

CHICA

A Chinese Calligraphy Mobile Learning Application for Beginners

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Abstract— CHICA is a Chinese mobile learning application for beginners. Most of us know that Chinese language is hard to learn especially the writing. Most beginners cannot differentiate the tones of Chinese characters. There are some Chinese characters that sound the same however it has different tones and meanings. The writing of Chinese characters is difficult for beginners too since they need to memorize characters and the stroke orders. Part of Chinese language is different with Bahasa Malaysia. Chinese language often uses 吗 (ma) at the end of sentences while Bahasa Malaysia has many particles. This application was developed to assist beginners in learning basic Chinese with the main focus of Chinese handwritten lettering or calligraphy. CHICA consists of three categories: hanyun pinyin (vocal, consonant and tone), learning basic strokes and practice writing. This application was developed using Adobe Animate with Actionscript 3.0. The evaluation is carried out among UniKL MIIT students in Mandarin 1 class. Results show that the application helps students in understanding the basic Chinese and help them in writing practice.

Keywords: Chinese language; writing Chinese; handwritten lettering; calligraphy; mobile learning

I. INTRODUCTION

Chinese language has been around for a long time. Most of the people know that Chinese language is not an easy language to learn especially in writing its characters. It takes time to learn and memorize each Chinese character and stroke orders. Teachers work hard to improve Chinese in classrooms where teachers teach, and students learn to read Chinese for several years [9]. Since Chinese language is profound, it takes time to learn and be proficient in Chinese language. In Malaysia, Bahasa Malaysia is the main language used in school. Therefore, it is difficult to learn Chinese language since it is offered only in Chinese school. Since Chinese language is identified as the main language in the world especially in business, Ministry of Higher Education has imposed Chinese Language (Mandarin) as the compulsory Second Language subject in higher institution.

Chinese language is one of the languages offered as Compulsory Second Language in UniKL MIIT. The main objective of this project is to develop a mobile learning to assist UniKL MIIT students taking Mandarin 1 class with main focus on the Chinese characters handwriting practice. The content in the application was taken from the syllabus of Chinese textbook used in the class. Most of the students taking the subject are beginners, so by developing the mobile learning it is hoped that the students can study and practice anywhere anytime.

Problem Statement

Chinese language is hard to learn especially the handwritten lettering or writing characters. As time goes by, people tend to learn Chinese language as the world is moving on and the requirement for secondary language is highly in demand especially in the world of businesses. Most people only get the opportunity to learn the language while in higher institution or

university as it became the compulsory Second Language nowadays. Lack of exposure of the language, contributed in hardship of learning the language for the beginners. Based on researcher's preliminary analysis and observation, most of Chinese language learning applications did not provide the writing practice feature. As a result, this mobile learning application focuses on the handwritten lettering of the characters by providing the writing practice feature in the application as well as providing basic Chinese language module. This application can act as a tool to assist students in learning the language not only in class but anywhere and anytime.

II. LITERATURE REVIEW

Chinese language especially Mandarin is widely spoken and highly demanded by companies in Malaysia. Handwritten writing of Chinese characters which also known as calligraphy, are very artistry. There are four guidelines to consider while writing the Chinese characters which are strokes, harmony, contrast and soul. [10]

A. Chinese language

Learning Chinese language is undoubtedly hard especially for beginners since they must keep on memorizing and practicing Chinese language. Chinese language used two different type of writing styles which is traditional Chinese and simplified Chinese. Countries such as Taiwan, Hong Kong, and Macau use traditional Chinese whereas simplified Chinese is used in China, Malaysia, and Singapore [7]. Traditional Chinese and simplified Chinese is different in terms of characters and strokes.

B. Demand for Chinese language

Chinese language is the second most spoken language in the world. Although the language is not among the higher 3 demanding language as the first three best – English, German and French (12), yet Chinese language is set at second place of the popular foreign learning language in oversea school (12). In Malaysia itself, the language of its 24% native has become the main instruction language in Chinese schools and demanding language for business.

