

# The Development of Mobile Learning “Imbuan” Grammar Indonesian Language for Cambodian Students

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## ABSTRACT

M-learning (mobile learning) is a learning approach which involves mobile devices where learners can access information, directions and application pertaining to lessons with no limitation in time and space, wherever and whenever they are. With all culture and economic growth which occupies 16 the world economic power, many Cambodian students come to Indonesia to sightseeing, work or study. By studying Indonesian language Cambodian students are able to communicate more easily with the community. As an example, 75 Cambodian students, currently enrolled in the University of Atma Jaya Yogyakarta, UGM, the State University Yogyakarta and other Universities, have difficulty understanding grammar “Imbuan” while learning Indonesian language. Application mobile learning “Imbuan” grammar Indonesian language android based is an option to overcome the problem. Application mobile learning was developed with the use of java programming language and Android Studio tools. It can be accessed by using a Smartphone Android. This application consisting of lessons about “Imbuan” such as: prefixes (ber, men, ter, pen), suffixes (an), confixes (men-kan, men-i, ke-an, per (pen)) and some training quizzes. This application has audio or sound to clarification the pronunciation of Indonesian language. Furthermore, all lessons have been translated Khmer language to vulnerable Cambodian students using. The application was tested by 75 Cambodian students; the results of testing have shown the effectiveness of the application and application was well received by 70 of these students.

**Keywords:-** mobile learning, Imbuan (affixes), smartphone android

## I. INTRODUCTION

Language is often used man communicate with each other. Indonesian is an official language of Indonesia and language union the country. Indonesian started its use after independence proclamation Indonesia, exactly a day later, along with effective constitution. With the kind of cultural and economic growth in 16 large worlds of economic power. For Cambodian or Khmer is the language of Khmer people and the official of Cambodia. There are many Cambodian students come in Indonesia to visiting sights, work or learning. By studying Indonesian language Cambodian students can communicate more easily with the community, lectures, student, and citizens of Indonesian.

According the analysis done by the writer, 75 % of the Cambodian students, at the University of Atmajaya Yogyakarta, Gadjah Mada University and the State University Yogyakarta, were struggling to understand grammar “Imbuan” in their studies of Indonesian language [1]. “Imbuan” can be added to a based-word to change the meaning, type or function. Also, they can be used to create new words, different from words the essential words.

One difficulty while studying “Imbuan” is that there are differences when added to a verb, an adjective, a noun and a number. Another difficulty is that “Imbuan” also has a distinct meaning when added to a verb with another verb. As well as it is different with adjectives, a noun and the numbers. Apart from the difficulty of understanding, in a conventional learning where lecturer convey a lesson in the classroom, learning the meaning is less effective, students get bored and the time is not enough to extend the subject or even to practice.

## II. LITERATURE REVIEW

M-learning (mobile learning) is an approach learning involving mobile device as phones, PDA, laptop and tablets PC, where the learner can access to its directions and applications without limited in time and space, wherever and whenever they are. Mobile learning defined by Clark Quinn [2] as: *The intersection of mobile computing and e-learning: accessible resources wherever you are, strong search capabilities, rich interaction, powerful support for effective learning, and performance-based assessment. E-learning independent of location in time or space.* Based on that definition, mobile learning is a learning model that uses technological information and communication. The concept of mobile learning brings the benefits of the

availability of learning that could be access all the time and visualize interesting subjects. The term mobile learning (M-learning) refers to the use of devices / the of information technology (IT), mobile and move, as PDA, mobile phone, laptop, and tablet PC, in teaching and learning. M-learning is part of the electronic learning (E-learning), so consequently it is also part of the distance learning (d-learning) [3].

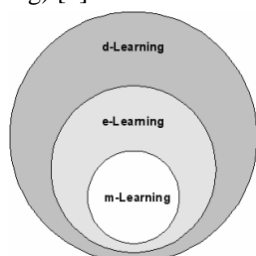


Figure 1. The scheme of the form of m-learning [3]

Evidenced by a number of studies have been talking about the learning benefits using mobile in learning languages and this research result indicates that mobile learning is the most effective, efficient, and comfortable way to study languages [4] [5] [6].

