

Fluento - A Multiplatform Language Learning Application

Digvijay Ingole¹, Sandesh Mahajan², Dr Araddhana Arvind Deshmukh³

^{1,2#}Department of Computer Engineering, Marathwada Mitra Mandal's College of Engineering, Maharashtra, India

³ Head and Associate Professor, Department of Artificial Intelligence and Data science, Marathwada Mitra Mandal's College of Engineering, Affiliated to Savitribai Phule Pune University, aadeshmukhskn@gmail.com, araddhanadeshmukh@mmcoe.edu.in, ORCID id 0000-0002-4406-356X,

[1digvijayingole2018.comp@mmcoe.edu.in](mailto:digvijayingole2018.comp@mmcoe.edu.in)

[2sandeshmahajan2018.comp@mmcoe.edu.in](mailto:sandeshmahajan2018.comp@mmcoe.edu.in)

[3araddhanadeskmukh@mmcoe.edu.in](mailto:araddhanadeskmukh@mmcoe.edu.in)

Abstract - There is a rapid increase in the adoption of technology for teaching and learning a language. Mobile and Web-based Assisted Language Learning provides easy access for any student without any restrictions on both location and time. In Virtual Learning, devices such as smartphones, iPods, tablets, laptops, iPads are used for scalp language learning. Many apps are made and used for those learning English as a second language. This paper focuses on “Fluento” a multiplatform language learning application which closes down the gap of language learning in traditional media by the use of analysis, testing and creating a social platform which leads to a better and efficient language learning experience. The project is designed to develop learners' language skills, greater emphasis is placed on acquiring language skills such as listening, speaking, reading and writing through mobile and web-based technology. So, the survey shows us that learning a new language through audio-visuals is more efficient than learning with traditional media. The proposed application will eliminate the difficulties of attending language learning courses.

Keywords - multiplatform language learning, traditional media, social platform, audio-visuals, assisted language learning

1. Introduction

The growth of portable technologies, such as smart phones, laptops and tablets, has had an impact on how people learn and learn a second language. In many cases, technology expands classroom learning, and students are able to make independent decisions about where, when, and how to learn a second language. Indeed, the popularity of online language learning programs confirms the current interest in the use of independent language learning technologies. Therefore, it is important to evaluate the effectiveness of such technology in second language learning. As Heift and Chapelle (2012) state, “There is a need to better understand the new context for second language acquisition (SLA) that brings real language-related skills that most learners acquire on a daily basis”. Recently, Plonsky and Zeigler (2016) argued that research should be concerned “and how technological power can be used to give students the right opportunities to learn a language”.

2. Literature Survey

This section includes the survey of three papers which helped us in to create our multiplatform application:

A. *Mobile-assisted language learning: A Duolingo case study:*

This study provides one of the few systematic investigations into the effectiveness of a widely used commercial language learning app Duolingo. This research investigated the effectiveness of mobile assisted language learning. The participants showed significant improvement while learning language at the end of the study, and results indicate a positive, moderate correlation between study and time spent on Duolingo

B. *Computer assisted language instruction consortium:*

In a modern environment focused on communication language teaching methods, Duolingo may be more effective as an additional language learning tool instead of being the primary source or the only source for

students who want to use the target language in real-world situations

C. Learn a new language while translating a webpage:

In this study a webpage is translated into another language by using Google Translate to learn a new language. The translated webpage is then checked for errors and accuracy. Duolingo is then used to translate to see its effectiveness compared to google translate for learning a new language. The research concludes that learning a language from Duolingo is way more efficient than google translate by translating lines.

3. Gap Analysis

A. Social Platform-

We have created social platform which connects people by adding friends. You can compare the scores, See your and your friend’s rank on leader boards. Creating a competitive and a motivating environment.

B. Seamless Multiplatform-

Our app provides real-time cross platform support as the web and the mobile app are built with the help of flutter and firebase. Therefore, any updates done on mobile app are reflected on Web immediately.

