# AN INTERACTIVE BOOK OF KOREAN LANGUAGE



## UNIVERSIT TEKNIKAL MALAYSIA MELAKA

## BORANG PENGESAHAN STATUS LAPORAN

# JUDUL : AN INTERACTIVE BOOK OF KOREAN LANGUAGE

## SESI PENGAJIAN: SEMESTER 2

Saya: JAU TERN JIAN (B031920024)

mengaku membenarkan tesis Projek Sarjana Muda in disimpan d Perpustakaan Universiti Teknikal Malaysia Melaka dengan syarat-syarat kegunaan seperti berikut:

- 1. Tesis dan peojek adalah hak milik Universiti Teknikal Malaysia Melaka.
- 2. Perputakaan Fakulti Teknologi Maklumat dan Komunikasi dibenarkan membuat Salinan untuk tujuan pengajian sahaja.
- 3. Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dibenarkan membuat Salinan tesis ini sebagai bahan petukaran antara institutsi pengajian tinggi.
- 4. \*Sila tandakan (✓)

5.

tandakan (✓)	E	
H		
E. B. B. B.	SULIT	(Mengandung maklumat yang berdarjah keselamatan atau kepentingan Malaysia seperti yang termaktub d dalam AKTA RAHSIA RASM
etst.		1972)
	TERHAD	(Mengandung maklumat TERHAD yang telah ditentukan oleh organisasi / badan d mana
UNIVER	SITI TEKNI	KAL MALAYSIA MELAKA
$\checkmark$	TIDAK TERHAD	(mf Shizan_
An	/	AHMAD SHAARIZAN BIN SHAARANI Ketua Bahagian Pembangunan e-kandungan Asli Pusat Sumber Dan Teknologi Pengajaran

(TANDATANGAN PELAJAR)

Alamat Tetap: C119, LORONG SINGA 1, TAMAN SIN HOE, BUKIT BARU, 75150, MELAKA. Pembangunan e-kandungan Asli Pembangunan e-kandungan Asli Pusat Sumber Dan Teknologi Pengajaran Universiti Teknikal Malaysia Melaka

(TANDATANGAN PENYELIA)

## TS AHMAD SHAARIZAN BIN SHAARANI

NAMA PENYELIA

Tarikh: <u>3 September 2021</u>

Tarikh: <u>3 September 2021</u>

# AN INTERACTIVE BOOK OF KOREAN LANGUAGE



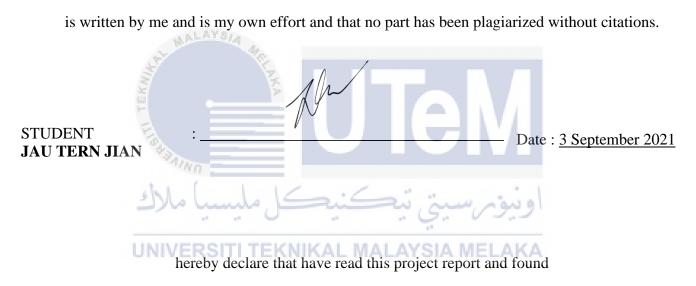
This report is submitted in partial fulfilment of the requirements for the Bachelor of Computer Science Interactive Media with Honours.

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY UNIVERSIT TEKNIKAL MALAYSIA MELAKA 2021/2021

## **DECLARATION**

Hereby declare that this project report entitled

## AN INTERACTIVE BOOK OF KOREAN LANGUAGE



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

Science Interactive Media with Honours.

AHMAD SHAARIZAN BIN SHAARANI Ketua Bahagian Pembangunan e-kandungan Asli Pusat Sumber Dan Teknologi Pengajaran Universiti Teknikal Malaysia Melaka

Date : <u>3 September 2021</u>

### **DEDICATION**

This report is dedicated to my beloved and supportive parents and also other family members, who give me support and sharing their experience to enable me to reach at this level.

WALAYSIA

Also, this report is dedicated to my supervisor, Mr Ahmad Shaarizan Shaarani, who has been assist me along with the journey of Final Year Project.

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

### ACKNOWLEDGEMENTS

First and foremost, I'd want to express my heartfelt appreciation to God for allowing me to complete this endeavour without a hitch while also providing me with excellent health.

