

# College Event Registration Portal

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## Abstract:

The rapid growth of digital technologies has significantly transformed the way academic institutions manage events and student activities. Colleges frequently organize technical fests, cultural events, workshops, and seminars to enhance students' academic and practical skills. However, traditional event registration methods based on manual forms or basic online tools often lead to issues such as data redundancy, inefficient management, and time-consuming verification processes.

This project is about creating a website that makes it easy for students to sign up for college events. The website is called a College Event Registration Portal. It's a simple way for students to register for events online and get a special ticket with a QR code. When students show up to the event, the people in charge can quickly check their tickets by scanning the QR code and mark them as present. This system helps make event planning and attendance tracking much easier and faster. [2] P. Reddy and K. Lakshmi, "Web-Based Event Registration and Management System," International Journal of Advanced Research in Computer Science, Vol. 9, Issue 3, 2019.

The proposed system is developed using the MERN stack, which includes React.js for the frontend, Node.js and Express.js for the backend, and MongoDB for database management. [6] K. Mehta and S. Shah, "AI Chatbot for User Support in Web Applications," International Journal of Emerging Technologies, Vol. 10, Issue 4, 2021.

Additional features such as payment integration, email confirmation, event dashboards, and an AI-based chatbot enhance user experience and system efficiency.

**Keywords:** Event Registration Portal, QR Code Ticket Scanning, MERN Stack, Web-Based Event Management, Online Registration, Attendance Tracking, Payment Integration, AI Chatbot.

## 1. Introduction

In today's digital age, educational institutions use technology to improve efficiency and simplify various processes. Colleges frequently organize events such as tech fests, cultural programs, workshops, and conferences to encourage student participation and skill development. These events provide opportunities for students to learn new concepts, showcase their talents, and interact with others. [3] A. Gupta and M. Singh, "Design and Development of Event Management Portal," International Journal of Engineering Research & Technology (IJERT), Vol. 7, Issue 6, 2018.

Running an event can be a real challenge, especially when it comes to managing registrations. Using old-fashioned methods like paper forms or simple online tools can lead to a bunch of problems. For instance, you might end up with duplicate entries, which can be a nightmare to sort out. Keeping track of records can also be a hassle, and verifying registrations can be a time-consuming process. And when the big day arrives, it can be tough for organizers to keep tabs on all the participants.

To tackle these problems, a new system is being introduced - a web-based portal for registering for college events. [7] Dr. I. Shailaja, "Online Event Registration System," *Journal of Science Engineering Technology and Management Science*, Vol. 02, Issue 05, May 2025.

This platform makes it easy for students to see what events are happening and sign up online using a simple and easy-to-use interface. Once they've registered, each student gets a special QR code ticket that's just for them.

Event organizers can scan the QR code during the event to quickly verify the participant's registration. The system is developed using the MERN stack (MongoDB, Express.js, React.js, and Node.js), which provides a scalable, efficient, and secure platform. This portal helps streamline event management, reduce administrative workload, and enhance the overall experience for both students and organizers.

## 2. Motivation

The idea behind creating the College Event Registration Portal is to fix the problems with the old ways of signing up for events used by many schools. The old ways of signing up and checking who's attending often lead to mistakes, duplicated data, and a lot of time wasted on management. We need a digital solution to make managing events easier, more efficient, and more convenient for both students and the people organizing the events. The goal is to make the event registration process better and to improve how things are managed. To do this, the system will allow people to sign up online, generate tickets with QR codes, process payments securely, and send out automatic notifications. This will make managing events simpler and improve the experience for both students and organizers. By using this portal, students will be able to easily find and sign up for events, and organizers will be able to manage their events more efficiently. The portal will also help reduce errors and make the whole process more streamlined. Overall, the College Event Registration Portal is a much-needed solution for schools to make event management better.

## 3. Objective

The main objective of the College Event Registration Portal is to develop a web-based system that simplifies the process of event registration and management in educational institutions. The system aims to provide a centralized platform where students can easily view available events and register online without manual paperwork. Another objective is to implement QR code-based ticket generation for quick and secure participant verification during events. The system also focuses on improving event management by providing organizers with tools to monitor registrations and manage participant data efficiently.

