Job Portal & Recruitment Tracking System

Software Requirement Specification (SRS)

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1. Introduction

1.1 Purpose

The purpose of the system is to provide a platform for Job Applicants and the Hiring Team to conduct the hiring process efficiently. Typically, job seekers and the hiring team manually apply for jobs and examine resumes, which is a time-consuming process. To address this issue and save time and money, a method is being developed. This SRS outlines all functional and non-functional requirements for the Hiring Management System. It is geared toward developers, QA engineers, project managers, and stakeholders.

1.2 Scope

This system's scope is to simplify the recruitment process. To make it more accessible, this application will be provided as a web app that is responsive to all devices. The system will include features such as creating job posts, managing job applicant candidates, applying for positions, managing resumes, shortlisting applicants, scheduling interviews, and tracking hiring workflows. The solution will not include features like payroll, employee onboarding, or other HR administration functions.

1.3 Definitions, Acronyms, Abbreviations

- ATS – Applicant Tracking System
- HR – Human Resources
- NFR – Non-Functional Requirement
- API – Application Programming Interface

1.4 References

- IEEE Std 830-1998: IEEE Recommended Practice for Software Requirements Specifications
- Google Calendar API Documentation: https://developers.google.com/calendar/api
- AWS SES API Documentation: https://docs.aws.amazon.com/ses/
- React Documentation: https://react.dev/
- Node.js Documentation: https://nodejs.org/docs/
- MySQL 8.0 Documentation: https://dev.mysql.com/doc/
- JWT Authentication Standard: RFC 7519

1.5 Document Overview
Important points are emphasized using bold headings, subheadings, and selective underlining. Items within each section are written in order of priority so that critical requirements appear first.

Commonly used abbreviations are included and are intended for readers familiar with software development terminology.

- **Section 1 – Introduction**
  Provides the overall purpose and scope of developing this system.
- **Section 2 – Overall Description**
  Provides a high-level overview of the system, including its major functions, user classes, and operating environment.
- **Section 3 – System Features (Functional Requirements)**
  Specifies all functional requirements in detail, including feature descriptions, inputs, outputs, workflows, and constraints.
- **Section 4 – External Interface Requirements**
  Defines all user interfaces, hardware interfaces, software interfaces, and communication protocols relevant to the system.
- **Section 5 – Non-Functional Requirements**
  Covers performance, security, reliability, usability, scalability, and other quality attributes.
- **Section 6 – Other Requirements**
  Includes legal, regulatory, audit, logging, backup, and data retention requirements that impact the system.
- **Section 7 – Appendices**
  Contains supporting diagrams and documents such as DFDs, ER diagrams, use case diagrams, UI wireframes, and glossary entries.

2. Overall Description

2.1 Product Perspective

The Job Portal & Recruitment Tracking System is intended to provide an alternative to the common manual way of applying to jobs and candidate selection and interview process. This current manual process is time consuming for all the users involved. The system will help all the users to save time using its features to upload resumes, auto-shortlisting and conducting interviews all from a single place. This eliminates the need for manual work of reviewing each and every resume and shortlisting it and shorting the resumes and candidate data. Also with the usage of this system, there will be proper and clear communication between the hiring team and the job applicant.

2.2 Product Functions

- **User Login and Registration**
- **Job posting creation**
- **Job Searching and Applying by uploading resumes**
- **Auto-shortlisting of resumes**

- **Assigning shortlisted candidates to respective Hiring Managers**
- **Interview scheduling**
- **Notification system**
- **Admin dashboard**

2.3 User Classes & Characteristics

- **Admin:** The highest level user, this user will have full control over the system. He will have access to all functionalities that will be collectively carried out by the entire hiring team.
- **HR:** The second important user is HR, this user will be receiving all important notifications such as notifications related to shortlisted candidates and the candidates who passed the interview. The HR can view daily and monthly hiring reports so that they can analyze recruitment performance.
- **Recruiter:** This user can upload multiple resumes at once to save time. He can schedule interviews from the system to make coordination easier. Recruiters can update candidate status after each round so that tracking is accurate.
- **Hiring Manager:** The hiring manager can view assigned candidate profiles by the HR, He can submit interview feedback online so that decisions are documented. He will receive a reminder 15 minutes prior to the scheduled interview.
- **Applicant:** The applicant can view jobs and apply to desired jobs by uploading a resume. On his dashboard, he can track the application status. He will receive notifications when his status is updated. Also he can view job application history to track all the roles he have applied for.

