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HALL TICKET AUTOMATION WITH INTEGRATED QR CODES

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ABSTRACT: Hall Ticket Automation with Integrated QR Codes is a Java and MySQL-based system designed to modernize hall ticket generation and management. It replaces manual distribution with a secure, efficient, and eco-friendly digital process. Administrators can generate customizable hall tickets, while participant details are stored in a MySQL database for accuracy. Each ticket includes a unique **QR code** containing exam details, which invigilators can scan via webcam to authenticate identity and validity. This ensures hassle-free verification, prevents counterfeiting, and reduces administrative overhead. Participants can conveniently access digital hall tickets on smartphones, minimizing paper use and the risk of loss. In short, this project streamlines hall ticket management by combining **QR technology, Java, and MySQL** to deliver security, efficiency, and convenience.

KEYWORDS: QR, MySQL, hassle-free

I. INTRODUCTION

In this digital world there is an innovative digital solution designed to modernize and streamline the process of generating and managing hall tickets for examinations and events. Developed using Java and MySQL, this system replaces traditional, manual methods with a secure, efficient, and user-friendly platform. A key feature of the project is the integration of dynamically generated QR codes into each hall ticket, enabling quick and reliable verification through scanning. This web-based system allows administrators to easily create, customize, and distribute hall passes while maintaining accurate participant data through a centralized MySQL database. By offering a digital alternative, the project not only reduces administrative workload and paper usage but also enhances the security and accessibility of hall tickets. Participants can conveniently store and access their tickets on mobile devices, while invigilators can authenticate them in real time, ensuring a smooth and secure check-in process. Through this project, we demonstrate how modern technologies can be leveraged to digitize and optimize conventional administrative workflows, resulting in a more sustainable and effective ticketing solution.

II. LITERATURE REVIEW

[1] In recent years, many academic institutions have begun adopting digital technologies to handle administrative work more efficiently. Conventional hall ticket processes, which depend on manual preparation and paper-based distribution, often face problems such as errors, duplication, and security loopholes. With the use of Java programming and MySQL databases, automation has become possible, enabling quick and reliable hall ticket generation along with the integration of QR codes for added security.

[2] The use of hall tickets embedded with QR codes is now becoming a common practice for examinations and events. Each ticket is created automatically, storing student and exam details securely in a database and embedding a unique QR code for identification. This reduces paperwork, minimizes staff effort, and allows students to easily access their tickets digitally on smartphones or in printed form. For invigilators, QR scanning provides an instant and convenient way to validate authenticity.

[3] In situations where duplication or fraud may occur, the QR code system ensures protection by linking every ticket to centralized records. This prevents tampering and confirms validity in real time. The study highlights the design and use of hall ticket automation with QR codes, explaining the supporting technologies, secure generation methods, and advantages for institutions, while also suggesting opportunities for further development in digital examination management.



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a. EXISTING SYSTEM

The existing hall ticket system is mainly manual and paper-based, making it slow, error-prone, and resource-intensive. Administrators must manually prepare and print tickets, while physical distribution often causes delays and added effort, particularly for participants in distant locations.

Data inaccuracies are also common, as details collected from forms or outdated records may lead to errors such as misspelled names or incorrect information. Traditional paper tickets further lack proper security, leaving room for misuse, duplication, or fraudulent entry.

In addition, the heavy use of paper raises environmental concerns and increases the risk of tickets being lost or damaged. As the number of participants grows, maintaining records and ensuring smooth distribution becomes even more difficult, making the manual process less scalable and efficient.

b. PROPOSED SYSTEM

The proposed system introduces an automated approach to hall ticket generation and management using **Java and MySQL**. Instead of manual preparation, hall tickets are generated digitally, ensuring accuracy by directly retrieving participant data from the database. This eliminates errors caused by outdated or inconsistent records.

A key feature of the system is the integration of **QR codes** within each hall ticket. These unique codes securely link to participant details and can be scanned by invigilators for quick verification, reducing the chances of duplication or fraudulent entry. The use of QR codes ensures a faster, more reliable, and secure authentication process.

Since tickets are generated digitally, they can be easily distributed online or stored on smartphones, minimizing paper usage and reducing the risk of loss or damage. This makes the system more **eco-friendly, cost-effective, and scalable**, capable of handling large numbers of participants efficiently.

III. SYSTEM ARCHITECTURE

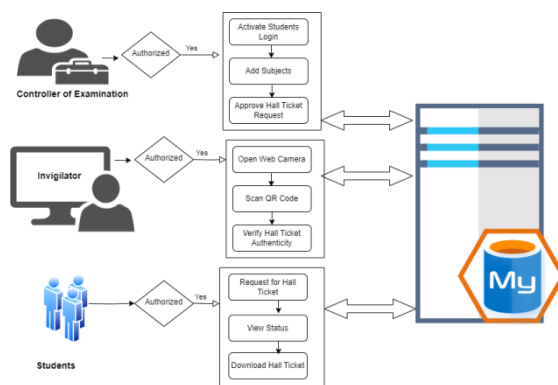


Fig3.1. System Architecture

The design of the Hall Ticket Automation System with Integrated QR Code follows a multi-tier architecture that combines Java-based web technologies with a MySQL database to manage data efficiently. The application is organized into four core modules: **Student Registration & Login**, **Hall Ticket Request**, **Controller of Examination Management**, and **Invigilator Verification**. These modules are connected through a centralized database, ensuring smooth communication and reliable information flow.

