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Streamlining Recruitment with a MERN Stack Job Portal

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Abstract:

Recruitment has always been a challenging process, in which common issues such as disabled job matching, fake job posting and slow communication between employers and candidates. This paper presents a job portal developed using Mern Stack (Mongob, Express.js, React.JS, and Node.JS) to solve these problems. The platform offers AI-operated job recommendations, safe authentication, immediate notifications, and user-friendly dashboard to make hiring smooth. Developed through a tight approach, the system increases hiring speed, improves transparency, and simplifies the process for both employers and job seekers. This underlines the architecture, major features, results and potential future reforms of the paper portal, showing how technology is changing recruitment.

Keywords—MongoDB, Expressjs, Reactjs, Nodejs, Real time job updates, Application tracing System (ATS)

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I. INTRODUCTION

The digital activity platform has changed the recruitment scenario, which connects process seekers with employers global. Despite those progresses, many current task por- tals nonetheless face essential challenges, which include negative search algorithms, fraud activity posting and dis- able application methods. These limitations frequently pur- pose disappointment for both candidates and recruitments, resulting in ignored opportunity and prolonged hiring timeline.

To deal with those issues, we evolved a strong job portal the usage of the Mern Stack. This solution guarantees a spontaneous, scalable and green consumer experience. Taking advantage of AI for intelligent process suggestions, the stage will increase the matching accuracy with the process and decreases the inappropriate list browsing time of surfing. Realtime notifications and secure authentication enhance transparency and conversation the use of JWT.

In addition, integrating modern cloud website hosting answers via AWS guarantees scalability and reliability. The responsive design of the platform, made the usage of react.js and tailwind CSS, guarantees a regular user revel in devices.

Node.JS and Express.JS Power the Backend, efficaciously handling API requests and information management. Mongodb acts because the Atlas database, imparting short records recover and powerful consumer management. Through significant testing and user comments, our platform has proven considerable improvements in the process of hiring. Employers have mentioned a tremendous reduction in hiring time, even as activity seekers have praised the device's intuitive interface and applicable activity recommendations. Future enhancement, along with a dedicated mobile app and AI-in-opera once more, will in addition fortify the position of the portal in present day recruitment.

II. PROCEDURE

- We followed a tight growth process to ensure flexibility and accountability to the user response. The project was divided into five major stages:
- Evaluation of needs: We conducted interviews with job
- seekers and employers to understand our needs, such as
- real-time job updates and effective job matching.
- create a secure, efficient platform tailored to user needs, addressing the limitations of existing system.

III. PROTOTYPING

- Initial designs were created using Figma, focusing on user- friendship and intuitive navigation. The response from the initial examiners directed the purification.
- Development: Frontend was developed using React.JS with Tailwind CSS for frequent styling, while backend API depended on Node.JS and Express.JS for management.
- Data Management: Mongodb Atlas was used for job listing and storage of user profiles, which ensures quick data recoveries.
- Testing and signs: We performed unit and integration tests before deploying the system on AWS

using CI/CD pipelines.

• This recurrence process ensured that the platform was reliable, skilled and aligned with user expectations.

IV. TECHNICAL OUTLINE

• To maximize efficiency and scalability, the portal inte- grates the following techniques:

• **Frontend:** A modular, styled with React.JS [1] Tailwind CSS for interactive interfaces.

• **Backend:** Management of API requests with Node.JS [2], Express.JS [3] to handle server operations.

• **Database:** Mongodb [4] Atlas to stimulate and manage user
and job data efficiently.

• **Safety:** JWT authentication to control access and in- crease security.

• Hosting: AWS [5] EC2 and S3 for reliable computing and storage services.

• Real-time update: for socket.IO instant job alert and no- tification.

• These devices work together to provide a high- demonstration, smooth experience for users.

• Implementation and facilities

• The job portal includes many main features designed to simplify the hiring process:

• AI-based job matching: Machine learning analyzes users' skills and preferences to recommend relevant job op- portunities.

• Advanced Search Filter: Users can refine job discoveries by location, salary, job type and other factors.

• Immediate notifications: Users receive real - time alerts about job posting and application updates.

• Safe Login System: JWT certification ensures role-based access control for job seekers, employers and administra- tors.

• Admin Dashboard: Administrators manually verify job listing to reduce fraud.

• User -friendly interface: Employers can manage job posting, while job seekers easily track their applications.

• These features prioritize purpose, safety and efficiency to create a better work experience.

