

TECHHUBB

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Abstract - This paper presents the design and development of Mobile Learning Application on Android Platform using Java Programming Language to help students in computer courses at the Department of Computer Engineering. Our approach is to incorporate multimedia animations concept with command language to create the pervasive learning environment in presenting the mobile learning application. With this mobile learning application, student could learn at his or her own pace, anywhere and anytime. This mobile learning application intends to complement the current traditional classroom and e-learning systems.

Key Words: Android Platform, Java Programming Language, Rest Api, Mobile Learning Application, Social Engineering.

1. INTRODUCTION

An interactive learning, by using Mobile learning concept, is something to make learning more interesting and not monotonous. A new trend in e-learning nowadays is known as Mobile Learning, the use of portable media such as Smartphone either using the Android system, IOS or Windows Phone. The use of Mobile Learning to support the learning process is considered important to add the flexibility in the activity of teaching and learning. Thus, the learning process can be done anywhere and anytime. The aim of this research is to introduce the mobile learning-based information by means of Android

1.1 Problem Statement

The purpose of our system is to design and implement Educational Application which is intended to support dynamic E-Learning Platform. The application is being designed to provide learning environment to the students by giving various study material and tests based on various popular technologies of computer science and shows the student progress.

1.2 Literature Survey

Mobile learning as an intersection of Mobile computing and E-Learning providing resources that can be accessed in anywhere has capability in an excellent searching system, rich interaction and full support towards an effective learning and performance-based assessment. In addition, it does not depend on time and space. The application of mobile learning can be used through the Android operating system

that is chosen in consideration that Android has been dominating the Smartphone market and is an open-source operating system that can be easily developed. To ease the users to access M-learning, jQuery mobile framework is applied as its display, in addition to its attractive features, is able to adjust the screen from mobile equipment [1].

This application will be implemented for two types of user: admin that will use the web-based application on the desktop and students that will use android mobile tool-based application. In this case, the function that will be given by processing the materials that will be uploaded by admin and can be downloaded by the students, task and quizzes given by the admin to the college students and the function to show the score from the college students. Objective can be states as to increase use of ubiquitous computing using Android based application and increase dependency on E-Learning to replace traditional learning methods [1].

2. OVERALL ARCHITECTURE

In Our proposed system we present the secure, reliable, dynamic and stable online E-learning based application. Input to the system will be subject name, topic name of the respective subject and difficulty level, all this input data will be entered by user through mobile app. Respected data will be stored on back end which is admin side on cloud. On back end admin will manage all databases which contain student data, subject data and Test/Score data. Admin side is dynamic enough to run CRUD operations on database. The credentials of students will be stored in database using MD5 encryption so that admin cannot miss use the personal information. On front end, users will have to download app from google play store and then have to register to use its features. User has freedom to choose whichever subject they want if it contains in database. But the dynamicity is provided in app, if user wants to request a subject currently not present in database. The result of test given by user is provided right after test get submitted. User can review their score, percentile, rank per subject and history of test in report generated by admin side.

3. Technology Used

In this application we are using the following technology.

3.1.1 Android

Android is a mobile operating system (OS) based on the Linux kernel and currently developed by Google. With a user interface based on direct manipulation, Android is designed

primarily for touchscreen mobile devices such as smartphones and tablet computers, with specialized user interfaces for televisions (Android TV), cars (Android Auto), and wrist watches (Android Wear). The OS uses touch inputs that loosely correspond to real-world actions, like swiping, tapping, pinching, and reverse pinching to manipulate onscreen objects, and a virtual keyboard. Despite being primarily designed for touchscreen input, it also has been used in game consoles, digital cameras, and other electronics. Android is the most popular mobile OS. As of 2013, Android devices sell more than Windows, iOS, and Mac OS devices combined, with sales in 2012, 2013 and 2014 close to the installed base of all PCs. As of July 2013, the Google Play store has had over 1 million Android apps published, and over 50 billion apps downloaded. Androids source code is released by Google under open source licenses, although most Android devices ultimately ship with a combination of open source and proprietary software. Initially developed by Android, Inc., which Google backed financially and later bought in 2005, Android was unveiled in 2007 along with the founding of the Open Handset Alliance a consortium of hardware, software, and telecommunication companies devoted to advancing open standards for mobile devices. Android is popular with technology companies which require a ready-made, low-cost and customizable operating system for high-tech devices. Androids open nature has encouraged a large community of developers and enthusiasts to use the open-source code as a foundation for community-driven projects, which add new features for advanced users or bring Android to devices which were officially released running other operating systems. The operating systems success has made it a target for patent litigation as part of the so-called smartphone wars between technology companies.

The system aims to generate dynamic tests. This can be used to make learning ubiquitous and Learning will move more and more outside of the classroom and into the learner's environments, both real and virtual, thus becoming more situated, personal, collaborative and lifelong. The System has also a query section in which one who have some problem regarding the quiz or any other they can ask freely and one who is on the server side is free to help him.

