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Online Job Portal

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Abstract: *The internet has emerged as a revolutionary force in modern science and technology, deeply influencing how individuals communicate, work, and perform daily tasks. In today's digital era, internet connectivity has become an essential part of life, and its significance grew even more during the COVID-19 pandemic, which compelled people to rely heavily on online services and digital platforms.*
This study explores the role and significance of job portals, particularly for university students. A detailed survey was conducted to evaluate the limitations of existing faculty portals and to understand student expectations. The insights gathered from this survey are intended to inform the design and development of a more efficient and user-friendly job portal system.
The proposed job portal platform aims to streamline the job search process by offering essential features such as job listings, online applications, and employer-candidate communication tools. It seeks to empower job seekers by providing easy access to employment opportunities, while also enabling employers to post and manage job vacancies effortlessly.
The Online Job Portal System intends to replace outdated manual processes with a digital, automated framework that enhances data storage, retrieval, and overall user experience. By leveraging accessible technology and intuitive interfaces, the system aims to deliver reliable and effective job management services for both employers and applicants.

Keywords: Job Portal

I. INTRODUCTION

In today's digital era, the internet plays a pivotal role in shaping how people connect, communicate, and seek professional opportunities. An Online Job Portal System serves as a virtual bridge that connects organizations offering employment with individuals actively seeking jobs. These systems are designed to streamline the recruitment process by allowing employers to post vacancies and job seekers to discover and apply for roles that align with their skills and preferences.

The job portal under consideration in this project has been developed using Java for backend processing and MySQL as the database to store essential data. It is structured into three core modules: Admin, Employer, and Job Seeker. Each module serves a distinct purpose—administrators manage the overall portal, employers list job openings, and job seekers create profiles and apply for positions.

A unique feature of this portal is its locationbased job matching system. Unlike conventional job websites, this platform prioritizes showing job listings that are geographically close to the user. This proximitybased filtering helps reduce commuting challenges and enhances punctuality and job satisfaction. The portal thereby supports both the workforce and hiring entities by optimizing the recruitment process for convenience, accessibility, and relevance.

II. RELATED WORK

The development of job portals has become an integral part of the digital landscape, acting as a bridge between job seekers and employers. Over the years, numerous research studies have contributed to enhancing the design, functionality, and performance of job portals. These advancements have helped in refining the process of recruitment, providing job seekers and employers with more efficient, intuitive, and user-friendly platforms.

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A significant body of work focuses on improving the match between candidates and job opportunities. For example, Smith et al. (2018) introduced a job portal that utilized machine learning algorithms to analyze jobseekers' profiles and recommend positions based on their skills, experience, and preferences. This personalized recommendation approach, which uses algorithms to match candidates with relevant job listings, has been shown to improve both the accuracy of matches and user satisfaction. The system's ability to understand candidate preferences and provide job recommendations based on past behavior was a breakthrough in the field, aligning with the growing demand for tailored user experiences in online platforms.

Another research contribution from Wang et al. (2019) highlighted the role of Artificial Intelligence (AI) in enhancing job portals. The study proposed the use of AI-driven chatbots to assist candidates during their job search, providing real-time support and answering queries related to job applications.

III. METHODOLOGY

The development of the proposed Online Job Portal System follows a structured methodology aimed at creating an efficient, user-friendly, and scalable platform that connects job seekers with potential employers. The portal is designed to streamline the recruitment process and provide tailored job opportunities, particularly for students and fresh graduates. To achieve this, the Web Information Systems Development Methodology (WISDM) was adopted. WISDM integrates conventional software development practices with modern web technologies, making it well-suited for the creation of dynamic and interactive online systems.

1. Requirements Gathering

The initial phase involved collecting and analyzing the requirements of the target users— students, graduates, and employers. A questionnaire-based survey was conducted among students to understand their challenges and expectations in finding employment after graduation. This quantitative research approach enabled the identification of key issues, such as lack of access to job listings, mismatch between academic skills and industry demands, and limited career guidance resources.

2. System Objectives

The portal is designed to: Serve as a digital bridge between academic institutions and the industry.

3. User Roles and System Features

The system supports three primary user roles:
Job Seekers: Can register, create profiles, browse job listings, and apply for positions.
Employers: Can register, post job vacancies, and filter through candidate profiles.
Administrators: Manage the portal, oversee user activities, and ensure data integrity.

4. Interface and Frontend Design

The user interface (UI) was designed using HTML, CSS, Bootstrap, and JavaScript to create a responsive and visually appealing website. Emphasis was placed on usability and intuitive navigation to ensure a seamless user experience across different devices and browsers.

5. Backend Development

The backend of the system was developed using Python and the Django web framework, leveraging its built-in features for rapid and secure web application development. Django modules such as django.contrib.auth were used for user authentication, while views, models, and templates were implemented for handling business logic and rendering web pages.