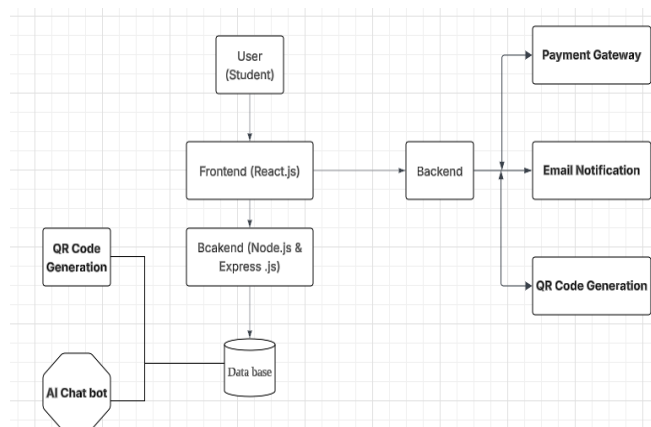
#### 4. Related work

Several event management systems have been developed in recent years to simplify the process of organizing and managing events in educational institutions and organizations. Traditional event registration methods often involve manual forms, spreadsheets, or basic online tools, which can lead to data redundancy, inefficient management, and difficulties in maintaining accurate participant records. These limitations have encouraged researchers and developers to design digital platforms that automate event registration and management processes.

Many existing event management platforms provide basic functionalities such as online event listing, participant registration, and email notifications. These systems help reduce manual work and allow organizers to manage event-related information more efficiently. However, most of these platforms lack advanced features such as automated attendance tracking, secure verification mechanisms, and integrated payment systems. Some of these platforms even use QR codes to generate and verify digital tickets, which simplifies the process of tracking who's attending an event. This can be really helpful for event organizers, as it saves time and reduces the risk of errors. By using these online systems, events can be run more smoothly, and participants can have a better experience overall.

#### 5. Proposed System

The new system is a website that makes it easy for students to sign up for college events. It's a one-stop place where students can see what events are happening, register for them online, and get a confirmation right away. This way of doing things is better than the old way of signing up in person because it saves time and reduces mistakes. With this system, students can quickly and easily find out what events are available and sign up for the ones they want to attend. It also helps the college keep track of who's signed up for each event, which makes everything run more smoothly.



**Fig1 Proposed Block Diagram**

Once a student has signed up for an event, the system creates a special QR code that's just for them. This QR code is like a digital ticket that gets them into the event. When they arrive, their QR code can be scanned to make sure they're registered and to mark that they're there.

The system also provides a dashboard for event organizers, allowing them to manage events, track registrations, and monitor participant information in real time. Organizers can easily verify participants by scanning the QR code using the verification module, which helps reduce manual errors and speeds up the attendance process. Additionally, the proposed system supports secure payment integration for paid events and sends automated email notifications to participants after successful registration and get ready to attend. The system helps organizers keep track of who's signed up and makes sure everyone has a smooth experience. By using a QR code ticket, it's easy to check who's supposed to be at the event, and it helps prevent any confusion or mix-ups.

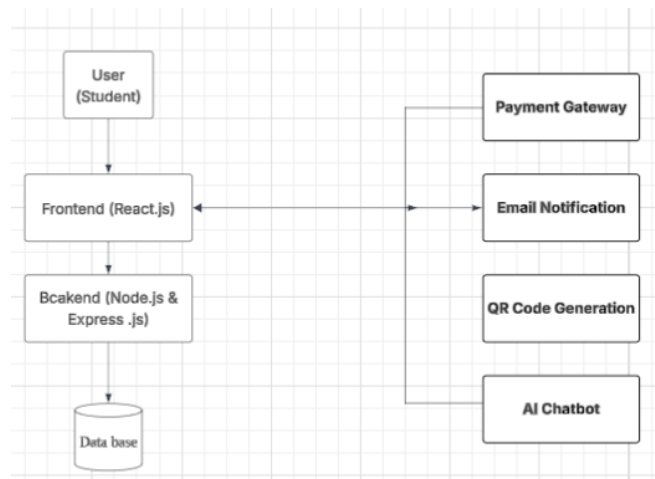


Fig2 System Architecture

To keep things safe and private, the whole system is built on Blockchain technology. This means that all user information, like resumes, interview feedback, and job applications, is stored securely in a way that can't be changed or deleted. This makes sure that the information is kept confidential and that the recruitment platform is safe and reliable for both candidates and employers.

