

Research Article

Quick Test: An Offline Quiz Application

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A B S T R A C T

In a class of 50-60 students while conducting a lecture, teachers ask questions on covered topics. Normally very few students give answers. Based on that, teachers assume that students understood concept, but sometimes it is not true analysis of a class regarding understanding of concepts of all the students. Everyone must participate in answering the questions. To address this issue and to encourage every student to participate in answering, the proposed system provides a solution through application. The system consists of mobile application and desktop application, the questions will be posted on mobile application of each and every student. The mobile will be connected to application only via wireless router using wifi, hence all other internet services will be disabled. Students need to enter IP address and unique key provided by teacher for connecting to the server. Teacher will create the test on desktop application which will be displayed on mobile screen of students and then the students will answer the question run time. The system will generate a report in the form of statistics for every question, so that teacher will be able to understand how many students answer correctly. This report will help the teacher to decide whether the topic should be taught again or not.

Keywords: Wireless Router, Android Mobile, Server, Statistics

Introduction

A learning environment is an environment in which students become totally involved in the learning process. Since the mobile devices support anytime, anywhere learning this helps to faster the growth of the learning. During lecture, when teacher asks questions to the students on taught topics very few students give answers. Based on that, teacher makes assumption that students understood the topic. But, it is not the true assumption regarding the understanding of whole class students. To address this issue, Quick test application enables the students to access the learning object seamlessly from the mobile tablet while in class, from his android mobile phone. Using this application, whole class participate in the interaction with

teacher. The system allows teachers to post the questions through application. The questions will be posted on mobile screen of each and every student. For every test, results are generated in the form of statistics at run time. From the result of Quick test application, teacher makes analysis that whether that topic should be taught again or not. With the use of smart mobile devices with wireless networks enables mobility and mobile learning, allows teaching and learning to extend beyond the traditional classroom.

The Quick Test is a desktop application to take offline quiz test in an efficient manner and no time wasting for checking the paper and also to avoid mischief. The main objective of Quick Test is to efficiently evaluate the student through a fully automated system that saves lot of time and also

gives fast results. Students can give papers according to their convenience and time and there is no need of using extra thing like paper, pen etc. It can be used in educational institutions as well as in corporate world.

Intranet

An intranet is a private network accessible only to an organization's staff. Often, a wide range of information and services are available on an organization's internal intranets that are unavailable to the public, unlike the Internet. A company-wide intranet can constitute an important focal point of internal communication and collaboration, and provide a single starting point to access internal and external resources. In its simplest form, an intranet is established with the technologies for Local Area Networks (LANs) and Wide Area Networks (WANs). Intranets began to appear in a range of larger organizations from 1994. Increasingly, intranets are being used to deliver tools, e.g. collaboration (to facilitate working in groups and teleconferencing) or sophisticated corporate directories, sales and customer relationship management tools, project management etc., to increase productivity. Intranets are also being used as corporate culture-change platforms.⁴



Figure 1. Intranet

Related Work

Instant Messaging over LAN using Android Application

Instant messaging is a set of communication technologies used for exchanging messages or ideas between two or more users. In the organization, staff can send and receive messages in real time without meeting face-to-face; the documents or articles can be shared during the chat session. Instant messaging helps in faster communication than phone calls or emails within the organization. This is an enormous benefit of using Instant Messenger. Instant Messaging requires internet connection provided by Internet Service Providers to exchange messages between two users. Instant messaging provides the convenience to interact with others but there exists some side effects like invasion of privacy. Instant Messaging (IM) is a conventional method for exchanging messages using the power of

internet; people can use an IM to contact family, friends and colleagues.

The staff of an organization can contact their clients or vendors online as well as through IM. There are ample of IM android applications in the market which uses internet to provide services. The main objective of this IM is to introduce an LAN based communication system that allows android users to send and receive messages over LAN through Wi-Fi which neither requires any internet connection nor messaging service.¹

Click Point by MKCL

Among gathering of over 30-40 students in classroom or may be in conference room, there often comes stage where presenter or teacher wishes to take poll or quiz round among everyone. Although there is quite a few online framework or application available to fulfill such requirement but there's no solution in which we can ask questions using only Power Point application. Interactive teaching methods assist a learning environment that leads to achieving the expected learning outcomes through encouraging student participation. Clickpont is the application that enables teachers to implement an engaging class environment through educational exercises and games that can be used on any web enabled devices, such as smart phones, tablets, laptops and desktops.²

Implementation

Work Flow of System

The Quick test : An offline quiz application is consists of three main modules teacher module, student module and server. Both the teacher and student module get connected through the wireless router to the server and then work simultaneously. Here, the server will handle all the data of teacher, students, test, result and statistics. Server will also generate random keys for each student which work as a password for their account and without key student will not able to give the test.