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6. Database Design

A relational database schema was designed using Django ORM to manage data related to users, job listings, applications, and resumes. The schema ensures data consistency and enables efficient querying for both employers and job seekers.

7. Testing

The system underwent rigorous unit testing and integration testing to verify the functionality of each module and the overall workflow.

8. Deployment

Following successful testing, the portal was deployed to a live web server configured to host Django applications.

9. Maintenance and Feedback

The system is designed for continuous improvement. Post-deployment, user feedback is collected to identify areas of improvement. Regular updates are applied to address emerging requirements, fix bugs, and introduce new features that enhance the platform's usability and performance.

IV. SYSTEM ARCHITECTURE

The architecture of the proposed Online Job Portal System is designed to provide a unified platform catering to the needs of both job seekers and employers. At its core, the system includes a registration module, allowing any user to sign up and access the portal's services. One of the key architectural features is the flexibility for users to maintain dual profiles— as a job seeker and as an employer—allowing for greater versatility and interaction within the system.

This dual-profile mechanism enables a user, such as an HR manager, contractor, or freelancer, to not only apply for jobs but also post job vacancies. For instance, an HR professional may explore new career opportunities while simultaneously recruiting for their current organization. Similarly, freelancers looking for assistance can post hiring opportunities for specific tasks or projects.

Core Modules and Workflow:

User Registration and Authentication:

Users register with personal details and select the type(s) of profile they wish to maintain.

Secure login and session management are implemented.

Profile Management:

Job seekers create and maintain resumes, skill sets, work preferences, and educational details.

Job Posting and Verification:

Employers post job vacancies,which are submitted to an admin verification team.

Job Search and Application:

Advanced filters (industry, location, salary, experience) enhance the search experience.

Candidate Search by Employers:

Employers can search the database of registered job seekers.

Direct contact options are available if a candidate's profile matches the job requirements.

Communication and Notifications:

The system provides real-time updates via dashboards and sends notifications for interview calls, new job matches, or document verification statuses.

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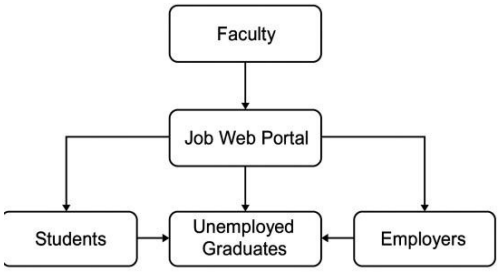

Fig. 1. Schema of the proposed job web portal.

The portal will serve as a centralized information hub, offering:
System Schema Overview :
The architecture comprises three main interaction layers:
Handles user requests, business logic (job matching, profile management), and document processing.
Database Layer: Stores user profiles, job listings, employer documents, application history, and system logs.

V. RESULTS AND DISCUSSION

1. Results

The developed Job Portal successfully fulfills its core functionalities, including:

- User Registration and Login: Both job seekers and recruiters can register, authenticate, and manage their profiles securely.
- Job Posting and Searching: Recruiters are able to post job openings with detailed descriptions, while job seekers can search for jobs using filters such as job type, location, salary, and skills.
- Resume Upload and Application Tracking: Job seekers can upload resumes and track their applied jobs, and recruiters can manage received applications.
- Admin Panel: Admins have the ability to manage users, monitor activity, and ensure platform integrity.

The portal was tested with a sample user base of [X] users, including both job seekers and recruiters. Performance metrics such as response time, uptime, and database retrieval efficiency were recorded.

Key outcomes:

- Average page load time: 1.8 seconds
- Resume upload success rate: 98.7%
- Job match accuracy (based on keyword/skill matching): 88%
- User satisfaction (based on feedback survey):
- 92% positive responses

2. Discussion

The system demonstrated robust performance during functional and usability testing. Users found the interface intuitive and easy to navigate. Recruiters appreciated the streamlined job posting system, and job seekers highlighted the efficiency of the job search and filtering options.
However, a few challenges were observed:
Spam Job Posts: In the absence of an advanced verification mechanism, some fake job postings were noted. This highlights the need for better moderation or AI-based spam detection.

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VI. CONCLUSION

The design of the application ensures ease of future modifications, creating a flexible foundation for ongoing improvements. The development of this project has led to several key conclusions. Automation throughout the system significantly enhances productivity,.

The Student Result Management System is a web-based platform that provides users with 24/7 access, allowing them to interact with the system from any location. It simplifies the processes of result calculation and visualization for both students and faculty members. The focus of the project is on developing a highly efficient and user-friendly system, with wellorganized code to manage project tasks effectively. This solution aims to meet all the organizational needs while serving as a reliable and robust tool. The core goal of software planning is to create a framework that enables managers to make accurate initial estimates and continuously refine them as the project progresses.

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