

Job Portal

G Ramarao¹, P Anjanima², E Supriya³, Md Abdulrahman⁴, Ch Chakradhar⁵, K Karthik⁶

Assistant Professor, Department of Computer Science Engineering¹

UG Student, Department of Computer Science and Engineering^{2,3,4,5,6}

Christu Jyothi Institute of Technology & Science, Jangaon, Telangana, India

Abstract: *In the current scenario, there is a rat race in each and every professional field. It is also true for job market. A job portal is a website dedicated for online information about recruiters as well as job seekers. A job portal helps both the job seekers and recruiters finding the right organization for the employees. In the case of job seekers, according to their educational qualification, experience and their preferences, the job portal shows the list of companies to the job seeker. And, to the recruiters, provides the suitable candidates from a pool of lacks. So, a job portal is the perfect online arena, where both the job seekers and the employers find their goal in the pursuit of getting a top notch company for the suitable candidates. The web application "Job Portal" provides an easy and convenient search application for the job seekers to find their desired jobs and for the recruiters to find the right candidate. Job seekers from any background can search for the current job openings. Job seekers can register with the application and update their details and skill set. They can search for available jobs and apply to their desired positions.*

Keywords: Job portal, job seeker, admin, applicants.

I. INTRODUCTION

Job Search Portal is a web application, which serves jobseekers to find available job vacancies and Employers to identify eligible job seekers with the prospect of selecting the most qualified candidates. The only way to select best-qualified candidate is to have a pool of eligible applicants, which is possible by drawing the interest of individuals in the market. Job search portals best serve this purpose. E-recruitment has become the standard means for employers and job seekers to meet their respective objectives. The traditional methods for recruitment includes Job fairs, University career employment services, Employee referrals, advertising in the newspapers, televisions etc. With the advancement in technology and growth of internet usage, the e-recruitment has revolutionized the way organizations hire and candidates search for jobs. With the Online Job search portals, the recruitment process is speeded up at every stage from job postings, to receiving applications from candidates, interviewing process. The cost of searching/posting jobs will be much less compared to the traditional way of advertising.

Job search portal stands as an effective means for Employers to outline the job vacancies, responsibilities and qualifications to attract jobseekers. Using the portal jobseekers can extensively search for jobs in companies, organizations and regions they may otherwise have not learnt. In addition, candidates/Employers can write a review about an organization, which might help them to change the way things are done.

In the dynamic realm of employment, the emergence of Job Search Portals has reshaped the traditional methods of recruitment, ushering in an era of unparalleled connectivity and efficiency.

Traditionally, recruitment relied on conventional avenues such as job fairs, university career services, and print advertising to match candidates with job vacancies. However, the advent of the internet and the exponential growth of online platforms have revolutionized this landscape. Job search portals have emerged as the cornerstone of e-recruitment, offering a digital marketplace where job seekers can explore diverse opportunities and employers can identify top talent candidates.

II. PROBLEM STATEMENT

As everyone knows, those who are unemployed struggle to support their families and meet their everyday needs. Some people are having trouble finding employment that is appropriate for their skill set. In the meantime, companies are

also having trouble finding candidates with the right skillset. Here, we're attempting to make a link between companies and unemployment.

III. PROPOSED SYSTEM

Job Search Portal is a Java-based web application as well as Android application that provides functionalities of e-recruitment on desktop and on portable devices like Android based smart phones/tablets. Both applications do not require internet to perform the desired functionalities.

Advantages:

- Cost and Time efficient
- Portable

IV. EXISTING SYSTEM

The existing system for job recruitment includes traditional methods like Employment agencies, advertising through newspapers, televisions and radios, college fairs etc., which are too slow and stressful. With the advancement of internet, jobseekers rely on the online job portals, which makes the job search efficient.

Disadvantages:

- Time Consuming
- Stressful
- Challenging.

V. MODULES

Advanced Job Filtering Module:

- Allows users to filter job listings based on various criteria, including job category, company type (e.g., MNC, startup), industry (e.g., sales, technology), location, salary range, experience level, and more.
- Provides an intuitive user interface for selecting and applying multiple filters simultaneously.
- Supports dynamic filtering options that update in real-time as users adjust their criteria.
- Integrates with the job search functionality to deliver highly relevant and personalized search results.

