Smart Resume

AI-Powered Job Application & Recruitment Automation Platform

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Authors	AR

1. Introduction

1.1 Purpose

This Software Requirements Specification (SRS) document defines the complete set of functional, non-functional, and technical requirements for **SmartResume**, a next-generation AI-driven job application and recruitment automation platform. The primary objective is to ensure all stakeholders are aligned in terms of feature expectations, workflows, system behavior, and implementation goals.

SmartResume is designed to serve both job seekers and recruiters by automating and enhancing the end-to-end employment process. This includes intelligent resume generation, automated job applications, mock interview assessments, recruiter tools for applicant tracking, job description creation, communication management, and system-wide analytics and automation.

This document will act as the definitive guide throughout the software development lifecycle, from architecture planning to final deployment and post-launch support.

1.2 Document Conventions

- The word **"SHALL"** denotes mandatory requirements.
- The word **"SHOULD"** denotes optional but strongly recommended features.
- Functional and non-functional requirements are grouped by feature/module.
- Use cases and user roles are referred to consistently throughout.

1.3 Intended Audience and Reading Recommendations

This document is intended for:

Stakeholder	Purpose
Product Owner / Client	Finalize scope and validate alignment with business goals
Project Manager	Manage timeline, resources, and milestones
Development Team	Build the platform as per defined technical requirements
QA Engineers	Test functionalities against the defined expectations
DevOps Engineers	Manage infrastructure, security, deployment
Designers (UI/UX)	Create user-centric, intuitive interfaces
Sales/Marketing	Leverage product features for go-to-market plans
End Users	Reference product capabilities and limitations

1.4 Scope of the System

SmartResume is a comprehensive, AI-powered platform designed to simplify and automate the job-seeking and hiring processes. It offers highly intelligent tools and integrations for both **job seekers** and **recruiters**, while also supporting **administrative control** and **system-wide scalability**. The core features include but are not limited to:

1.4.1 For Job Seekers:

- Free access to **basic resume templates**.
- **AI-powered resume and cover letter generation**, optimized for ATS systems (paid feature).
- Automated job application with smart filters for:
    - Location (country, state, city, radius)
    - Skills & role matching
    - Job type (remote, onsite, hybrid, full-time, part-time, freelance)
    - Salary expectations
    - Blacklist (companies to avoid)
- **Jobless status indicator** to optimize suggestions and prioritization.
- **Job alerts** via real-time notifications or email.
- **Manual or automated job application** through APIs where possible.
- **Video resume tools**:
    - General video script generator and recorder.
    - Job-specific video scripts with in-app recording options and quality checks.
- **Mock interview system**:
    - Generate questions based on job roles.
    - Accept voice/text-based answers and evaluate them.
    - Provide scoring and personalized feedback.
- **Career insights and AI skill recommendations** based on job trends and user profiles.

1.4.2. For Recruiters:

- Support for both **individual** and **organization** recruiter accounts.
- AI-assisted **job description generator** from minimal input.
- End-to-end **applicant tracking system**:
    - Job posting and candidate application status
    - Manual data entry or importing of candidate information
    - Applicant filtering, shortlisting, and scheduling
- Calendar integration support with:
    - Google Calendar, Microsoft Outlook, Calendly
- Interview scheduling tools with meeting link sharing and alerting system.

- Built-in **email and chat outreach** tools for communicating with candidates.
- Recruiter training and insights to improve selection strategies.

1.4.3. Browser Extension:

- Used strictly for **form auto-fill** where APIs are unavailable.
- Includes **voice-to-text support** where browser/platform permits.
- Not used for auto-applying jobs — strictly a **manual helper tool**.

1.4.4. Subscriptions and Billing:

- Supports **individual and organization-based subscriptions**.
- Subscription types:
    - **Time-based** (monthly, yearly, etc.)
    - **Usage-based** (e.g., number of applications submitted)
- Supports **multi-currency** and **multi-timezone** configurations.
- Integrated payment options: **Stripe, PayPal, Google Pay, Apple Pay**.

1.4.5. Administration:

- Full control over user roles, platform content, and marketing tools.
- **Email marketing suite**:
    - Import/export contacts
    - Campaign creation and execution
    - Manual or automated communication triggers
- **AI Chatbot** for general support and escalation to live representatives.
- **Analytics dashboard** for platform metrics, user behavior, and conversion rates.

1.5 Product Perspective

SmartResume is a **greenfield SaaS product**, designed and built as a cloud-native, mobile-responsive, and scalable platform. While it will integrate with select third-party APIs (e.g., job boards, payment processors, calendar services), all core features will reside within the platform's ecosystem.

Video-based interviews are **not hosted on third-party platforms**. Recruiters will create meetings on tools of their choice and provide links to SmartResume, which will manage visibility and reminders internally.

The product will be developed using a modular architecture to enable future enhancements without disrupting core operations.

1.6 Definitions, Acronyms, and Abbreviations

Term	Definition
ATS	Applicant Tracking System
API	Application Programming Interface
AI	Artificial Intelligence
JWT	JSON Web Token
CV	Curriculum Vitae
CMS	Content Management System
SRS	Software Requirements Specification
UI/UX	User Interface/User Experience
OCR	Optical Character Recognition
MVP	Minimum Viable Product
CI/CD	Continuous Integration / Continuous Deployment

2. Overall Description

2.1 Product Perspective

SmartResume is a standalone SaaS platform with modular architecture, designed for extensibility, scalability, and AI-driven automation. While it integrates with several third-party APIs for enhanced functionality (e.g., payment gateways, job board APIs, calendar scheduling), its core logic and workflows remain fully managed within the platform.

The system comprises the following core components:

- **Frontend Web Interface**: Developed using React.js and Tailwind CSS.
- **Mobile Application**: Built with React Native to mirror web functionality for iOS and Android users.
- **Backend API Services**: Powered by Django and Django REST Framework with PostgreSQL database.
- **AI Integration Layer**: Leveraging OpenAI APIs, fine-tuned models, and NLP-based processing.
- **Browser Extension**: For manual job form autofill with voice-to-text capabilities.
- **Admin Portal**: For operational oversight, user management, marketing tools, content management, and reporting.

- **Job Seeker and Recruiter Portals**: Dedicated UIs with distinct feature sets and workflows.
- **Notification & Messaging System**: Integrated with WebSockets and Firebase Cloud Messaging.

All modules are designed to communicate through secured RESTful APIs using OAuth2 and JWT-based authentication.

2.2. Product Functions

2.2.1. Job Seeker Functions

Job seekers represent the core user base of the platform and benefit from a fully automated, AI-driven job application workflow designed to minimize effort and maximize effectiveness. The system provides the following capabilities to job seekers:

- **Account Management**: Sign up, login, and profile creation via email, enabling access to personalized application and resume tools.
- **Resume and Cover Letter Generation**:
    - Create standard resumes using pre-defined templates (free).
    - Generate ATS-optimized resumes and cover letters using AI models (paid feature).
- **Job Discovery and Alerts**:
    - View jobs posted across public job boards, aggregated via API integration.
    - Receive real-time alerts based on custom filters (industry, location, salary, job type, etc.).
- **Automated Application Submission**:
    - Apply to job listings automatically through integrated APIs where available.
    - Automatically send emails to recruiters with AI-personalized cover letters and resumes.
    - Bypass repetitive form submissions by enabling rule-based, pre-approved job application workflows.
- **Custom Document Generation**:
    - Generate personalized application letters, cover letters, and follow-up communications.
    - Store and reuse tailored documents for different job roles or industries.
- **Video Resume Capabilities**:
    - Receive AI-generated scripts for both general and job-specific video resumes.
    - Record videos using in-platform tools with resolution, framing, and quality validations.

- **Mock Interview Preparation**:
  - Access probable interview questions based on applied roles and industries.
  - Submit written or voice responses to mock interview questions.
  - Receive feedback, scoring, and professional suggestions from the AI engine.
- **Job Readiness Support**:
  - Mark job-seeking status to enhance platform recommendations.
  - Leverage skill suggestions and job fit analysis based on market trends and profile data.

2.2.2. Recruiter Functions

The recruiter module provides companies and individual recruiters with essential tools to manage job listings, receive applications, and track candidate progress—all within a centralized, AI-supported environment. The platform is designed for usability, with built-in automation and profile management features suitable for both small-scale and organizational-level recruitment operations. Key functionalities include:

- **Subscription-Based Access**:
  - Companies and individual recruiters can subscribe to the platform to unlock recruiter tools and posting privileges.
  - Organizations can onboard multiple internal users (e.g., HR staff, hiring managers) under a single account to manage job postings collaboratively.
- **Profile and Data Management**:
  - Manage recruiter/company profiles, including contact details, branding, and posting history.
  - Store and view applicant data received from job postings created on the platform.
  - Track candidate progress across stages such as applied, shortlisted, interviewed, and hired.
- **AI-Assisted Job Description Generation**:
  - Generate professional job descriptions using AI by providing minimal input such as job title and summary.
  - Edit or enhance descriptions as needed before publishing.
- **Job Posting Capabilities**:
  - Create and publish job listings directly on the SmartResume platform to reach the internal user base of job seekers.
  - Monitor listing activity such as number of views, applications received, and engagement metrics.
- **Application Management**:
  - View and evaluate applicants who apply through the platform.

    - Update candidate status, add notes, and coordinate internally with other recruiters in the same organization.
- **Interview Scheduling and Calendar Integration**:
    - Add interview meeting links from external platforms (e.g., Zoom, Teams, Google Meet) to job applications.
    - Sync meetings with external calendars like Google Calendar, Microsoft Outlook, or Calendly to streamline coordination and alert setup.
- **Communication Tools**:
    - Send emails and initiate direct chat communication with candidates through the platform interface.

This recruiter feature set has been purposefully scoped to address foundational hiring needs within the MVP, while allowing seamless scalability and feature expansion in future releases.

2.2.3. Administrative Functions

The system administration module provides comprehensive control and oversight over all operational aspects of the platform. Administrators are responsible for configuring system-wide settings, managing subscriptions, supervising user accounts, and supporting outreach and content strategies. The administration interface is designed to enforce industry-standard governance while offering flexibility for platform growth. Key capabilities include:

- **Platform Governance and Access Control**:
    - Full visibility and control over all system components including job seeker, recruiter, and organization accounts.
    - Ability to modify user roles, permissions, access levels, and subscription entitlements.
    - Onboard and manage internal administrative team members with controlled access to specific modules (e.g., support, marketing, finance).
- **Subscription and Pricing Configuration**:
    - Create, update, and manage subscription plans for individuals and organizations.
    - Define billing cycles (monthly, yearly, usage-based), pricing structures, usage limits, and renewal settings.
    - Monitor subscription status, payment activity, and billing history across all accounts.
- **Marketing and Campaign Management**:
    - Design and launch targeted email marketing campaigns to segmented user lists.
    - Import/export contact databases and integrate automated or manual triggers for outreach.

    - Publish and manage blog content and landing pages for SEO and engagement purposes.
    - Track campaign effectiveness through open/click rates and engagement metrics.
- **Content and Communication Management**:
    - Manage and update the **textual and media content** of key informational pages including: Home, Pricing, Contact Us, Blog, About, and Feedback.
    - Page layout, structure, and design elements are fixed and controlled at the development level; administrators have access to content-level fields only.
    - Configure predefined settings of the **AI-powered chatbot**, including welcome messages, FAQs, automated responses, and escalation workflows to human support agents.
    - Monitor chatbot activity and update response templates without altering core NLP behavior or interface structure.
- **Reporting and Analytics**:

  The system SHALL provide comprehensive, platform-wide reporting capabilities that include:

    - **User Growth Metrics:** Aggregate and period-specific counts of registered and active users (e.g., job seekers, recruiters), with month-over-month and year-over-year comparisons.
    - **Subscription and Revenue Metrics:** Detailed subscription data (e.g., MRR, ARR, plan types) and payment receipts, segmented by user role and billing cycle.
    - **Feature Usage Statistics:** Frequency and adoption rates of key features (e.g., profile creation, resume uploads, job applications, and AI-assisted parsing), enabling product teams to identify high-value areas and underutilized functions.
    - **System Performance Indicators:** Real-time and historical system health metrics (e.g., API response times, server uptime, error rates), facilitating proactive maintenance and scalability planning.

  These insights SHALL be used to guide internal decision-making, inform resource allocation, and continuously improve operational efficiency. More detailed descriptions of individual reports, data fields, and visualization requirements are provided in the expanded “Reporting and Analytics” subsection (Section 5.5).

These functions ensure that administrators have the tools necessary to operate, manage, and optimize the SmartResume platform in alignment with business objectives and user satisfaction.

2.2.4. Browser Extension Functions

The SmartResume browser extension is designed to assist users during manual job application processes. It provides enhanced convenience while maintaining compliance with target platforms. Key features include:

- **Form Detection and Autofill**:
    - Automatically detects standard job application forms on supported job platforms and autofill's them using stored user profile data, resumes, and cover letters.
    - Enables users to review and edit the filled data before submission.
- **Voice Input Support**:
    - Where browser and site permissions allow, users can utilize voice input to fill form fields hands-free.
    - The feature is permission-sensitive and platform-dependent, and users are informed if a particular website does not support it.
- **Platform Compatibility**:
    - Extension supports major job boards and employer career pages where public access and form structures allow automated assistance.
    - The extension is used strictly for **manual application support**; automated job submissions are handled by backend job application services were permitted via API.

2.2.5. Mobile Application Functions

The mobile application complements the web platform by extending access to essential job seeker tools and enabling real-time engagement. Key features in the MVP include:

- **Core Feature Accessibility**:
    - Provides access to the primary job seeker functionalities such as resume generation, job viewing, application tracking, and video resume tools.
- **Notifications and Updates**:
    - Users receive real-time alerts for job opportunities, application status changes, and reminders through push notifications.
- **AI Tool Integration**:
    - Job seekers can access AI-powered features such as mock interviews, skill recommendations, and resume feedback from within the mobile app.
    - The experience is designed to mirror the web platform, with a focus on usability and responsiveness across devices.
- **Platform Consistency**:

    - The mobile application operates within the same user account and data model as the web version, ensuring seamless synchronization and continuity of experience.

2.3 User Classes and Characteristics

User Class	Description
Job Seeker	Individuals looking for employment. May be free users or subscribed to advanced features. Focused on resume building, application automation, and interview prep.
Recruiter	HR professionals or hiring managers. Can manage individual or organization accounts. Responsible for job creation, screening, and communication.
Administrator	Internal system user responsible for managing users, marketing, configurations, compliance, and reports.
Guest	Users who are browsing the platform without registration. Have access to limited public-facing pages only.
System AI Agent	Backend service that powers resume generation, job parsing, skill suggestion, and mock evaluation. Operates without user interface but interacts with user-submitted data.

2.4 Operating Environment

- **Frontend**: React.js (Web), React Native (Mobile)
- **Backend**: Python, Django, Django REST Framework
- **Database**: PostgreSQL
- **Hosting**: AWS (EC2, S3, RDS, Lambda), Docker, Nginx
- **CI/CD**: GitHub Actions or Jenkins for deployment automation
- **Authentication**: OAuth2, JWT
- **AI Integration**: OpenAI GPT API, custom NLP pipelines
- **Web Scraping**: Scrapy, Selenium, Puppeteer
- **Communication**: Gmail/Outlook APIs, Firebase Cloud Messaging, WebSockets

2.5 Design and Implementation Constraints

- The system **SHALL** be compliant with GDPR for data privacy.
- The platform **MUST** be accessible across multiple screen sizes and devices.

- Job application APIs from platforms like LinkedIn and Indeed **MUST** be evaluated for terms of service compliance before usage.
- No personally identifiable information (PII) **SHALL** be stored without explicit user consent.
- All video recordings **SHALL** meet defined quality standards (resolution, file size, encoding).
- Browser extension **SHOULD NOT** bypass security mechanisms of target platforms.

2.6 User Documentation

The platform will include:

- Interactive onboarding tutorials for job seekers and recruiters.
- FAQ and Help Center hosted on the web portal.
- Admin-only documentation for operational procedures.

2.7 Assumptions and Dependencies

- Users will have stable internet connections to use AI-driven and automation features.
- Users must provide correct and verifiable email addresses for system communication.
- AI results (e.g., resume scoring, skill recommendations) are based on model accuracy and subject to refinement.
- Third-party APIs (e.g., Google Calendar, Stripe) will remain stable and available.
- Browser extension support is dependent on browser-level permissions and compatibility.
- Mobile app features will be rolled out in phases and may not fully match web features at MVP stage.

3. System Features

3.1. User Registration & Authentication

3.1.1. Feature Overview

This module enables users (job seekers, recruiters, and administrators) to securely register, authenticate, and manage access to their accounts. The system is designed around email-based identity, ensuring a reliable method for verification, communication, and platform engagement. Authentication is powered by JWT-based token architecture using OAuth2 standards for secure session handling.

This feature supports both individual users (e.g., job seekers or solo recruiters) and organization-linked users (e.g., company HR staff), allowing access to role-specific dashboards post-authentication.

3.1.2. Actors Involved

- Job Seeker
- Recruiter (Individual or Organizations)
- Administrator & Staff
- System (Authentication Service)

3.1.3. Preconditions

- User must have a valid and unique email address.
- System email delivery services (SMTP or transactional email API) must be active and operational.
- For organization users, a company account must be created by an admin or a recruiter with account creation permissions.

3.1.4. Main Functional Requirements

3.1.4.1. Registration

- The system SHALL provide a registration form where users enter their full name, email address, password, and select their user role (Job Seeker or Recruiter).
- The system SHALL validate the email format and check for uniqueness in the database before proceeding.
- The system SHALL hash and store the password securely using an industry-standard hashing algorithm (e.g., PBKDF2 or bcrypt).
- The system SHALL assign the **Free Subscription Plan** to each new user immediately upon successful registration, granting access to all free-tier platform features without requiring payment.
- Upon successful form submission, the system SHALL send a verification email with a one-time link or token to activate the account.
  - Verification tokens for email activation SHALL expire after a defined time period (e.g., 24 hours).
  - The system SHALL allow users to request a resend of the verification email if expired or not received.
- The system SHALL restrict access to the platform until email verification is complete.
  - The registration form SHALL include CAPTCHA verification to prevent automated sign-ups.

3.1.4.2. Authentication

- The system SHALL allow registered users to log in using email and password credentials.
  - The login form SHALL include CAPTCHA after 2 failed login attempts to prevent brute-force attacks.
- Upon successful authentication, the system SHALL issue a secure JWT token with embedded user role and permissions.
- The system SHALL restrict access to unauthorized modules based on role and permission encoded in the token.
- The system SHALL support "Remember Me" functionality with appropriate token expiry controls (e.g., 24-hour session, 7-day optional persistent session).
- The system SHALL reject logins for suspended, disabled, or unverified accounts with appropriate user-friendly error messages.
- The system SHALL allow users to log out of all sessions and devices from their account settings.
- The system SHALL expire inactive sessions after a configurable period (e.g., 30 minutes for admin, 7 days for standard users).

3.1.4.3. Forgot Password & Reset

- The system SHALL allow users to request a password reset via email, generating a time-limited secure token.
  - Password reset tokens SHALL expire after a defined time limit (e.g., 30 minutes), and the system SHALL block reuse after expiration.
- The system SHALL enforce password complexity requirements (e.g., min 8 characters, upper/lowercase, number or symbol).
- The system SHALL allow the user to reset the password using the token and enforce a fresh login after reset.

3.1.4.4. Organization User Handling

- The system SHALL allow an organization admin to invite other users via email to join their recruiter team.
- The system SHALL link newly invited users to the same organization account upon acceptance.
- The system SHALL allow the primary organization admin to manage (add/remove/deactivate) linked users.

3.1.4.5. Social Login Support

- The system SHALL allow users to sign up and log in using social accounts, including LinkedIn, Google (Gmail), and Microsoft (Hotmail/Outlook), with appropriate OAuth2 integrations.
- The system SHALL map social login users to their respective roles upon first login and collect additional onboarding details (e.g., role selection) if not already provided by the provider.

3.1.4.6. Two-Factor Authentication (2FA)

- The system SHALL support optional 2FA verification, configurable by the user in their account settings.
- 2FA options SHALL include
  - One-Time Password (OTP) sent to the registered email address
  - OTP via standard authentication apps (e.g., Google Authenticator, Authy)
- When 2FA is enabled, the system SHALL require a valid OTP after password entry and before granting access.

3.1.4.7. Login Security Enhancements

- The system SHALL log each successful and failed login attempt, storing the user’s IP address, timestamp, device/browser details, and location estimate (if available) for audit and monitoring purposes.
- The system SHALL send security alert emails to users when a login occurs from a new device, location, or IP address not previously associated with the user.
- The system SHALL lock a user’s account after five consecutive failed login attempts and display a message: “Your account has been temporarily locked due to multiple unsuccessful login attempts.”
- To regain access, the system SHALL require users to verify their identity via a link sent to their registered email address. Alternatively, an administrator SHALL have the ability to manually unlock or reset access via the admin panel.

3.1.4.8. Security & Compliance

- All authentication routes SHALL be protected via HTTPS with CSRF protection enabled on applicable endpoints.
- The system SHALL allow account deactivation and permanent deletion via request (for GDPR compliance).
- The system SHALL allow users to request account deletion from their profile settings.

- Upon request, the system SHALL flag the account for deletion, notify the user, and proceed with removal after a verification or retention period if applicable.
- Deleted accounts SHALL have all personally identifiable information purged, in accordance with GDPR.

3.1.4.9. Alternate Flows / Edge Cases

- If the user tries to register with an email that already exists, the system SHALL display an error: “An account with this email already exists.”
- If the user attempts login without verifying their email, the system SHALL block access and prompt for re-verification.
- If email delivery fails (SMTP issues), the system SHALL queue the verification email and notify the admin after retry attempts.
- If the user’s account is locked due to login failures, and the user fails to verify via email, the system SHALL display a prompt to contact support or retry verification.
- If 2FA verification fails three times, the system SHALL deny access and require the user to restart the login process.
- If a suspicious login is detected, the user SHALL receive an alert with a prompt to secure their account by changing their password or enabling 2FA.

3.1.4.10. Postconditions / Outcomes

- Upon successful registration and email verification, users gain access to their respective dashboards.
- Upon login, the user is issued a JWT and redirected to the appropriate interface based on role.
- System maintains user session securely until token expiry or manual logout.
- Login activity and audit logs are updated with every authentication event.
- Users with 2FA enabled are granted access only after valid secondary verification.
- Suspicious activity triggers security alerts and logs for administrative review.
- Deleted accounts are fully removed from the system in line with GDPR.

