International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08 Issue: 04 | Apr 2021 www.irjet.net p-ISSN: 2395-0072

AUTOMATIC QUESTION PAPER GENERATOR

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Abstract - *An Automatic Question Paper Generator system will allow college officials to automatically generate papers from an existing database of questionnaires. This system will have the ability to process different paper sets by default. It takes all the tedious work and makes the manual work quick and effective. The software is very useful for small and medium sized institutions. The software will use the database to compile a questionnaire where the database can contain thousands of queries. The software will generate random paper in such way that the question does not repeat itself.*

***Key Words*: SQL, Questionnaire, paper, generator, exam, automatic.**

1. INTRODUCTION

In a practical scenario, generating a question paper is very time consuming and it makes all the teachers tired of doing the same tasks over and over again. This project removes these issues and difficulties. In this project, we have used a system in which random questions will be selected from the database to generate the question paper.

Using a randomization algorithm, questions are selected based on course, semester, subject, marks. The questionnaire is produced according to the above pattern by the administrator to avoid time-consuming activities, and also by the students to practice for their exams.

2. LITERATURE SURVEY

Because of a growing field of education, examinations and the preparation of appropriate question papers seems daunting, inefficient, time-consuming, and unnecessary for teachers. Therefore, various applications, software, and databases have come up to tackle the situation. We have looked into those applications in advance, which include the following.

Swapnil Ghagare [1] who worked on a system that uses shuffling algorithm, it randomizes the questions generated from the database. The algorithm applied by them is quite straightforward and also extremely easy to understand. The implementation of this algorithm can be easily performed in other systems as well. Mrunal Fatangare [2] worked on a question paper generator, which provides a solution to choose from different challenging constraints and make it easy for the user to generate them within a very short amount of time. It contains various modules which enables the system to affect all the systems quickly. The modules like admin module, user module, and question entry and question management makes it an easy task. Noor Hasimah Ibrahim Teo [3] who also worked on a system in which text matching and question sorting was done by the system itself but one of the major drawbacks of this system was that only limited questions that could be added into the system. Suraj Kamya [4] their paper proposed a system based on fuzzy logic in which all constraints were classified based upon the algorithm so that the system can be easily accustomed with them. Vijay Krishnan Purohit [5], their proposed system is based on Bloom's Taxonomy. It was an adaptive system however the data is entered is assumed to be completely error-free which has the possibility to affect the overall accuracy of the system.

3. PROPOSED SYSTEM

Conventional exam paper generation systems followed by institutes have many flaws such as repeated questions in the paper and time requirements. To overcome them we are proposing a new system.

Automatic Question Paper Generator is a software which is beneficial to colleges, publishers, and test paper setters who want to possess an enormous database of questions and generate test papers frequently with ease. It mainly deals with the sorting, gathering and administration of an outsized amount of questions on different levels of toughness from scientific and also non-scientific subjects associated with various classes.

There are two modules in this software:

A. Admin Module
B. User Module

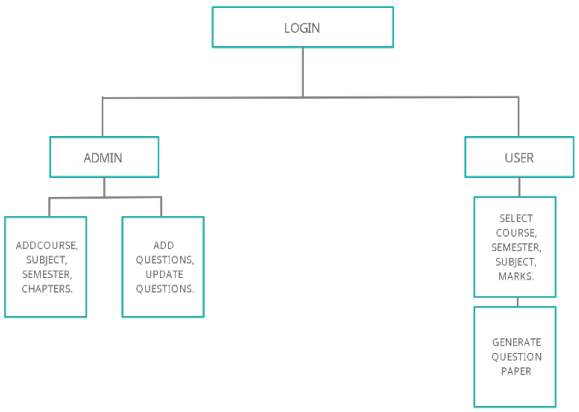

Fig -1: All modules

A: Admin Module

The Admin is a senior staff from the colleges or institutes who is responsible to manage questions with constraints such as addition and updating various parameters such as courses, subjects, chapters, marks and questions themselves. Admin will have their own login details.

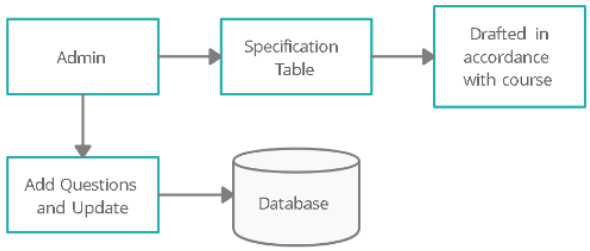

Fig -2: Admin Module

B: User Module

A user can be a student studying in the institute for their personal study or a professor searching for a good internal test paper. The user can generate a unique question paper by just filling in the appropriate information in the constraints table given by the software to search the database and generate a full question paper through the algorithm.

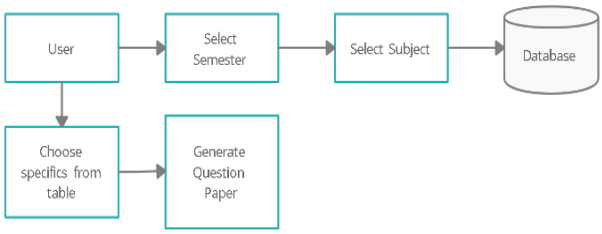

Fig -3: User Module

Course	Semester	Subject	Chapter	Marks

Table -1: Questionnaire Format

In the above table is the questionnaire format which user gets when generating the question paper.

Which includes,

Semester: - It's the number of semesters in the selected course.

