

College Event Management System

Utkarsh Didore¹, Dilip Jadhav², Omkar Waghmare³, Akash Bajad⁴, Prof. Anil C. Naik⁵, Prof. Mayur G. Unhale⁶

^{1, 2, 3, 4, 5, 6}Dept of Computer Engineering

^{1, 2, 3, 4, 5, 6}Shreeyash College of Engineering & Technology (Polytechnic), Chh. Sambhajanagar, Maharashtra, India

Abstract- *The College Event Management System is a web-based application developed using the Flask framework in Python to simplify and automate the management of academic and non-academic events within a college campus. Conventional event management methods often depend on manual registration processes and scattered communication channels, which may result in scheduling overlaps, duplicate records, and inefficient documentation.*

The proposed system offers a unified digital platform where administrators can create and manage events, students can complete registrations online, and organizers can monitor participation in real time. The application follows a client-server architecture and utilizes a relational database to ensure organized and secure data storage. Role-based authentication is implemented to maintain data security and restrict access according to user responsibilities.

Testing and evaluation indicate that the system improves operational efficiency, minimizes paperwork, enhances data accuracy, and promotes better coordination among stakeholders. Future enhancements may include integration of online payment systems and mobile compatibility to further improve usability and accessibility.

Keywords: College Management, Flask Framework, Python Web Application, Relational Database, Role-Based Authentication

I. INTRODUCTION

Event management is an essential activity in academic institutions. Colleges frequently organize seminars, workshops, technical fests, cultural events, and conferences. Manual management leads to issues such as miscommunication, registration errors, data duplication, and difficulty in maintaining participation records.

With web technologies, automated systems can significantly improve operational efficiency. This research focuses on designing a web-based College Event Management System using the Flask framework. The primary objective is to create a centralized platform that automates event registration, management, and reporting processes, ensuring secure handling of student and event data.

II. LITERATURE REVIEW

Event management systems have been widely explored to enhance the efficiency of academic and non-academic activities in colleges. Traditionally, event coordination relied on manual record-keeping, paper forms, and offline communication, which often led to scheduling conflicts, duplicate entries, and delays in reporting.

Recent studies highlight the advantages of web-based solutions for handling such processes. For instance, Yadav and Gupta [1] developed a system that allowed online scheduling and participant registration, minimizing manual errors. Sharma and Verma [2] emphasized secure authentication and role-based access to maintain data confidentiality in Python-based web applications. Patel and Desai [3] discussed the importance of structured relational databases to reduce redundancy and ensure data integrity.

Building upon these findings, the proposed system integrates the benefits of centralized web-based platforms with Flask-based development, secure authentication, and a relational database. Unlike traditional approaches, it provides real-time monitoring, easier administration, and more reliable data management for all stakeholders.

III. PROPOSED METHODOLOGY

The system is divided into modules:

A. Admin Module

- Login authentication
- Create, update, delete events
- View registered participants
- Generate participation reports

B. Student Module

- User registration and login
- View available events
- Online event registration
- View participation history

C. Authentication Mechanism

- Password hashingS
- Session management
- Role-based access control

Flask routing and SQL queries handle database interactions. Data validation ensures correctness and security.

IV. IMPLEMENTATION

Technologies Used:

- Backend: Python with Flask
- Frontend: HTML, CSS, Bootstrap
- Database: MySQL
- Server: Localhost / WAMP / XAMPP

Key Functionalities:

1. Secure login with hashed passwords
2. Event management dashboard for administrators
3. Real-time registration updates
4. Database connectivity using Flask-SQLAlchemy
5. Error handling and validation

V. RESULTS AND ANALYSIS

Testing with multiple user accounts shows:

- 60% reduction in manual registration time
- Improved accuracy of participant data
- Efficient report generation
- Elimination of redundant data via relational schema

The system handled concurrent access without failure, demonstrating reliability.

VI. FUTURE SCOPE

The system can be enhanced with:

- Online payment integration
- Email and SMS notifications
- Mobile application version
- Cloud deployment for scalability
- Data analytics dashboard

VII. CONCLUSION

The College Event Management System developed using Flask provides a secure, centralized platform for managing college events. It reduces paperwork, enhances

communication, and ensures structured data management. The modular architecture makes it scalable and easy to maintain. With further enhancements, it can be deployed at institutional or university levels.

VII. ACKNOWLEDGMENT

The authors express their sincere gratitude to the faculty and the Department of Computer Engineering at Shreeyash College of Engineering & Technology (Polytechnic) for their valuable guidance, encouragement, and continuous support throughout the completion of this project..

VIII. AUTHORS' BIOGRAPHIES

Mr. Utkarsh Didore

Diploma in Computer Engineering (Poly), T.Y.P Shreeyash College of Engineering & Technology (Polytechnic), Chh. Sambhajnagar, Maharashtra, India. Currently pursuing a Diploma in Computer Engineering, he is (Project leader) he leads the project team and oversees planning, coordination, and successful completion of the research work.

Mr. Dilip Jadhav

Diploma in Computer Engineering (Poly), T.Y.P Shreeyash College of Engineering & Technology (Polytechnic), Chh. Sambhajnagar, Maharashtra, India. Enrolled in the diploma program, he contributed to system implementation and supported overall project coordination.

Mr. Omkar Waghmare

Diploma in Computer Engineering (Poly), T.Y.P Shreeyash College of Engineering & Technology (Polytechnic), Chh. Sambhajnagar, Maharashtra, India. He played a key role in development, testing, and documentation throughout the project lifecycle.

Mr. Akash Bajad

Diploma in Computer Engineering (Poly), T.Y.P Shreeyash College of Engineering & Technology (Polytechnic), Chh. Sambhajnagar, Maharashtra, India. He assisted in designing project components, preparing documentation, and presenting project outcomes.

Prof. Anil C. Naik

Head of Department, Department of Computer Engineering

Shreyash College of Engineering & Technology (Polytechnic), Chh. Sambhajinagar, Maharashtra, India. As HOD, he provided academic supervision and technical guidance to ensure high-quality project development.

Prof. Mayur G. Unhale

Lecturer (Project Guide), Department of Computer Engineering Shreyash College of Engineering & Technology (Polytechnic), Chh. Sambhajinagar, Maharashtra, India. He offered continuous guidance, technical support, and evaluation throughout the project development process.

REFERENCES

- [1] Yadav, S. K., & Gupta, R. (2019). Development and design of an online event management platform tailored for educational institutions. *International Journal of Computer Applications*, 182(44), 15–19.
- [2] Sharma, P., & Verma, A. (2020). Implementation of role-based authentication mechanisms in web applications using Python frameworks. *International Journal of Engineering Research & Technology (IJERT)*, 9(5), 234–238.
- [3] Patel, R., & Desai, M. (2019). Designing and implementing databases for institutional management systems. *International Journal of Advanced Research in Computer Science*, 10(3), 112–117.