

## Development of a Speed Reading Application to Improve Reading Skill using Android

Jae-Hyung Park<sup>1</sup>, Chang-Woo Park<sup>1</sup>, and Gu-Min Jeong<sup>1§</sup>

<sup>1</sup> Dept of Electrical Engineering, Kookmin University, Seoul, Korea

<sup>§</sup>Corresponding author, gm1004@kookmin.ac.kr

**Abstract.** In this paper, we design and implement a speed reading application for Android. In the proposed app, when an article is displayed on the screen, sentences disappear from the top to the bottom periodically. The time interval can be changed with the selected level of difficulty. We expect that the user can improve the reading skill through the proposed app.

**Keywords:** Speed reading, Android, Application, Text reading, Vocabulary list, Activity

### 1 Introduction

Various speed reading methods have been proposed until now. To make the full use of the required information, readers should have rapid reading ability. In most of tests and examination, to evaluate the reading ability of the readers, they are required to read and understand the text within a limited time. For these reasons, a various speed reading programs have been made to improve the reading ability[1].

Previously, paper-based speed reading methods have been widely used for the training of speed reading[2]. However, with the advent of computers and smartphones, the speed reading programs have been implemented using those devices due to the easy development and management of services [3].

In this paper, we develop speed reading app in Android. In the proposed app, when an article is displayed on the screen, sentences disappear from the top to the bottom periodically. Different from the paper-based speed reading methods, various articles and books can be used for the proposed app.

### 2. Related works.

We can use various speed reading apps. Among them, LCSR (Letter Chase Speed Reader) provides four different functions (tachistoscope reading, horizontal reading, vertical reading, and warm up exercises). On the other hand, 'Speed Reading' automatically moves the word to left, and Speed Reader show one word at one time. Different from these apps, the presented app in this paper shows text and the sentence

disappear from the top. Moreover, the application has a vocabulary list called "VocaList" to help users save their word list.

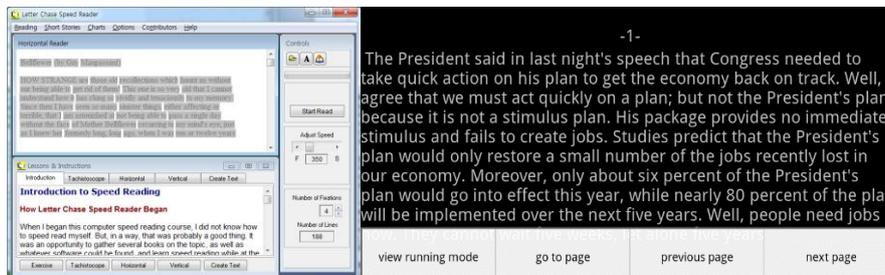


Fig. 1.LCSR & Speed reading

### 3 Design of the proposed speed reading app

#### 3.1 Architecture of the proposed app

In the proposed app, when there is an article, it can be displayed on the screen. Depending on the pre-setting time interval, sentences will disappear one by one from top to bottom. Also, we can make a vocabulary list by pressing a certain word. The overall architecture of the proposed app is shown in Fig. 1. The "Reading" and "VocaList" buttons are designed in the main menu. 'Speed reading' activity displays text and removes top line of text according to setting time. VocaList shows stored words that users should memorize.

Before entering the speed reading activity, you select level and sample files provided essentially. If the start button is not pressed, the text will not be shown. The rate of text disappearing depends on the difficulty level that users have selected.

