iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 14 **Issue:** III **Month of publication:** March 2026

DOI: https://doi.org/10.22214/ijraset.2026.78070

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 14 Issue III Mar 2026- Available at www.ijraset.com

Online Job Portal and Recruitment Management System Using MERN Stack

P. Susila[1], R. Leela[2], Y. Padmasri[3], U. Vishnu[4], K. Bhargav Naidu[5]
[1]*Assistant Professor,* [2, 3, 4, 5]*Students, Department of Computer Science and Engineering (AI & ML), Avanthi Institute of Engineering and Technology, Visakhapatnam, India*

Abstract: ***The rapid growth of digital technology has transformed traditional recruitment processes into automated and cloud-based systems. Conventional recruitment methods often rely on manual resume submission, email communication, and fragmented data storage, resulting in inefficiencies and delays in hiring. This paper presents the design and implementation of an Online Job Portal and Recruitment Management System developed using the MERN stack (MongoDB, Express.js, React.js, and Node.js).***

The system provides a centralized platform that connects job seekers and recruiters through secure role-based dashboards and automated application tracking. Students can browse job listings, submit applications through a one-click process, and monitor application status in real time, while recruiters can post job opportunities, manage listings, and review candidate profiles efficiently.

The platform integrates modern web technologies such as Tailwind CSS for responsive UI design and JSON Web Tokens (JWT) for secure authentication and role-based access control. The proposed system improves recruitment efficiency, enhances transparency in applicant management, and ensures scalable performance for handling multiple users simultaneously. The implementation demonstrates how modern web technologies can streamline hiring processes and create a secure, accessible, and efficient recruitment ecosystem.

Keywords: Job Portal, MERN Stack, Recruitment System, Web Application, Role-Based Access Control, MongoDB, React.

I. INTRODUCTION

Recruitment plays a critical role in organizational growth and workforce development. Traditionally, hiring processes involved manual resume collection, physical documentation, and communication through emails or phone calls. These methods often result in inefficiencies such as delayed communication, misplacement of candidate data, and limited accessibility for job seekers.

With the increasing demand for digital transformation, online recruitment systems have emerged as a reliable solution to streamline the hiring process. An Online Job Portal and Recruitment Management System provides a centralized digital platform where job seekers can explore employment opportunities and recruiters can efficiently manage job applications.

The proposed system is developed using the MERN stack, which includes MongoDB, Express.js, React.js, and Node.js. This technology stack enables the development of scalable, high-performance web applications with real-time data synchronization. The portal provides role-specific functionalities where students can browse jobs, apply with a single click, and track their application status, while recruiters can manage job postings and review candidate applications.

Documentation(pdf)

The main objective of the system is to bridge the communication gap between job seekers and employers by providing a user-friendly and automated recruitment platform.

II. LITERATURE REVIEW

Over the years, recruitment systems have evolved from manual paper-based processes to digital platforms that offer automated job management and candidate tracking. Early recruitment systems relied on simple databases to store applicant information, but these systems lacked real-time communication and automation features.

Recent studies highlight the advantages of automated recruitment systems in improving efficiency and reducing administrative workload. Automated systems can reduce manual processing time and improve operational efficiency by up to 60% compared to traditional recruitment methods.

©IJRASET: All Rights are Reserved

Documentation (pdf)

Modern recruitment platforms use cloud technologies and web-based applications to provide accessibility across multiple devices. Research also emphasizes the importance of role-based access control to ensure data security and proper management of sensitive information. Secure authentication mechanisms such as JSON Web Tokens (JWT) help prevent unauthorized access and protect user data.

Furthermore, studies on automated documentation systems show that modern AI-powered tools can assist developers in maintaining consistent and accurate technical documentation. These technologies reduce the effort required for documentation and improve project maintainability. Based on these research findings, the proposed Online Job Portal aims to provide a secure, automated, and scalable recruitment management solution using modern web technologies.

III. SYSTEM ANALYSIS

A. *Technical Feasibility*

The system is technically feasible as it uses the MERN stack, which provides a modern architecture for web application development.

React ensures efficient front-end rendering, while Node.js and Express handle server-side logic and API development. MongoDB provides flexible data storage suitable for managing job listings and user profiles.

Documentation(pdf)

B. *Operational Feasibility*

The system improves communication between job seekers and recruiters through role-specific dashboards and automated job application tracking. By digitizing recruitment processes, the platform reduces manual work and improves hiring efficiency.

