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Smart Job Portal for Colleges Using Modern Web Technologies

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A B S T R A C T :

In today's dynamic employment landscape, college students often struggle to secure job opportunities due to disjointed job search mechanisms and a lack of student-focused recruitment platforms. This research presents a customized web-based solution—an integrated Student Job Portal specifically designed for academic institutions. The system is constructed using current web development stacks such as HTML, CSS, JavaScript, Node.js, and MongoDB. The portal supports student-employer interaction by offering features like resume uploads, job search filters, application progress tracking, and instant notifications. This paper delves into the structural design, core functionalities, and usability outcomes of the system, highlighting its role in streamlining campus recruitment and improving access to employment for students.

Keywords:Job Portal, Students, Web Technologies, Career Services

1.Introduction

The transition from academia to employment can be particularly challenging for students, as conventional job boards often do not address their specific needs or educational context. Traditional hiring platforms tend to cater to experienced professionals, leaving a noticeable gap for fresh graduates seeking internships or entry-level positions. To address this issue, we introduce a dedicated Student Job Portal that supports the job-seeking journey within college ecosystems. Students can maintain digital profiles, upload documents, receive customized job alerts, and apply to suitable openings. Employers, in turn, can post job listings, review applications, and manage their hiring activities. This project implements the system using an efficient combination of client-server technologies that ensure fast performance, security, and mobile compatibility. Advanced features like real-time communication, dashboard analytics, and secure user access enhance the overall utility of the platform for both stakeholders [1,2,8].

2.Review of Literature

Analyzing prior studies reveals essential design elements and best practices for creating efficient job portals tailored to students. These studies inform both the technical framework and the user experience principles that guide the development of the proposed Student Job Portal.

Killewale et al. (2017) emphasized the foundational architecture required for job portals, particularly focusing on secure user data management. Their work highlights the significance of encryption, authentication, and role-based access as key measures to build user trust and ensure data privacy in online recruitment platforms [5].

Mansourvar and Yasin (2014) explored how educational institutions can better assist students in their career transitions through job portals that integrate academic records and skill-based job matching. Their research supports the inclusion of academic alignment as a core component of student-focused employment systems [7].

Prakash (2024) examined how digital job platforms can empower college students by expanding access to employment opportunities. A major takeaway from this study is the importance of intuitive interfaces and robust search filters, which significantly improve the job-hunting experience for young users [1].

Sinthuja et al. (2023) proposed a placement portal using Angular, focusing on features like employer dashboards and resume-building tools. Their findings underline the value of interactive and modern front-end technologies in elevating user satisfaction and making the recruitment process more efficient for all stakeholders [6].

Kadu (2024) investigated the role of digital platforms in matching students with suitable entry-level opportunities. The study advocates for the use of real-time alerts and tailored job feeds to sustain student interest and encourage timely application submissions in competitive environments [2].

S and Mahalakshmi (2023) developed a job portal with basic capabilities such as job listings and application handling using PHP and MySQL. While functional, their system lacked personalized recommendations and adaptive features, pointing to the necessity of more advanced tools in meeting diverse student needs [4].

Srivastava et al. (2023) highlighted the benefits of integrating real-time updates and transparent application tracking in campus recruitment portals. Their research suggests that such features enhance engagement by keeping applicants informed and involved throughout the hiring process [9].
Bisane (2024) focused on the behavior and preferences of student users on job portals, identifying mobile compatibility and a simplified interface as top priorities. The study shows that responsive design plays a crucial role in ensuring accessibility and driving adoption among college-age users [3].
Zhang et al. (2022) presented a scalable employment platform built with cloud-based infrastructure and microservices. Leveraging machine learning for personalized job suggestions, the system demonstrates how modern architecture can support high user volumes and reduce backend maintenance costs for institutional portals [8].

3.Methodology

As the portal is being developed for academic or institutional use, the financial investment is minimal, with most costs related to the time and effort of the development team. Fig 1 indicates the Data FLow Diagram for the proposed system. The use of freely available resources such as Oracle Java, MySQL, and Bootstrap helps in keeping the overall expense low. While online deployment may require minor hosting expenses, these can be kept within a modest budget. The platform offers potential long-term savings by streamlining administrative processes, reducing manual paperwork, and improving task efficiency.