## 6. Methodology

The College Event Registration Portal is designed to make it easy for people to sign up for events and for organizers to manage them. This is done by creating a website that lets users see what events are happening, sign up for them, and get their tickets all in one place. The system uses a combination of tools like React, Node, and MongoDB to make sure everything runs smoothly. When students want to sign up for an event, they go to the portal, pick the event they're interested in, and fill out a form with their information. This information is then stored safely in the database. Once they've signed up, they get a special QR code ticket that's just for them. This ticket is like a digital ID that they can use to get into the event. They also get an email with the ticket, just to confirm that everything went through okay. The whole process is set up to be easy to follow, so students can quickly find events, sign up, Web-Based Event Registration System The new system offers a website where students can look at upcoming events and sign up online. On this site, students can see all the details about an event, like its name, what it's about, when and where it is, and how much it costs to join. Students can easily fill out their personal info and finish signing up. This way of signing up online means we don't need paper forms anymore, which helps the people in charge by giving them less work to do. It also makes things easier and more

accessible for students. The website is made to be easy to use, so both students and event organizers can navigate it smoothly. Students can quickly find and choose events that interest them, making the whole sign-up process fast and simple. After students submit their sign-up form, the system checks to make sure all the info is correct and then safely stores it in a database.

## QR Code Ticket Generation and Verification

After the successful completion of the event registration process, the system automatically generates a unique QR code for each registered participant. This QR code serves as a digital ticket that contains essential information related to the participant and the selected event. The generated QR code is linked to the participant's registration data stored in the database, ensuring secure identification. The QR code ticket can be downloaded or sent to the participant through email as a confirmation of successful registration. This digital ticket acts as proof of registration and must be presented during the event for entry verification. By using QR code technology, the system eliminates the need for physical tickets and reduces the chances of duplication or misuse.

When it's time for the event, the people in charge use a special tool to scan a code on the participant's ticket. This code is like a secret message that the computer can read. Once the code is scanned, the system checks the participant's information to make sure everything is okay, and then it marks them as attending the event. This whole process happens automatically, which helps the organizers get everything done quickly and easily, so people don't have to wait around for a long time. It really helps make the whole event run more smoothly.

## A. Database Management and Event Monitoring

The proposed system uses MongoDB as the primary database to store all event-related and participant information. The database maintains records such as event details, user information, registration data, and attendance status. By storing information in a structured manner, the system ensures reliable data management and quick access to required information. The backend of the system is developed using Node.js and Express.js, which handle communication between the frontend interface and the database. Whenever a user registers for an event, the information entered in the registration form is processed by the backend server and stored securely in the database. This ensures that all event registration data is maintained accurately. The system also includes a dashboard for administrators, which helps event organizers keep track of registrations and manage their events. With this dashboard, organizers can easily create new events, make changes to existing events, and see who's signed up.

## 7. Modules and Implementation

### Admin Module:

- The admin opens the College Event Registration Portal and selects the Admin Login option.
- The admin enters the registers username/email and password to log in to the system.
- When you log in successfully, you'll be taken straight to the Admin Dashboard, where you can start

managing things right away.

- From the dashboard, the admin can create, update, and delete events in the portal.
- The admin can also view event registrations and manage student and organizer accounts.

## Student Module:

- The student opens the College Event Registration Portal and selects the Student Login/Registration option.
- When you start, you'll need to sign up by giving some basic information to create your account, or if you already have one, you can just log in with your username and password.
- When a student logs in successfully, they can see the events that the admin has posted, and these events come with details like the name of the event, the date it's happening, the time it starts, and a description of what the event is about. The student selects the desired event and completes the registration process online.
- When you sign up for an event, the system creates a special QR code ticket that serves as your digital entry pass. This unique code is generated after you've successfully registered, and it's what gets you into the event. On the other hand, when a company is done using the system, it can log out in a way that's safe and secure, protecting its information.