3.1.4.11. UI & Interaction Notes

- All user-facing authentication pages SHALL include clear instructions, password rules, and human-readable error messages.
- Email templates SHALL be branded, professionally written, and include support contact details.
- Admin panel SHALL allow status monitoring of accounts (active, invited, pending verification, suspended).
- Users SHALL have access to an account settings panel where they can enable 2FA, manage sessions, or initiate account deletion.

3.2. User Profile Management

3.2.1. Feature Overview

The User Profile Management module allows authenticated users (Job Seekers, Recruiters, and Admin Staff) to manage their personal, professional, and system-related information. The profile serves as the foundation for resume generation, job matching, recruiter identity, and platform access configuration. It supports modular, role-specific fields and ensures consistency across user-facing and backend services.

For job seekers, the profile captures career-relevant details such as education, work history, skills, preferences, and professional assets. For recruiters, it includes organizational roles, company affiliation, branding elements, and hiring-related data. The system maintains strict access controls to ensure users can view and edit only their own profile data unless granted explicit administrative rights.

Upon account activation, users will be required to complete their profile before accessing resume generation, job application tools, and other key modules. The system will guide users through this process and continuously track and display profile completion progress across all relevant screens.

3.2.2. Actors Involved

- Job Seeker
- Recruiter (Individual or Organization-linked)
- Administrator
- System (AI & matching engine, form autofill, video resume tool)

3.2.3. Preconditions

- User must be authenticated (via login or social authentication)
- Email verification must be completed
- Required fields must be initialized during onboarding

3.2.4. Main Functional Requirements

3.2.4.1. Profile Creation and Initialization

- The system SHALL require all users to complete their profile after their first login, before accessing resume generation, job application, or recruiter tools.
- The system SHALL enforce the profile completion requirement across all access routes; any attempt to access protected modules without a complete profile SHALL redirect the user to the profile setup page.

- The system SHALL display a persistent profile completion widget showing progress in percentage format along with a list of required fields or sections.
- The system SHALL update the profile progress indicator in real-time as users fill in information.
- The system SHALL highlight incomplete fields with visual cues and offer direct links to relevant sections.
- The system SHALL track which profile sections are complete or incomplete and tailor alerts accordingly.
- The system SHALL send reminder emails to users with incomplete profiles after a defined inactivity period (e.g., 3 days, 7 days).

3.2.4.2. Job Seeker Profile Fields

The system SHALL allow entry of the following sections for job seekers:

- Full Name
- Profile Picture (optional)
- User Role (Job Seeker)
- Contact Email (pre-filled and uneditable)
- Phone Number (optional)
- Professional Summary
- Work Experience (title, company, duration, description)
- Education (degree, institution, dates)
- Certifications and Awards
- Skills (tags)
- Languages
- Job Preferences (job type, location, salary range, relocation willingness)
- Job Search Status (Actively Looking, Open to Offers, Not Looking)
- **Jobless Flag**: A boolean toggle allowing users to mark themselves as "Currently Jobless and Actively Seeking Opportunities." This status SHALL be used to prioritize the user for more frequent job discovery runs, higher application automation weight, and targeted platform recommendations. Users SHALL be able to turn this flag on or off anytime via profile settings. **Note:** The “Jobless” toggle is a separate boolean indicator used for automation optimization. Unlike the broader Job Search Status field, this flag triggers backend behavior adjustments such as increased job push frequency and streamlined application actions.
- Availability or Notice Period (e.g., immediately available, 1 month notice)
- External Portfolio Links (LinkedIn, GitHub, personal site, Behance, etc.)
- Work Authorization / Visa Status (optional, configurable by region)

3.2.4.3. Recruiter Profile Fields

- The system SHALL allow entry of the following fields for recruiters:

- Full Name
    - Profile Picture (optional)
    - User Role (Recruiter)
    - Company Name and Address
    - Department or Title
    - Company Website
    - Company Logo (optional but recommended)
    - Calendar Integration Preferences
    - Communication Preferences
    - Hiring Categories or Job Functions (optional for internal classification)
- The system SHALL allow the platform administrator to assign a **Verified Company** badge to recruiter organizations for trust-building. This badge will be visible on job listings and outreach.

3.2.4.4. Profile Editing and Updates

- Users SHALL be able to view and update their profile information from the "My Profile" dashboard section.
- All updates SHALL be subject to client-side and server-side validation.
- The system SHALL log all profile update timestamps for auditing.
- The system SHALL provide separate tabs or UI views for:
    - Personal Info
    - Professional Info
    - Preferences and Settings
    - Password and Security
- The system SHALL allow users to view a history log of profile updates for transparency.

3.2.4.5. Data Import (AI-Powered Parsing)

- Job seekers SHALL be able to upload an existing resume (PDF or DOCX), which the system SHALL parse using AI and NLP to auto-fill relevant profile fields.
- The parsing module SHALL extract:
    - Contact Information
    - Education
    - Work Experience
    - Skills
    - Keywords for ATS optimization
- Users SHALL be allowed to review and edit parsed data before saving.
- If the uploaded document cannot be parsed (e.g., unsupported format, severe formatting issues), the system SHALL display a clear, human-friendly error message such as "We were unable to parse your file. Please reformat your

CV as PDF or DOCX and try again," and allow the user to fall back to manual entry.

3.2.4.6. Data Integrity and Sync

- The system SHALL sync all profile data with the resume builder, job application engine, job matching, video resume scripting, and mock interview modules.
- If profile updates affect previously generated resumes or applications, the system SHALL flag them as "outdated" and prompt regeneration.

3.2.4.7. Privacy and Access Controls

- Users SHALL be able to control the visibility of specific profile fields (e.g., making a phone number or portfolio link visible only to shortlisted recruiters).
- Administrators SHALL have view-only access to user profiles for support and moderation purposes.
- Recruiters SHALL only view full profiles of candidates who apply to their listings or explicitly share their profile.

3.2.5. Account Preferences and Settings

Users SHALL be able to manage personal and system preferences from the Settings section of their account, organized as follows:

3.2.5.1. Notification Settings

- Users SHALL be able to enable or disable specific types of notifications, such as:
  - New job alerts
  - Application status updates
  - Resume feedback reports
  - System announcements
  - Recruiter communications
- The system SHALL allow granular control per notification category.

3.2.5.2. 2FA Settings

- Users SHALL be able to enable or disable two-factor authentication from the security settings section.
- 2FA methods SHALL include:
  - Email-based OTP
  - Authenticator apps (Google Authenticator, Authy)
- Changing 2FA settings SHALL require identity verification.

3.2.5.3. Language Preferences

- Users SHALL be able to select their preferred language from a list of supported system-localized languages.
- The UI SHALL reflect the selected language immediately or on next login.

3.2.5.4. Timezone

- Users SHALL be required to set a timezone upon onboarding.
- All timestamps, meeting invitations, notifications, and scheduling SHALL use this timezone.

3.2.5.5. Job Search Status

- Job seekers SHALL be able to set their visibility/status as:
  - Actively looking
  - Open to offers
  - Not currently looking
- This status SHALL be used to adjust platform recommendations and recruiter visibility.

3.2.5.6. Marketing Preferences

- Users SHALL be able to opt in or out of marketing communications.
- This setting SHALL be stored separately from transactional notifications and comply with email compliance laws (e.g., GDPR, CAN-SPAM).

3.2.5.7. Password and Security Management

- Users SHALL be able to update their account password at any time from the “Security” tab in the settings.
- Password update SHALL require entry of the current password and the new password.
- If 2FA is enabled, the system SHALL request an OTP before allowing the password change.
- Upon successful change, the system SHALL invalidate all existing sessions and require re-authentication.
- A confirmation email SHALL be sent to the user notifying them of the password change.

3.2.5.8. Alternate Flows and Edge Cases

- If the resume parsing engine fails to extract usable data, the user SHALL be notified and prompted to enter details manually.

- If a required field is removed or deleted by the user, the system SHALL warn them if it may affect dependent modules (e.g., resume generation).
- If sync conflicts occur between mobile and web profiles, the most recent update SHALL take precedence and trigger a notification.
- If a user tries to bypass the profile step via direct URL or shortcut, the system SHALL redirect them to profile completion first.
- If an administrator resets a user account or imports data, the user SHALL receive a confirmation email of changes made.

3.2.5.9. Postconditions and Outcomes

- Profile data is stored securely and is synchronized across resume generation, job application, and recommendation systems.
- All updates are logged and tracked for audit and support.
- Users are continuously aware of their profile completeness and guided toward full activation.
- AI-based tools operate using the most up-to-date profile data to improve results and relevance.
- Password and 2FA updates are enforced securely with multi-layer confirmation.
- Verified recruiter profiles and job seeker portfolios enhance platform credibility and transparency.

3.2.5.10. UI and Interaction Notes

- Profile interface SHALL be organized in sections with autosave functionality for user convenience.
- Resume parsing UI SHALL include a preview and accept/reject suggestions modal.
- A profile completion meter SHALL be visible on key screens (dashboard, application pages, resume builder) with actionable prompts.
- Visual indicators SHALL highlight incomplete profiles or outdated data.
- Success messages SHALL confirm profile updates in plain, user-friendly language.
- Password update interface SHALL include validation rules, strength indicators, and 2FA confirmation where applicable.
- External links (e.g., GitHub, LinkedIn) SHALL be validated and presented as clickable buttons in profile previews.

3.3. Subscription Management (Tenant-Based Architecture)

3.3.1. Feature Overview

The Subscription Management module enables both individual and organization-level tenants to subscribe to premium services on the platform. A **tenant** represents an isolated billing and access unit that could be a job seeker (single-user tenant), an individual recruiter (solo tenant), or an organization with multiple users (multi-user tenant).

All subscriptions are tied to the **tenant entity**, not directly to individual user accounts. This supports clean separation of data, usage tracking, and billing. Subscriptions control access to advanced features such as ATS-based resume generation, AI-driven job automation, recruiter dashboards, job posting, mock interviews, and other premium modules.

The platform supports both **time-based** (monthly, yearly) and **usage-based** (e.g., 100 job applications, 50 resume generations) subscription models. Tenants can upgrade, downgrade, or cancel their plans through a self-service interface. All billing transactions are securely handled via third-party gateways including Stripe, PayPal, Google Pay, and Apple Pay, with full support for multi-currency and timezone-aware invoicing.

3.3.2. Actors Involved

- Tenant (Job Seeker, Independent Recruiter, or Organization)
- Tenant Admin (User with billing/admin rights under the tenant)
- Administrator
- System (Billing Engine, Payment Gateway, Access Controller)

3.3.3. Preconditions

- A tenant must be active and the current user must belong to it.
- A verified billing-enabled user must be assigned tenant-admin privileges.
- At least one subscription plan must be available in the system.
- Payment gateways (Stripe, PayPal, etc.) must be operational and configured.

3.3.4. Main Functional Requirements

3.3.4.1. Tenant-Based Subscription Model

- The system SHALL associate all subscriptions with tenants, not individual users.
- A tenant SHALL hold a single active subscription at any given time.

- Users within a tenant SHALL share access to features enabled by their tenant's subscription plan.
- Subscription plans SHALL be created and managed based on tenant category:
  - **Individual Plans** for job seekers or solo recruiters
  - **Recruiter/Professional Plans** for advanced features for independent professionals
  - **Organization Plans** supporting multiple team members and enterprise workflows

3.3.4.2. Subscription Plan Configuration

- The system SHALL include a **Free Subscription Plan** as a foundational tier, which all new users receive by default.
  - **Plan Name:** "Free Plan"
  - **Type:** Time-based (no cost, auto-renew)
  - **Description:** Provides access to core, non-premium platform features without requiring payment.
  - **Pricing:** $0 (no charge)
  - **Enabled Features:** All features that you want to offer free of charge
  - **Usage Limits:** Admin will be to set limit of usage for each feature added on free plan.
  - **Grace Period Post-Expiry:** Not applicable (Free Plan does not expire)
- The system SHALL support both of the following paid plan categories:
  - **Time-based plans** (e.g., monthly, quarterly, annually)
  - **Usage-based plans** (e.g., 100 applications, 50 resumes, 10 job posts)
- Each plan SHALL include:
  - Plan name, type, and description
  - Pricing in local currency
  - Enabled features
  - Usage limits
  - Optional trial period
  - Grace period post-expiry (e.g., 3 days)
- The system SHALL differentiate feature entitlements between Free and Paid plans by referencing the "Enabled features" and "Usage limits" fields.
- All plan configurations (including the Free Subscription Plan) SHALL be manageable via the admin console, allowing administrators to:
  - Create, update, or deactivate any subscription plan
  - Adjust pricing, feature sets, and usage limits dynamically
  - Define promotional trial periods or temporary discounts
  - Monitor plan assignment and usage statistics for audit purposes

3.3.4.3. Tenant Subscription Lifecycle

- Tenant admins SHALL be able to:
    - Subscribe to a new plan
    - Upgrade or downgrade the existing plan
    - Cancel or pause the subscription
    - View usage metrics, plan benefits, and renewal date
    - Download billing receipts and transaction logs
- The system SHALL:
    - Initiate secure payment through configured gateways
    - Update the tenant's subscription status and entitlements
    - Send confirmation emails with invoice/plan details
    - Log all subscription changes for audit purposes

3.3.4.4. Multi-User Organization Support

- Organization tenants SHALL support team-wide subscription sharing.
- Tenant admins SHALL be able to:
    - Add or remove users within plan seat limits
    - Assign roles (e.g., recruiter, interviewer, viewer)
    - Track usage across users
    - Manage team from a dedicated "Organization Subscription" dashboard
- If the user seat quota is reached, the system SHALL:
    - Prevent new member additions
    - Offer upgrade prompt or removal options

3.3.4.5. Usage Tracking and Enforcement

- The system SHALL track subscription-related usage at the **tenant level**:
    - Resumes or cover letters generated
    - Job applications submitted
    - Job posts created
    - Interview sessions scheduled
    - AI tools used (e.g., resume parsing, mock interviews)
- Upon reaching defined thresholds:
    - A warning banner SHALL be shown (e.g., "90% of your application quota used")
    - Feature access SHALL be restricted or locked post-limit
    - Real-time usage dashboard SHALL be visible to tenant-admin and relevant users

3.3.4.6. Billing and Payment Handling

- **Supported Payment Providers**
  - Stripe (Cards, Wallets, Subscriptions)
  - PayPal
  - Google Pay / Apple Pay (Web & Mobile)
- **Billing Operations Shall Support**
  - **Auto-renewal** of all time-based subscription plans.
  - **One-time payments** for credit-based usage plans.
  - **Secure token-based storage** for payment methods via Stripe's PCI DSS–compliant vault.
    - When a user enters card details, display the following notice: "Your card information will be securely stored on Stripe for recurring subscription billing only. We do not store full card data on our servers."
  - **Multi-currency pricing** and **tax compliance** based on user location.
  - **User consent flow** for saving payment methods:
    - Before saving any payment method, require the user to explicitly agree to: "Save my payment method for future subscription charges and one-time purchases."
    - If the user does not consent, allow a one-time transaction without storing the card; however, require re-entry of card details for subsequent payments.
- **Payment Data Security and Usage**
  - All card and billing information shall be stored exclusively in Payment gateways secure vault and accessed only via tokenization.
  - Leveraging Stripe's PCI DSS Level 1 compliance ensures that no raw card numbers or CVV codes are stored on our platform.
  - The system shall never log or display full card numbers—only the last four digits and expiration date for user reference.
  - Tokens returned by Stripe shall be used to process recurring subscription fees or one-time usage charges without exposing sensitive data.
  - Subscription-related webhooks from Stripe (e.g., invoice.paid, payment.failed) shall be handled securely using a shared secret.

3.3.4.7. Administrative Oversight

- Platform administrators SHALL be able to:
  - Define and update system-wide subscription plans
  - Assign special offers or custom plans to specific tenants
  - View all tenants and their billing/subscription history
  - Override access in support, compliance, or promotional cases
  - Export tenant usage and billing analytics

3.3.4.8. Alternate Flows and Edge Cases

- If payment fails, the system SHALL retry per gateway policy and notify the tenant admin.
- If a subscription expires mid-session, restricted features SHALL be disabled upon next interaction.
- If a plan is cancelled, features SHALL remain active until the current billing cycle ends.
- If a billing admin is removed from an organization tenant, another eligible user SHALL be promoted or prompted to assume billing rights.
- Usage-based plans MAY support top-up packs or add-ons (phase two or extended MVP).

3.3.4.9. Postconditions and Outcomes

- Subscription status is tenant-scoped and reflected in access controls for all associated users.
- Feature availability and limits are dynamically enforced based on tenant’s current plan.
- All transactions and billing events are logged and auditable.
- Admin and tenant dashboards reflect accurate usage and subscription metadata.

3.3.4.10. UI and Interaction Notes

- Pricing and plan selection SHALL be shown in a responsive, comparison-friendly layout.
- Each tenant SHALL have a dedicated "Subscription" page showing:
    - Active plan
    - Usage status
    - Renewal date
    - Payment methods
    - Billing history
- Tenant admins SHALL see upgrade/downgrade options and warnings for over-usage.
- Organization tenants SHALL have additional tabs for team seat management.
- Cancellation flows SHALL include impact messaging and end-date confirmation.
- Admin interfaces SHALL support tenant filtering (Active, Trial, Expired, Custom).

3.3.4.11. Promotional Codes & Discounts

The system SHALL support creation and management of promotional codes (promo codes) that grant percentage- or fixed-amount discounts on subscription fees.

- **Promo Code Attributes:** Code string, discount type (percentage or fixed), discount value, applicable plan(s), start date, end date, and maximum usage count.
- **Validation:** At checkout, the system SHALL validate that a promo code is active, not expired, and has remaining uses before applying it.
- **Stacking Rules:** Only one promo code MAY be applied per subscription at any given time (no stacking of multiple codes).
- **Reporting:** The system SHALL log promo-code usage (tenant, plan, discount amount, redemption date) for audit and analytics.
- If a promo code is revoked or expires mid-billing cycle, the system SHALL not retroactively apply or remove it from existing subscriptions.
- Admins SHALL be able to bulk-generate, activate/deactivate, and export promo-code data via the admin console.

3.3.4.12. Payment Failure & Dunning Management

- The system SHALL detect failed payment attempts (e.g., declined card, insufficient funds) and execute a configurable “dunning” workflow:
  - **Retry Schedule:** After a failed attempt, retry payment after 24 hours, then after 72 hours, then once more after 7 days (configurable intervals).
  - **Notification Sequence:**
    - On first failure, send Tenant Admin an email: “Your last payment attempt for [Plan Name] failed. We will retry in 24 hours.”
    - On each subsequent retry failure, send escalating notifications (“Second attempt failed. Please update your payment method.”)
    - If all retries fail, send “Final Payment Failure” email and move subscription to “Suspended” state.
- When a subscription is suspended due to payment failure:
  - System SHALL revoke all paid-plan entitlements immediately but preserve tenant data for a configurable grace period (e.g., 14 days).
  - The tenant SHALL see a clear banner in their dashboard: “Your subscription is suspended due to unpaid balance. Please update payment to restore access.”
- If the tenant updates payment information and a retry succeeds before the end of the grace period, the subscription SHALL automatically reactivate with no loss of remaining term.
- If the tenant fails to resolve payment within the grace period, the system SHALL cancel the subscription and downgrade the tenant to the Free Plan (if available) or mark as “Cancelled” with data retention settings applied.

3.3.5. Subscription Lifecycle Flows

This section describes the core logic and conditions governing **upgrades**, **downgrades**, and **cancellations** of tenant-level subscriptions. All flows are initiated by a **Tenant Admin** via the self-service dashboard and handled asynchronously by the platform's billing and access control modules.

3.3.5.1. Upgrade Flow

An **upgrade** refers to switching from a lower-tier plan to a higher-tier plan (e.g., from "Basic" to "Pro" or "Team").

a. Flow Logic:

- Tenant admin selects the desired upgrade plan from the available catalog.
- System calculates a **pro-rated credit** based on the unused portion of the current billing cycle.
- The billing engine applies the credit toward the new plan's cost.
- Payment is initiated for the **difference** (if any) via the configured payment method.
- Upon success:
    - The tenant's subscription plan is updated immediately.
    - New usage limits and features become available.
    - A transaction receipt is generated and emailed.
- The upgrade event is logged for audit and compliance.

b. Edge Handling:

- If payment fails, the upgrade is rolled back and the tenant is notified.
- Feature access reflects the **target plan immediately** after payment confirmation.

3.3.5.2. Downgrade Flow

A **downgrade** refers to moving to a lower-tier plan, typically due to reduced usage needs or cost optimization.

Flow Logic:

- Tenant admin selects the downgrade plan from the plan catalog.
- The downgrade is **scheduled** to take effect at the end of the current billing cycle.
- Tenant receives a confirmation email outlining:
    - The downgrade date.

    - Feature and quota changes.
    - Any upcoming impact on user seats or usage limits.
- Until the effective date, the tenant continues to enjoy their current plan.
- At cycle end:
    - Downgrade is executed automatically
    - Access rights, limits, and pricing are adjusted
    - Billing for the new cycle reflects the downgraded plan

Edge Handling:

- If current usage exceeds the limits of the lower-tier plan, the admin is warned.
- The system prompts the tenant to:
    - Reduce user count or usage before downgrade, or
    - Purchase add-on packs post-downgrade to maintain service continuity

3.3.5.3. Cancellation Flow

A **cancellation** is the voluntary termination of a tenant's active subscription.

Flow Logic:

- Tenant admin selects the "Cancel Subscription" option in the dashboard.
- A warning message is shown explaining:
    - Access will end at the conclusion of the billing cycle
    - Features will be restricted after expiry
    - Data may be retained for X days before permanent deletion (configurable)
- Tenant admin confirms the cancellation.
- The system marks the subscription as "Pending Cancellation".
- No future payments are scheduled.
- At the end of the billing cycle:
    - Subscription status is updated to "Cancelled"
    - Access to premium features is revoked
    - Tenant is downgraded to a free/basic plan (if available)
    - Final invoice is generated and emailed

Edge Handling:

- If cancellation is initiated during a **free trial**, access is revoked immediately.
- Users in the tenant will retain read-only access to non-premium modules (if permitted).
- Tenant admins may reactivate the subscription before the cycle ends without data loss.