The frontend is developed using **JSP, HTML, CSS, and JavaScript**, offering an intuitive interface for students, administrators, and invigilators. Students can create accounts, log in, and request hall tickets, while the Controller of Examination oversees user validation, subject management, and approval of hall ticket requests. Once approved, tickets are generated with **QR codes containing encrypted student and exam details**. For verification, invigilators use a webcam-based QR scanning feature to authenticate hall tickets instantly.



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The backend logic is implemented in **Java**, and the system is developed within the **Apache NetBeans IDE**, ensuring modularity, scalability, and maintainability. This architecture delivers a secure, real-time, and paperless solution that enhances efficiency while addressing the limitations of traditional hall ticket distribution.

IV. METHODOLOGY

The project adopts the **Waterfall Model**, a step-by-step development approach where each stage is completed before progressing to the next. It begins with **Requirement Analysis**, identifying both functional and non-functional needs, such as student registration, hall ticket generation, and QR code verification. Next, the **System Design** phase defines the architecture, database schema, and interface layout. During **Implementation**, the system is developed using Java for backend logic and JSP, HTML, CSS, and JavaScript for the frontend, with MySQL managing student and hall ticket records. In the **Testing** phase, modules like Student, Controller, and Invigilator are validated for accuracy, security, and QR functionality. After successful **Deployment**, the system is introduced in a real-time environment, followed by **Maintenance**, ensuring reliability, updates, and smooth performance.

V. DESIGN AND IMPLEMENTATION

The design and implementation of the Hall Ticket Automation System with integrated QR codes aimed to replace the traditional manual process with a more secure and efficient digital solution.

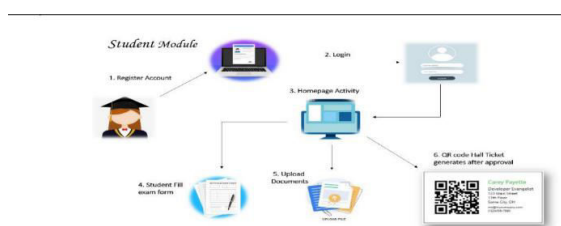


Fig 5.1 Flowchart of Working System

The system was developed following a structured approach, beginning with requirements analysis to identify core functionalities such as student registration, hall ticket generation, and QR-based verification. In the design phase, the database schema, application architecture, and user interface were carefully planned to ensure reliability and scalability. The implementation was carried out using Java for backend logic, JSP, HTML, CSS, and JavaScript for the frontend, while MySQL served as the database for storing student and examination details. A unique QR code was embedded in each hall ticket, enabling real-time verification and preventing duplication or unauthorized access. The system was tested extensively to ensure accuracy, security, and usability, resulting in a robust platform that streamlines hall ticket management.

VI. OUTCOME OF RESEARCH

The implementation of the hall ticket automation system with integrated QR codes has greatly enhanced efficiency, security, and accessibility in examination management. By automating processes such as student registration, ticket generation, and approval, the system eliminated common manual errors and delays. The use of dynamic QR codes introduced a secure mechanism for instant verification at exam venues, reducing risks of forgery and unauthorized entry. Administrative tasks were simplified through centralized digital storage of student and exam data in a MySQL database, significantly lowering workload. Students gained a convenient digital solution with easy access to their hall tickets, which could be stored on personal devices. Additionally, the system contributed to sustainability by reducing dependency on paper-based processes. Overall, the outcome is a reliable, scalable, and user-friendly platform that transformed traditional hall ticket management into a secure and modernized digital process.



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VII. RESULT AND DISCUSSION


College Exam Hall Ticket

Exam Date: September 10, 2025

Name: vijitha

Roll Number: 12

Course: IT



Subject	Date	Time
1AM23 ML	2025-08-18	09:30 AM - 01:30 PM
2AM23 AI	2025-08-19	09:45 AM - 12:50 PM
3AM23 KANNADA	2025-08-20	09:30 AM - 12:45 AM
4AM23 ENGLISH	2025-08-21	09:30 AM - 01:00 PM
5AM23 MATHS	2025-08-22	09:51 AM - 01:00 PM
1LM23 AI (Lab)	2025-09-01	10:05 AM - 11:05 AM
1LM24 ML (Lab)	2025-09-02	09:30 AM - 10:30 AM

Fig 7.1 Output Page

The Hall Ticket Automation System with Integrated QR Code system has successfully modernized the traditional hall ticket management process by delivering a digital, secure, and efficient solution. The implementation resulted in faster processing times, accurate hall ticket generation, and seamless student verification using QR code technology. Real-time validation using web camera scanning improved entry security, while the centralized MySQL database ensured reliable data storage and easy retrieval. The system reduced administrative effort, eliminated paper-based workflows, and enhanced user experience for students, administrators, and invigilators alike. In conclusion, the project demonstrated the effectiveness of integrating Java and database-driven technologies to solve real-world administrative challenges, offering a scalable and eco-friendly alternative to manual hall pass systems.