V. FLOWCHART

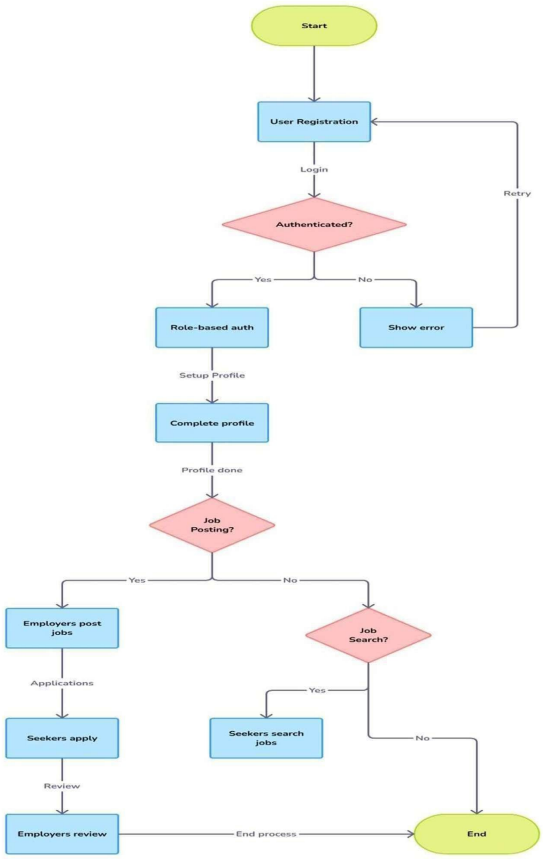

Fig. 1. System Design of Job Portal Website

VI. RESULTS

• Comprehensive testing and user response confirmed the effectiveness of the forum in

improvement in recruitment:

- Rapid work: Employers experienced a 30% decrease in hiring time due to the matching of AI-operated jobs.
- High user satisfaction: The average rating was 4.5/5 for a survey of 50 job seekers and 20 employers as a result of a survey.
- Prevention of fraud: Administrator Moderation suc- cessfully reduced the posting of fake jobs by 95%.
- Performance adaptation: The platform maintained the reaction time below 200ms, even with 10,000 concurrent users on AWS.
- These results display platform's ability to streamline re- cruitment and improve the user trust.