C. Benefits of mobile application

There are numerous benefits in using mobile application for education purposes. One of them is, it enables users to study anywhere and anytime [4]. Students are free from textbook provided by universities or schools, because what they need only a phone or tablet.

D. Case studies

1) *A Mobile Chinese Calligraphy Training System Using Virtual Reality Technology*



Fig. 1: First stroke



Fig. 2: Complete word

This is a mobile Chinese calligraphy system using virtual reality technology by YingFei Wu and his team members. The idea of it was, they wanted the users to learn the right way of writing Chinese characters. This application is only available in Apple store since they implement this application in Apple store. This means that only IOS users will be able to download it. This application can be downloaded from Apple store by searching “CADAL” or “Chinese Calligraphy” as keywords.

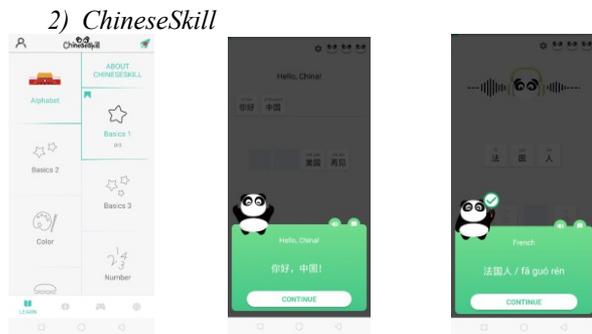


Fig. 3: ChineseSkill interface

This is a mobile application named ChineseSkill founded by Wang ZhuLong. He noticed that a growing trend of people is learning Mandarin Chinese while he was stationed in Japan. He created this mobile application which consists of 45 topics, it focused on learning vocabulary and grammar through context. The mobile application provides the most basic knowledge in learning Chinese language. It used different methods to teach users by using texts and sounds for pronunciations. Researcher tested it and some of the functions require users to choose the correct Chinese word to match the English sentence. There is a function where users need to listen to the audio and choose the correct Chinese word.

III. METHODOLOGY

This part will briefly elaborate on the overall project development.

1) Implementation

During this phase, the mobile application will be exported as android package kit (apk) and can be installed on smartphone. The reason is to test the functionality of the mobile application and to ensure that there are no errors occur during using it.

After a few tests and ensured that there are no errors with the mobile application, the apk can be distributed to students. The target audience is students from Universiti Kuala Lumpur from Mandarin 1 class to let them test the mobile application.

2) Evaluation

This is the last phase of ADDIE model. In this phase, questionnaire will be given to students along with the apk. Due to the pandemic Covid-19, researcher unable to personally give the

questionnaire and the apk to the students. Researcher used another alternative which is through online by giving them link to access the questionnaire and apk. This evaluation phase is to measure the effectiveness of the mobile application especially for beginner learner.

IV. DESIGN AND DEVELOPMENT

After going through the analysis phase where the objectives and problems were analyzed. All the design and development activity were discussed with supervisor before proceeding the design for this project. All the activities were recorded and documented in a descriptive manner.

1) Preliminary Study

During this phase, the researcher tested a few Chinese Language mobile applications to study the features provided. Based on the analysis, it was found that all of the learning applications did not provide the handwritten lettering practice function for users to learn how to write the Chinese characters correctly. The applications only provide the theory contents similar to textbook but digital.

2) Development

Adobe Animate with Actionscript 3.0 were used to develop the application. Android is chosen as the application platform of delivery. This is due to the cost to publish mobile application in Android platform is cheaper. In the preliminary study also found that most of UniKL students are using Android phone.

3) Contents

Figure 4 shows the contents of the application which divided into 3 categories; Hanyun Pinyin (is the official romanization system for Standard Chinese in mainland China and Taiwan (ROC), basic strokes and writing practice. Basic strokes and handwritten lettering the Chinese characters are the main focus for this project. The content of the application was based on UniKL MIIT Mandarin 1 syllabus. The subject is suitable for beginner students.

