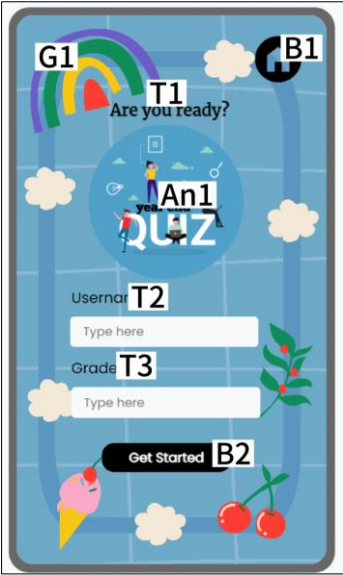
Storyboards No: 11
Title: Completed Practice
Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V)

Figure 4.11 Storyboard of Completed practice

Flow Chart	**Instruction**
	G1: Background image **Au1:** Sound effect for completed **An1:** Animation of completed **T1:** Label of completed exercise **T2:** Feedback of completed exercise **B1:** Go to Home page

Table 4.12 Storyboard 12

Storyboards No: 12
Title: Quiz Start up page
Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V)

Figure 4.12 Storyboard of Quiz Start up page
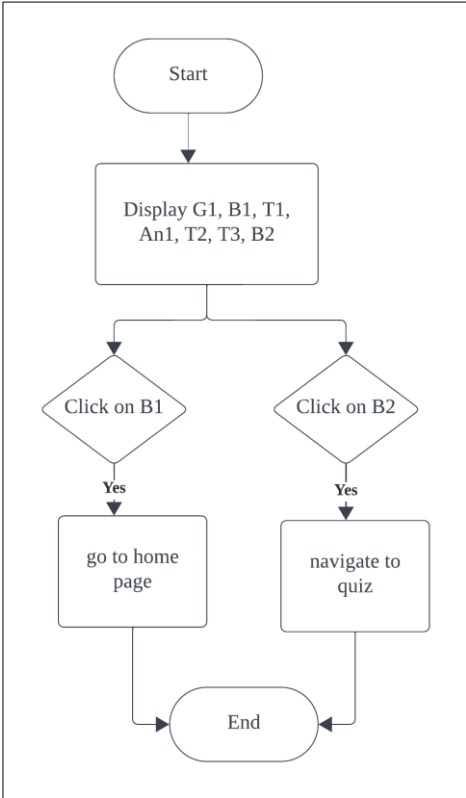
Flow Chart	**Instruction**
	G1: Background image **T1:** Title of quiz **B1:** Go to Home page **T2:** Username of student **T3:** Grade of student **B2:** Go to quiz

Table 4.13 Storyboard 13

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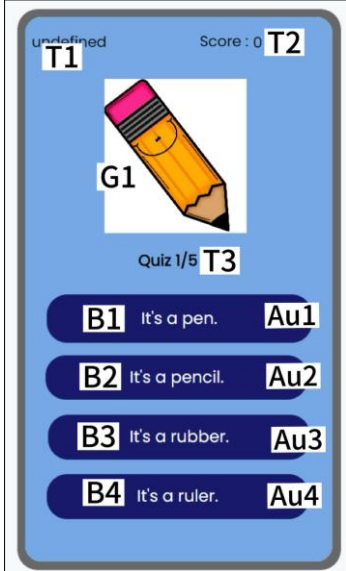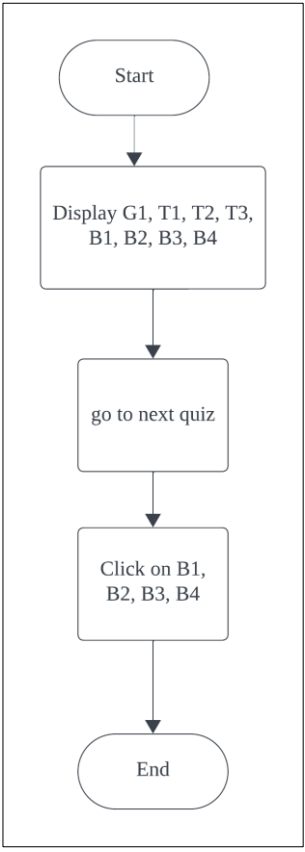
Storyboards No: 13
Title: Quiz
Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V)

Figure 4.13 Storyboard of Quiz

Flow Chart	**Instruction**
	B1: Option 1 for question
Start	**B2:** Option 2 for question
	B3: Option 3 for question
Display G1, T1, T2, T3, B1, B2, B3, B4	**B4:** Option 4 for question
	T1: Username
	T2: Score collected
go to next quiz	**T3:** Number of questions
	G1: Image for describe question
Click on B1, B2, B3, B4	**Au1:** Sound effect when clicked Option 1
	Au2: Sound effect when clicked Option 2
	Au3: Sound effect when clicked Option 3
End	**Au4:** Sound effect when clicked Option 4

Table 4.14 Storyboard 14

Storyboards No: 14
Title: Quiz Result
Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V)

Figure 4.14 Storyboard of Quiz result
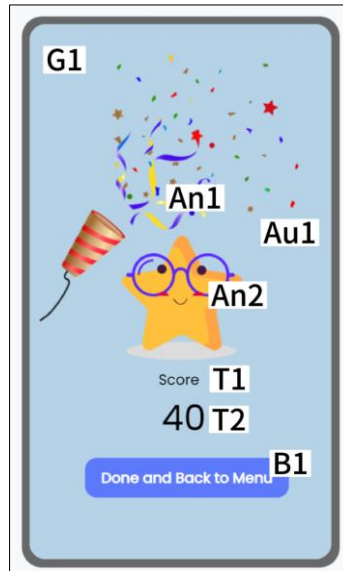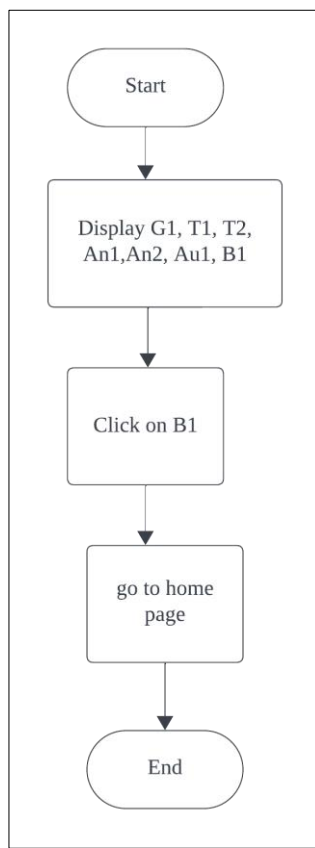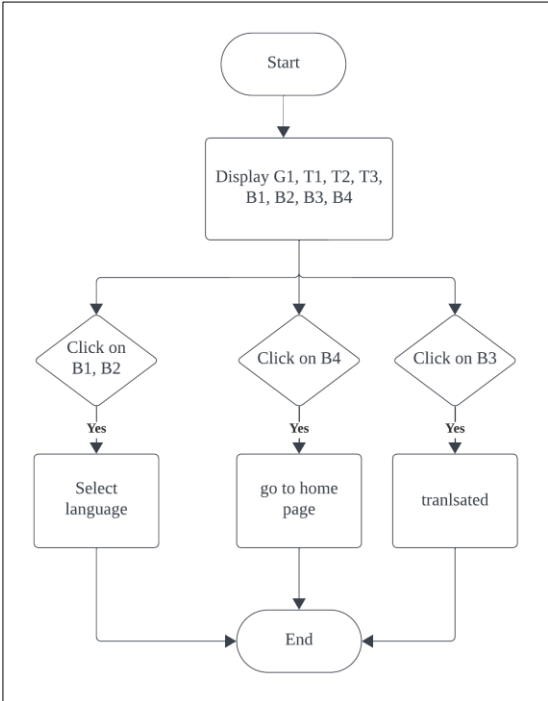
Flow Chart	**Instruction**
Start → Display G1, T1, T2, An1,An2, Au1, B1 → Click on B1 → go to home page → End	**G1:** Background image
	An1: Animation of celebrate
	An2: Animation of happy
	Au1: Sound effect on completion
	T1: Score label
	T2: Total score collected
	B1: Go to Home page

Table 4.15 Storyboard 15

Storyboards No: 15
Title: Images Recognize Module
Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V)

Figure 4.15 Storyboard of Images recognize Module

Flow Chart	**Instruction**
	G1: Background image **G2:** Images of photo **B1:** Take the photo **B2:** Describe image **B3:** Go to Home page **T1:** Description of images

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Table 4.16 Storyboard 16

Storyboards No: 16
Title: Translate Module
Elements: Audio (Au), Animation (An), Text (T), Button (B), Graphic (G), Video (V)

Figure 4.16 Storyboard of Translate Module

Flow Chart	**Instruction**
	G1: Background image **B1:** Select original language **B2:** Select translate language **B3:** Translate text button **B4:** Go to Home page **T1:** Label to **T2:** Text area to enter text for translation **T3:** Result of translation

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4.2 System Flow Diagram

Figure 4.17 System flow diagram for My English Adventure
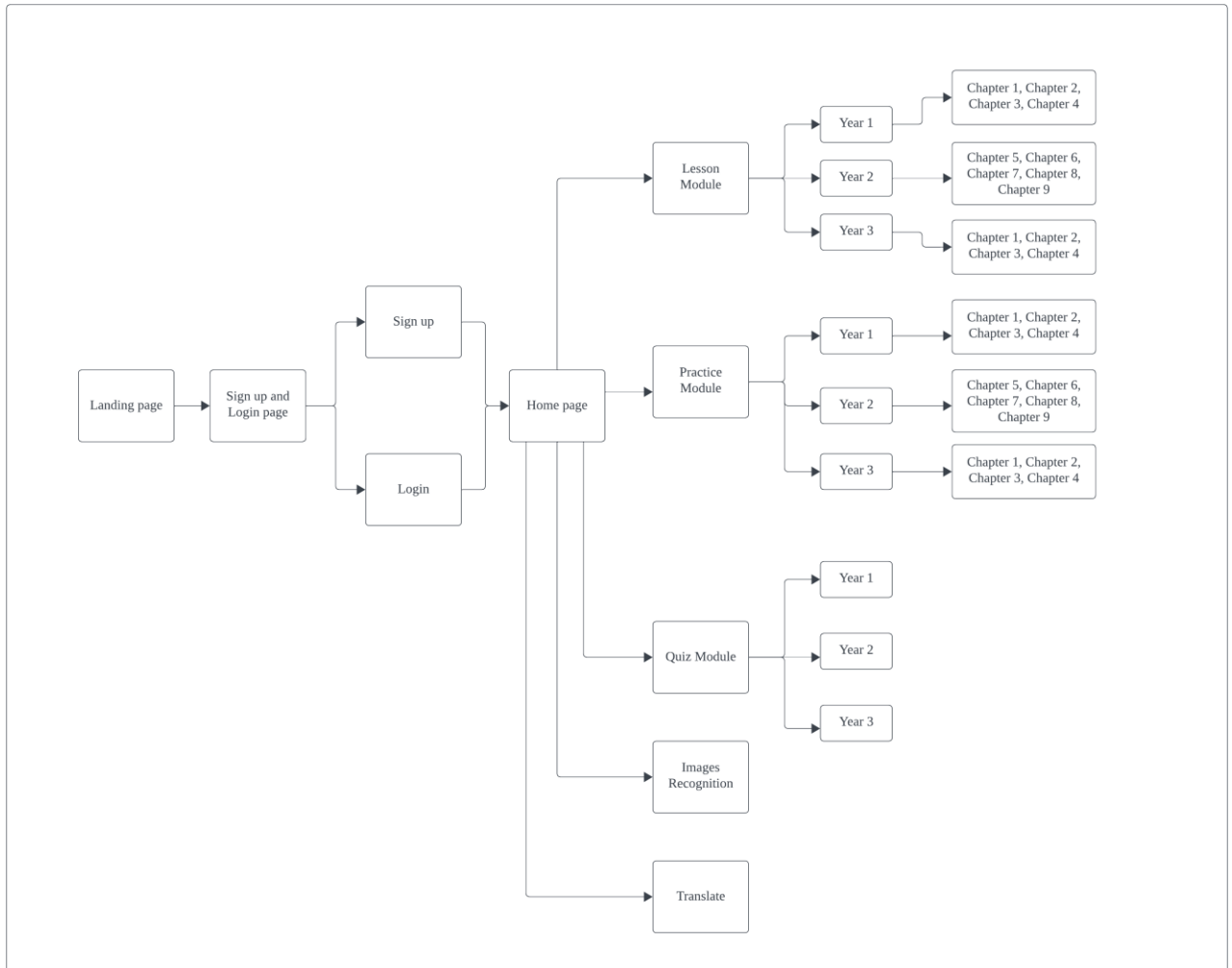
CHAPTER 5 : SYSTEM IMPLEMENTATION

5.1 Overview of the Proposed System

The development process in this phase combines and integrates all the multimedia material such as text, animation, graphic, and audio in order to become a multimedia interaction application. All the multimedia material that is used in this phase has been prepared and generated by other software in the earlier stage.

5.2 Development Process

5.2.1 Landing Page

Figure 5.1 Landing Page
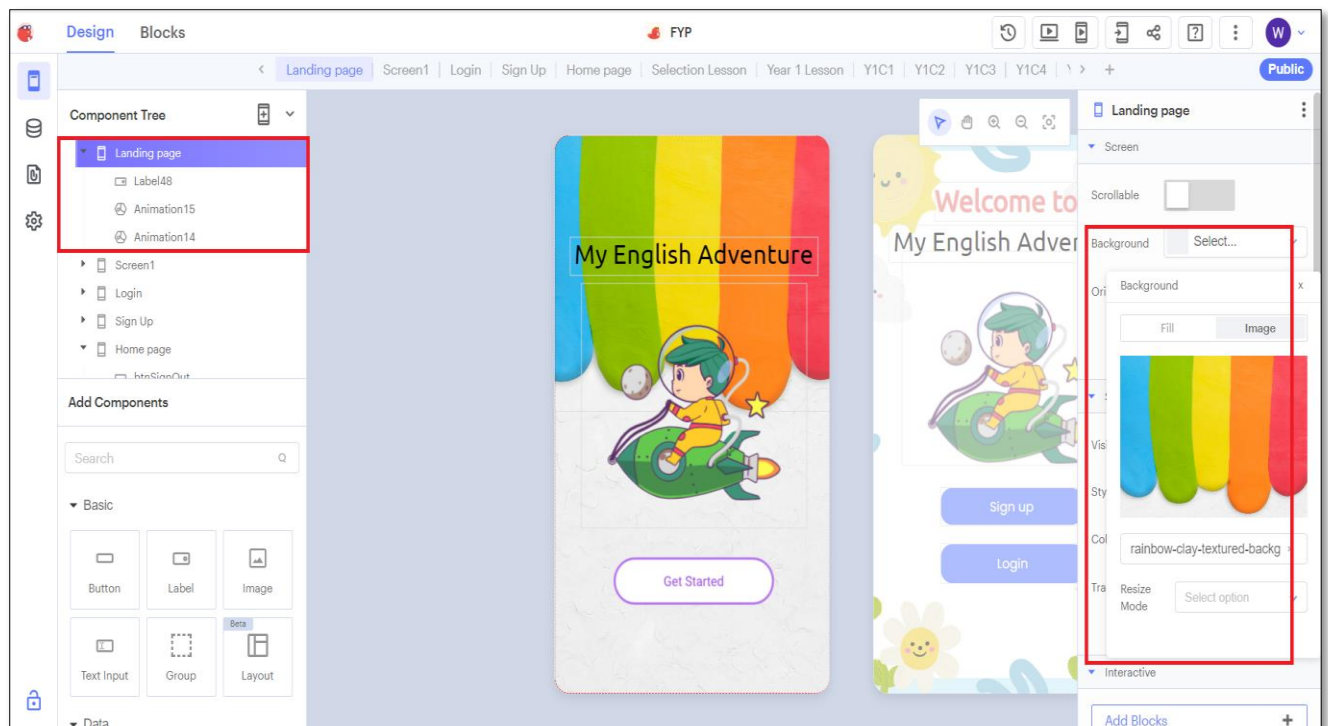
Figure 5.1 show that the scene development for the landing page. Add the component which images, animation and text title to design its user interface. After added image component, insert a background image for image component. The "get started" animation will navigate the users to Sign up and Login page.

Figure 5.2 Add control for landing pages
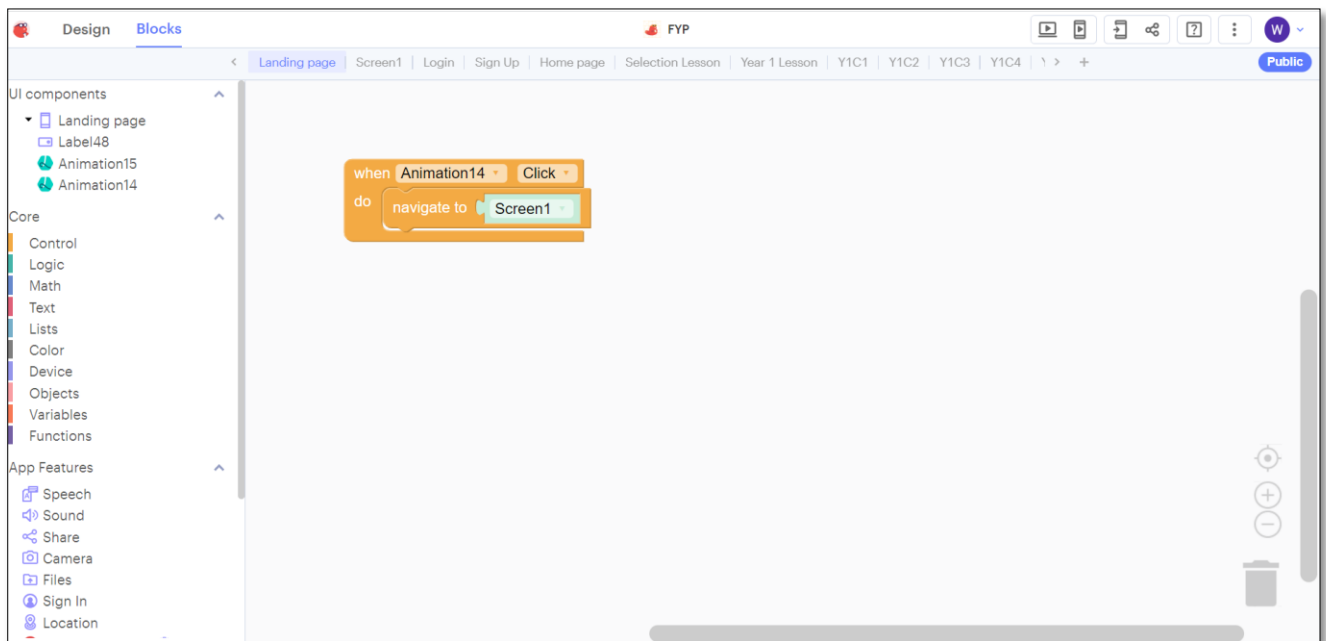
Figure 5.2 show that the control for landing page scene. The "get started" animation will direct users to Sign up and Login page when they clicked it.

