Software Requirements Specification

for

Alpha Company

Version 1.0 approved

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29.09.2025

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Revision History

Name	Date	Reason For Changes	Version

1.   Introduction

1.1   Purpose

This document serves as the System Requirements Specification (SRS) for the Human Resource Information System (HRIS) Recruitment Module developed for Alpha Company. This specification defines both the functional requirements (Section 3.2) and non-functional requirements (e.g., Performance, Security, Maintainability, found in Sections 3.3 through 3.5), thereby establishing the agreement and commitment regarding the system to be developed. It functions as the build-to document for the development team and the baseline for evaluating the software (verification and validation)

The intended audience for this document includes all project stakeholders: Customers & Users (such as HR Managers), Developers (for implementation), Testers (for checking whether requirements have been met), Project Managers (for measuring and controlling the project), and Maintenance and support staff.

1.2   Scope

The HRIS recruitment module automates the job application process, enabling candidates to apply online, HR managers to manage applications, reviewers to provide confidential feedback, and the system to integrate seamlessly with the existing HR system. Key benefits include streamlined recruitment, enhanced data privacy compliance, and improved user experience for both candidates and HR staff.

1.3   Definitions, Acronyms, and Abbreviations

HR	Human Resources
SRS	System Requirements Specification
HRIS	Human Resource Information system
UI	User Interface
DB	Database
API	Application Programming Interface
GDPR	General Data Protection Regulation

1.4   References

<This subsection should: a) Provide a complete list of all documents referenced elsewhere in the SRS; b) Identify each document by title, report number (if applicable), date, and publishing organization; c) Specify the sources from which the references can be obtained. This information may be provided by reference to an appendix or to another document.>

1.5   Overview

This Overview section describes the contents and structure of the remainder of this Software Requirements Specification document.

This document is organized into three main sections and associated Appendices, following a structure based on the IEEE Standard-830:

- **Section 1. Introduction**: This section provides a global introduction to the document and the software product. It defines the purpose and scope of the SRS and lists all necessary definitions, acronyms, and abbreviations.
- **Section 2. General Description**: This section informally introduces the software product and the context in which it will be used. It covers the Product Perspective, Product Functions, intended User Characteristics, General Constraints, and Assumptions and Dependencies. This section provides background for the detailed requirements defined later in the document.
- **Section 3. Requirements**: This section specifies all of the detailed software requirements to a level of detail sufficient for designers to build the system and testers to verify it. This crucial section addresses specific requirements, including Functional Requirements, External Interface Requirements, Performance Requirements, Design Constraints (such as standards compliance or hardware limitations), and Software System Attributes (such as Availability, Security, and Maintainability).
- **Appendixes**: These sections may contain supporting or background information, such as sample input/output formats, or a description of the problems to be solved by the software. Appendices are not always considered part of the actual requirements unless explicitly stated.

2.   Overall Description

<This section of the SRS should describe the general factors that affect the product and its requirements. This section does not state specific requirements. Instead, it provides a background for those requirements, which are defined in detail in Section 3 of the SRS, and makes them easier to understand.>

2.1   Product Perspective

The recruitment module is part of Alpha Company's larger HRIS system. It integrates with the existing HR database and email system, sharing employee and candidate data to provide a unified platform for recruitment management.

2.2   Product Functions

Main functions include:
- Job portal for candidates to view and apply for open positions
- Role-based access control for candidates, reviewers, and HR managers
- Automated notifications and calendar events
- Generation of offer and rejection letters
- Integration with existing HR systems
- Logging and auditing of system activities
- Multi-language support and responsive interface

2.3   User Classes and Characteristics

The three distinct User Classes and their primary characteristics in this system, which implements **Role-Based Access Control (RBAC)**, are:

1. **Candidate**: An external user who interacts with the system via a web portal. Their main tasks include searching, viewing, and applying for open positions, submitting required personal data and documents (like CVs), and officially accepting or rejecting offers. The interface must be highly usable and intuitive and support at least English, Estonian, and Russian languages.
2. **HR Manager**: Internal staff responsible for centralizing and streamlining the hiring process. They manage application statuses (e.g., "Offer Made," "Rejected"), schedule interviews, automatically generate offer and rejection letters, and are responsible for assigning other employees as Reviewers. All status changes handled by the HR Manager are timestamped and recorded in an audit trail.
3. **Reviewer**: Internal company employees assigned to assess specific candidates. Their key function is to look through submission details and add confidential assessment notes. Crucially, Reviewers cannot change the official submission status.
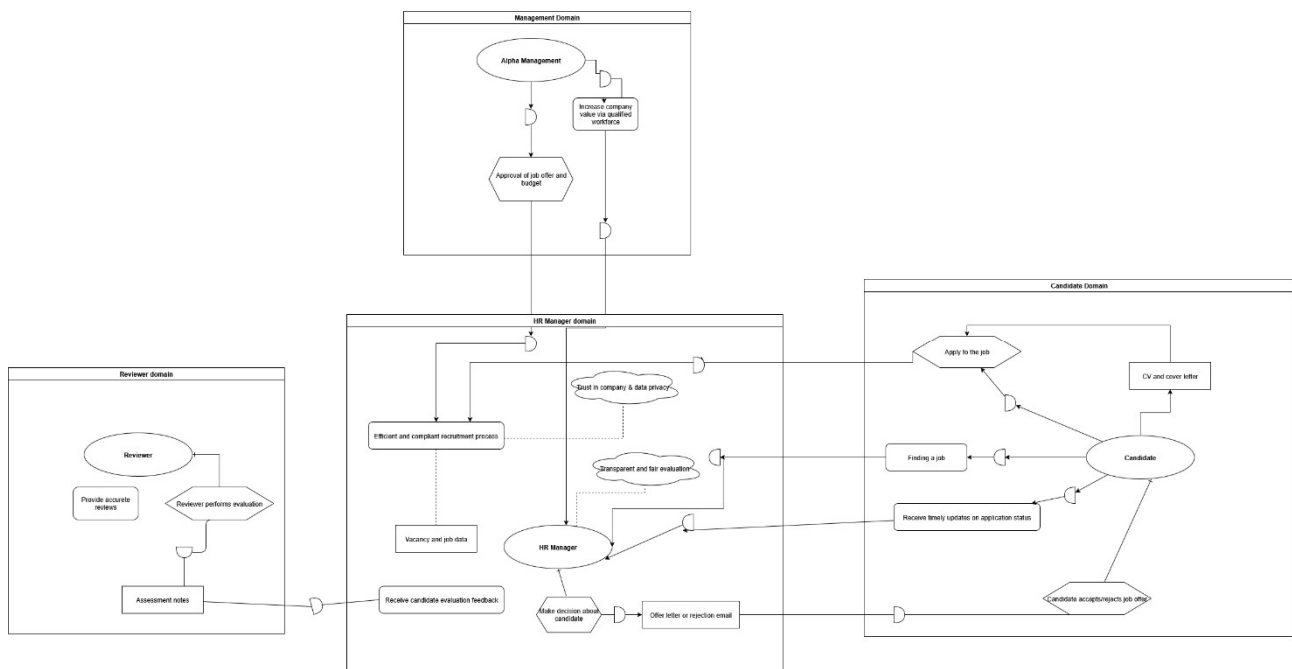
Strategic Dependency Model (Early Requirements Stage)
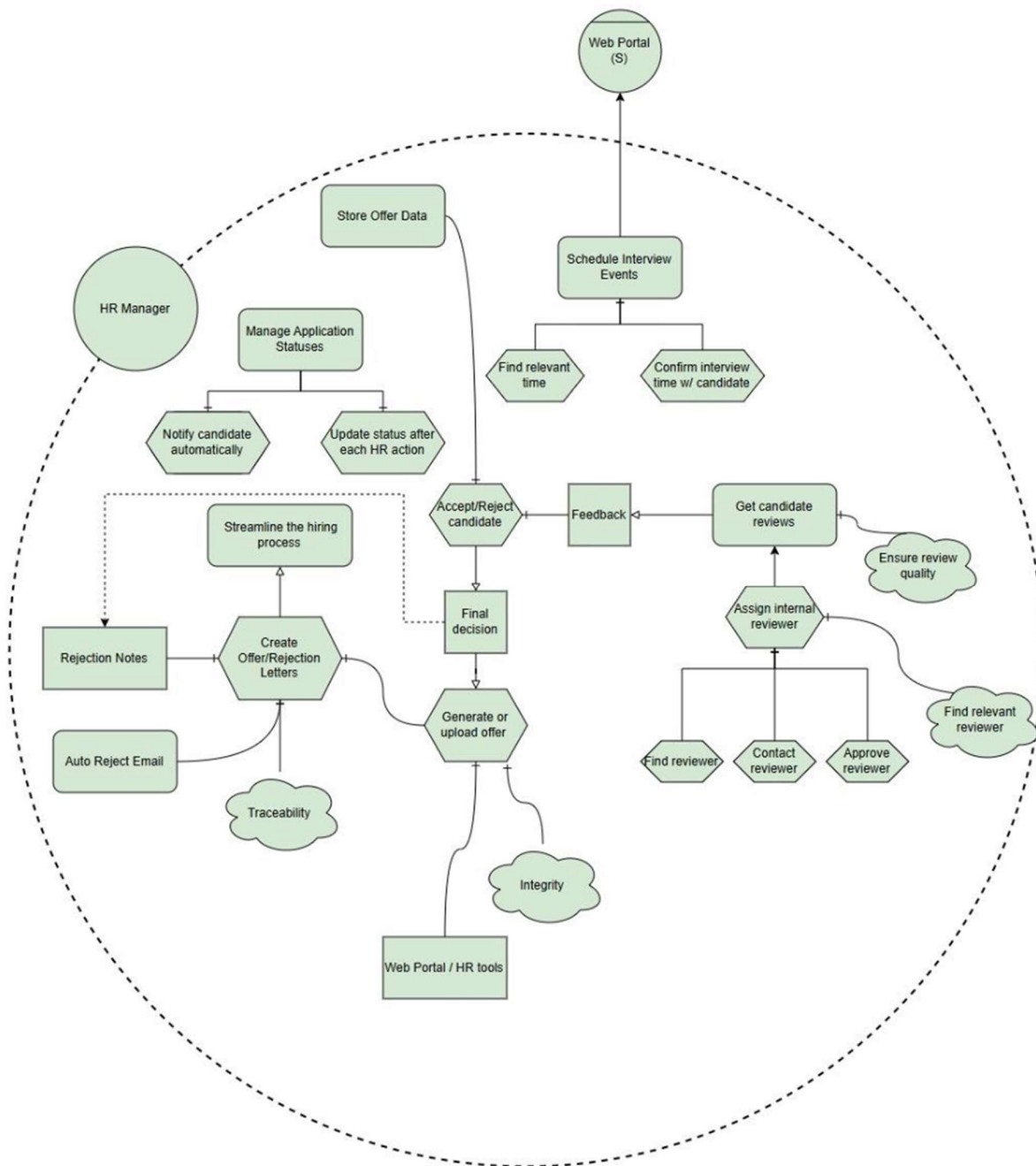
Strategic Rationale (SR) model
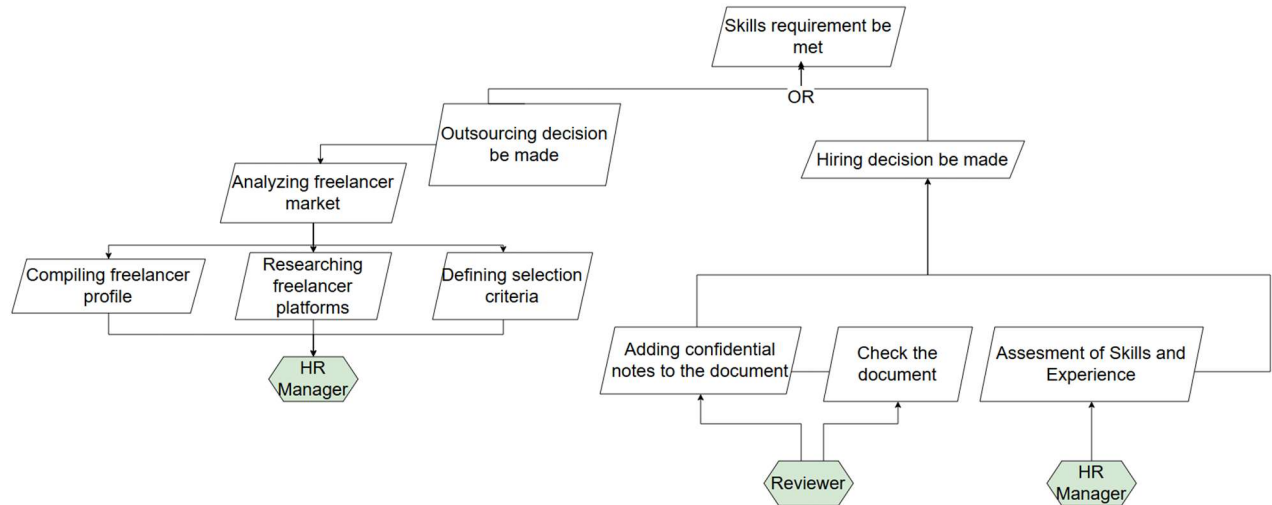
KAOS model for goal refinement
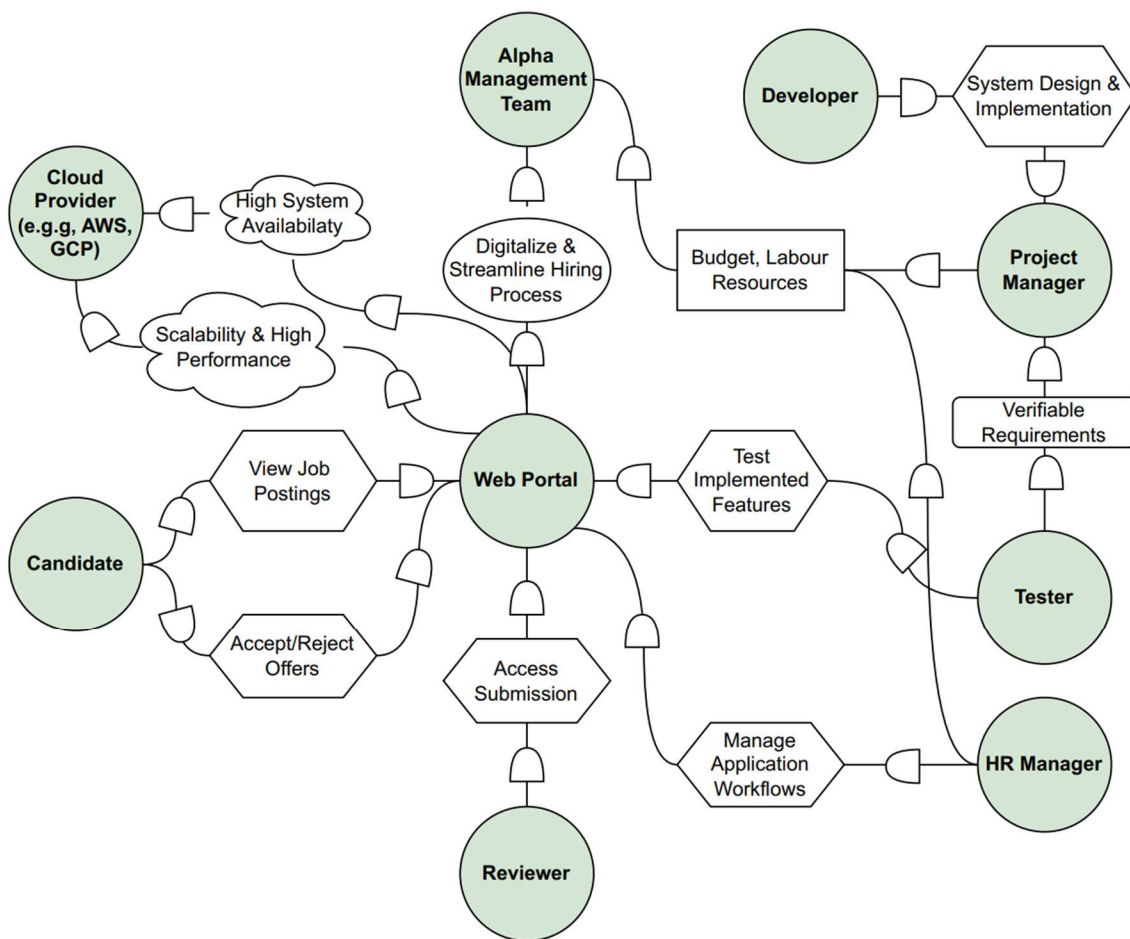
Strategic Dependency (SD) model for the late requirements analysis