C. *Economic Feasibility*

The system eliminates the need for paper-based documentation and reduces operational costs associated with manual recruitment management. Automation also minimizes human errors and improves data accuracy.

D. *Legal Feasibility*

The platform follows modern data protection practices and implements secure authentication mechanisms to ensure privacy and protection of user data.

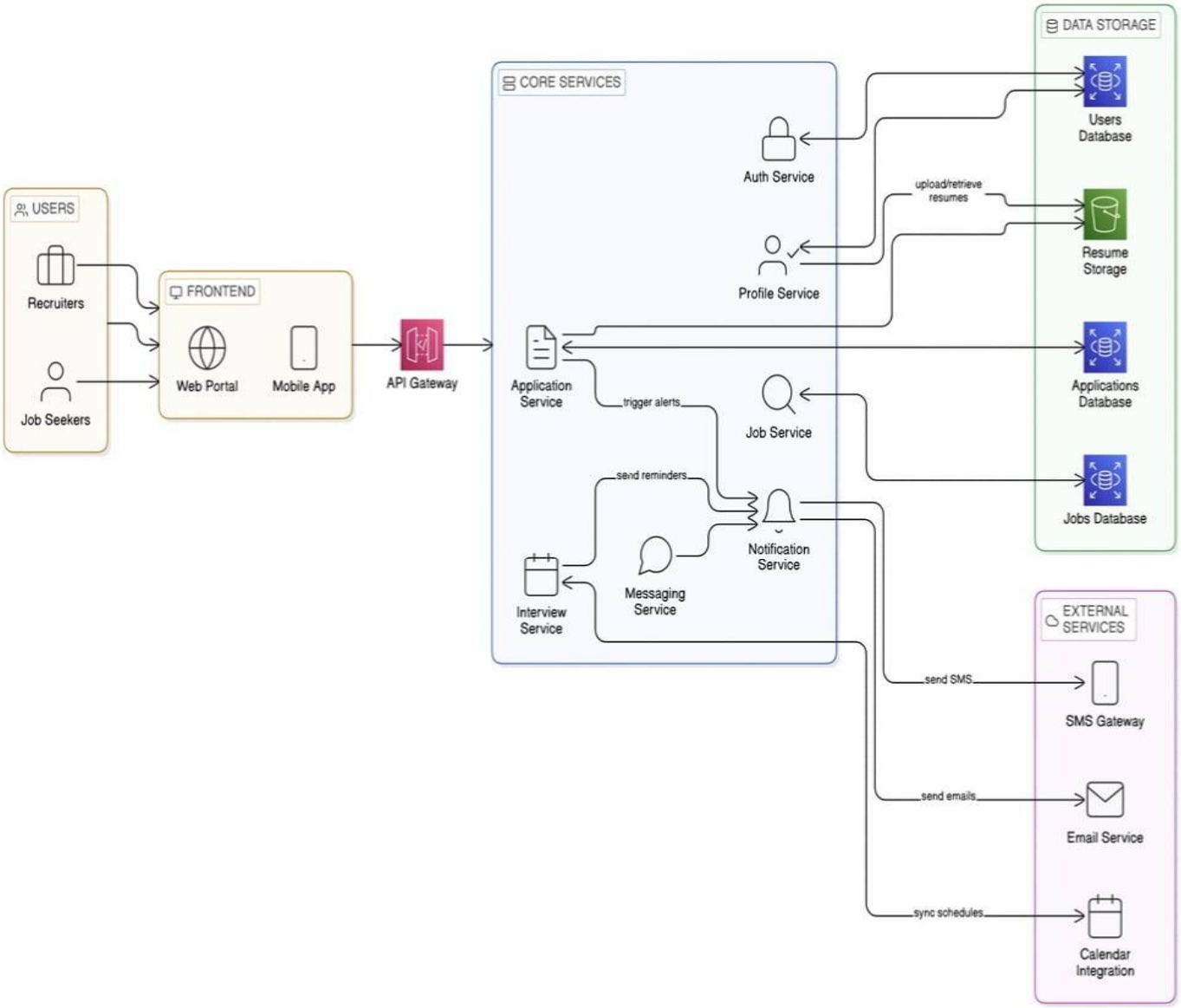
IV. SYSTEM ARCHITECTURE

The system follows a three-tier architecture consisting of:

1) Frontend Layer: The frontend is developed using React.js with Tailwind CSS for responsive design and modern UI components. React enables component-based development and efficient rendering of dynamic content.
2) Backend Layer: The backend is implemented using Node.js and Express.js, which handle server-side logic, API endpoints, and communication between the client and database.
3) Database Layer: MongoDB is used as the database to store user information, job listings, and application records. Mongoose is used for object modelling and schema management.