5.2.2 Sign up and Login Selection Page

Figure 5.3 Sign up and Login
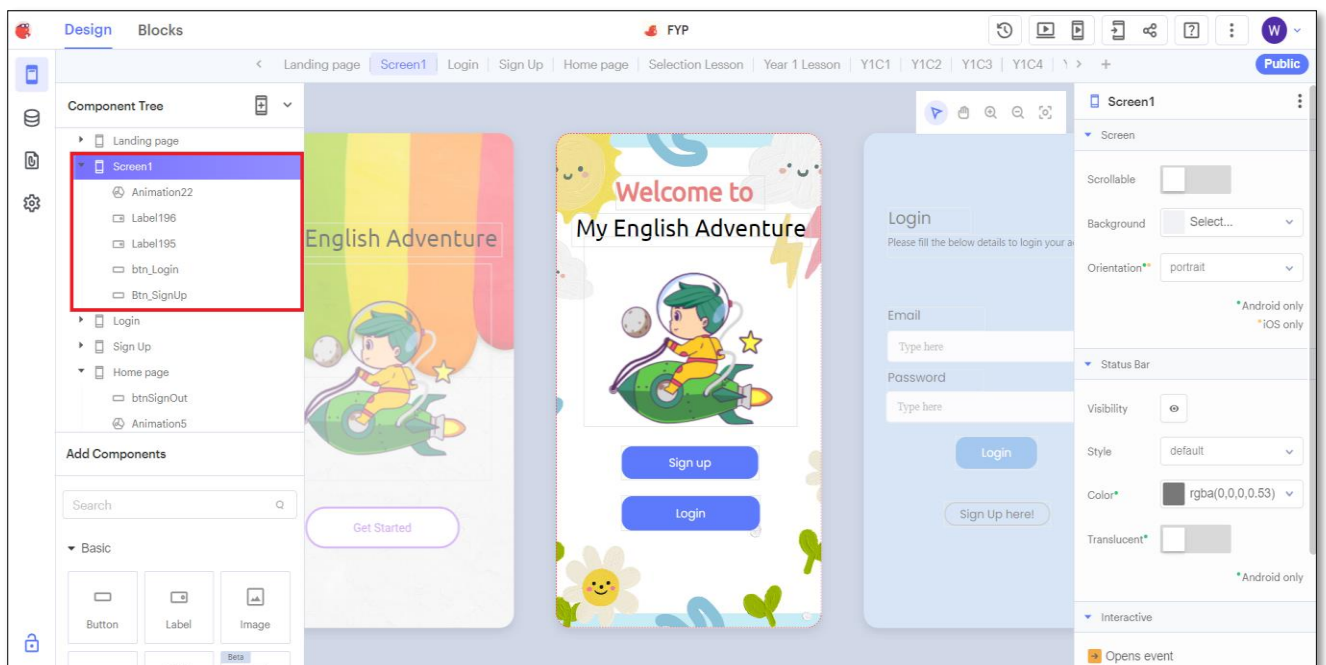
Figure 5.3 shows the design of Sign up and Login page. Before entered the systems, the users required to sign up or login to their account. The first-time users require to register a new account in order to login. An existing user can login through the Login page.

Figure 5.4 Add control for Sign in and Login Selection Page
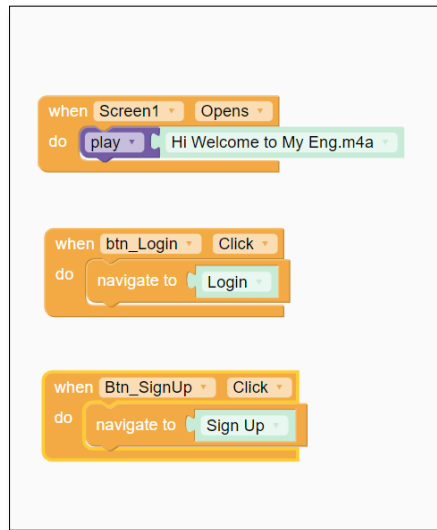
Sign in and Login page control is displayed in Figure 5.4. When Sign up and Login page is opened, there will play a short background music. Users who click the login button, it will direct users to Login page. Then, new users can click sign up to create an account.

5.2.2.1 Login

Figure 5.5 Login page
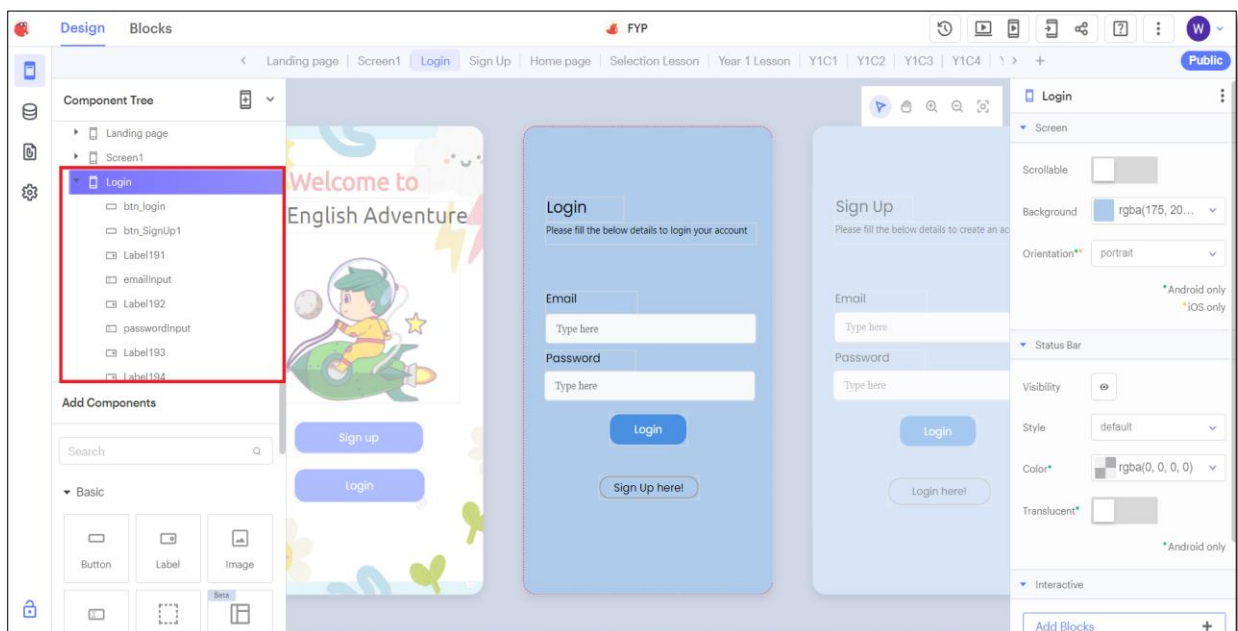
Figure 5.5 shows that the development scene of Login page. Add text and button component to design interface of login pages. Users can use email and password that registered to login the system.

Figure 5.6 Add control to login page component
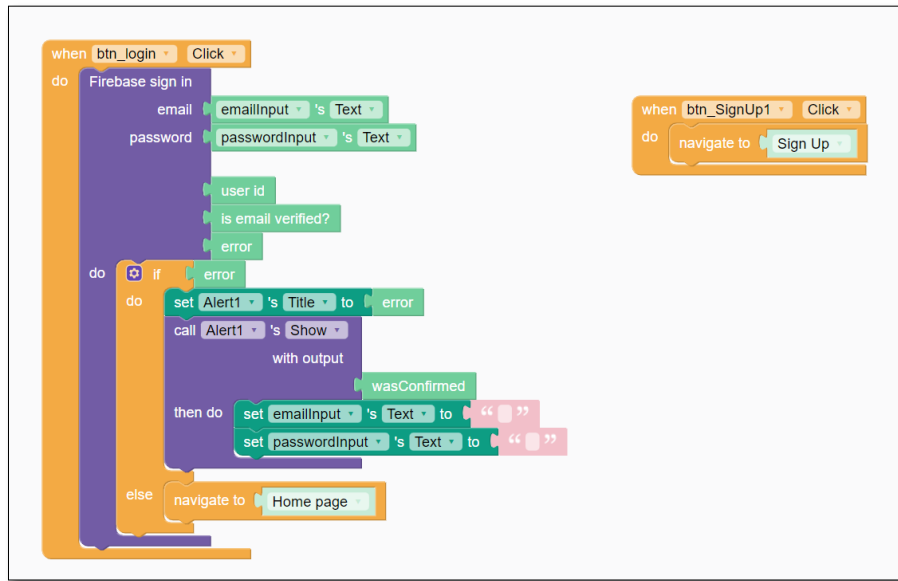
Figure 5.6 shows control of login pages. To providing a secure application, the firebase sign in have been used. So that, users must enter valid email and password to login the system. After validation without error, the system will direct users to home page. Otherwise, the system may prompt out error message and unable to login.

5.2.2.2 Sign Up

Figure 5.7 Sign up Page
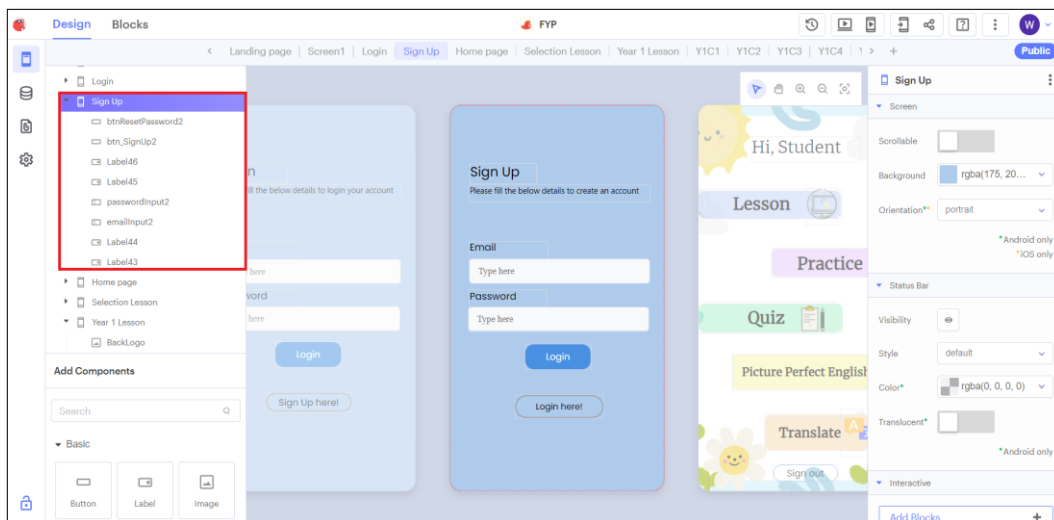
Figure 5.7 shows that the development scene of sign up. Add text and button component to design interface of sign-up pages. Users can create new user account by using their email and password. Then, the login button will navigate to home page.

Figure 5.8 Add control to sign up page component
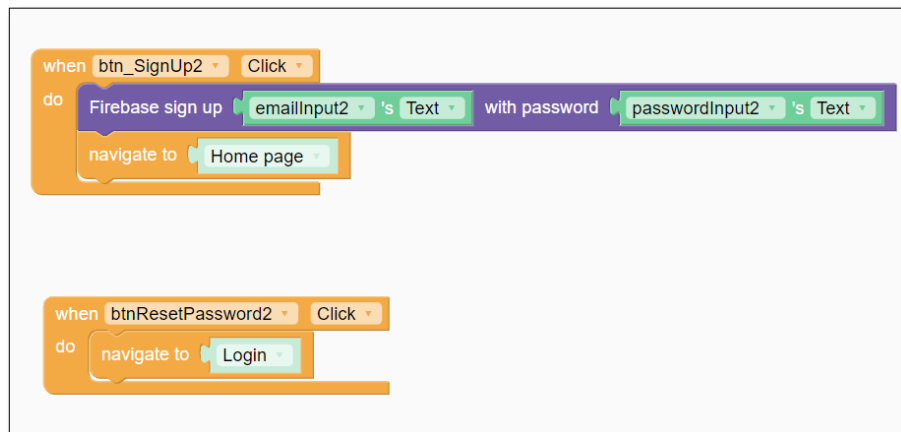
Figure 5.8 shows control of sign-up page. The valid email and password may successfully register and direct users to home page of the system. Otherwise, systems may prompt out error message and fail to register account.

5.2.3 Home Page

Figure 5.9 Home Page
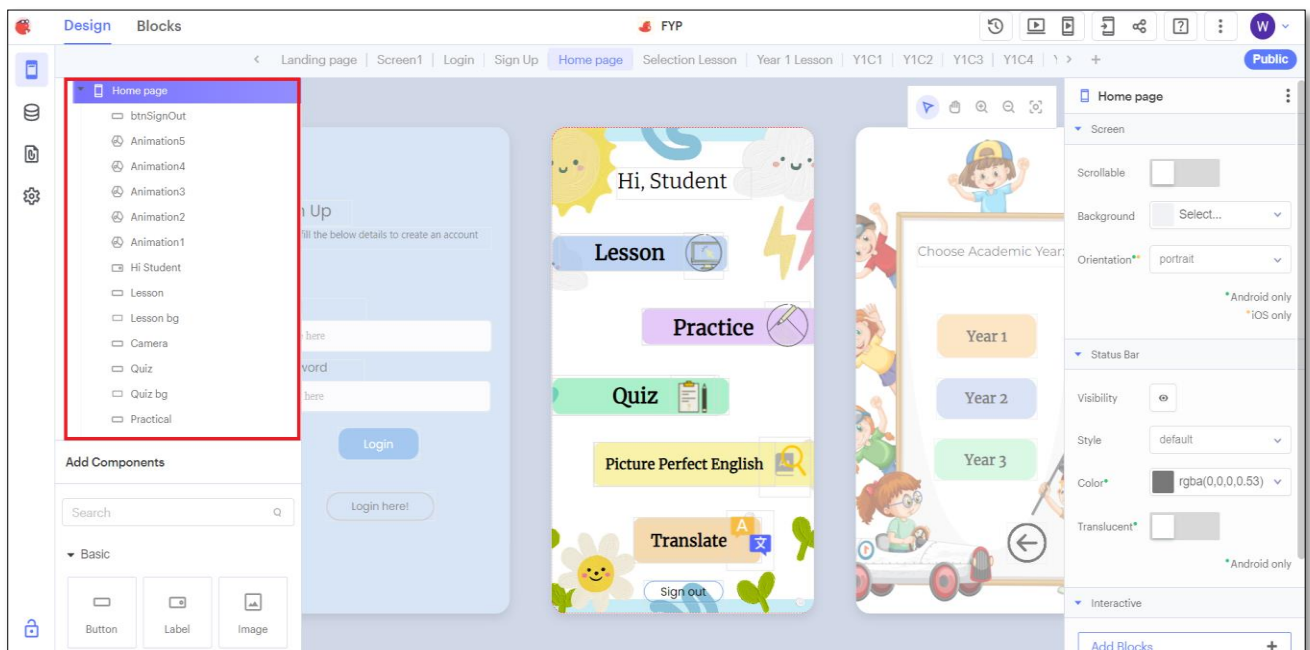
Figure 5.9 shows the development scene of home page. The component such as text label, button, animation and images have been used to design this interface. Firstly, determine

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placement of button and add the background images in order to make users able to find all the module button from the home page. Then, add an animation for each module.

Figure 5.10 Add control to home page component
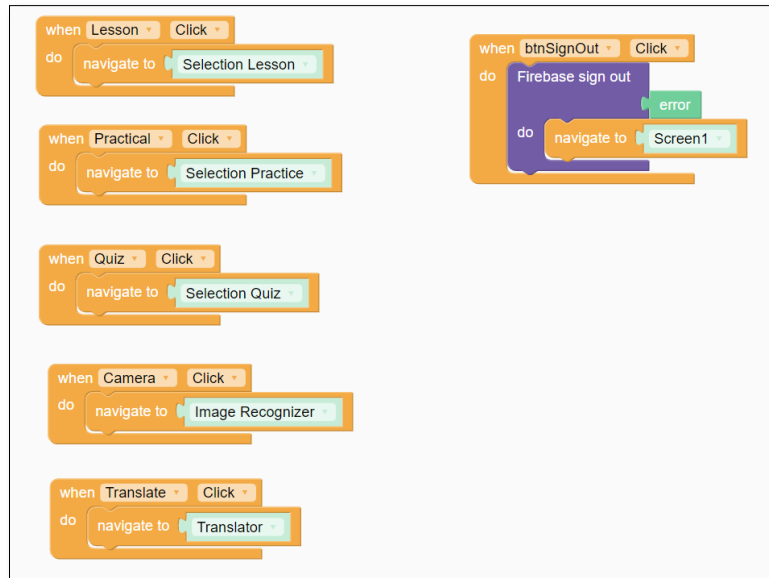
Figure 5.10 show control home page component. When click the lesson button, there will navigate users to Lesson Module. When click the Practice button, there will navigate users to Practice Module. When click the Quiz button, there will navigate users to Quiz Module. When click the Image Recognition button, there will navigate users to Image Recognition Module. When click the Translate button, there will navigate users to Translate Module.

5.2.4 Lesson Module

5.2.4.1 Grade Selection Page for Lesson Module

Figure 5.11 Lesson Module
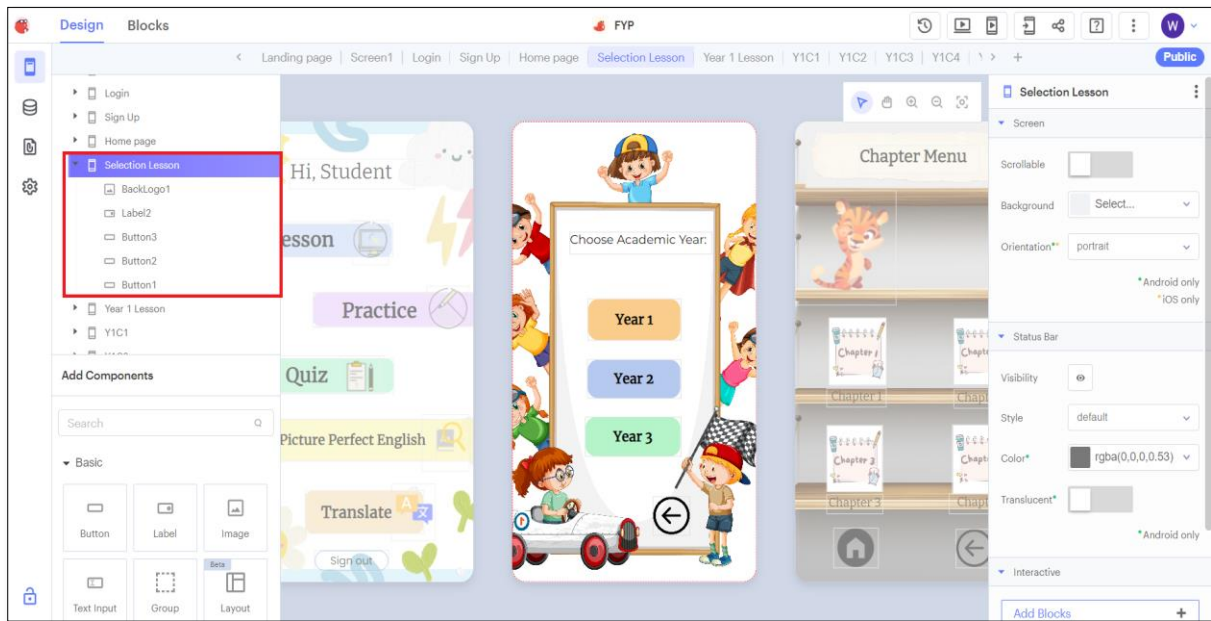
Figure 5.11 show the development scene to Grade Selection Page for Lesson Module. Firstly, added component button, images and text to design the page UI. Place all the button at the right place and add a background images.

Figure 5.12 Add control to Grade Selection Page of Lesson Module
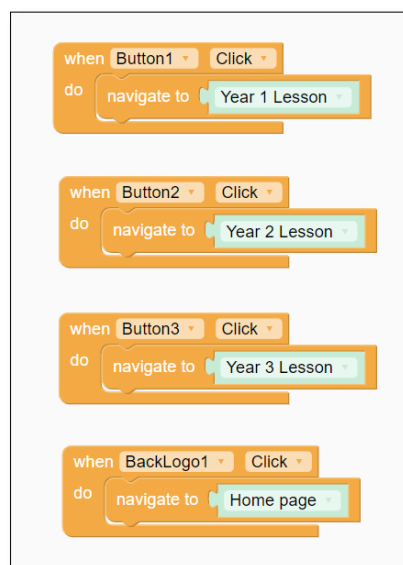
Figure 5.12 show add control to Grade Selection Page of Lesson Module. When users click on Year 1, there will navigate to Year 1 lesson. When users click on Year 2, there will navigate to

Year 2 lesson. When users click on Year 3, there will navigate to Year 3 lesson. When users click on Year 4, there will navigate to Year 4 lesson.

