

Automatic Exam Paper Generator

Aprajita Seth¹, Barkha Laddha²,
Srishty Sinha³, Rojiwadia Meera Patel⁴,

Prof. S. A. Sagar⁵

Assistant Professor Department of IT⁵

Bharati Vidyapeeth's College of Engineering for Women

Abstract:

Exam Paper Generator provides an answer to decide on challenging, well-framed queries and generate it easy for the instructor to get it at intervals a brief amount of your time. This will be done in some faucets of the hand because it is an associate degree golem application, therefore accessible at any time and place. It contains various modules that allow the system to trot out all queries simply. The modules like admin module, user module, and question entry and question management make it a simple task. From the entered input the paper is generated and saved as a .pdf file that can be complete for own or distributed as per the user or admin requirements.

Keyword: *AQP(Automatic Question paper Generation),AES(Advance Encryption standard),ML(machine learning).*

INTRODUCTION:

In normal scenarios, the examination committee in an institute works in a very conventional manner. This way is time-consuming and makes all instructors tired of doing these same activities frequently. Our project removes these drawbacks and complexities. In this android application, we have implemented a system in which random questions will be picked by mapping it with the conditions provided. Before this, administrators can enter the formatted questions in the database (also called a specification table). Through a randomization algorithm, the questions are chosen depending on the chapter, marks and levels. The question paper is generated according to this specific pattern by the admin/instructor to avoid time-consuming jobs, and by students, to get it practiced before their exams. This paper is available on hand at all times since it works on the Android platform for mobile devices

BACKGROUND: The existing system for Question Paper Generation requires human staff to chalk out questions that appear in the question paper. These teachers or professors select the questions according to the syllabus and pattern as prescribed by the curriculum. The question paper then may be referred to a higher authority that has the final say in these matters.

NEED: Specific questions as per constraints given by the admin with nothing extra added in. No repetition of questions in the paper. Level wise entry. Ability to format the pattern of the question paper as per the institute's (admin) needs.

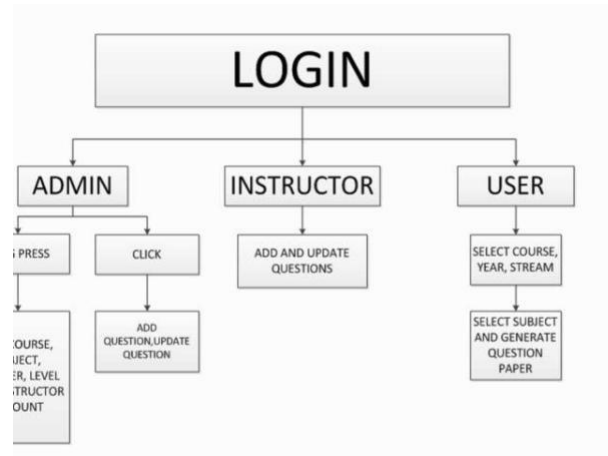


Fig. basic Structure

RELATED WORK:

Due to the growing field of education, conducting exams and preparing appropriate papers for the same is proving difficult, inefficient, time consuming and a redundant job for the instructor. Therefore, many applications, software and databases have emerged to combat the situation. Our team has looked into such various applications beforehand, they include the following.

Conventional exam paper generation systems followed by institutes have many drawbacks and weaknesses such as time requirements and repetition of questions in the paper. To overcome them we have designed the proposed system. The Admin is the selected senior staff from the institute who are responsible to manage the questions with functions such as addition and updating of various parameters such as courses, subjects, chapters and the questions themselves. They have their own specific login details.

Overcomes all the drawbacks stated above in an instant and provides more functionality such as:

1. Specific questions as per constraints given by the admin with nothing extra added in.
2. No repetition of questions in the paper.
3. Level wise entry: Easy, medium and hard level questions in equal proportion.
4. Ability to format the pattern of the question paper as per the institute's (admin) needs.
5. Ability to have a paper ready at any time due to its portable nature on mobile devices.

MOTIVATION:

Generate an examination Question Paper considering different levels of educational and module wise Syllabus content of the subject. It's a secure system with no leakage of papers. Manual work is reduced and less employees are involved thus providing maximum confidentiality.

SYSTEM ARCHITECTURE:

In the proposed system, we design and develop a system to generate random question papers. In this system, we proposed one admin phase and the college phase. Admin gives grant/revoke permission to college and generate unique question paper. Admin encrypts question paper using an algorithm and sends to principle. Admin encrypts question paper using an algorithm and sends to principle.

Encryption Technique: To encrypt the data using encryption. This process will continue at the time of Question paper upload. For this we are going to use the AES(Advance Encryption standard) algorithm.

Decryption Technique: Here in this process we are performing decryption at the time of Question paper download to get paper in original form.