The architecture ensures scalability, flexibility, and efficient data management.

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |



V. METHODOLOGY

The development process was carried out in several phases to ensure proper system design and implementation.

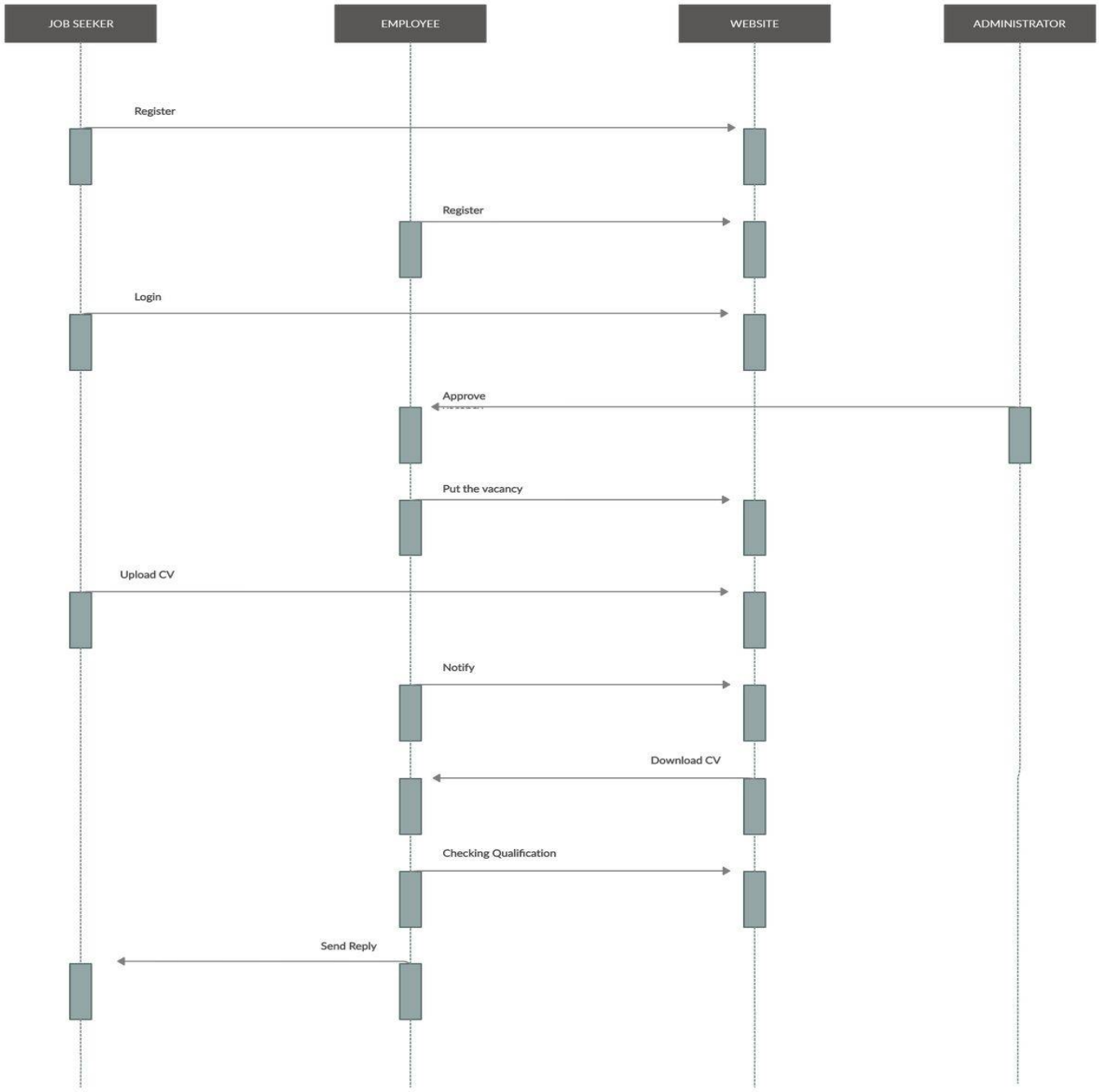
1) System Design: Initial system designs were created using diagrams and UI prototypes to visualize the system workflow. The design included dashboards for students and recruiters.

