

MOCK TEST USING AKASH TABLET

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Abstract-Due to the widespread adoption and use of handheld mobile devices, the application of mobile technologies in enhancing learning activities has attracted research interest. This application presents an attempt to exploit mobile technologies to simplify the exam management and performance assessment activities of a learning process. The work focuses on key aspects of mobile device and platform oriented design, light-weight and efficient implementation, interface usability issues related to fast and convenient question navigation, and performance assessment. Mock test is android application that establishes a network between the institutes and the students. Akash tablet is used for working. Institutes enter on the application the questions they want in the exam. These questions are displayed as a test to the eligible students. The answers enter by the students are then evaluated and their score is calculated and saved. This score then can be accessed by the institutes to determine the passes students or to evaluate their performance. The site has an administrator who keeps an eye on the overall functioning of the system. This will be an Android client-server application and one can register them self for test as a student and simultaneously he can get the exam result. After submit or End of the Test the form will be submitted and evaluated.

Keywords: Online Exam, Android, module, java.

I. INTRODUCTION

We want to develop a mock test system on android application which will help students to give exam on Android Tablet. Mock test On android tablet is a project in which we have specified some questions, a timer runs for given time and within that period one has to answer for all those questions, some buttons are presented at the bottom of the window like start button, previous , next , finish. When we click the start button the test get started. If you do not wish to answer a particular question you can move on to next question by pressing next button or if you wish to move to the previous question that you had skipped you can make this move by previous button. When the questions get solved then student can click on finish button in that time period Three modules include in this project administrator module, teacher module and student module. Administrator can add, update, and delete all accounts of users. He calculates the result. He can check all result and status. Teacher can set all question paper, they can check result, can upload his notes for student etc. Student can give exam in particular domain like. Student can view result immediately and also result of his previous exam and can refer the notes uploaded by teacher.

II. AKASH TABLET

III.

Mobile application will get installed on mobile devices. These mobile devices should have WIFI device thorough which it will connect to server.

A. Akash Tablet Specifications

Akash is the latest in the series of low-cost tablet computers. It is procured by the Government of India to help enhance the quality of education in the country. It is envisioned that computing and internet access used in an integrated environment will empower both students and teachers enabling them to contribute substantially towards nation's progress.

TABLE 1 SPECIFICATIONS OF AKASH TABLET

Model	UbiSlate7CZ
Type	Smart phone tablet
Price	Rs. 5,999.00
Network	Wi-Fi and EDGE
Display Size	7 Inches
Display Resolution	800× 480 Pixels
Touch Panel	Capacitive
Processor	Cortex A7 Dual Core; 1.2 GHz
PRAM Memory	512MB
Internal Storage	4GB
Expandable Storage	32GB
Camera	Front VGA / Rear 2MP
Video HD	Yes
SIM Calling	Yes
Additional Facilities	Micro SD; Mini USB
Operating System	Runs on the latest Android version 4.2.2 (Jelly Bean)

IV. SCOPE OF THE PROJECT

This is an Android client-server application, where one can set the question and one can register them self for test as a student. After submit or End of the Test the form will be submitted and evaluated. The question and answers can be text or pictures or audios or even videos. Initial plan is to develop an objective type text based question and answer. The main programming language is android/Java database as a Mysql. Mock Test System is used for conducting objective test, the test will be customized such that system will have automated checking of answers based on the user interaction. In addition, our application has accurate time or

sometime limited time. For example, the time for a test is forty minutes for fifteen questions. The students must do the test exactly forty minutes or less, not forty five minutes, sixty minutes even forty minutes one second. If he failed to solve all the questions in forty minutes then the test will be submitted automatically and result will be calculated on the basis of the questions solved by him. This project helps the faculties to create their own test based on the subject. This also helps the instruction to perform quiz, test paper such that the academic performance of the students can be increased and can take the feedback from both students and parents. Exam System is very useful for Educational Institute to prepare an exam, save the time that will take to check the paper and prepare mark sheets. It will help the Institute to testing of students and develop their skills.

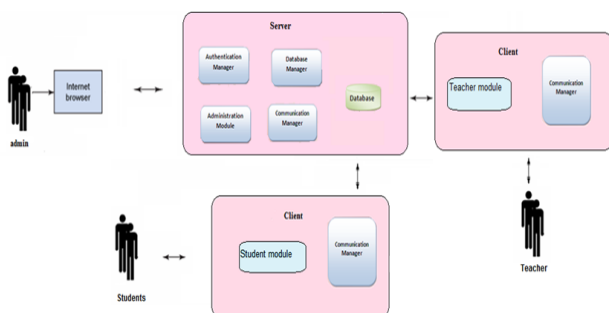


Fig. 1 Block diagram of system

Three modules include in this project administrator module, teacher module and student module. Detailed working of each module is given below.