2.4 Operating Environment

Since the application is a web application it can work on any device having a browser.

- **Device**: Mobile Phone, Computer, Laptops, Tablets.
- **Operating System:** Windows, Linux distributions, Mac OS, Android
- **Browser support:** Chrome, Safari, Firefox
- **Internet Connection:** Strong internet connection with basic speed of 1mbps is sufficient for best experience.

2.5 Design & Implementation Constraints

CO-1: The time allotted for this project is at most 3 months.

CO-2: The front end of the application will be made using React and TailwindCSS..

CO-3: Node.js will be used as the language for the backend of the application and MySQL will be used for the database of the application.

CO-4: The website will be in English language. Users who do not know English will face difficulties in using the website.

CO-5: The system will be responsive for all devices.

CO-6: Must comply with company security policies

2.6 Assumptions & Dependencies

AS-1: The application supports only the English language. We assume the users of the application will be well versed with English.

AS-2: The users of the application should have basic knowledge of uploading documents.

AS-3: The users of the application should have a stable internet connection.

DE-1: Bootstrap Framework will be used for the front end of the application.

DE-2: For email service, we will be using AWS SES.

3. System Features (Functional Requirements)

3.1 Authentication and Authorization

Description:
The system will be used by multiple users of multiple roles so user authentication and authorization becomes an important functionality. The application will be using Node.js's Authentication module for Authentication functionality. The user shall be able to register with email and password, the system must validate email format. The length of the password should be 8 characters with 1 uppercase letter, 2 numbers and 1special character. The password should be hashed properly before storing it in the database.

Stimulus/Response:
Once the user registers in the application, they will be guided to a login page where they will have to enter their email address and password to login. After successful login, the user will be redirected to the landing page of the application. There will also be a logout button on the navigation bar. On clicking the logout button, the user will be logged out.

Functional Requirements:

FR-3.1.1: System must allow users to register with email & password.

FR-3.1.2: System must validate email format.

FR-3.1.3: System must verify password using hashing.

FR-3.1.4: System must generate JWT token after login.

3.2 Dashboard

Description:
The system displays a role-based dashboard after successful login. Each user type (HR, Hiring Manager, Applicant) will see information specific to their role.

Stimulus/Response:
Once the user successfully login, the user will be redirected to the landing page of the application. On clicking the section of Dashboard the HR can view daily and monthly hiring reports, shortlisted and selected candidates. The hiring manager will see the list of assigned candidates on the dashboard whereas the applicant can see the status of the job application.

Functional Requirements:

FR-3.2.1: The system shall display a role-specific dashboard immediately after the user logs in.

FR-3.2.2: The system shall fetch and display dashboard data based on the user's role (HR, Hiring Manager, Applicant).

HR Dashboard Requirements:

FR-3.2.3: The system shall allow the HR to view daily hiring reports.

FR-3.2.4: The system shall allow the HR to view monthly hiring reports.

FR-3.2.5: The system shall display a list of shortlisted candidates to the HR.

FR-3.2.6: The system shall display a list of selected candidates to the HR.

Hiring Manager Dashboard Requirements:

FR-3.2.7: The system shall display a list of candidates assigned to the Hiring Manager.

FR-3.2.8: The system shall allow the Hiring Manager to view the status of interviews scheduled for assigned candidates.

Applicant Dashboard Requirements:

FR-3.2.9: The system shall display the current status of the applicant's job application.