2.4   Design and Implementation Constraints

Constraints include GDPR compliance, TLS-encrypted communications, and compatibility with Alpha Company's existing HRIS database and email infrastructure.

2.5   Assumptions and Dependencies

Domain properties:
1. *Recruitment at Alpha Company is a multi-stage process*
2. *Alpha Company has different roles involved in the hiring process*
3. *Alpha Company already has an existing HRIS and email system*
4. *Alpha Company uses candidate statuses for determining next steps in the recruitment process*
5. *Alpha Company operates within EU boundaries and should respect relevant EU laws (GDPR in this case)*
6. *Candidates provide specific information when applying for a job*

3.   Specific Requirements

3.1. Scenarios
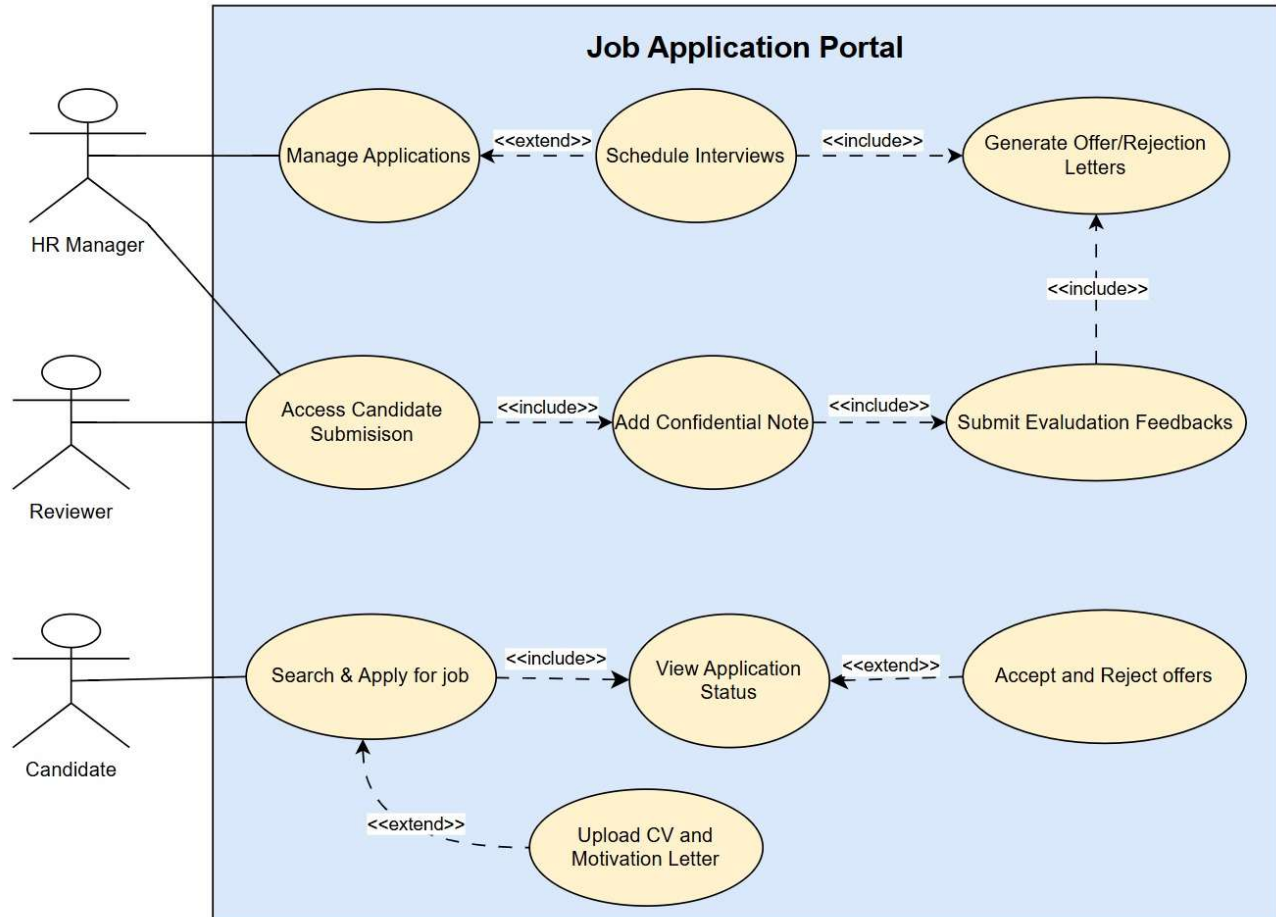
Use Case ID:	Team D 01		
Use Case Name:	Generate Offer/Rejection Letter		
Created By:	Ege, John, Dam	Last Updated By:	Ege, John, Dam
Date Created:	13.10.2025	Date Last Updated:	13.10.2025