## Organizer Module

- To start the registration process, the event organizer begins by accessing the College Event Registration Portal. From there, they choose the Organizer Login option to gain access to the system.
- To get started, the person in charge will need to sign in to the system by entering their email address or username and password.
- When you log in, you can see all the events that the admin has posted, and you can also look at the list of people who have signed up to participate.
- When the event gets underway, the person in charge checks the QR code that each participant has, to make sure they're really signed up. This module helps organizers manage participant attendance and ensure smooth event execution.

## 8. Results

### A. Home Page

The main page of the College Event Registration Portal is where everything starts. It gives a quick look at what the platform is all about and helps users find their way to different parts of the site, like logging in as an admin, student, or organizer.

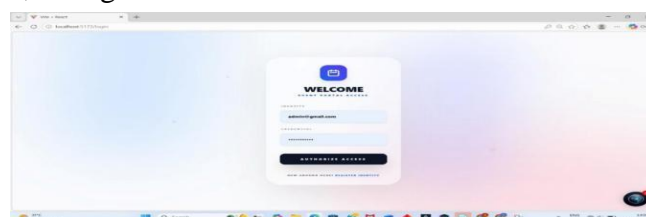


Fig3 Home Page

## B. Student Registration Page

When a new student wants to join, they can use the Student Registration Page to make an account. To do this, they need to give some personal information like their name, email address, phone number, and a password they want to use. Once they've filled out the form and sent it in, the information gets saved in the system's database.

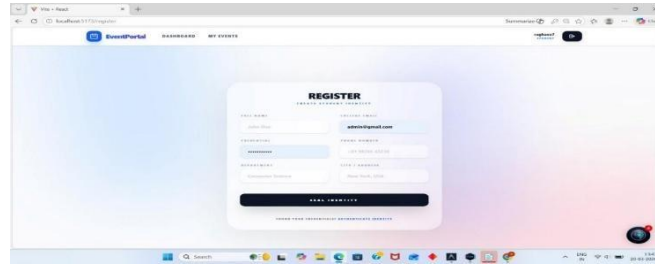


Fig4 Student Registration Page

## C. Student Login Page

The Student Login Page allows registered students to access the College Event Registration Portal using their login credentials. Students need to enter their registered email or username and password to log in to the system.

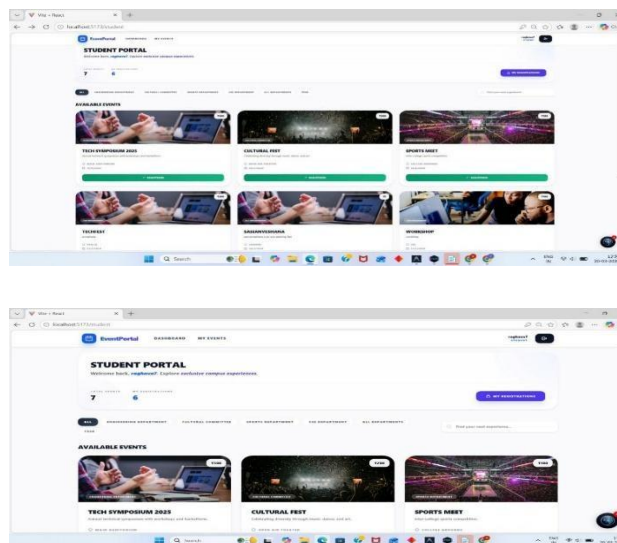


Fig5 Student login page

## D. Event Registration Page

When students want to join an event, they can go to the Event Registration Page. Students can pick the event they want to go to and register for it right from this page. After they've signed up, the system saves their information and makes a special QR code ticket for them to get into the event.

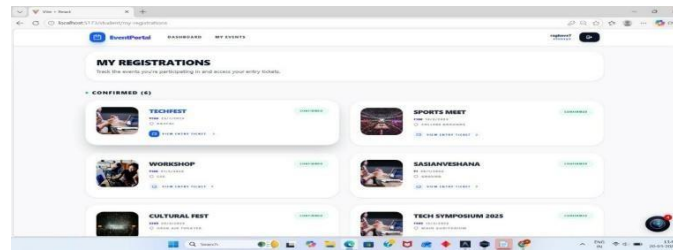


Fig6 Event Registration Page

## E. QR Code Ticket Generation

When you sign up for an event, a special QR code is made just for you. This code is like a ticket to the event. The QR code is unique to each person, so it's a good way to keep things organized.