5.2.4.2 Chapter Menu for Lesson Module

Figure 5.13 Chapter Menu of Lesson Module
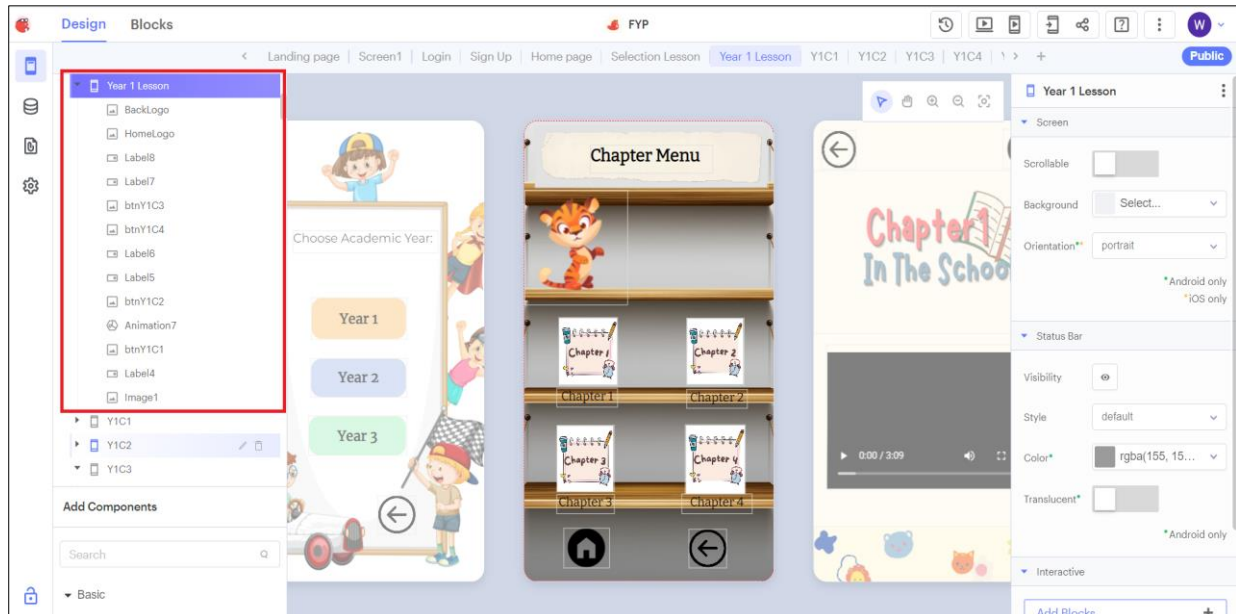
Figure 5.13 show the scene development of Chapter Menu of Lesson Module. Add the component image, text label, and animation to the stage. Composing the images component that added and add background images. Place "home" image and "back to previous" image on bottom.

Figure 5.14 Add control to Chapter Menu of Lesson Module

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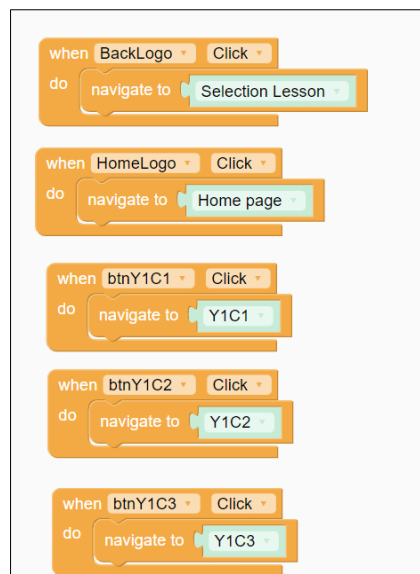
Figure 5.14 show add control for each component to Chapter Menu of Lesson Module. When click on Chapter image, users will navigate to chapter respectively. When click on "home" image and "back to previous" image, there will back to home and back to previous pages respectively.

5.2.4.3 Design of Lesson

Figure 5.15 Design of each lesson
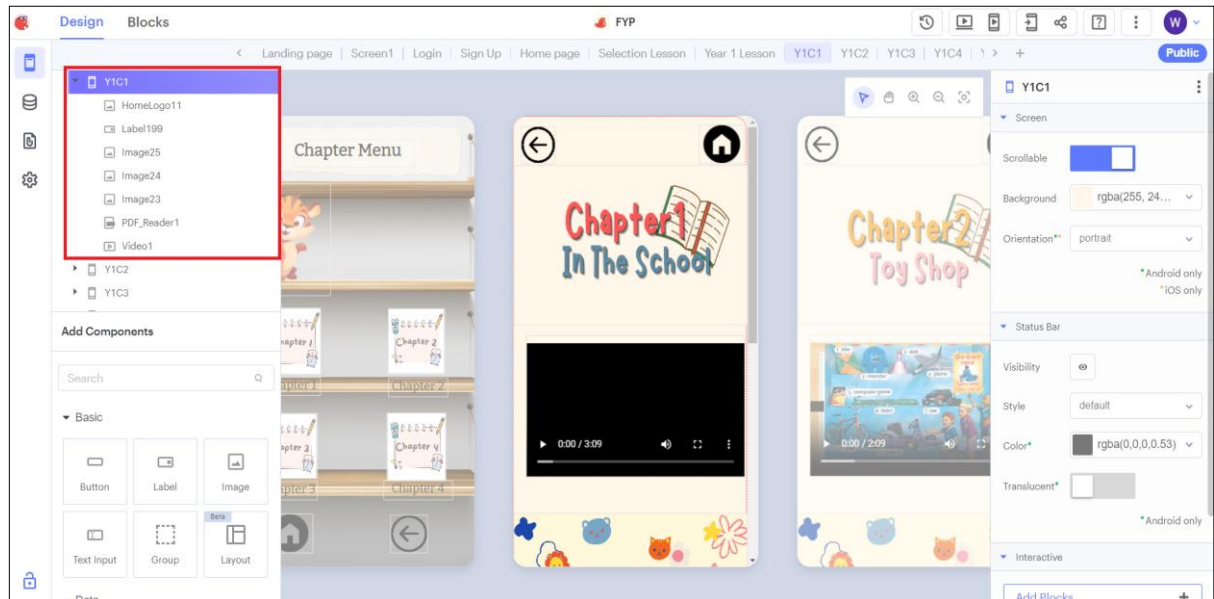
Figure 5.15 show design of each lesson. Firstly, place "home" image and "back to previous" image on top and add an image to display title of chapter. Layout for video components and others images component.

Figure 5.16 Add control to design of each lesson
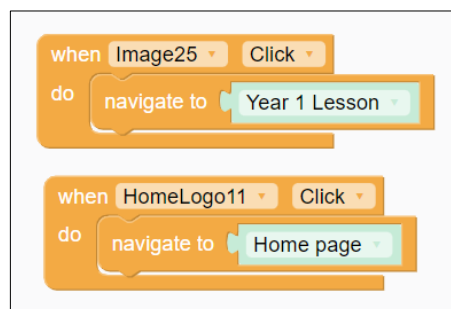
Figure 5.16 shown the control of component. When "home" image on click, users will navigate to home page. When "back to previous" on click, users will navigate to Chapter Menu.

5.2.5 Practice Module

5.2.5.1 Grade Selection Page for Practice Module

Figure 5.17 Grade Selection Page of Practice Module
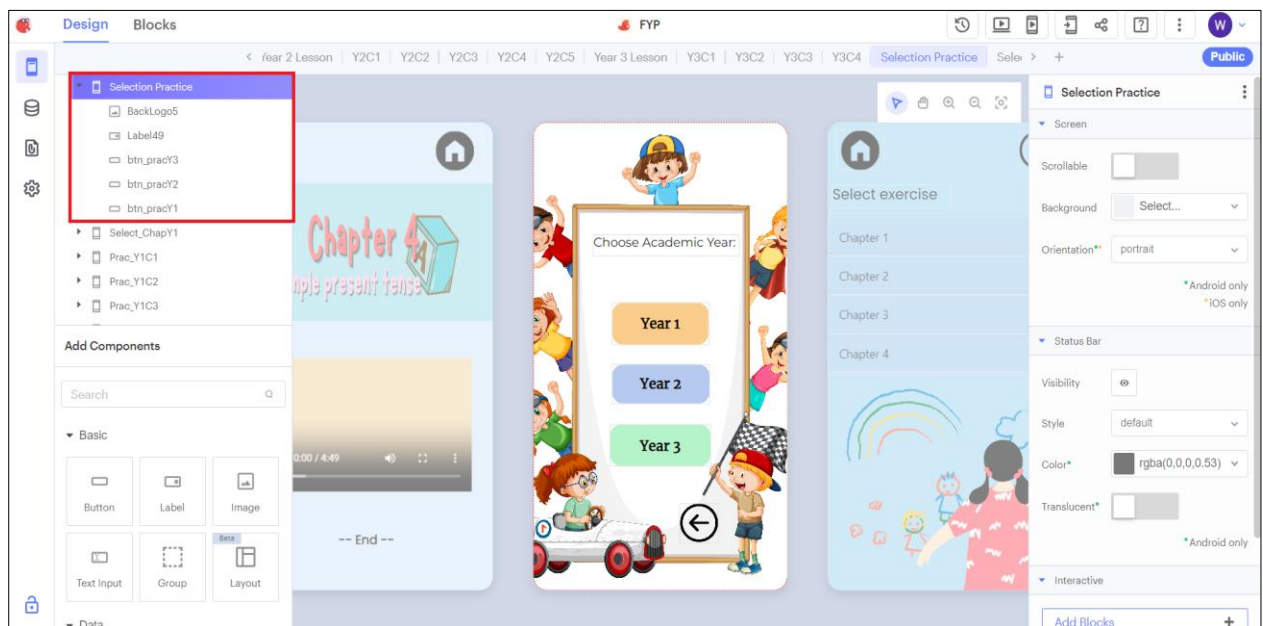
Figure 5.17 shown the development scene of Grade Selection Page of Practice Module. The interface is composed of text label, button and images. Layout for the component and add the background image.

Figure 5.18 Add control to Grade Selection Page of Practice Module
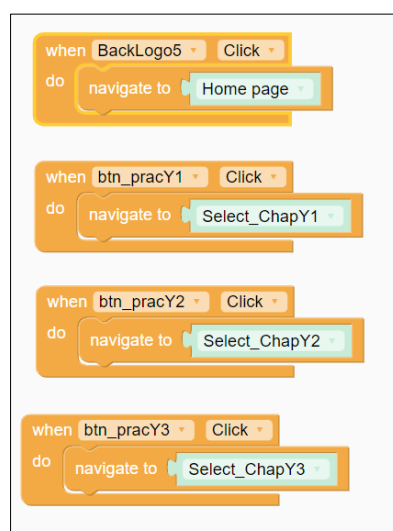
Figure 5.18 show add control to Grade Selection Page of Practice Module during development stage. When items on click, users will navigate to following years lesson.

5.2.5.2 Chapter Menu for Practice Module

Figure 5.19 Chapter Menu of Practice Module
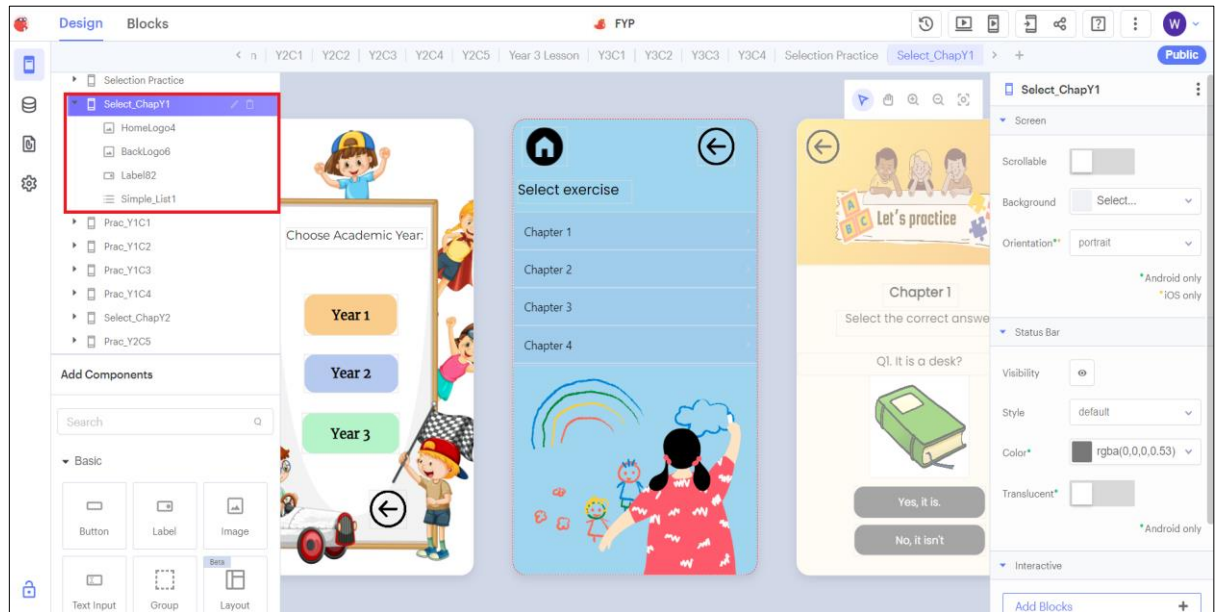
Figure 5.19 shows development scene of Chapter Menu of Practice Module. The component required to this interface included list, text label and image component. Layout the component that added and inset the background images. Then, place "home" image and "back to previous" image on top.

Figure 5.20 Add control to Chapter Menu of Practice Module
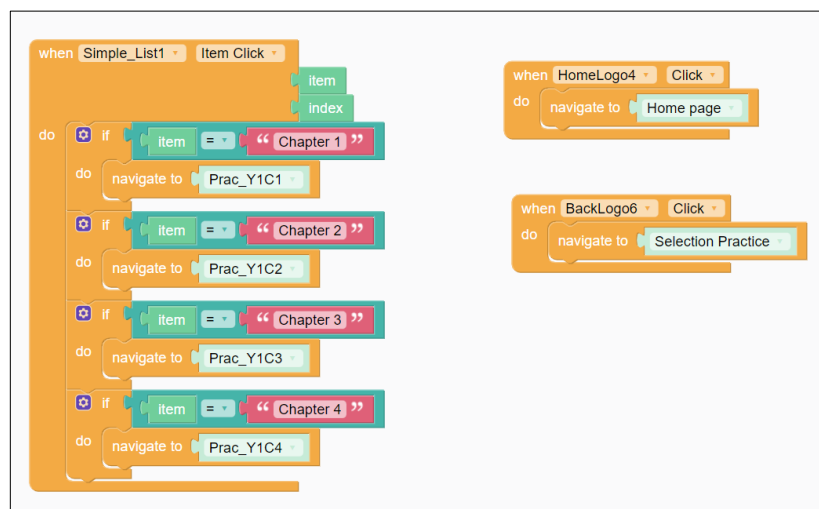
Figure 5.20 shows add control to Chapter Menu of Practice Module component. Firstly, add control for list of chapters. When chapter on click, users will navigate to that chapter for the practice question. Then, add control for "home logo" image and "back to previous" image.

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Users can navigate to home page by clicking "home logo" image and back to previous page by clicking "back to previous" image.

5.2.5.3 Design of each practice

Figure 5.21 Design of each practice
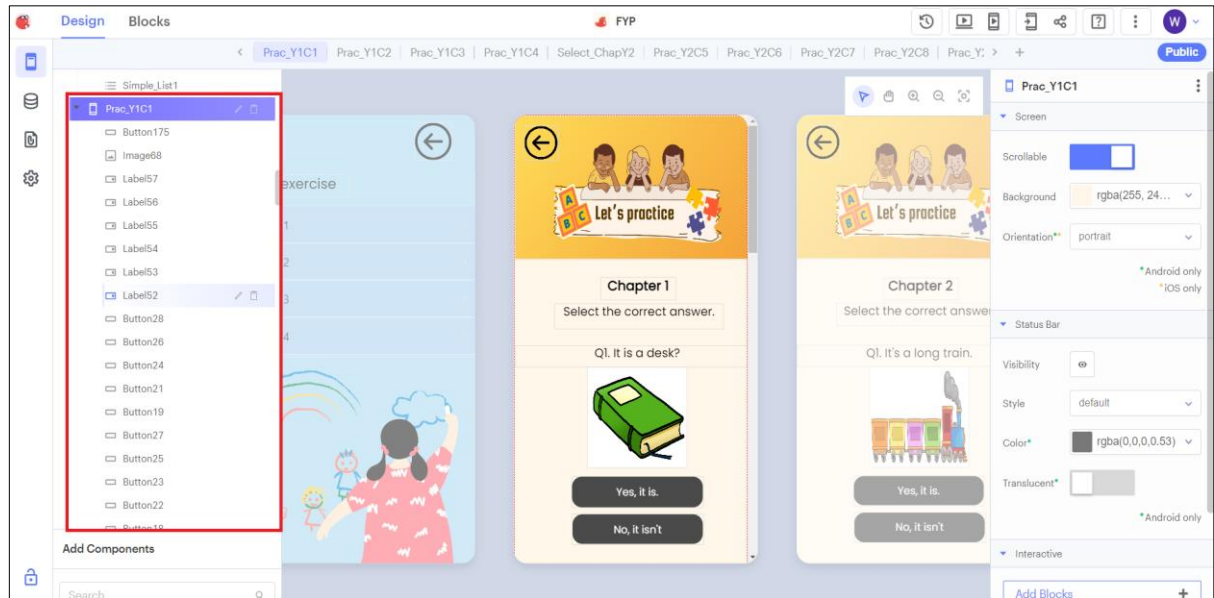
Figure 5.21 shown the development scene of design of each practice. Firstly, add the components for the interface design such as image, text label and button component. Layout the component that added especially the question layout. Insert the images and edit text for practice module.

Figure 5.22 Add control to component of practice question

Figure 5.22 shown add control to component of practice question. When users click correct answer, the system will play sound effect and change the button background color from grey to green. Users may see the button background color from grey to red and listen sound effect when clicking incorrect answer.

5.2.6 Quiz Module

5.2.6.1 Grade Selection Page for Quiz Module

Figure 5.23 Grade Selection Page of Quiz Module

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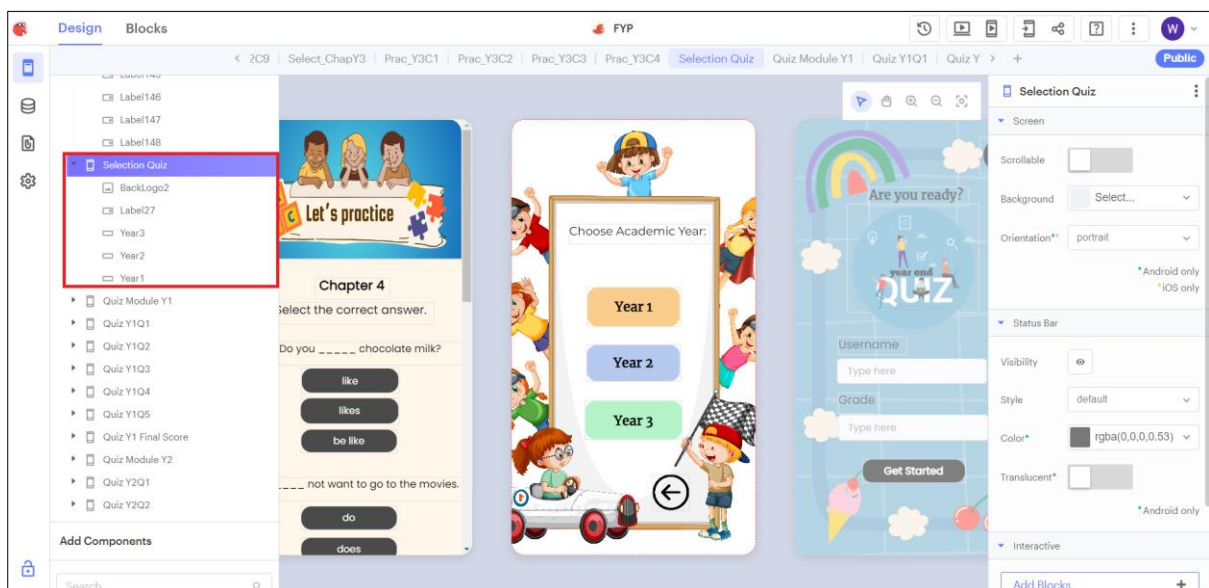
Figure 5.23 shown the development scene for Grade Selection Page of Quiz Module. The interface is composed of text label, button and images. Layout for the component and add the background image.

