Online Examination using Hall Ticket Generation with Integrated QR Code and Automatic QuestionPaper Generator by Shuffling Algorithm with the help of Randomization technique

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***Abstract*—A strong and creative project created with Java and MySQL, the "Hall Ticket Generation System with Integrated QR Code" aims to improve and expedite the process of creating and maintaining hall passes for different exams and events. With the use of a dynamic QR code function, this system seeks to replace manual hall ticket distribution techniques in a way that is secure, effective, and convenient for both administrators and participants. The system creates a smooth and user-friendly experience by utilizing the strength of the Java programming language and the adaptability of MySQL database administration. The incorporation of QR codes into the created hall tickets is one of the project's main features. Every participant is given a hall pass that has a special QR code on it that contains all of the exam's pertinent information. The invigilator can quickly and simply verify the authenticity of the hall ticket and participant IDs by scanning this QR code with the Android Scanner app. Comparing the technology to conventional approaches reveals a number of benefits. By doing away with the necessity of physically distributing and collecting hall passes, it lowers administrative costs and paper waste. Furthermore, the QR code feature improves security by guarding against counterfeiting and illegal access, guaranteeing a simple and safe check-in procedure.**

The process of creating exam questions by hand is the conventional approach. This procedure takes a long time and is highly laborious. We have suggested the Automatic Question Paper Generator System as a solution to this issue. Several sets of question papers can be stored by the system in the database. Additionally, diagrams can be stored and retrieved within the system for use in documents. We have included a quick, safe, and randomized keyword-based shuffling algorithm with randomization to create question papers. Both question duplication and repetition are avoided by the approach. In order to maintain coverage of the entire curriculum, the system can also produce class exam papers. Exam assessments often tend to be of higher quality because to this system.

***Index Terms*—Integrated QR Code, Android Scanner, Shuffling Algorithm,Randomization technique**

I. INTRODUCTION

The ticketing and event management systems have advanced significantly with the introduction of the "Hall Ticket Generation System with Integrated QR Code." Digital tickets are gradually taking the role of traditional paper-based tickets because of their increased security features, efficiency, and ease of use. This introduction will list the salient characteristics and advantages of that kind of system. In the current digital age, event planners are always looking for creative ways to improve the experience of attendees, expedite the ticketing process, and guarantee strong security protocols. The hall ticket generator that is based on QR codes provides a complete solution to effectively meet these objectives. By automating the generation of hall tickets, the system lowers the possibility of errors and does away with the necessity for manual entry. Every hall ticket has a unique QR code embedded in it that contains encrypted data about the attendee and the event. This measure drastically lowers the possibility of illegal access and ticket falsification. With the help of the system's extensive post-event reporting features, event planners may examine attendance figures, success rates for ticket validation, and other crucial parameters for future planning and optimization. Any educational institution must have a functional architecture for creating automated question papers and organizing relevant data. The following paper presents an automated integrated system that maintains a course-specific questionnaire and prints question papers in accordance with the syllabus and curriculum. We've put in place a role-based hierarchy that limits user access. To prevent questions from being asked again, the system has a safety feature. By entering and editing data that is appropriate for any educational institution, users can utilize the system by just providing the syllabus, semester, courses, and pattern. It enables the creation of question papers

by educational organizations while guaranteeing question safety and originality. For institutions with limited staff and resources, it is highly helpful. The purpose of this system is to provide data storage, security, and speedy operations for every task. Creating question papers takes up a lot of teachers' time and is a laborious undertaking. Teaching staff typically has a questionnaire of their own that they utilize to create future question papers. Teachers must go by a few guidelines in order to create question papers in any educational setting.