Subject: - It's the subject of the selected semester.

Course: - It's the department the user wants to select.

Chapter: - It's the chapter of the selected subject.

Marks: - It's the total weightage of the question paper.

Then at the end user gets a question box in which they have to write the question to add it in the database.

4. ALGORITHM

The software goes through following tasks for each module:

A: Admin Module: -

i. Admin logs into the system using username and password assigned to him/her to go to the next page.
ii. Admin has the access to the database, so he can add, remove subject, semester, course, and chapter.
iii. The admin also has the choice to remove any of these constraints to meet the user requirements.
iv. Admin can also provide login credentials to the users who want access to the software.

B: User Module: -

i. User logs in using their username and password.
ii. A simple form that has the options to select the name of the course, semester, subject, and the weightage of the marks of the question.
iii. Then user writes the question and then selects add option to add the question into the database.
iv. The form which includes the constraints to generate the question paper is shown to the user.
v. The form contains constraints such as course name, semester, subject, and total marks.
vi. User gets the options to generate 20,40, and 80marks question paper.
vii. User selects generate paper option and immediately user is provided with a question paper of specified subject.

5. SYSTEM DESIGN

Following are the diagrams of Automatic Question Paper Generator system:

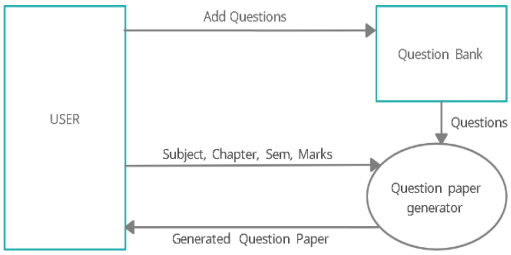

Fig -4: Working of Automatic Question Paper Generator system.

6. ANALYSIS AND RESULTS

The process of making a question paper was done manually which included steps like processing the paper and allocating the marks to the questions. This was a tedious task, too much time was consumed in this process.

A: Current System drawbacks: -

i. The current system is extremely time consuming.
ii. An excessive amount of time is consumed withing the process of creating question papers of more subjects.
iii. Numerous questions are evaluated before finalizing them for the question paper.
iv. The probability of paper leakage is more in the current system as compared to proposed system.
v. Processing of the paper takes longer because it is done manually.

B: Proposed System: -

i. Large portion is covered by the system which helps to generate paper skillfully.
ii. Generating question paper will be faster as it is automated.
iii. Probability of paper leakage will drastically decrease because admin will have all the control over the system.
iv. This system is totally unbiased and generates random questions with a click of a button.

To compare the current system and the proposed system we have outputs of 3 papers generated by the proposed system and the manual system. Comparing two methods, that are,

A: MANUAL,

B: AUTOMATED

We found that,

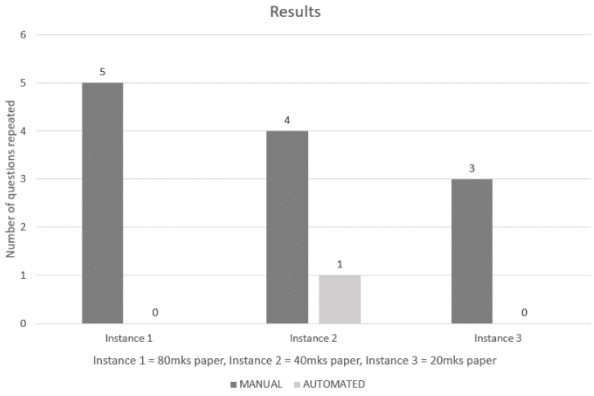

Fig -5: Graph of results.

Tests

Methods	Average Questions repeated	Average time taken	Total attempts made
MANUAL	4	7-10 Minutes	3
AUTOMATED	0	5-10 seconds	3

Table -2: Table of results

Here we can see that when paper is generated manually, a single paper can take seven to ten minutes and the proposed system does the same job in seconds. Factors which slow down the current system are,

i. Biased decision making
ii. Lack of security
iii. Time taken in selecting questions from a text book.
iv. Extra man-power

7. FUTURE SCOPE

Automatic Question Paper Generator is designed keeping in mind with many future possibilities that can improve the software to be more productive and secure. [2] These include:

i. The methodologies that we presented for generating question paper show promising outcomes and can be utilized as a basis for making a more advanced automatic and independent paper generator.
ii. This software can take its true form when a large number of questions are added into a dedicated database which will unlock a whole new potential of portability.
iii. With the large database security threats are a major concern. To avoid this, a more secure database can

also be achieved, which will make sure that only an authorized person can have access to this software.

iv. Our effort is to develop this software for important exams such as SSC, HSC. This will be beneficial to the students as they are more inclined to solve multiple papers.

v. With all these possibilities, this software will be more secure and will also provide much better results.

8. CONCLUSION

The main purpose of this software is to generate a questionnaire using a randomization algorithm. This is a desktop-based software that produces a unique set of question papers based on a constraints table which leads to precise output with minimum probability of errors. The system is completely unbiased and takes advantage of randomization while generating the question paper. The user is just a few clicks away from generating an exemplary question paper. Hence the AUTOMATIC QUESTION PAPER GENERATOR is a much more secure and optimized system.

ACKNOWLEDGEMENT

We would like to express our sincere thanks to Prof. Shweta Sharma, for her co-operation and guidance. We would also like to thank our computer department HOD, Prof. Suvarna Pansambal and all the staff who have directed us to grow this project concept throughout.

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