Actor:	HR Manger, Reviewer
Description:	Allows the HR Manager and designated Reviewers to view candidate submissions, including personal data, CVs, cover letters, interview notes, and submission status for assigned job vacancies.

Trigger:	The HR Manager or Reviewer selects a vacancy or receives a notification about a new submission.
Preconditions:	1. Candidate has successfully submitted an application. 2. Reviewer or HR Manager is authenticated and authorized for the specific vacancy.
Postconditions:	1. Submission details are displayed. 2. Any accessed record is logged in the audit trail. 3. HR Manager or Reviewer may proceed to add confidential notes or evaluation feedback.
Normal Flow:	1. Actor logs into the system. 2. Actor navigates to the vacancy dashboard. 3. Actor selects a candidate submission. 4. System displays all submission data (CV, cover letter, status, interview details). 5. Actor reviews and optionally adds a confidential note or evaluation of feedback.
Alternative Flows:	1. If no submissions exist, system displays "No applications available." 2. If the user has limited rights (Reviewer), the system hides status modification options.
Exceptions:	- System fails to load candidate data (network or database issue). - Actor tries to access an unassigned submission → Access denied message displayed.
Includes:	Add Confidential Note, Submit Evaluation Feedback
Priority:	High - core function for the recruitment process.
Frequency of Use:	Daily during active recruitment periods.
Business Rules:	1. Reviewers cannot change submission status. 2. All access actions must be logged for security/audit compliance. 3. Only assigned reviewers or HR managers can access submissions for a vacancy.
Special Requirements:	- Must comply with GDPR and internal data security policies (encryption, access control). - Interface should support attachment preview (CV, cover letter).
Assumptions:	Reviewers and HR Managers are trained to use the system and have proper role-based credentials.
Notes and Issues:	Future enhancement could include integration with calendar systems for interviews or automated feedback templates.

Use Case ID:	Team D 02
Use Case Name:	Reviewer Evaluates an Assigned Candidate

Created By:	Team D – Emin, Elmar	Last Updated By:	Team D
Date Created:	13.10.2025	Date Last Updated:	13.10.2025

Actor:	Reviewer, HR Manager (system-mediated)
Description:	In this scenario the reviewer analyzes candidate documents and provides feedback.
Trigger:	Request from HR
Preconditions:	1. Application record and final decision stored in database. 2. Notification emails dispatched to all relevant parties
Postconditions:	1. Application record and final decision stored in database. 2. Notification of emails dispatched to all relevant parties.
Normal Flow:	1. Candidate logs into the job portal via a web browser. 2. Candidates search for open positions and views of detailed job descriptions. 3. Candidate uploads required documents (CV, cover letter) and submits an application. 4. The system records the submission, stores consent for data processing and sends confirmation. 5. The HR Manager receives a notification of the new submission. 6. Candidate periodically checks **Application Status** via the dashboard. 7. When an offer is made, Candidate views the **Offer Letter** online. 8. Candidate accepts or rejects the offer through the interface.
Alternative Flows:	1. If Candidate withdraws the application before decision, status changes to *Withdrawn.* 2. If Candidate requests data deletion, the system anonymizes or removes their records in compliance with GDPR.
Exceptions:	System connection failure or timeout during submission → Reviewer prompted to retry. Reviewer's session expires → system requests reauthentication before saving data. System returns error message if data is missing. Attempt to modify another Reviewer's notes → access denied, event logged for security audit.
Includes:	*Receive Assignment Notification* (UC7) - automatic notification when the HR Manager assigns a candidate.