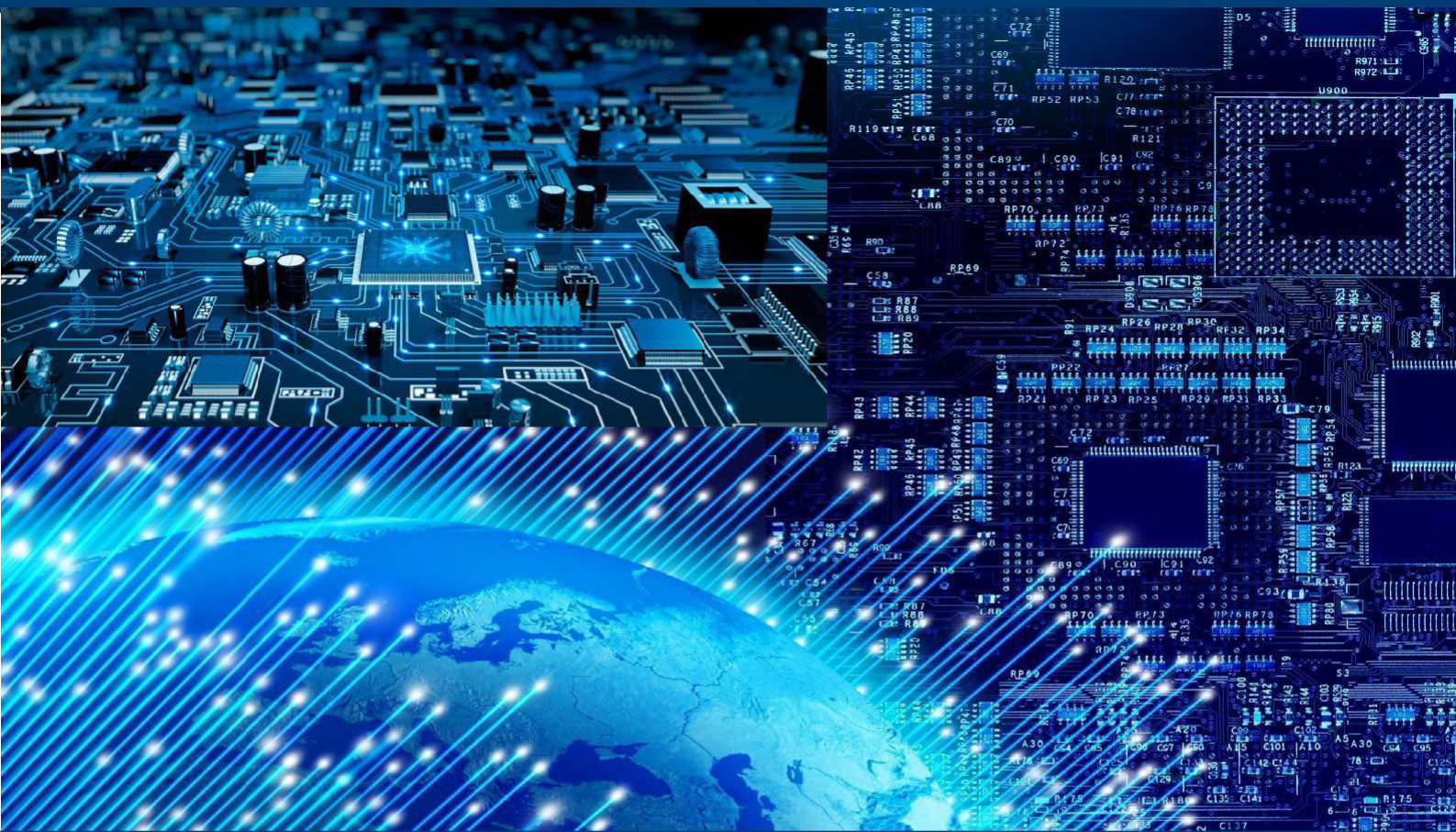
VIII. CONCLUSION

The Hall Ticket Automation System with Integrated QR Code project is a comprehensive and innovative solution that revolutionizes the traditional methods of managing hall tickets for examinations and events. Developed using Java and MySQL, the system addresses the limitations of manual processes and introduces a range of functionalities that enhance efficiency, accuracy, and security in the hall ticket management process.

By leveraging the power of QR code technology, the system ensures secure and real-time verification of student hall tickets, preventing unauthorized access and counterfeiting. The integration of three distinct entities – Students, Controller of Examination, and Invigilator – creates a holistic ecosystem that streamlines the entire process, from student registration to QR code-based hall ticket generation and verification.

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