Figure 5.24 Add control to Grade Selection Page of Quiz Module
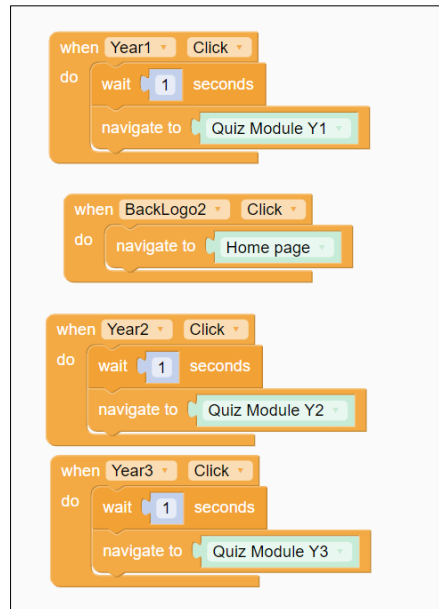
Figure 5.24 show add control to Grade Selection Page of Quiz Module during development stage. When items on click, users will navigate to quiz start up page.

5.2.6.2 Quiz Module start up page

Figure 5.25 Start up page of Quiz Module

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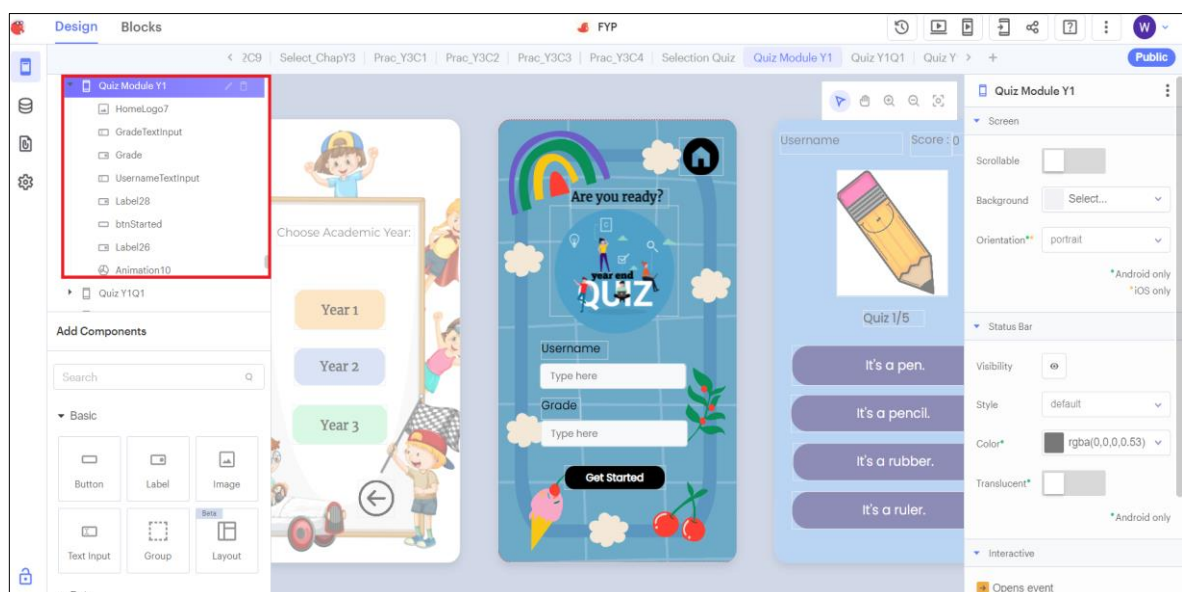
Figure 5.25 shown the development scene of Startup page of Quiz Module. Add the component on the stage to design interface which included image, button, text input, and text label. Layout the component shows as Figure 5.25.

Figure 5.26 Add control to start up page of Quiz Module
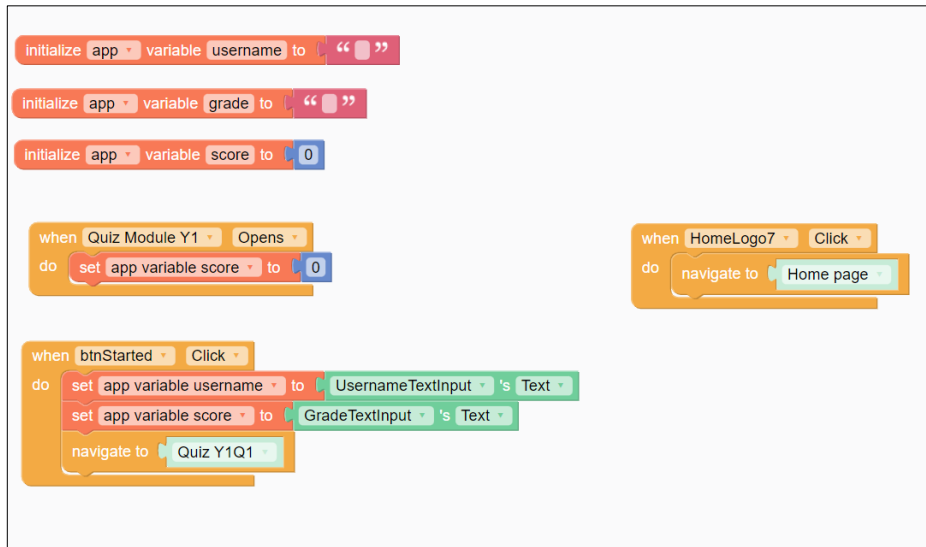
Figure 5.26 shown add control to start up page of Quiz Module initialize the app variable when opened page. Before started answer quiz, users must enter username and grade to continue. Then click the get started button and start to answer the quiz. Besides, add the home logo right top conner and set navigate to homepage when clicked.

5.2.6.3 Design of Quiz

Figure 5.27 Design of quiz

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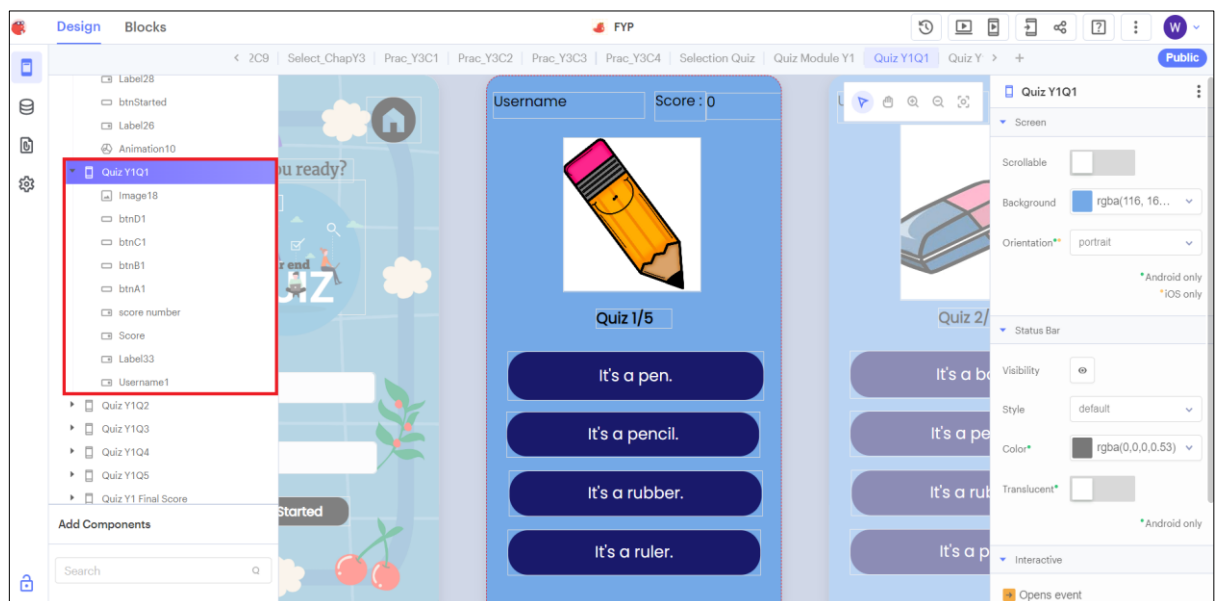
Figure 5.27 shown design of the quiz. Each question has included 4 button components, 1 image component and 1 text label. The button uses to present options for the question. Then text label displayed quiz number for the question. The username will be display when get started. The score will display on right top conner.

Figure 5.28 Add control to quiz
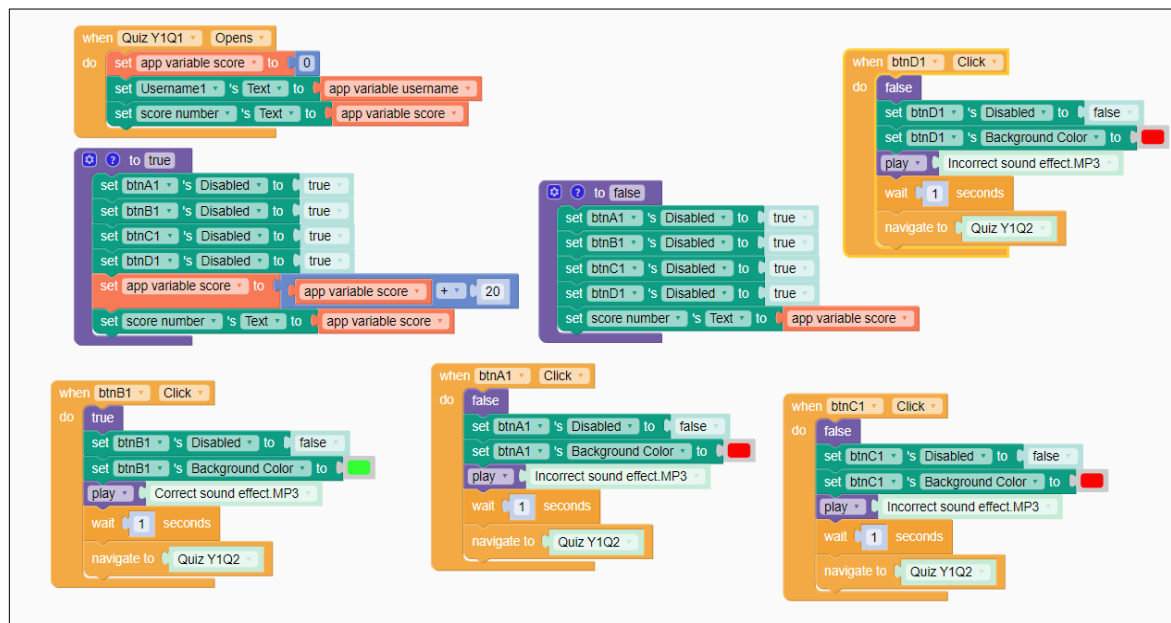
Figure 5.28 show development scene of add control to quiz. When users click correct answer, the system will play sound effect and change the button background color from grey to green. Users may see the button background color from grey to red and listen sound effect when clicking incorrect answer.

5.2.7 Images Recognizer Module

Figure 5.29 Images recognizer module
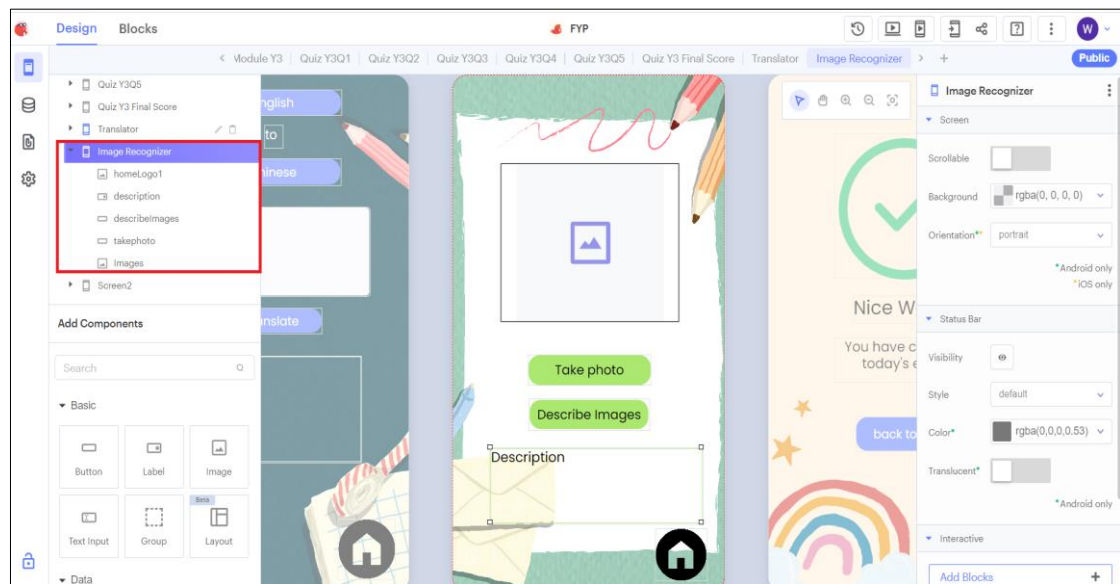
Figure 5.29 show development scene of Images recognizer module. Firstly, add the require component on the stage which are images, button and text label. Then, layout the components shown as Figure 5.29. Insert background image and add logo on right bottom conner.

Figure 5.30 Add control to Images recognizer module
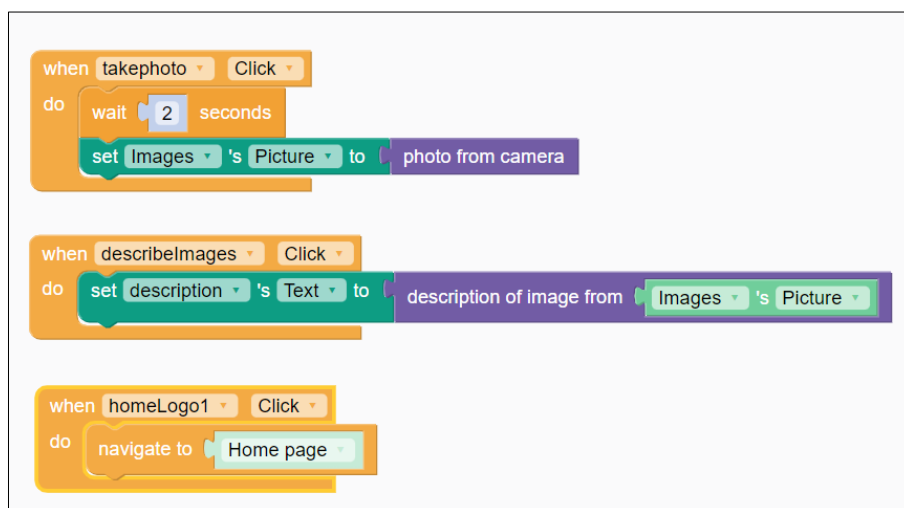
Figure 5.30 shown add control to images recognizer module. When users click button "Take photo', the images will be capture and show on screen. The description of images will display when users click on button "Describe image". Lastly, navigate to home page when clicking home logo on right bottom conner.

5.2.8 Translate Module

Figure 5.31 translate module
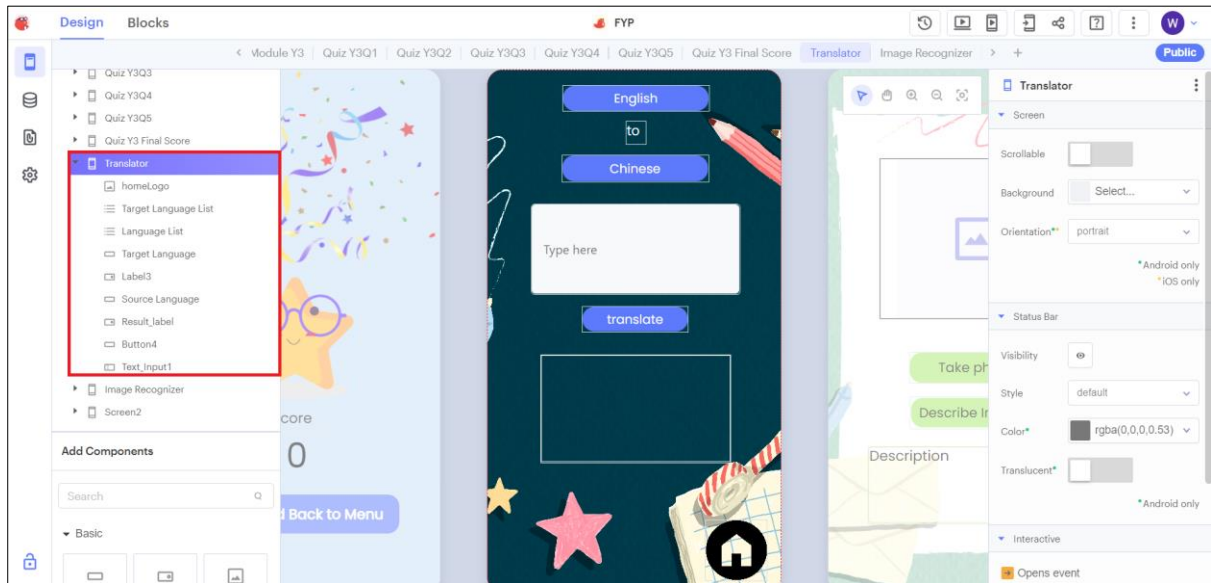
Figure 5.29 show development scene of translate module. Firstly, add component on the stage and layout the component shown as Figure 5.29. Add background image for this module and label the button.