3.4 Job Seeker Features

3.4.1 Resume and Cover Letter Generation

This section defines the complete functionality, flow, and system behavior related to the resume and cover letter generation feature. This module allows users to generate professional resumes and cover letters either based on their general profile or tailored for specific job applications. It supports multiple generations per user, version control, and persistent storage for future access.

The resume and cover letter generation functionality serves as a core offering of the system, with differentiated experiences for free and paid users, including integration with ATS (Applicant Tracking System) compliance, AI-tailoring based on job descriptions, and template-based formatting.

3.4.1.1. Resume Generation

The resume generation functionality enables users to create multiple resumes based on their profile or targeted job descriptions. The system provides a flexible, user-friendly flow with access to basic resume creation for all users and ATS-compliant, professionally formatted resumes as a premium feature.

3.4.1.2. Resume Generation Workflow

- The user accesses the **Resume Generator** module from their dashboard.
- The system presents the user with the following options:
  - Generate a general-purpose resume using their **existing profile data**
  - Generate a **job-specific resume** based on a selected or manually entered job description
- The system pulls the latest profile information for the user, which may include:
  - Personal details (name, contact info)
  - Summary or objective
  - Work experience
  - Education
  - Skills
  - Certifications or awards
  - Languages
  - Volunteer experience or projects
- If the user opts for job-specific generation:
  - The user can either select a job from the internal job listings
  - Or manually input job details such as:
    - Job title
    - Company name
    - Full job description or highlights

        - Required skills
- The system then performs context-aware mapping between the user's data and the job data, applying relevant tailoring strategies. This may include:
    - Prioritizing certain experiences and skills based on the job description
    - Adjusting the summary/objective to match the job context
    - Injecting or highlighting relevant keywords for ATS optimization
- Once data transformation is complete:
    - The user selects a resume template (basic or premium depending on access)
    - A preview is generated and displayed to the user with editable sections
    - The system allows final adjustments before confirming
- Upon confirmation, the resume is saved into the user's document history, and the user is allowed to:
    - Download in available formats (PDF)
    - Edit later
    - Clone for variations
    - Assign a custom title (e.g., "Frontend Resume v2")

3.4.1.3. Resume Templates and Output Options

- The system supports a variety of **predefined resume templates**:
    - **Basic templates** (available for all users): Clean, minimal layout with basic formatting, suitable for general job applications.
    - **ATS-optimized templates** (for subscribed users): Professionally designed with formatting and keyword placement designed to pass automated resume screening tools.
- Templates support:
    - Rearranging section order (within limits of the template structure)
    - Highlighting sections for emphasis
    - Applying style themes (fonts, colors, spacing for premium only)
    - Real-time preview and inline editing
- Output options include:
    - **File Downloads**: PDF
    - **Inline editing and re-generation**
    - **Manual title assignment**: Users can rename resume versions for better organization

3.4.1.4. Resume Types

- **General Resume**: Created directly from the user profile without job targeting. Suitable for job fairs, referrals, or generic job platforms.
- **Job-Specific Resume**:
    - Created in context of a job application

    - Tailored using job-specific keywords, adjusted ordering of experiences, and summary changes
    - Automatically linked with the job ID if selected from internal board

3.4.1.5. Resume Management

- All resumes generated are saved to the user's personal resume library.
- Each resume stores metadata including:
    - Resume title
    - Type (General / Job-specific)
    - Associated job title or ID (if any)
    - Template used
    - Generation timestamp
- Users can:
    - View, clone, edit, or delete past resumes
    - Mark one resume as "Primary Resume" for default usage across the platform
    - Export any version at any time

3.4.1.6. Additional Notes

- Resume generation system includes built-in validation and content checking to prevent incomplete resumes (e.g., empty fields).
- The system automatically notifies the user of missing sections before generating a resume.
- Premium features like ATS optimization are only unlocked for subscribed users. These features may include deeper AI analysis, targeted keyword injection, advanced layout styling, and recruiter-verified suggestions.

3.4.1.7. Cover Letter Generation

This component allows users to generate highly contextual, job-specific cover letters using the data from their resume, profile, and job information. The generated content aims to highlight key skills and qualifications while maintaining a professional and engaging tone.

3.4.1.8. Cover Letter Generation Workflow

- The user navigates to the **Cover Letter Generator** section from the dashboard or a job detail page.
- The user selects:
    - A job from the internal job listings, or
    - Manually enters the job details (Company Name, Job Title, Job Description)

- The system prompts the user to select which of their existing resumes to base the letter on.
  - If no resume exists, user is advised to generate one before proceeding.
- Using:
  - Job details
  - Selected resume content
  - User profile highlights

  the system generates a professionally worded cover letter.
- The generated cover letter is presented in a rich text editor allowing the user to:
  - Edit content inline
  - Reword specific sections
  - Regenerate the letter with adjusted inputs
  - Save the letter to their library
- Once finalized, the user can:
  - Download the cover letter (PDF/DOCX)
  - Save to dashboard for future applications
  - Link the letter directly to a specific job application

3.4.1.9. Cover Letter Features

- The generated letter includes:
  - Custom greeting (if company name is available)
  - Introductory paragraph tailored to the job
  - Body paragraphs referencing experience, skills, and motivations
  - Closing statement and professional sign-off
- Language is formal and context-aware, with options for tone adjustment in future upgrades
- Every cover letter is unique; no two letters are generated with identical wording even for the same job
- System ensures personalization and avoids generic templated sentences

3.4.1.10. Cover Letter Management

- All generated cover letters are stored in the user's library
- Metadata for each cover letter includes:
  - Linked resume (if any)
  - Associated job title and company
  - Generation and last edit timestamp
- Users can:
  - Clone, edit, or delete old cover letters
  - Reuse past letters for similar job applications

- Match cover letter versions with resume versions for consistency

3.4.1.11. Integration with Job Applications

- When applying to a job posted internally on the platform, the system allows the user to:
  - Choose a resume
  - Choose a cover letter
  - Preview the combined PDF (planned)
  - Submit both in one click

3.4.2. ATS Optimization Engine

3.4.2.1. Overview

The ATS (Applicant Tracking System) Optimization Engine is a critical component that ensures resumes created or uploaded by users are fully compatible with modern applicant tracking systems. This system works in **synchronization with the Resume Generator**, providing continuous evaluation and enhancement support.

When a user creates a resume using the platform's Resume Generator, the ATS check is **automatically performed in the background**—if included in their subscription plan. This integration ensures the resume is not only visually appealing but also compliant with machine parsing requirements of hiring systems. Users are provided with a detailed compatibility score and a set of improvement suggestions. They may choose to let the AI revise and regenerate their resume based on those suggestions with a single action.

Additionally, users can upload their **own existing resume documents** and request an ATS evaluation, followed by AI-assisted optimization. This empowers users to improve resumes created outside the system as well.

3.4.2.2. Key Features

3.4.2.2.1. Automatic ATS Evaluation During Resume Generation

- For users with an active ATS-enabled subscription, all resumes generated through the Resume Generator will be evaluated in real-time by the ATS engine.
- Once the resume is created:
  - The system runs a complete ATS compliance check automatically without requiring user action.
  - Results are displayed as part of the resume summary, including compatibility score and improvement areas.
- If the score or compliance is below a recommended threshold (e.g., 80%), the user is given the option to auto-regenerate an optimized version.

- Users receive proactive, clear guidance via messages such as:
  - “Your resume may miss critical formatting required for ATS compatibility.”
  - “Consider improving keyword match for better visibility in applicant tracking systems.”

3.4.2.2.2. Manual ATS Check for Uploaded Resumes

- Users can also upload their personal resume files to get an ATS analysis, regardless of whether the resume was created on the platform.
- The system supports major formats like .docx, .pdf, and .txt, and parses content for structural and keyword relevance.
- After analysis:
  - The system highlights all compliance issues and keyword gaps.
  - The user can initiate an AI-powered rewrite or improvement to enhance ATS compatibility.

3.4.2.2.3. Resume Structure and Parsing Validation

- Ensures the resume complies with parsing requirements across different ATS systems.
- Evaluates:
  - Proper use of headings (e.g., Education, Work Experience, Skills)
  - Section hierarchy
  - Avoidance of tables, columns, images, and unusual formatting that could block ATS parsing
  - File format best practices and font usage
- Flags elements that may reduce readability by ATS systems.

3.4.2.2.4. Keyword Relevance and Matching

- Extracts keywords and core requirements from a provided job description.
- Compares the job requirements with the resume content to:
  - Identify missing or underrepresented terms
  - Highlight skill or experience gaps
- Keywords are classified into:
  - Technical skills
  - Soft skills
  - Tools and technologies
  - Certifications and qualifications
- The system presents clear, human-friendly messages such as:
  - “This job requires experience with Django, which is not currently mentioned in your resume.”

3.4.2.2.5. Resume Compatibility Score

- The system generates an ATS compatibility score between 0–100.
- The score includes breakdowns for:
    - Structure and formatting
    - Keyword matching
    - Section completeness
    - Skill alignment
- A minimum benchmark score (e.g., 80) will be displayed as a recommendation before applying for jobs.

3.4.2.2.6. AI-Based Optimization and Real-Time Editing

- Once the ATS check identifies gaps or issues, users can:
    - Manually revise the resume using suggestions shown
    - Or click to apply **AI-powered enhancements** to update the resume content automatically
- The AI will:
    - Add missing job-specific keywords
    - Improve clarity and sentence structure
    - Reorder or rephrase content to better reflect job expectations
- All updates are visible in real-time with the option to preview changes before finalizing.

3.4.2.2.7. Tailored Resume Versions

- Users can maintain multiple optimized versions of the same resume for different job profiles.
- Each version includes:
    - Job title or focus area
    - ATS score and optimization history
    - Date last updated and created
- The system allows cloning, editing, or regenerating versions as needed.

3.4.2.2.8. Resume Optimization History and Logs

- For audit and improvement tracking, the platform maintains a log of:
    - ATS evaluations run
    - Recommendations made
    - Actions taken by the user (manual edit or AI-assisted)
- Users can revisit this history to understand improvement trends or reuse optimized versions.

3.4.2.2.9. Export and Reporting

- Once optimized, resumes can be exported in ATS-compatible formats with proper naming conventions.
- Users can also export a detailed optimization report showing:
    - Keyword match index
    - Formatting issues fixed
    - Score improvement after each revision
- This report can optionally be shared with career coaches, mentors, or advisors.

3.4.2.3. Flow and User Journey

3.4.2.3.1. For Resume Generator Users (with ATS in Subscription):

- User creates a resume using the platform.
- The system automatically triggers ATS evaluation in the background.
- Compatibility score and insights are shown once resume is generated.
- User can apply recommended changes manually or trigger AI-based optimization.
- Final optimized version is saved separately, with version tagging and score displayed.

3.4.2.3.2. For Uploaded Resume Users:

- User uploads an existing resume document.
- User optionally provides a job description or role they wish to match.
- ATS engine runs parsing, formatting, and keyword analysis.
- Score and improvement suggestions are displayed.
- User chooses to update resume via AI suggestions or edits manually.

3.4.2.4. Additional Considerations

- ATS engine access is restricted to users with relevant subscription plans; the system must validate access before initiating evaluations.
- AI-generated suggestions must preserve readability and natural flow to ensure resumes remain human-friendly.
- System will ensure resume updates do not exceed recommended length for industry norms.
- All optimization suggestions are written in user-friendly, professional language to maintain clarity.
- Real-time ATS scoring components will be optimized for speed and responsive UI.

- Logs and resume versions will be stored with adequate metadata for reuse in future job applications.
- Accessibility features (e.g., readable alerts, high-contrast display for scores) will be implemented to ensure inclusive use.

3.4.3. Job Discovery and Filtering

3.4.3.1. Overview

The Job Discovery and Filtering module allows job seekers to receive relevant job opportunities tailored to their skills, preferences, and availability, without requiring manual job searches. The system intelligently aggregates jobs from internal recruiter postings, trusted third-party APIs (such as LinkedIn and Indeed), and real-time search result scraping based on the user's profile and job filter configuration.

This module operates through fully automated background processes. It continuously fetches job listings, applies user-defined filters, removes irrelevant or blacklisted results, and delivers curated job matches to users via dashboard, in-app notifications, push alerts, and email summaries.

3.4.3.2. Job Sources

The platform supports multiple job sources to ensure broad coverage and high match relevance:

- **Internal Postings:** Jobs posted by recruiters or organizations registered on the platform.
- **Third-Party Job Boards:** Fetched via API integrations with platforms such as LinkedIn and Indeed. Jobs are pulled using search queries generated from the user's skills, preferences, and filters.
- **Search-Based Scraping:** The system executes automated search queries (e.g., Google Jobs, direct career pages) using the job seeker's configured preferences and profile data. These results are scraped, parsed, and standardized before entering the discovery pipeline.

3.4.3.3. Automated Matching and Background Operation

The discovery process is completely automated and asynchronous. Background workers (e.g., Celery tasks) are scheduled to run at fixed intervals, daily or as configured, ensuring new jobs are consistently discovered without any user interaction.

For each user, the system:

- Generates dynamic search queries using profile data and configured filters.

- Sends API or web requests to all active job sources.
- Normalizes the job data into a unified format.
- Applies filter rules to determine matches.
- Removes duplicates, expired jobs, and blacklisted company listings.
- Saves matches to the user's personalized job feed.

This system architecture ensures that users passively receive high-relevance job suggestions even if they do not actively search for jobs themselves.

3.4.3.4. Job Filter Configuration

Users can configure comprehensive job discovery filters from their profile settings. These filters define what kind of jobs they are interested in and serve as the foundation for the background discovery system. The supported filters include:

- **Location:** Static options like country, state, and city, as well as geo-radius filtering (e.g., "within 25 miles" of a city).
- **Job Type:** Full-time, part-time, contract, internship, remote, hybrid, or on-site.
- **Industry and Functional Role:** Users can select domains or categories such as Tech, Marketing, Design, Healthcare, etc.
- **Salary Preferences:** Users can define expected salary ranges, currencies, and compensation types.
- **Skill Keywords:** Users can include or exclude specific technologies, certifications, or tools.
- **Company Blacklist:** Companies can be manually excluded from job results. If the company name appears in the job description or metadata, the job will be filtered out.
- **Current Employer Exclusion:** The system can detect or allow users to manually specify their current employer to avoid surfacing their jobs.

Users can manage and update filters anytime. The system respects these filters for both internal and external job sources.

3.4.3.5. Saved Filters and Pre-sets

Users may create multiple saved filter profiles for different job strategies. For example:

- Remote Python Roles USA
- Entry-Level Marketing Roles in Toronto
- Part-Time Frontend Freelance (India)

Each preset includes its own filter configuration and will generate a dedicated job feed. Users can enable notifications per preset or switch between them from their dashboard.

3.4.3.6. Updated Job Expiry and Cleanup Logic

To ensure jobs remain relevant and accurate, the platform manages expiry differently based on the job source:

- **Internal Job Postings**
  Jobs posted directly by recruiters on the platform do **not have an automatic expiry**. These jobs remain active until the recruiter:
  - Closes the posting manually
  - Marks a hire as completed
  - Deletes the post
  - The system will send periodic reminders to recruiters (e.g., every 15 days) prompting them to review and update open positions to keep listings fresh.
- **External Jobs via API or Scraping**
  For jobs sourced from third-party APIs or through search-based scraping:
  - The platform assigns a **minimum validity period of 14 days** from the fetch date.
  - If the source explicitly includes an expiry date, that value is respected.
  - If the job becomes unreachable (e.g., broken link or 404 on refresh), it is immediately flagged and removed.
  - After expiry, the job is no longer shown in feeds or notifications, and bookmarked versions are marked “expired.”

All job entries are cleaned up in scheduled tasks, ensuring the feed remains current, and users are not shown outdated or invalid opportunities.

3.4.3.7. Job Bookmarking and Alerts

Users can bookmark any job to review or apply later. The system stores bookmarked jobs with metadata such as source, expiration date, and job type.

Reminders are sent before bookmarked jobs expire. Notifications are sent via:

- In-app alerts
- Push notifications (browser/mobile)
- Email alerts

3.4.3.8. Job Detail and Matching Score

Each job listing includes a standardized detail view with:

- Job title, company, location, salary, and job type
- Full job description
- Source (internal or external)
- Expiry countdown (if applicable)
- Resume match score (if available)
- Suggested cover letter action (link to generator)

If the job is internal, the user may apply directly through the platform. If external, a "View Original" link redirects to the source. If auto-apply is supported (next section), the integration point is also surfaced here.

3.4.3.9. Notification Channels

The system provides intelligent job alerts via:

- Dashboard notifications for new jobs
- Real-time alerts when background discovery finds a match
- Scheduled daily or weekly email summaries
- Optional mobile or browser push notifications

Each alert includes quick access to the job and a call-to-action for applying or saving.

3.4.3.10. Admin Moderation and Control

Externally sourced jobs may be passed through optional admin moderation. If scraping yields broken links, spam content, or malformed HTML:

- Jobs are flagged automatically or by user reports
- Admins may approve, reject, or permanently blacklist domains
- The moderation panel includes job logs, click stats, and platform scoring

This layer ensures external feeds maintain quality and consistency with internal standards.

3.4.3.11. Postconditions and Behavior

Once job discovery is active:

- Users are continuously updated with new jobs, even without logging in daily.
- Filter preferences persist and can be toggled as needed.
- Alerts are relevant, personalized, and free from noise caused by blacklisted or expired content.
- Saved jobs are retained with metadata and can trigger alerts based on expiry.

3.4.3.12. UI and Interaction Notes

- A dedicated “Job Feed” interface displays job cards in a scrollable list with quick actions.
- A filter drawer or modal allows users to adjust or switch filters on the fly.
- Saved filters are accessible from the sidebar or filter section.
- Notifications link directly to job views or saved filters for fast access.
- Visual indicators show job freshness (e.g., “New Today”, “Expiring Soon”).

3.4.4 Automated Job Application System

3.4.4.1. Overview

The Automated Job Application System is a core feature of the SmartResume platform, designed to minimize the manual overhead involved in applying for jobs. It empowers users—specifically job seekers—to apply for high-relevance jobs either automatically or with minimal interaction. The system operates through scheduled background processes and real-time user interaction, making use of existing user data such as resumes, cover letters, video resumes, preferences, and job eligibility rules.

The system integrates tightly with the job discovery module, profile management, resume generation engine, email services, and the browser extension to ensure a seamless, consistent, and intelligent application experience. It supports end-to-end automation from job matching to application submission across various job types and sources.

3.4.4.2. Core Capabilities and Application Modes

The platform supports three main application flows, depending on the source of the job, the availability of submission channels, and user preferences.

- **Automated Internal Applications**
  Internal job postings created by recruiters on the platform support full application automation. Once a match is detected for a user, the system can automatically submit the application on their behalf, attaching a selected resume and cover letter, and optionally including a video resume link.
- **Email-Based External Applications**
  For external job listings that include a recruiter or hiring manager email address, the system can dispatch an application email directly from the user’s connected email account or via the platform’s email relay service. The message includes a dynamically generated or selected cover letter, a resume attachment, and any optional materials.
- **External Web-Based Applications**
  Where jobs require submission on third-party platforms, and auto-submit is

not possible via API or email, the system prepares the user for one-click guided submission. With the browser extension active, it auto-fills the job application form using saved profile and resume data. These applications are partially automated and require final confirmation by the user.

3.4.4.3. Filter-Based Eligibility and Rule Enforcement

Before submitting any application—automated or assisted—the system evaluates a strict set of eligibility rules defined by the user. These include:

- **Location Filters**
  Ensures job location falls within the accepted cities, states, countries, or radius configured by the user. Location can be determined via text parsing or geocoordinates, if available.
- **Job Type Match**
  Checks if the job is labelled as full-time, part-time, internship, contract, freelance, remote, hybrid, or on-site and ensures it aligns with the user’s job type preferences.
- **Salary Match**
  Validates whether the offered salary range (if specified) meets or exceeds the user's expected compensation range. Supports multiple currencies.
- **Blacklist Enforcement**
  Matches job post content against user-defined blacklisted companies or entities. The system also automatically excludes the user's current employer, detected from their profile, unless explicitly overridden.
- **Skill Relevance**
  Matches the job's required skills against the user's profile and resume to determine adequacy. If key skills are missing, the system can block auto-apply or request user confirmation.
- **Application Limit Controls**
  To prevent spam or over-application, the system can impose a limit per day/week based on subscription tier or personal settings. This protects user reputation on external platforms.

3.4.4.4. Document Selection and Auto-Attachment

- **Resume Selection Logic**
  The system chooses the most appropriate resume from the user's document library. If a job-specific resume exists, it is selected. Otherwise, the platform uses the default resume. For high-priority jobs, the system can regenerate the resume dynamically with AI using ATS and job matching analysis.
- **Cover Letter Matching**
  For each application, the system attempts to find a cover letter previously generated for the same or similar role. If not available, it creates one using job

description data and the user’s profile through the cover letter generation engine. The user can preapprove this process or require confirmation before submission.

- **Video Resume Inclusion**
  When enabled, the system includes a general-purpose or job-specific video resume link in the application materials. Video resumes are hosted securely and linked via short, branded URLs. The user may control visibility and availability expiration of shared videos.

3.4.4.5. Automated Email Outreach

For email-based applications, the system crafts and sends job application emails on behalf of the user.

- **Personalization**
  Subject line and content are tailored using company name, job title, and user-specific attributes. Messages are composed in a human-readable, professional tone, generated using AI and formatted using predefined email templates.
- **Sending Logic**
  The system supports two email dispatch methods:
- Authenticated SMTP or OAuth-based access to the user’s own email address (e.g., Gmail, Outlook)
- **Attachments and Body**
  Resumes are attached in PDF format. Cover letters can be included either as attachments or within the email body, depending on the job type and recruiter preference settings.

3.4.4.6. Browser Extension-Assisted Applications

For platforms that require direct form submission (e.g., job portals like Workday, Greenhouse, Lever), the browser extension acts as an assistive agent. It provides the following capabilities:

- **Form Autofill**
  Detects the layout of the job application form and auto-populates the user’s data: name, contact information, education, experience, etc.
- **File Upload Automation**
  Inserts the selected resume and cover letter into file input fields. If required, it can insert Dropbox/Google Drive links or inline URLs for video resumes.
- **Job-Specific Prompts**
  Displays user prompts for job-specific questions (e.g., "Why are you a good fit?"), and allows the user to choose a prewritten response or generate a new one instantly.

