

# Application for Learning Korean Language on Android

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**Abstract**— Korean developments now become hot topic in mass media. Korean successfully develops in two sectors, technology and entertainment. Korean gaining popularity and global awareness by producing sophisticated smartphone, electronic products, Korean pop songs and movies. Because of that, many people want to learn about Korean. The difficult part of learn about Korean is the language. Fortunately with the growing of technology development from year to year, now many mobile phones are equipped with sophisticated applications in it. With this application, the users will easily learn about the other language as the interface is very user friendly for beginners who want to understand the Korean Language. Application for learning Korean language on Android is an application of learning Korean language based on Android. This application consist of introduction of Korean letters that consist vowels and consonants, process of writing syllable that will explain how to write consonant and vowel in Korean word, grammar that will explain about verb, adverbs, noun, pronouns, number, and adjectives. Lastly, will explain about general conversation with voice.

**Keywords** : korea, language, android, mysql, grammar, vocabulary, conversation

## I. INTRODUCTION

Korean has 40 characters, those categorized into two kinds of characters; those are 19 consonants, and 21 vowels. In process of writing Korean words, there are three kinds of writing. Those are combinations of consonant-vowel, consonant-vowel-consonant, and consonant-vowel-consonant-consonant.

Korean language also has a grammar. Those categorized into several sections. Those are adjectives, adverbs, nouns, pronouns, verbs, and numbers. Adjectives are sizes, tastes, qualities, quantities, and colours. Adverbs are times, frequencies, manners, and places. Nouns are bodies, animals, places, things, and food. Pronouns like I, you, he, she, we, and so on. Verbs are past, present, and future. And numbers is Nation Korean and Sino Korean.

Android an “Open Mobile Platform” developed by Google, Android is simply an operating system for mobile phones, such as Symbian or Winfows Phone [3].

To develop the application, this is some problem to be solved as follow:

- How to implement the concept of interactive learning to support in teaching and learning Korean Language in a media based on Android mobile devices.

- How to design and develop the software which can facilitate the user and reduce boredom to the monotony in learning Korean Language.
- How useful is the instructional media Korean Language with the interactive learning in teaching and learning of the user.

The research is expected to achieve the goals and objectives, therefore the research focuses on:

- a. Teach Korean letters,
- b. Teach basic grammars,
- c. Teach some vocabularies, and
- d. Teach general conversation.

Other things outside the criteria will not be discussed, such as some more advance grammar. Because of the application only to show learning material, it will not use stemming algorithm.

## II. METHODOLOGY

In order to develop the software, Rapid Application Development (RAD) is used as the methodology. “RAD is a development of a lifecycle designed to give much faster development and higher-quality results than those achieved with the traditional lifecycle. It is designed to take the maximum advantage of powerful development software that has evolved recently” [2].

RAD compresses the step-by-step development of conventional methods into an iterative process. The RAD approach thus includes developing and refining the data models, process models, and prototype in parallel using an iterative process. User requirements are refined, a solution is designed, the solution is prototyped, the prototype is reviewed, user input is provided, and the process begins again.

## III. LITERATURE REVIEW

### Korean Alphabet

Korean use their own unique alphabet called Hangul. Hangul was created under King Sejong during the Choson Dynasty (1393 - 1910). In 1446, the first Korean alphabet was proclaimed under the original name Hunmin chong-um, which literally meant “the correct sounds for the instruction of the people” [4]. To learn Hangul, the first thing to do is probably learning how to write and read it. Different with English alphabet that has 26 characters. Korean has 40

characters, those categorized into two kind of character; those are 19 consonants and 21 vowels.

**The process of writing in Korean Letters**

Korean letters written from left to right and from top to bottom. Meanwhile, for the syllables/phrase in Korean can be written from left to right [1], such as 한글

Or from top to bottom, such as:

한  
글

**Grammar**

The lists of the grammar in Korean are as follows:

1. Verbs.  
Learn about past, present, and future.
2. Adjectives.  
Learn about color, size, taste, quality, and quantity
3. Nouns.  
Learn about body, animal, place, thing, and food.
4. Adverbs.  
Learn about time, place, manner, and frequency.
5. Pronouns.  
Learn about I, my, mine, you, he, she, they, we, and so on.
6. Number.  
Learn about Sino Korean and Native Korean.

**Android**

Android is a mobile operating system, developed by Google. It is used by several smartphones, such as the Motorola droid, Samsung galaxy, and Google’s own Nexus One. The android operating system (os) is based on the open linux kernel. Unlike the iPhone OS, Android is open source, meaning developers can modify and customize the OS for each phone.