Figure 5.32 Add control to translate module

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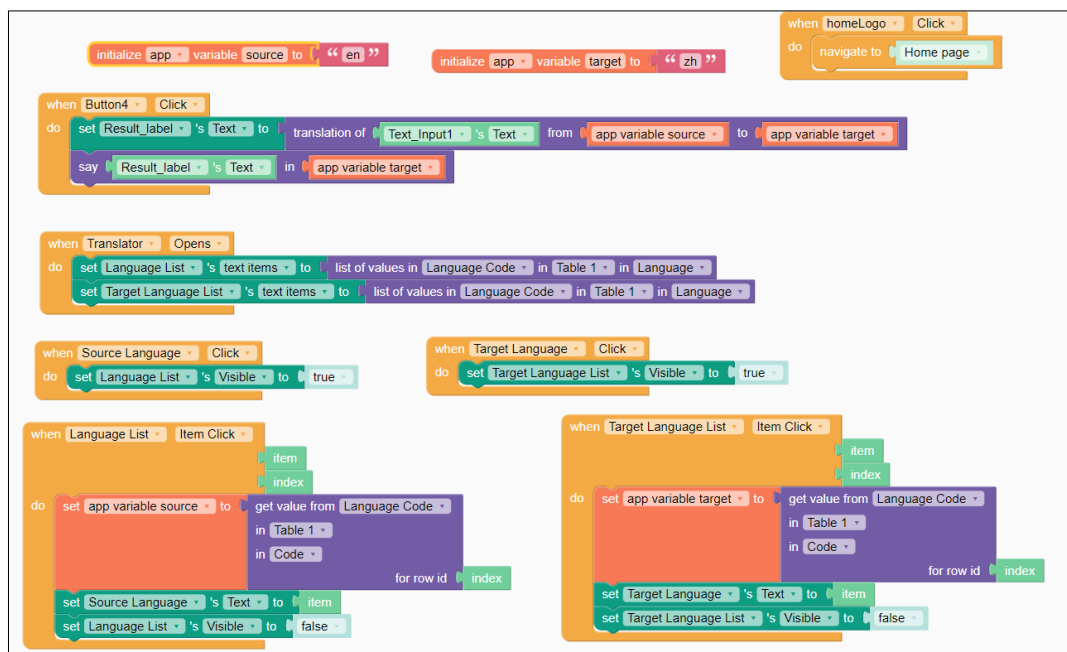
Figure 5.33 Add Data source
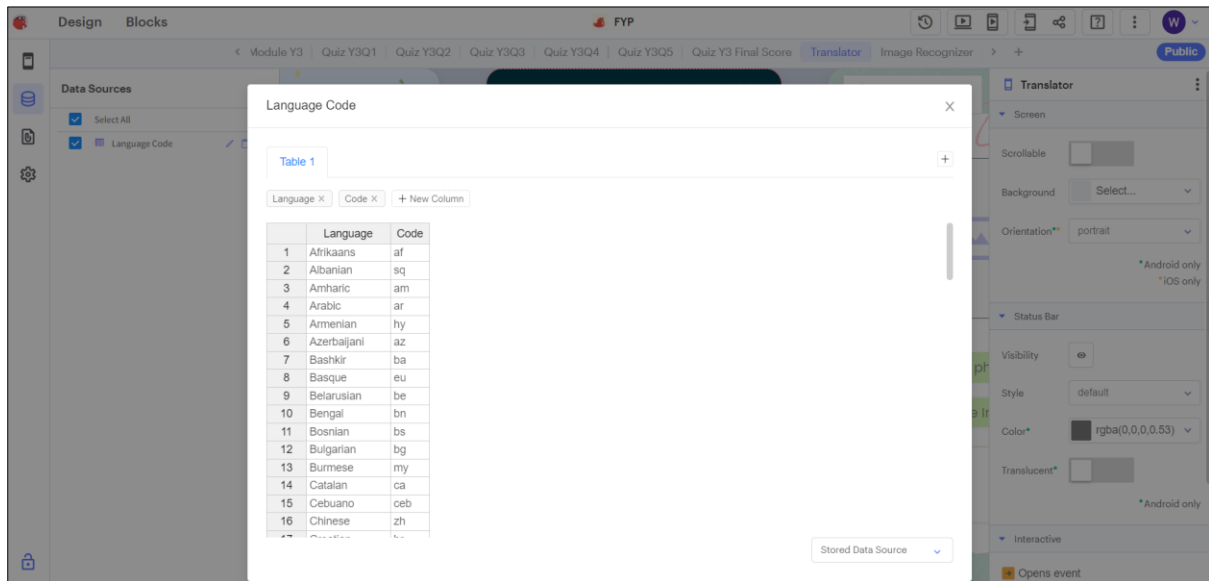
Figure 5.32 show add control for components to translate module. Firstly, import data source of language code for language list to set source language shown as Figure 5.33 add data source. Add function translate a given piece of text from Source Language to target Language and returns result. Then, set target language and set with text block.

CHAPTER 6 : SYSTEM EVALUATION AND DISCUSSION

6.1 System Testing

The method of testing that used for this system is Uni Testing.

6.1.1 Landing page

Table 6.1 Landing page

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "Get Started" Animation	Navigate to Sign up and Login page	Same as expected	Successful

6.1.2 Sign up and Login page

Table 6.2 Sign up and Login page

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "Sign up" button	Navigate to Sign up page	Same as expected	Successful
2.	Click on "Login" button	Navigate to Login page	Same as expected	Successful

6.1.3 Sign up page

Table 6.3 Sign up page

No.	Test Field	Expected Outcome	Actual Result	Status
1	Enter text to email text input	Able to enter email address	Same as expected	Successful
2.	Enter password to password text input	Able to enter password and make secure text entry	Same as expected	Successful
3	Click on "Login" button	Navigate to Home page	Same as expected	Successful
4	Click on "Login here!" button	Navigate to Login page	Same as expected	Same as expected

6.1.4 Login page

Table 6.4 Login page

No.	Test Field	Expected Outcome	Actual Result	Status
1	Enter text to email text input	Able to enter email address	Same as expected	Successful
2.	Enter password to password text input	Able to enter password and make secure text entry	Same as expected	Successful
3	Click on "Login" button	Navigate to Home page	Same as expected	Successful
4	Click on "Sign up here!" button	Navigate to Sign up page	Same as expected	Same as expected

6.1.5 Home Page

Table 6.5 Home page

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "Lesson" button	Navigate to Selection Grade page for Lesson Module	Same as expected	Successful
2.	Click on "Practice" button	Navigate to Selection Grade page for Practice Module	Same as expected	Successful
3	Click on "Quiz" button	Navigate to Selection Grade page for Quiz Module	Same as expected	Successful
4	Click on "Picture Perfect English" button	Navigate to Images recognition Module	Same as expected	Successful
5	Click on "Translate" button	Navigate to Translate Module	Same as expected	Successful

6.1.6 Selection Grade Page for Lesson Module

Table 6.6 Selection Grade Page for Lesson Module

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "Year 1" button	Navigate to Chapter Menu for Year 1 Lesson	Same as expected	Successful
2.	Click on "Year 2" button	Navigate to Chapter Menu for Year 2 Lesson	Same as expected	Successful
3	Click on "Year 3" button	Navigate to Chapter Menu for Year 3 Lesson	Same as expected	Successful

6.1.7 Chapter Menu for Year 1 Lesson

Table 6.7 Chapter Menu for Year 1 Lesson

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on images "Chapter 1"	Navigate to Year 1 Chapter 1	Same as expected	Successful
2.	Click on images "Chapter 2"	Navigate to Year 1 Chapter 2	Same as expected	Successful
3	Click on images "Chapter 3"	Navigate to Year 1 Chapter 3	Same as expected	Successful
4	Click on images "Chapter 4"	Navigate to Year 1 Chapter 4	Same as expected	Successful
5	Click on "back to home" images	Navigate to home page	Same as expected	Successful
6	Click on "back" images	Navigate to Selection Grade Page for Lesson Module	Same as expected	Successful

6.1.8 Chapter Menu for Year 2 Lesson

Table 6.8 Chapter Menu for Year 2 Lesson

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on images "Chapter 5"	Navigate to Year 2 Chapter 5	Same as expected	Successful
2.	Click on images "Chapter 6"	Navigate to Year 2 Chapter 6	Same as expected	Successful
3	Click on images "Chapter 7"	Navigate to Year 2 Chapter 7	Same as expected	Successful
4	Click on images "Chapter 8"	Navigate to Year 2 Chapter 8	Same as expected	Successful
5	Click on images "Chapter 9"	Navigate to Year 2 Chapter 9	Same as expected	Successful
6	Click on "back to home" images	Navigate to home page	Same as expected	Successful
7	Click on "back" images	Navigate to Selection Grade Page for Lesson Module	Same as expected	Successful

6.1.9 Chapter Menu for Year 3 Lesson

Table 6.9 Chapter Menu for Year 3 Lesson

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on images "Chapter 1"	Navigate to Year 3 Chapter 1	Same as expected	Successful
2.	Click on images "Chapter 2"	Navigate to Year 3 Chapter 2	Same as expected	Successful
3	Click on images "Chapter 3"	Navigate to Year 3 Chapter 3	Same as expected	Successful
4	Click on images "Chapter 4"	Navigate to Year 3 Chapter 4	Same as expected	Successful
5	Click on "back to home" images	Navigate to home page	Same as expected	Successful
6	Click on "back" images	Navigate to Selection Grade Page for Lesson Module	Same as expected	Successful

6.1.10 Year 1 Chapter 1, Chapter 2, Chapter 3, Chapter 4

Table 6.10 Year 1 Chapter 1, Chapter 2, Chapter 3, Chapter 4

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "back to home" images	Navigate to home page	Same as expected	Successful
2	Click on "back" images	Navigate to Chapter Menu for Year 1 Lesson	Same as expected	Successful
3	Video	Can play	Same as expected	Successful
4	PDF reader	Can view	Same as expected	Successful

6.1.11 Year 2 Chapter 5, Chapter 6, Chapter 7, Chapter 8, Chapter 9

Table 6.11 Year 2 Chapter 5, Chapter 6, Chapter 7, Chapter 8, Chapter 9

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "back to home" images	Navigate to home page	Same as expected	Successful
2	Click on "back" images	Navigate to Chapter Menu for Year 2 Lesson	Same as expected	Successful

3	Video	Can play	Same as expected	Successful
4	PDF reader	Can view	Same as expected	Successful

6.1.12 Year 3 Chapter 1, Chapter 2, Chapter 3, Chapter 4

Table 6.12 Year 3 Chapter 1, Chapter 2, Chapter 3, Chapter 4

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "back to home" images	Navigate to home page	Same as expected	Successful
2	Click on "back" images	Navigate to Chapter Menu for Year 2 Lesson	Same as expected	Successful
3	Video	Can play	Same as expected	Successful

6.1.13 Selection Grade Page for Practice Module and Completed Practice Page

Table 6.13 Selection Grade Page for Practice Module and Completed Practice Page

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "Year 1" button	Navigate to Practice List Year 1	Same as expected	Successful
2.	Click on "Year 2" button	Navigate to Practice List Year 2	Same as expected	Successful
3	Click on "Year 3" button	Navigate to Practice List Year 3	Same as expected	Successful
4	Click on "back to home" button	Navigate to home page	Same as expected	Successful
5	Click on "back" images	Navigate to home page	Same as expected	Successful

6.1.14 Practice List Year 1

Table 6.14 Practice List Year 1

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "back to home" images	Navigate to home page	Same as expected	Successful
2	Click on "back" images	Navigate to Selection Grade Page for Practice Module	Same as expected	Successful

| 3 | List View of Chapter | Navigate to Chapter exercise respectively | Same as expected | Successful |

6.1.15 Practice List Year 2

Table 6.15 Practice List Year 2

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "back to home" images	Navigate to home page	Same as expected	Successful
2	Click on "back" images	Navigate to Selection Grade Page for Practice Module	Same as expected	Successful
3	List View of Chapter	Navigate to Chapter exercise respectively	Same as expected	Successful

6.1.16 Practice List Year 3

Table 6.16 Practice List Year 3

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "back to home" images	Navigate to home page	Same as expected	Successful
2	Click on "back" images	Navigate to Selection Grade Page for Practice Module	Same as expected	Successful
3	List View of Chapter	Navigate to Chapter exercise respectively	Same as expected	Successful

6.1.17 Year 1 Practice (Chapter 1, Chapter 2, Chapter 3, Chapter 4)

Table 6.17 Year 1 Practice (Chapter 1, Chapter 2, Chapter 3, Chapter 4)

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "back" images	Navigate to Practice List Year 1	Same as expected	Successful
2	Click on "Done" button	Navigate to Completed Practice Page	Same as expected	Successful
3	Click on "Correct" button	Sound effect and background color from grey change to green	Same as expected	Successful
4	Click on "Incorrect" button	Sound effect and background color from grey change to red	Same as expected	Successful

6.1.18 Year 2 Practice (Chapter 5, Chapter 6, Chapter 7, Chapter 8, Chapter 9)

Table 6.18 Year 2 Practice (Chapter 5, Chapter 6, Chapter 7, Chapter 8, Chapter 9)

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "back" images	Navigate to Practice List Year 2	Same as expected	Successful
2	Click on "Done" button	Navigate to Completed Practice Page	Same as expected	Successful
3	Click on "Correct" button	Sound effect and background color from grey change to green	Same as expected	Successful
4	Click on "Incorrect" button	Sound effect and background color from grey change to red	Same as expected	Successful

6.1.19 Year 3 Practice (Chapter 1, Chapter 2, Chapter 3, Chapter 4)

Table 6.19 Year 3 Practice (Chapter 1, Chapter 2, Chapter 3, Chapter 4)

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "back" images	Navigate to Practice List Year 3	Same as expected	Successful
2	Click on "Done" button	Navigate to Completed Practice Page	Same as expected	Successful
3	Click on "Correct" button	Sound effect and background color from grey change to green	Same as expected	Successful
4	Click on "Incorrect" button	Sound effect and background color from grey change to red	Same as expected	Successful

6.1.20 Selection Grade Page for Quiz Module

Table 6.20 Selection Grade Page for Quiz Module

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "Year 1" button	Navigate to Year 1 Quiz Start up Page	Same as expected	Successful
2.	Click on "Year 2" button	Navigate to Year 2 Quiz Start up Page	Same as expected	Successful
3	Click on "Year 3" button	Navigate to Year 3 Quiz Start up Page	Same as expected	Successful

6.1.21 Year 1 Quiz Start up Page and Final Score page

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Table 6.21 Year 1 Quiz Start up Page and Final Score page

No.	Test Field	Expected Outcome	Actual Result	Status
1	Enter text to username text input	Able to enter username	Same as expected	Successful
2.	Enter grade to grade text input	Able to enter grade	Same as expected	Successful
3	Click on "back to home" images	Navigate to home page	Same as expected	Successful
4	Click on "Get Started" button	Navigate to Year 1 Quiz	Same as expected	Successful
5	Click on "Done and back to Menu" button	Navigate to home page	Same as expected	Successful

6.1.22 Year 2 Quiz Start up Page and Final Score page

Table 6.22 Year 2 Quiz Start up Page and Final Score page

No.	Test Field	Expected Outcome	Actual Result	Status
1	Enter text to username text input	Able to enter username	Same as expected	Successful
2.	Enter grade to grade text input	Able to enter grade	Same as expected	Successful
3	Click on "back to home" images	Navigate to home page	Same as expected	Successful
4	Click on "Get Started" button	Navigate to Year 2 Quiz	Same as expected	Successful
5	Click on "Done and back to Menu" button	Navigate to home page	Same as expected	Successful

6.1.23 Year 3 Quiz Start up Page and Final Score page

Table 6.23 Year 3 Quiz Start up Page and Final Score page

No.	Test Field	Expected Outcome	Actual Result	Status
1	Enter text to username text input	Able to enter username	Same as expected	Successful
2.	Enter grade to grade text input	Able to enter grade	Same as expected	Successful
3	Click on "back to home" images	Navigate to home page	Same as expected	Successful

| 4 | Click on "Get Started" button | Navigate to Year 3 Quiz | Same as expected | Successful |
| 5 | Click on "Done and back to Menu" button | Navigate to home page | Same as expected | Successful |

6.1.24 Year 1 Quiz (Question 1, Question 2, Question 3, Question 4, Question 5)

Table 6.24 Year 1 Quiz (Question 1, Question 2, Question 3, Question 4, Question 5)

No.	Test Field	Expected Outcome	Actual Result	Status
1	Username	Able to display username	Same as expected	Successful
2	Score	Able to view score that earned	Same as expected	Successful
3	Click on "Correct" button	Sound effect and background color from grey change to green then Navigate to next question	Same as expected	Successful
4	Click on "Incorrect" button	Sound effect and background color from grey change to red then Navigate to next question	Same as expected	Successful

6.1.25 Year 2 Quiz (Question 1, Question 2, Question 3, Question 4, Question 5)

Table 6.25 Year 2 Quiz (Question 1, Question 2, Question 3, Question 4, Question 5)

No.	Test Field	Expected Outcome	Actual Result	Status
1	Username	Able to display username	Same as expected	Successful
2	Score	Able to view score that earned	Same as expected	Successful
3	Click on "Correct" button	Sound effect and background color from grey change to green then Navigate to next question	Same as expected	Successful
4	Click on "Incorrect" button	Sound effect and background color from grey change to red then Navigate to next question	Same as expected	Successful

6.1.26 Year 3 Quiz (Question 1, Question 2, Question 3, Question 4, Question 5)

Table 6.26 Year 3 Quiz (Question 1, Question 2, Question 3, Question 4, Question 5)

No.	Test Field	Expected Outcome	Actual Result	Status

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1	Username	Able to display username	Same as expected	Successful
2	Score	Able to view score that earned	Same as expected	Successful
3	Click on "Correct" button	Sound effect and background color from grey change to green then Navigate to next question	Same as expected	Successful
4	Click on "Incorrect" button	Sound effect and background color from grey change to red then Navigate to next question	Same as expected	Successful

6.1.27 Image Recognition Module

Table 6.27 Image Recognition Module

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "back to home" images	Navigate to home page	Same as expected	Successful
2	Click on "take photo" button	Take the picture	Same as expected	Successful
3	Click on "Describe images" button	Show description the images	Same as expected	Successful

6.1.28 Translate Module

Table 6.28 Translate Module

No.	Test Field	Expected Outcome	Actual Result	Status
1	Click on "back to home" images	Navigate to home page	Same as expected	Successful
2	Click on "original text" button	Able to select original text language	Same as expected	Successful
3	Click on "translate text" button	Able to select translate text language	Same as expected	Successful
4	Click on "translate" button	Show translation text	Same as expected	Successful

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6.2 User Evaluation

6.2.1 Participants Background

Figure 6.1 Number of Participants
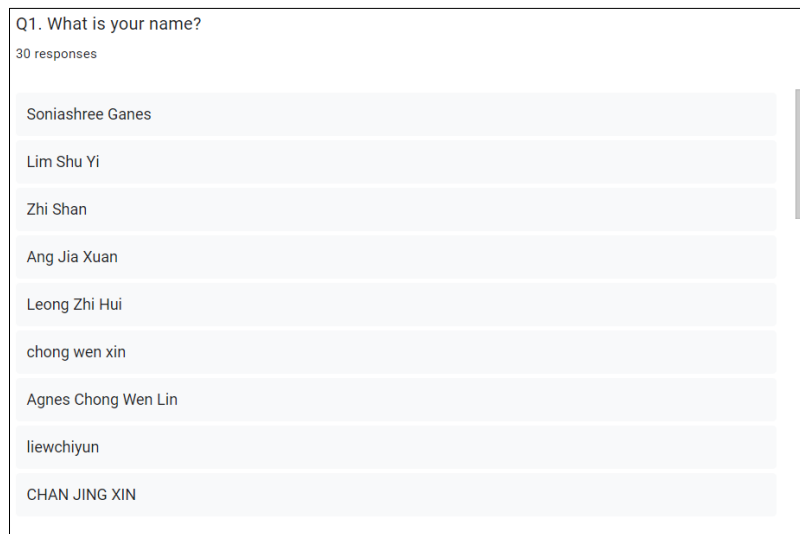
Figure 6.1 shows total number of participants who participated in this user testing survey of interactive multimedia courseware for primary school students to learn English Language. From Figure 6.1, there shown 30 respondents are participated this user testing survey for this software.

