Easy Engineering: Android Application for Engineers

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Abstract— The aim of our project is to provide instance services to engineers through our application call "EASY ENGINEERING" an android application. This application is basically application suite, which consist of set of application module. Our agenda is to provide study related services through this application module. The idea came in mind, when we thought about our entire 3 years of journey. Engineers always need study related material at anytime and anywhere. This increase unnecessary stress, when student unable to get for what they are looking for. By using this application student can solve their problem instantly. This application provide set of application module which used by every Engineer every day, for example module like Scientific calculator, University question papers, aptitude, Searchable dictionary, GRE flashcards, , attendance checking s/w, maths formulae etc.

Keywords: Android, Scientific Calculator University question paper, Logarithmic table.

I. INTRODUCTION

Android based EASY ENGINEERING is an android application. This application is basically application suite, which consist of set of application module. Our agenda is to provide study related service through this application module. The idea came in mind, when we thought about our entire 3 years of journey. Engineers always need study related material at anytime and anywhere. This increase unnecessary stress, when student not get for what they are searching. By using this application student can solve their problem instantly. This application provide set of application module which used by every Engineer every day, for example module like, Scientific calculator, University question papers, aptitude, searchable dictionary, GRE flashcards, attendance checking s/w, maths formulae etc. There will be no requirement of authentication for example, no need of username and password to start this application and is absolutely free for everyone.

II. ANDROID OS

Android is a Linux-based operating system designed primarily for touch screen mobile devices such as smart phones and tablet computers. Initially developed by Android Inc,

Android is open source and Google releases the code under the Apache License. This open-source code and permissive licensing allows the software to be freely modified and distributed by device manufacturers, wireless carriers and enthusiast developers. Additionally, Android has a large community of developers writing applications "apps" that extend the functionality of devices, written primarily in a customized version of the Java programming language.

These factors have contributed towards making Android the world's most widely used smart phone platform,

overtaking Symbian in the fourth quarter of 2010, and the software of choice for technology companies who require a low-cost, customizable, lightweight operating system for high tech devices without developing one from scratch.[1]

A. Features of Android OS

1) Storage

SOLite, a lightweight relational database, is used for data storage purposes.

2) Connectivity

Android supports connectivity technologies including GSM/EDGE, IDEN, CDMA, EVDO, UMTS, BLUETOOTH, Wi-Fi, LTE, NFC and WiMAX.

3) Messaging

SMS and MMS are available forms of messaging, including threaded text messaging and android Cloud To Device Messaging (C2DM) and now enhanced version of C2DM, Android Google Cloud Messaging (GCM) is also a part of Android push Messaging service.

4) Multiple language support

Android supports multiple languages.[1]

5) Java Support

While most Android applications are written in java there is no Java Virtual machine in the Platform and Java byte code is not executed. Java classes are compiled into Dalvik executable and run on Dalvik a specialize virtual machine designed specifically for Android and optimized for battery-powered mobile devices with limited memory and CPU. J2ME support can be provided via third-party applications.

6) Multitouch

Android has native support for multi-touch which was initially made available in handsets such as the HTC Hero. The feature was originally disabled at the kernel level (possibly to avoid infringing Apple's patents on touch-screen technology at the time). Google has since released an updated for the Nexus One and Motorola Droid which enables multi-touch natively.[10]

7) Bluetooth

Support A2DP, sending files (opposite) accessing the phone book (PBAP), voice dialing and sending contracts between phones. Keyboard, mouse and joystick (HID) support is available in Android 3.1+, and in earlier version through manufacture customized and third party application.

8) Multitasking

Multitasking of applications, with unique handling of memory allocation, is available.

9) Streaming media support

RTP/RTSP streaming (3GPP PSS, ISMA), HTML progressive download (HTML5<video> tag). Adobe Flash Streaming (RTMP) and HTTP Dynamic streaming are supported by the Flash plug-in. Apply HTTP Live Streaming

is supported by Real player for Android, and by the operating system in Android 3.0(Honeycomb).[1]

B. Android Architecture

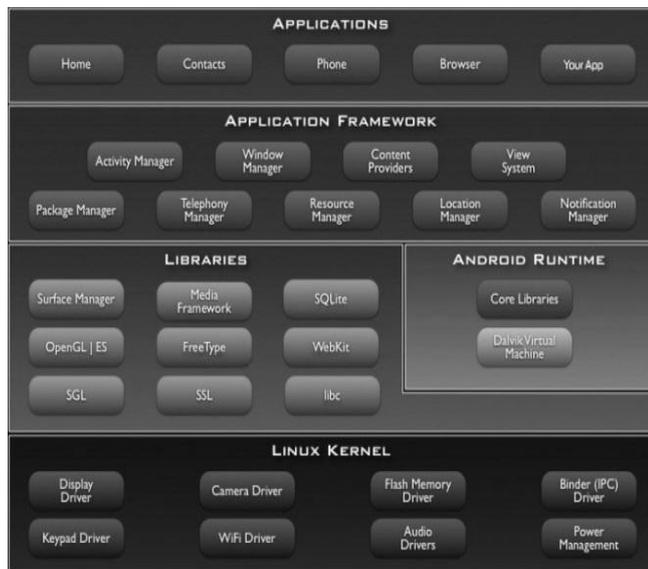The below figure shows the diagram of Android Architecture.