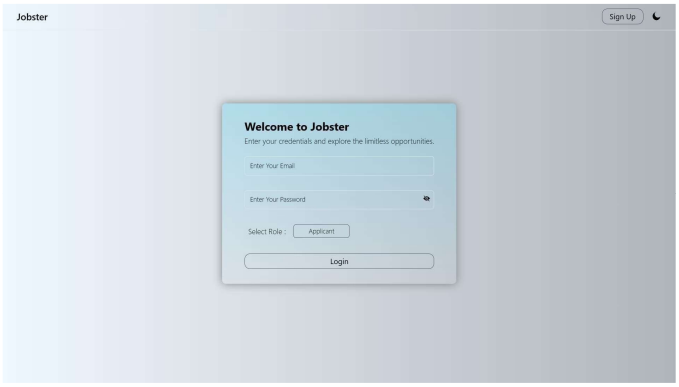

Fig.1 Home Page

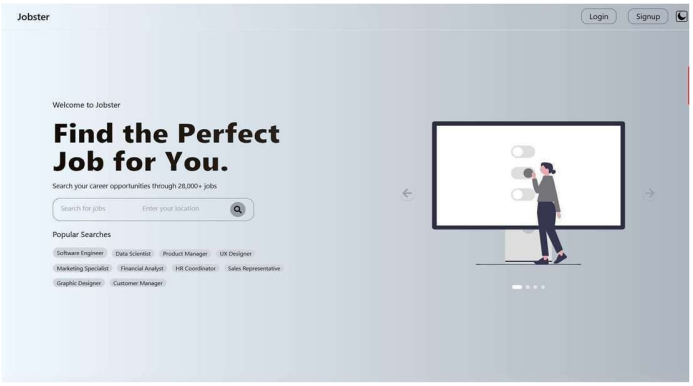

Fig.2 Applicant Register Page

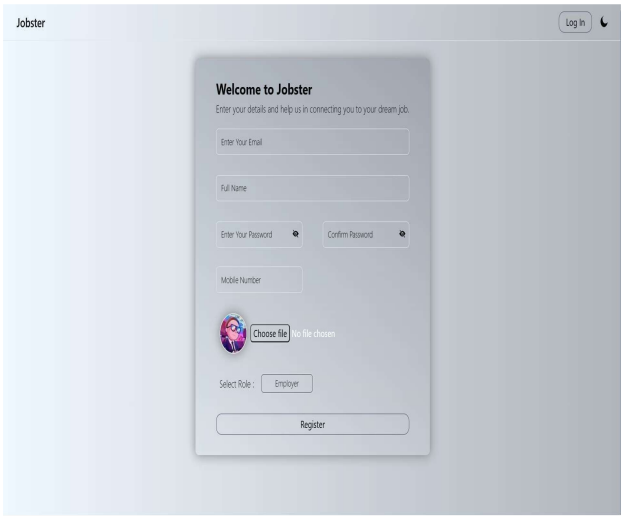

Fig.3 Employer Register Page

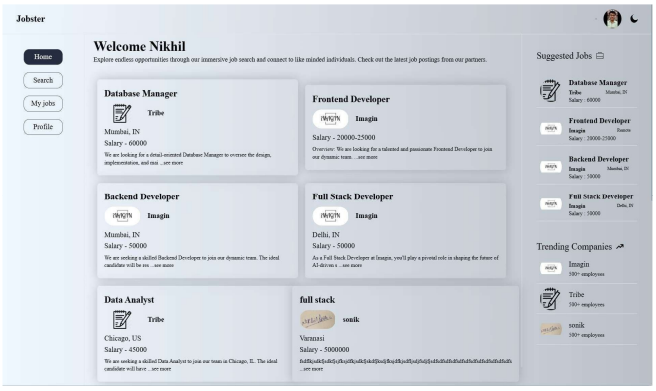

Fig.4 Applicant Apply Section

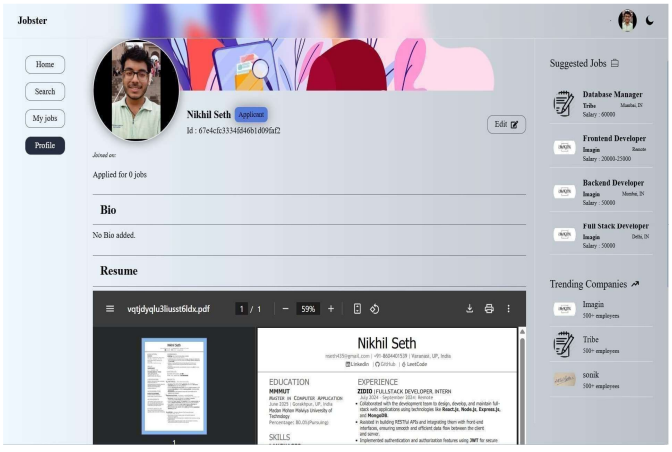

Fig.5 Applicant Dashboard

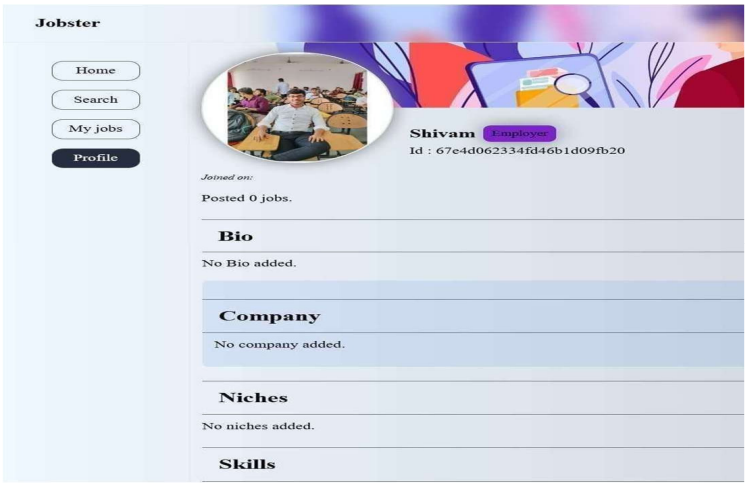

Fig. 6 Employer Job Post Section

FUTURE ENHANCEMENTS

To further improve the platform, the following upgradation is planned:

- Mobile App: A react native-based mobile application for

more access.

- Integrated Video Interview: Web-based video calling for in-

app job interview.

- Advanced analytics: to analyze interactive dashboard hiring

trends for employers.

- AI-Inspectors Re-Starting Screening: Candidate Selection

Automatic Parsing and Ranking.

These features will increase the purpose and make a solution to

keep the platform morewider work.

CONCLUSION

This study shows how a corn can bring revolution in a stack-based job portal hiring process. AI- managed recommendations, real-time communication and strong safety measures, ensure transparency, hiring platforms efficiency, and user improves satisfaction. The agile [6] development process ensured flexibility, making the platform scalable for future development. As digital hiring continues, such web-based platforms will play an important role in shaping modern recruitment strategies.

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