Second, I'd want to thank my supervisor, Mr. Ahmad Shaarizan, for all his help and advice during the project's growth.

Finally, I'd want to thank my loving family members, especially my parents, for their financial support and contribution to my educational path. All of their advice and assistance is absolutely invaluable and extremely beneficial to both my educational path and my future.

Thank you very much. ونيوم سيني تيڪنيڪل مليسيا ملال

**UNIVERSITI TEKNIKAL MALAYSIA MELAKA** 

#### ABSTRACT

Interactive Book of Korean Language is a multimedia content textbook that was designed and implement to resolve issues encountered by both students and lecturers during the learning and teaching processes. Learning is difficult, especially when it comes to Korean languages, because there are several levels to this subject, including vowels, consonants, combinations of both vowels and consonants, writing order, and so on. The majority of students are unfamiliar with the subject, and some students may find it difficult to comprehend. As a result, creating an interactive ebook could be a good solution to the problem. The interactive ebook includes a variety of multimedia elements that help students learn and understand more effectively. This interactive ebook can also assist lecturers in piquing students' interest in the subject, as a lack of interest will result in student absences from class. These textbooks provide multimedia elements such as audio, video, quizzes, images and much more. The platform used for developing this project is by using Adobe InDesign, Adobe Photoshop, Illustrator, Premiere Pro, Reaper and so on. The research method that has used for this project is ADDIE model. The ADDIE model is a general method that has typically been utilised by instructional designers and training developers. Analysis, Design, Development, Implementation, and Evaluation are the five steps that provide a dynamic and flexible framework for building successful training and performance support systems. The analysis of this project has been gathered by comparing previous textbooks as well as through classroom observation. Result from that analysis can conclude that the project has achieve the objective which is enhance the learning and teaching process for Korean Language. Any improvement of this multimedia content book will be added for better performance in the future.

#### ABSTRAK

Buku Interaktif Bahasa Korea adalah buku teks kandungan multimedia yang dirancang dan dilaksanakan untuk menyelesaikan masalah yang dihadapi oleh pelajar dan pensyarah semasa proses pembelajaran dan pengajaran. Pembelajaran adalah sukar, terutama dalam bahasa Korea, kerana terdapat beberapa tahap untuk subjek ini, termasuk vokal, konsonan, kombinasi kedua-dua vokal dan konsonan, susunan tulisan, dan sebagainya. Majoriti pelajar tidak memahami subjek tersebut, dan sebilangan pelajar mungkin sukar memahami. Hasilnya, membuat ebook interaktif boleh menjadi penyelesaian yang baik untuk masalah ini. Ebook interaktif merangkumi pelbagai elemen multimedia yang membantu pelajar belajar dan memahami dengan lebih berkesan. Ebook interaktif ini juga dapat membantu para pensyarah dalam meningkatkan minat pelajar terhadap subjek tersebut, kerana kekurangan minat akan menyebabkan pelajar tidak hadir ke kelas. Buku teks ini menyediakan elemen multimedia seperti audio, video, kuiz, gambar dan banyak lagi. Platform yang digunakan untuk mengembangkan projek ini adalah dengan menggunakan Adobe InDesign, Adobe Photoshop, Illustrator, Premiere Pro, Reaper dan sebagainya. Kaedah penyelidikan yang telah digunakan untuk projek ini adalah model ADDIE. Model ADDIE adalah kaedah umum yang biasanya telah digunakan oleh pereka instruksional dan pembangun latihan. Analisis, Reka Bentuk, Pembangunan, Pelaksanaan, dan Penilaian adalah lima langkah yang menyediakan kerangka dinamik dan fleksibel untuk membina latihan dan sistem sokongan prestasi yang berjaya. Analisis projek ini telah dikumpulkan dengan membandingkan buku teks sebelumnya dan juga melalui pemerhatian bilik darjah. Hasil daripada analisis tersebut dapat menyimpulkan bahawa projek tersebut telah mencapai objektif iaitu meningkatkan proses pembelajaran dan pengajaran Bahasa Korea. Sebarang penambahbaikan buku kandungan multimedia ini akan ditambah untuk prestasi yang lebih baik pada masa akan datang.