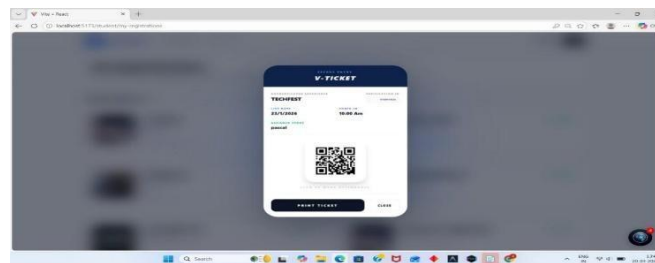


Fig7 QR Code Ticket Generation

## F. Event Dashboard

The Event Dashboard is a great tool that gives you all the events in the system. With it, you can check out the details of each event, like the name, date, time, and what it's all about. This makes it easy for students to find and pick the events they want to attend. At the same time, administrators can keep an eye on who's signing up for events and manage all the related info in one place

Fig8 Event Dashboard

## G. Event Organizer Dashboard

The event organizer dashboard is a tool that helps people in charge of events keep everything running smoothly. With this dashboard, they can see who's signed up for each event and check if they actually showed up. It's also really handy for verifying who's who during the event - all they have to do is scan a QR code and they'll know right away if someone is supposed to be there.

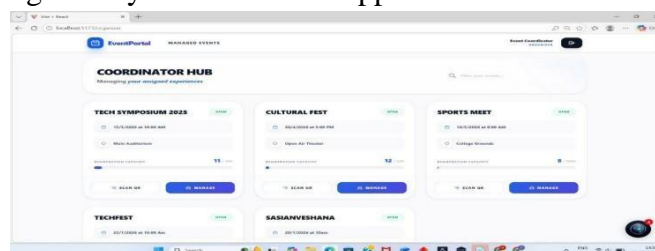


Fig9 Event Organizer Dashboard

## H. QR Code Verification

The QR Code Verification feature allows event organizers to verify the registration of participants during the event. Organizers scan the QR code ticket generated for each student using a scanner or mobile device.

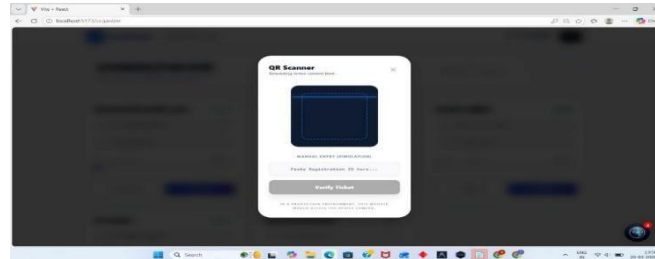


Fig10 QR Code Verification

## I. Payment and Email Notification System

The Payment and Email Notification System helps manage event payments and communication with participants. If an event requires a registration fee, students can complete the payment through the system.



Fig11 Payment and Email Notification System

## J. Participant List and Attendance Tracking

The Participant List and Attendance Tracking feature allows organizers and administrators to view the list of students who have registered for each event. It helps in managing participant information and monitoring attendance during the event. By scanning the QR code of each participant, the system records their attendance automatically, making the process faster, accurate, and easy to manage.

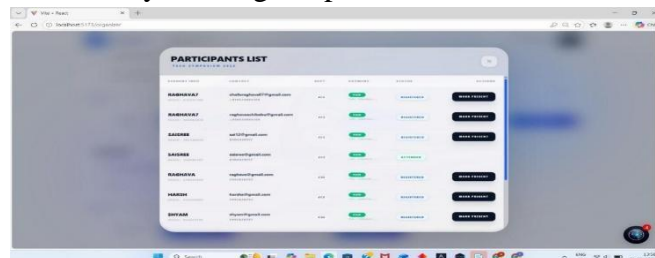


Fig12 Participant List and Attendance Tracking

## K. AI Chatbot Interface

The interface of the AI Chatbot is really helpful for users who need assistance while using the portal. It's like having someone to answer all your questions about events, registration, and login processes. The

chatbot is like a guide that helps students and organizers navigate the system, and it gives instant responses, which makes the whole experience better and more interactive. The chatbot is always there to help, making it a great tool for getting quick assistance.