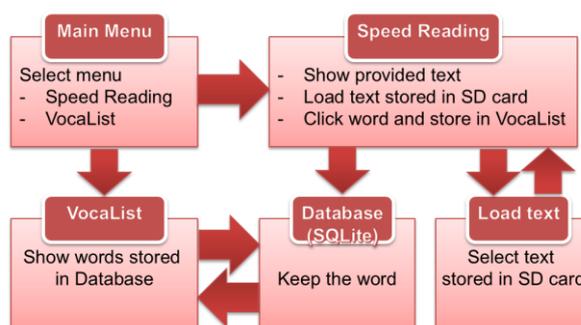


Fig. 2. Application architecture

## 4 Development of an Android app

Fig. 2 shows the speed reading app presented in this paper. The application calculates the length of words to display in screen regardless of language, and prevent word crossing. Using the menu in Fig. 2 (a), we can start the speed reading, or reset the displayed article. Also, when a word in screen is double-clicked, it can be stored in the VocaList as in Fig. 2 (b) and Fig. 2 (c). When we pressing "External Text" button, it loads the txt files stored in SD card as in Fig. 2 (d).

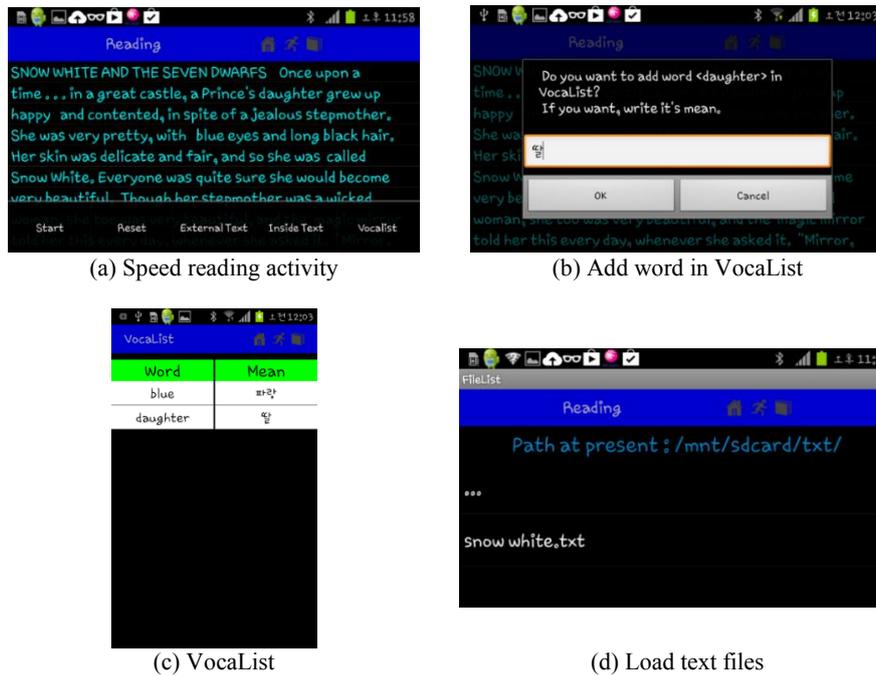


Fig. 3. Speed reading activity

## 5 Conclusion

In this paper, we implemented a smart phone application of Android-based speed reading program to improve reading comprehension. In this app, the lines disappear from the upper row based on the pre-defined time interval according difficulty level that you select. With the presented app, we can practice speed reading and to improve the efficiency and portability.

If various articles can be provided from the server, it will be more helpful to the user. It remains future work.

**Acknowledgments.** This research was supported by the MSIP (Ministry of Science, ICT & Future Planning), Korea, under the ITRC (Information Technology Research Center) support program (NIPA-2014-H0301-14-1005) supervised by the NIPA (National IT Industry Promotion Agency)

## References

1. Kim, S.: Effect of Computer Speed Reading Training on High School Student's English Reading Ability and Learning Attitudes. Busan university master's thesis, 2010
2. Yoon, M. Y. : Study of Using CALL for the Development of University Students' Speed Reading Ability in English. Ehwa women's university master's thesis, 2001
3. Busbee, E.: Computer Training to Improve Word Recognition and Reading Speed. English Teaching, 56(2), pp. 143--165
4. Gang, H. H.: Research of Effect on English Reading as Speed Reading. WonGwang university PhD's thesis, 2007
5. LCSR, <http://www.letterchase.com/read.htm>