	Access to Candidate Submissions (UC5) - required to view application details before assessment.
Priority:	High — this scenario directly affects the accuracy and fairness of the recruitment process
Frequency of Use:	Moderate to High - occurs for each candidate under review, typically several times per recruitment cycle
Business Rules:	1. Reviewers cannot modify official candidate status. 2. Confidential notes must be stored securely and not visible to candidates. 3. All review submissions must be traceable via audit logs. 4. Only HR Managers can finalize hiring decisions based on Reviewer input.
Special Requirements:	System must autosave draft notes every 60 seconds to prevent data loss.
Assumptions:	1. Reviewers possess valid corporate credentials and operate secure, company-approved devices. 2. Email and notification systems are functional and synchronized with the HRIS. 3. HR Managers assign reviewers only to relevant job postings.
Notes and Issues:	1. Future enhancement could allow structured rating scales or predefined evaluation templates. 2. Integration with performance dashboards might be required for analytics. 3. System should support multi-language UI for global Reviewer teams.

3.1   Functional requirements

ID	1	Requirement type	Functional	Version	1.0
Description	The system shall provide a web-based job portal where candidates can search, view, and apply for open positions.				
Origin	The candidate can search the existing vacancies on the system's web page, where the requirements for their qualification and the job description are mentioned		Author	Debotush Dam	
Related req.					
Related UC					

Related goals	

ID	2	Requirement type	Functional	Version	1.0
Description	The system shall restrict access to HR Manager functions (e.g., status changes, reviewer assignment) and Reviewer confidential notes based on the authenticated user's assigned role.				
Origin	The RE project scenario		Author	Duc Man Vo	
Related req.					
Related UC					
Related goals					

ID	3	Requirement type	Functional	Version	1.0
Description	The system shall notify the HR Manager responsible for a vacancy via email and an in-system notification immediately upon a new application submission.				
Origin	The RE project scenario		Author	Ege Kutay YÜRÜSEN	
Related req.					
Related UC					
Related goals					
ID	4	Requirement type	Functional	Version	1.0
Description	The system shall integrate with the existing HR information system (HRIS) to synchronize employee and recruitment data automatically.				
Origin	The new system will need to integrate with Alpha Company's existing HR information system (HRIS) for employee data synchronization and potentially with their email system for notifications		Author	Debotush Dam	
Related req.					

Related UC	
Related goals	

ID	5	Requirement type	Functional	Version	1.0
Description	The system shall send automated email and in-app notifications to candidates and staff when specific events, such as interview scheduling or offer decisions happens.				
Origin	The RE project scenario, "Upon a candidate accepting or rejecting an offer, the HR manager should receive an immediate notification.", paragraph 6	Author	Ege Kutay YÜRÜSEN		
Related req.					
Related UC					
Related goals					

ID	6	Requirement type	Functional	Version	1.0
Description	System shall synchronize employee and candidate data between HRIS and the job application platform.				
Origin	The RE project scenario	Author	Elmar Rahimov		
Related req.					
Related UC					
Related goals					

ID	7	Requirement type	Functional	Version	1.0
Description	The system shall comply with all relevant data privacy regulations concerning the handling and storage of sensitive personal data.				
Origin	The RE project scenario	Author	Duc Man Vo		

Related req.	
Related UC	
Related goals	

ID	8	Requirement type	Functional	Version	1.0
Description	The system shall automatically create calendar events for scheduled interviews and notify participants. The system shall automatically create calendar events for scheduled interviews and notify participants.				
Origin	The RE project scenario, "Future integration with calendar systems for interview scheduling might also be considered", paragraph 8	Author	Ege Kutay YÜRÜSEN		
Related req.					
Related UC					
Related goals					

ID	9	Requirement type	Functional	Version	1.0
Description	System shall obtain and store user consent for data processing.				
Origin	Requirement is derived from GDPR obligations, ensuring that candidates explicitly agree before their data is collected, processed, or stored in the system.	Author	Elmar Rahimov		
Related req.					
Related UC					
Related goals					

ID	10	Requirement type	Functional	Version	1.0
Description	System shall allow candidates to request data deletion or correction.				

Origin	The RE project scenario	Author	Elmar Rahimov
Related req.			
Related UC			
Related goals			

ID	11	Requirement type	Functional	Version	1.0
Description	System shall handle at least X concurrent users with minimal downtime.				
Origin	The RE project scenario		Author	Elmar Rahimov	
Related req.					
Related UC					
Related goals					

ID	12	Requirement type	Functional	Version	1.0
Description	System shall scale horizontally or vertically to meet peak demands.				
Origin	Derived from the requirement to ensure reliable performance during high traffic periods, such as mass job postings or large applicant volumes.		Author	Elmar Rahimov	
Related req.					
Related UC					
Related goals					

ID	13	Requirement type	Functional	Version	1.0
Description	The system shall log user actions and system events for auditing and provide tools for monitoring system performance and usage.				

