ICRES 2018: International Conference on Research in Education and Science

A Design of Android Based Mobile Application for Determination of Learning Style

Aysegul ALAYBEYOGLU

Izmir Katip Celebi University, Computer Engineering Department

Abstract: In this study an android based mobile application is designed for determining Learning Styles of the individuals. Easy, rapid and efficient learning is very important for each individual that affects their success in business and daily life. As long as life-long learning continues, the importance of recognizing the individuals learning abilities becomes more important. The aim of this study is to make individuals be aware of their abilities on the way of easy learning by using the proposed mobile application which can be executed on Android based mobile devices. As the technology evolves, the use of mobile devices has become inevitable. Most of the individuals use smart phones for many different aims such as communication, entertainment and learning. Hence commonly usage of mobile devices makes the proposed system more practical. By simply downloading the proposed application to the mobile device, individuals will be able to run the program. The proposed sytem is designed and developed by usig Java Android programming.

Keywords: Learning style, Mobile application

Introduction

Individuals can have different capabilities in way of learning, thinking and searching [1]. By considering this, it is thought that, recognition of individuals about their own learning skills is getting importance in easy and rapid learning. When the efficient way of learning is applied by the individuals, their successes in business, academic or daily life also increases accordingly. Many number of learning styles have been developed by the researchers to help individuals recognize their own learning skills [2].

In [3], differences in individual's way of perceiving, remembering, thinking, and problem solving is discussed. While in [4], learning styles are considered as an extension of cognitive styles, in [5] learning styles are supposed to be grounded on psychological basis. There are many different approaches in classifying learning styles in literature [5-8]. In our previous studies [9-11], learning styles are inferenced by using fuzzy logic technique and also different learning styles which are proposed by Gregorc, Dunn and McCarthy are used in these studies.

In this study, learning style of the individual is inferenced by using mobile devices. As the evolvements in mobile technology, usage of mobile devices and number of applications increase expectedly. By downloading and executing the proposed application, individuals answer related questions and the system inferences the learning styles of the individuals. In rest of the paper, the design of the Android based Mobile Application which includes interfaces of the system is determined in detail and future studies are mentioned in Conclusion Section.

Design of Android Based Mobile Application

As the mobile applications attract attention day by day, the usage of mobile devices increases in accordance with this evolvement. This study proposes mobile application which inferences the most convenient learning style for the individual who answers related questions included in the interfaces. Figure 1 represents the interfaces of developed Android based Mobile Application.
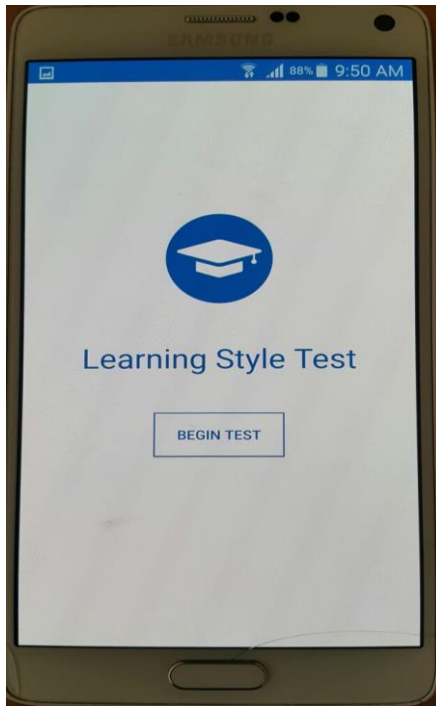
(a)

Learning Style Test

This test evaluates your learning style according to Gregorc, McCarthy and Honey-Mumford Learning Style.

When you click your chose button, you will see the some questions.

You must give 1, 2 or 3 point to questions.

POINT 1 : It is LOW
POINT 2 : It is MEDIUM
POINT 3 : It is HIGH

After you answer the questions, click the Approve button and you will see your test results.

(b)

Age   Job

1
2   Student
3   Public

◉ Male   ○ Female

APPROVE

(c)

1. Showing behavior of studying together while learning	3
2. Studying in Teacher's Control	2
3. Being Successful in Dealing with People	1
4. Being gifted in Decryption	3
5. Not accepting the interventions to studies from outside	1
6. Participating in Activities that appeal to the five senses	2
7. Having capability to appeal to the Community	3
8. Requesting to benefit from the experiences of the others	3
9. Having capability to produce original ideas	1
10. Studying with Live Materials	2
11. Preferring Freedom instead of Obeying Rules	2
12. Being Successful in Reading and Writing	1
13. Being concentrated easily in any environment	2
14. Following instructions Step by Step	3

