

Android Application For Generation Of Question Paper

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ABSTRACT

The online question paper generator offers a solution to the teachers to examine the skills of students by generating question papers with stimulating, promising, well-chosen questions. It also makes this process less time consuming. Being an android application, it can be accessed at any time and place from any devices supporting android. As it contains two modules, accessing the questions become easier and more user friendly. Its cloud-based database and the different modules enables the generation of papers in just a few clicks. After entering the details and by completing the steps the generated .pdf file i.e. the question paper can be saved and used for own or can be shared as per need.

Keywords: Random question paper; paper generator; Co attainment level, android based application, Specification Table, cloud-based database

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I. INTRODUCTION

Conventionally, the exams are carried out in the typical conservative manner led by the examination committee, the teachers have to undergo through the same process of setting question papers each time which is time consuming and not so secure. This application overcomes these drawbacks and makes it easier for teachers to save time. In this system, the questions are randomly selected by mapping algorithms that generate the question paper according to the constraints specified.

II. LITERATURE SURVEY

This idea of making an online question paper generator has been worked on since many years, mostly by university students who strive to get better practice, and then by universities themselves for ease of use and reduction of resource consumption.

Automated Question Paper Generator System:

This is one of the more popular systems that has emerged which intakes the question bank and a criteria and gives the output of a single question paper. [1] It includes fuzzy logic system for creation of an examination paper. [1] [4] Yet, falls behind in real-time and practical generation and is limited to desktop use.

Automatic Question Paper Generator System: [2]

This systems too intakes the question bank with other important features like error watching and non-repetition. It also is available only in desktop format and can intake only a certain limit of questions at one instance and deals with lower complexities.

Question Paper Generator System: [3]

This system provides a big database and the option to select difficulty. But, it falls behind in portability and complexity and lack of offline use.

We have strived to overcome the drawbacks presented in these systems such as non-portability, static databases, one-tier specifications and much more.

III. NEED FOR EXAM PAPER GENERATOR

Online Paper Generator overcomes the obstacles and provides the following functionalities-

- i. Enhances the ease of updating data due to a simpler interface.
- ii. Only admins can access database and make changes if required
- iii. Papers are generated in a matter of seconds.
- iv. Question papers can be saved and shared.
- v. Admins can modify and update questions
- vi. Files containing question banks can be uploaded.

IV. PROPOSED SYSTEM

We have proposed a revised system for automatic examination question paper generation which is devised upon the shuffling randomization algorithm and role-based hierarchy model. . Our system has revised this existing algorithm by integrating an efficient question marking system in our proposed algorithm. A central administrator will have complete authority over all tasks and users. The interface is provided using Java and Android Studio; Firebase database is used to store questions and related data. Cloud based database is used. Syllabus and pattern of any course is considered for all questions and the subsequent generated papers. Files in the .csv format can be imported .Secured Algorithms are used to store admin and user passwords to enhance security. The shuffling algorithm uses a basic randomization algorithm with a flag system used to mark selected questions. This prevents the questions from being repeated in subsequent examination papers. On generating a question paper, this paper is converted in to a pdf.

There are 2 modules in the application:

- A. Administrator Module
- B. User Module

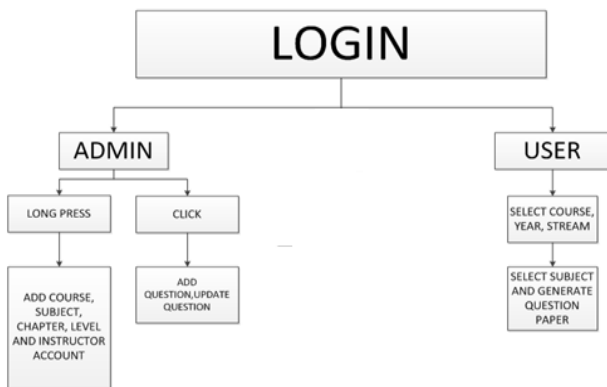


Figure 1. All Modules process

Administrator Module

The Admin is a teacher from the institute who are responsible to manage the questions with functions such as addition, deletion and updating of various parameters such as courses, subjects, chapters and the questions themselves. They have their own specific login details.

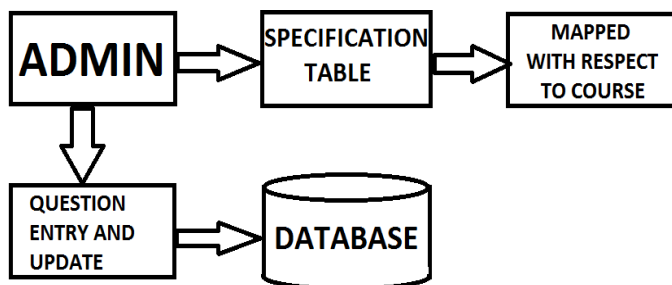


Figure 2. Administrator Module process

B. User Module

The user is anyone who wishes to download the paper. User does not have any privileges to modify to update the questions in any manner. The user can only view the paper and download it into a pdf format.