Origin	Inferred data from the RE project scenario.	Author	Ege Kutay YÜRÜSEN
Related req.			
Related UC			
Related goals			

ID	14	Requirement type	Functional	Version	1.0
Description	The system shall provide a responsive web interface that works on desktop, tablet, and mobile devices.				
Origin	Inferred from the RE project scenario, the Candidate to apply easily from any device. Also, a standard expectation for any modern web application.	Author	Debotush Dam		
Related req.					
Related UC					
Related goals					

ID	15	Requirement type	Functional	Version	1.0
Description	The system shall encrypt all incoming and outgoing network traffic.				
Origin	The RE project scenario	Author	Duc Man Vo		
Related req.					
Related UC					
Related goals					

3.2   Non-functional Requirements

ID	REQ-3.3.1.1	Requirement type	Non-functional	Version	1.0
Description	The software shall respond to user actions within 1 second under normal load.				
Origin	UX best-practices from the internet	Author	Emin Alizada		
Related req.					
Related UC					
Related goals					

ID	REQ-3.3.1.2	Requirement type	Non-functional	Version	1.0
Description	The software shall respond to user actions within 2 seconds under peak load ($\geq$500 concurrent users).				
Origin	Stress testing information from the internet	Author	Emin Alizada		
Related req.					
Related UC					
Related goals					

ID	REQ-3.3.1.3	Requirement type	Non-functional	Version	1.0
Description	The software shall support at least 99.5% uptime per month.				
Origin	Uptime metrics from major cloud services	Author	Emin Alizada		
Related req.					
Related UC					

Related goals	

ID	REQ-3.3.1.4	Requirement type	Non-functional	Version	1.0
Description	The software shall complete database synchronization within 60 seconds of a change event.				
Origin	Inferred information from the web		Author	Ege Kutay Yurusen	
Related req.					
Related UC					
Related goals					

ID	REQ-3.3.2.1	Requirement type	Non-functional	Version	1.0
Description	The software shall back up all personal data daily and store it securely off-site to prevent loss in case of hardware or software failure.				
Origin	Best practices from the web		Author	Debotush Dam	
Related req.					
Related UC					
Related goals					

ID	REQ-3.3.2.2	Requirement type	Non-functional	Version	1.0
Description	The software shall implement failover and redundancy mechanisms to avoid service interruptions during maintenance or outages.				
Origin	Best practices from the web		Author	Debotush Dam	
Related req.					

Related UC	
Related goals	

ID	REQ-3.3.2.3	Requirement type	Non-functional	Version	1.0
Description	The software shall restrict production server access to authorized personnel only and log all access attempts.				
Origin	Best practices from the web		Author	Debotush Dam	
Related req.					
Related UC					
Related goals					

ID	REQ-3.3.3.1	Requirement type	Non-functional	Version	1.0
Description	The software shall encrypt all traffic using TLS 1.2+.				
Origin	Web encryption best practices		Author	Duc Man Vo	
Related req.					
Related UC					
Related goals					

ID	REQ-3.3.3.2	Requirement type	Non-functional	Version	1.0
Description	The software shall enforce strong password policies (minimum 10 characters, mixed types).				
Origin	Password policy information		Author	Duc Man Vo	

	from the web		
Related req.			
Related UC			
Related goals			

ID	REQ-3.3.3.3	Requirement type	Non-functional	Version	1.0
Description	The software shall support multi-factor authentication (MFA) for HR staff.				
Origin	Best practices from the web		Author	Ege Kutay Yurusen	
Related req.					
Related UC					
Related goals					

ID	REQ-3.3.3.4	Requirement type	Non-functional	Version	1.0
Description	The software shall implement role-based access control to ensure least-privilege access.				
Origin	Inferred data from the source material		Author	Ege Kutay Yurusen	
Related req.					
Related UC					
Related goals					

ID	REQ-3.3.3.6	Requirement type	Non-functional	Version	1.0

Description	The software shall undergo security audits at least annually.				
Origin	Inferred data from the source material	Author	Ege Kutay Yurusen		
Related req.					
Related UC					
Related goals					

ID	REQ-3.3.4.1	Requirement type	Non-functional	Version	1.0
Description	The software shall maintain availability of at least 99.5% uptime.				
Origin	Cloud services uptime data	Author	Duc Man Vo		
Related req.					
Related UC					
Related goals					

ID	REQ-3.3.4.2	Requirement type	Non-functional	Version	1.0
Description	The software shall support horizontal and vertical scaling to handle peak workloads.				
Origin	Best practices for system design	Author	Elmar Rahimov		
Related req.					
Related UC					
Related goals					

ID	REQ-3.3.4.3	Requirement type	Non-functional	Version	1.0
Description	The software shall use a modular code base with documented APIs to simplify updates.				
Origin	Best practices for web development		Author	Elmar Rahimov	
Related req.					
Related UC					
Related goals					

ID	REQ-3.3.4.4	Requirement type	Non-functional	Version	1.0
Description	The software shall be deployable on standard Linux server environments.				
Origin	Best practices for server management		Author	Debotush Dam	
Related req.					
Related UC					
Related goals					

ID	REQ-3.3.4.5	Requirement type	Non-functional	Version	1.0
Description	The software shall achieve a user satisfaction survey average $\geq 4.0/5$ within the first 6 months of operation.				
Origin	Best practices from UX communities		Author	Emin Alizada	
Related req.					
Related UC					

Related goals	
Related goals	

ID	REQ-3.3.4.6	Requirement type	Non-functional	Version	1.0
Description	The software shall include automated unit and integration tests covering ≥80% of code.				
Origin	Best practices from the web		Author	Duc Man Vo	
Related req.					
Related UC					
Related goals					
Related goals					

3.3   External interface requirements

3.3.1 Interface Requirements

This section defines the detailed requirements for all interfaces of the Job Application Management System, specifying how it interacts with users, hardware, software, and communication protocols.