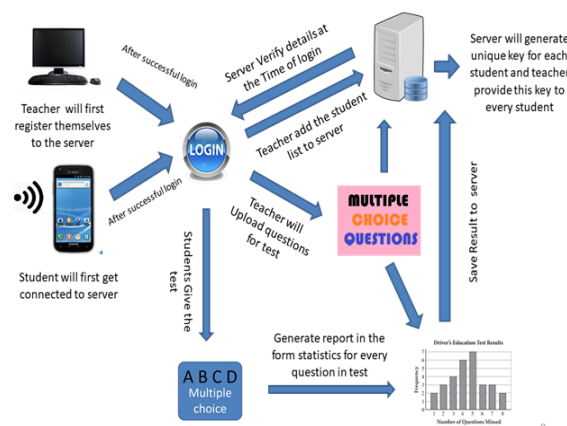


Figure 2. Quick Test: workflow of system

Teacher

Step 1: For Login, Teacher will first register themselves to the server. For registration, Teacher will require IP address of the server as well as Login ID and password.

Step 2: After successful login to the server, for conduction of the first test teacher will add students list to the server and pass unique keys generated by the server to all students.

Step 3: Teacher will upload the question list which includes multiple choice questions for the test.

Student

Step 1: Student have to enter the IP address of the server as well as unique key provided by teacher.

Step 2: Student will get connected to the server.

Step 3: After Login, students will be able to give the test. The test consist of multiple choice questions in which students have to select right answer. After selection of answer, for right answer green light will get blink.

Server

Step 1: Server authenticates teacher as well as student at the time of login every time.

Step 2: Server will generate unique key for every student.

Step 3: Server stores the record of all students. It also stores the test as well as its result in the form of statistics.

For each question statistics will get generated which gives the count of every option also details about how many of students gives right answer and how many wrong. This help teacher to decide whether the conducted topic is actually understood by the students or not. From this teacher will analyse whether the topic is required to be teach again.

Example

Expected Result

Teacher Panel

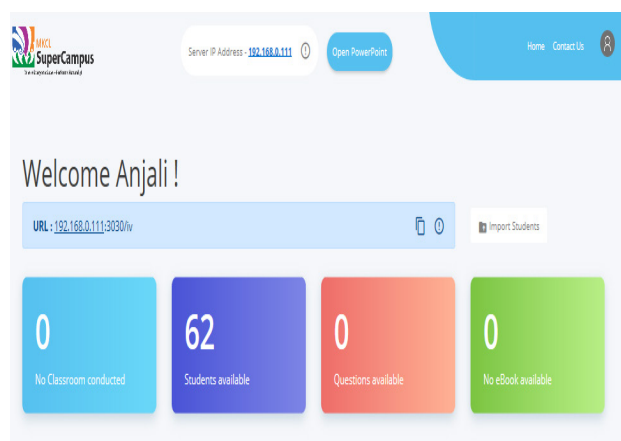


Figure 3. Teacher Panel

Above Figure 3, shows teacher panel it shows the information about number of classroom, no of students, no of question and no of e-book available. From this teacher can also import the students to add into the classroom.

Input Format

Q.is the branch of mechanics which relates the bodies at rest.

Figure 4. Input Format

Above Figure 4, shows the input format of the question and options. Students can select the correct answer by clicking on the buttons provided as a options.

Statistics Generation

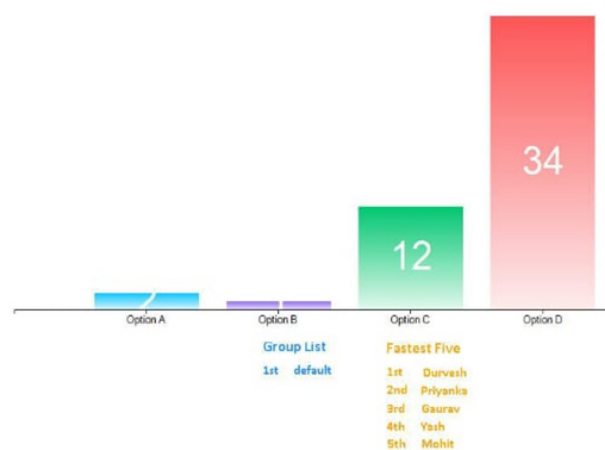


Figure 5. Statistics Generation

Above Figure 5, shows results generated in the form of statistics for every question. This statistics shows the count for each option selected by students also the first five students who gives the fastest answer. After that teacher will select the correct option and the name of students get updated with the students who gives fast answer correctly.

Conclusion

In a class when teacher ask question to student on covered topics. Only insufficient of them participate in interaction. Everyone must participate in interaction. So, offline quiz application allows to take quiz offline during lectures related to any taught topics. Other than being only a quiz application the proposed system able to analyze the understanding of students and produce the statistics of each question in terms of quiz results. This application has been developed to provide topic wise questions, maintain the score board along with user friendly and easy to use user interface. This request is mostly developed to overcome the flaws in the existing system like properly categorizing the sections, providing section wise questions, random set of questions, maintaining score board along with a user friendly, attractive and easy to use user interface. It has been intended to ask questions like multiple choice which includes text based, image based, mathematical equations-based questions. This aptitude of this application helps to take the valuation of the user more effortlessly.

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