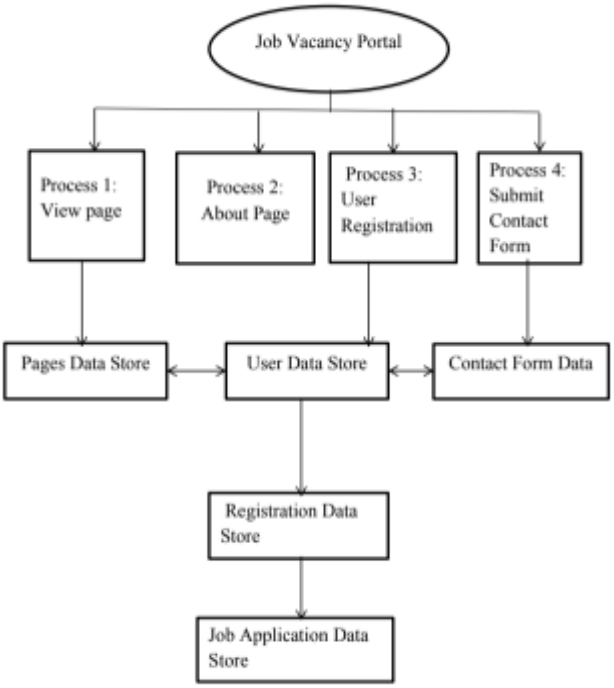

Fig. 1 Data Flow Diagram for the proposed system

The portal is designed to be accessible and intuitive, making it easy for both students and teachers to use. It simplifies the registration and job application process, enhancing the user experience. By improving access to vacancy details and application forms, the system supports efficient communication and interaction between users and administrators.

Result and Discussion

The results of the proposed system are shown in this section. Fig. 2 shows the Job Vacancy Registration Form of the proposed system, and Fig. 3 shows Basic Details with a Message. Fig 4 shows the MySQL Database Query screenshot

Fig. 2 Job Vacancy Registration Form

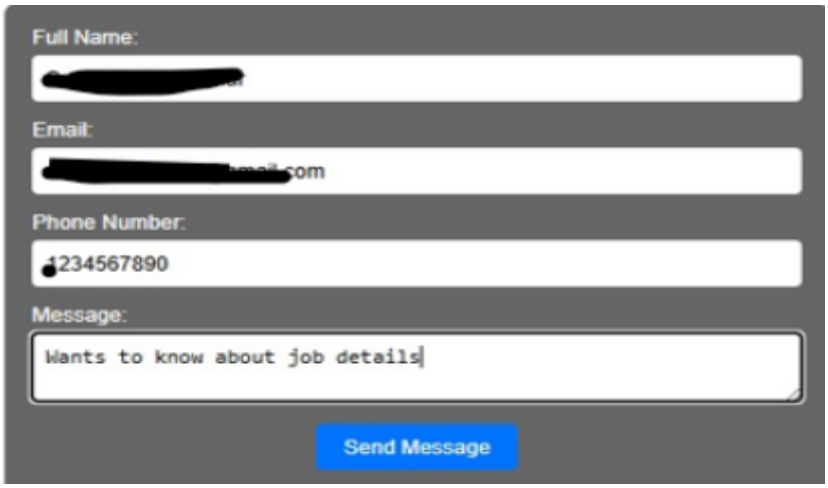

Fig. 3 Basic Details with a Message

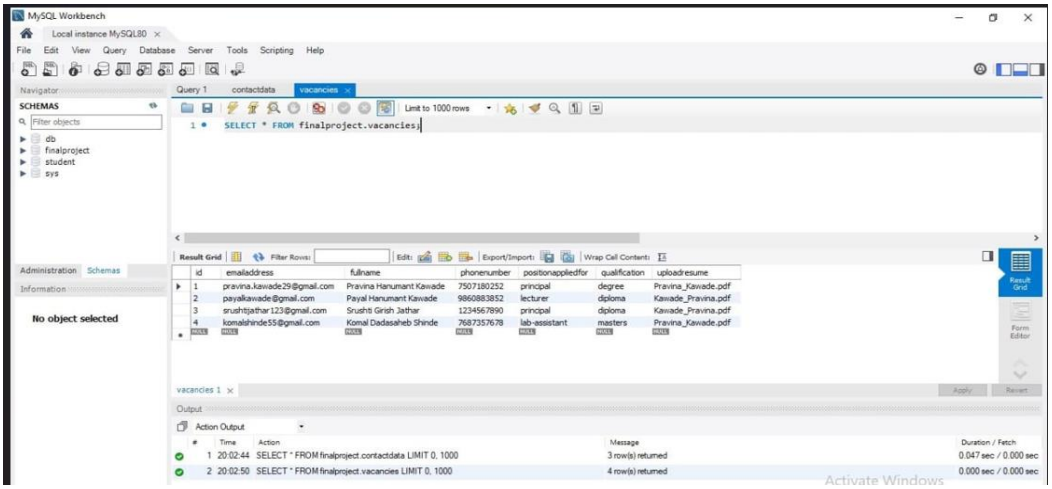

Fig. 4 MySQL Database Query screenshot

5.Conclusion

This study successfully presents a student-centric employment platform tailored for academic settings. The portal, powered by scalable web technologies, effectively connects students with job opportunities while streamlining the hiring workflow for employers. The integration of real-time features and personalized experiences not only boosts user satisfaction but also enhances recruitment efficiency within colleges. Future upgrades could focus on AI-based candidate evaluation, integration with academic performance data, and real-time feedback loops to further increase portal effectiveness and student employability.

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