FR-3.2.10: The system shall display all jobs the applicant has applied for.

3.3 Job Management

Description: The system is not just for dashboard and tracking system, it is also used for job management. Any user who is HR can create job postings and update and delete them as well. For creating a job posting, the HR have to provide all proper details such as Job title, description, company details, required experience, salary and location details. The system should only display the jobs which are active and archive the closed ones.

Stimulus/Response:
Once the user is logged in as HR, in the sidebar he will have a section called **Manage Jobs.** On clicking that section he will have 3 options: create job, update job and delete job. On clicking each options following steps will happen

1. Creating a job: On clicking this option, a form will open asking for details such as Job title, description, company details, required experience, salary and location details, keywords and end date. On filling out this form, the job will automatically be live on the job portal.
2. Update a job: On clicking this option, the HR will see a list of active jobs with a button on the right side called update, on clicking that button a form similar to create job form will appear on screen with editable details on it. On updating the form details, the job will automatically be live on the job portal with updated details.
3. Delete a job: On clicking this option, the HR will see a list of active jobs with a button on the right side called delete, on clicking that button a warning popup should appear saying "Are you sure you want to delete this job?". If the user clicks on yes, the job and its details will get deleted from the database and will be removed from the active jobs list.
4. Archive a job: Archiving a job should be handled using 2 methods - a) Automatic archiving based on the end date mentioned in job creation form. b) Manual archiving by selecting archive option on the job card.

Functional Requirements:

FR-3.3.1: HR can create, update, delete job postings.

FR-3.3.2: System must list active jobs for applicants.

FR-3.3.3: System must archive closed jobs.

FR-3.3.4: HR can manually archive jobs.

3.4 Resume Upload & Parsing

Description: The system must allow users to upload resumes in pdf/docx/txt format. To reduce manual work, resume shortlisting is done by ATS that will properly review and shortlist candidate's resume based on job description and experience required. The system should also extract name, email, contact, skills and experience and other relevant data for building a dashboard of the applicant.

Stimulus/Response: Two user roles can upload the resume, a) Job applicant and b) Recruiter. Job Applicants can check the job list and apply to the desired job by uploading a resume of appropriate format. The ATS will shortlist the candidate based on skills and experience. Recruiter can bulk upload the resumes by selecting Upload Bulk Resumes. The ATS will shortlist the resumes real time and send the notifications to HR.

Functional Requirements:

FR-3.4.1: System must allow PDF/DOCX upload.

FR-3.4.2: System must extract name, email, skills from the resume.

FR-3.4.3: Bulk upload should be done within 20 seconds.

FR-3.4.4: ATS should shortlist the resume based on skill and experience.

3.5 Interview scheduling and meet link generation

Description: Once the candidates resumes have been shortlisted Recruiters can go to candidates profiles and by selecting interview date and time the system should automatically generate google meet video call link which will then be shared with Hiring Manager and Applicant via system and email.

Stimulus/Response: Once the candidate is shortlisted by ATS, the Recruiter can go to the shortlisted candidate profile and on calendar he will select interview date and time, on selection the google meet link will be generated. Once this is successfully done, the notification will be sent via system and email to inform both Hiring Manager and Applicant about interview details, alongside the HR will receive a notification of shortlisted candidates.

Functional Requirements:

FR-3.5.1: System should generate google meet link on selection of Interview date and time.

FR-3.5.2: System should send notification to HR, Hiring Manager and Applicant about interview details.

FR-3.5.3: System should send reminder notification to Hiring manager 15 minutes before scheduled interview timing.

3.6 Notification system

Description:
The system will send automated notifications to candidates, recruiters, hiring managers, and HR. Notifications will include updates such as application status, interview reminders, shortlisted/selected status, and feedback availability. Notifications may be sent by email or shown inside the application.