- **Form Completion Tracking**
  Monitors success or failure of autofill and form submission. In the event of failure, the user is notified to complete manually or retry later.

3.4.4.7. Application Tracking and Activity Logging

Every job application initiated, assisted, or auto-submitted by the system is tracked and logged. The following metadata is stored for each record:

- Job title, company, source platform
- Time and date of submission
- Method of submission (internal, email, browser)
- Resume and cover letter version used
- Application outcome, if known (e.g., delivered, bounced, responded, interview scheduled)
- Status (pending, successful, failed, cancelled)

Users can view and filter this log in their application dashboard and export it if needed.

3.4.4.8. User Configuration and Safety Controls

All automated application behavior is opt-in. Users may control:

- Whether to enable auto-apply at all
- Frequency or limit of applications per week
- Industries or job types to auto-apply for
- Whether to always preview the documents before submission
- Whether to allow automated document regeneration using AI
- Enable or disable browser extension autofill

3.4.4.9 Jobless Status Prioritization

- The system SHALL detect when a user is marked as "Jobless" via their profile setting.
- For users marked as jobless, the system SHALL prioritize these users for:
  - More frequent background job discovery execution (e.g., 2x per day instead of daily)
  - Higher visibility in application queues (e.g., trigger auto-apply earlier)
  - Prefer jobs with immediate joining or higher application response rates.
- The system SHALL also reduce required user confirmations (where user has opted in) to minimize interaction and fast-track applications.
- This flag SHALL be reversible via the user profile settings.

3.4.4.10. Notifications and Confirmation

The system sends real-time or scheduled notifications based on:

- Successful job application submission
- Failure or bounce from recruiter email
- Reminder to complete pending application manually
- Notification of employer response or job closure

Notifications are routed through in-app alerts, email, and push channels based on user preference.

3.4.4.11 External Job Link Submission

- **Allow HTTPS URL input**
  - The system will provide an "Apply via Link" input where a job seeker can paste any valid HTTPS job posting URL (e.g., company careers pages, indeed, Glassdoor).
  - Upon submission, the system checks that the URL:
    1. Uses the HTTPS protocol.
    2. Is reachable (returns HTTP status 200).
    3. Appears to be a job posting (contains keywords like "apply", "job description", or relevant HTML form attributes).
  - If any check fails, display "Unable to verify this URL as a job posting. Please check the link and try again."
- **Attempt to scrape recruiter contact**
  - If validation succeeds, the system attempts to scrape minimal metadata:
    1. **Job Title**
    2. **Company Name**
    3. **Location**
    4. **Recruiter Email** (if present in page HTML)
    5. **Original Posting URL** (displayed, not editable)
  - Show a preview form populated with any scraped fields. The user can correct or fill in missing details.
  - Let the user select which resume and cover letter to attach (same UI as internal applications).
- **Fallback to manual entry for un-scrapeable pages**
  - If scraping fails (for example, on platforms like LinkedIn that block automated scraping), prompt the user:
    1. "We couldn't gather job details automatically. Please provide the following information manually: Job Title, Company, Location, and Recruiter Email (if available)."
  - Once the user enters the required fields, offer assistance features:

        1. Suggest relevant resume templates and cover-letter guidance based on the provided job information.
        2. Allow the user to draft or auto-generate a cover letter using AI assistance.
        3. Provide tips on how to complete the external application manually (e.g., how to copy/paste fields into the external site).
    - Inform the user, after entering the job details, you can complete the application on the original site using our browser extension to autofill your profile and documents.
- **Submission pathways**
    - **Email Auto-Apply (if recruiter email scraped or provided):**
        1. Package the selected resume and cover letter into an email addressed to the recruiter.
        2. Send using the user’s connected email account or via SmartResume’s mail relay.
        3. Record the application in SmartResume with status “External – Email Sent.”
        4. Display: “Your application has been sent via email to the recruiter. You can track its status under Applications → External Links.”
    - **Manual Redirect (if no recruiter email):**
        1. Open the original job URL in a new browser tab.
        2. Activate the SmartResume browser extension to autofill known fields (name, contact information, resume upload).
        3. The user submits the application on the external site.
        4. Record the application in SmartResume with status “External – Manual Submission.”
        5. Display: “The job page has opened in a new tab. Use our extension to autofill your information and complete the application.”
- **Subscription tier restrictions**

  If a Free Plan user attempts to use “Apply via Link,” display: “This feature is available for Basic and Pro subscribers. Upgrade now to apply via external links.”

- **Applications history and filtering**
    - In the “Applications History” page, add a filter “Source = External Link.” Each entry shows:
        1. Date submitted
        2. Job Title (scraped or manually entered)
        3. Company (scraped or manually entered)
        4. Application Method (Email Sent or Manual Submission)
        5. Status (Submitted, Viewed, Rejected, Hired, etc.)

6. Original Posting URL (clickable)

This ensures users can paste an external HTTPS job link, attempt automatic scraping for email-based application, or fallback to manual entry with SmartResume's guidance and extension support.

3.4.4.12. Security, Privacy, and Compliance

The system is designed to ensure:

- User credentials for email access are never stored in plain form
- Every outbound communication is logged with headers for traceability
- Data used in applications (resumes, cover letters, videos) is transmitted securely using HTTPS and stored encrypted at rest
- Auto-submission actions are user-initiated by configuration and can be disabled instantly
- Users can review, edit, or delete application records at any time

3.4.5. Email Outreach

3.4.5.1. Overview

The Email Outreach module allows job seekers to initiate direct, personalized communication with recruiters outside of standard job application flows. This feature enables proactive career engagement by letting users search for relevant recruiters, create custom cold outreach messages, and attach resumes and video resumes to introduce themselves professionally.

Unlike job-linked applications, this feature is designed for open networking, speculative opportunities, and relationship-building with potential employers. The system integrates AI-assisted content generation, recruiter discovery, document selection, and email delivery via connected user email accounts.

Access to this feature is controlled by subscription tiers, with higher tiers unlocking more outreach capacity and advanced generation options.

3.4.5.2. Recruiter Discovery and Targeting

Users can discover recruiters from the platform's internal recruiter database based on:

- Industry or hiring domain
- Role title (e.g., "Technical Recruiter", "HR Manager")
- Company name
- Location (country, state, city)

The system does not expose the entire recruiter database publicly. Instead, users are shown **curated matches** based on their:

- Profile
- Skills
- Job preferences
- Search history

Recommended recruiter results are shown with:

- Recruiter name
- Company
- Role/department
- Email (if public)
- Option to initiate outreach directly from the result card

Manual search and filter options are available for refining outreach targets within this curated scope.

3.4.5.3. Outreach Message Generation

To support highly personalized and relevant communication, the system provides a dedicated **Cold Outreach Message Builder** that guides users through:

- Selecting or entering the recruiter's name, company, and role
- Providing a short intent or goal (e.g., "Looking for front-end role", "Interested in working at your company")
- Selecting a resume from their resume library
- Optionally including a video resume link
- Requesting an AI-generated cover letter or writing one manually

The platform uses this data to generate a structured message that can be used as a cover letter (attachment) or email body.

3.4.5.4. Cover Letter Personalization and Storage

Users may generate or attach a **cold outreach cover letter** using platform tools. These letters:

- Are personalized to the recipient recruiter
- Reference the user's skills, goals, and intent
- May optionally reference the recruiter's company or role
- Are saved in the user's cover letter library for future reuse

Each outreach action allows the user to:

- Select an existing letter
- Generate a new one
- Edit before finalizing

Cover letters are always attached as PDF documents to the outreach email and are not embedded in the email body.

3.4.5.5. Resume and Video Resume Attachments

Each outreach message must include a resume. Users can:

- Select from their saved resume versions
- Upload a custom version for one-time use
- Auto-generate a role-aligned resume using AI (if supported by subscription)

If a video resume is enabled and approved by the user for public or semi-public use:

- A short, secure URL to the video is appended at the end of the message
- Recruiters can view the video on the platform’s video landing page

3.4.5.6. Email Sending Mechanics

All outreach emails are sent through **the user’s connected email address**, via:

- OAuth-based authorization (e.g., Google, Microsoft)
- SMTP configuration (if provided)

The platform never sends outreach emails from its own system addresses, ensuring personal and authentic delivery.

Each email includes:

- Custom subject line (auto-generated based on company, role, and goal)
- Body (optional message if configured)
- Cover letter (PDF attachment)
- Resume (PDF attachment)
- Optional video resume link

No open tracking, click tracking, or behavioral logging is performed to maintain recipient privacy and respect delivery compliance standards.

3.4.5.7. Outreach Logs and Status

Each outreach action is logged in the user’s dashboard with the following metadata:

- Recruiter name and company
- Date and time of send
- Resume and cover letter versions used
- Email method (OAuth or SMTP)
- Status (sent, failed, cancelled)

The platform confirms delivery based on send response (e.g., success/failure), but does not track beyond that point. No read receipts or click logs are captured.

3.4.5.8. Usage Limits and Subscription Control

The Email Outreach feature is restricted and shaped by the user's subscription level. Configuration includes:

- Number of outreach emails allowed based on subscription plan
- Number of new AI-generated cover letters per period
- Access to resume tailoring for outreach (limited or unlimited)
- Option to include video resumes (higher tiers only)

Limits are enforced via system rules, and users are notified when nearing or exceeding their quota.

3.4.5.9. User Interaction and Flow

- User navigates to the **Outreach** tab from the dashboard
- Chooses to:
  - Discover recruiters using smart filters
  - Or manually enter recruiter information
- System assists with recruiter selection or entry
- User selects a resume and generates or selects a cover letter
- Final message preview is shown
- Email is sent using the user's connected account
- Confirmation is shown, and the entry is logged in the user's outreach history

3.4.5.10. Security and Privacy Considerations

- Email credentials are never stored in plain text
- OAuth tokens are revocable at any time by the user
- Users maintain full control over all sent documents
- All outbound messages are encrypted in transit
- Recruiter contact visibility is restricted based on trust level and user role

3.4.6 Video Resume Tool

3.4.6.1. Overview

The Video Resume Tool enables job seekers to present themselves more effectively and confidently through short, structured video introductions. This module is designed to complement traditional resumes and cover letters by offering recruiters a more personal, human-centered overview of the candidate's personality, communication style, and career intent.

The platform allows users to generate AI-assisted scripts, record their video directly within the application, or upload externally recorded videos. Video resumes can be categorized as general-purpose or job-specific, depending on their intended use, and are only accessible to recruiters who receive the candidate's application through the platform.

Access to video recording and upload capabilities is restricted to subscribed users. Free users may generate scripts but cannot store or share video content.

3.4.6.2. Script Generation

The platform offers intelligent script generation based on:

- The user's professional profile, including work history, education, and core skills
- The specific job or industry they are targeting
- Any additional input provided by the user (e.g., goals, focus area, tone preference)

When a user requests a video script, the system generates a tailored script optimized for a 1 to 2 minute introduction. The script content is well-structured, coherent, and formatted for teleprompter-style reading during recording. Users may download or copy the script to prepare in advance.

Scripts are categorized as:

- **General Video Resume Script:** suitable for reuse across multiple jobs
- **Job-Specific Script:** generated uniquely per job opportunity or application context

3.4.6.3. Recording and Upload Options

Users have two primary options for creating and submitting a video resume:

a. Web-Based Recording Users can record their video resume directly within the SmartResume platform using their webcam and microphone. The recording interface offers:

- Preview panel for video and audio
- In-browser recording controls (start, stop, retake)
- Option to display script in teleprompter mode for real-time reference

Video files are processed and stored securely upon completion. Basic resolution checks are enforced (e.g., minimum 720p), and users are prompted to re-record if quality standards are not met.

b. External Upload Users who prefer to record their video using external software or with professional help (e.g., via studio recording or third-party tools) may upload their final edited video directly to the platform. This option is provided to support higher-quality submissions with better production value.

The external upload workflow SHALL include:

- Upload interface with drag-and-drop and file selector support
- AI-generated script downloads to assist in pre-recording preparation
- File validation for:
  - Accepted formats: .mp4, .mov, .mkv
  - Minimum resolution: 720p (1280x720)
  - Duration: 45 seconds to 3 minutes
  - Maximum file size: 150MB
- Processing queue with thumbnail generation and media optimization
- Category assignment (General or Job-Specific) during upload
- Error notifications if validation fails

Uploaded videos are saved to the user’s video library and may be assigned to specific applications at submission time.

3.4.6.4. General vs. Job-Specific Videos

The platform supports both reusable and targeted video resumes.

- **General Video Resume**
  This version serves as a standard self-introduction and can be used across all applications by default. Users may assign it as their “default video resume” for recruiter visibility.
- **Job-Specific Video Resume**
  Users can create one or more tailored video resumes focused on specific roles, industries, or application scenarios. These videos are not linked to

resume versions directly but can be associated manually when submitting job applications or sending outreach emails.

Each video in the user's library includes:

- Title or purpose (e.g., "Marketing Analyst Introduction")
- Upload date and duration
- Role or target job (optional tagging)

3.4.6.5. Delivery and Access Control

Video resumes are only viewable to recruiters who:

- Receive a job application from the user through the platform
- Receive a targeted email outreach message from the user

Videos are streamed securely via the platform's media server and are not available as downloadable files or public links. Access is tightly scoped to the specific recruiter and cannot be forwarded externally.

Recruiters may view the video directly from the applicant profile, application view, or outreach message interface.

3.4.6.6. User Management and Interaction Flow

From the dashboard, users may:

- Navigate to the Video Resume section
- Generate a new script by selecting job type or pasting a job description
- Record or upload a video
- Assign the video as default or categorize it as job-specific
- View existing video assets, along with metadata and usage context
- Replace or delete videos as needed

All uploaded content is version-controlled, and users may retain multiple versions for different use cases.

3.4.6.7. Subscription and Feature Access

Video resume features are gated based on the user's subscription level:

- Free users may generate unlimited video scripts using AI, but cannot upload or record videos on the platform.
- Subscribed users can generate, record, upload, and manage multiple video resumes.

- Higher-tier subscribers may be permitted to store additional video resumes or access advanced recording workflows in the future.

3.4.7. Mock Interview Engine

3.4.7.1. Overview

The Mock Interview Engine enables job seekers to simulate job interviews in a structured, AI-driven environment. This feature is designed to enhance the user's preparation experience once they've applied to a job or received an interview invitation. The system allows users to generate a custom mock interview based on a real job posting, practice answering questions by typing or speaking, and receive automated AI-generated grading and feedback.

The module supports both general and role-specific interview simulations. It includes real-time response capture, in-session evaluation, response time measurement, and post-interview coaching. The feature is gated based on the user's subscription tier, with limited or expanded access depending on plan configuration.

3.4.7.2. Mock Interview Generation

Users can initiate a mock interview in two ways:

- **Based on a Job They've Applied To**
  The system detects applied jobs from the user's history. The user can select a job and generate a role-specific mock interview using its job description, title, and company context.
- **Based on Custom Input**
  Users can manually enter job details, such as the role, company, industry, and job description. The system uses this input to simulate an interview aligned with industry expectations and common evaluation criteria for that role.

Once the context is confirmed, the system dynamically generates a mock interview flow using AI. The number of questions and their types are determined by the AI model based on job complexity, role expectations, and user experience level.

3.4.7.3. Interview Session Format

All interviews follow a structured single-session format with the following behavior:

- Questions are presented one at a time
- Users must answer each question before proceeding to the next
- No ability to skip, pause, or resume sessions mid-way
- Each session is limited to one user input mode: either written (typed) or spoken (audio)

- Response time is tracked per question**,** starting from when the question is displayed until the answer is submitted. This metric is used in final evaluation.

Session types include:

- **Behavioral Interviews** (e.g., “Tell me about a time you led a team”)
- **Situational/Problem-Solving Interviews**
- **Technical or Role-Based Interviews** (e.g., for developers, marketers, analysts)
- **Out-of-the-Box Thinking Scenarios** (included in mid or final part of session for deeper evaluation)

3.4.7.4. Answer Input Methods

Users SHALL be allowed to select one answer input method per session:

- Written Response Mode
    - Users type out their answers in a structured response field.
    - Input field SHALL support multiline formatting with autosave.
    - AI processes text in real time and provides instant feedback.

- Voice Response Mode
    - Users SHALL be able to record answers using their device’s microphone.
    - The platform SHALL provide clear UI for recording, pausing, and submitting responses.
    - Audio SHALL be stored securely in the session for grading and history review.
    - The system SHALL not transcribe the full voice input, but instead analyze:
        - Clarity and enunciation
        - Confidence and tone
        - Structure and logical flow (via speech pattern parsing)
        - Response length and time
    - AI SHALL compute a score using non-transcript-based metrics to reduce processing latency.
    - The feedback engine SHALL present:
        - A rating score with visual indicators
        - A short explanation (e.g., “Strong delivery but slightly unclear articulation”)
        - Optional tips to improve verbal communication

- Mobile and web support SHALL ensure the microphone permissions are clearly prompted.
- If recording fails, the system SHALL fall back to written mode and notify the user.
- Users SHALL be notified that voice recordings are not shared and are auto-deleted after X days unless saved.

Note:

- The selected input mode SHALL apply to the entire session.
- Changing input method mid-session is not allowed.
- Voice mode SHALL be limited to paid subscribers unless unlocked via a trial token or promotion.

3.4.7.5. Grading and Evaluation

After each answer is submitted, the system evaluates it using domain-specific models and interview scoring logic. The evaluation criteria are designed to mimic real-world interviewer behavior and expectations.

Each answer is graded based on:

- Relevance and correctness
- Structure and clarity
- Depth of understanding
- Creativity and critical thinking (especially for scenario-based questions)
- Conciseness and professionalism
- **Time taken to respond** — Longer response times may negatively impact score for certain questions that expect quick, concise thinking

Grading Output:

- **Percentage Score** per answer
- **Immediate feedback** with improvement tips
- **Visual indicators** (e.g., green/orange/red scoring markers)

After the full session ends, the user receives:

- **Total Interview Score** (aggregated percentage)
- **Average response time per question**, and an assessment of speed vs. Accuracy
- **Section breakdown** by question type (behavioral, technical, scenario)
- **Full answer transcript** with AI-generated feedback per question
- **Improvement summary**, including writing tone suggestions, content gaps, or misunderstood topics
- **Links to helpful articles or learning resources** based on weak areas

3.4.7.6. Usage History and Session Storage

Each completed session is stored in the user's **Mock Interview History** panel with:

- Job role, title, or interview context
- Date and time of session
- Total score
- Session input type (written or spoken)
- **Average response time per session**
- Answer feedback and suggestions

Users can re-review past sessions at any time. Content is not shareable externally but can be referenced later for comparison or follow-up learning.

3.4.7.7. User Interaction and Session Flow

The user flow is as follows:

- Navigate to "Mock Interview" from the dashboard
- Choose to:
  - Select a past job application
  - Or enter job title, company, and description manually
- Choose the input type: written or spoken
- Begin the AI-generated session
- Answer questions one by one, with **response time tracking enabled**
- Receive feedback after each question
- At the end, view a summary score, detailed feedback, response time analysis, and improvement areas

All interactions are responsive and optimized for both desktop and mobile use.

3.4.7.8. Subscription and Access Control

The Mock Interview Engine is available based on user subscription plans:

- **Free users** may have limited access (e.g., one session per week, restricted feedback depth)
- **Paid tiers** unlock:
  - Unlimited sessions per period
  - Voice mode access
  - Advanced feedback and learning suggestions
  - Job-specific scenario modules
  - **Time performance analysis and insights**

Access levels are enforced through system permissions, and users are notified when reaching usage limits.

3.4.7.9. Security and Data Privacy

- All answers and scores are stored securely in the user's private account
- Audio responses are not transcribed or used beyond session grading
- No session content is shared with recruiters or third parties

Users retain full control over session data and may delete history on request

3.5. Recruiter Portal Overview

3.5.1. Overview

The Recruiter Portal is a dedicated environment within the platform designed for both individual recruiters and organizations to efficiently manage end-to-end hiring processes. It supports both single-user workflows and multi-user organizational operations through a centralized, role-based structure.

Recruiters using the portal have access to AI-powered tools, collaborative candidate management features, and integrated communication and scheduling capabilities that streamline hiring operations from job posting through final selection.

The portal dynamically adapts its capabilities based on whether the recruiter is operating as an individual or under an organization. All workflows—job creation, applicant tracking, outreach, and team coordination—are scoped to the recruiter's role and tenant.

3.5.2. Key Functional Areas

- **Team Management and Access Control**
  For organizations, the portal provides team-based user roles, access permissions, job visibility rules, and internal collaboration features.
- **AI-Assisted Job Description Generator**
  Recruiters can create detailed job listings using minimal input. The system expands recruiter prompts into well-structured, role-specific job descriptions.
- **Job Posting and Visibility Management**
  Recruiters can create public job listings or keep roles private within invite-based or niche networks. Metadata tagging supports better discoverability.
- **Applicant Tracking and Evaluation**
  A fully integrated ATS allows recruiters to monitor application pipelines,

update candidate statuses, record interview results, and collaborate on hiring decisions.

- **Interview Scheduling and Calendar Integration**
  Recruiters can create interview events with meeting links and automatically notify candidates. Supported integrations include Google Calendar, Microsoft Outlook, and Calendly.
- **Recruiter Branding and Company Presence**
  Organizations can maintain a branded hiring presence with company logos, recruiter profiles, and standardized job post formatting.
- **Internal Communication and Outreach Tools**
  Email and chat capabilities enable direct engagement with candidates. Recruiters can send interview invites, feedback messages, and clarification requests directly through the platform.
- **Training and AI-Based Insights**
  The platform can offer tips and improvement suggestions to help recruiters refine their job posts, screening methods, and hiring workflows.

All recruiter functionality is available based on the user's subscription plan and organizational configuration. Role-based permission enforcement ensures that team members access only the tools they are authorized to use.

3.5.3. Recruiter Team Management (Organizational Accounts)

3.5.3.1. Overview

The Recruiter Team Management module provides enterprise-level coordination tools for organizations managing multiple recruiters, hiring managers, and interview coordinators. It enables structured team collaboration, role-based access, shared resources, and administrative control within a centralized organizational account.

This module supports organizational recruiters operating under a tenant-based subscription system. All recruiter operations — job postings, applicant management, messaging, interview scheduling — are linked to the organizational account rather than individual user identities.