IV. SYSTEM ANALYSIS

**Use-case Diagram**

Use-Case Diagram is used to identify the actors and the process that occurs in the application. The primary actor is the user who plays the application. The process that occurs in the application: the user can learn Hangul alphabet, the user can to writing in Hangul, the user can learn grammar and also the user can learn general conversation in Korean language. The Use-Case Diagram for the application is described in Figure 3(a).

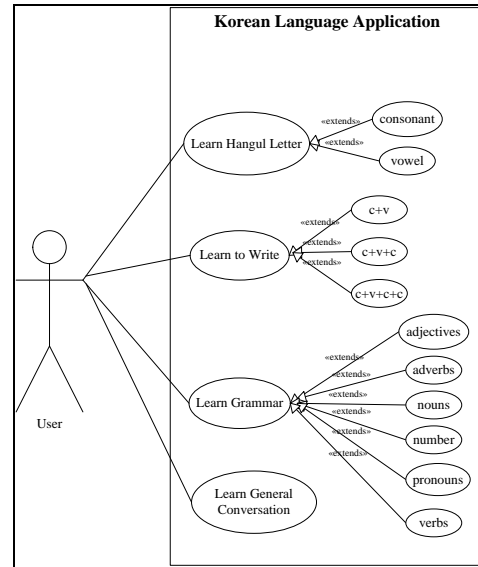


Figure 3(a). Use Case Diagram

**Activity Diagram**

Activity Diagram in the application is used to model the system behaviors. Activity Diagram is also used to show the workflows between the system and the component. Learn Hangul Letter Activity diagram is described in Figure 3(b). Learn to write Activity Diagram is described in Figure 3(c). Learn Grammar activity diagram is described in Figure 3(d).

**Sequence Diagram**

The Sequence Diagram is used to describe the interactions between objects in a system. All the interactions in the Use-Case are described in the Sequence Diagram. There are five Sequence Diagrams in this application, such as: the Learn Hangul Letter Sequence Diagram, Learn to Write Sequence Diagram, Learn Grammar Sequence Diagram, and Learn General Conversation Sequence Diagram. Learn Hangul Letter Sequence diagram is described in Figure 3(e). Learn Grammar Sequence diagram is described in Figure 3(f). Learn General Conversation Sequence diagram is described in Figure 3(g).