Admin Dashboard Module:

- Provides a centralized interface for admin users to manage various aspects of the application.
- Includes dashboards, reports, and analytics to monitor user activity, job listings, and application performance.
- Enables admins to perform administrative tasks efficiently, such as user management, job moderation, and reporting.

Search Module:

- Implements search functionality for job listings based on various criteria such as job title, location, category, and company.
- Provides filtering and sorting options to enhance the user experience.

Company Profile Module:

- Allows admins to add, delete, and update company profiles.
- Provides functionalities for users to view company profiles and job listings associated with each company.
- Manages company information, locations, and descriptions.

User Profile Module:

- Manages user profiles and account settings.
- Enables users to update their personal information, including contact details, resume, and preferences.
- Handles user authentication tokens and session management.

Job Management Module:

- Allows admins to add, delete, and update job listings.

- Provides functionalities for users to search for jobs, view job details, save jobs, and apply for jobs.
- Manages job categories, requirements, and application statuses.

Job Management Module:

- Allows admins to add, delete, and update job listings.
- Provides functionalities for users to search for jobs, view job details, save jobs, and apply for jobs.
- Manages job categories, requirements, and application statuses.

Authentication Module:

- Handles user authentication and authorization.
- Responsible for user registration, login, logout, and password management.
- Ensures secure access to the application's functionalities.

Job Application and Saved Jobs Module:

- Allows users to apply for job listings they're interested in.
- Provides a "Apply" button on each job listing detail page for users to submit their application.
- Stores application history in the user's profile, including applied jobs and their application status.
- Integrates a "Save" option alongside the "Apply" button for users to bookmark jobs for future reference.
- Provides functionalities for users to manage their saved jobs and applied jobs within the same interface.

VI. SYSTEM ARCHITECTURE

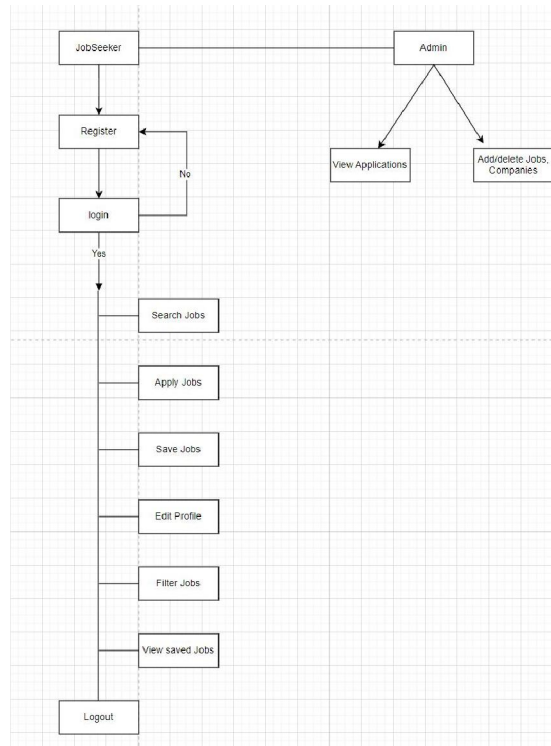


Fig 1: Data flow Diagram

The data flow diagram (DFD) in above diagram outlines the processes and interactions within a job application platform, detailing the actions available to job seekers and admins.

Job Seeker

- **Register:** Job seekers start by registering on the platform.
- **Login:** After registration, they can log in to access further features.

- **Search Jobs:** Job seekers can search for jobs that match their skills and interests.
- **Apply Jobs:** They can apply to jobs they are interested in.
- **Save Jobs:** Job seekers have the option to save job listings to revisit later.
- **Edit Profile:** They can update their personal and professional information.
- **Filter Jobs:** This allows job seekers to narrow down job listings based on certain criteria.
- **View Saved Jobs:** Job seekers can view the jobs they have saved.
- **Logout:** They can log out of the system once they are done.