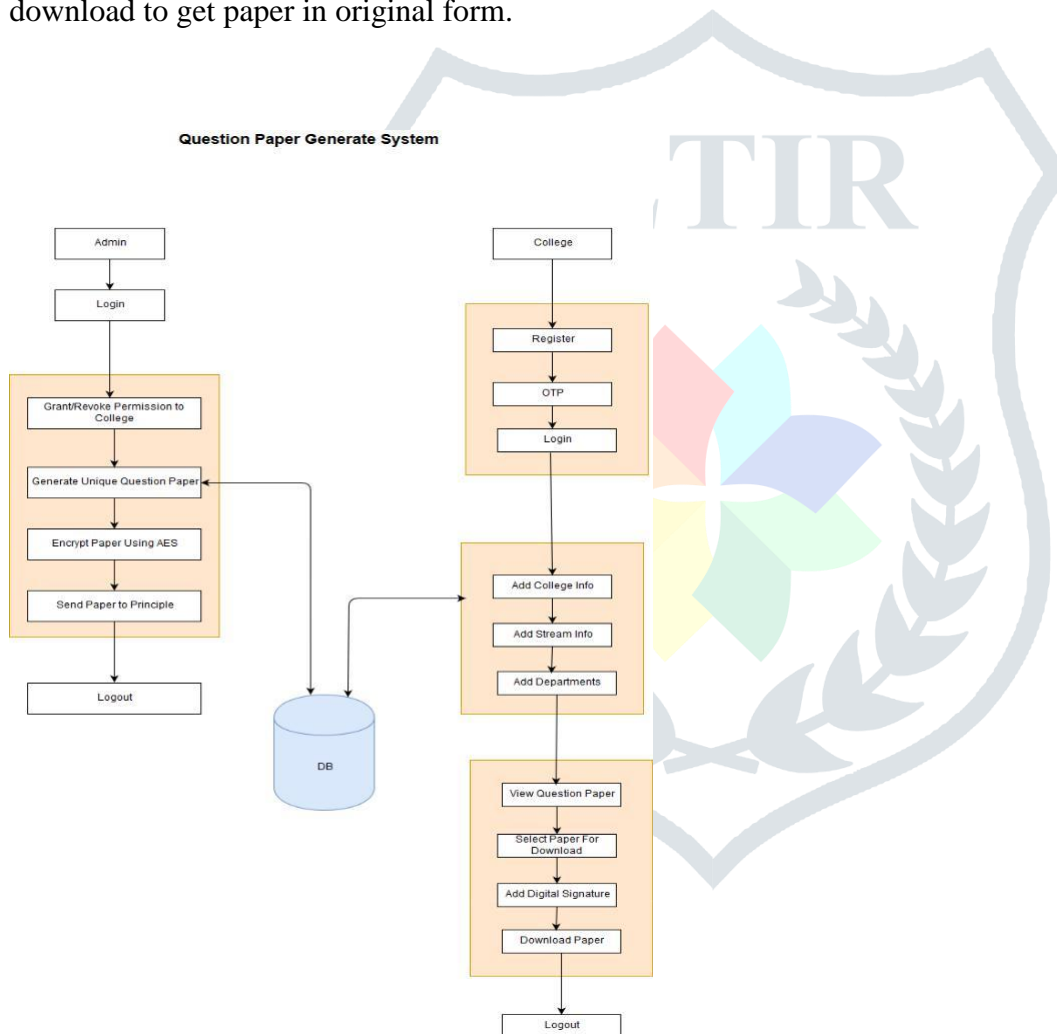


Fig 1 system overview

[4]ECC (Elliptic curve cryptography): In this algorithm, we are generating a signature for file to save the data confidentiality. That signature will be linked to the file.

Parameter	ECC	RSA
Year of proposed	2005	1977
Computational Overhead	Roughly 10 times than	More than ECC

	that of RSA can be saved	
Key Size	System parameter and key pair are shorter for the ECC	System parameter and key pair larger for RSA
Bandwidth Saving	ECC offer considerable bandwidth saving over RSA	Much less bandwidth saving than ECC
Key generation	Faster	Slower
Encryption	Much faster than RSA	At good speed but slower than ECC
Decryption	Slower than RSA	Faster than ECC
Small Device Efficiency	Much more efficient	Less efficient than ECC
Scalability	Optimal scalability	Not optimal

Table No. 1 (Comparison between ECC and RSA)

From above comparison table we get to know that ECC is better than RSA. Hence instead of RSA we are implementing ECC.

Parameter	AES	3DES	Blowfish
Key length	128,192 OR 256 Bits	168(K3),112(K1, K2)	32-448 Bits
Cipher type	Symmetric block cipher	Symmetric block cipher	Symmetric cipher algorithm
Block size	128,192,256 bits	64 bits	64 bits
Developed	2000	1978	1993
Security	Considered secure	One only weak which is exit in DES	Vulnerable
Possible keys	2^{128} , 2^{192} , 2^{256}	2^{168} , 2^{112}	2^{32} , 2^{448}
Round	10(128)	48	16

	bit), 12(192 bit), 14(256 bit)		
keys	single	Single	public

Table No.2 (Comparison between AES, 3DES, Blowfish)

From above comparison it is clear that AES is better for encryption due to its key length and AES allows you to choose a 128-bit, 192-

bit or 256-bit key, making it exponentially stronger than the 64-bit key of DES and blowfish.

CONCLUSION: Questions from Question bank are selected with the application of multiple constraints with minimum time requirement. In this propose system Randomization and Non Redundancy is also taken in consideration while generating the Exam paper. Hence the Cloud Based Question paper System is much more optimized, randomized, no redundant, multi-constraint and secure system.

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