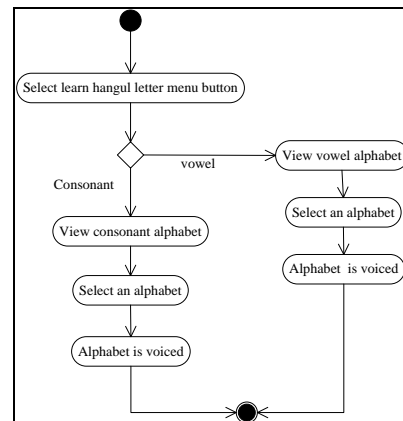


Figure 3(b). Learn Hangul Letter Activity Diagram

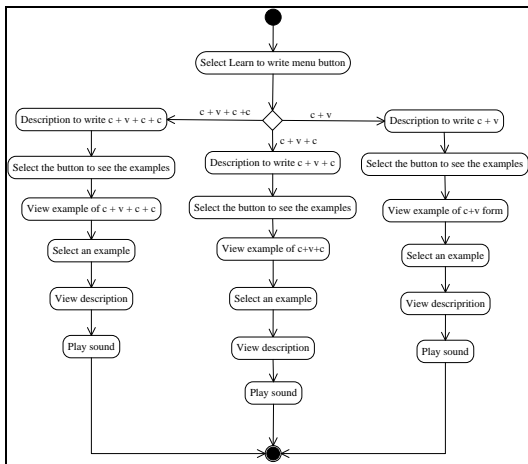


Figure 3(c). Learn to write Activity Diagram

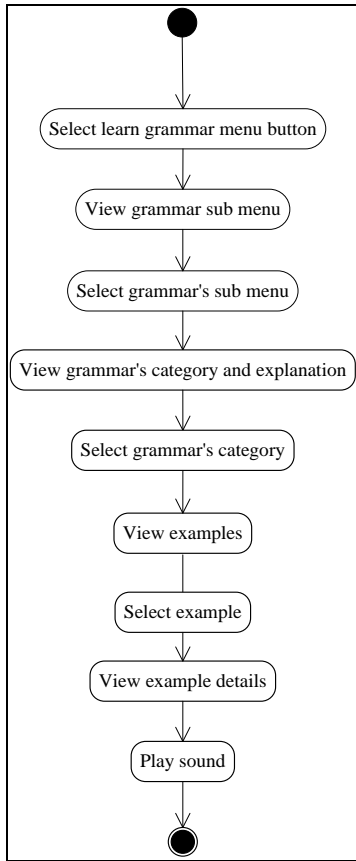


Figure 3(d). Learn Grammar Activity Diagram

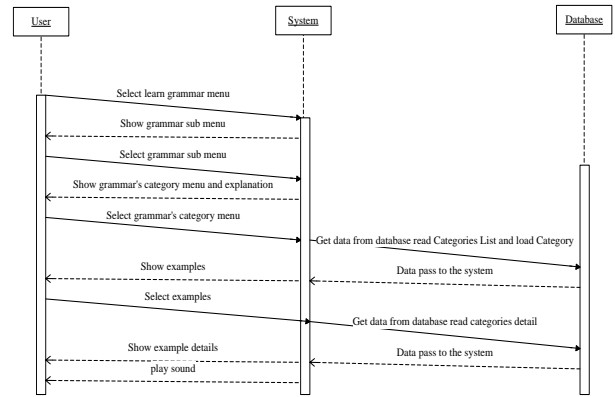


Figure 3(f). Learn Grammar Sequence Diagram

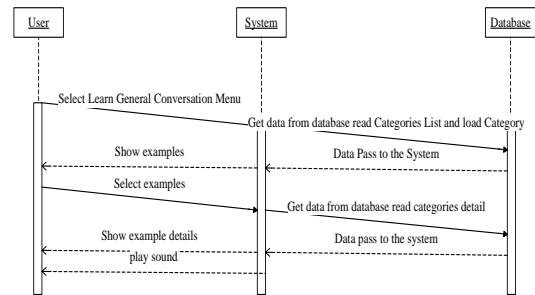


Figure 3(g). Learn General Conversation Sequence Diagram

V. SYSTEM DESIGN

Class Diagram

Class Diagram is a description of the various kinds of static relationships. Class Diagram is used to demonstrate the properties and operations of the Class and object. By creating a Class Diagram, the developers can design the system properly.

There are eight Classes in Korean Language Application i.e. mainMenu Class, LearnHangulletter, Hangeul, LearntoWrite, TypeofWrite, LearnGrammar, GrammarCategory, and LearnGeneralConversation. When the user selects one of the menus, the system will go to the page that has been selected. For example, if the user selects the *Hangeul* Menu then the system will display the *hangeul* page. *Hangeul* Menu Class contains categories of hangeul. In *hangeul* pages the user can listen to the sound of the letters. The Class Diagram for the application is described in Figure 4(a).

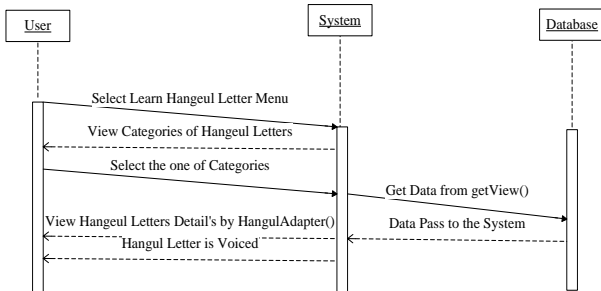


Figure 3(e). Learn Hangul Letter Sequence Diagram

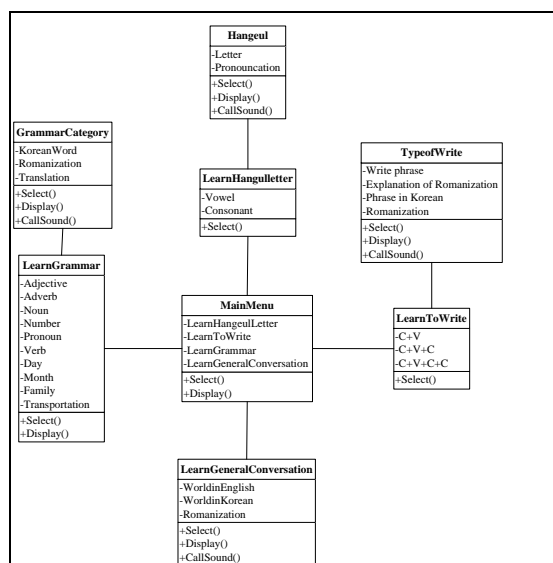


Figure 4(a). Class Diagram

### 1.1 Interfaces Design

Interfaces Design in Korean Language Application is divided into five pages. The first page is the Main Menu Page. Second is Learn Hangul Letter Menu Page. Third is Learn to Write Menu Page. Fourth is Learn Grammar Menu Page. Last is Learn General Conversation Menu Page.