# TABLE OF CONTENT

DECLA	RATIONII
DEDIC	ATION III
ACKNO	OWLEDGEMENTSIV
ABSTR	ACTV
ABSTR	AKVI
TABLE	C OF CONTENT VII
LIST O	F TABLESVII
LIST O	F FIGURES XIII
СНАРТ	TER 1: INTRODUCTION1
1.1	Introduction
1.2	Problem Statement
1.3	Objective
1.4 UN	Objective       2         Scope of The Project       2         VERSITI TEKNIKAL MALAYSIA MELAKA       2
	1.4.1 Specific User2
	1.4.2 Specific Functionality
1.5	Project Significant
1.6	Conclusion

# **CHAPTER 2: LITERATURE REVIEW AND PROJECT METHODOLOGY 20**

2.1	Introduction	5
2.2	Domain	5

2.3	Existing System		
	2.3.1	Traditiona	al System Learning Ways5
	2.3.2	Learning	Ways using Interactive TextBook(eBook)6
	2.3.3	eNotes/PI	DF of Korean Language6
	2.3.4	Traditiona	al textbook <i>Korean Language</i> 7
	2.3.5	Comparis	on Existing System7
2.4	Project	Methodolo	gy8
2.5	Project	Requireme	nt 10
	2.5.1	Software 1	Requirement10
Kulik	2.5.2	Hardware	Requirement10
2.6	Conclu	sion	
	PAINO	-	
CHAP'	<b>TER 3:</b> <i>A</i>	ANALYSIS	
3.1			11
UN 3.2	Current	<b>SITI TEK</b> t Scenario A	NIKAL MALAYSIA MELAKA Analysis11
3.3	Require	ement Analy	ysis11
	3.3.1	Project Re	equirement12
		3.3.1.1	Project Requirement Gathering12
		3.3.1.2	User Requirement13
		3.3.1.3	Technical Analysis13
		3.3.1.4	Resources Analysis13
	3.3.2	Software	Requirement13

	3.3.3	Hardware Requirement	14
3.4	Project	Schedule and Milestone	14
3.5	Conclu	sion	16
СНАР	TER 4: I	DESIGN	17
4.1	Introdu	ction	17
4.2	System	Architecture	17
4.3	Prelimi	nary Design	
	4.3.1	Storyboard Design	
4.4	User In	terface Design	19
EKNIK	4.4.1	Navigation Design	20
4.5	Conclu	sion	21
	AINT		
CHAP	TER 5: 1		
5.1		ction	23
UN	IVERS	ction	
		Creation	
	5.2.1	Production of Text	23
	5.2.2	Production of Graphics	24
	5.2.3	Production of Audio	24
	5.2.4	Production of Video	25
5.3	Media	Integration	25
5.4	Product	t Configuration Management	25
	5.4.1	Configuration Environment Setup	26

	5.4.2	Implementation Status	29
5.5	Conclu	sion	29
CHAP	TER 6 :	TESTING	31
6.1	Introdu	ction	31
6.2	Test Pl	an	31
	6.2.1	Test User	31
	6.2.2	Test Environment	32
	6.2.3	Test Schedule	32
6.3	Test St	rategy	33
6.4 g	Test In	plementation	33
ILIS	6.4.1	Test Description	33
5	6.4.2	Test Data اويور سين نيڪنڪ 6.4.2.1 Alpha Tester	34
		6.4.2.1 Alpha Tester	34
UN	IVERS	6.4.2.2 Beta Tester	36
6.5	Test Re	esult and Analysis	38
	6.5.1	Testing Result Questionnaire for Alpha Testing	38
	6.5.2	Testing Result Questionnaire for Beta Tester	43
6.6	Conclu	sion	48
СНАР	TER 7 :	PROJECT CONCLUSION	49
7.1	Introdu	ction	49
7.2		ation on Weakness and Strength	

7.3	Proposition for Improvement	50
7.4	Project Contribution	50
7.5	Conclusion	50
REFER	ENCES	52
APPEN	DIX A : INTERFACE DESIGN	54
APPEN	DIX B : TESTING PHASE	58
APPEN	DIX C : TURNITIN REPORT	84