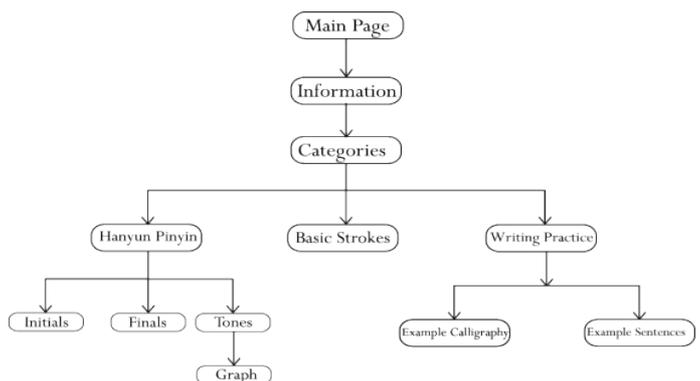


Fig. 4: Flow chart of the prototype

4) Prototype Design

In figure 5, shows the screen designs of the contents under the Hanyun Pinyin category.

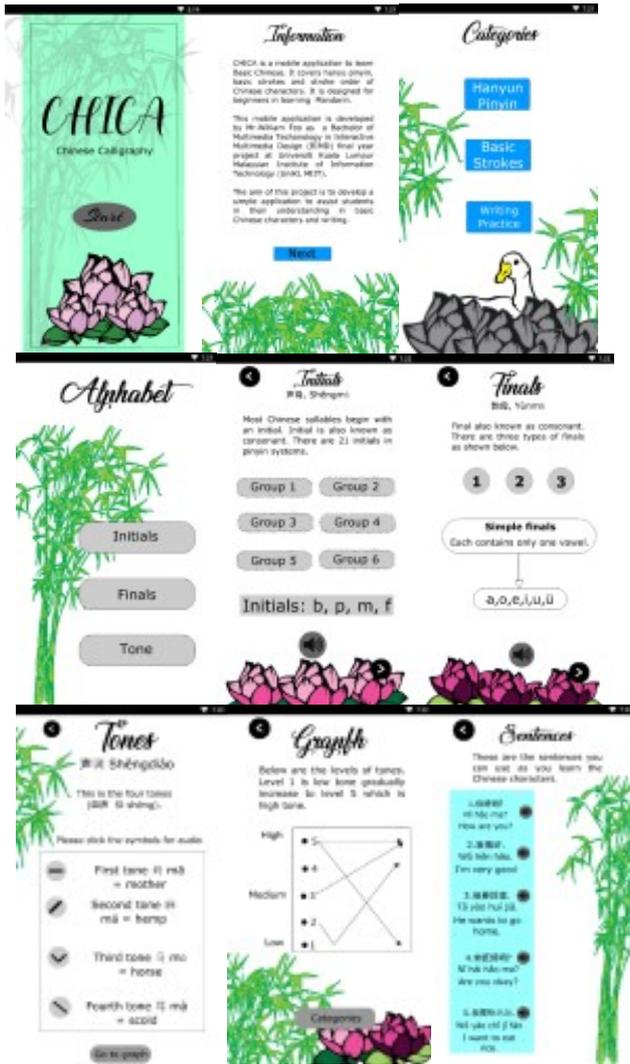


Fig. 5: Pages of CHICA Application on Hanyun Pinyin

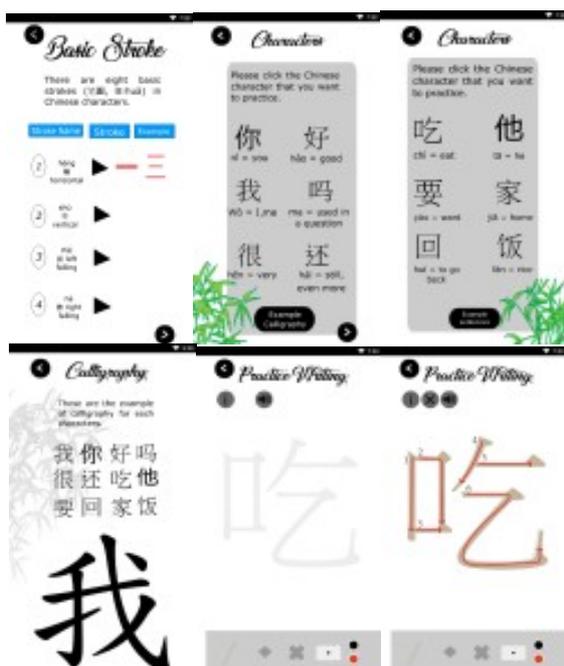


Fig. 6: Pages of CHICA Application on Basic Strokes and Writing Practice

In figure 6, shows the screen designs of the contents under the Basic Strokes and Writing Practice. These are the main focus of this project where users can handwrite the Chinese characters.

V. TESTING AND RESULTS

Testing was carried out with the students from Mandarin 1 class from UniKL MIIT. Due to the pandemic Covid-19, researcher unable to do the test face to face. As an alternative, an online approach has been used to collect data from the students. A link to download the application was given and Google form was used for the students to give their feedback using the questionnaire provided.

A. Findings

1) Have you used any Chinese learning applications before? (If YES please continue, if NO please go to question number 8)
12 responses

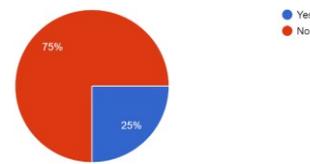


Fig. 7: Have you used any Chinese learning mobile application