2) Development: The application was developed using the MERN stack. React was used for building interactive user interfaces, while Node.js and Express handled backend functionality. MongoDB stored the application data.

3) Testing: Various testing methods were applied to ensure system reliability. Unit testing and integration testing were performed using tools such as Jest and Mocha to validate application components and APIs.

4) Deployment: The system can be deployed on cloud platforms such as AWS, Google Cloud, or Firebase hosting to ensure accessibility and scalability.

©IJRASET: All Rights are Reserved



VI. SYSTEM WORKFLOW

The system consists of multiple modules designed to handle recruitment operations.

1) User Authentication: Users register and log in using secure authentication mechanisms. JWT-based authentication ensures role-based access control for different user roles.

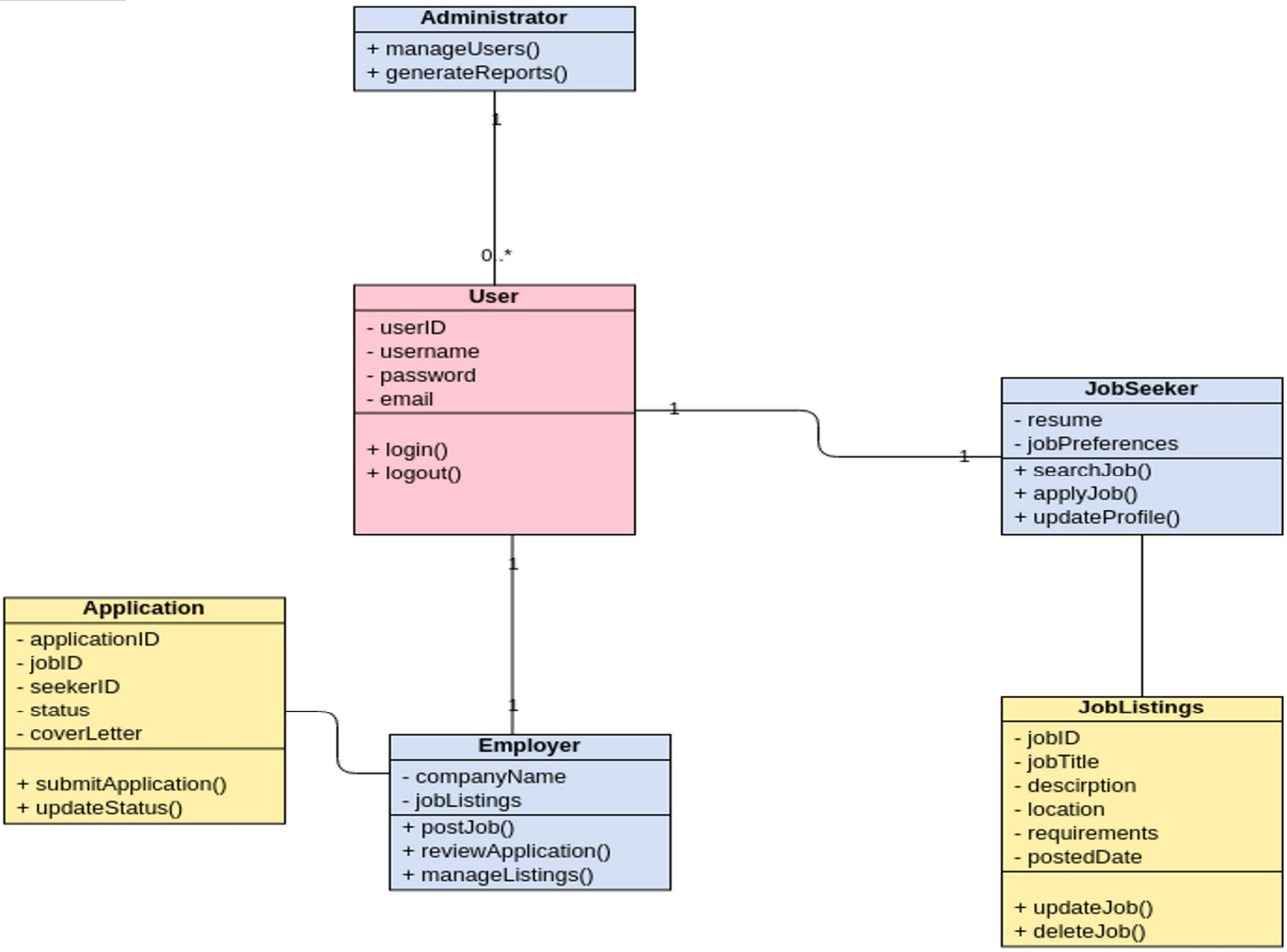
2) Job Posting: Recruiters can create and manage job listings by providing job titles, descriptions, and requirements.