# LIST OF TABLES

Table 1.1: Specific Functionality	3
Table 2.1: Comparison of existing book	8
Table 2.2: Phases	9
Table 3.1: Software Requirement	14
Table 3.2: Hardware Requirement	14
Table 3.3: Gantt Chart of the Project Activities	15
Table 3.4: Milestone of the Project Activities	15
Table 5.1: Font Example	23
Table 5.2: Sample Graphics Created using Adobe Illustrator	24
Table 5.3: Audio Editing Sample	25
Table 5.4: Setup Configuration	26
Table 5.5: Implementation Status	29
Table 6.1: Test Schedule	32
Table 6.2: Linear Scale Method	

# LIST OF FIGURES

Figure 2.1: Interface eNotes/PDF of Korean Language	6
Figure 2.2: Traditional Textbook Korean Language	7
Figure 2.3: ADDIE Methodology	9
Figure 4.1: System Architecture	17
Figure 4.2: Storyboard	18
Figure 4.3: Screen Shot of Main Cover Photo	19
Figure 4.4: Cover Page for Each Chapter	19
Figure 4.5: Navigation Chart	20
Figure 6.1: Perceived of Learnability	
Figure 6.2: Perceived of Effectiveness	40
Figure 6.3: Perceived of Technical Aspect	40
Figure 6.4: Suggestion and Commend from experts	41
Figure 6.5: Learnability	42
Figure 6.5: Learnability او يونر سيني تيڪنيڪ Figure 6.6: Design	43
Figure 6.7: Interaction	43

#### CHAPTER 1. INTRODUCTION

### **1.1 Introduction**

In line with the rapid development of technology, the implementation of learning using iBook or interactive e-book should be implemented to ensure that students do not miss the technological advances in education. Multimedia elements brings visual richness to the e-book that read on digital devices such as iPad, Computer and so on.

With the new reading approach, this will bring interest to students compared to traditional book. Students will handle the content more interactively while being more focus and understanding of the subject itself. With this approach, student can access to the e-book everywhere since you can access with your smartphone or laptop.

Korean Third Language is a compulsory course for degree students under Pusat Bahasa dan Pembangunan Insan in University Teknikal Malaysia Melaka (UTeM). The many cognitive benefits of learning Korean languages are undeniable. People who speak more than one language have higher memory, problem-solving and critical-thinking abilities, focus, multitasking capacity, and listening skills. When pupils learn a foreign language, they develop more favourable views and less prejudice toward individuals who are different, and their analytical skills improve. However, learning a new language is not an easy task and most of the students often found the learning process hard to understand cause by lack of multimedia example.

This shows that the development of multimedia content is very important in order to assist Korean language course students on their learning path. An interactive eBook could enhance the overall learning experience. This multimedia content not only assist on student but also lecturer. Through this multimedia content, lecturers are much easier for to convey the information. The project also consists of some quiz in every end of chapter for better understanding.

#### **1.2 Problem Statement**

Learning process is not easy especially learning Korean languages as this subject has different level include vowels, consonant, the combination for both vowels and consonant, writing order and many more. Most of the student are not familiar with the subject and some of students may found the learning process hard to understand for this subject.

Therefore, the development of this interactive eBook can be a good solution to the problem. The interactive eBook contain different multimedia element which allow student for a better learning experience and understanding. Also, this interactive eBook can also help lecturer for gaining students interest on the subject as lack of interest will lead to absences of student in attending classes.

## 1.3 Objective

The following goals will be pursued by this project:

- 1. To study the interactive elements requirement in developing an Interactive Korean Language Book.
- 2. To develop an Interactive Korean Language Book based on the interactive elements. VERSITI TEKNIKAL MALAYSIA MELAKA
- 3. To assess the effectiveness of interactive book usage in learning Korean Language.

## **1.4 Scope of the project**

This project's scope is centred on two fields: particular user and module or functionality.

### 1.4.1 Specific User

The main scope is Pusat Bahasa dan Pembangunan Insan students who take the Korean third language course. Lecturer would be the next scope as they can convey the information in a much easier way during the teaching process. Lastly, freshman student that deciding to take third language can use this multimedia content to review as a reference before making any choice.

## **1.4.2** Specific Functionality

This section is to describe about the interactive elements that contain in this interactive eBook. Table 1.1 shows the specific functionality.