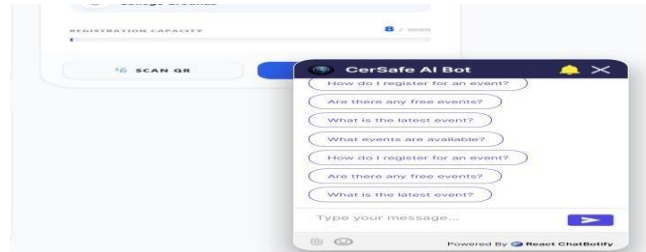


Fig11 AI Chatbot Interface

## 9. Discussion

The college event registration process just got a whole lot easier. For a long time, signing up for events on campus was a real hassle - think paper forms and basic tools that often led to mistakes, lost data, and a whole lot of stress when dealing with big crowds. But now, there's a new digital solution that lets students register for events online, making the whole process simpler and more efficient. This online platform is designed to take the hassle out of event management, so students can focus on what really matters - attending great events and making the most of their college experience. With this new system, students can easily sign up for events, and organizers can keep track of everything without the risk of errors or lost data. It's a win-win for everyone involved.

The system is designed with different modules such as Admin, Student, and Organizer to ensure proper management of event activities. The admin can create and manage events, students can view and register for events, and organizers can verify participants using QR codes. The QR code ticket generation and verification features help in reducing manual work and make attendance tracking faster and more accurate.

The system also has some really useful features that make it work even better. For example, it can handle payments, send out email notifications, and keep track of who's coming to an event. It even has a chatbot that uses artificial intelligence to help answer questions. All of these features, combined with a modern and easy-to-use interface, make managing events a whole lot easier. The portal is designed to make things more efficient and organized, which means less work for the people in charge and a better experience for both students and event organizers. This is because the system helps cut down on administrative tasks, giving everyone more time to focus on what really matters.

## 10. Conclusion

The college event registration system is a great way to manage events digitally. It's really easy for students to find and sign up for events they're interested in. At the same time, administrators can use the system to create and manage events, which makes their job a lot simpler. One of the best features is the use of QR code tickets, which helps organizers keep track of who's attending - it's quick, accurate, and saves a lot of time. This way, everyone involved can focus on making the event a success, rather than

getting bogged down in paper- work and long lines. By using this system, colleges can make their events more accessible and enjoya- ble for students, while also streamlining the man- agement process for administrators.

When you put together things like online sign-ups, QR code checks, payment systems, and email up- dates, it makes a big difference. It also helps with managing the people taking part. All of this means less work by hand and things get done faster. So, this project is really about making event planning easier and better for everyone involved - both the students and the people running the events.

## 11. Future Scope

To make the event management system even better, a few things can be done. For starters, a mobile app can be created so people can use it on their phones. This will make it easier for them to get to the platform. Also, the way people pay for things can be improved by adding more options like UPI, debit and credit cards, and digital wallets. This will give users more choices and make things more convenient for them. The system is already pretty good at helping with events, but these changes can make it even more useful and faster. With a mobile app, people can use it anywhere, which is really helpful. And with more payment options, people can choose how they want to pay, which makes things easier for them. Overall, these improvements can make the system more efficient and user-friendly, which is what people want. It's always a good idea to keep making things better, and these changes can help do that. By adding a mobile app and more payment options, the system can be more helpful to users and make their expe- rience better. The AI chatbot can be improved by using advanced techniques such as Natural Lan- guage Processing (NLP) to understand complex queries and provide more accurate and intelligent responses. Event analytics and reporting features can be added to help organizers participant data, at- tendance trends, and event performance for better decision-making. Additional features such as feed- back and rating systems can be included to collect user opinions and improve the quality of future events. Furthermore, the system can be enhanced by integrating features such as automated certifi- cate generation for participants after successful event completion. Cloud deployment can also be implemented to improve scalability and allow the system to support a larger number of users. Secu- rity features such as advanced authentication and data encryption can be added to protect user infor- mation. These improvements will further strengthen the system and make it suitable for large-scale event management platforms.

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