Project Description Report: Job Portal with Resume Analyzer

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1.0 Project Overview & Vision

The Job Portal with Resume Analyzer is designed as an intelligent recruitment platform that bridges the gap between job seekers and recruiters through the integration of Artificial Intelligence. Unlike traditional job boards, this portal goes beyond basic keyword searches by using AI-driven resume parsing to analyze and extract skills, experiences, and qualifications from resumes. This structured data is then matched against job postings, ensuring more accurate and relevant candidate-job alignment.

The system also addresses the inefficiencies faced by recruiters in manually screening thousands of resumes, while simultaneously helping job seekers receive job recommendations tailored to their profiles. It offers a secure, scalable, and role-based solution that can be expanded to support multiple industries and hiring needs.

2.0 Technical Foundation

The technical design of the system leverages modern full-stack technologies for scalability and performance:

• Frontend: React – Provides dynamic, responsive, and user-friendly interfaces for all user roles (Admin, Recruiter, Job Seeker).
• Backend: Spring Boot – Implements a robust and secure REST API layer with Spring Security for authentication and authorization.
• ORM: Hibernate – Handles object-relational mapping to ensure seamless database operations.
• Database: MongoDB – A NoSQL solution that efficiently stores structured and semi-structured data, such as resumes, parsed skills, and job postings.

This stack ensures modularity, scalability, and the ability to integrate advanced AI services for resume parsing and candidate-job matching.

3.0 Core Modules

3.01 Admin Panel

The Admin module provides centralized control over the entire portal:
• User Management – Manage recruiters and job seekers, including account creation, suspension, and activity monitoring.
• Job Oversight – Monitor job postings to ensure compliance with portal guidelines.
• Security & Audit – Track activities, generate reports, and maintain system logs to detect misuse.
• Analytics – Admins can view portal statistics, such as number of active jobs, user registrations, and hiring trends.

3.02 Job Seeker Portal

The Job Seeker module is focused on simplifying the career search process:
• Profile & Resume Upload – Job seekers can create profiles and upload resumes in multiple formats.
• Resume Parsing – The AI engine extracts key details such as skills, education, experience, and certifications.
• Job Recommendations – Matches are displayed based on the parsed data and recruiter requirements.
• Application Tracking – Users can view status updates on applications, including shortlisted, interview scheduled, or rejected.
• Dashboard – Provides an overview of recommended jobs, saved jobs, and recent activities.

3.03 Recruiter Portal

The Recruiter module is built to streamline the hiring workflow:
• Job Posting – Recruiters can create, edit, and manage job listings with specific requirements.
• Candidate Matching – View AI-ranked candidate profiles based on resume parsing and keyword matching.
• Advanced Filtering – Filter candidates by skills, experience, location, or education level.
• Communication Tools – Send messages or interview invitations to shortlisted candidates.
• Hiring Dashboard – Track open positions, applications received, and recruitment progress.

3.04 Resume Matcher

The Resume Matcher is the core AI-driven component:

• Parsing – Uses NLP techniques to convert resumes into structured data (skills, education, experience).

• Matching Algorithm – Compares job requirements with parsed data and generates candidate ranking.

• Scoring System – Assigns match scores based on relevancy, helping recruiters prioritize candidates.

• Continuous Learning – Improves matching accuracy over time through feedback from recruiters.

4.0 Key Evaluation Aspects

The effectiveness of the system can be evaluated based on the following factors:

1. Resume Parsing & AI Matching
   • Ability to extract relevant information from unstructured resumes.
   • Accuracy of candidate-job matching based on parsed data.

2. Secure Multi-Role Access
   • Implementation of role-based access for Admins, Recruiters, and Job Seekers.
   • Use of Spring Security for authentication and authorization.

3. Advanced Filtering & Ranking Logic
   • Recruiters can filter candidates by multiple attributes (skills, location, education).
   • Job seekers receive personalized recommendations based on their profile.

4. Scalability & Usability
   • The system is capable of handling large volumes of resumes and job postings.
   • Dashboards ensure user-friendly navigation and accessibility.

5.0 How the Tech Stack Supports This

• React: Ensures modular UI components, fast rendering, and responsive dashboards tailored to each user role.

• Spring Boot: Provides a secure, reliable, and easily extensible backend API for user authentication, job CRUD operations, and resume parsing logic.

• Hibernate: Streamlines data persistence and allows smooth integration between backend logic and database.

• MongoDB: Efficiently handles semi-structured data such as resumes and parsed skills, offering flexibility for AI-driven queries.

Together, these technologies form a robust foundation for a modern job portal system.

6.0 Future Scope & Enhancements

• AI Interview Assistance – Automated interview scheduling and candidate screening through chatbots.
• Analytics for Recruiters – Insights on hiring trends, candidate demographics, and skill gaps.
• Candidate Skill Gap Analysis – Suggest online courses or training programs to job seekers based on missing skills.
• Mobile App Development – A dedicated mobile application for broader accessibility.
• Integration with Third-Party APIs – Support for LinkedIn profiles, external job boards, and e-learning platforms.