## VI. SYSTEM DEVELOPMENT

### User Interface Development

User Interface Development is divided into several sections, among others: Main Menu, Learn Hangul Letter, Learn to Write, Learn Grammar, and Learn General Conversation Interfaces. Main Menu page screenshot is described in Figure 5(a). Hangul Letter Category's page screenshot is described in Figure 5(b). Hangul Detail's page screenshot is described in Figure 5(c). Learn to write Screenshot is described in Figure 5(d). Description how to write screenshot is described in Figure 5(e). Example of write screenshot is described in Figure 5(f). Detail how to write phrase screenshot in Figure 5(g). Learn General Conversation List page screenshot is described in Figure 5(h). General Conversation Detail page screenshot is described in Figure 5(i).

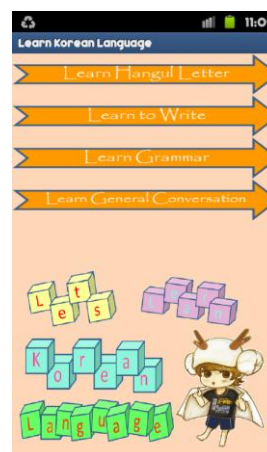


Figure 5(a). Main Menu page Screenshot

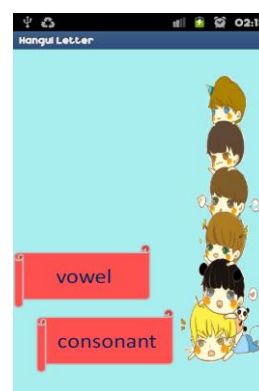


Figure 5(b). Hangul Letter Category's page Screenshot

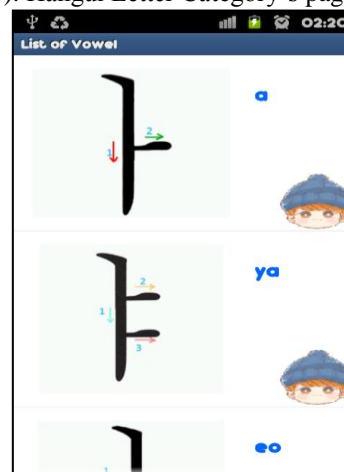


Figure 5(c). Hangul Detail's page Screenshot



Figure 5(d). Learn to Write Screenshot



Figure 5.7 Detail How to Write Phrase Screenshot

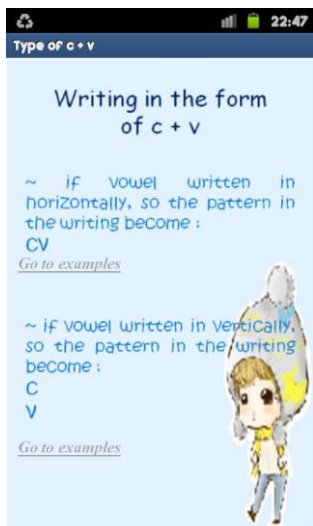


Figure 5.5 Description How to Write Screenshot



Figure 5(d). Learn General Conversation List page Screenshot



Figure 5.6 Example of write Screenshot

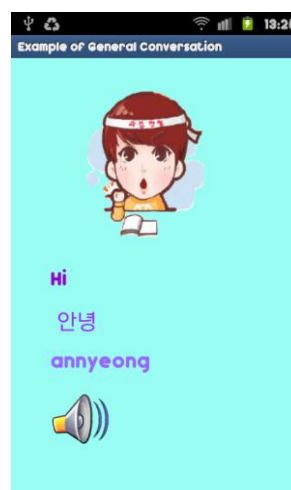


Figure 5(e). General Conversation Detail page Screenshot

## VII. CONCLUSIONS

The use of Learn Korean Language Application in the process of teaching and learning in particular about

Korean Language based on mobile application can give some benefits to the users, which are:

1. Learn Korean Language Application has been successfully developed in this research.
2. Learn Korean Language Application can help users to learn more easy and fun with the application on the smartphone. Especially with the design more interesting for beginner who wants learn Korean language.
3. Learn Korean Language Application can help users to learn about how to read, write, and speak the Korean language properly.
4. Learn Korean Language Application can help users to learn more about Korean Language with the sound of how to pronounce the Hangul Letters and conversations correctly.

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