The use of M-learning as a strategy for language acquisition has been conducted. Some practices, like exercised created by Salameh Osama who designed a system M-learning English flash offline based. Students with their cell phones can access ten subjects learning. In addition, to listen to the audio, native speaker recordings or texts appear on the screen, using pictures (images) instead of texts. Early testing system has shown the efficiency and the well-received system by students [7]. Other researchers used to m-learning to help a foreigner and students to write the Chinese characters and its strokes (a stroke sequences) in iphone / ipad / ipod, and offers function illustration and pronunciation to give motion pictures (animation), write the Chinese characters with the sequence of steps (a stroke sequences), and pronunciation of characters through twisted pieces of audio. Those function practice allowed students to practice writing of the character using templates, and the function feedbacks would give a detailed analysis of the students' performance in the form of a text. The evaluation results in an empirical system, it found that foreign students can study and practice writing more effectively, whenever and wherever, using a mobile device outside the classroom [8]. A e-learning podcast systems are composed for beginner's students of Indonesian language. Five lessons podcast were made in the form of audio, image and text about the topics: *Welcome to Indonesia, My Family, Indonesian Food, Activities during the weekend, Places of interest in Indonesia*. The results indicated that the implementation of podcasting improved the skills of hearing, knowledge about language, and knowledge of Indonesia culture and

society among students [9]. M-learning system was designed for language learning with a sense cam to catch the students, and suggested the system called Pacall to sift photographs taken by sense cam to help students to study the nearby object in a foreign language [10]. Mobile learning system with the use of SMS (Short Message Service) to learn English has been conducted by many researchers [11] [12]. [12] The development of a system called mobile learning tool (MOLT) that send text messages in English to students. After being tested with 45 students in their first year of undergraduate degree. Results showed that students enjoyed and learnt new words with the help of their cellphones.

### III. DESIGN M-LEARNING GRAMMAR “IMBUHAN” INDONESIAN LANGUAGE

Grammar Indonesia is a m-learning application built to help Cambodian students learn grammar “Imbuhan” Indonesian language wherever and whenever. [13]Based on smartphone android program was developed with Android Studio (integrated development environment) tools and java language programming. The database supported this program is SQLite, to keep all the questions inside the applications. [14] [15]SQLite is an embedded database that is well noted for combining interface SQL with a very small memory at a great speed. [16] [17] [18]There is some advantage while using a database SQLite in application, which are:

- A database with configuration zero. It means no configuration database in order to climb the developers. Makes it relatively easy to use.
- Not having a server. SQLite doesn't run in a process of database. Basically, it is one set of libraries provided functionality database.
- *Single-file database*. This made security database directly
- *Open source*. This makes it easy for developers in the development of an application

Case diagram was used to model the functional system used by the user of the system in figure 2, it can be seen the use of the case grammar Indonesia diagram.

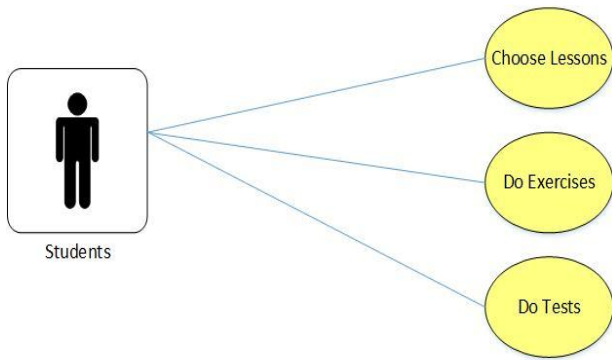


Figure 2. Use Case Diagram Grammar Indonesia

Architecture of the software grammar Indonesia in general as described in figure 2

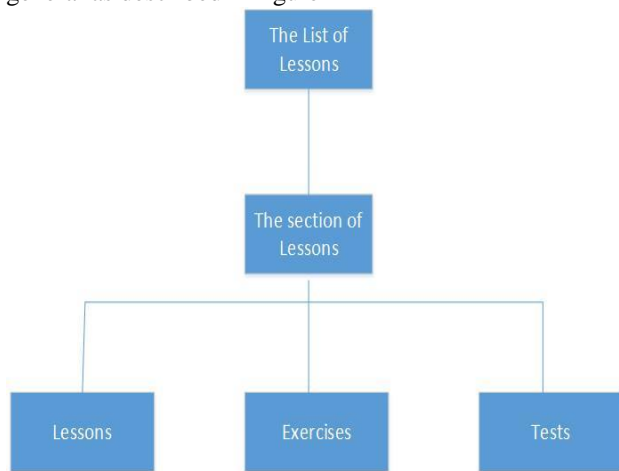


Figure 3. Architecture of the Grammar Indonesia

#### IV. RESULTS AND DISCUSSION

In figure 3 it can be seen like the main courtyard application, where students can choose on the list from lesson one to lessons nine, from the 9 “Imbuhan” categories existing: prefix (performs, men, ter, pen), suffix (an), confix (men-kan, men-i, ke-an, per, pen).

