VOLUME - 11, ISSUE - 05, MAY - 2022 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Engineering

MOBILE APP DEVELOPMENT TO INCREASE STUDENT ENGAGEMENT AND PROBLEM SOLVING SKILLS USING ANDROID TECHNOLOGY

Dr. M.S. Chaudhari	Assit Prof. & Head IT Department, Priyadarshini Bhagwati College, of Engineering Nagpur, India.
Navin Jaiswal	IT Department, Priyadarshini Bhagwati College, Of Engineering Nagpur, India.
Aditya Dhopte	IT Department, Priyadarshini Bhagawati College, of Engineering Nagpur, India.
Ishwar Chawke	IT Department, Priyadarshini Bhagwati College, Engineering Nagpur, India.
Tanmay Vairagade	IT Department, Priyadarshini Bhagwati College, of Engineering Nagpur, India.

ABSTRACT Programming is a fundamental ability for Computer Science Students. Most programming lectures use traditional languages, such as C, C++, or Java, as the first learning language for beginners, which are effective for real applications and therefore are popular in industry. However, the complex syntax of these languages is challenging for beginners, which becomes an obstacle to their learning. Python has simpler syntax and high-level data structures to enable succinct programs. The multiple paradigms of Python also provide learners opportunities to learn various features of programming languages. Therefore, Python gradually becomes a new option of the first language for learning. This Project investigates the features of the first learning programming language by comparing Python with the popular learning language Java. The results has given instructors suggestions for selecting suitable learning languages in their lectures and designing adaptive instructional strategies/materials based on the features of the selected language.

KEYWORDS :

INTRODUCTION

Mobile device technologies have become a basic part of our lives. The growing demand for mobile is a positive sign that these devices are playing an essential role in our lives. Mobile devices are being used as a means of information exchange, chat, entertainment, SMS (texting), and other social communication, leaving computers running the most complex tasks. Because most students today have some sort of internet-enabled mobile device, the development of Mobile-based systems provides students with fast, straightforward access to information needed in their academic lives. Some research studies have concluded that the integration of tablets, PDAs, and touch screen devices in the curriculum helps increase motivation in students and improves learning outcomes. The real innovation with tablets is how they're used, the way the user interacts with the device giving it a little touch on the screen, easy and intuitive, requiring neither manuals nor instructions. In addition, what makes them so powerful for education is that students already use them outside the classroom to download applications, connect to social networks, and immerse themselves in informal learning experiences. These new technologies make it possible today to speak of e-learning and M-learning, providing great benefits for the student [1].

The literature on M-learning points to a variety of benefits that mobile devices could have on the educational sector. For heuristic purposes, the impacts of mobile devices on educational outcomes that are identified in the M-education literature can be classified into two broad categories. On the one hand, mobile devices supposedly impact educational outcomes by improving access to education while maintaining the quality of education delivered. On the other hand, mobile devices purportedly impact educational outcomes by facilitating alternative educating processes and instructional methods collectively known as new educating [2].

Android is the world's most popular operating system (OS) for mobile devices and tablets. Available to all kinds of developers with various expertise levels. Android is the first free, open source, and fully customizable mobile platform, a software stack for mobile devices including an, middleware and key mobile applications. The Android SDK provides the tools and APIs necessary to develop applications on the Android platform [3,4].

This project aims to introduce android mobile app development of **"Go to Hub"** application that provides educational services to students through their mobile devices, using the Android OS platform**.** This Application will provides all software Programming Languages that allows online access for different users including students. We have tested the Application+ with different type of services and programs. The paper is organized as follows:

1.We introduce the Android mobile app Development.
2.We introduce an overview about recent studies of mobile devices.
3.We present the analysis and design of the Mobile Educational Services Application.
4.We introduce the implementation of the "Go to Hub" Application.

LITERATURE SURVEY

In literature, several studies have been reported that discussed merits and demerits of various programming languages and the issues involved in selection of a programming language for teaching. Schulte and Bennedsen gathered teacher's opinion about what topics should be taught in programming courses (Schulte, C. and J. Bennedsen, 2006). Milne and Rowe analyzed what are the topics in introductory level courses difficult to be comprehended by undergraduate students. Davies et al. provided a nationwide survey of various languages and techniques being taught in introductory level programming courses. According to the authors, Java is the most widely used language for teaching programming. Mason et al. (Mason et.al, 2012) analyzed different introductory level programming courses in Australian Universities to determine

the trends in programming language, Integrated Development Environment (IDE), paradigm and topics coverage. Robins et al. provided a review on programming languages and identify topics related to teaching novice users (Sebesta, et.al, 2014). In various studies, different programming languages have been analyzed based on their features for novice programmers. A brief discussion on various programming languages of choices for beginners has been provided by (Lisa Eadicicco, 2014). An overview of various programming languages of choices for modern days has been provided in (Rebecca Hiscott, 2014). In some of the studies, specialized tools have been developed for teaching programming to computer science students in more effective manner. In a tool called "SCAUSA" has been developed for students and educators to learn parallel programming (Moritz Schlarb, et.al, 2015). A list of various tools to teaching programming to kids has been provided in. According to, the prevalence of mobile gadgets demands that programming should be taught directly on mobile devices.