Majority of the students have not used any Chinese learning mobile application before. Hence, it is assumed that most of the students are beginners in learning Chinese language. There are 75% who never used any Chinese learning mobile application before.

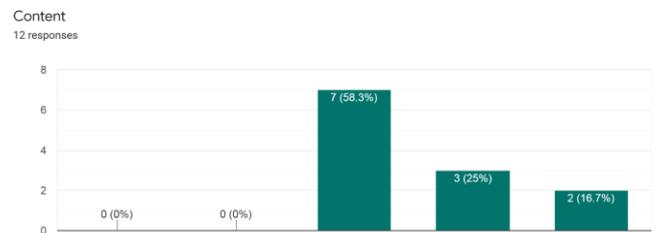


Fig. 8: Content of CHICA

The content for CHICA needs to be improve since there is 58.3% selected “in between” good and bad for the contents. This shows that there is no lacking information in the mobile application however, it is necessary to improve in terms of content.

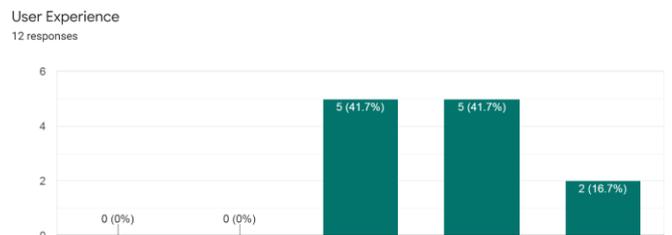


Fig. 9: User Experience (UE) of CHICA

In figure 9, there is 41.7% selected “in between” and “good” while the rest selected “very good” for UE. This shows that CHICA is able to give students good user experience in using CHICA. UE might need to be improved to maximize its potential.

VI. CONCLUSION AND RECOMMENDATIONS

Mobile application is widely used nowadays in the world. Therefore, its potential as a medium for delivering content for education need to be fully utilised and explore. The calligraphy or handwritten writing practice feature developed in the project can be replicate for other language such as Jawi, Tamil and Arabic.

CHICA has received good feedbacks from the students in the Mandarin class as a tool for assisting them in learning the language.

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