A. Administrator Module

The administrator collects all the results after successful completion of the examination. The database is prepared & loaded into the page. The results will be displayed immediately after completion of the examination. Functions of the Administrator module are as:

- Can create/delete a user account.
- Can view the user accounts.
- Can change the password.
- Insert/delete/edit the information of available on system.
- Can access all the accounts of the faculty members/students.
- Can calculate the result and provide to viewer.
- View reports.

B. Teacher module

Task done by the teacher module are:

- They can login and request to add question papers
- They can forward there question papers to senior teacher for review
- They can see result of all students
- They can upload their notes for students.

C. Student module

Functions of Student module are:

- The students will logon to the system and take his examination.
- He can also check his previous examinations marks and his details.
- He can refer the notes uploaded by teacher.

V. INTERFACES

Server should have minimum 1GB RAM and 100 GB hard disk. The server machine also required WIFI devices which can create Wireless Ad-hoc network. Mobile application will support Android phones so at least 2 Android devices required getting the output. Software interfaces are:

- Operating System: Windows XP/Windows Vista/Windows 7.
- Database: Mysql 6.0.
- Android 2.2 supported mobile handset
- Tomcat 6
- JDK 1.6
- Eclipse 3.4

Communication interface is, we are using WIFI network and going to create our own communication protocol. Software will also support BASE64 encryption logic while sending data to server. Server will support HTTP protocol for web based access.

VI. SOFTWARE QUALITY ATTRIBUTES

VII.

Quality attributes are the overall factors that affect run-time behavior, system design, and user experience. They represent areas of concern that have the potential for application wide impact across layers and tiers. The extent to which the application possesses a desired combination of quality attributes such as usability, performance, reliability, and security indicates the success of the design and the overall quality of the software application.

A. Reusability

Reusability defines the capability for components and subsystems to be suitable for use in other applications and in other scenarios. Reusability minimizes the duplication of components and also the implementation time.

B. Availability

Availability defines the proportion of time that the system is functional and working. It can be measured as a percentage of the total system downtime over a predefined period. Availability will be affected by system errors, infrastructure problems, malicious attacks, and system load.

C. Performance

Performance is an indication of the responsiveness of a system to execute any action within a given time interval. It can be measured in terms of latency or throughput. Latency is the time taken to respond to any event. Throughput is the number of events that take place within a given amount of time.

D. Reliability

Reliability is the ability of a system to remain operational over time. Reliability is measured as the

probability that a system will not fail to perform its intended functions over a specified time interval.

E. Scalability

Scalability is ability of a system to either handle increases in load without impact on the performance of the system, or the ability to be readily enlarged.

F. Testability

Testability is a measure of how easy it is to create test criteria for the system and its components, and to execute these tests in order to determine if the criteria are met. Good testability makes it more likely that faults in a system can be isolated in a timely and effective manner.

G. Usability

Usability defines how well the application meets the requirements of the user and consumer by being intuitive, easy to localize and globalize, providing good access for disabled users, and resulting in a good overall user experience.