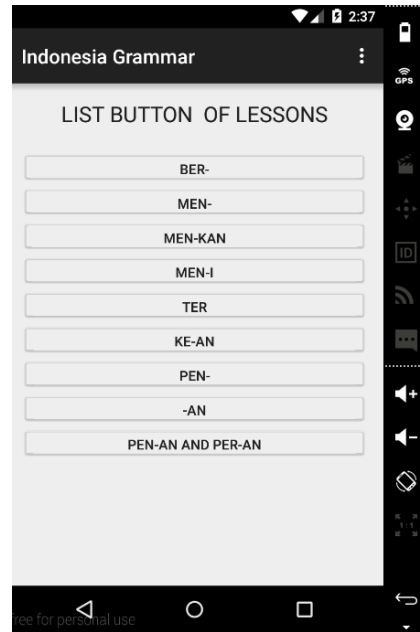


Figure 4. The main courtyard Grammar Indonesia

Then application to perform the yard will be elected a lesson, this page consisting of three parts those are:

- Part as well as the learned in figure 4 explain the subject matter elected pedagogies, details and simple to ease our insights and implementation use animation, images and text.

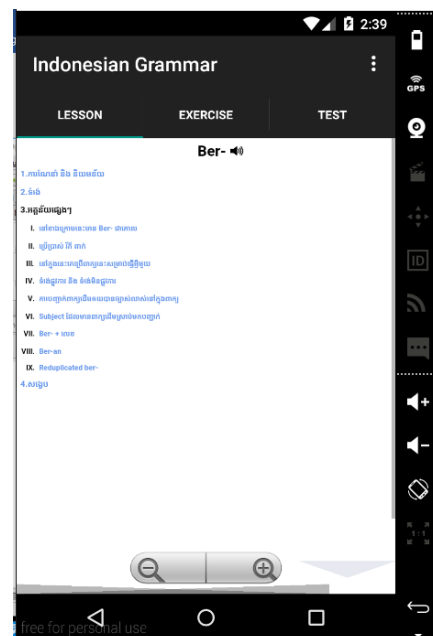


Figure 5. The paper of Lesson Indonesia Grammar

- The exercise in figure 5 lists the exercise from every part in a lesson to verify students learning of the lesson. After picking one training exercises, the application list will feature a questions that has kept in a dynamically database.

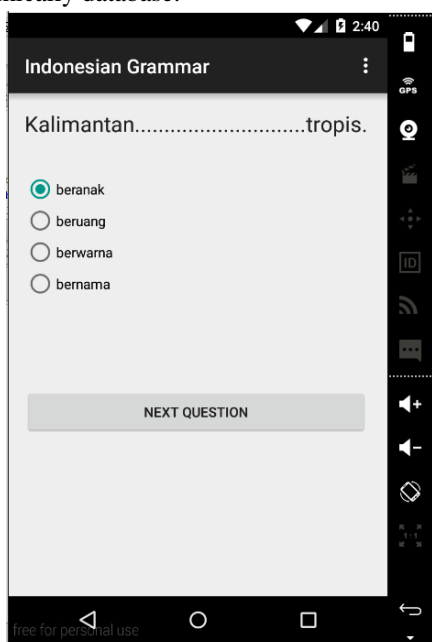


Figure 6. The paper of Exercise Grammar Indonesia

- Part test contains a list of the level of exercise. Each level exercise contains the questions that will be dynamically displayed in the application and it will give a performance based to the students' answers. It is illustrated in figure 6

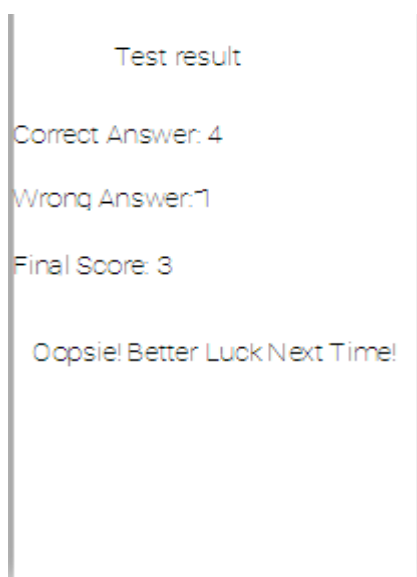


Figure7. The paper of the Indonesia Grammar Test results

## V. CONCLUSION

Writers have managed to developed an application m-learning “Imbuhan” Indonesian language based on android for Cambodian students. After testing the application with 75 Cambodian students, results shown the effectiveness of the application. The application was well received by 70% of the Cambodian students. The application arrangement can help Cambodian students in the process of learning grammar “Imbuhan”. The rest of the application refers to the “Imbuhan” prefix (ber, men, ter, pen), suffix (an) and confix (men-kan, men-i, ke-an, per, pen). It was next developed to be completed by inserting an “Imbuhan” that there was not there.

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