Stimulus/Response:

- When a candidate submits an application → the system sends an acknowledgment email.
- When a candidate is shortlisted → the system sends a notification to the HR and the candidate.
- When an interview is scheduled → the system sends email + in-app notifications to the candidate and the hiring manager.
- When the interview time is near → the system sends an automatic reminder 15 minutes before the interview.
- When a candidate is selected/rejected → the system sends an update notification.

Functional Requirements

FR-3.6.1: The system shall send an acknowledgment notification to the candidate after a job application is submitted.

FR-3.6.2: The system shall send a notification to the candidate when their application status changes (shortlisted, rejected, selected).

FR-3.6.3: The system shall notify the recruiter and HR when a new application is received.

FR-3.6.4: The system shall send an email notification to the candidate and hiring manager when an interview is scheduled.

FR-3.6.5: The system shall send an automated interview reminder 15 minutes before the scheduled interview time.

FR-3.6.6: The system shall notify the hiring manager when a candidate is assigned to them.

FR-3.6.7: The system shall send a notification to HR when a candidate is selected or rejected by the hiring manager.

FR-3.6.8: The system shall display all notifications inside the user dashboard under a notification section.

4. External Interface Requirements

4.1 User Interfaces

4.1.1 Common Screens (All Users)

1. Login Screen

- Fields: Email, Password
- Buttons: Login, Forgot Password
- Behavior:
  - If login succeeds → redirect to role-based dashboard
  - If login fails → show error
- UI elements: logo, form, footer links

2. Register Screen

- Fields: Name, Email, Password
- Buttons: Register, Sign in
- Behavior:
  - If register succeeds → redirect to role-based dashboard
  - If register fails → show error
- UI elements: logo, form, footer links

3. Forgot Password / Reset Password

- Fields: Email, Set password, conform password
- Buttons: Send email, Change password
- Behavior:
  - If email send successfully → send reset password link to email
  - If email send fails → show error
  - If password set succeeds → redirect to login page
  - If password set fails → show error
  -
- UI elements: logo, form

4. HR profile

- Cards: View Daily Hiring Report, View Monthly Hiring Report, View Shortlisted Candidates List, View Selected Candidates List
- Buttons: View All
- Behaviour:
    - If View All button is clicked on view Shortlisted Candidates List card details list of all Shortlisted Candidates List in a popup
    - If View All button is clicked on view Selected Candidates List card details list of all Selected Candidates List in a popup
- UI elements: Cards, Popup

4.1.2 Candidate Screens

1. Landing Page (Job List)

- Fields: Job title, short description, salary, experience, skills
- Buttons: Apply, Know more
- Behavior:
    - If Apply button is clicked → user will be redirected to application form
    - If Know more button is clicked → user will be redirected to job details page
- UI elements: logo, navigation bar, cards

2. Job Details Page

- Fields: Job title, brief description, salary, experience, skills, job openings, applicant count till now.
- Buttons: Apply, Cancel
- Behavior:
    - If Apply button is clicked → user will be redirected to application form
    - If cancel button is clicked → user will be redirected to job list page
- UI elements: logo, navigation bar, cards, buttons

3. Apply for Job Page

- Fields: Name, email, phone, skills, expected salary, tell us about yourself, upload resume
- Buttons: Submit, Cancel
- Behavior:
    - If Apply button is clicked → the application form will be submitted
    - If cancel button is clicked → user will be redirected to job list page

- UI elements: logo, form, buttons

4. Candidate Dashboard

- Fields: Name, email, phone, skills, uploaded resume, applied jobs, track status
- Buttons: view application history, View interview details
- Behavior:
  - If the View job history button is clicked → he will be redirected to the application history page to view previously applied job details
  - If the user clicks on notification → he will be redirected to the notifications page
  - If the user clicks on View interview details button → he will be redirected to the Interview Details page
- UI elements: logo, buttons, Navigation bar

5. Application History Page

- Fields: Job title, short description
- Buttons: view details
- Behavior:
  - If the View details button is clicked → a popup will open, displaying details of that application, whether the candidate is selected/rejected.
- UI elements: logo, buttons, Navigation bar, popup