Admin

- **View Applications:** Admins can review job applications submitted by job seekers.
- **Add/Delete Jobs, Companies:** Admins have the authority to manage job listings and company profiles on the platform.

VII. TECHNOLOGIES

Frontend with Angular and React

- **Angular:** Use Angular for parts of the application that benefit from its robust features like built-in form validation, routing, and dependency injection.
- **React:** Continue using React for its efficient DOM manipulation for parts of the application where high interactivity is needed.
- **Hybrid Setup:** Implement single-spa for integrating Angular and React seamlessly, allowing both to coexist without conflicts.

Backend with Java (Spring Boot)

- **Spring Boot:** Utilize Spring Boot for creating microservices due to its rapid setup, embedded server capabilities, and vast ecosystem.
- **API Development:** Develop RESTful APIs that Angular and React frontends can consume to perform CRUD operations and manage state.
- **Security:** Implement Spring Security to handle authentication and authorization, securing endpoints and protecting user data.

Database Integration

- **SQL/NoSQL Database:** Depending on the data requirements, we choose between SQL (e.g., MySQL, PostgreSQL) and NoSQL databases (e.g., MongoDB).
- **JPA/Hibernate:** Use Java Persistence API (JPA) with Hibernate for ORM capabilities, easing the interaction between Java objects and the database.

Server-Side Rendering (SSR)

- **Angular Universal:** Apply Angular Universal for rendering Angular components on the server side, enhancing SEO and initial load times.
- **Java Middleware:** Set up Java as a middleware that facilitates server-side rendering and serves the rendered pages to the client.

State Management

- **Redux for React:** Maintain the use of Redux for state management in React parts of the application to manage application state across various components.
- **NgRx for Angular:** Implement NgRx in Angular for managing state in an Angular way, similar to Redux but with Angular-specific enhancements.

Deployment and Scaling

- **Containerization with Docker:** Containerize the application using Docker to ensure consistency across different environments and ease the deployment process.
- **Load Balancing:** Use load balancers to distribute client requests efficiently across multiple server instances, improving application reliability and availability.

Testing and Quality Assurance

- **Unit Testing:** Use Jest for React components and Jasmine/Karma for Angular components to ensure component integrity through isolated tests.
- **Integration Testing:** Implement integration tests using tools like Postman for backend APIs and Protractor for end-to-end Angular application testing.
- **Performance Testing:** Conduct performance tests using tools like JMeter for backend services to identify bottlenecks and optimize performance