Figure 6.2 Respondent's age
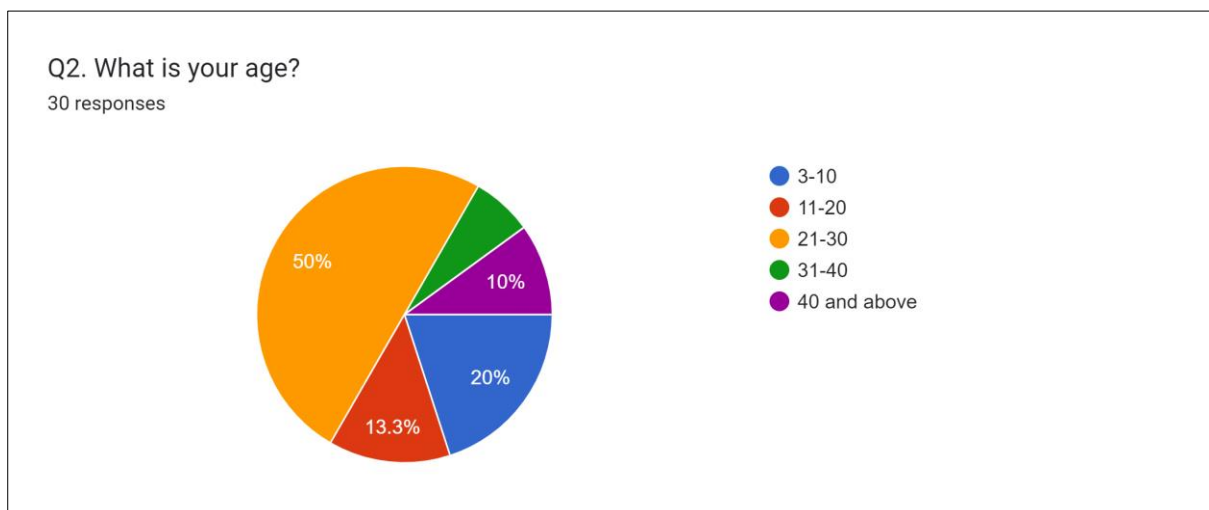
Figure 6.2 shown the respondent's age range in the user testing survey. From the pie chart, most of the respondent age is 21-30, comprising 15 out 30 respondents.

Figure 6.3 Respondent's occupation
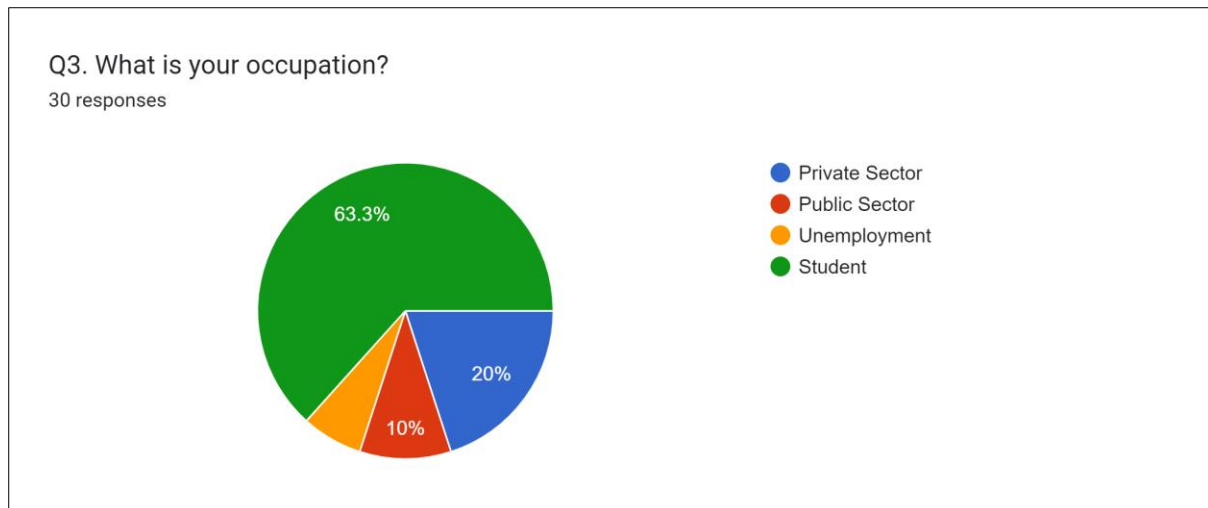
Figure 6.3 displayed occupation of participants in this user testing survey. From the pie chart, the dominant occupation category is student comprising a substantial majority of 19 out of 30 respondents. Furthermore, 6 respondents are affiliated with private sector and small number of respondent associate with public sector and unemployment.

Figure 6.4 Respondent's education level
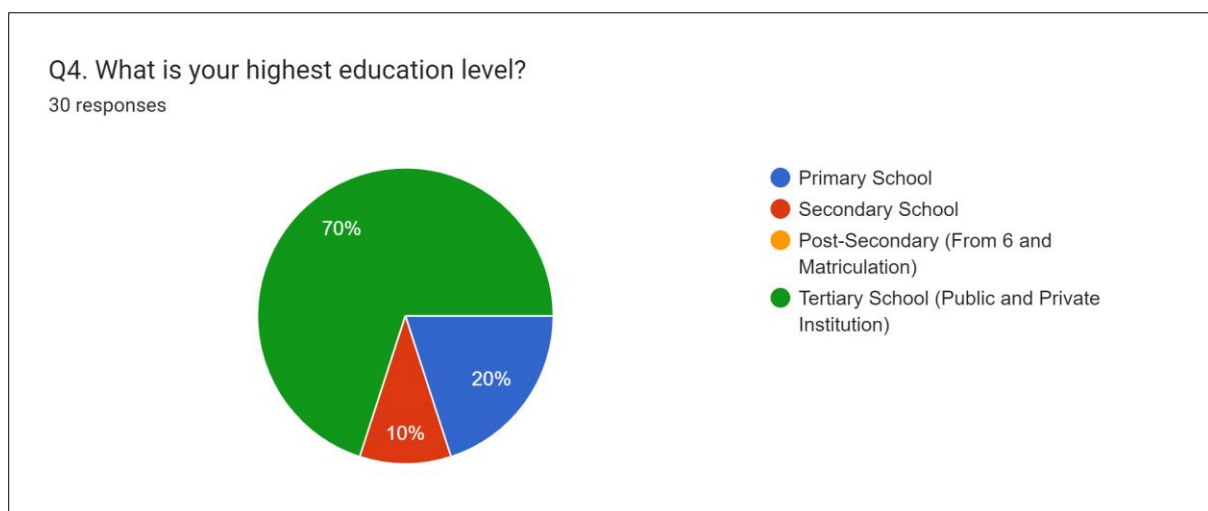
Figure 6.4 shown overview of the education level of the survey respondent. From the pie chart, the largest proportion of respondent, 21 out of 30 respondents have completed Tertiary school. Furthermore, 6 respondents have background of primary school and 3 respondents have background of secondary school.

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6.2.2 Courseware Evaluation

Figure 6.5 Difficulty level of navigate courseware
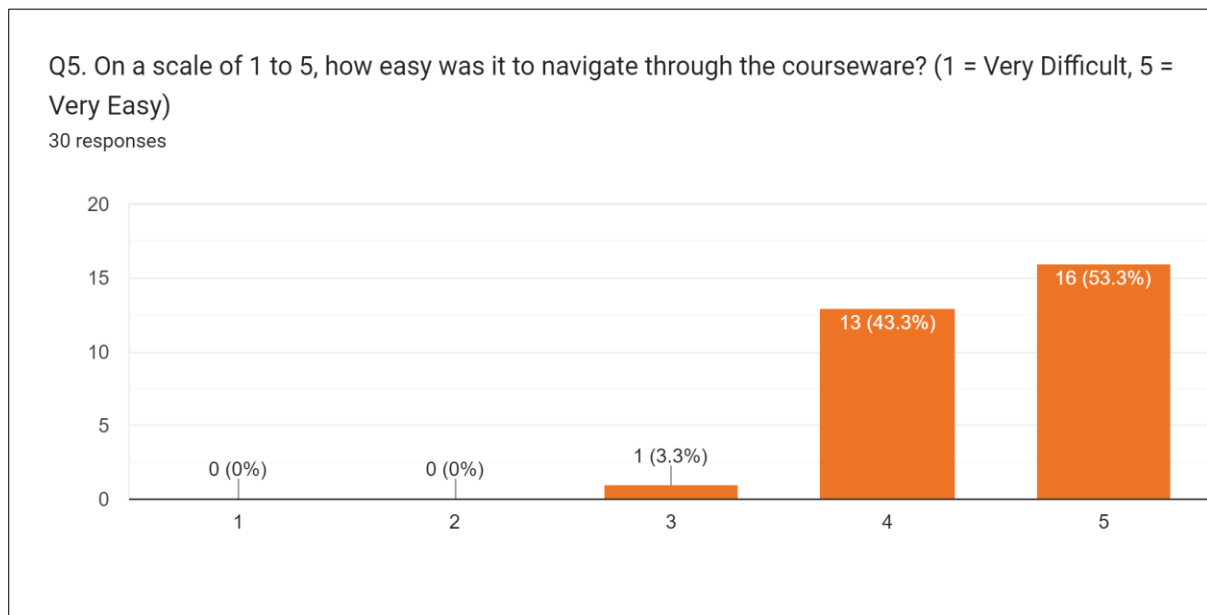
Figure 6.5 shown difficultly level of navigate courseware. From the result of bar graph, the majority of respondents which 16 respondents out of 30 indicated very easy navigate to the courseware. Besides, 13 respondents indicated somewhat easy to navigate to this courseware and 1 respondent indicated neutral.

Figure 6.6 Level of courseware engaging and interactive
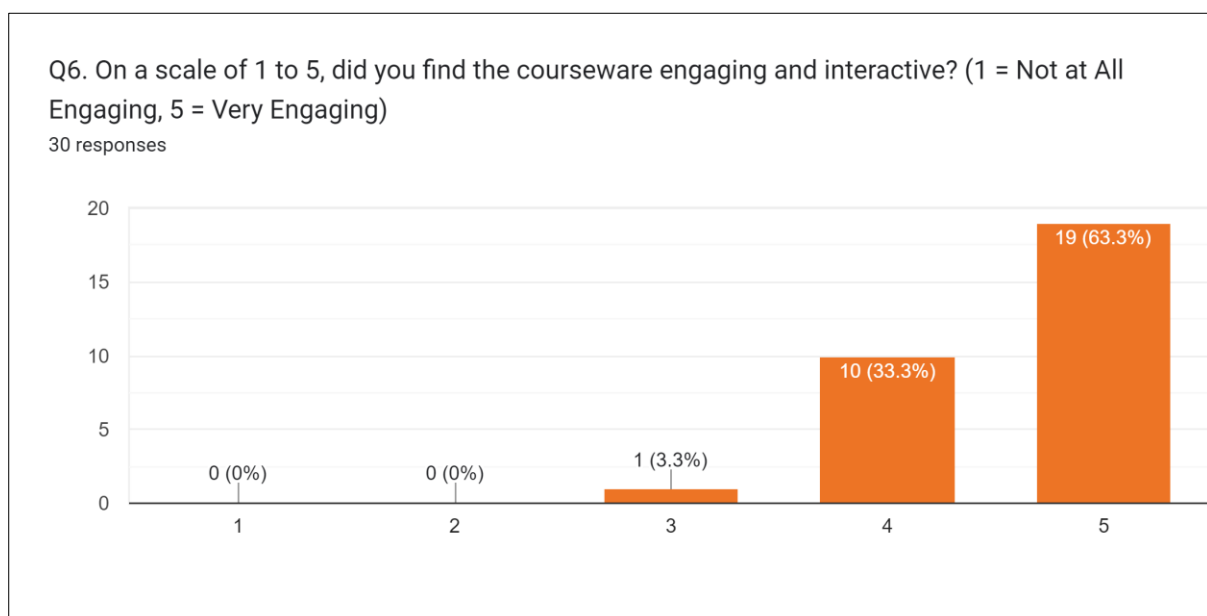
Figure 6.6 shown difficultly level of navigate courseware. From the result of bar graph, the majority of respondents which 19 out of 30 respondents indicated very engaging and interactive

for this courseware. Furthermore, 10 respondents indicated somewhat engaging and interactive to this courseware and 1 respondent indicated neutral.

Figure 6.7 Feature find most helpful or enjoyable
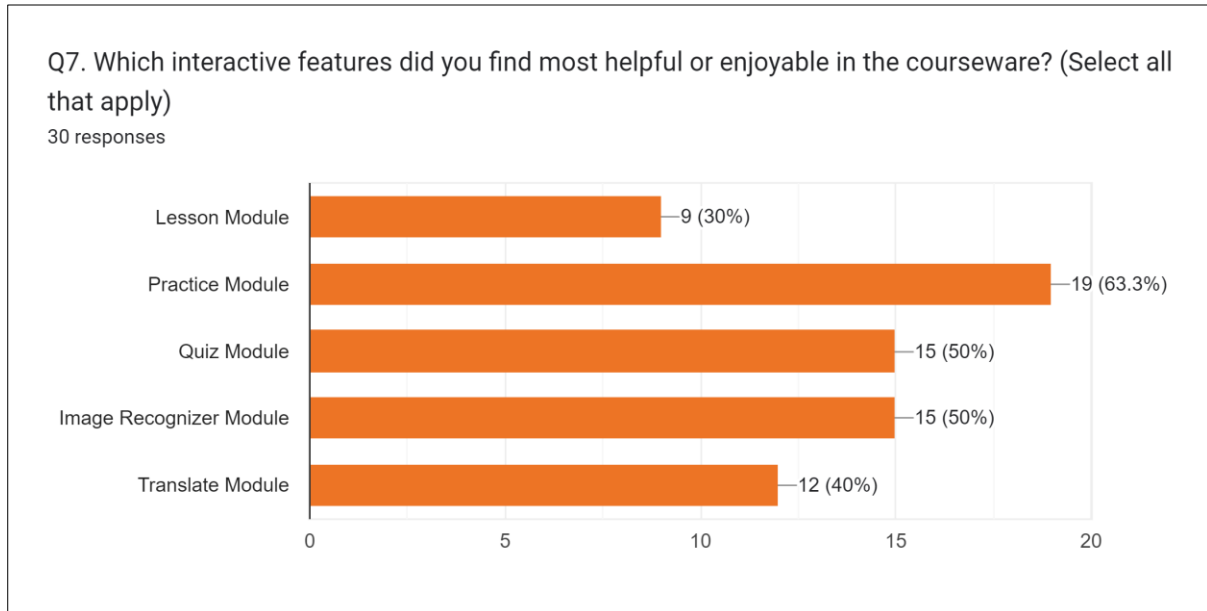
Figure 6.7 displayed result of interaction features that find most helpful or enjoyable in this courseware. Most of the respondents indicated that Practice Module are most interactive feature which 63.3% out 100%. Besides, Quiz Module and Image Recognition Module also highly appreciated by respondents, which 50% respondents indicated that satisfaction with these features. Furthermore 40% of respondents also satisfied for Translate module.

Figure 6.8 Result of visuals and graphics appealing and appropriate for grade 1, 2, 3

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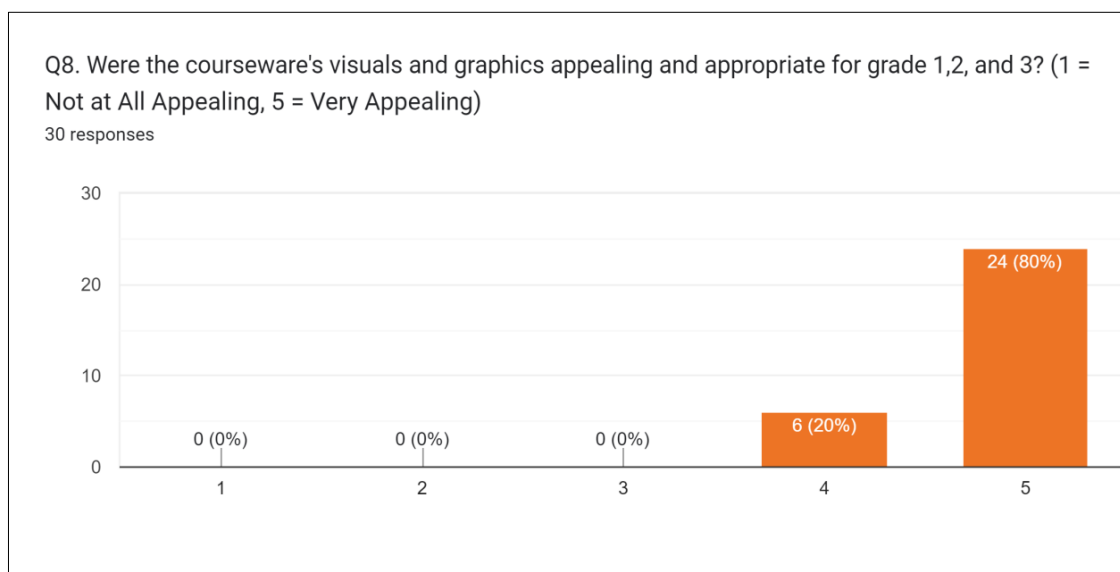
Figure 6.8 shown that the result of appeal of courseware visuals and graphics appealing and appropriate for grade 1, 2, 3. From the bar graph, 24 respondents indicated very appealing and appropriate for grade 1, 2, 3. Besides, there have small numbers of respondents which 6 respondents indicated somewhat appealing and no respondents indicated not appealing.

Figure 6.9 Quality of learning material
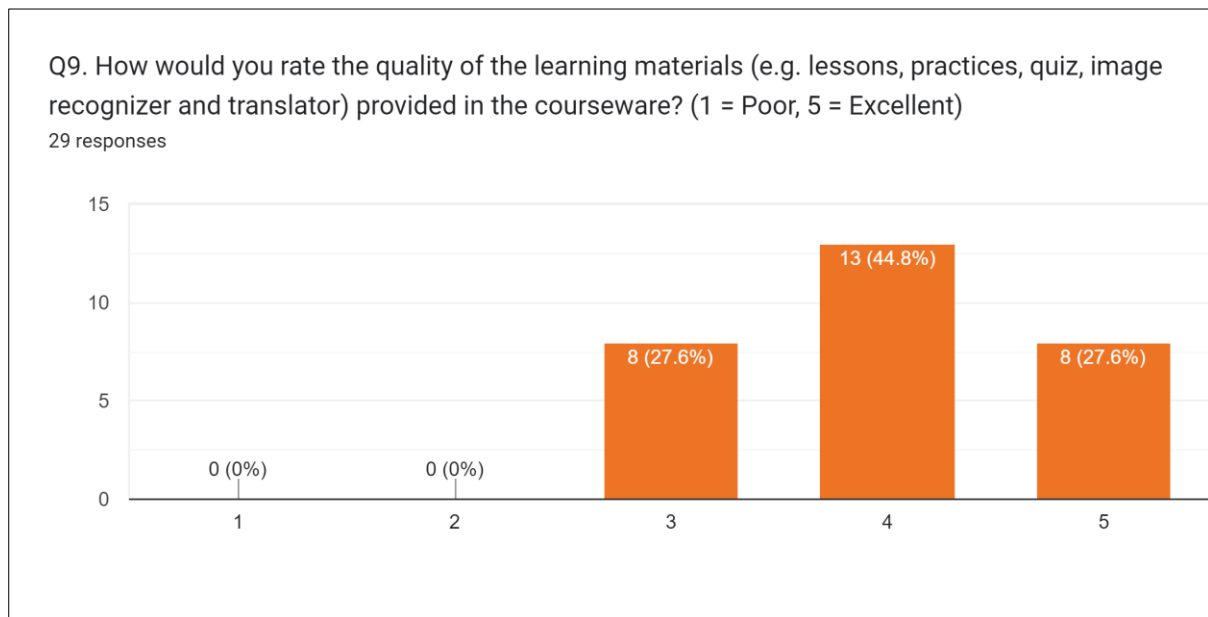
Figure 6.9 shown that the result of rating the quality of the learning material for this system. From the bar graph, most of the respondents, which 13 out of 30 respondents indicated that very good for the quality of learning material. Besides, there have 8 response indicates excellent and another 8 respondents indicated Good. There have no respondents indicated rated poor and fair.