They are listed in the following order:

- The addition of new concepts should be made
- Students need to stay motivated; Course statistical management
- Taking into account the choices made by the students
- Evaluating the various question kinds
- Formulating impartial examination queries

For any educational institution, creating question papers takes a lot of time. Teachers should not be wasting their precious time creating question papers; this needs to be corrected. This system is the answer to the issue since it makes it easy to create question papers with only one click and eliminates the need for repeating questions. Its operation is also quite straightforward. The randomization of the questions is handled by this system through the usage of SQL queries. In order to meet our requirements, we needed additional resources, which is why our Automatic Question Paper Generator system was created. This system is not similar to any other generator of question papers. The capability of Microsoft SQL to generate the question paper is improved. The database has a stack of questions, and if more are needed later, they can be added. This technology has sufficient power to generate a question paper in a matter of seconds. Its primary goal is to automate the question paper generation process while drastically minimizing the need for human labor. Its primary goal is to generate question papers for universities. Because the Automatic Question Paper Generator System is a Java-based application, it offers stability and practicality in the process of creating question papers. The administrator can alter the database to satisfy institutional requirements and has the ability to inspect the sets of created question papers.

It improves how technology is used. Since the Administrator has full authority to change the database. The ability to examine and amend the questions at any time and from any location is helpful to the administrator. With a login ID and password, the system secures the database, allowing access to only authorized staff. The goals of the current period have been taken into consideration when developing this project.

II. Existing System

The current method for creating and distributing hall tickets mostly uses paper-based, manual procedures. Although these conventional techniques are still commonly employed, they frequently entail drawbacks and inefficiency. Administrators must manually create and print hall passes for each participant under the traditional method, which can be laborious and prone to errors. It also takes a lot of time and money to give participants their actual hall tickets.

Forms and databases are usually used by administrators to collect participant data, which isn't necessarily correct or up to date. This may result in inaccurate information or misspelled names when creating hall tickets. Furthermore, participants may experience difficulties obtaining their hall passes, particularly if they live in different areas or if the location of the event or exam is far away.

In addition, the lack of a secure identification system may result in fraudulent or unauthorized admission. Conventional paper-based admission tickets are devoid of characteristics that effectively stop forgeries or unauthorized use.

Why Because tickets are printed and distributed using a lot of paper, the manual nature of the current method adds to environmental problems. Furthermore, utilizing physical tickets increases the possibility of theft or damage, which would be inconvenient for attendees who would need to replace their tickets.

In terms of scalability, as the number of participants and events/examinations increases, the manual technique may become more laborious and prone to errors. For large-scale events, it becomes difficult for administrators to keep correct data, create tickets quickly, and guarantee efficient distribution.

In general, the current system has a number of shortcomings, including inefficiency, error-proneness, a lack of security measures, and environmental problems, even though it has been somewhat functional. A more efficient, precise, and secure method is clearly needed, which is why the suggested "Hall Ticket Generation System with Integrated QR Code" was created using Java and MySQL

. Since creating a well-balanced question paper by hand is quite difficult, technology will inevitably be included into the teaching and learning process. A straightforward and effective method for creating exam papers is offered. This framework has a three-tier model. The Question Aggregator, Pattern Composer, and Syllabus Engine control the creation of examination papers. The question paper that is generated is predicated on the structure or outline of the course. Questions are entered via the Question Aggregator in a different system. Questions have three connected attributes: kind, marks, and complexity. The creation of question papers makes effective use of all these characteristics. The paper generator chooses a question based on pattern and intricacy. Additionally, this engine has a marking system that marks each question that is chosen so that it might not be chosen again. An intricate yet extremely effective Ant Colony Algorithm has been implemented in another work. In accordance with the specifications of the paper, a mathematical model of constraint must be constructed. This study uses their approach to propose an effective solution. Task Engineering literature provides extensive documentation on the benefits of automation.

III. Proposed System:

The "Hall Ticket Generation System with Integrated QR Code" is a modern, effective, and secure solution that aims to

address the shortcomings of the current system. Three separate entities make up this system, which was created with Java and MySQL: the students, the controller of the examination, and the invigilator. Every organization is essential to maintaining a quick and safe procedure for the creation and validation of hall tickets.

Students can register for the proposed system by entering their roll number, name, photo, email address, phone number, address, and password, among other necessary information. To avoid unlawful access, students must first receive approval from the Controller of Examination before they can log into the system as new registrations. Students who have logged in can submit specific information, such as Year, Department, and Semester, as well as their payment status for fees, to seek hall passes. The student must enter the payment information' reference number if they have already paid the fees. Students can request a hall pass by filling out the required information. After checking the information, the Controller of Examination grants or denies the request for a hall ticket. Students can download their hall passes after being approved.