No.		Module	Description
1.		Audio	Allow user to play the audio file embedded into the
			interactive eBook. Audio such as pronunciation of
			specific Korean word or sentences.
2.		Interactive	Allow users to navigate to specific pages by just
			clicking the button.
3.		Media	Allow user to watch the video included in the
		ALAYSIA 4	interactive eBook. Video is either produce by the
			original producer or YouTube.
4.	EK	Gallery	The gallery is a sequence of images that allow readers
	E		to interact with to view various images.
5.	18 A.	Quiz	Allow assessment to be done to understand the level of
	.1.1	( )	understanding of the students.
6.	27	Crossword	Some puzzles game or crossword will be inserted to
	UNIV	ERSITI TE	allow users from getting bored and also allowing user for a better understanding.

**Table 1.1 Specific Functionality** 

### 1.5 Expected Outcome / Project Significant

The expected outcome for this project is the complete development of the Korean Third Language Course in a fully digital interactive multimedia content. Besides that, the multimedia content should be published online and can be accessible for UTeM students.

If the development outcome does not meet the expected requirements, student that in charge for this project must refer the supervisor to ask for recommendation on how to improvise the project.

#### **1.6 Conclusion**

Learning is difficult, especially Korean languages, because there are several levels to this subject, including vowels, consonants, combinations of both vowels and consonants, writing order, and so on. The majority of students are unfamiliar with the subject, and some students may find the learning process difficult to comprehend.

From the problem statement, this can help to come out with an objective for this project. There are three objectives that need to study the interactive elements requirement in developing an Interactive Korean Language Book. To develop an Interactive Korean Language Book based on the interactive elements. To assess the effectiveness of interactive book usage in learning Korean Language.

MALAYSIA

This chapter explains overview about the interactive eBook for Korean Language that can be a modern approach that has more benefit compared to traditional book. The explanation for what the project is all about, the main purpose of the project and the benefit of the project is stated in the project background section. There is also an explanation about the problem faced by student and lecturer. The objective for this project is also stated. The main target for this project is explained in the scope section and the expected results has been decided. Moreover, this project will help both student and lecturer in the learning and teaching process.

### **CHAPTER 2. LITERATURE REVIEW AND PROJECT METHODOLOGY**

#### **2.1 Introduction**

The primary goal of this chapter is to do a literature review on any prior project and project technique. The present system's information has been researched. A comparison of past initiatives would be performed to identify the issue where a new contribution may be made.

This chapter will discuss the methods used for this project. This chapter will also cover the software and hardware requirements for this project.

#### 2.2 Domain

"This project aimed to blur the line between user's reality and books fiction world. Interactive book is an innovative product that allows users to read a book on-line and express their views about the literature. This is done by adding annotations at certain points in the iBook (Rehman.,2015)."

According to Brendan, Sean, and Sinead (2016), users can employ digital media as a crucial medium for student learning using the iBook framework. Furthermore, the development of ICT skills is highlighted as a critical component. This is done to ensure that students become engaged learners both in and out of the classroom. The iPad has demonstrated that visual and auditory input to students has an influence on their learning placement. They may enjoy their reading experience using unique interactive design patterns techniques that improve compatibility and maturity. As a result, users may also enjoy their animated images and movies linked to the issue.

#### 2.3 Existing System

This phase will cover the Traditional System Learning Ways, Learning Ways using Interactive Book and Comparison between system.

#### 2.3.1 Traditional System Learning Ways

In traditional way, students learn Korean Language by using printed textbook and also PDF files of lecture notes. Lecturers need to find the audio given online and play the audio separately using a speaker. Student also required to read the textbook which they can't understand by their own. Also, the textbook has many texts which can be short formed.

### 2.3.2 Learning Ways using Interactive Book (eBook)

With the combination of new technology, an interactive eBook can be created that includes interactive multimedia elements and contents. Students get to learn Korean Language in a more interactive way. This eBook contains elements such as graphics, video, audio, animation and text. This will gain the interest of a student and stay more focus on the subject. While lecturers are able to teach their student in an easier way for example, lecturers do not need to play the audio separately instead they can just play by pressing the button included inside the eBook. Moreover, this eBook contain quizzes and puzzles game to test student understanding for specific topics.