3) Job Discovery: Students can browse and search for job listings based on different criteria such as job title or skill requirements.

4) Application Process: Students can apply for jobs with a single click, and the system automatically records the application details.

5) Applicant Tracking: Recruiters can view candidate profiles and manage applications through their dashboard.

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 14 Issue III Mar 2026- Available at www.ijraset.com



VII. RESULTS AND DISCUSSION

The implemented system successfully demonstrates the functionality of an automated recruitment management platform. The system provides:

1) Secure login and registration for different user roles
2) Job posting and management features for recruiters
3) Job browsing and application features for students
4) Real-time application tracking
5) Role-based dashboards for efficient workflow management

The use of modern web technologies ensures high performance, scalability, and improved user experience.

VIII. FUTURE SCOPE

Several improvements can be implemented in the future to enhance the system:

1) AI-Based Candidate Matching: Artificial intelligence can be integrated to match candidate profiles with job requirements automatically.
2) Mobile Application Development: Developing a mobile application will improve accessibility for job seekers and recruiters.
3) Blockchain-Based Credential Verification: Blockchain technology can be used to verify candidate qualifications and certificates securely.
4) Integration with HR Systems: The system can be integrated with enterprise HR software for automated payroll and employee management.

©IJRASET: All Rights are Reserved

Fig-1 Home Page

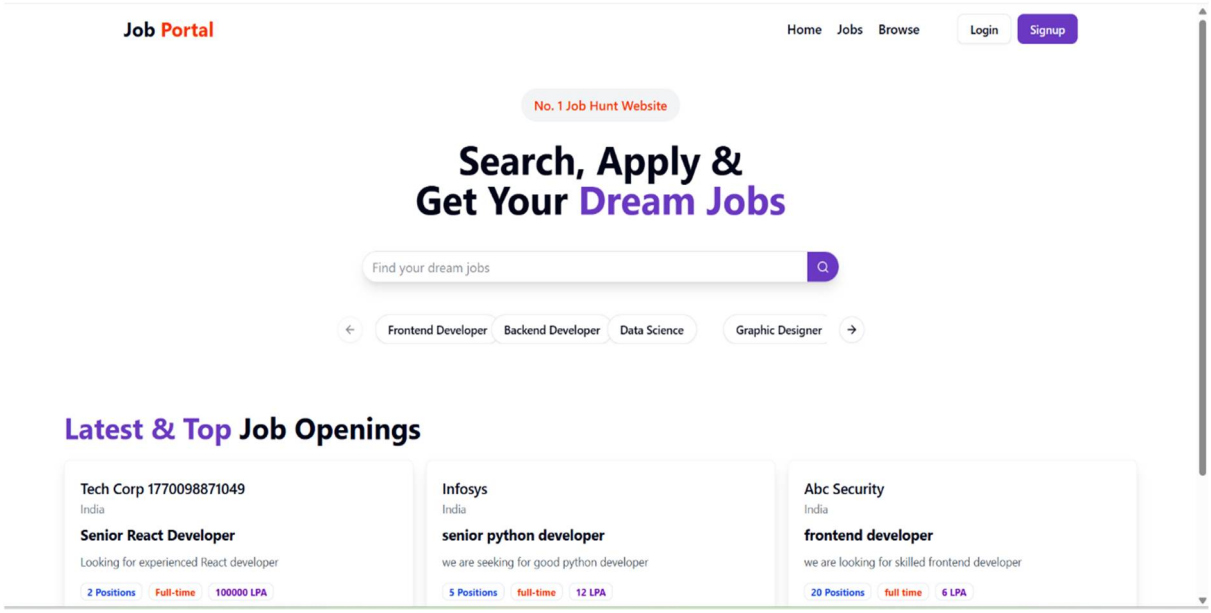


Fig-2 Job Seeker Interface

Fig-2.1 Sign Up

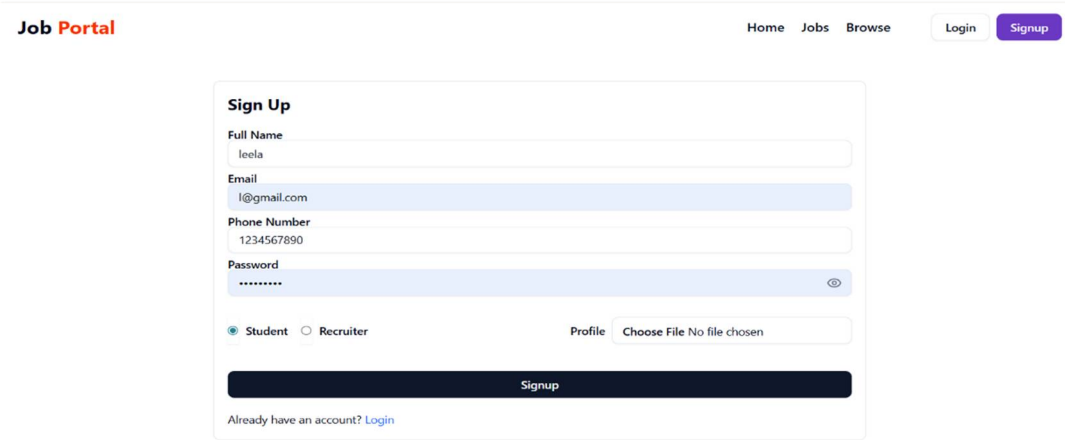


Fig-2.2 Login

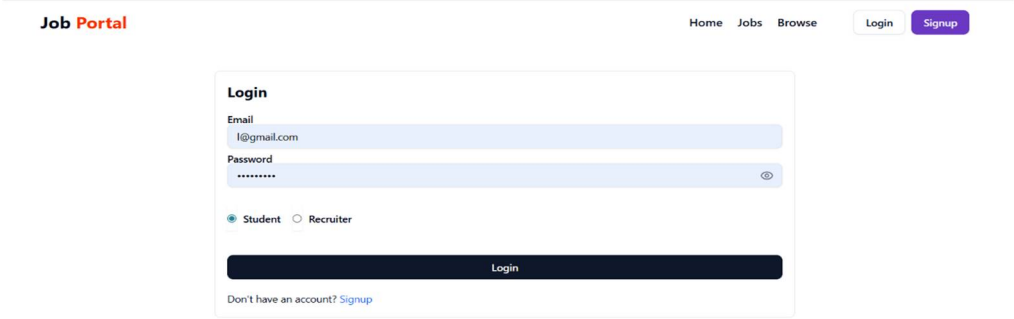


Fig-2.3 Job Searching

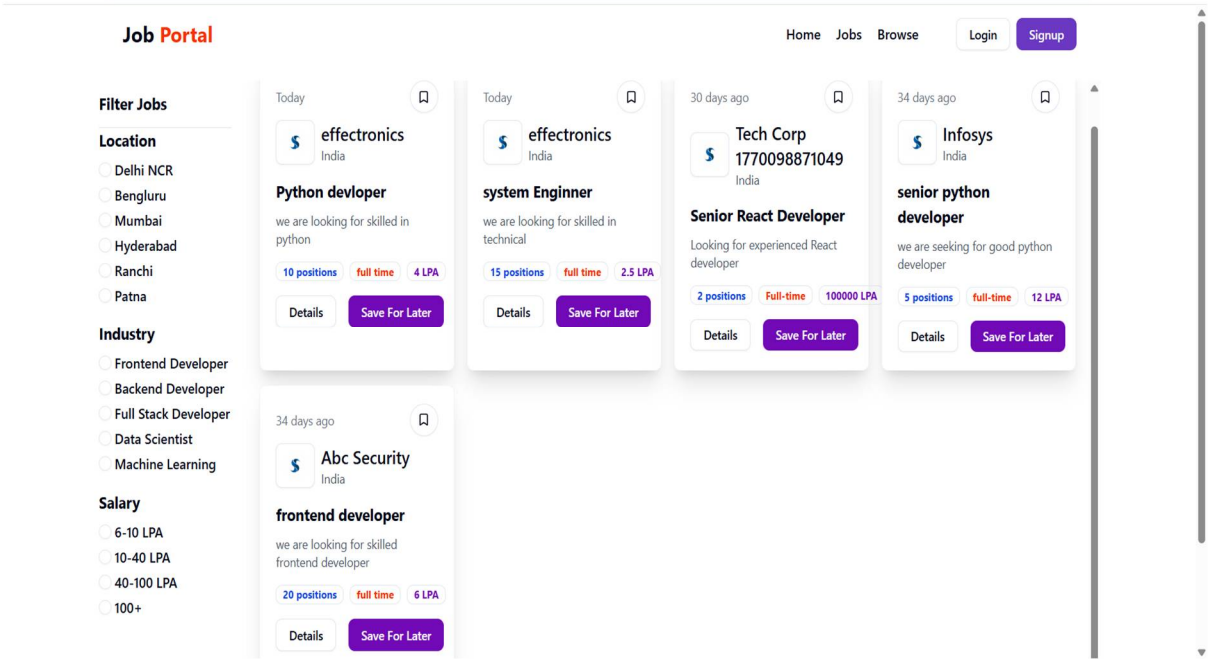


Fig-3 Recruiter Interface

Fig-3.1 Sign Up

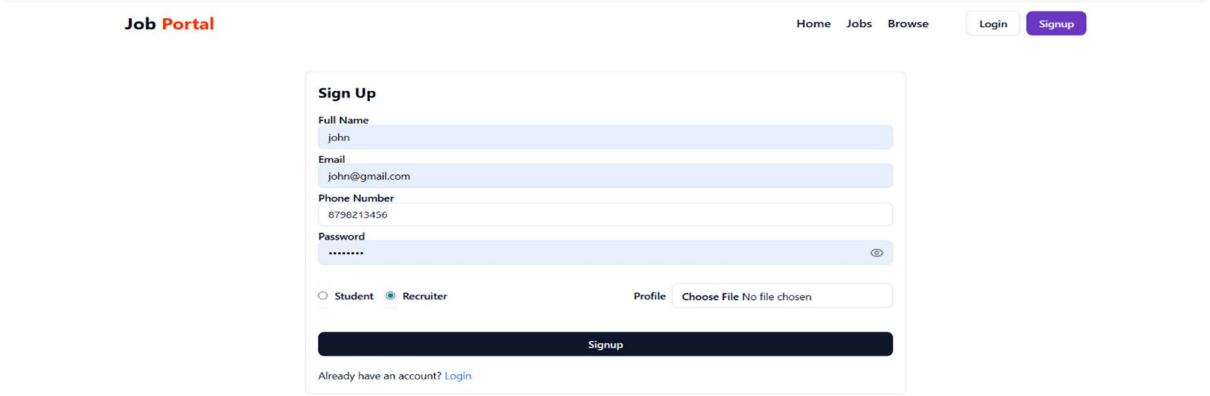
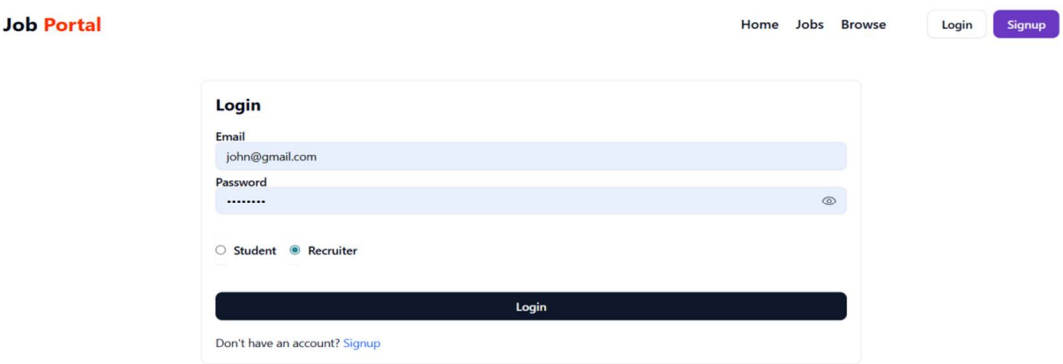