The Controller of Examination has administrative authority to supervise and control the system's operations under the proposed system. Transparency and security are guaranteed as the Controller has access to student information, including the last login time and date. They have the power to add new exam subjects and to specify exam dates, start and end hours, subject codes, and subject names. The hall ticket is updated with all subject facts, guaranteeing accurate and current information. The Controller verifies the information submitted before approving or rejecting student requests for hall passes.

As part of the suggested system, the invigilator's job is to verify that hall passes are authentic during the examination. The QR code on the hall ticket is scanned using an integrated web camera. The student is deemed authenticated and qualified to take part if the scanned QR code matches one that was created by the Controller of Examination. If a legitimate QR code from the system is not matched by the scanned code, the invigilator is notified and can take the necessary action.

The suggested system provides a more efficient and safe procedure for the creation and validation of hall tickets by merging various entities and functionalities. By limiting entry to the event/examination site to just eligible students with approved hall tickets, it improves security, lessens administrative workloads, and offers participants a contemporary and convenient experience.

To address the mentioned problem, this system introduces the use of the shuffling algorithm in the Automatic Question Paper Generating System (AQPGS). The shuffling algorithms' primary function in AQPGS is to provide a randomization approach, which ensures that distinct sets of questions are created without repetition. The system that provides features for maintaining test bank questions and generated exam papers is called AQPGS. Exam paper generation and answer scheme generation are done automatically in this process. It makes use of a sizable question bank that is based on the Bloom's Taxonomy-related learning outcomes aspects. Six components of learning outcomes are included in Bloom's Taxonomy: knowledge, understanding, application, analysis, synthesis, and evaluation. Three domains make up Bloom's Taxonomy, which categorizes learning processes. The cognitive domain is one of them, emphasizing intellectual results. Additional divisions within this area include levels or categories. Particularly at the higher levels, the language employed and the questions posed may support the development and promotion of critical thinking. For professors, this system is incredibly helpful. Instructors won't have to worry about gathering all of the questions to create a single test question paper. The learning outcome measurements that are integrated into the AQPGS functions assist instructors in creating high-quality exam questions that align with the learning objectives of each course. By selecting all necessary requirements, lecturers can also generate distinct sets of question papers from the same database with a single click. The simplicity of the shuffling algorithm makes it a viable choice for randomization.

IV. SYSETM ARCHITECTURE

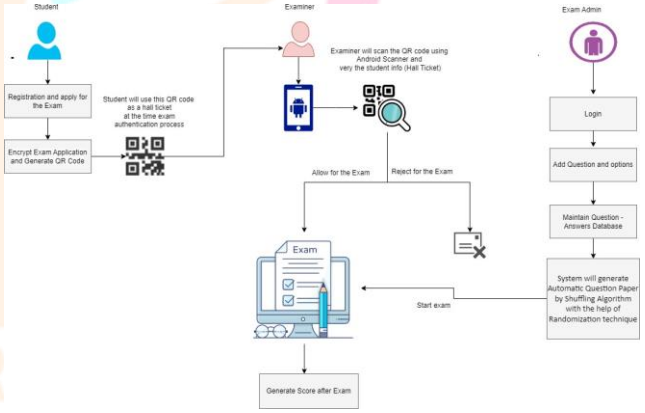

Fig. 1. System Architecgture

A. Steps:

Step1: In this registration phase every candidate or user has to register themselves in order to give an exam.

Step2: After registration the will get an QR code image which is encrypted information of user information. The same information will be stored at the server side for admin/ examiner record.

Step3: user will bring that QR code image while coming for exam

Step 4: Examiner will scan that QR code image to check whether authenticated candidate has come for exam or not, the verification process done by that user information stored on server or examiner record.

Step 5: user will login to system, to attempt an exam.

Step 6: Our system will generate unique question papers for all students using Shuffling Algorithm with the help of Randomization technique.