VIII. UML DIAGRAMS

A. Use Case Diagram

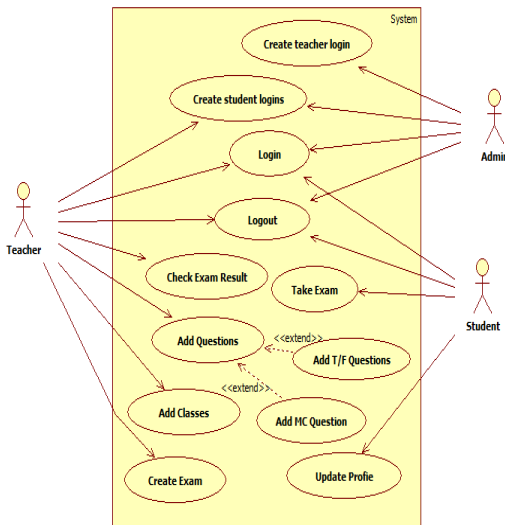


Fig. 2 use Case Diagram

B. Deployment Diagram

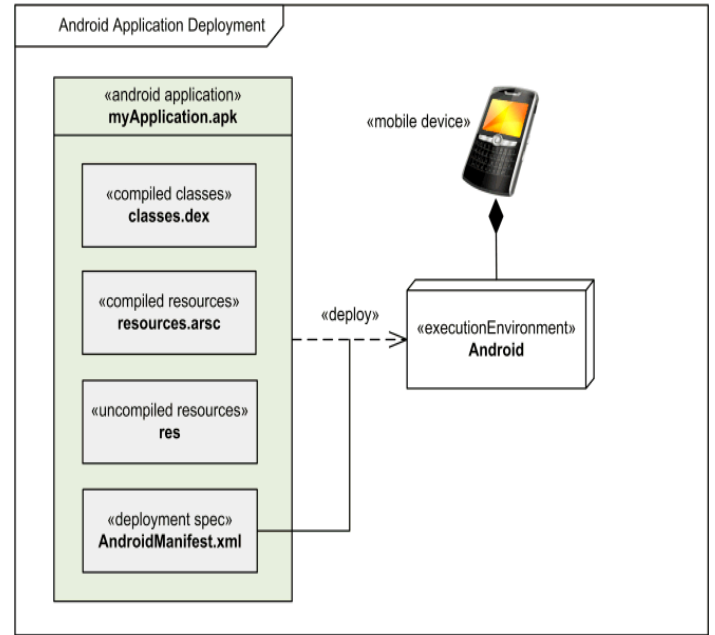


Fig. 3 Deployment Diagram

IX. TECHNOLOGY

Technologies used in the project are JAVA, Android etc.

A. Java

Java was developed at Sun Microsystems.. The original intent was to use C++, but as work progressed in this direction, developers identified that creating their own language would serve them better. Java is the Platform independent. So we have used java.

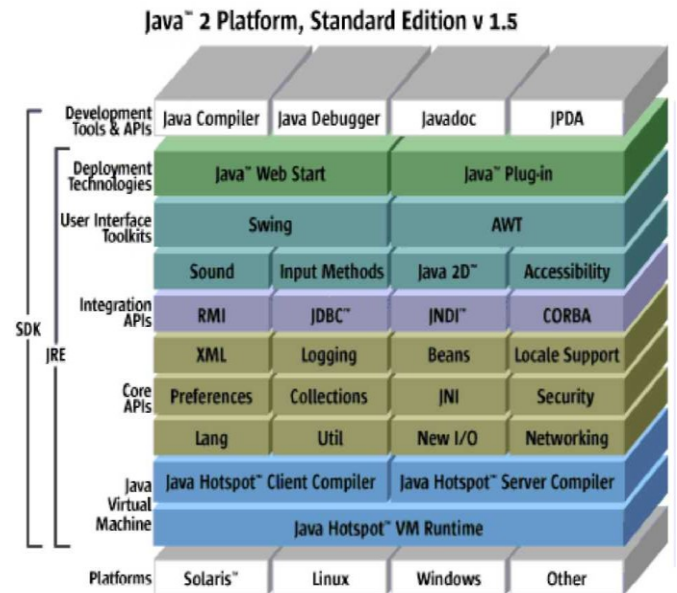


Fig. 4 Java Platform Block Diagram

Java's architecture arises out of four distinct but interrelated technologies:

- a. The Java programming language
- b. the Java class file format
- c. the Java Application Programming Interface

d. the Java virtual machine

When you write and run a Java program, you are tapping the power of these four technologies. You express the program in source files written in the Java programming language, compile the source to Java class files, and run the class files on a Java virtual machine. When you write your program, you access system by calling methods in the classes that implement the Java Application Programming Interface (API). As your program runs, it fulfills your program's Java API calls by invoking methods in class files that implement the Java API. The Java class file helps make Java suitable for networks mainly in the areas of platform-independence and network-mobility. Its role in platform independence is serving as a binary form for Java programs that is expected by the Java virtual machine but independent of underlying host platforms.

B. *Android*

Android is a recently developed operating system designed for mobile devices. It was developed by Google and uses a Linux based kernel, Java compatible libraries along with the just-in-time compiler for development in the Java programming language. It supports many hardware components. Common hardware consists of cameras, a Wi-Fi communications chip, cellular communications chip, Bluetooth sender and receiver, and a color touch screen. The Android Application Program Interface (API) contains many functions and classes to control the cellular devices. This functionality is all available in a single device with at least a day worth battery life. For this project H.263 was used in development on the Android device. With the RTP encoding integration audio may be transmitted by using the operating system streaming class. Resolutions for the encoders are limited to the recording and playback capabilities of the camera, the processor speed, and the graphics card of the device. Android is a software stack for mobile devices that includes an operating system, middleware and key applications. The Android SDK provides the tools and APIs necessary to begin developing applications on the Android platform using the Java programming language. Android operating system is a stack of software components which is roughly divided into five sections and four main layers as shown in the architecture diagram. At the bottom of the layers is Linux - Linux 2.6 with approximately 115 patches. This provides basic system functionality like process management, memory management, device management like camera, keypad, display etc.