6. Interview Details Page

- Fields: Name, job title, interviewer name, interview date & time, google meeting link
- Buttons: Join meeting, Cancel
- Behavior:
  - If the join meeting button is clicked → The user will be redirected to google video call
  - If the cancel button is clicked → The user will be redirected to the dashboard.
- UI elements: logo, buttons, Navigation bar

4.1.3 Recruiter Screens

1. Recruiter Dashboard

- Fields: Total applications, Pending reviews, Interviews scheduled, Shortlisted applications.

- Buttons: Bulk Upload Resume, Auto-shortlist
- Behavior:
  - If the Bulk Upload Resume button is clicked → the user can upload multiple resumes documents at once and once it is successful he'll receive successful notification.
  - If the user Auto-shortlist clicked → the system will start shortlisting the uploading resumes, once it is successfully shortlisted, he'll receive successful notification.
- UI elements: logo, buttons, Navigation bar

2. Candidate List Page

- Fields: Name, email, contact, job title.
- Buttons: View Resume, Shortlist
- Behavior:
  - If the View Resume button is clicked → the user shall be able to view the applicant's resume.
  - If the Shortlist clicked → the system should shortlist that particular resume, once it is successfully shortlisted, he'll receive successful notification.
- UI elements: logo, buttons, Navigation bar

4.1.4 HR Screens

1. HR Dashboard

- Fields: All hiring reports, Daily/monthly stats
- Buttons:
- Behavior:
  - If the Bulk Upload Resume button is clicked → the user can upload multiple resumes documents at once and once it is successful he'll receive successful notification.
  - If the user Auto-shortlist clicked → the system will start shortlisting the uploading resumes, once it is successfully shortlisted, he'll receive successful notification.
- UI elements: logo, buttons, Navigation bar

2. Candidate List Page

- Fields: Name, email, contact, job title.
- Buttons: View Resume, Shortlist

- Behavior:
  - If the View Resume button is clicked → the user shall be able to view the applicant's resume.
  - If the Shortlist clicked → the system should shortlist that particular resume, once it is successfully shortlisted, he'll receive successful notification.
- UI elements: logo, buttons, Navigation bar

3. Job Management Page

- Buttons: Create Job, Update Job, Delete Job, Archive Job
- Behavior:
  - If the Create Job button is clicked → a form will open asking for details such as Job title, description, company details, required experience, salary and location details, keywords and end date. On filling out this form, the job will automatically be live on the job portal.
  - If the Update Job button is clicked → the HR will see a list of active jobs with a button on the right side called update, on clicking that button a form similar to create job form will appear on screen with editable details on it. On updating the form details, the job will automatically be live on the job portal with updated details.
  - If the Delete Job button is clicked → the HR will see a list of active jobs with a button on the right side called delete, on clicking that button a warning popup should appear saying "Are you sure you want to delete this job?". If the user clicks on yes, the job and its details will get deleted from the database and will be removed from the active jobs list.
  - If the Archive Job button is clicked → Archiving a job should be handled using 2 methods - a) Automatic archiving based on the end date mentioned in job creation form. b) Manual archiving by selecting archive option on the job card.
- UI elements: logo, buttons, form, Navigation bar

4. Review Interview Feedback Page

- Fields: Name, email, contact, job title, interview date, time, feedback by
- Buttons: View feedback details
- Behavior:
  - If the View feedback details button is clicked → the user shall be able to view the Interview Feedback details.
- UI elements: logo, buttons, Navigation bar