(d)
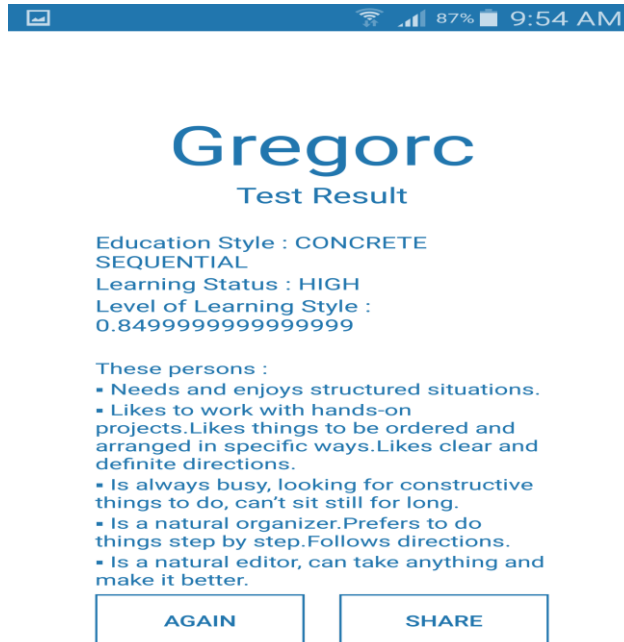
(e)
Figure 1. Interfaces of the proposed mobile system

When the individual executes the proposed application, main screen which is shown in Figure 1.a is met by the individual. After the individual clicks on Begin Test button, some information about the usage of the system is given as shown in Figure 1.b. As it can be seen in Figure 1.c, individual enters demographic information which is consist of age, job and gender parameters. After this information is approved, individuals answer the questions by entering points between 1 and 3 as shown in Figure 1.d. Finally, the proposed system inferences the best convenient learning style for individual and shows it on the screen as can be seen in Figure 1.e.

Conclusion

In this study, A Design of Android Based Mobile Application for Determination of Learning Style is proposed. Recent developments and increments in usage of mobile technology constitute the motivation of this study. By using the proposed system, the individuals will be able to download the application to their smart devices and following this they will give answers to the related questions. At the end, the system will inference the best convenient learning style to the individual and will show the result on the screen of smart device. In future studies, a survey is planned to be applied to the individuals and the results will be analyzed by using SPSS statistical package program.

Acknowledgement

We are very thankful to Serkan Yarar for his support in implementing the Android programming part of the project.

References

Z. Ghazivakili, R. N. Nia, F. Panahi, M. Karimi, H. Gholsorkhi, and Z. Ahmadi, The role of critical thinking skills and learning styles of university students in their academic performance, J Adv Med Educ Prof 2 (2014), 95–102.

E. €Ultanır, Y. G. €Ultanır, and G. €O. Temel, The examination of university students' learning styles by means of Felder-Silverman index, Educ Sci 37 (2012), 29–42.

Y. Liu and D. Ginther, Cognitive styles and distance education. Online Journal of Distance Learning Administration, Volume II, Number III, Fall 1999 State University of West Georgia, Distance Education.

K. Logan and P. Thomas, Learning Styles in Distance Education Students Learning to Program. 14th Workshop of the Psychology of Programming Interest Group, Brunel University, June 2002 www.ppig.org

K. Sabry and L. Baldwin, Web-based learning interaction and learning styles, Brit J Educ Technol 34 (2003), 443–454.

A. Nikolaou and M. Koutsouba, Incorporating 4MAT model in distance instructional material—An innovative design, Eur J Open Dist E-Learning 16 (2012), 50–63.

A. Susan, Influence of Learning Styles and Personality on Distance Learning, Santo University of South Dakota, Vermillion, SD, USA, TCC 2005, Online Conference.

T. C. DeBello, Comparison of eleven major learning styles; variables, appropriate populations, validity of instrumentation and the research behind them. J Read Writ Learn Disabil Int 6 (1990), 203–222.

A. Ozdemir, A. Alaybeyoglu, N. Mulayim, K.F. Balbal, Performance Evaluation of Learning Styles Based on Fuzzy Logic Inference System, Computer Applications in Engineering Education, pp:853-865.

A. Ozdemir, A. Alaybeyoglu, K.F. Balbal, Learning Style Determination with Gregorc Learning Style Model: Example for Faculty of Engineering, ICRES 2017.

K.F. Balbal, N. Mulayim, A. Ozdemir, A. Alaybeyoglu, Fuzzy Logic Based McCarthy Learning Style Inference System, ICRES 2016.

Author Information

Aysegul Alaybeyoglu
Izmir Katip Celebi University
Computer Engineering Department
Contact e-mail: *aysegul.alaybeyoglu@ikc.edu.tr*