3.5.3.2. Organizational Account Creation

When a recruiter selects "organization" during onboarding or upgrades their account:

- The system initiates the creation of a dedicated organizational profile.
- The first user is assigned the **Owner/Admin** role.
- The organization becomes a distinct entity (tenant), with its own branding, team permissions, and resources.

3.5.3.3. Roles and Access Levels

Organizations may have multiple users assigned with predefined roles:

- **Owner / Admin**
  - Full platform access
  - Manage team members and roles
  - Control organization-level subscription, branding, and job visibility
  - Manage all jobs, applicants, and interview schedules
- **Recruiter**
  - Create and manage job postings
  - Track and shortlist applicants
  - Send communications
  - Access all team-visible jobs and applicants
- **Coordinator / Interviewer**
  - Schedule interviews and manage interview logistics
  - View applicants assigned to them
  - Cannot post jobs or edit job details

Custom roles are supported where needed, with future expansion for fine-grained permission sets.

3.5.3.4. Team Member Invitation and Onboarding

Admins can invite new team members via email from the Organization Settings panel. Invitation flow:

1. Enter email, assign role
2. User receives a secure activation link
3. On acceptance, the user is added to the team and inherits organizational context and subscription level

Invitations expire after a configurable period and can be resent or revoked at any time.

3.5.3.5. Permissions and Visibility Rules

Access to jobs and candidates is controlled based on role:

- All job postings and their associated applicants are visible to organizational Admins and Recruiters
- Interviewers only see jobs and candidates explicitly assigned to them
- Messaging and scheduling capabilities are scoped to assigned candidates or job postings
- Admins may:

    - Update or delete jobs posted by any team member
    - Reassign candidates or entire job ownership
    - Control who can schedule, view, or edit interview sessions

3.5.3.6. Shared Dashboards and Resource Pooling

The organizational workspace includes:

- **Unified job listing view**, showing all openings across the team
- **Applicant pipelines** across jobs, filterable by status, recruiter, or job
- **Interview calendar**, showing scheduled interviews across the team
- **Shared resume pool**, for candidates imported or received through the platform
- **Internal notes and collaboration threads**, restricted to the organization

This structure ensures transparency, collaboration, and centralized management of all hiring activity.

3.5.3.7. Activity Logs and Audit Trail

To maintain operational clarity and security, the system logs key actions performed by team members. Logs are accessible to Admins and include:

- Job posting creation, edits, and deletions
- Candidate status changes (e.g., shortlisted, rejected, hired)
- Interview booking and rescheduling
- Notes and internal comments
- User access activity, including login timestamps and invitation actions

These logs are essential for compliance, monitoring, and training purposes.

3.5.3.8. Collaboration Tools and Candidate Notes

Within each applicant record, team members can:

- Add **internal notes** visible only within the organization
- Mention/tag other team members (e.g., @John) to request input
- Record **evaluation comments** post-interview
- Maintain communication history with the candidate (email, chat)

These tools enable asynchronous coordination across recruiting and HR teams.

3.5.3.9. Team-Level Subscription Management

Organizational plans are subscription-driven, with limits and features determined by the selected pricing tier.

- Subscription is applied **per organization**, not per user
- Admins can:
    - Upgrade/downgrade plan
    - Manage billing and invoices
    - See feature usage (e.g., number of job posts, team seats used, interviews booked)
    - Add/remove users based on plan limits
    - Control feature access across the team (e.g., video resumes, job promotion tools)

3.5.3.10. Branding and Organizational Identity

Admins can configure organization-wide branding for consistency in external job listings and communication:

- Upload company logo
- Set company name, tagline, and overview
- Configure location and industry info
- Apply branding to job listings and recruiter outreach emails
- Manage public recruiter profile settings (e.g., visible team members, contact options)

3.5.3.11. Ownership Transfer and Reassignment

For operational flexibility, the platform supports:

- Reassigning job ownership to another team member
- Reassigning candidate pipeline management
- Transferring interview bookings
- Replacing or deactivating users while retaining ownership of their assets

Ownership transfers are logged and subject to admin approval.

3.5.3.12. Security and Governance

- All organization data is isolated per tenant
- Member access is managed via secure roles and permissions
- Admins have control over team visibility, settings, and collaboration workflows

- All user actions are auditable
- Organization-specific data (jobs, applicants, interviews) is never accessible outside of the team

3.5.4. Recruiter Job Posting and Description Generator

3.5.4.1. Overview

The Job Posting and Description Generator module empowers recruiters—both individual and organizational—to create and publish job listings quickly and effectively. It streamlines the creation of job descriptions using AI assistance, enforces structural consistency across listings, and ensures each job post contains critical metadata for matching and filtering. Recruiters can control the visibility of each listing, configure application settings, and manage posting behavior according to organizational workflow and subscription limits.

All job posts are tenant-bound, scoped to the recruiter's organization or individual account, and are managed from the recruiter dashboard. Access to posting features, number of active jobs, and visibility promotion are regulated by the recruiter's subscription plan.

3.5.4.2. Posting Modes and Visibility

When creating a job post, recruiters can define its visibility level:

- **Public** – Available to all verified job seekers on the platform and eligible for automated discovery and application systems.
- **Private** – Accessible only via direct link; not shown in public listings or search results.
- **Internal (Organization-Only)** – Viewable only to internal team members or employees (for companies that use the system for internal mobility).

Visibility settings can be configured at creation time and cannot be changed once the job is published.

3.5.4.3. AI-Assisted Job Description Generation

To simplify content creation, the platform provides an AI-powered job description generator. The recruiter is asked to input a minimal set of prompts:

- Job title
- Department or function
- Key responsibilities
- Desired qualifications or candidate persona
- Location or work mode

- Salary range (optional)

Based on this data, the system generates a complete, structured job description that includes:

- Job overview
- Responsibilities list
- Required skills or qualifications
- Preferred qualifications (if specified)
- Company culture and work environment (auto-filled if organization profile is completed)

Recruiters can review and edit the AI-generated description directly within the form before publishing. Edits are final once submitted.

3.5.4.4. Required and Optional Metadata Fields

Each job post will include structured metadata for indexing, filtering, and compatibility with job seeker preferences and matching algorithms.

The following fields are either required or system-recommended:

- **Job Title** (Required)
- **Department / Function** (Required)
- **Employment Type** (Required): Full-time, Part-time, Contract, Freelance
- **Work Model** (Required): Onsite, Remote, Hybrid
- **Location** (Required): Country, State, City
- **Experience Level** (Required): Entry, Mid, Senior, Executive
- **Salary Range** (Optional): Configurable with currency and range or fixed figure
- **Application Deadline** (Optional): Defaults to 30 days if not set
- **Required Skills** (Recommended): Free-form tags
- **Resume Requirement** (Toggle): Require or skip resume upload
- **Cover Letter Requirement** (Toggle): Optional based on job type or role level

3.5.4.5. Posting Lifecycle

The following actions are available for recruiters managing their job listings:

- **Create Draft** – Job posts can be saved as drafts and published later.
- **Publish Job** – Posts are made visible to job seekers as per the selected visibility level.
- **Pause Job** – Temporarily hide a listing without deleting it.
- **Close Job** – Mark a job as no longer accepting applications; it becomes inactive.

- **Duplicate Job** – Create a new job post using the same structure and content from a previous one (with the ability to regenerate description if needed).

Once published, job posts **cannot be edited**. Any corrections require duplication and reposting.

3.5.4.6. Ownership and Team Permissions

For organization-linked recruiters:

- Job posts are created under the organization's tenant ID.
- All team members with “Recruiter” or “Admin” roles can view and manage job listings.
- Only the recruiter who created the job may pause or close the post (unless an admin overrides).
- Ownership can be reassigned within the team by admins, allowing continuity if staff changes occur.

3.5.4.7. Usage Limits and Subscription Control

Job posting capabilities are governed by the recruiter’s current subscription plan. The plan dictates:

- Maximum number of active jobs
- Maximum number of job posts per month
- Eligibility to use AI-assisted generation
- Posting types allowed (e.g., private/internal vs. public)
- Promotion tools (e.g., featured listings, job boosts)

Recruiters exceeding their quota are notified with upgrade options. Quota resets follow a rolling or calendar-based billing cycle, depending on plan.

3.5.4.8. Security and Data Handling

- All job post data is stored securely and scoped to the recruiter's organization.
- System audit logs capture job creation, publishing, pausing, and closing events.
- Drafts are autosaved with timestamps but are visible only to the creator.
- Recruiters cannot view, copy, or modify job posts from other tenants.

3.5.4.9. Post-Publishing Behavior

Once a job is published, the system performs the following automated and user-facing actions based on the selected visibility:

- **Public Listings**
  - The job becomes instantly visible in the general job board accessible to all verified job seekers.
  - It is included in the daily job matching pipeline and evaluated against job seeker preferences (skills, location, job type).
  - Relevant seekers are notified through:
    - In-app notifications
    - Push notifications (mobile/web)
    - Email alerts (if job matches saved filters or alert preferences)
- **Private Listings**
  - The job does not appear on public boards or matching feeds.
  - Recruiters may copy the secure job URL and share it directly with selected candidates.
  - Applications are only accepted through that URL.
- **Internal Listings**
  - The job is visible only to members of the same organization (for companies using the platform for internal recruitment).
  - System does not promote or suggest the job outside the company context.

3.5.4.10. Applicant Routing and Notification Flow

- Once a job is live, **any applications submitted through the job listing** are automatically routed to:
  - The recruiter who created the post
  - The hiring team (if the recruiter is part of an organizational team with access)
  - Candidate records are added to the job-specific pipeline under “New Applicants”
- Recruiters receive:
  - An in-platform notification for each new applicant
  - Optional email summary (configurable)
  - Daily digest (if multiple applications are received)
- The system may also show recruiter-side suggestions such as:
  - “This candidate is a strong match” based on profile/resume
  - AI-highlighted skills from applicant resumes aligned with the job post

3.5.4.11. ATS Integration Points

- Applicants are added to the organization's ATS pipeline automatically.
- Their status is initialized as **"Applied"**.
- Recruiters or hiring coordinators can update status (shortlisted, interviewed, rejected) directly from the job detail or ATS dashboard.

3.5.4.12. UI and Workflow Considerations

- The job posting form uses dynamic sections with real-time validation.
- Job metadata influences downstream features like matching, filtering, and ATS behavior.
- AI-generated job descriptions are editable inline prior to submission.
- A confirmation prompt is shown before final publishing, as edits post-publish are disabled.

3.5.5. Applicant Tracking and Candidate Management

3.5.5.1. Overview

The Applicant Tracking and Candidate Management module provides recruiters with a centralized interface to manage all candidates who have applied to or been added to job postings. The system supports both platform-based candidates (users who applied through the system) and manually added candidates (external applicants, referrals, or offline submissions). It ensures streamlined tracking, organized pipelines, transparent collaboration among team members, and visibility into the full candidate journey—from application to final decision.

All candidate interactions, movements, notes, and messages are logged, role-scoped, and displayed contextually based on team roles and job associations. The system integrates with the job posting module and interview scheduling features, while respecting subscription-based access limits.

3.5.5.2. Candidate Entry and Sourcing

Recruiters can manage candidates from multiple sources:

- **Platform Applicants**
  - Candidates who apply to job postings directly through the platform
  - Their full platform profiles are linked to the application (resume, skills, job preferences, certifications, etc.)
  - All data is pulled from their profile and locked to the application for audit consistency
- **Manual Candidates**
  - Recruiters may add candidates manually from external sources such as referrals or third-party platforms
  - During manual entry, recruiters can:
    - Upload a resume file
    - Enter core candidate details (name, email, phone, location, role)
    - Tag and assign the candidate to an active job post

    - The system extracts structured data from uploaded resumes (education, skills, roles, keywords) and creates a profile snapshot for the recruiter to review and edit

3.5.5.3. Candidate Status Pipeline

Each candidate is assigned a status based on their position in the recruitment workflow. The system enforces a linear, non-editable pipeline:

- Applied
- Reviewed
- Shortlisted
- Interviewed
- Offered
- Hired / Rejected

Recruiters can move candidates between these statuses via drag-and-drop or status update menus. The system logs all status changes with timestamp, user ID, and optional notes.

Status progression is restricted by permissions:

- **Recruiters** and **Admins** can move candidates across all statuses
- **Interviewers** can only add notes and feedback but cannot change candidate status

3.5.5.4. Candidate Profile View

Each candidate record includes a dedicated detail view containing:

- Resume (viewable and downloadable)
- Platform-linked profile data (for SmartResume applicants)
- Parsed resume data (for manually uploaded candidates)
- Status history and movement log
- Interview bookings and scheduling history
- Email/chat communication thread
- Internal team notes and evaluation feedback

For platform-based applicants, all data is synchronized from the original application submission and shown read-only to preserve record integrity.

For manually added candidates, recruiters can modify or append additional data (e.g., updated resume, new contact details).

3.5.5.5. Candidate Collaboration and Ownership

- All recruiters within the same organization with access to the associated job can view and manage candidates
- Admins have full visibility and control
- Recruiters may:
    - Assign a candidate to another team member
    - Tag teammates in internal notes
    - Add private or shared feedback
- Interviewers may:
    - View assigned candidates
    - Add interview evaluation notes and ratings
    - Submit feedback through the interview interface

3.5.5.6. Rejected Candidates Handling

When a candidate is marked as **Rejected**:

- They are no longer shown in active pipelines or default search views
- Their record remains in the database for auditing and future reporting
- A visual marker (e.g., “Rejected” badge) is shown when accessing their profile
- Recruiters may reinstate rejected candidates by reassigning a new status

3.5.5.7. Search and Filtering

Recruiters can search and filter candidates across the organization’s job postings:

- Searchable fields:
    - Name
    - Email
    - Skills
    - Tags
    - Keywords in resume
- Filters:
    - Application status (e.g., Shortlisted, Interviewed)
    - Job title
    - Date range
    - Experience level
    - Application source (platform/manual)

Filters and search operate in real time across jobs and can be scoped down to specific job IDs or recruiters.

3.5.5.8. Notifications and Updates

System notifications are sent to appropriate parties during candidate activity:

- **When a new application is received:**
  - Notify the job creator and all recruiters attached to the job
- **When a candidate's status is changed:**
  - Notify the recruiter(s) involved in the job
  - Update the candidate's profile timeline with the action
- **When interview feedback is submitted:**
  - Notify assigned recruiters and display it in the candidate's profile

Email digests and notification preferences can be configured by each team member from their account settings.

3.5.5.9. Permissions and Audit Logs

- All candidate activity is logged per user with timestamps and actions
- Access is controlled via the recruiter's role and the job they are assigned to
- Admins can view all logs and actions across the organization
- Candidates cannot view recruiter-side actions, notes, or internal status updates

3.5.5.10. Security and Data Retention

- Candidate resumes and data are stored securely, scoped per tenant
- Manual candidates are marked distinctly from platform users
- Candidates can be flagged or removed based on platform moderation rules
- Rejected or expired applicants are never hard-deleted unless explicitly purged by admins

3.5.6. Interview Scheduling and Calendar Linking

3.5.6.1. Overview

The Interview Scheduling and Calendar Linking module allows recruiters and hiring teams to coordinate interviews with candidates through integrated calendar systems and platform-managed scheduling workflows. It streamlines the setup, visibility, and tracking of interviews by enabling authenticated calendar syncing, multi-user coordination, time zone handling, and notification automation. This ensures interviews are confirmed, properly timed, and managed with minimal manual overhead.

The module supports scheduling across organizational teams with permission-based access, handles candidate confirmation (RSVP), and integrates directly into candidate profiles and job pipelines. All actions—scheduling, updates, cancellations—are logged for accountability and visibility.

3.5.6.2. Calendar Integration

Recruiters and organization users may connect their calendars via OAuth authentication. Supported integrations include:

- **Google Calendar**
- **Microsoft Outlook Calendar**
- **Calendly**

Once connected, users may:

- View available times and pre-blocked slots
- Auto-sync scheduled interviews to their personal calendar
- Receive updates or reminders natively through the calendar system

Time zones are handled by the respective calendar platforms. All calendar-linked events reflect the local time zone of the recipient based on their account settings.

3.5.6.3. Interview Creation and Setup

From within a candidate’s profile or job pipeline, recruiters can initiate the interview scheduling flow. The system prompts the user to enter:

- Interview title
- Selected job and candidate
- Date and time (with auto-conversion based on calendars)
- Interview duration
- Assigned interviewer(s)
- Meeting link (manually added by recruiter)
- Optional notes or instructions for candidate

The recruiter must be authenticated with a synced calendar to finalize scheduling. Manual date/time input is also supported for users who prefer to manage availability separately.

Meeting links are added manually for MVP purposes (e.g., Zoom, Google Meet, MS Teams, etc.).

3.5.6.4. RSVP and Candidate Confirmation Flow

Once an interview is scheduled:

- The **candidate receives an email invite**, in-app notification, and application-level alert
- The candidate must **confirm (RSVP)** to lock the slot
- If the candidate cannot attend, they may:
  - Submit a **reschedule request**
  - Select alternative available slots if shown (optional future enhancement)
  - Add a reason or message with the request

The recruiter is notified of any rescheduling request and may approve, reject, or propose alternatives.

Confirmation status is tracked in the candidate's interview log with timestamps and any message exchanged.

3.5.6.5. Visibility and Access Control

- **Recruiter (scheduler)** and assigned **interviewers** have full visibility into the interview session
- **Organization Admins** can view all interviews across the team and across jobs
- **Other team members** cannot view interviews unless explicitly added

All interview bookings are shown in the recruiter/interviewer’s calendar dashboard and candidate history timeline.

3.5.6.6. Notifications and Alerts

Notifications are sent to all attached parties under the following events:

- Interview scheduled
- Interview confirmed (by candidate)
- Interview updated or rescheduled
- Interview canceled
- 24-hour and 1-hour reminders

Notification channels include:

- Email
- In-app alerts
- Mobile push notifications

- Calendar event updates

Notifications include full interview context, such as job title, recruiter, meeting link, and time zone-corrected time.

3.5.6.7. Interview Logs and Audit Trail

Each interview event is logged for future reference and audit purposes. The log includes:

- Scheduled by (user)
- Timestamp
- Attendees (recruiter, interviewer, candidate)
- Status (pending, confirmed, rescheduled, completed, canceled)
- Notes and changes

These logs are accessible from:

- The candidate's full profile view
- The job's interview tab
- Admin-level reporting dashboards

3.5.6.8. Security and Data Handling

- Interview links are stored securely and visible only to assigned parties
- Calendar tokens (OAuth) are stored encrypted and scoped per user
- All invitations and communication respect role-based access rules

3.5.6.9. UI and Workflow

- The scheduling interface uses a step-by-step guided form
- Existing connected calendar slots are visualized in a simplified availability layout
- Candidate RSVP button is prominently shown in the application view
- Recruiters can view upcoming interviews from their dashboard and receive actionable alerts for any unconfirmed or reschedule-pending sessions

3.5.6.10. Physical Interview Invitation

- **Invitation Creation for Multiple Candidates**
  - Recruiters can select one or more shortlisted or finalized candidates for a given job posting.
  - The system SHALL provide a "Create Physical Interview Invitation" action within the job's "Shortlisted Applicants" view.

- Upon invocation, the system prompts the recruiter to enter:
  • **Interview Title** (e.g., "Final Round On-Site Interview")
  • **Interview Date** (YYYY-MM-DD) and **Time** (24-hour format)
  • **Location Details** (address lines, room/office name, building access instructions)
  • **Assigned Interviewer(s)** (one or more panel members)
  • **Additional Notes** (e.g., "Bring government ID," "Park in Lot C")
- Once all required fields are populated, the recruiter clicks "Send Invitations," and the system creates a single invitation record for each selected candidate.

- **Invitation Delivery and Content**
  - For each candidate, the system SHALL automatically generate and send:
    - **Email Invitation** with:
      - Subject: "On-Site Interview Invitation – [Job Title]"
      - Body containing: Candidate Name, Interview Title, Date, Time, Full Location Address, Interviewer Names, and Additional Notes.
      - A link to the recruiter's profile where they can RSVP or request rescheduling.
    - **In-App Notification** (if the candidate has an active account on the platform) carrying the same details.
  - Invitations SHALL include clear, human-friendly language
- **RSVP and Rescheduling Flow**
  - Candidates SHALL see a prominent "Confirm Attendance" or "Request Reschedule" button in both the email and in-app notification.
  - Upon confirmation, the system marks the invitation as "Confirmed" and sends a receipt email:

    "Thank you for confirming. We will see you on [Date] at [Time]."

  - If a candidate requests rescheduling, they enter a preferred date/time and optional message. The system notifies the recruiter, who may approve, reject, or propose a new slot. All actions are logged with timestamps and comments.
- **Calendar Entry Integration**
  - When a candidate confirms attendance, the system SHALL:
    - Optionally create a calendar event on the candidate's connected calendar (if OAuth-linked).
    - Send an ICS file attachment in the confirmation email so candidates can import it into any calendar application.
    - Notify assigned interviewer(s) by adding the event to their synced calendars if they have previously connected their calendar accounts.

- **Reminders and Alerts**
  - The system SHALL automatically queue and send reminder notifications to both candidate and interviewer(s):
    - **24 hours before** the interview (email + in-app).
    - **1 hour before** the interview (email + push notification if enabled).
  - Each reminder SHALL reiterate Date, Time, and Location details, for example:

    "Reminder: Your on-site interview for [Position Title] is tomorrow at [Time], located at [Address]. Please arrive 10 minutes early."

- **Invitation Storage and Audit Trail**
  - All invitation records (including creation, updates, RSVPs, and cancellations) SHALL be stored in the candidate's interview history.
  - Each record SHALL include:
    - **Created By:** Recruiter ID and timestamp
    - **Invitation Status:** Pending, Confirmed, Rescheduled, Canceled, No-Show, Completed
    - **Location Details** (exact text entered by recruiter)
    - **Interviewer(s) Assigned**
    - **Candidate Responses** (confirmation, reschedule requests, or cancellations)
  - Recruiters and Organization Admins can view and export a log of all physical interview invitations for compliance and reporting.
- **Access Control**
  - Only users with the "Recruiter" or "Organization Admin" role SHALL be able to create, edit, or cancel physical interview invitations.
  - Candidates SHALL have read-only access to their own invitation details via the candidate dashboard.
  - Other team members (not explicitly added as interviewer or recruiter) SHALL not see invitation details.