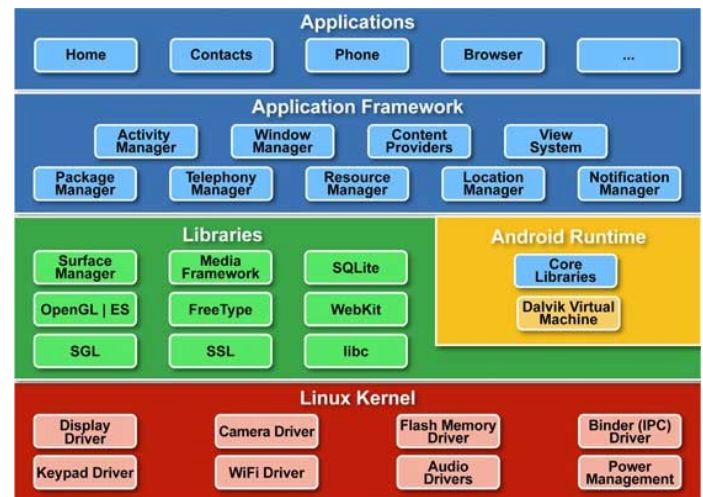


Fig. 5 Android Platform Block Diagram

By providing an open development platform, Android offers developers the ability to build extremely rich and innovative applications. Developers are free to take advantage of the device hardware, access location information, run background services, set alarms, add notifications to the status bar, and much, much more.

Android includes a set of core libraries that provides most of the functionality available in the core libraries of the Java programming language. Every Android application runs in its own process, with its own instance of the Dalvik virtual machine. Dalvik has been written so that a device can run multiple VMs efficiently. Android relies on Linux version 2.6 for core system services such as security, memory management, process management, network stack, and driver model. The kernel also acts as an abstraction layer between the hardware and the rest of the software stack. On top of Linux kernel there is a set of libraries including open-source Web browser engine WebKit, well known library libc, SQLite database which is a useful repository for storage and sharing of application data, libraries to play and record audio and video, SSL libraries responsible for Internet security etc.

X. STRENGTH AND WEAKNESSES

A. *Manual Examinations*

Student Registration is the first process. As the part of the registration, the student has to enter his name, address etc into the registration form. After the registration, make the question papers and it will give to the prospective student. The question papers contain total mark, subject, duration, question paper etc. A group of person does evaluation of answer sheet. After the evaluation of the Answer sheet, the result is published. The whole process leads to various problems such as,

a. *Lack of Space* – It becomes a problem in itself to find space to keep the sheets of paper being generated as a result of the ongoing discussion. The documents being generated are too important to be ill-treated.

b. *Filing poses a problem* – Filing the documents categorically is a time consuming and tedious exercise.

c. *Filtering is not easy* – It becomes hard to filter relevant documents for the irrelevant ones if the count of the same crosses a certain manageable number.

d. *Reviewing becomes time-consuming* – All the process done manually at the centres and all the records are maintained on the papers. So the maintenance of the record is very difficult in the departments and as well as it's very difficult for the workers to check the record. The Existing system is paper based, time consuming, monotonous, less flexible and provides a very hectic working schedule. The chance of loss of records is high and also record searching is difficult. Maintenance of the system is also very difficult and takes lot of time. To overcome these problems, we have used computerized system which will be very convenient to both students and institute.

B. Online Examinations

Online Exams System fulfils the requirements of the institutes to conduct the exams online. They do not have to go to any software developer to make a separate site for being able to conduct exams online. They just have to register on the site and enter the exam details and the lists of the students which can appear in the exam. They can view the result at the same time. Thus the purpose of the site is to provide a system that saves the efforts and time of both the institutes and the students.

There are some disadvantages of online examinations as, while examination, it is possible to be blackout, network failure, computer hang, and so many others. Those can disturb the process of examination. It will be very disappointed when we are doing the examination then blackout happen so the wireless disconnected and finally we cannot finish the exam or the data lost. So, there is no score for our exam.

The other disadvantage of online examination is the high possibility of cheating. The students can open the lesson file on their laptop or computer while doing the examination. Not only open the lesson file, but the students also can use calculator secretly. In some subjects, the students are prohibited to calculate by calculator. This disadvantage is overcome in the project as we are using Wi-Fi connection. Student presented in specific range can only access their account for examination.

XI. CONCLUSION

Our Android client-server application, where one can set the question and one can register them self for test as a student, he can choose the subject for test and he can get the exam result. After submit or End of the Test the form will be submitted and evaluated.

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