Module

In the module first process is login. In the login process the user have to input his unique user name and password, if he has already got an account else the user should sign up by inputting his name password, email id, mobile number, branch and batch. Thus the user can login to his account with his allocated username and password. The signed in users will get access to all the programming language related study Materials.

Fig. Model Android Lists

Fig. Model All Languages List & Topics

App Features

While we make learning coding easy and fun, here are features that would make us your single choice to learn programming languages -

Programming Courses: To make your learning more interesting, we have been creating bite-sized and interactive course which will help you learn programming like never before.

Programming & Coding Examples:

At most programs in 10 programming lang-uages and counting, "Go to Hub" has one of the largest collection of precompiled programs with output for practice and learning.

Compiler:

The fastest compiler in the world on Android with support to compile and run over 10 programming languages. Other Features to improve your programming learning experience includes.

1. Concept-based illustrations to easily learn to code in a fun way.
2. Interactive learning experience.
3. Periodic Updates with new programmi- ng examples and course content.

ADVANTAGES OF USING MOBILES APPS IN LEARNING

Learning Methods:

The introduction of applications in the education sector has led to the introduction of new learning methods. There are fun games available on mobile applications that indulge the students into a healthy thought process and help them understand things from a different perspective.

Flexibility of using Mobile apps:

Mobile apps have become part and parcel of people's lives because of the flexibility and ease of looking up information that they offer. The power of mobile apps can be leveraged to offer training to learners even when they are not connected to internet.

eBooks And Online Study:

These days, students are generally very fond of online studying. This is where library apps and book search apps come into the picture. These applications make it easy for the students to search the appropriate study material in the mobile application. It keeps them closer to the study material and helps them in segregating their studying materials over the web.

Easy Accessibility:

The mobile learning technology and mobile apps help learners to use them at any time at their convenience.

Utilization Of Free Time:

College students always have a lot of free time, which get wasted in useless activities. With the help of e-Learning mobile apps learners can use their free hours to learn something productive.

Enjoyable And Informal Learning:

Students are fed up of boring homework routines. The classroom lectures are quite monotonous. The entertaining graphics and attractive illustrations are way better than regular study patterns. The informal feel of learning apps helps learners towards enhanced learning outcomes.

Changing Educational Standards:

The future of education belongs to technology. The content not only is predominant, but they also need to suit the learner. Table I, Table II and Table II explains the various android apps used by students, various mobile apps used in education and subject specific mobile applications in Education.

CONCLUSION

Mobile apps help to develop Critical and thinking skills of Learners. Formative assessment tools are convenient, easily accessible, and inexpensive and it also supports the learning environment. Use of Information and Communication Technology (ICT) in education is one of the most important changes in the Teaching learning. Now a days due to the advancement in technology and mobile phones with feature oriented features, students can learn at their convenience just a click away anywhere and anytime. Mobile applications play a major role in the Teaching Learning Process. The use of Mobile Applications in Education can offer various benefits to the learning environment. Mobile phone enables teachers and students to share their knowledge and experience. Implementation of Mobile applications in education plays.

REFERENCES

[1] Rodríguez, J.: Utilizatión de dispositivos móviles para la gestión académica de alumnos y docentes de la Universidad de San Martín de Porres (2012)
[2] Scornavacca E, Marshall S. TXT-2-LRN: Improving students' learning experience in the classroom through interactive SMS. Proceedings of the 40th Hawaii International Conference on System Sciences, Hawaii, 2007.
[3] Meier, R.: Professional Android Application Development. Wiley, Indianapolis (2008)
[4] Open Handset Alliance, http://code.google.com
[5] Yacoub, H.B.: Running C++ Native Applications on Android, The Final Point, http://openhandset magazine.com
[6] Mazzocchi, S.: Dalvik: how Google routed around Sun's IP-based licensing restrictions on Java ME, http://www.betaversion.org/
[7] Guiran Chang, Chun g uang Tan, Guanhua Li, and Chuan Zhu, "Developing Mobile Applications on the Android Platform", Springer-Verlag Berlin Heidelberg, pp. 264–286, 2010
[8] http://news.dice.com/android-talent-community/android-industry overview
[9] Elis sav eta Gour ova, Asya Asenova, and Pavl in Du lev. "Integrated Platform for Mobile Learning", chapter 5. DOI 10.1007/978-1-4614-3329-3_5, © Springer Science + Business Media New York, 2013
[10] Du lev, P. The use of tablets as mobile aids in E-learning. In Proceedings of international conference – New Horizons in Education, Portugal, 2011.