Requirement Statement	Metrics (3 Defined)	How to Measure the Defined Metrics
P1. The system shall allow candidates to view, accept, or reject job offers through a secure login.	1. Offer Page Load Time (Seconds)	Time taken for 95% of page requests to complete successfully.
	2. Successful Offer Response Rate (Percentage)	Number of successful responses / Number of total attempts
	3. Session Timeout Error Rate (Percentage)	The number of errors / Total offer page sessions.

P2. The system shall integrate with Alpha Company's existing HR Information System (HRIS) for automatic synchronization of employee data.	1. Data Synchronization Latency (Seconds)	Time difference between an update being recorded in the HRIS and the corresponding change appearing in the new system's database. Benchmark: 300 seconds
	2. Synchronization Success Rate (Percentage)	Successful Synchronization Operations / Total attempted.
	3. Conflict Resolution Accuracy (Percentage)	Cases correctly handled by the sync logic / Total cases

3.4 Non-functional Requirements

Requirement Statement	Metrics (3 defined)	How to Measure the Defined Metrics
P1. The system shall ensure quick load times and responsiveness. Specifically, the job vacancy list page shall load fully in less than 2.0 seconds for 95% of candidate requests under a simulated peak load of 500 concurrent users.	1. P95 Latency (Seconds)	Utilize load testing tools to simulate peak load and record all HTTP request logs for the job vacancy page access. Calculate the time taken for 95% of those requests to be completed.
	2. Transaction Throughput (Transactions per second)	During stress testing, calculate the number of successful page load transactions for the job vacancy list completed per second while the system is under peak load conditions.
	1. Load Degradation Factor (Percentage)	Measure the increase in page load time observed during peak load conditions compared to the average load time during normal operations (e.g., 50 concurrent users).

P2. All changes in submission status shall be timestamped and recorded in an audit trail. The system shall successfully commit the corresponding audit trail record to the database within 500 milliseconds of the status change operation being initiated by the HR Manager.	1. Audit Logging Latency (Milliseconds)	Measure the time difference between the system receiving the "status change commit" command and the database committing the corresponding audit record (using system timestamps), ensuring this measurement occurs under various load conditions.
	2. Audit Log Failure Rate (Percentage)	Monitor system logs for failures or timeouts specifically related to audit trail writing, dividing the number of failures by the total number of status change operations attempted during a measured period.
	3. Database I/O Impact (Percentage increase)	Measure the average latency for HR Manager status changes when the audit trail database table reaches 1 million records and compare this latency to the latency when the table is empty or near empty.

4.   Other Requirements

<Define any other requirements not covered elsewhere in the SRS. This might include database requirements, internationalization requirements, legal requirements, reuse objectives for the project, and so on. Add any new sections that are pertinent to the project.>

Appendix A: Glossary

Job Portal: The online interface within the system where employment opportunities are

published, and candidates can apply.

Candidate: A potential employee seeking a job via the system.

Reviewer: An authorized staff member who evaluates candidate applications and adds assessment notes but cannot change official status.

HR Manager: The primary user manages the recruitment process, including updating application status and communicating with candidates.

RBAC: A security mechanism that grants or restricts user actions based on predefined roles.

Automated Notification: A system-generated message sent automatically when a predefined trigger occurs.

Predefined Trigger: A specific event or condition that activates an automated action. Integration: The technical connection between the job application platform and the existing HR system.

Offer/Rejection Letter: System-generated communication informing a candidate about the result of their application.

Automated Calendar Event: A system-generated entry automatically scheduled for recruitment activities.

GDPR Compliance: Adherence to the EU General Data Protection Regulation rules on collecting, storing, and processing personal data.

High Availability: The ability of the system to remain operational with minimal downtime.

Scalability: The ability of the system to handle increasing workloads.

Log: A system-generated record of events or actions, used for auditing and monitoring.

Auditing: The process of reviewing stored logs to verify compliance, security, and correctness of system operations.

Application Status: A label showing the current stage of a candidate's application.

Confidential Assessment Note: Private feedback from a reviewer that is only visible to HR managers.

Multi-Language Support: Functionality allowing the user interface to be displayed in multiple languages.

Encryption: The process of encoding data in transit to prevent unauthorized access during transmission.

Appendix B: Analysis Models

<Optionally, include any pertinent analysis models, such as data flow diagrams, class diagrams, state-transition diagrams, or entity-relationship diagrams.>

Appendix C: To Be Determined List

<Collect a numbered list of the TBD (to be determined) references that remain in the SRS so they can be tracked to closure.>