V. ADVANTAGES:

- Simplified and Error-Free Procedures: The system's automation greatly lowers the need for manual intervention. This ensures accurate and error-free tickets by removing the possibility of errors during human data entry and hall ticket creation.
- Advanced Security Measures: An extra degree of protection is added with the inclusion of QR codes. Since the information included in these dynamic QR codes is encrypted, it is very impossible for unauthorized people to copy or fake hall tickets.
- Effective User Management: The process of registering and authenticating users is made simple and effective. The system is easily accessed by administrators, invigilators, and students in their assigned roles, which expedites the user experience in general.
- Real-time Verification: The QR code-based verification technology quickly confirms the legitimacy of hall tickets by working in real-time. This stops anyone from trying to enter without authorization by using fake tickets.
- Administrative effort Reduction: A large portion of the administrative effort is eliminated by automated procedures. This eliminates the need for manual distribution, verification, and ticket management, freeing up administrators' time for more strategic work.
- Easy Hall Ticket Retrieval: By scanning the QR code, students can quickly retrieve their hall tickets from the system. This digital method offers greater convenience by removing the possibility of losing or damaging paper tickets.
- Effective Inspection/Event Admission: The QR code validation speeds up the inspection process, especially for large-scale events. As a result, there is less traffic and waiting at the entrance.
- Cost reductions are achieved by eliminating paper-based paperwork, manual procedures, and physical hall tickets. Paper usage, administrative work, and printing expenses are all drastically decreased.
- Exam Admin may save a ton of time by rapidly generating exam papers at random using QGS.
- Examiners may find this useful in creating question papers that are based on the components of learning outcomes.
- By selecting questions from the database, shuffling algorithms aid in the randomization process by avoiding repetition and duplication.

CONCLUSION

In conclusion, the adoption of a QR code-generating hall ticket system is a noteworthy development in the field of exam management, providing several advantages with regard to security, effectiveness, and user experience. Institutions can improve security, expedite procedures, and provide students easy access to their hall passes by utilizing QR codes. But it's critical to address issues like reliance on technology, worries about accessibility, and security threats. Future additions to the system, such dynamic QR codes, mobile application integration, and biometric verification, could potentially increase its usefulness and functionality. Exam administration procedures could be completely transformed by QR code-based hall ticket systems with ongoing innovation and strategic improvements, guaranteeing a seamless and safe experience for both administrators and students. The suggested solution employs a randomization-based keyword-based shuffling algorithm. This technique creates distinct sets of question sheets efficiently. There is a reduction in the laborious manual configuration process. The technology is safe, dependable, and quick. By eliminating repeats, the technique facilitates the creation of a simple, methodical approach to assessments. The technology also facilitates the easy and efficient addition of diagrams. The paper generation technique is made easy and effective with this suggested system. The question paper generation procedure is quick and simple. It is quite safe and forbids repetitions.

VI. REFERENCES

[1] D. Diefenbach, V. Lopez, K. Singh, and P. Maret, Core techniques of question answering systems over knowledge bases: A survey, Knowl. Inf. yst., vol. 55, no. 3, pp. 529569, 2017.

[2] S. Wang and J. Jiang, A compare-aggregate model for matching text sequences, in Proc. ICLR, 2016. [3] Y.Hao,Y.Zhang,K.Liu,S.He,Z.Liu,H.Wu,andJ.Zhao, Anend-to-end model for question answering over knowledge base with cross-attention combining global knowledge, in Proc. 55th Annu. Meeting Assoc. Com put. Linguistics, vol. 1, 2017, pp. 221231.

[4] Z.Wang,W.Hamza,andR.Florian, Bilateralmulti-perspectivematching for natural language sentences, in Proc. 26th Int. Joint Conf. Artif. Intell., 2017, pp. 41444150.

[5] G.Shen, Y. Yang, and Z.-H. Deng, Inter-weighted alignment network for sentence pair modeling, in Proc. Conf. Empirical Methods Natural Lang. Process., Sep. 2017, pp. 11791189.

[6] Q. H. Tran, T. Lai, G. Haffari, I. Zukerman, T. Bui, and H. Bui, The context-dependent additive recurrent neural net, in Proc. Conf. North Amer. Chapter Assoc. Comput. Linguistics, Hum. Language Technol., vol. 1, 2018, pp. 12741283.

[7] K. A. Krueger and P. Dayan, Flexible shaping: How learning in small steps helps, Cognition, vol. 110, no. 3, pp. 380394, 2009.

[8] X. J. Huang, X. J. Wan, and J. W. Yang, Learning to identify chinese compara