3.6 Internal Messaging and Communication System

3.6.1. Overview

The Internal Messaging and Communication System provides a unified, contextual chat interface for platform users to communicate across job and hiring workflows. It enables both job seekers and recruiters to initiate or reply to conversations within clearly defined boundaries governed by user roles and subscription permissions.

Designed with simplicity and efficiency in mind, the chat interface resembles a LinkedIn-style messaging experience — lightweight, structured, and integrated directly into user dashboards. The module eliminates the need for third-party communication tools by supporting secure in-app exchanges tied to candidates, job listings, and organizational teams.

3.6.2. User Role and Messaging Privileges

Messaging access is defined by user type and their current subscription plan. The system enforces clear rules to preserve relevance and prevent unsolicited spam.

3.6.2.1. Job Seekers

- **Can reply** to any recruiter-initiated message without restriction.
- **Can initiate new conversations** with recruiters **only if** their subscription plan includes messaging privileges.
- Initiated messages **can be linked to a specific job listing** or sent as general outreach.
- Job seekers with eligible subscriptions **may message any recruiter on the platform**, even if the recruiter has no active job postings.

3.6.2.2. Recruiters

- **Can initiate messages** with any job seeker on the platform, regardless of application status.
- **Can contact applicants** directly who have applied to their jobs.
- **Can reply to any seeker-initiated message**, including unsolicited messages from seekers with messaging-enabled subscriptions.
- **Can collaborate with other recruiters** in the same organization via private, internal message threads.

3.6.3. Chat Interface and Interaction Design

The platform provides a streamlined chat module accessible via the user's dashboard:

- Message Composition
  - Plain text messaging only
  - Emoji support
  - Attachments (resumes, portfolios, documents, images)
- Message threads are presented chronologically with timestamps and user identifiers
- Thread context displays job or user information where relevant (e.g., "Regarding: UX Designer at Acme Corp")

3.6.4. Message Scoping and Thread Types

All message threads are scoped by context:

- **Job-Specific Thread**
  Tied to a job post and applicant record, used for communication about a specific opportunity.
- **General Outreach Thread**
  Unlinked thread initiated by a seeker to engage a recruiter (or vice versa) outside the bounds of a specific job.
- **Internal Team Thread**
  Recruiters within the same company can exchange notes or collaborate on hiring tasks.

Each message thread displays:

- Participant roles and identities
- Related job/candidate if applicable
- Message history with attachments and metadata
- Thread status (active, archived)

3.6.5. Notifications and Activity Alerts

The system generates automatic alerts for:

- New incoming messages
- First message in a new thread
- Replies and follow-ups
- Attachment delivery

Notification types:

- In-app notifications (real-time)
- Email notifications (optional per user preference)
- Mobile push (if app is in use)

3.6.6. Attachments and Document Sharing

All users may send and receive files in supported formats:

- Allowed file types: PDF, DOCX, PNG, JPG, ZIP
- Common use cases:
  - Job seeker sending portfolio or updated resume
  - Recruiter sending pre-interview documentation or assignments

- Attachments are shown in the thread with file name and size
- Files are virus-scanned and stored securely

3.6.7. Collaboration and Recruiter-Only Messaging

Recruiters within the same organization may message one another using internal threads:

- Tagged messages (e.g., “@Ali review this profile”)
- Threaded conversations around specific candidates or jobs
- Visibility limited to the internal org; never visible to job seekers

These threads are available via the recruiter’s **Team Dashboard**.

3.6.8. Read Receipts and Logging

- Message read status is tracked and shown in thread view
- Timestamps recorded for:
  - Sent
  - Delivered
  - Read
- All threads are archived for audit purposes
- Deletion of messages is not permitted (ensures compliance and transparency)

3.6.9. Platform Workflow Integration

- Threads linked to applications are accessible directly from the **Job Tracker** or **ATS view**
- Message previews and quick-reply options shown on relevant dashboard widgets
- All recruiter-candidate threads are embedded in the candidate’s profile for reference

3.6.10. System Security and Integrity

- Messages are encrypted in transit and at rest
- File sharing is restricted to allowed types only (Pdf, document, images, text)

3.7. Browser Extension Autofill

3.7.1. Overview

The Browser Extension Autofill module is designed to simplify the manual job application process for job seekers applying through third-party job boards or company career portals. It scans the job application forms on external platforms, auto-fills structured fields using user profile data from SmartResume, and intelligently generates responses for open-ended questions using AI. Access to autofill and AI-enhanced capabilities is controlled based on the user's active subscription, verified securely through OAuth-based login to the SmartResume platform.

The extension empowers users without automating or overstepping submission responsibilities, maintaining user control and respecting external website rules.

3.7.2. Core Features

3.7.2.1. Field Detection & Autofill

- The extension scans third-party job application forms for input fields using DOM parsing and predefined selectors.
- Auto-fills known field types using SmartResume user profile data:
  - Full Name
  - Email Address
  - Phone Number
  - Job Title
  - Work Experience
  - Education
  - Skills
- The filled values are previewed before submission for manual review by the user.

3.7.2.2. AI-Generated Responses

- For descriptive fields (e.g., "Describe your strengths," "Why do you want to join us?"), the extension:
  - Sends the field label to the SmartResume backend AI engine with the user's context.
  - Receives an AI-generated answer tailored to the user's profile.
  - Fills the field on the form with the generated answer.
- Users can edit the auto-generated content before form submission.

3.7.2.3. Document Handling

- The extension does not auto-upload resumes, cover letters, or documents.
- Users are responsible for manually attaching all files required by the job application platform.
- No links to SmartResume-hosted documents are inserted to ensure better compatibility and privacy.

3.7.2.4. Voice Input Support

- Optional voice-to-text entry is available on compatible browsers (e.g., Chrome).
- The extension uses native browser speech recognition to fill fields based on user voice input.
- Voice input is enabled only if the active webpage and browser support it.

3.7.2.5. Manual Submission

- The extension does not submit job applications automatically.
- Users must:
    - Review all autofilled and AI-generated content
    - Attach required files
    - Click submit manually on the external platform

3.7.3. Authentication & Access Control

To access the extension and its features, users must be authenticated and authorized via a secure login process. The extension integrates with the main SmartResume platform to validate the user's identity and fetch subscription-based access rights.

3.7.3.1. Secure Login via OAuth2 (Authorization Code Flow with PKCE)

- On first use, the user clicks **"Log in to SmartResume"** inside the extension.
- A new browser tab opens the SmartResume platform login page.
- After successful login, the platform redirects back to the extension with an authorization code.
- The extension completes token exchange using PKCE and stores a **short-lived access token** securely via Chrome's storage APIs.

3.7.3.2. Token Use and Feature Gatekeeping

- The extension includes the token in all API calls to fetch:

    - User profile details
    - Active subscription and permission flags
    - Available credits (for AI, if applicable)
- Based on the subscription, the extension enables/disables:
    - AI-generated answer insertion
    - Ability to scan and fill fields
    - Voice input functionality

3.7.3.3. Session Persistence

- Tokens are stored securely using chrome.storage.local.
- When the token expires, users are prompted to re-authenticate.
- A “Sign Out” option allows users to clear their session manually.

3.7.3.4. Permissions and Privacy

- No email, credentials, or documents are stored in the extension.
- OAuth tokens are scoped and expire after a defined period (e.g., 15–30 minutes).
- Communication with the SmartResume backend is encrypted (HTTPS).
- Only minimal required permissions are requested (e.g., access to page forms, storage, and context menus).

3.7.4. Extension Workflow

- **User activates the extension** on a supported job application page.
- **User logs in** via OAuth if not already authenticated.
- **Extension scans the page**, detects known fields, and populates data from the user’s profile.
- For question-based inputs, the extension optionally **fetches AI-generated responses** from the backend.
- The user **manually uploads files**, reviews all content, and submits the application themselves.

3.7.5. User Interface (UI) and Feedback

- Simple, lightweight popup UI with:
    - “Login / Logout” state indicator
    - “Scan and Autofill” button
    - AI toggle for answering open-ended fields
    - Real-time status messages (e.g., “Fields filled: 8”, “AI used: 2”)
- Indicators for fields that were:
    - Auto-filled from profile
    - Filled via AI

- Left blank (e.g., unsupported or custom fields)

3.7.6 Supported Platforms and Limitations

- **Supported**
  - LinkedIn
  - Indeed
  - Direct company career sites (where possible)
- **Limitations**
  - Complex or JS-heavy forms (e.g., React portals) may not always be compatible.
  - Captcha-guarded or iframe-protected forms are skipped.
  - AI-generated content may need manual trimming due to character limits or formatting.

4. Mobile Application System

This module includes two separate mobile applications — one for job seekers (**SmartResume**) and another for recruiters (**SmartRecruit**) — each designed with role-specific functionality, security architecture, and platform constraints. These applications are intended to provide seamless on-the-go access to platform features while respecting the operational limits of mobile devices.

4.1. SmartResume Mobile App – Job Seekers

4.1.1. Feature Overview

The **SmartResume Job Seeker Mobile App** is a native, cross-platform mobile application that enables job seekers to manage their entire job search journey through a secure and responsive mobile interface. It offers support for profile management, resume and cover letter generation, job discovery, intelligent job matching, AI-based mock interviews, video resume capabilities, real-time recruiter communication, and full application lifecycle tracking.

This app is integrated with the same backend services powering the web application and provides real-time synchronization, push notification alerts, and mobile-specific optimizations. Subscription-based access controls ensure that only eligible users can access premium features like AI enhancements and recruiter outreach.

4.1.2. Actors Involved

- **Job Seeker** (authenticated user)
- **SmartResume Backend Services**, including:
  - Authentication Service

- AI Resume Engine
- Mock Interview Engine
- Cover Letter Generator
- Job Search Engine
- Notification Delivery Service
- Messaging Engine
- Subscription Service

4.1.3. Preconditions

- The user is registered and verified on the SmartResume platform.
- The mobile device is connected to the internet.
- The user has installed the latest version of the app.
- Permissions for push notifications and storage are granted.
- A valid subscription (free or paid) is linked to the account.

4.1.4. Main Functional Requirements

4.1.4.1. Authentication and Access Control

- Users SHALL be able to log in using:
  - Email and password
  - Google, LinkedIn, Microsoft (via OAuth2 + PKCE)
- Tokens SHALL be stored securely using Keychain (iOS) / Keystore (Android).
- Sessions SHALL auto-renew and support secure logout and re-authentication.
- All access rights SHALL be validated against the user's subscription.

4.1.4.2. Profile Management

- Users SHALL manage their profile directly within the app, including:
  - Name, location, contact info
  - Professional summary
  - Skills (tags), work experience, education
  - Certifications, language proficiency
  - Job preferences (type, salary, remote/onsite, relocation)
  - Job search status (actively looking, open to offers, not looking)
  - Availability / notice period
- A profile completion meter SHALL show real-time progress and alerts for missing fields.
- Profile data SHALL be auto-synced with resume builder and job application tools.

4.1.4.3. Resume Generation and Management

- Users SHALL be able to:
  - View all previously generated resumes
  - Generate new resumes using profile data
  - Choose from multiple basic templates
  - Generate ATS-optimized resumes (if subscription allows)
  - Tailor resumes to specific jobs
  - Download resumes to device storage (PDF)
- Resume parsing from uploaded files SHALL not be included in mobile MVP.

4.1.4.4. Cover Letter Generation

- Users SHALL be able to:
  - Generate a job-specific cover letter using AI
  - Provide a job title or paste a job description
  - Review and optionally edit the letter
  - Download the final letter (PDF)
- All generated cover letters SHALL be stored and re-accessible from the mobile history view.

4.1.4.5. Job Search and Discovery

- The app SHALL support job browsing and filtering using:
  - Keywords / tags
  - Location (static and radius-based)
  - Job type (full-time, remote, freelance)
  - Experience level
  - Salary range
- Job listings SHALL include internal jobs, API jobs, and scraped jobs.
- Users SHALL be able to save, bookmark, or dismiss jobs.
- Job alerts SHALL be generated via the backend and delivered as push notifications.

4.1.4.6. Job Application

- Users SHALL be able to apply to jobs directly from the mobile interface:
  - Select resume and cover letter version
  - Apply with one click (if job supports it)
- System SHALL block duplicate applications and jobs at user's current company.
- All applications SHALL appear in a status-tracked list:

- Submitted, Reviewed, Shortlisted, Interviewed, Offered, Hired, Rejected

4.1.4.7. Application Status & History

- The application tracker SHALL:
  - Show full status history of each job
  - Indicate recruiter views, feedback, and next steps
  - Allow filtering by status and job title

- If AI resume feedback is included, users SHALL see suggestions for improvement.

4.1.4.8. AI-Based Mock Interview Engine

- Users SHALL initiate a mock interview by selecting:
  - A role (e.g., Software Engineer, Product Manager)
  - Interview flow SHALL present one question at a time, text or voice input enabled.
- AI SHALL grade each answer on:
  - Relevance
  - Completeness
  - Communication quality
  - Creativity (where applicable)
  - Time taken to respond
- Results SHALL be delivered in real time with:
  - Overall score (percentage)
  - Per-question feedback
  - Suggested improvement tips
  - Linked resources (if applicable)
- Mock interview history SHALL be saved to the user's account for reference.

4.1.4.9. Video Resume Recording and Upload

- Users SHALL be able to:
  - Record a video using phone camera (min 720p)
  - Upload a pre-recorded video
  - Tag the video as "General" or link to a specific job
- Video size and format SHALL be validated before upload.
- No video hosting links SHALL be embedded externally.
- Video storage SHALL be private, visible only to recruiters the user applies to.

4.1.4.10. Internal Messaging and Recruiter Communication

- Users SHALL:
    - Receive messages from recruiters
    - Reply to messages in real time
    - Initiate conversations (if their subscription permits)
- Threads SHALL be organized by job, include recruiter identity and role.
- Users SHALL attach files (resume, cover letter, images) in the conversation.
- Rich formatting, voice notes, or group chat SHALL not be supported in MVP.

4.1.4.11. Notification System

- The app SHALL support push notifications for:
    - New job matches
    - Application status changes
    - Recruiter messages
    - Interview invitations or reschedules
    - Mock interview results
- Notification types SHALL be configurable in the app settings.

4.1.5. Postconditions and System Outcomes

- Users can fully manage their job-seeking experience from mobile.
- Profiles, applications, resumes, mock interviews, and communication are synchronized in real time.
- Users receive role-specific guidance and feedback tailored to their career goals.
- The app dynamically adapts based on subscription entitlements and feature access.

4.2. SmartRecruit Mobile App – Recruiters (Lite Edition)

4.2.1. Feature Overview

The **SmartRecruit Recruiter Mobile App** is a lightweight mobile interface developed specifically for individual and organizational recruiters. It enables hiring professionals to access applicant information, manage communication, and stay updated on interview schedules through a secure, fast, and focused mobile experience. This mobile solution complements the web-based recruiter dashboard and is designed to support essential, mobile-appropriate tasks without replicating the entire ATS workflow.

SmartRecruit ensures recruiters can engage with candidates, stay notified of recruitment activities, and manage top-level interactions while away from their primary workstation. Role-based access and subscription constraints apply, ensuring feature availability aligns with plan limits.

4.2.2. Actors Involved

- Recruiter (Individual or Organization-linked)
- Authentication Service
- Job Application API
- Candidate Management API
- Messaging Engine
- Notification Service
- Interview Scheduler

4.2.3. Preconditions

- Recruiter must have an active, verified account on SmartResume.
- Recruiter must be part of an approved subscription plan that includes mobile access.
- At least one job must be posted from the recruiter's organization on the platform.
- The mobile device must be connected to the internet and have push notifications enabled.

4.2.4. Main Functional Requirements

4.2.4.1. Authentication and Role Access

- Recruiters SHALL log in using email/password or supported social logins via OAuth2.
- The app SHALL securely store session tokens using platform-native secure storage.
- Organization-linked users SHALL have the ability to switch between multiple tenants (if authorized).
- The app SHALL restrict feature access based on user role (Recruiter, Coordinator, Admin).

4.2.4.2. Job and Applicant Monitoring

- The dashboard SHALL display:
    - A list of all jobs the user has access to (posted by them or their team).
    - Job metadata including title, location, type, and number of applicants.
- For each job, recruiters SHALL view:

  - Applicant name, job status, submission date
  - Resume preview and download option (PDF)
  - Cover letter or introductory message
  - Candidate subscription tier (if needed)

- Recruiters SHALL be able to mark candidates with statuses:
  - Shortlisted, Interviewed, Hired, Rejected (view/update only — not pipeline movement)

4.2.4.3. Messaging and Candidate Interaction

- Recruiters SHALL initiate and respond to messages from candidates:
  - Candidates must have applied to a job or be discoverable via outreach tools
  - Subscription checks SHALL control outreach limits
- The app SHALL include a chat module with:
  - Text input
  - Emoji picker
  - File attachment support (PDF, DOC, image)
  - Unread message indicators
- Recruiters SHALL see job-linked message threads and reply in real time.

4.2.4.4. Interview Scheduling and Alerts

- Recruiters SHALL:
  - View a read-only list of upcoming interviews
  - Be notified of interview booking/rescheduling/cancellation
  - See RSVP status of candidates
- All calendar data SHALL be synced from the recruiter's web dashboard scheduling actions.
- The app SHALL not support manual scheduling/editing of interviews.

4.2.4.5. Notifications and Event Updates

- The app SHALL support push notifications for:
  - New job applications
  - New candidate messages
  - Interview confirmations or changes
- Notification settings SHALL be configurable to enable/disable categories.

4.2.4.6. Organization-Level View (If Applicable)

For multi-user recruiter accounts:

- Admins SHALL see job-level insights across all team members.
- Non-admins SHALL only see data tied to their own postings or assigned candidates.
- Visibility SHALL be restricted based on role and access rights assigned on the web portal.

4.2.5. Postconditions and System Outcomes

- Recruiters can interact with candidates, respond to queries, and manage candidate communications without logging into the full web interface.
- Interview coordination and new application alerts are immediately visible via mobile.
- All communication and updates synchronize with the web-based ATS and admin dashboards.
- User sessions and data remain secure through tokenized access and mobile-native encryption.
- Candidates' resumes and profiles are accessible in a mobile-friendly format.

4.2.6. Limitations and Phase 2 Considerations

Not Included in MVP	Notes
Job posting or editing	Reserved for the recruiter web dashboard
Full pipeline management	No drag-drop, sorting, or stage editing on mobile
Interview booking/editing	View-only scheduling functionality
AI screening/scoring	Candidate scoring visible on web only
Bulk messaging	Only 1:1 messaging available on mobile
Admin/recruiter onboarding or team invites	To be added in later admin app expansion

5. Administration Portal

5.1. Feature Overview

The **Admin Portal** serves as the central control panel for all administrative functions across the SmartResume platform. This includes user and subscription management, platform configuration, static content updates, email marketing operations, AI chatbot oversight, notification broadcasting, and organizational analytics.

This module is exclusive to verified administrative roles and is structured to enforce access control based on predefined responsibilities. It offers seamless integration with third-party tools (e.g., Mailchimp or Brevo) for marketing automation and with platform-native services for user and data management.

The Admin Portal ensures that the platform remains operationally agile, secure, and scalable by empowering designated staff to configure, monitor, and act on any component of the system with audit-level transparency.

5.2. Actors Involved

- **Super Administrator** – complete access to all platform areas
- **Marketing Administrator** – email campaign creation and segmentation
- **Content Administrator** – responsible for CMS and blog publishing
- **Support Staff** – handles user account assistance and impersonation
- **Notification Service**
- **Email Marketing Service API** (e.g., Mailchimp, Brevo)
- **Chatbot Engine**
- **CMS Engine**
- **Subscription and Billing API**
- **Audit Logging Service**

5.3. Preconditions

- Admin users must be authenticated and assigned a system role.
- Email marketing services must be integrated and authorized via API keys.
- The system must have configured domain reputation tools (SPF, DKIM, DMARC).
- Platform services (billing, CMS, messaging) must be operational.

5.4. Main Functional Requirements

5.4.1. Admin Role and Access Management

5.4.1.1. Overview

The SmartResume administration portal is governed by a **Role-Based Access Control (RBAC)** model to ensure that administrative users only access modules and actions aligned with their responsibilities. This guarantees operational security, accountability, and ease of governance throughout platform administration.

The system supports **multiple administrative roles**, each with a scoped set of permissions. Role assignment is handled directly through the platform by authorized Super Admins, without the need for invitation workflows.

5.4.1.2. Defined Admin Roles and Permissions

Super Admin

- Full platform control: user management, system configuration, billing, marketing, content, analytics, and developer settings.
- Can create, suspend, delete, or modify all admin and end-user accounts.
- Has impersonation capabilities for all user types (job seekers, recruiters, admins).
- Has access to platform-wide audit logs.

Marketing Admin

- Access limited to:
  - Email campaign management
  - Mailing list management
  - Marketing performance analytics
- Cannot access user accounts, CMS, or billing settings.

Content Admin

- Full access to:
  - CMS content (homepage, pricing, static pages)
  - Blog posts and SEO metadata
  - Testimonials and content revision history
- Cannot access user data, platform settings, or marketing tools.

Support Staff

- Limited access for support operations:
  - View job seeker and recruiter profiles
  - Perform account-level actions: password resets, unlocks, verification re-sends
  - Secure impersonation of users for debugging and support
- No access to billing, CMS, or admin management features.

5.4.1.3. Admin Onboarding and Role Assignment

Account Creation via Admin Portal

- Admin accounts SHALL be created **directly** by a Super Admin through a secure form in the administration panel.

Required Inputs

- Full Name
- Email Address (unique)
- Assigned Role (selected from predefined roles)

Credential Generation and Delivery

- Upon account creation, the system SHALL:
    - Auto-generate a secure, temporary password
    - Store it encrypted with one-time visibility (non-retrievable)
    - Send a system-generated email containing:
        - Admin login URL
        - Temporary password
        - Assigned role summary
        - Instruction to change password on first login
- If email fails, Super Admins may manually copy credentials from a secure one-time modal for offline delivery.

First-Time Login Experience

- Upon first login, the admin SHALL:
    - Be forced to reset the password
    - Be required to enable 2FA (email OTP or authenticator app)
    - Be presented with platform access terms for administrative use

5.4.1.4. Role Enforcement and Permission Control

Access Enforcement

- Role and permissions SHALL be enforced at:
    - **Frontend UI Level** (menu rendering, page routes)
    - **Backend API Level** (middleware validation)
    - **Database Query Level** (scoped filtering where applicable)

Violation Handling

- Any attempt to access unauthorized routes SHALL:
    - Be logged in the audit trail
    - Return a user-facing message:

      "Access Denied. You do not have permission to view this section."