4.1.5 Hiring Manager Screens

1. Hiring Manager Dashboard

- Fields: Assigned candidates, Upcoming interviews
- Buttons: View Assigned candidates, View Upcoming interviews
- Behavior:
    - If the View Assigned candidates button is clicked → the user will be redirected to the Assigned candidates page and can see all assigned candidates by Recruiter. If a user clicks on any single candidate card on the list he will be redirected to candidate profile pages that will contain information such as candidate name, email, resume.
    - If the View Upcoming interviews clicked → the user can see all upcoming interviews list in descending order. If a user clicks on any interview card on the list he will be redirected to interview details pages that will contain information such as interview date and time, candidate name, email, resume, google meet link and reschedule button.
- UI elements: logo, buttons, Navigation bar

2. Assigned Candidates List

- Fields: Candidate name, job title, assigned by
- Buttons: View Candidate
- Behavior:
    - If the View candidate button is clicked → the user will be redirected to the candidate profile page that will contain information such as candidate name, email, resume.
- UI elements: logo, buttons, Navigation bar

3. Interview Feedback Submission Page

- Fields: Candidate Name, Candidate ID / Application ID, Job Role / Position Applied, Interview Round (Technical / HR / Managerial / Final), Interviewer Name, Interviewer Role (Hiring Manager / Tech Lead / HR), Department
- Buttons: Submit Feedback
- Behavior:
    - If the Submit Feedback button is clicked → the interview feedback will get submitted and HR can now see the submitted feedback form.
- UI elements: logo, buttons, Navigation bar

2. Button Behavior

- **Login button** → Validate inputs → authenticate → redirect user
- **Reset Password** → Validate inputs → authenticate → redirect user
- **Apply button** → Upload resume → save application → show success message
- **Schedule Interview button** → Open date/time picker → save schedule → send notifications
- **Submit Feedback button** → Save feedback → notify HR
- **Create Job** → Fill out create job form → save job details → show success message
- **Update Job** → Update required form fields → save job details → show success message
- **Delete Job** → Action conformation popup → delete job → show success message
- **View All** on view Shortlisted Candidates List card → view details in a popup
- **View All** on view Selected Candidates List card → view details in a popup

3. Navigation Flow

Navigation Flow (Candidate)

1. Candidate Login → Candidate Dashboard
2. Candidate Dashboard → Application Status
3. Status → View Interview Details
4. Interview → Join Link

Navigation Flow (HR)

1. Login → HR Dashboard
2. Dashboard → Candidates List
3. Candidates List → Candidate Profile
4. Candidate Profile → Schedule Interview
5. Schedule Interview → Interview List → Back to Dashboard

Navigation Flow (Candidate)

5. Candidate Login → Candidate Dashboard
6. Candidate Dashboard → Application Status
7. Status → View Interview Details
8. Interview → Join Link

4.2 Hardware Interfaces

N/A

4.3 Software Interfaces

- Browsers: Mozilla Firefox 30+, Google Chrome 27.0+ are the preferred browsers.
- Operating System: Android, Windows 7, 8, 10, Mac OS, Linux distributions.

4.4 Communication Interfaces

The application will be using HTTPS protocol.

5. Non-Functional Requirements

5.1 Performance

- Page must load within 2 seconds
- API response < 500ms
- Resume must get uploaded within 10 seconds

5.2 Security

- JWT authentication
- Password hashing
- 2FA support

5.3 Reliability

- 99% uptime
- Automatic retries for failed tasks

5.4 Availability

- System should be available 24/7
- Scheduled maintenance window

5.5 Maintainability

- Code should follow naming conventions
- Logging required for debugging

5.6 Usability

- UI must be mobile friendly
- Consistent design

5.7 Scalability

- Support 10,000 concurrent users
- Horizontal scaling allowed

6. Other Requirements

6.1 Legal & Regulatory

- GDPR compliance
- Data retention rules

6.2 Internationalization

- Multi-language support

6.3 Backup & Data Retention

- Daily backups
- Retain logs for 90 days

6.4 Audit Logging

- Track user activity
- Log login attempts

7. Appendix A: Glossary

- HTTPS: Hypertext Transfer Protocol Secure
- API: Application Programming Interface
- GUI: Graphical User Interface