Figure 6.10 Satisfied level for overall content and learning experience

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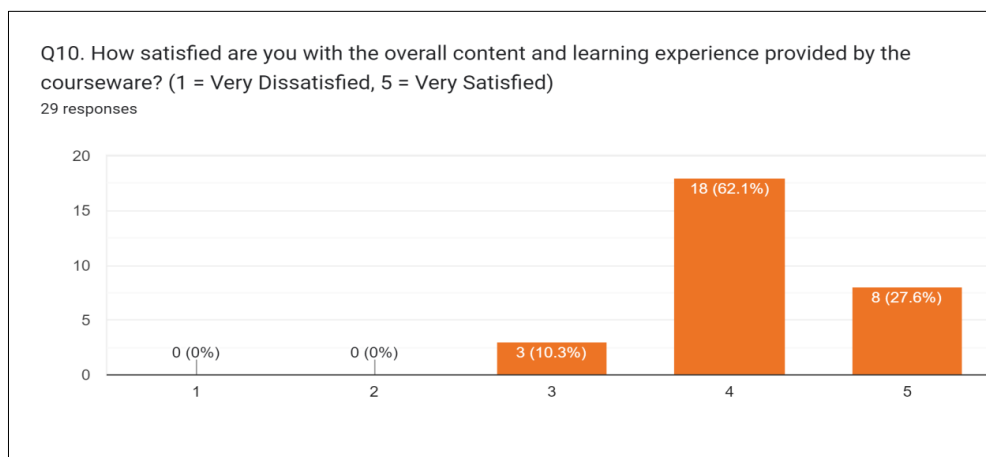
Figure 6.10 shows the result of satisfied level for overall content and learning experience. From the bar graph, most of the respondents, which 18 out of 30 respondents indicated satisfied for content and learning experience and 3 respondents indicate neutral. Furthermore, there have 8 respondents indicated satisfied with overall content and learning experience for this courseware.

Figure 6.11 Recommend software in future
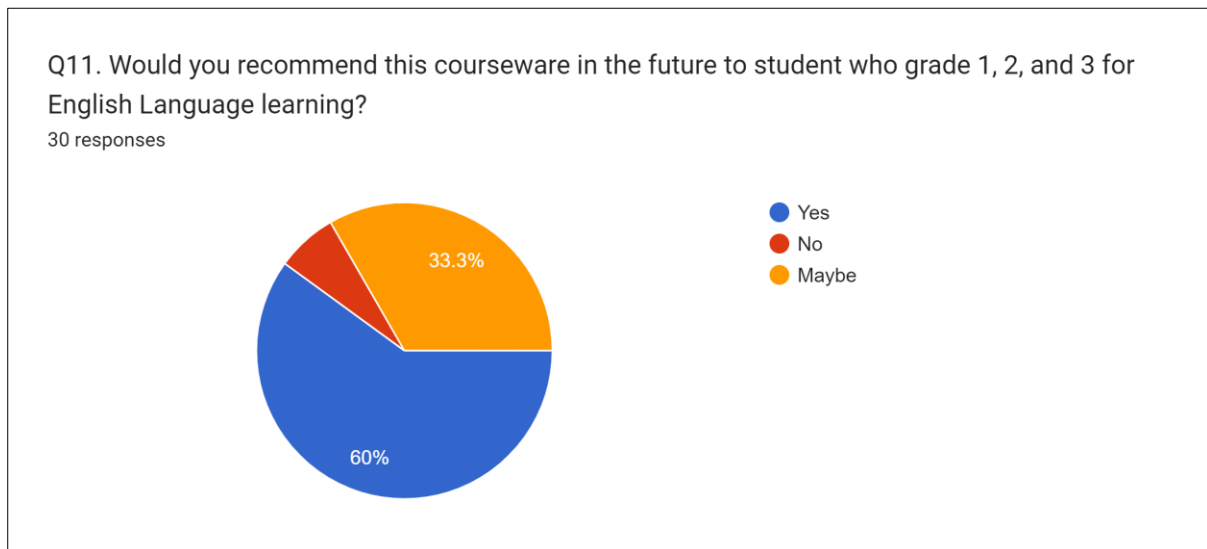
From the result of the pie chart, the largest proportion of respondent which 18 out of 30 will recommend courseware in the future for grade 1, 2, 3 students. Also, 10 respondents indicated maybe recommend courseware in the future for grade 1, 2, 3 students.

Figure 6.12 Overall user experience
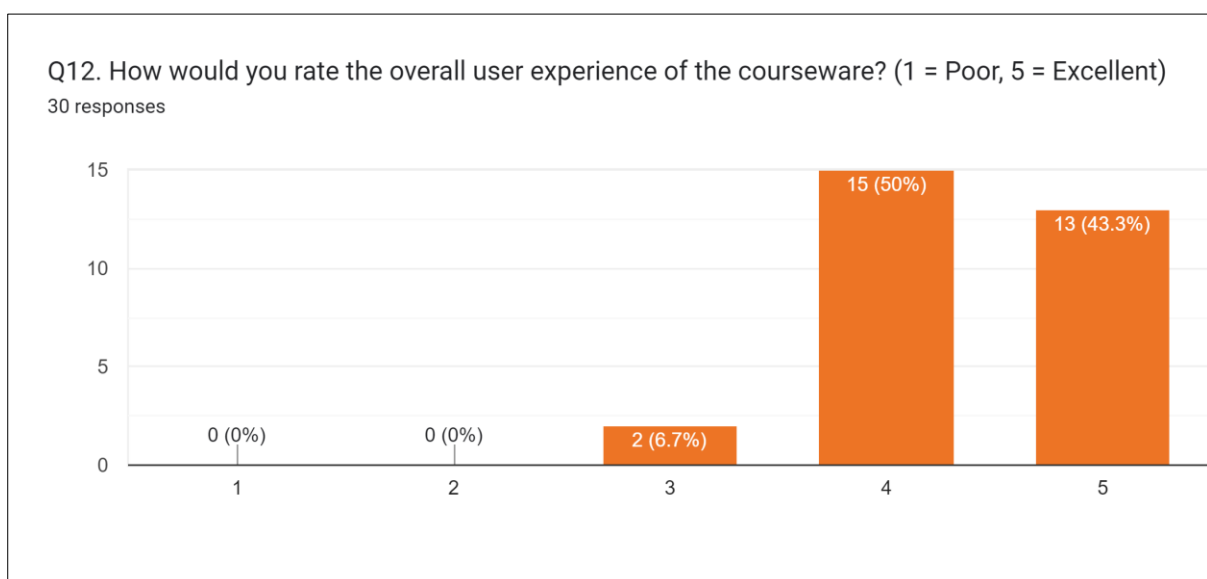
From the bar graph, there shown half of the respondents, which 15 out of 30 respondents indicated that very good for overall user experience. Besides, there have 13 respondents indicates excellent for overall user experience. Also, 2 respondents indicated good and no respondents indicated rated poor and fair.

Figure 6.13 Issue for the courseware

Figure 6.13 shows only 17 respondents indicated that there have no technical issues while using this courseware.

Figure 6.14 Suggestion for improvement

Figure 6.14 shown the suggestion for improvement courseware from respondents. From the result, approximately half of those surveyed did not comment on this question. Some of the respondents indicated that learning material could improve.

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6.3 Project Challenges

There are several issues faced by author during development stage of the proposed system. First of all, an author faced a critical challenge due to insufficient storage capacity on the development platform that used to develop courseware. It is because the platform is highly limited to provide storage to store media file on the platform. To develop this courseware, an author requires various media files such as images, video, and documents and lead to require large of storage to store media file. In order to get more storage, an author require subscribe payment plan to unlock more storage. Due to this action may lead to costs incurred and try another method to save storage such as upload some large file of video to "Cloudinary" and remove used media file from platform local storage.

After completed development stage, an author also faced problem of publish software. Publish a software to android app or web app also require subscribe payment plan to unlock this feature. This problem may cause software unable to display on mobile phone. An author can view the app through live testing.

Furthermore, there also have occur error when using google Firebase to create firebase sign up and login which user can login through sign up page and unable login through login page. This issue occurs due to the reasons of control block for sign up and login page did not set up correctly. In short, an author requires deeper understanding of the platform and tools being used for this project development to overcome these problems.

CHAPTER 7 : CONCLUSION

7. 1 Conclusion

To sum up, an interactive English Learning platform is developed for student between the age of seven and nine. An interactive English Learning platform have included 5 module which are lesson module, practice module, quiz module, image recognition module and translate module. This 5-module able to increase student' interest in learning English, improve proficiency English level of student and allows student self-learning to enhance knowledge.

Besides, ADDIE model was selected to develop this project. There are 5 phases that have been covered which are Analysis phase, Development phase, Design phase, Implementation phase and Evaluation phase. By using this development method, an author able to complete this project on time.

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APPENDIX

Appendix A: User Evaluation Survey Question and Result Graphs

Q1. What is your name?

30 responses

Soniashree Ganes

Lim Shu Yi

Zhi Shan

Ang Jia Xuan

Leong Zhi Hui

chong wen xin

Agnes Chong Wen Lin

liewchiyun

CHAN JING XIN

Q2. What is your age?

30 responses

- 3-10
- 11-20
- 21-30
- 31-40
- 40 and above

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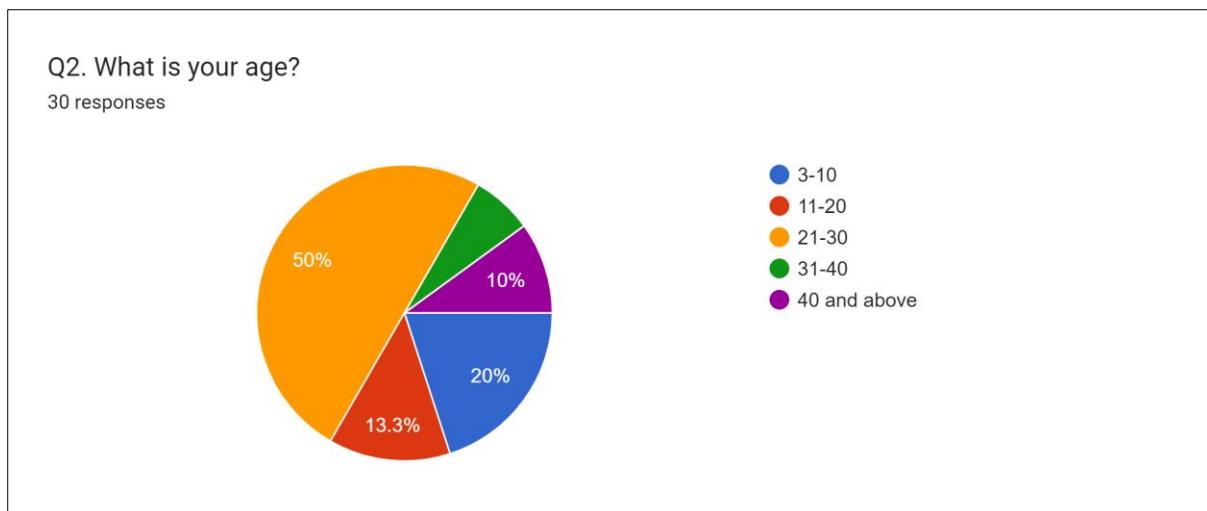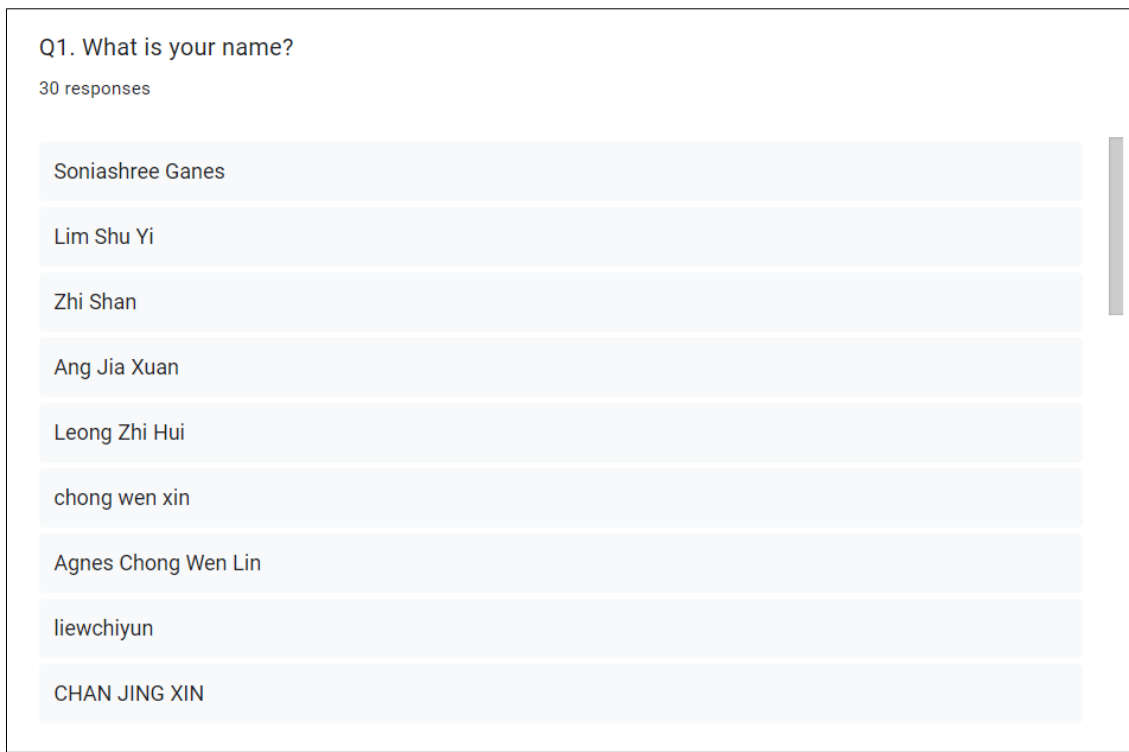
APPENDIX

Q3. What is your occupation?
30 responses

- ● Private Sector
- ● Public Sector
- ● Unemployment
- ● Student

63.3%
20%
10%
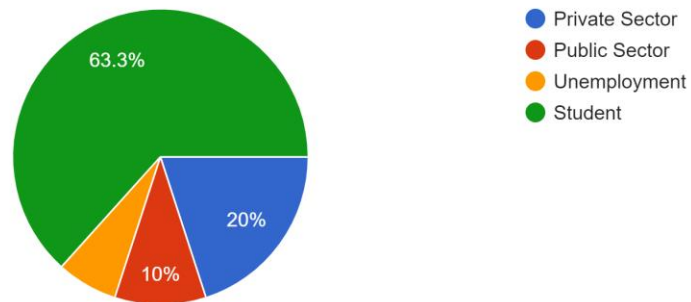
Q4. What is your highest education level?
30 responses

- ● Primary School
- ● Secondary School
- ● Post-Secondary (From 6 and Matriculation)
- ● Tertiary School (Public and Private Institution)

70%
20%
10%
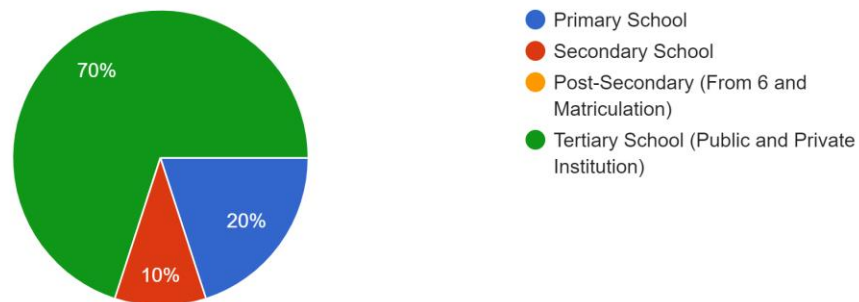
Q5. On a scale of 1 to 5, how easy was it to navigate through the courseware? (1 = Very Difficult, 5 = Very Easy)
30 responses

0 (0%) 0 (0%) 1 (3.3%) 13 (43.3%) 16 (53.3%)

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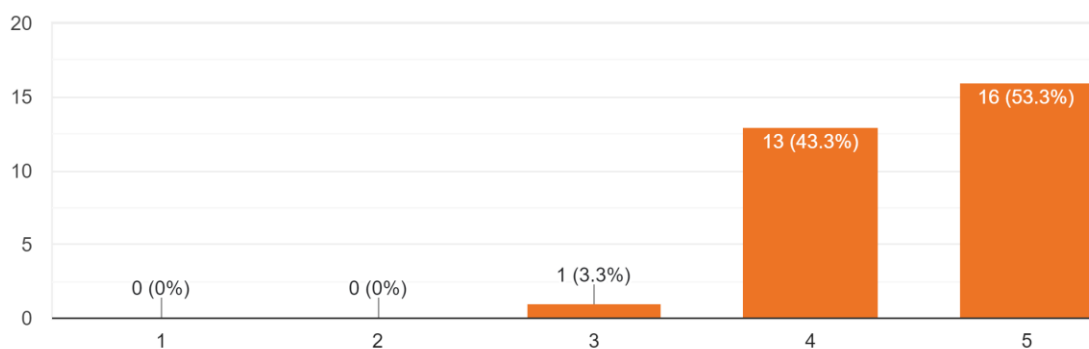
Q6. On a scale of 1 to 5, did you find the courseware engaging and interactive? (1 = Not at All Engaging, 5 = Very Engaging)

30 responses
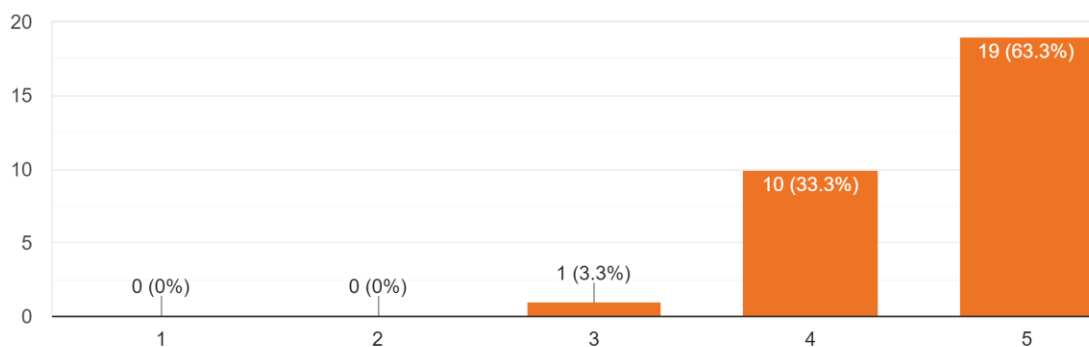
Q7. Which interactive features did you find most helpful or enjoyable in the courseware? (Select all that apply)

30 responses
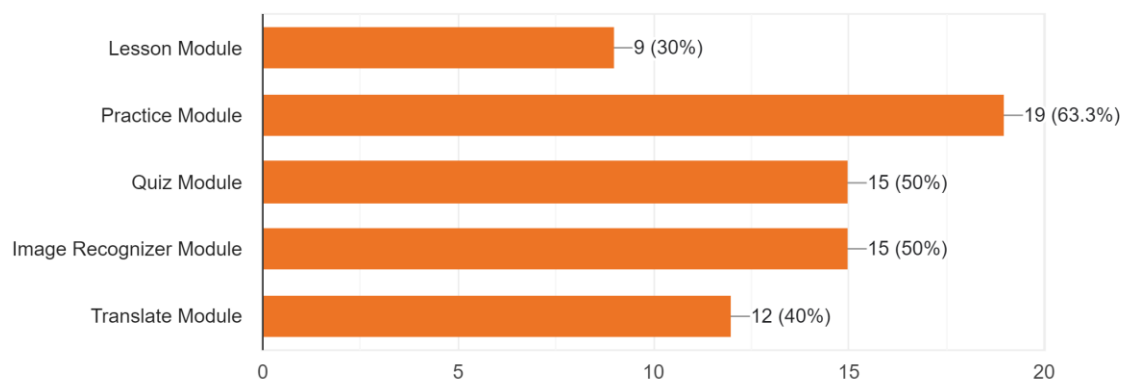
Q8. Were the courseware's visuals and graphics appealing and appropriate for grade 1,2, and 3? (1 = Not at All Appealing, 5 = Very Appealing)