Fig-3.2 Login



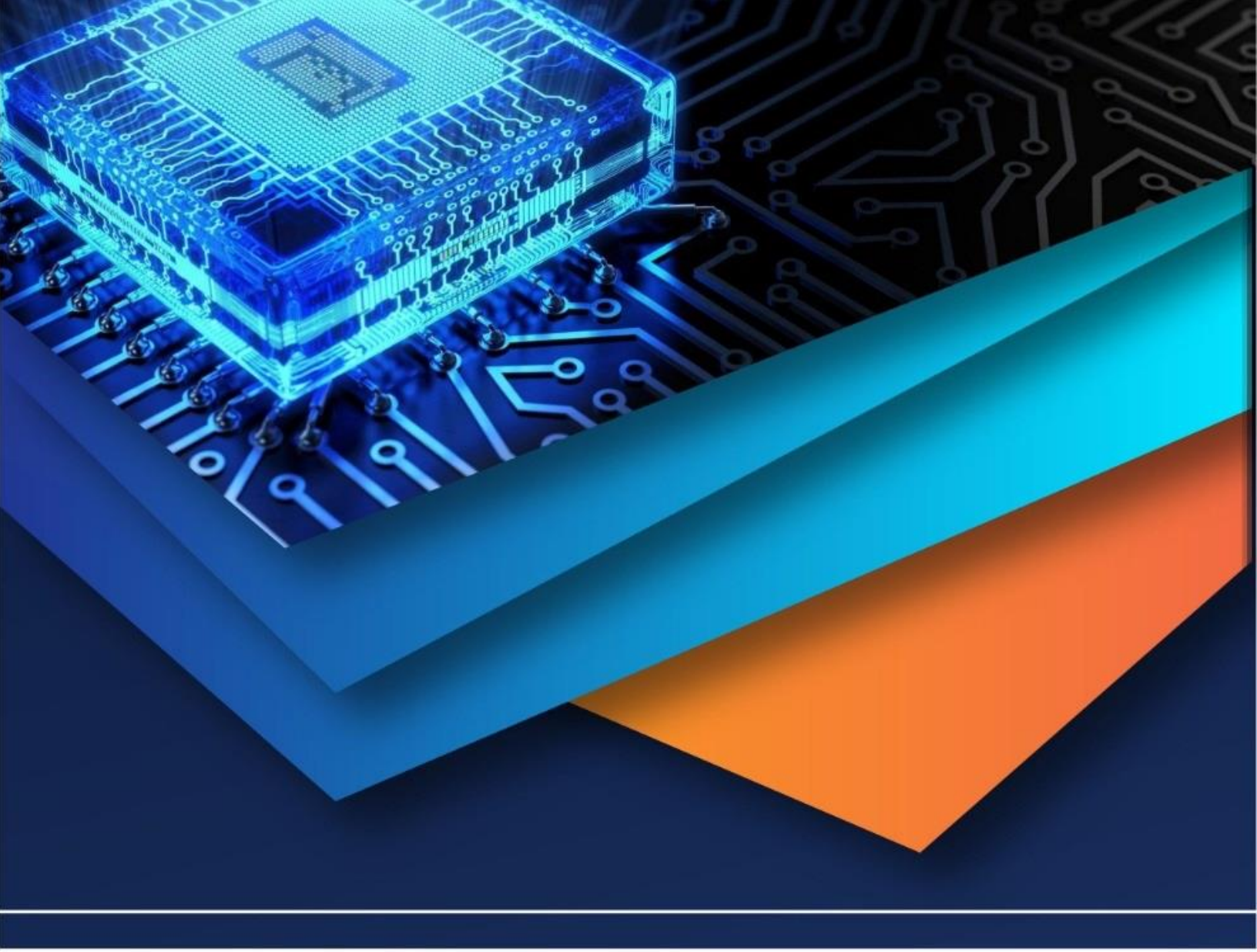
IX. CONCLUSION

The Online Job Portal and Recruitment Management System provides a modern digital solution to improve recruitment processes. By utilizing the MERN stack architecture, the platform offers scalability, security, and efficient management of job applications. The system simplifies job discovery, automates the application process, and provides real-time tracking for both job seekers and recruiters. Role-based dashboards enhance system usability and ensure secure data access. The implementation demonstrates how modern web technologies can transform traditional recruitment methods into an efficient, automated, and user-friendly digital ecosystem.

REFERENCES

[1] Node.js Official Documentation – https://nodejs.org
[2] React.js Documentation – https://react.dev
[3] Express.js Framework – https://expressjs.com
[4] MongoDB Documentation – https://www.mongodb.com
[5] Tailwind CSS Guide – https://tailwindcss.com

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)