5.4.1.5. Impersonation Capabilities

Secure Impersonation

- Super Admins and Support Staff may impersonate users for support/debugging.
- During impersonation:
    - UI SHALL display a visible banner: **"You are impersonating: [User Name]"**
    - All actions SHALL be logged under the original admin ID
    - Session auto-timeout SHALL apply (e.g., 15 minutes)

5.4.1.6. Session and Security Controls

- Admin login routes SHALL be protected by:
    - HTTPS-only transport
    - CAPTCHA after 2 failed attempts
    - Mandatory 2FA (email or authenticator-based)
- Session Rules:
    - Session inactivity timeout: **30 minutes**
    - No “Remember Me” option available for admin accounts
    - Session token SHALL carry role and permission metadata

5.4.1.7. Action Auditing and Logging

- All admin actions SHALL be logged, including:
    - Account creation/modification
    - User impersonation events
    - CMS edits
    - Subscription overrides
    - Login/logout activity
- Audit logs SHALL capture:
    - Actor ID
    - Timestamp
    - IP address & device fingerprint
    - Action context (e.g., “Reset password for user 2048”)
- Logs SHALL be immutable and retained for **at least 12 months**.

5.4.1.8. Admin Dashboard Personalization

Each admin SHALL see a dashboard customized to their role:

- Super Admins: System health, metrics, recent logins, flagged activities
- Marketing Admins: Campaign performance, subscriber trends
- Content Admins: Recent page edits, testimonials, SEO changes
- Support Staff: User lookup, impersonation logs, reset tools

5.4.2. User Oversight and Control

5.4.2.1. Overview

This module empowers authorized administrators (primarily **Super Admins** and designated **Support Staff**) to view, search, filter, and perform lifecycle management of all platform users, including **Job Seekers**, **Recruiters**, and **Admins**. It supports actions such as suspension, deactivation, deletion, password resets, and subscription overrides—all underpinned by audit logs for traceability.

5.4.2.2. Advanced User Search and Filtering

Admins SHALL have access to a dedicated **User Management Dashboard** with a comprehensive filtering engine. The following fields SHALL be supported for lookup and search:

5.4.2.2.1 Search Filters

- **Email Address** (exact match or partial match with suggestions)
- **Account Role** (Job Seeker, Recruiter, Admin)
- **Subscription Plan** (Free, Basic, Premium, Custom)
- **Last Login** (range selector, e.g., last 7 days, last 30 days)
- **Account Creation Date** (range selector)
- **Organization Name** (for tenant-scoped recruiters)
- **Verification Status** (email verified, unverified)
- **Account Status** (active, suspended, deactivated, pending)

5.4.2.2.2 Result Table Display

Each user record in the result table SHALL include:

- Profile thumbnail and full name
- Email address
- Current role and plan
- Organization (if applicable)
- Last login timestamp
- Account status label (active, suspended, etc.)
- Action button dropdown for admin actions

5.4.2.3. Account-Level Administrative Actions

5.4.2.3.1 Suspend Account

- **Effect**: Prevents user login and session generation, without deleting any data.
- **Use Case**: Policy violations, suspicious activity, temporary lockouts.
- **Behavior**:
    - User receives an email explaining the suspension

- A clear “Suspended” badge SHALL appear in admin dashboard
- Suspension is reversible by any Super Admin

5.4.2.3.2 Deactivate Account

- **Effect**: Disables account and all services; data remains stored but user access is blocked.
- **Use Case**: Requested deactivations, end of service period, inactivity cleanup.
- **Behavior**:
  - Account login attempts are blocked with friendly message
  - Profile and resumes/jobs are hidden from public views
  - Admins can reactivate the account with justification

5.4.2.3.3 Delete Account (Soft Delete)

- **Effect**: Initiates a **soft-delete** process where:
  - Personal data is anonymized or flagged for deletion
  - Resume, application, and activity history are moved to archival
  - Logs are retained for compliance
- **Use Case**: User-initiated deletion, GDPR requests, administrative removals
- **Recovery**: Recoverable within 14 days by Super Admins
- **Compliance Note**: Permanent deletion (hard delete) may be scheduled via background jobs or manual request

5.4.2.3.4 Reset Password

- **Effect**: Triggers a password reset email or allows manual entry of a new temporary password
- **Use Case**: Forgotten passwords, account compromise recovery
- **Behavior**:
  - Email sent with time-limited reset token
  - Option for admin to set a one-time password manually and deliver it securely
  - Logs the actor, target, and IP of reset initiator

5.4.2.3.5 Resend Verification Email

- **Effect**: Triggers a new verification email for email confirmation
- **Use Case**: Failed onboarding, expired initial links
- **Behavior**:
  - Rate-limited to prevent abuse
  - Admin sees status indicator of current verification state
  - Option to manually mark as verified (by Super Admin only)

5.4.2.4. Subscription Plan Override Tools

Admins SHALL have controlled tools to manually update or override a user's subscription details:

5.4.2.4.1 Editable Fields

- Plan type (Free, Premium, Custom)
- Start and end date override
- Grace period extension
- Usage quota reset

5.4.2.4.2 Use Cases

- Recovery from payment failure
- Promotional upgrade (e.g., goodwill support)
- Corrective action for misconfigured plans

5.4.2.4.3 Safeguards

- Only **Super Admins** and **Billing Admins** can override subscriptions
- Every change SHALL require:
    - A reason/comment
    - Audit log entry with before/after snapshot

5.4.2.5. User Detail View Interface

Each user SHALL have a detail page in the admin panel with:

- Basic Info:
    - Name, email, avatar, current role
- Account Meta:
    - Status, last login, registration timestamp
    - Email verification status
- Activity Overview:
    - Job applications (for seekers)
    - Posted jobs (for recruiters)
    - Subscription history and invoices (read-only unless billing admin)
- Admin Tools:
    - Action panel: suspend, deactivate, delete, reset password, impersonate
    - Notes: internal-only admin comments per user
    - Logs: view chronological action history on the user by admins

5.4.2.6. Notifications & Messaging

- Users SHALL receive human-friendly emails for:
  - Suspension
  - Reactivation
  - Password reset
  - Plan upgrade/downgrade
- Admins SHALL see in-panel success messages such as:

  “User successfully suspended. Access has been revoked.”
  “Password reset email sent. Link valid for 60 minutes.”

5.4.3. Subscription and Usage Control

5.4.3.1. Overview

This module equips **Super Admins** and **Billing Admins** with full control over subscription packages, user assignments, billing details, usage limits, and billing gateway integration. It supports subscription lifecycle management, including creation, modification, manual overrides, promo code handling, and detailed audit tracking.

5.4.3.2. Subscription Plan Management

5.4.3.2.1 Create & Edit Subscription Plans

Admins SHALL be able to create and update plans via a dedicated interface:

- **Plan Attributes**:
  - Name (e.g., Free, Pro, Premium, Team)
  - Plan Code / Internal Reference
  - Billing Cycle: Monthly, Yearly, Custom Interval
  - Price per Cycle
  - Currency (multi-currency support for global markets)
  - Description (user-facing marketing copy)
  - Stripe or Payment Gateway Plan ID (for live billing)
  - Activation Status (Published/Draft/Archived)

5.4.3.2.2 Feature Configuration

Each plan SHALL support the definition of feature access and resource limits:

- Max resume generations per cycle
- Max video resume uploads
- ATS scans or evaluations allowed
- Job application cap
- Cover letter builder usage

- Recruiter slots (for organizations)
- Candidate slots (for recruiter plans)
- Priority support (boolean)

5.4.3.2.3 Promo Code Management

Admins SHALL be able to:

- Create promotional codes:
    - Code name (e.g., LAUNCH20)
    - Discount type: Fixed ($10) or Percentage (20%)
    - Applicable plans
    - Expiration date
    - Usage limits (per user, total)
- View promo code usage logs:
    - Who used it, when, for which plan
- Disable or edit existing codes

5.4.3.3. Subscription Lifecycle Management

5.4.3.3.1 View Subscription Details

Admins SHALL be able to view current subscription status for any user or organization:

- Active plan name
- Plan start and next billing date
- Usage-to-date (resume counts, uploads, etc.)
- Payment method status
- Past invoices and payment history (read-only)
- Trial status (active/expired)

5.4.3.3.2 Upgrade / Downgrade Users

Super Admins can manually change a user's plan:

- Immediately or at next billing cycle
- Apply prorated or full-charge override
- Trigger invoice or skip billing

UI SHALL confirm action with:
"You are about to change this user's subscription to **Premium Plan**. This change will take effect **immediately**. Do you want to proceed?"

5.4.3.3.3 Suspend / Halt Subscription

Admins SHALL be able to:

- **Pause** billing and usage for a limited period (e.g., 30 days)
- **Manually cancel** a subscription without deleting the account
- **Blacklist billing attempts** (e.g., for fraud detection)
- Reinstate cancelled subscriptions

All halted or paused subscriptions SHALL clearly display:

“Status: Suspended – No access to premium features. Billing is paused.”

5.4.3.4. Usage Analytics Dashboard

Admins SHALL access a real-time **Usage Dashboard** that includes:

5.4.3.4.1 System-Wide Metrics

- Total active users by plan
- Plan popularity trends over time
- Total recurring revenue (read-only from Stripe or gateway)

5.4.3.4.2 Per-Tenant Metrics

- Resume generations (count per month)
- Video uploads
- Job applications submitted
- ATS evaluations triggered
- Top users/organizations by consumption

5.4.3.5. Invoicing and Billing Overview

Admins SHALL have read-only access to:

- All invoices (itemized)
- Payment statuses (Paid, Failed, Refunded)
- Refund logs (with reasons)
- Payment retries (Stripe failure logs)
- Invoice PDF download (Stripe or gateway)

All financial events are **synced and time-stamped** through Stripe Webhooks.

5.4.3.6. Manual Overrides & Recovery Options

Super Admins may:

- Extend subscription expiry manually
- Reset usage counters for a specific user or organization
- Comp a subscription for goodwill (manual 100% discount)

Each manual action SHALL require:

- Reason (text input, required)
- Confirmation modal
- Logged event with actor, user, timestamp, and description

5.4.4. Email Campaign and Outreach Management

5.4.4.1 Overview

The Email Campaign and Outreach Management module provides administrators with a robust, integrated interface for managing marketing campaigns and targeted communications. This system enables rich audience segmentation, personalized content creation, campaign scheduling, and performance analytics. It integrates with third-party email delivery platforms such as Mailchimp or Brevo using secure API protocols. The system is designed to optimize user engagement, track effectiveness, and maintain compliance with global email communication standards (e.g., GDPR, CAN-SPAM).

5.4.4.2 Campaign Creation and Personalization

- Admins SHALL be able to initiate and manage campaigns via a dedicated administrative interface.
- Each campaign setup SHALL include:
  - Campaign name and internal reference ID
  - Sender name and sender email configuration
  - Email subject and preview text
  - Email body content via a WYSIWYG editor or raw HTML editor
  - Option to insert dynamic placeholders (e.g., {{first_name}}, {{account_status}})
- The platform SHALL support reusable campaign templates.

5.4.4.3 Recipient Segmentation and List Management

- The system SHALL enable granular targeting of recipients through multiple segmentation criteria:
  - User roles (e.g., Job Seekers, Recruiters, Admins)
  - Subscription status (e.g., Free, Paid, Trial, Expired)
  - Account activity status (e.g., Active users, Inactive for 7/14/30+ days)
  - Signup source or marketing tag (e.g., "From Webinar", "Imported List")
  - Custom list upload (CSV with email, name, and optional fields)

- Admins SHALL be able to preview audience size and criteria before dispatch.
- The system SHALL support suppression lists to avoid emailing unsubscribed or blacklisted addresses.

5.4.4.4 Scheduling and Delivery Management

- Campaigns MAY be sent immediately or scheduled for future dispatch.
- Scheduling options SHALL include:
    - Date and time selection
    - Time zone alignment with user profiles
    - Smart throttling (e.g., batch delivery over time)
- The system SHALL queue and process delivery in coordination with the email provider's API and monitor rate limits.

5.4.4.5 Campaign Performance and Analytics

- Post-dispatch, the campaign dashboard SHALL display real-time and historical metrics, including:
    - Total recipients
    - Successful deliveries
    - Open rate
    - Click-through rate (CTR)
    - Bounce rate (categorized as soft or hard)
    - Unsubscribe rate
    - Spam report count (if applicable)
- Admins SHALL be able to export campaign analytics in CSV format.
- The system SHALL maintain a campaign history log with status, date sent, and performance snapshot.

5.4.4.6 A/B Testing and Optimization

- The system SHALL support A/B variant testing for:
    - Subject lines
    - Email body content
    - Call-to-action links or buttons
- Admins SHALL define test group percentages and view variant performance post-campaign.
- The best-performing version MAY be automatically applied to the remainder of recipients.

5.4.4.7 Compliance and Consent Management

- All campaign emails SHALL include:
    - Unsubscribe links
    - Sender identification (name and email address)

    - Clear purpose of communication
- The system SHALL honor user opt-out preferences stored under marketing settings.
- Email lists SHALL be synced with the system's user preference database to ensure legal compliance.

5.4.4.8 Campaign Storage and Audit Trail

- Each campaign SHALL be archived in the system for audit and review.
- Stored details SHALL include:
    - Campaign content
    - Target audience definition
    - Dispatch configuration
    - Final delivery report
- Admins SHALL be able to clone previous campaigns for reuse.

5.4.4.9 Transactional Email Framework

- The system SHALL support transactional email delivery independent of marketing campaigns.
- Transactional emails SHALL be triggered by user or system events, including:
    - Account registration and verification
    - Password reset and two-factor authentication
    - Job application confirmation
    - Resume download or generation success
    - Payment receipts and subscription confirmations
- These emails SHALL use distinct templates from marketing communications and SHALL NOT include promotional content.
- The platform SHALL allow configuration of default sender identity and branding.
- All transactional emails SHALL be logged for delivery tracking.

5.4.4.10 Centralized Email Template Management

- Admins SHALL have access to a central repository of reusable email templates.
- Templates SHALL be categorized by type (e.g., marketing, transactional, system alert).
- Each template SHALL support:
    - Variable placeholders (e.g., {{user_name}}, {{job_title}}, {{company_name}})
    - Multi-language versions
    - Version history and rollback
    - Real-time preview and test send functionality

- Templates SHALL be linked to campaign or event triggers through the notification engine.

5.4.4.11 Direct Email Dispatch Utility

- Admins SHALL be able to send manual one-time emails outside of scheduled campaigns.
- These emails SHALL be dispatched via a lightweight interface with:
    - Recipient(s) selection
    - Subject and body input
    - Optional template usage
- Use cases include:
    - Manual user onboarding
    - Support case follow-ups
    - Targeted compliance or operational updates
- These emails SHALL be logged and auditable.
- Delivery SHALL respect user preferences unless marked as critical or transactional.

5.4.5 Custom Notification System

5.4.5.1 Overview

The Custom Notification System enables platform administrators to deliver targeted, time-sensitive alerts to users through multiple channels, including in-app messages, push notifications, and email.

5.4.5.2 Notification Creation and Dispatch

- Admins SHALL be able to craft new notifications via a structured interface.
- Notification fields SHALL include:
    - Title and message body
    - Notification type (in-app, push, email)
    - Target group (e.g., all users, job seekers, recruiters, custom list)
    - Optional redirect URL
    - Expiry timestamp or event-driven expiration

5.4.5.3 User Experience and Logging

- Notifications SHALL appear in the user's Notification Center for historical reference.
- Push notifications SHALL be delivered via integrated FCM (Firebase Cloud Messaging) or similar.
- Email alerts SHALL follow the same compliance and tracking rules as campaign emails.
- All notifications SHALL be timestamped, versioned, and logged.
- Admins SHALL be able to view delivery success/failure status and dismissals.

5.4.6. CMS and Static Page Content Control

5.4.6.1. Overview

This module enables platform administrators to manage and update the textual, image-based, and SEO content of predefined static and semi-dynamic pages on the public-facing site. This includes content like homepage messaging, pricing details, terms of service, and contact information. The control is content-focused only—admins cannot modify layout, HTML structure, or frontend styling, which remain locked under development-level governance.

5.4.6.2. Pages with Admin-Editable Content

Admins SHALL have edit access to content on the following pages:

5.4.6.2.1. Static Pages

- **Homepage**
  - Main headline, sub-headline
  - Hero description
  - Feature highlight text
  - Testimonials (quote, name, title, avatar URL)
- **Pricing Page**
  - Plan descriptions (title, summary, features list)
  - CTA button texts
  - Tagline or feature comparison notes
- **About Us**
  - Mission and vision statements
  - Team descriptions or company history
- **Contact Us**
  - Office address (if applicable), contact number
  - Email support information
  - Introductory text or guidance
- **Feedback Page**
  - Page title and subtitle
  - Instruction text or call-to-action message
- **Legal Pages**
  - **Terms of Use**
  - **Privacy Policy**
  - Both editable via rich text editors to allow headings, paragraphs, lists, and links

5.4.6.2.2. Dynamic Content Management

- **Testimonials**

    - Add/edit/delete testimonial entries
    - Manage visibility status (published/unpublished)
- **FAQ Entries** (Optional future scope)
    - Question and answer text pairs
    - Category assignment
    - Display ordering

5.4.6.3. Content Types Supported

Editable content SHALL support the following formats:

- **Plain Text**: Titles, headings, descriptions
- **Rich Text (WYSIWYG)**: Legal texts, testimonials, and long descriptions (bold, italic, links, bullet points)
- **Image Assets**: Upload or reference image URLs for team photos, testimonials, banners
- **SEO Metadata**:
    - Page title
    - Meta description
    - Canonical URL (read-only, auto-generated)
    - OpenGraph title and image

5.4.6.4. CMS Administration Interface

The CMS section in the admin panel SHALL be structured into clearly labeled modules:

- **Page-Level Editors**

  Each public page SHALL have a dedicated editor view structured into collapsible content sections. These sections will:

    - Display current content in a preview pane
    - Allow content editing via appropriate form controls
    - Offer guidance text or helper tooltips (e.g., “Max 300 characters”)

- **Content Versioning & Audit Trail**

    - Every update SHALL be stored as a **versioned entry**.
    - Admins SHALL have access to:

        - View edit history with timestamps and editor names
        - Rollback to previous versions with one-click restore
        - Add change notes (optional)

- **Access Control**
    - Only users with the **CMS Manager** or **Super Admin** role SHALL be permitted to make edits.
    - Read-only access SHALL be provided to support and marketing roles.

5.4.6.5. Workflow & Publishing

- Edits can be:
    - **Saved as Draft** (preview-only mode)
    - **Published Immediately**
- A **Preview Mode** SHALL allow admin to view how changes would appear on the live site before publishing.

5.4.6.6. Technical & System Constraints

- No HTML/CSS/JS input allowed from admins to prevent layout-breaking changes.
- Rich text inputs will be sanitized using standard security libraries (e.g., **Bleach**, **html-sanitizer**) to prevent XSS.
- Uploaded images SHALL be processed and stored on AWS S3 with secure access URLs.
- Each page content update SHALL trigger a **cache invalidation** for CDN delivery to ensure instant propagation.
- API endpoints will expose current page content with version control metadata for frontend consumption.

5.4.7. Blog Management

5.4.7.1. Feature Overview

The Blog Management module empowers platform administrators to manage content-driven marketing and educational materials via a dedicated blogging engine integrated into the SmartResume platform. This feature supports both manual content creation and scheduled publishing, enabling the organization to distribute thought leadership articles, product updates, career advice, feature announcements, and SEO-optimized content that improves search visibility.

The blog interface is designed for ease of use by non-technical staff while supporting key content requirements like media inclusion, SEO metadata, tagging for discoverability, and status controls. It functions as a full-featured mini-CMS scoped to blogging alone.

5.4.7.2. Preconditions

- The user must have administrator-level access with “Content Editor” or “Blog Manager” privileges.
- The blog module must be enabled within the CMS configuration.
- Blog visibility settings (e.g., blog menu enabled in UI) must be set to public.

5.4.7.3. Functional Specifications

5.4.7.3.1. Blog Entry Creation & Editing

Admins SHALL be able to create and edit blogs from the administration panel with support for the following fields:

- **Title** – Human-readable headline for the blog post (required).
- **Slug** – URL-friendly identifier auto-generated from the title (editable for SEO or custom needs).
- **Body Content** – Blog body shall support:
  - Markdown editing (with preview toggle)
  - Rich-text WYSIWYG editor with bold, lists, links, media embed, blockquotes
- **Feature Image** – Upload interface for a banner or preview image; shall support cropping and preview.
- **Tags / Categories** – Admin-defined metadata for grouping content (e.g., "Career Advice", "Platform Updates").
- **SEO Metadata** – Fields for:
  - Page Title
  - Meta Description
  - Social Share Thumbnail override (optional)
- **Author Attribution** – Field to assign author (from admin users or pseudonym).
- **Status** – One of:
  - Draft – visible to admin only
  - Published – live on the public blog index
  - Archived – no longer listed but retained for record/history
- **Publish Date** – Scheduler to:
  - Publish immediately
  - Schedule for a future time (uses server time in UTC or admin's timezone)

5.4.7.3.2. Blog Listing and Detail Pages

- All blog posts SHALL appear on a public-facing **Blog Index Page**:
  - Paginated list view

    - Preview snippet: Title, author, short excerpt, publish date, image thumbnail, tag
    - Filter and search functionality by tag/category
- Clicking a blog entry navigates to a **Blog Detail View**:
    - Full rendered article
    - Social sharing icons (optional)
    - Tag links
    - Related posts section (by tag or most recent)

5.4.7.3.3. SEO and Metadata Optimization

- The system SHALL generate clean, crawlable blog URLs: /blog/{slug}/
- Each post SHALL support:
    - Unique HTML <title> and <meta description> values
    - Open Graph metadata for Facebook and LinkedIn sharing
    - Twitter card metadata
- Structured data (schema.org BlogPosting) SHALL be included in the HTML output for rich results compatibility.