Fig. 1: Android architecture diagram

The Android OS can be referred to as a software stack of different layers, where each layer is a group of several program components. Together it includes operating system, middleware and important applications. Each layer in the architecture provides different services to the layer just above it. We will examine the features of each layer in detail.[2]

C. Android Sdk

A software development kit that enables developers to create applications for the Android platform. The Android SDK includes sample projects with source code, development tools, an emulator, and required libraries to build Android applications. Applications are written using the Java programming language and run on Dalvik, a custom virtual machine designed for embedded use which runs on top of a Linux kernel. The Android SDK provides you the API libraries and developer tools necessary to build, test, and debug apps for Android.

If you're a new Android developer, we recommend you download the ADT Bundle to quickly start developing apps.

It includes the essential Android SDK components and a version of the Eclipse IDE with built-in ADT (Android Developer Tools) to streamline your Android app development. With a single download, the ADT Bundle includes everything you need to begin developing apps:

1) Eclipse + ADT plug-in
2) Android SDK Tools
3) Android Platform-tools
4) The latest Android platform
5) The latest Android system image for the emulator.[2]

III. EXISTING SYSTEM

In the existing system some application are available but they are not fully developed for example calculator in which, we can do only addition, subtraction, multiplication and division but we are going to provide fully functional scientific calculator. The other application such as my password, university question papers not available anywhere.

IV. PROBLEM IN EXISTING SYSTEM

In the existing system some application are available but they are not fully developed as well as they are not in one application suite so android user needs to download each and every application one by one which is sometimes time consuming for engineering student.

V. PROPOSED SYSTEM

A. Main Screen

As proposed system consist of different module such university paper, aptitude, pvppcoe attendance, easy maths, GRE, calculator, flash card and about us module as shown in image which is screenshot of the application. Fig 2 shows main application front page.

Fig. 2: Screenshot of application

B. Dictionary

The below Application consist of dictionary module which consist of different technical terms which is required for computer engineering student.
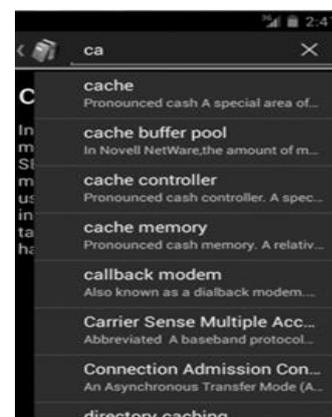

Fig. 3: Screenshot of dictionary

Dictionary includes different words meaning which is useful for computer engineering student for understanding subject

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properly. Dictionary includes different term related advanced computer n/w and computer organisation and architecture and data structure and digital logic. Fig 3 shows word which is searched in dictionary which is present in our application module.

C. *University Paper Module*

University paper module consists of different question papers of different semester with different branches. Fig 4 shows module University papers.

Fig. 4: Screenshot of University papers

D. *Aptitude*

The below Application consist of dictionary module which consist of different technical terms which is required for computer engineering student.

Fig, 5: Screenshot of aptitude

E. *Attendance*

Application also include pvppcoe module which direct to the page college website which is necessary for giving online exam for term-work. Fig. 6 shows login page of ilms of college website.
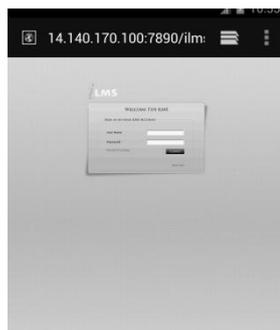

Fig. 6: Screenshot of attendance

F. *Easymaths*

Application include easymaths which consist of the all mathematical formule which required for engineering mathematics . Fig. 7 shows mathematical formule which is application page.
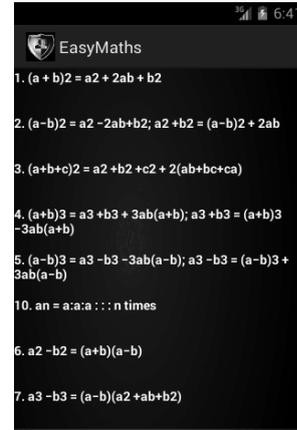

Fig. 7: Screenshot of dictionary

VI. FUTURE ENHANCEMENT

EASY ENGINEERING has attracted the attention of many universities and in the near future its importance will still grow as it will become more integrated with the processes like m-indictor and other related application. This application will be used by those students who are thinking about engineering after completing their HSC/DIPLOMA. We are also going to implement to acknowledge users about updated version of easy engineering, new university papers, updated aptitude papers and so on. We are also thinking about tracking users state for taking feedback from users for further analysis to implement required functionality to the user.

VII. CONCLUSION

Capability of the application can be increased by integrating different technologies with additional performance algorithms. This can be used as an effective tool to manage engineer's problem, saving Cost tremendously and also it is easy to handled, portable. Thus we conclude by saying that EASY ENGINEERING can be effective tool in any university for achieving its goals and achieving more development. Thus it can be seen that the process of solving student's related problem can be carried out easily with help of EASY ENGINEERING developed by us. Implementation of EASY ENGINEERING is progress.

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