4. Proposed System

A. System Architecture Diagram:

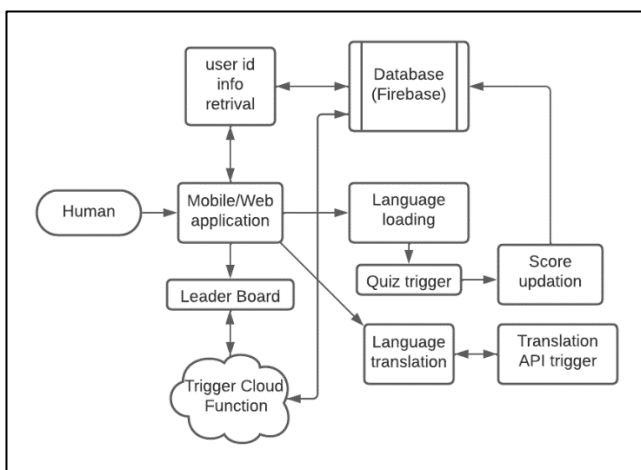


Fig. 1 System Architecture

B. UML Diagram:

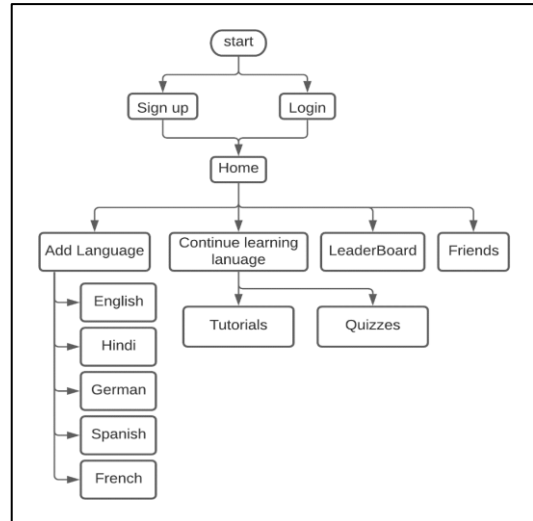


Fig. 2 UML Diagram

5. Working Functions

A. System analysis:

I. Software Requirement:

1. The multiplatform application is developed in Flutter. Flutter is an open-source UI software development kit created by Google. It is used to develop cross platform applications for Android, iOS, Linux, macOS, Windows.
2. The backend for the application is Firebase. The Firebase works as a database and helps connect the backend to the frontend.
3. The application has a user login system with password encryption which allows only authorized users to access the application.
4. Library: pub.dev. It facilitates the sharing via publication of Dart packages. It is central to this service that consumers of packages can trust that their dependencies do not suddenly disappear.

II. Hardware Requirements:

1. Android phone with minimum android version 4.2 Jellybean to run the app.
2. Laptop or Computer with minimum Microsoft® Windows® 7/8/10 (64-bit).

B. The Functions:

1. Sign-up/ Log-in:

It enables users and organizations to independently register and gain access to your system securely.

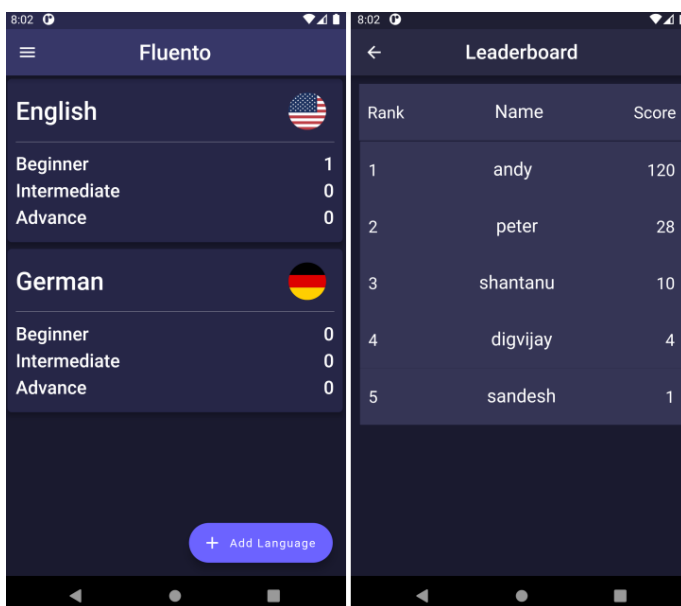
2. Home Page:

It consists of navigation to the pages available in the platform. Users can here select languages to learn and see their progress.

3. Leader boards and friends:

It shows the ranking of your language learning progress compared to others. Adding friends and comparing your language learning progress with them also helps in the language learning process.