5.4.7.3.4. Admin Features and Utilities

- **Admin Dashboard View:**
    - List of blog entries with filters:
        - Published/Draft/Archived
        - Author
        - Date Range
        - Tag/Category
    - Edit and delete action buttons
    - Status indicators with color-coded labels
- **Autosave Feature:**
    - Changes to draft SHALL be autosaved at defined intervals (e.g., every 30 seconds).
- **Revision History:**
    - Track last edited timestamp and editing admin
    - Optionally allow rollback to previous version (if versioning enabled)

5.4.7.3.5. Permissions and Roles

- Blog features SHALL be restricted to users with the appropriate role:
    - Super Admin: Full control
    - Content Editor: Create/edit/publish content
    - Contributor: Create drafts only; requires approval to publish
- Role-based access SHALL enforce UI controls and backend endpoint security.

5.4.7.4. Integration & Extensibility

- Blog entries MAY be featured in other parts of the site (e.g., homepage carousel, sidebar widgets).
- Optional email integration:
  - New blog post announcements via email to subscriber lists (via Mailchimp or custom job)

5.4.7.5. Postconditions and Outcomes

- Admins can easily manage a full-featured blog to support brand visibility and SEO goals.
- Scheduled publishing allows marketing teams to align with campaigns or product launches.
- All blog content is indexed for search engine discovery and internal search within the SmartResume platform.
- Segmented tagging and search allow users to quickly find relevant content.
- High-quality, structured content builds trust and retains traffic from both search and returning users.

5.4.8. AI Chatbot Configuration

5.4.8.1. Feature Overview

The **AI Chatbot Configuration** module enables the SmartResume administrative team to deploy and manage a smart, automated assistant across the platform. This chatbot system is powered by **Tidio**, a third-party SaaS chatbot provider, and is designed to support users with common queries, product navigation, service FAQs, and conversational workflows. The chatbot serves as the **first layer of interaction** for both authenticated and anonymous users, reducing the load on human support agents and enhancing self-service capabilities across the platform.

Tidio's integration offers a **hybrid support model**: the bot handles most routine interactions automatically and escalates complex or sensitive queries to live human agents, when needed. Its setup allows non-technical admin staff to define and modify conversational flows, support conditions, and escalation logic from within the Tidio interface.

The chatbot is embedded across key areas of the platform, including the landing pages, seeker and recruiter dashboards, resume generator, job feeds, and mock interview modules.

5.4.8.2. Supported Use Cases

The chatbot will serve the following core use cases:

- Handling **general FAQs** (e.g., “How do I apply to a job?”, “How do I update my profile?”)
- Offering **guided navigation** based on user queries or behavior
- Recommending platform features (e.g., resume builder, job matching tools)
- Responding to **billing, subscription, or account issues** by escalating to support staff
- Offering **basic troubleshooting guidance**
- Promoting relevant **marketing or upsell messages** based on user role and page context
- Capturing **feedback, issue reports, and satisfaction scores**
- Supporting **subscription-based behavior**, e.g., prioritizing premium users for live support

5.4.8.3. Preconditions

- Admin must have a Tidio account integrated with the SmartResume backend.
- Chatbot embed scripts must be deployed to relevant frontend templates.
- Admin panel must provide secured API token or Tidio credentials to enable agent dashboard and flow access.
- Human support agents (if configured) must be onboarded to Tidio’s live chat system.

5.4.8.4. Main Functional Requirements

- **Chatbot Integration and Embedding**
  - The chatbot SHALL be embedded across the SmartResume web frontend using Tidio’s widget snippet.
  - The chatbot SHALL load contextually based on user role (anonymous, job seeker, recruiter, admin).
  - For authenticated users, the chatbot SHALL fetch and use basic metadata (role, subscription plan) for response tailoring.
- **Conversational Flow Management**
  - Admin users SHALL configure chatbot conversations via the Tidio drag-and-drop visual flow builder.
  - Admins SHALL be able to define response triggers based on:
    - Page URL
    - Time on page
    - User role or subscription
  - The chatbot SHALL support branching conversation logic, fallback messages, and quick replies (buttons).
  - The chatbot SHALL support links, rich text, emojis, and image uploads in replies (where contextually needed).
- **AI (Lyro) Assistant Mode**
  - The chatbot SHALL use Tidio’s Lyro AI module to answer natural language questions based on uploaded FAQs or help articles.

  - Admins SHALL be able to train Lyro by:
    - Uploading help center documentation or markdown files
    - Copy-pasting answers from platform guidelines
  - Lyro SHALL be enabled for:
  - Platform walkthroughs (e.g., how to create a resume)
  - Feature-specific assistance (e.g., video resume steps)
  - Policy questions (e.g., data deletion, refunds)
- **Human Agent Escalation**
  - The chatbot SHALL detect if a user has asked for human assistance (e.g., “talk to a human”).
  - If available, the chatbot SHALL route the conversation to a live human support agent using the Tidio inbox system.
  - If no agents are online, the chatbot SHALL collect the user’s message, email, and reason for contact, and SHALL create a support ticket.
  - Admins SHALL define office hours for human support inside the Tidio panel.
- **User Segmentation and Routing**
  - The chatbot SHALL segment users based on SmartResume metadata passed at widget load time:
    - Subscription type (Free, Trial, Premium)
    - Role (Job Seeker, Recruiter)
    - Logged-in status
  - Based on the segment, the chatbot SHALL:
    - Route to different flows
    - Offer relevant support links or onboarding help
    - Suggest paid features for trial users
- **Reporting and Feedback**
  - The chatbot SHALL log every interaction with timestamps, message contents, and user ID (if available).
  - The chatbot SHALL prompt a satisfaction rating at the end of resolved conversations.
  - Admins SHALL be able to export logs in CSV format from the Tidio panel.
  - Admins SHALL be able to monitor:
  - Resolution rate
  - Average response time
  - Escalation frequency
  - Most-used questions or flow paths

5.4.8.5. Configuration from Admin Panel

- Admins SHALL access Tidio through a secure web portal (dashboard.tidio.com) using a dedicated company account.

- Admins SHALL be able to:
    - Add or remove support agents
    - Set chatbot greeting messages per page
    - Enable/disable chatbot for specific modules
    - View message history with filters and download options
    - Upload knowledge base entries or train Lyro on custom documentation
- Subscription plan upgrades for Tidio (e.g., for higher usage caps or advanced features) SHALL be managed directly through the Tidio billing portal.

5.4.8.6. Mobile App Support

- The chatbot widget SHALL also be embedded in the mobile web version of SmartResume.
- Admin agents SHALL receive live chat alerts and reply from the **Tidio mobile app**, available on iOS and Android.

5.4.8.7. Postconditions and Outcomes

- Platform users can access 24/7 smart assistance for general issues and navigation without requiring immediate human support.
- Human support staff are only involved for complex issues, reducing operational overhead.
- Admins can monitor user needs and satisfaction trends through Tidio analytics.
- Platform engagement increases as users are guided effectively through onboarding and job search processes.
- The chatbot experience can be continuously improved based on real usage data, training logs, and response effectiveness.

5.4.9. Platform Configuration Controls

- Admins SHALL set global operational configurations including:
    - Default timezone
    - Default currency
    - File upload limits for resumes, videos, profile pictures
    - Allowed file types per module (e.g., .pdf, .docx, .jpg, .mp4)
- These settings SHALL apply system-wide and update all affected modules.

5.4.10. Postconditions and System Outcomes

- Admins have centralized authority to configure and control platform operations
- Subscription plans, billing details, and user feature access are managed with precision

- All marketing campaigns are handled securely and monitored via trusted providers
- Public-facing content and blogs are easily managed without developer involvement
- AI chatbot behavior is monitored and customizable for continuous improvement
- Notifications, emails, and alerts are dispatched effectively across user segments
- A full audit trail provides accountability and compliance for administrative actions

5.5. Reporting and Analytics

5.5.1. Feature Overview

The **Reporting and Analytics** module provides comprehensive, role-specific dashboards and data insights for platform stakeholders — including administrators, recruiters (individual and organizational), and job seekers. Its primary purpose is to expose critical performance indicators (KPIs) to enable informed decision-making across business operations, recruitment workflows, user engagement, and financial oversight.

This module supports:

- Interactive data visualization (charts, graphs, funnel views)
- Exportable reporting formats (CSV, Excel, PDF)
- Time-based filtering and role-based segmentation
- Scheduled delivery of recurring insights
- Integration with third-party systems (e.g., Mailchimp for campaign analytics)

Analytics span across system-level metrics, recruitment efficiency, applicant engagement, and individual user behavior — ensuring that both micro and macro performance patterns are easily traceable.

5.5.2. Preconditions

- The platform must have active logging and tracking mechanisms for all major user and system events (e.g., signups, logins, applications, payments, messaging).
- Admin access is required to view global metrics; recruiters and seekers can only view scoped, role-specific data.
- Data visualizations must be rendered using supported frontend chart libraries (e.g., Chart.js, D3.js).

- For email campaign analytics, valid API integrations with providers like Mailchimp must be active and authorized.

5.5.3. Functional Breakdown and Report Details

5.5.3.1 User Growth & Platform Engagement

This category allows administrators to understand how users interact with the system from onboarding to core feature usage. The goal is to identify patterns in user behavior, engagement health, and conversion success across the platform.

5.5.3.1.1 User Signups Report

Tracks the number of new registrations over configurable time periods, segmented by platform (Web, Mobile), user type (Job Seeker, Recruiter), and marketing source (if available). Useful for measuring growth trends, campaign impact, and seasonal user behavior.

5.5.3.1.2 Active Users Report

Reports on users who have engaged with the system within the last 7, 30, or 90 days. Segmentation by user role and subscription tier helps identify long-term engagement patterns and potential drop-off zones.

5.5.3.1.3 User Funnel Report

Visualizes user progression through key milestones:

- Registration → Profile Completion → Resume Generation → First Job Application

Each stage is tracked with conversion percentages and drop-off analytics to identify onboarding issues or UX friction points.

5.5.3.1.4 Trial-to-Paid Conversion Report

Shows conversion rates from free or trial accounts to paid subscriptions, broken down by plan type, duration before upgrade, and churn risk. Enables measurement of subscription strategy effectiveness and highlights underperforming segments.

5.5.3.1.5 Total Users Over Time Report

The system SHALL compute the cumulative number of registered users as of the end of each month and each year.

- Display a simple table or line chart showing:
    - “Date (Month/Year)”
    - “Total Registered Users”
    - “% Increase vs. Previous Period” (e.g., “April 2025: 10,000 users (+5% vs Mar 2025)”).
- If deactivations are supported, show “Total Active Users” and “Total Inactive/Deactivated Users” separately.

5.5.3.2 Job Activity & Application Reports

These reports enable admins to monitor the volume, quality, and outcomes of job activity across the platform. This is essential for measuring recruiter engagement and job seeker responsiveness.

5.5.3.2.1 Jobs Posted Report

Displays all job listings created on the platform, segmented by:

- Source (Recruiter, External Scraping)
- Job title, industry, post date, and recruiter organization
  This allows admins to gauge platform utilization by recruiters and detect content trends or spam patterns.

5.5.3.2.2 Applications Per Job Report

Provides a breakdown of application volume per job posting. High/low activity indicators help recruiters improve job description visibility and help admins understand which roles are in demand.

5.5.3.2.3 Top Performing Jobs Report

Ranks job listings based on metrics like:

- Application count
- Bookmark frequency
- Email click-through rate
  Used to identify which jobs generate the most traction and what listing formats are most effective.

5.5.3.2.4 Application Source Report

Maps the origin of each job application — Web platform, Mobile App, Chrome Extension, Job Alert Email, etc. Enables campaign attribution and UX improvement for job discovery channels.

5.5.3.2.5 Application Funnel Report

Visualizes candidate movement across stages:

- Applied → Reviewed → Shortlisted → Interviewed → Offered → Hired/Rejected
  Each transition is time-stamped to monitor delays or inactive stages. Helps highlight recruiter responsiveness and average hiring timelines.

5.5.3.2.6 Application Success Rate Report

The system SHALL calculate, for any selected calendar month or year, the ratio:

Success Rate = # Hired in Period ÷ # Applications Submitted in Period × 100%.

- Display:
  - Time Period (Month/Year)
  - Number of Applications Submitted
  - Number of Job Seekers Hired
  - Success Rate %
- Provide a basic bar chart (one bar for Applications, one for Hired) and a separate line chart for the Success Rate % over multiple months/years.
- If no hires occurred in the period, show “Success Rate: 0%” with a tooltip stating “No hires recorded this period.”

5.5.3.3 Email & Campaign Analytics (via Third-Party Tools)

These reports are powered by integrations with marketing platforms like Mailchimp or Brevo, focusing on email-based outreach performance.

5.5.3.3.1 Campaign Performance Report

Summarizes key campaign metrics:

- Subject line, audience group, delivery time
- Sent volume, open rate, click-through rate, bounce rate, unsubscribe rate
  Supports comparative analysis to identify best-performing content and timing windows.

5.5.3.3.2 Unsubscribe and Bounce Trends Report

Provides visibility into email list health:

- Daily/weekly unsubscribe spikes
- High bounce segments (soft/hard)
  Helps optimize list hygiene and reduce spam classification risk.

5.5.3.3.3 Segment Engagement Report

Breaks down email performance by audience type:

- Paid users vs. Trial accounts
- Recruiters vs. Job Seekers
  Reveals which cohorts engage the most, guiding targeting strategies and campaign content.

5.5.3.4 Revenue and Subscription Reports

These reports provide financial oversight and subscription behavior trends to guide business performance and product pricing strategies.

5.5.3.4.1 Subscription Revenue Report

Calculates Monthly and Annual Recurring Revenue (MRR, ARR), revenue by user role, plan type, and growth deltas over time. Ingests data from Stripe/PayPal or other payment processors.

5.5.3.4.2 Plan Breakdown Report

Summarizes user distribution across plans, including:

- Active users per plan
- Upgrade/downgrade counts
- Cancellation volumes and reasons (if captured)
  Useful for plan design evaluation and promotional campaign targeting.

5.5.3.4.3 Trial Conversion and Churn Report

Monitors how many users:

- Move from trial to paid
- Cancel after their first payment cycle
- Churn after 30, 60, 90 days
  Supports churn mitigation and re-engagement campaign design.

5.5.3.5 Export and Scheduling Functionality

All analytics views shall support the following actions:

- **Export Options**: Allow export of filtered results into CSV (raw), Excel (tabulated), and PDF (presentation-ready).
- **Persistent Filtering**: Filters like date range, user role, plan tier remain applied during export.

- **Automated Reports**: Admins can schedule recurring exports (e.g., every Monday) to email reports to internal teams.

All data exports shall be delivered over secure endpoints with appropriate permission gating and encryption.

5.5.4. Recruiter & Organization Analytics Dashboard

Recruiters and organizational admins access this dashboard to evaluate job-level performance, team productivity, and applicant flow.

5.5.4.1 Job Post Performance Report

Displays all recruiter-posted jobs with:

- Total views, applicant count, time-to-first-application
- Shortlist, rejection, and hire rates
- Source of application traffic (email, platform, external)

5.5.4.2 Application Funnel Report

Shows the status flow for candidates per job:

- Conversion % per stage
- Average duration spent per stage
  Useful for benchmarking team performance and identifying bottlenecks.

5.5.4.3 Interview Scheduling Metrics

Tracks:

- Number of interviews scheduled per recruiter
- Reschedules, confirmations, no-show rate
- Time lag between shortlist and interview
  Helps identify calendar gaps and follow-up needs.

5.5.4.4 Export & Access Controls

- Recruiters only view their own job/applicant data
- Org Admins can view consolidated team metrics
- All views exportable to CSV, Excel, PDF
- Visual summaries available (e.g., bar graphs, funnel charts)

5.5.5. Postconditions and Outcomes

- **Admins** gain a system-wide view of platform health, user activity, job market flow, and financial growth.
- **Recruiters** gain team and job-specific insights to refine workflows and improve applicant experience.
- **Job Seekers** (reporting dashboard to be detailed separately) gain visibility into their performance metrics, resume usage, and mock interview history.
- **All user roles** benefit from exportable, visualized, and schedulable reports that enhance day-to-day strategy and long-term platform engagement.

6. Non-Functional Requirements

6.1. Performance

- The platform SHALL respond to 95% of user-facing requests within 3-5 seconds under normal operational load.
- Background job engines (e.g., scraping, matching, auto-apply) SHALL process a minimum of 100 jobs/minute across concurrent queues.
- Search operations (e.g., job listings, candidate filtering) SHALL be optimized with indexed queries and query caching.

6.2. Scalability

- The system SHALL support both vertical and horizontal scaling across stateless service components.
- Infrastructure SHALL be containerized (Docker) and orchestrated via Kubernetes or an equivalent managed service (e.g., AWS ECS, GKE).
- Services SHALL scale automatically based on CPU, memory, and queue size thresholds.

6.3. Availability & Fault Tolerance

- The platform SHALL maintain an uptime of 99.9% excluding scheduled maintenance.
- Critical services SHALL be deployed across multiple availability zones (AZs) to ensure redundancy.
- A fallback mechanism SHALL exist for external dependencies (e.g., fallback to cached results or queues on API failure).

6.4. Security

- All data SHALL be encrypted at rest (AES-256) and in transit (TLS 1.3).

- JWT or OAuth2 SHALL be used for authentication, with scoped access tokens for sensitive operations.
- Role-based access control (RBAC) SHALL be implemented for users, recruiters, and admins.
- The system SHALL comply with GDPR, CCPA, and regional privacy frameworks, including data deletion requests and explicit consent tracking.

6.5. Maintainability

- The platform SHALL be modular, supporting domain-driven design with clean service boundaries.
- Source code SHALL be documented and tested with 80%+ test coverage.
- Service health, error logs, and audit trails SHALL be available via observability tooling (e.g., ELK stack, Prometheus/Grafana).

6.6. Usability

- The UI SHALL conform to WCAG 2.1 Level AA accessibility standards.
- All critical flows (job application, resume generation, interview practice) SHALL be optimized for both desktop and mobile devices.
- Tooltips, error messages, and guidance prompts SHALL follow UX copy best practices.

6.7. Localization and Timezone Support

- The system SHALL support multi-language UI with locale-specific formatting (currency, date, time, etc.).
- All time-sensitive features (e.g., job deadlines, interview scheduling) SHALL use the user's selected timezone.

6.8. Monitoring, Logging, and Auditing

- All service operations SHALL be logged with correlation IDs for tracing.
- Admins SHALL have access to real-time dashboards for traffic, job queue lengths, and system health.
- Sensitive actions (e.g., data access, account modifications) SHALL be audit-logged and retained for at least 1 year.

7. System Architecture and Microservices Deployment

7.1 Overview

The SmartResume platform is designed using a service-oriented architecture (SOA) approach, adopting microservices for key modular components that require independent scaling, fault isolation, or technology specialization. This approach enables improved maintainability, performance tuning, and deployment flexibility across the platform.

Each microservice is containerized using Docker and deployed within a managed Kubernetes cluster. Services communicate through REST APIs, internal queues, and asynchronous messaging patterns. Authentication, logging, monitoring, and scaling policies are uniformly enforced at the infrastructure level.

7.2 Microservices Breakdown

The following services are identified and implemented as independent microservices:

Service Name	Responsibility	Scaling & Isolation Justification
Resume Generator Service	Generates ATS-friendly resumes using user profile data and selected templates	CPU-intensive; isolated for async processing
Job Scraper Service	Scrapes job listings from third-party sources (e.g., LinkedIn, Indeed)	External dependencies; retry logic and source throttling
Auto Application Service	Submits applications to job listings automatically using API or email	Stateful queue processing; requires rate control
Email Campaign Service	Manages marketing and transactional email delivery	High throughput and decoupled from user actions
Mock Interview Service	Generates, scores, and provides feedback on mock interviews	Uses AI/ML; better separated for model evolution
Video Processor Service	Handles recording, uploading, and processing of video resumes	File handling, media encoding, and cloud storage I/O
Payment Service	Manages subscriptions, invoicing, and third-party payment gateway integration	Financial transaction handling and audit requirements

Notification Dispatcher	Sends email, in-app, and push notifications based on event triggers	Real-time user alerts; decoupled from core operations
Chatbot / AI Assistant	Provides intelligent user interaction for queries and recommendations	Requires NLP libraries and scalable inference

7.3 Communication Patterns

- All public-facing APIs are routed via a central API Gateway with rate-limiting and authentication middleware.
- Internal services communicate via REST or gRPC depending on latency and payload complexity.
- Asynchronous jobs (e.g., scraping, resume generation, auto-apply) are processed through Celery workers managed via RabbitMQ.

7.4 Deployment Strategy

- All services are packaged as Docker containers and deployed using Kubernetes (K8s).
- CI/CD pipelines automate builds, tests, container image creation, and Helm-based deployments.
- Blue-green or rolling deployment strategies are applied for zero-downtime rollouts.
- Secrets and environment variables are managed using Kubernetes secrets or external secret managers.

7.5 Monitoring, Logging, and Observability

- Application logs are centralized using ELK (Elasticsearch, Logstash, Kibana) or Loki + Grafana.
- Prometheus monitors service metrics such as response time, CPU/memory usage, queue lengths.
- Alerts are triggered via Alertmanager and integrated with Ops tools (e.g., Slack, PagerDuty).
- Tracing and correlation IDs are enforced for multi-service request flows.

7.6 Security and Access

- All service-to-service communications are authenticated using mTLS or internal API tokens.
- Role-based access control (RBAC) applies to internal admin tools and service UIs.

- Network policies restrict external access to services not meant to be public-facing.

7.7 Service Registry and Discovery

- Internal service discovery is managed via Kubernetes DNS or integrated service mesh (e.g., Istio).
- API documentation for each service is published using OpenAPI specifications and hosted on an internal developer portal.

7.8 Future Scalability Considerations

- High-load services like Resume Generator and Job Scraper can be horizontally replicated independently.
- GPU-enabled nodes may be introduced for heavy AI/ML inference tasks in the Mock Interview and Chatbot modules.
- Kafka may be introduced for event-streaming patterns between services like Notification Dispatcher and Activity Tracker.

8. Closing Summary

The SmartResume Software Requirements Specification (SRS) defines a comprehensive, modular, and scalable web application that empowers job seekers and recruiters through advanced automation, AI integration, and personalized interaction. Every major feature—from resume generation and job application automation to recruiter tools and AI-driven interview preparation—has been scoped with user-centric precision and technical robustness.

The system adheres to modern architectural principles with a microservices deployment model, ensuring fault isolation, scalability, and independent module evolution. Security, accessibility, performance, and global compliance have been prioritized throughout the specification to support a production-grade release.

This SRS will serve as the foundation for technical planning, development, QA validation, stakeholder alignment, and long-term product evolution.