30 responses

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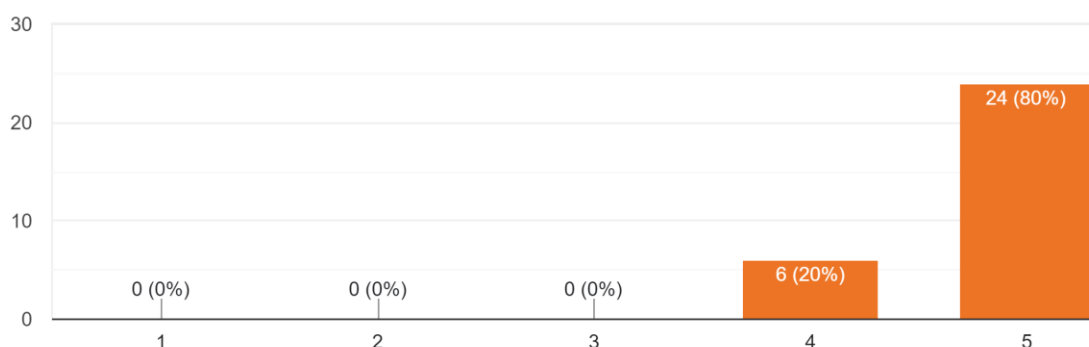
Q9. How would you rate the quality of the learning materials (e.g. lessons, practices, quiz, image recognizer and translator) provided in the courseware? (1 = Poor, 5 = Excellent)

29 responses
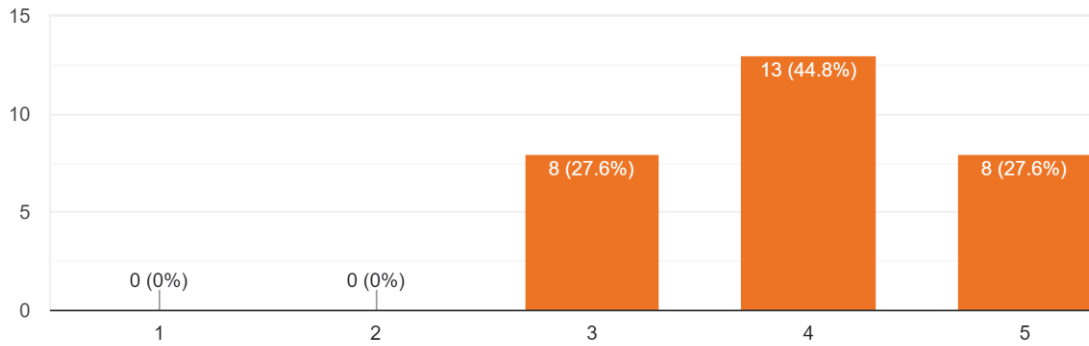
Q10. How satisfied are you with the overall content and learning experience provided by the courseware? (1 = Very Dissatisfied, 5 = Very Satisfied)

29 responses

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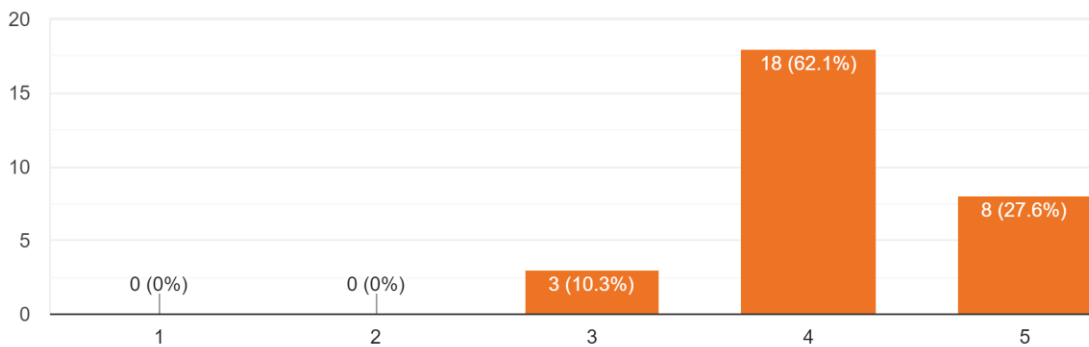
Q11. Would you recommend this courseware in the future to student who grade 1, 2, and 3 for English Language learning?

30 responses
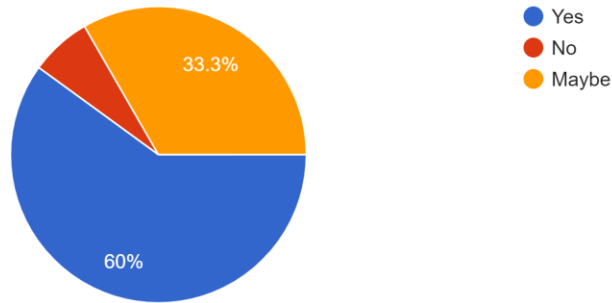
Q12. How would you rate the overall user experience of the courseware? (1 = Poor, 5 = Excellent)

30 responses
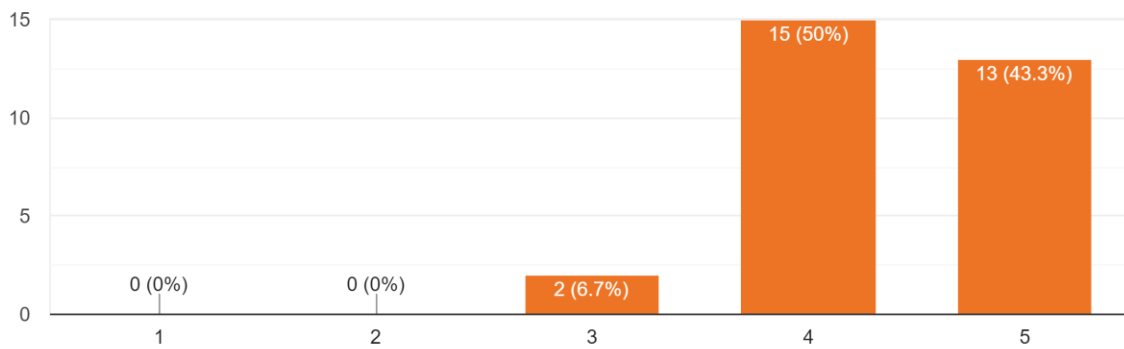
Q13. Did you encounter any technical issues while using the courseware? If yes, please describe:

17 responses

No

no

no, all can access

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APPENDIX

Q14. What aspects of the courseware do you think could be improved? (e.g. UX/UI, learning material)

7 responses

Learning material

learning material

no, overall is very nice

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FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Y3T4	**Study week no.:** 1
Student Name & ID: WONG WEI JIE, 1904686	
Supervisor: Ts Dr Tey Chee Chieh	
Project Title: An Interactive Multimedia Courseware for Primary School Student to Learning English Language	

---

1. WORK DONE
[Please write the details of the work done in the last fortnight.]

- FYP 2 report Chapter 1 and Chapter 2 are completed.

---

2. WORK TO BE DONE

- Practice Module for interactive English learning system.

---

3. PROBLEMS ENCOUNTERED

- Do not know how to enhance UI for Lesson Module, and create login interface by using Macromedia Director MX 2004.

---

4. SELF EVALUATION OF THE PROGRESS

- Continue to find another platform to development.

_____

Supervisor's signature

_____   _____

Student's signature

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FINAL YEAR PROJECT WEEKLY REPORT
(Project II)

Trimester, Year: Y3T4	**Study week no.:** 2
Student Name & ID: WONG WEI JIE, 1904686	
Supervisor: Ts Dr Tey Chee Chieh	
Project Title: An Interactive Multimedia Courseware for Primary School Student to Learning English Language	

1. WORK DONE
[Please write the details of the work done in the last fortnight.]

- Prepared images, animation, audio, video that involved in Practice Module

2. WORK TO BE DONE

- Proceed to set practice question for Year 1, Year 2, and Year 3

3. PROBLEMS ENCOUNTERED

- Do not know how to make layout of Practice Module look nicely.

4. SELF EVALUATION OF THE PROGRESS

- Continue to find another platform to development and take the time to go deeper function of Macromedia Director MX 2004.

_____
Supervisor's signature

_____ _____
Student's signature

86

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FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Y3T4	**Study week no.:** 3
Student Name & ID: WONG WEI JIE, 1904686	
Supervisor: Ts Dr Tey Chee Chieh	
Project Title: An Interactive Multimedia Courseware for Primary School Student to Learning English Language	

---

1. WORK DONE
[Please write the details of the work done in the last fortnight.]

- 5 questions for each Year have been draft.

---

2. WORK TO BE DONE

- Design UI of Practice Module for each Year.

---

3. PROBLEMS ENCOUNTERED

- Do not know how to make layout of Lesson Module look nicely.

---

4. SELF EVALUATION OF THE PROGRESS

- Continue to find another platform to development and take the time to go deeper function of Macromedia Director MX 2004.

_____   _____   _____
Supervisor's signature   Student's signature

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FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Y3T4	**Study week no.:** 4
Student Name & ID: WONG WEI JIE, 1904686	
Supervisor: Ts Dr Tey Chee Chieh	
Project Title: An Interactive Multimedia Courseware for Primary School Student to Learning English Language	

---

1. WORK DONE
[Please write the details of the work done in the last fortnight.]

- UI of Practice Module for Year1, Year2, Year3 have been completed designed.

2. WORK TO BE DONE

- Quiz Module for interactive English learning system.

3. PROBLEMS ENCOUNTERED

- Decide to switch development platform from Macromedia Director MX 2004 to Thunkable.

4. SELF EVALUATION OF THE PROGRESS

- Enhance UI of Practice Module for Year1, Year2, Year3.

_____

Supervisor's signature

_____ _____

Student's signature

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FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Y3T4	**Study week no.:** 5
Student Name & ID: WONG WEI JIE, 1904686	
Supervisor: Ts Dr Tey Chee Chieh	
Project Title: An Interactive Multimedia Courseware for Primary School Student to Learning English Language	

1. WORK DONE
[Please write the details of the work done in the last fortnight.]

- UI of Practice Module for Year1, Year2, Year3 have been completed designed

2. WORK TO BE DONE

- Transfer Lesson Module from Macromedia Director MX 2004 to Thunkable.
- Redesign UI of Lesson Module
- Resize the images and animation of Lesson Module

3. PROBLEMS ENCOUNTERED

- The size of images, animation that used in Macromedia Director MX 2004 Lesson Module are not suitable in Thunkable.

4. SELF EVALUATION OF THE PROGRESS

No progress

_____

Supervisor's signature

_____ _____

Student's signature

FINAL YEAR PROJECT WEEKLY REPORT
(Project II)

Trimester, Year: Y3T4	**Study week no.:** 6
Student Name & ID: WONG WEI JIE, 1904686	
Supervisor: Ts Dr Tey Chee Chieh	
Project Title: An Interactive Multimedia Courseware for Primary School Student to Learning English Language	

1. WORK DONE
[Please write the details of the work done in the last fortnight.]

- UI of Lesson Module Design has been completed designed.
- Images and animation resized.
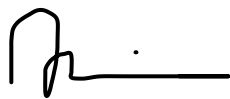
2. WORK TO BE DONE

- Integrate Practice Module by adding components and add control in Thunkable.
- Prepare image, video, audio and animation that require involved in Practice Module.

3. PROBLEMS ENCOUNTERED

4. SELF EVALUATION OF THE PROGRESS

- Completed Lesson Module

_____

Supervisor's signature

_____ _____

Student's signature

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FINAL YEAR PROJECT WEEKLY REPORT
(Project II)

Trimester, Year: Y3T4	**Study week no.:** 7
Student Name & ID: WONG WEI JIE, 1904686	
Supervisor: Ts Dr Tey Chee Chieh	
Project Title: An Interactive Multimedia Courseware for Primary School Student to Learning English Language	

1. WORK DONE
[Please write the details of the work done in the last fortnight.]

- Completed Lesson Module
- Prepared image, video, audio and animation that require involved in Practice Module.

2. WORK TO BE DONE

- Integrate Practice Module by adding components and add control in Thunkable.
- Proceed to Quiz Module

3. PROBLEMS ENCOUNTERED

4. SELF EVALUATION OF THE PROGRESS

- Practice Module has been completed

_____
Supervisor's signature

_____ _____
Student's signature

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FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Y3T4	**Study week no.:** 8
Student Name & ID: WONG WEI JIE, 1904686	
Supervisor: Ts Dr Tey Chee Chieh	
Project Title: An Interactive Multimedia Courseware for Primary School Student to Learning English Language	

1. WORK DONE
[Please write the details of the work done in the last fortnight.]

- Practice Module has been completed

2. WORK TO BE DONE

- Prepare image, video, audio, animation, sound effect that require involved in Quiz Module
- Design UI for Quiz Module

2   PROBLEMS ENCOUNTERED

- Do not know create how many quizzes.

4. SELF EVALUATION OF THE PROGRESS

- Quiz Module almost completed, left 2 modules

_____
Supervisor's signature

_____   _____
Student's signature

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FINAL YEAR PROJECT WEEKLY REPORT
(Project II)

Trimester, Year: Y3T4	**Study week no.:** 9
Student Name & ID: WONG WEI JIE, 1904686	
Supervisor: Ts Dr Tey Chee Chieh	
Project Title: An Interactive Multimedia Courseware for Primary School Student to Learning English Language	

---

1. WORK DONE
[Please write the details of the work done in the last fortnight.]

- UI design for Quiz module have been completed.
- Prepared image, video, audio, animation, sound effect that require involved in Quiz Module

2. WORK TO BE DONE

- Integrate Quiz Module by adding components and add control in Thunkable.
- Process to Image recognition Module.

3. PROBLEMS ENCOUNTERED

4. SELF EVALUATION OF THE PROGRESS

- Quiz Module has been completed

_____
Supervisor's signature

_____
Student's signature

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FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Y3T4	**Study week no.:** 10
Student Name & ID: WONG WEI JIE, 1904686	
Supervisor: Ts Dr Tey Chee Chieh	
Project Title: An Interactive Multimedia Courseware for Primary School Student to Learning English Language	

1. WORK DONE
[Please write the details of the work done in the last fortnight.]

- Quiz Module has been completed

2. WORK TO BE DONE

- Prepare image, video, audio, animation, sound effect that require involved in Image Recognition Module and Translate Module
- Integrate Image Recognition Module and Translate Module by adding components and add control in Thunkable.

3. PROBLEMS ENCOUNTERED

4. SELF EVALUATION OF THE PROGRESS

- Images Recognition Module completed

_____
Supervisor's signature

_____ _____ _____
Student's signature

FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

94

Trimester, Year: Y3T4	**Study week no.:** 11
Student Name & ID: WONG WEI JIE, 1904686	
Supervisor: Ts Dr Tey Chee Chieh	
Project Title: An Interactive Multimedia Courseware for Primary School Student to Learning English Language	

1. WORK DONE
[Please write the details of the work done in the last fortnight.]

- Prepared image, video, audio, animation, sound effect that require involved in Translate Module
- Integrate Image Recognition Module by adding components and add control in Thunkable.

2. WORK TO BE DONE

- Manual Testing for the whole system

3. PROBLEMS ENCOUNTERED

4. SELF EVALUATION OF THE PROGRESS

- Translate Module Completed

_____
Supervisor's signature

_____ _____
Student's signature

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FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Y3T4	**Study week no.:** 12
Student Name & ID: WONG WEI JIE, 1904686	
Supervisor: Ts Dr Tey Chee Chieh	
Project Title: An Interactive Multimedia Courseware for Primary School Student to Learning English Language	

1. WORK DONE
[Please write the details of the work done in the last fortnight.]

- Lesson Module, Translate Module, Image Recognition Module has been tested
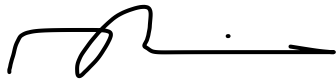
2. WORK TO BE DONE

- Prepared FYP2 report

3. PROBLEMS ENCOUNTERED

4. SELF EVALUATION OF THE PROGRESS

- System completed

_____

Supervisor's signature

_____ _____

Student's signature

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An Interactive Multimedia Courseware For Primary School Student Learning English Language

KIDS

INTRODUCTION

- Interactive multimedia courseware for student age between 7-9
- Included text, video, animation, and audio

OUR SCOPE

- Lesson
- Quiz
- Practice
- Image Recognition
- Translate

OBJECTIVE

-To increase student' interest in learning English
-To improve proficiency English level of student
-To allows student self-learning to enhance knowledge

Register Now !

- ✓ Easy to navigate
- ✓ Interactive learning material
- ✓ Free register
- ✓ Video Teaching

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PLAGIARISM CHECK RESULT

Final Year Project

ORIGINALITY REPORT

17%	**15**%	**2**%	**8**%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

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3	programsolve.com Internet Source	**1**%
4	www.epubbud.com Internet Source	**1**%
5	www.wattpad.com Internet Source	**1**%
6	Submitted to Jose Rizal University Student Paper	<**1**%
7	Submitted to First City University College Student Paper	<**1**%
8	Submitted to Multimedia University Student Paper	<**1**%
9	text.egwwritings.org Internet Source	<**1**%

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Universiti Tunku Abdul Rahman			
Form Title : Supervisor's Comments on Originality Report Generated by Turnitin for Submission of Final Year Project Report (for Undergraduate Programmes)			
Form Number: FM-IAD-005	Rev No.: 0	Effective Date: 01/10/2013	Page No.: 1of 1

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY

Full Name(s) of Candidate(s)	WONG WEI JIE
ID Number(s)	19ACB04686
Programme / Course	IB
Title of Final Year Project	An Interactive Multimedia Courseware for Primary School Student to Leaning English

Similarity	**Supervisor's Comments (Compulsory if parameters of originality exceeds the limits approved by UTAR)**
Overall similarity index:___17_____ % **Similarity by source** Internet Sources: _____15_____% Publications: _____2_____ % Student Papers: _____8_____ %	
Number of individual sources listed of more than 3% similarity: _0_____	

Parameters of originality required and limits approved by UTAR are as Follows:
  (i)   Overall similarity index is 20% and below, and
  (ii) Matching of individual sources listed must be less than 3% each, and
  (iii) Matching texts in continuous block must not exceed 8 words
Note: Parameters (i) – (ii) shall exclude quotes, bibliography and text matches which are less than 8 words.		

Note Supervisor/Candidate(s) is/are required to provide softcopy of full set of the originality report to Faculty/Institute

Based on the above results, I hereby declare that I am satisfied with the originality of the Final Year Project Report submitted by my student(s) as named above.

_____
Signature of Supervisor

Name:_Teng Chee Chieh_____

Date:_15 sept 23_____

_____
Signature of Co-Supervisor

Name: _____

Date: _____

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UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF INFORMATION & COMMUNICATION TECHNOLOGY
(KAMPAR CAMPUS)
CHECKLIST FOR FYP2 THESIS SUBMISSION

Student Id	19ACB04686
Student Name	WONG WEI JIE
Supervisor Name	Ts Dr Tey Chee Chieh

TICK (√)	DOCUMENT ITEMS Your report must include all the items below. Put a tick on the left column after you have checked your report with respect to the corresponding item.
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√	Signed Report Status Declaration Form
√	Signed FYP Thesis Submission Form
√	Signed form of the Declaration of Originality
√	Acknowledgement
√	Abstract
√	Table of Contents
√	List of Figures (if applicable)
√	List of Tables (if applicable)
√	List of Symbols (if applicable)
√	List of Abbreviations (if applicable)
√	Chapters / Content
√	Bibliography (or References)
√	All references in bibliography are cited in the thesis, especially in the chapter of literature review
√	Appendices (if applicable)
√	Weekly Log
√	Poster
√	Signed Turnitin Report (Plagiarism Check Result - Form Number: FM-IAD-005)
√	I agree 5 marks will be deducted due to incorrect format, declare wrongly the ticked of these items, and/or any dispute happening for these items in this report.

*Include this form (checklist) in the thesis (Bind together as the last page)

I, the author, have checked and confirmed all the items listed in the table are included in my report.

_____ _____
(Signature of Student)
Date: 15 September 2023

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