6. Results



A. Mobile-based Output:

Fig 3. Mobile Outputs

B. Web-based Output:

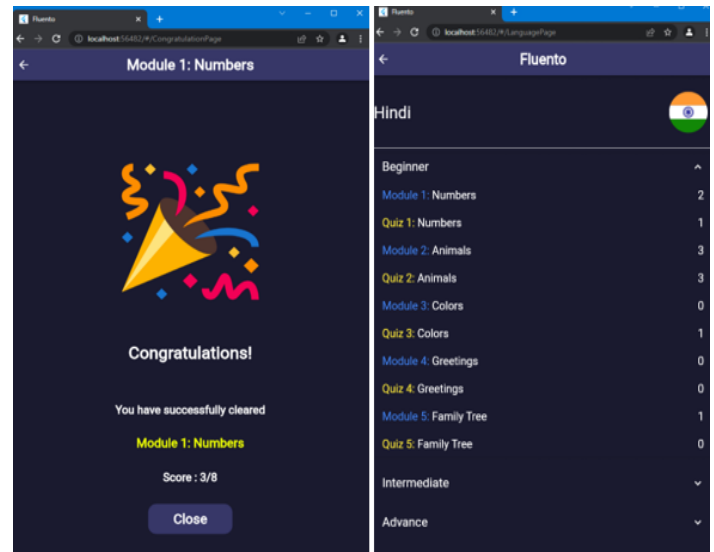


Fig 4. Web Outputs

7. Future Aspects

- Word of the day – Every day a word would pop up to increase interactivity and motivation to learn.
- In-app official language exams with certification.
- Multiple themes - Include the variance of Formal and Informal Language to improve the understanding of language even better.
- Learning streak.
- Points Rewarding System.
- Live lectures from the language country origin people themselves.

8. Conclusion

Learning a language from Online learning multiplatform demonstrates substantial achievements in proficiency. With little or even having no prior knowledge of the language, the platform's easy and interactive way helps its users to learning language in a fast and efficient way. The quizzes included in the platform helps the users' asses their progress and revise the learned material. The lessons are broken down into short and engaging sections which you can complete without giving up a lot of time. This paper concludes that learning a language from "Fluento" is efficient, fast and less time consuming compared to traditional media, the social platform makes it more engaging and motivating to continue learning language. "Fluento" being multiplatform also helps in learning language wherever the user is or whichever device they carry.

References

- [1] Shawn Loewen, Dustin Crowther, Daniel R. Isbell, Mobile-assisted language learning: A Duolingo case study, Cambridge University Press, *ReCALL*, 31(3) (2019) 293 – 311.
- [2] Kaitlyn Teske, Computer assisted language instruction consortium (Duolingo), *CALICO Journal*, 34(3) (2017) 393-401.
- [3] Luis von Ahn, Duolingo: Learn a Language for Free while Helping to Translate the Web, in *Procc. IUI'13*, (2013) 1-2.
- [4] Son, Jeong-Bae. Learner experiences in web-based language learning, *Computer Assisted Language Learning*, 20(1) (2007) 21–36.
- [5] Yusof, Nor Ashikin; Saadon, Norkamruzita, The Effects of Web-based Language Learning on University Students' Grammar Proficiency, *Procedia - Social and Behavioural Sciences*, 67 (2012) 402–408.
- [6] Catherine Regina Heil, Jason S. Wu, Joey J. Lee , A review of mobile language learning applications: trends, challenges and opportunities. *The EUROCALL Review*, Volume 24 (2), September 2016
- [7] Diana Cojocnean, Mobile Learning in the foreign language classroom – challenges and opportunities, *Revista de Pedagogie - Journal of Pedagogy LXV(1):59-72*, July 2017
- [8] Shazi Shah Jabeen, Ajay Jesse Thomas, Effectiveness of Online Language Learning, *World Congress on Engineering and Computer Science 2015 Vol I WCECS 2015,21-23pp*, October 2015.
- [9] Ryan Baker, Feng Wang, Zhenjun Ma, Wei Ma, Effectiveness of an Online Language Learning Platform in China, *Journal of Interactive Learning Research* 29(1), January 2018
- [10] Pilar Munday, The case for using DUOLINGO as part of the language classroom experience, *RIED Revista Iberoamericana de Educaci ´on a Distancia* 19(1), September 201
- [11] Hind A. Al Fadda and Rasha M. Alaudan, Effectiveness of Duolingo App in Developing Learner's Vocabulary, Grammar and Pronunciation, *International Journal on Emerging Technologies* 11(5): 403-410, 2020.
- [12] Katharine B. Nielson, Self-study with language learning software in the workplace, *Language, Learning and Technology* 15(3):110-129, October 2011
- [13] Jeong-Bae Son, Learner experiences in web-based language learning, *Computer Assisted Language Learning* 20(1):21-36, February 2007.
- [14] G ¨ul,cin Nagehan Sarica, Nadire C, avu,s, WEB-BASED ENGLISH LANGUAGE LEARNING, Paper presented at the 8th International Educational Technology Conference, Anadolu University, 6-9 May, 2008.
- [15] Mingxin Li, Using the Websites in Interactive-Based English Language Learning, *Academic Research International* Vol. 5(4), July 2014