Figure 3. User Module process

The user can generate a unique question paper by just filling the appropriate information in the form given by the application to search the database and generate a full question paper through the algorithm.

Following is a list of privileges each module gets:

Module	Rights						
	Enter Course	Enter Sem	Enter Subj	Enter Chap	Enter marks	Enter Level	Edit Paper Pattern
Admin	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Instructor	No	No	No	Yes	Yes	Yes	Yes
User	No	No	No	No	No	No	No

Table 2. Rights of each module

V. PROPOSED ALGORITHM

The application moves through a set of tasks for each module:

Administrator module:

1. An administrator logs in as an admin.
2. The admin enters the details like username and password which are unique for him.
3. The course, semester, subject, chapter and level options are shown to select from accordingly.
4. The admin has the choice of selecting the constraints for each element present (options are auto-filled acc. to previous choice).[9]
5. Admin can add questions in the text area provided and add it to the database by clicking on save button.
6. Another option for the admin is to import the files containing question banks by clicking on import csv button. Using this option the files from internal storage is automatically saved to database.

User Module:

1. The user clicks on the login or sign up button.
2. The user then enters the details such as admin, course, semester, subjects and pattern.
3. The user is then ready to generate the question paper.
4. It is then generated in a few seconds by clicking on generate button.

5. User can download it by using download button and the generated pdf is saved in the internal storage.
6. This is all done with a few taps in the android based application.

VI. RESULTS

To demonstrate the functionality of this application, we have taken specific number of questions of a specified subject entered, and have generated a paper consisting of a small part of those questions[6] Using two methods, that are,

1. Manually
2. Using the Online Question Paper Generator

We have found that,

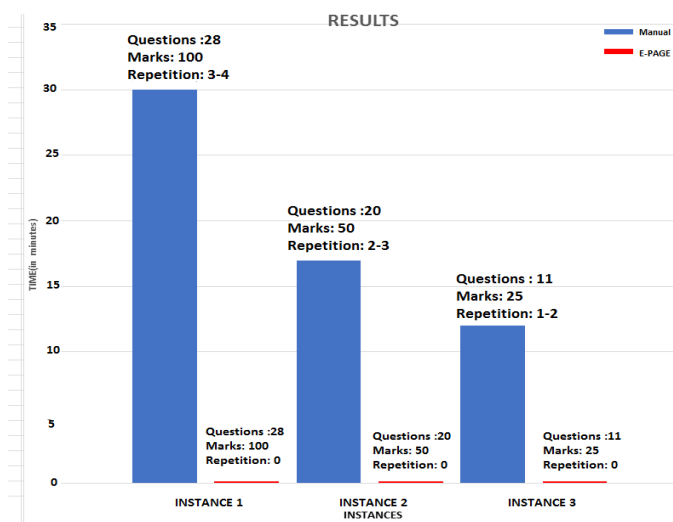


Figure 5. Graph of results

Table 3. Table of results

Method	Tests			
	Average Time Taken	Average Repeated Questions	Need for Verification	Number of attempts
Manual	10-15 minutes	2-4	Present	5
Using the application	5-10 seconds	None	Not required	5

Thus , we can see when done the traditional way , a simple question paper can take almost 60-70 times more time than it takes to generate one using this application. This is due to the many factors affecting manual generation negatively such as,

- a. Human interference
- b. Biased Decision Making
- c. Redundancy

- d. Time consumption involved in selecting questions one by one by sifting through a large question bank/textbook.
- e. Extra man-power
- f. Lack of security while doing so

VII.FUTURE SCOPE

Online Question Paper Generator is designed keeping in mind the many future possibilities that can improve the application to be more portable and dynamic in nature. [7] These include:

1. Along with engineering institutes, this application can be developed for important milestone exams such as 10th and 12th boards. This will prove to be a boon to the students as they are more inclined to solve multiple papers.
2. This application can take its true form when the specification tables and the large amounts of questions, are put in a dedicated cloud database thus unlocking a whole new dimension of portability.
3. With the addition of cloud, Online Question Paper Generator is surely to be made available worldwide using the Google Play store.
4. With the large database that it requires, security threats are a major concern. Encryption of the generated papers for safe distribution among staff. A more secure database can also be achieved, making sure no one but the authorized personnel can have the option of inputting into it.

VIII. CONCLUSION

1. Evaluation or examination is an important integral fragment of teaching learning process. Now a days it also became important that how to relate course outcomes (Cos) to this fragment. In this paper we have implemented the Android based Exam paper generator which generates paper based on Specification table, which leads to easy calculation of CO attainment level.
2. Questions from Question bank are selected with the application of multiple constraints with minimum time requirement.
3. This implementation generates the exemplary question paper with a very few taps on the Android based Application
4. Randomization and Non Redundancy is also taken in consideration while generating the Exam paper.
5. Hence the consequential Android Based System is much more optimized, Randomized, no redundant, multi-constraint and Secure System.

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