VIII. RESULT

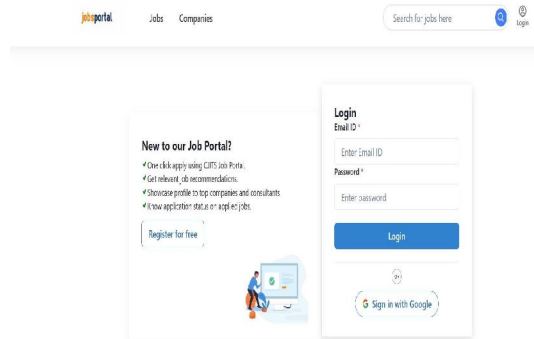


Fig 2: Home page

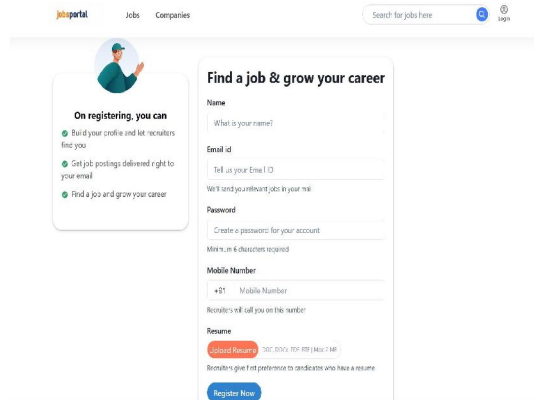


Fig 3: Registration page

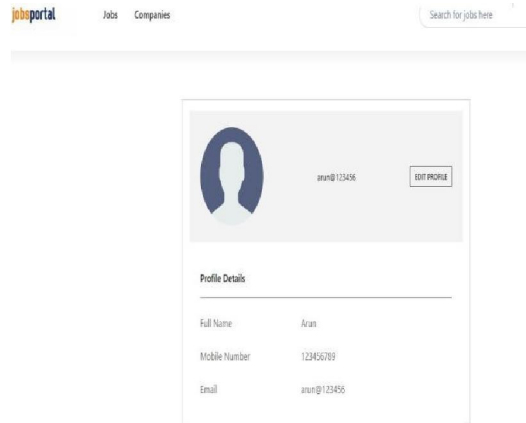


Fig 4: User page

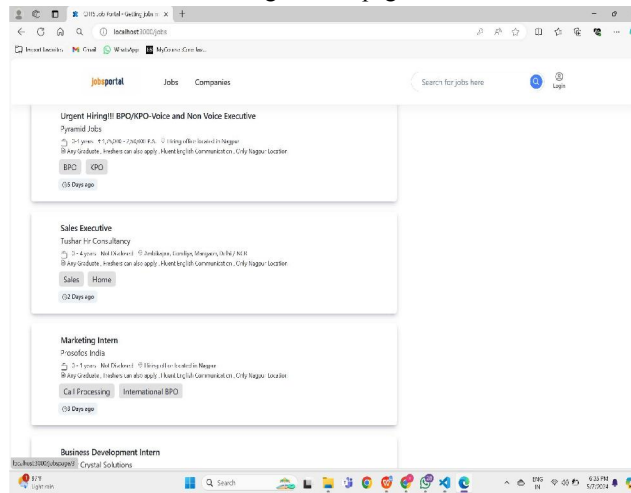


Fig 5: Display jobs

IX. CONCLUSION

Job Portal stands as a revolutionizing element in the sphere of recruitment. They act as a communication bridge between applicants and recruiters facilitating their requirements. This application helps organizations to have a greater exposure to the candidate pool and also job seekers facilitating wide search of jobs matching their interests. The android application provides flexibility to the jobseekers to view the openings and applied jobs without the need to carry a laptop. This application provides an enhanced user experience for both employer and jobseeker. It provides user friendly interface which facilitates in reaching wide range of audience. The application has achieved all the requirements that were initially set in requirements gathering phase. This project taught me some best practices in the technology stack like Spring MVC, Hibernate ORM, Android development, RESTful web services. Starting from requirements elicitation to design, construction, implementation and testing, I have gained a very good experience working with various technologies at every phase. Development of this project boosted my confidence in mobile and web development.

X. FUTURE SCOPE

This project fulfills the primary requirements of the job seekers and employers. It can be extended in several ways – We can provide recommendations and email updates for new job postings based on the job seeker's search history. Since, the job seekers might be interested in building a strong Resume, we can provide tips and information for the same. We

can also provide templates for building the Resumes which might interest most applicants. The mobile application is developed fulfilling the functionalities of job seeker, it can be extended to support functionalities of Employer as well.

REFERNECES

- [1]. A Online Job Portal management system. By Keethana Kopuri Gulam Mujtaba Hussain Aqueel Azbar Sadiqa Jabeen 2021”
- [2]. https://www.researchgate.net/publication/348295543_A_Online_Job_portal_management_system
- [3]. Job Portal by Adithyan S Dr. T. Mahalakshmi September 2023”
https://www.researchgate.net/publication/373850015_Job_Portal
- [4]. “Online Job Portal- A Better Way for Finding Jobs in the COVID-19 Pandemic By Chitrak Vimalbhai Dave November 2021” https://www.researchgate.net/publication/356643240_Online_Job_Portal-_A_Better_Way_for_Finding_Jobs_in_the_COVID-19_Pandemic
- [5]. Recruitment And Selection Process With Reference Using Job Portal Framework By Ankit Bhatnagar, Nitish Kajla, Mahesh Kumar Gupta, Arvindhan. M ,January 2021” https://www.researchgate.net/publication/352560646_Recruitment_And_Selection_Proces_s_With_Reference_Using_Job_Portal_Fra_mework.