#### 2.3.3 eNotes/PDF of Korean Language

Figure 2.1 shows the eNotes or PDF of Korean Language. This is an electronic copy of the original textbook which deliver in PDF format. Since this is just a copy of the original textbook, no interactive or multimedia contents are included. This eNotes/PDF can be simply accessed via computer or digital devices. The reason why this eBook was introduced is because of the cost of printing textbooks as well as much easier to store and download.

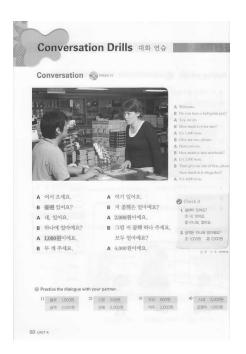


Figure 2.1 Interface eNotes/PDF of Korean Language

# 2.3.4 Traditional textbook Korean Language

Figure 2.2 shows the traditional textbook of Korean Language. This is a printed paper textbook and there is no interactive element in this textbook. This textbook consists of audio of pronunciation for specific sentences or words. However, lecturers need to open other sources like speaker to play the audio and the audio is only provided for teacher and students did not get them. So, this is very hard for some students that has a lesser understanding on the subject.

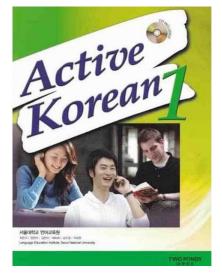


Figure 2.2 Traditional Textbook Korean Language

## 2.3.5 Comparison Existing System

This section is to evaluate the difference between these books in terms of interactivity, multimedia element, usefulness of each book.

Table 2.1 shows the comparison of existing book. The table will explain in detail about the book including target user, the platform used for the book, multimedia element that has provide in the book, language used, strength and the weakness of the book.

Book	eNotes/PDF Korean Textbooks Korean		Interactive eBook	
	Language	Language	Korean Language	
Target User	University students	University students that	University students	
	that taken the subject	taken the subject	that taken the subject	
Platform	PDF/ All devices	Paper book	All devices	
Price	Free	Free, provided by	Free	
E		university's library	V	
Multimedia	Text, image and	Text and image	Text, animation,	
Component	colour	./	video, audio and quiz	
Language	English English English		English	
Strength	Easy to use and	Have a separate DVD	Interactive, have all	
01	compatible for all	for audio	multimedia element	
	type of devices		which can make	
			students to easily	
			understand	
Weakness	Only a 1:1 copy	Not provide audio on	File size is slightly	
	from original	that book.	bigger than the	
	textbook and is not		eNotes	
	interactive to use			

# Table 2.1 Comparison of existing book

## **2.4 Project Methodology**

The ADDIE model is a general approach used historically by educational designers and trainers. The five steps analysing, designing, developing, implementing, and evaluating offer a dynamic and flexible framework for building effective support and training systems.

This method is used to shape or provide a framework for technical and non-technical operations to develop a quality system that meets, surpasses or manages a company' expectations.

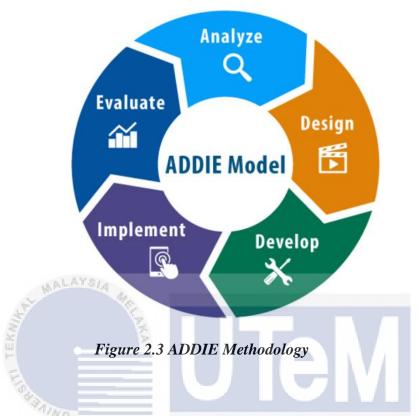


Table 2.2 Phases

Table 2.2 Phases		
Phase	Description	
Analyse ERSIT	Requirement gathering through observation and surveys using Google Form which will be done on PSM2 including alpha and beta tester.	
Design	The goals, tools, planning of the project is determined in	
	this stage. Multimedia elements is determined to use in this project.	
Development	Develop a multimedia content eBook by using Adobe	
	Software like InDesign, Photoshop, Illustrator, etc.	
Implementation	Students, lecturers and multimedia expert use this eBook to	
	learn Korean Language in the class for the upcoming	
	semester.	