4. IMPLEMENTATION AND RESULTS

Following figures shows some live screenshots:

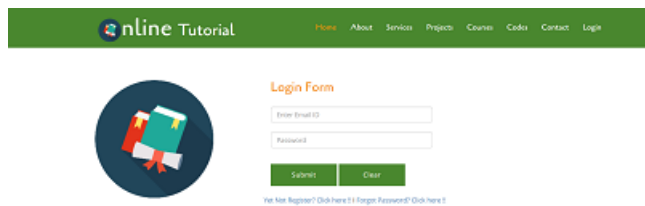


Fig -2: Admin Side Login Page

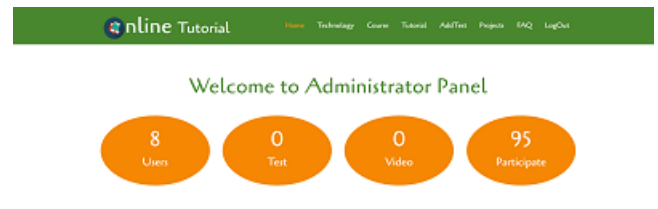


Fig -3: Admin Side Dashboard

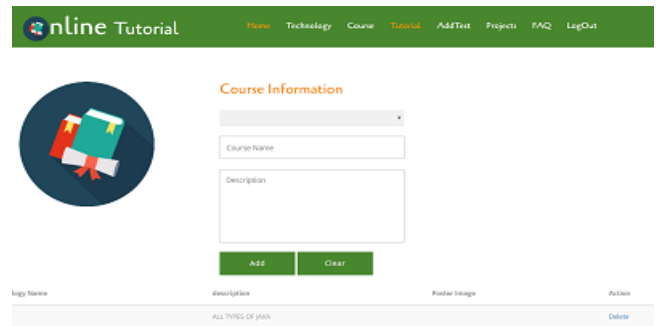


Fig -3: Admin Side Course Information

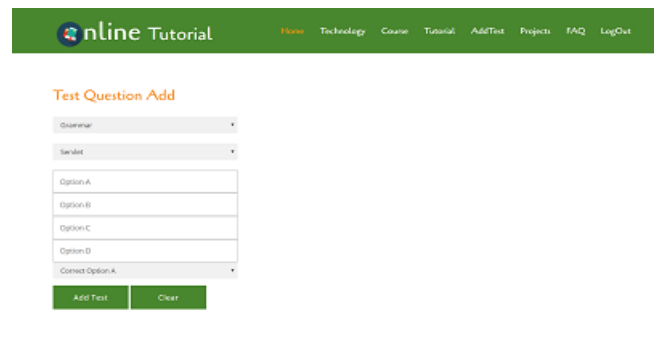


Fig -3: Admin Side Test Question

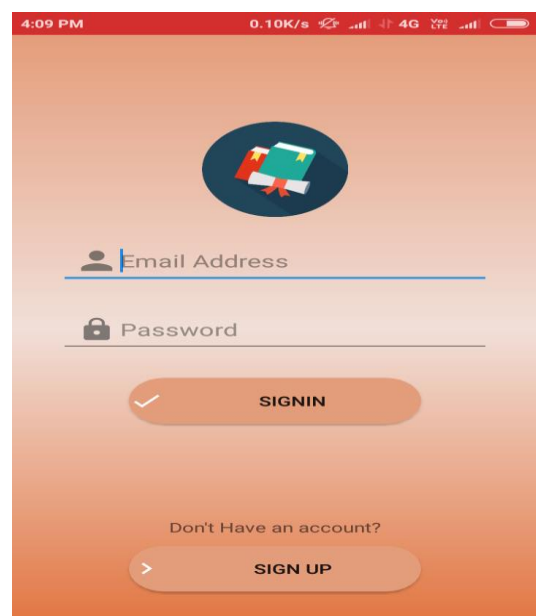


Fig -4: Client-side login activity

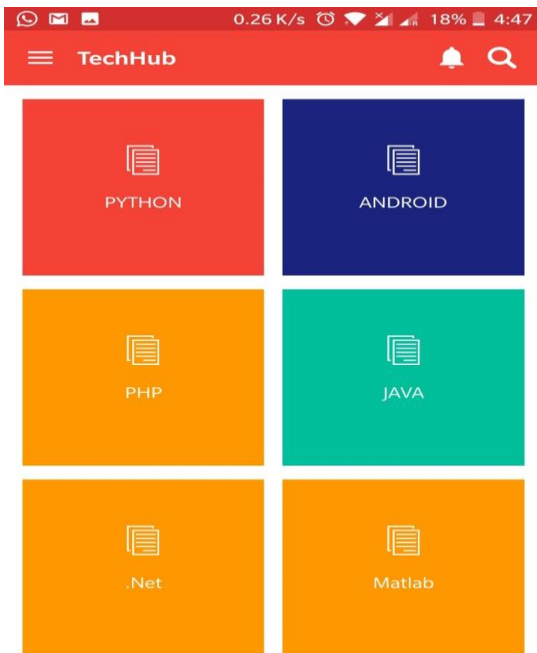


Fig -5: Client-Side Dashboard Activity

pp. 111– 123, 2011.

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5. CONCLUSION

The Project exposed us to the latest technology in the area of mobile platform development. Thus, the project successfully demonstrated a mobile based "TechHub" application where the application reduces the complexity of finding the learning materials and to prepare accordingly in order to decide the career and to achieve his/her goals.

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