# Software Requirements Specification

# PRJ566 – Fall 2024

# PRJ566 – Team No: Group 6

# Name of Project:  Capital Fin's AI-Driven Recruitment Portal

# Project Leader: Duc Long Hoang

**Last updated: 2025-01-27**

**Team Members:**

**1. Duc Long Hoang**

**2. Evan Boileau**

**3. Sebastian Perez Nakazona**

**4.**

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# 1 - Introduction/Overview - Document Information

## 1.1 Document Authors

* Duc Long Hoang
* Evan Boileau
* Sebastian Perez Nakazona

## 1.2 Revision History

|  |  |
| --- | --- |
| Week 03 | Sections of this document that were completed/updated this week, example: completed/updated  1. Introduction/Overview  1.1 Document Authors (Completed)  1.2 Revision History (Completed  1.4 Document Purpose (Completed)  1.5 Intended Audience (Completed)  1.6 Group Agreement (Completed)  2.1 Project Proposal (Completed)  2.2 Stakeholders and Users (Completed)  2.3 Functional Requirements (Completed |
| Week 04 | 2.1 Project Proposal (Updated)  2.2 Stakeholders and Users (Updated)  2.3 Functional Requirements (Updated |
| Week 05 | 2.3 Functional Requirements |
| Week 06 |  |
| Week 07 |
| Week 08 |  |
| Week 09 |  |
| Week 10 |
| Week 11 |  |
| Final |  |

## 1.3 Document Conventions

Any text in red indicates an exception or error.

Any text in blue is in-progress.

Any text highlighted in yellow is an important point.

Any text in green was recently added.

Any text *italicized* represents definitions.

Any text with ~~strike-through~~ is deleted.

## 1.4 Document Purpose

1. **Define Clear Requirements:**

* Provide a detailed description of the functional and nonfunctional requirements for the AI-Driven Recruitment Portal.
* Ensure the platform meets Capital Fin's business objectives, including streamlining recruitment, reducing HR workload, and improving hiring accuracy.

1. **Facilitate Stakeholder Communication:**

* Act as a central reference document for all stakeholders, including HR teams, developers, project sponsors, and compliance officers.
* Ensure alignment between technical teams and business stakeholders on project goals and deliverables.

1. **Ensure Compliance and Security:**

* Document adherence to data privacy regulations.
* Define security measures to protect candidate data and ensure confidentiality.

1. **Support Decision-Making:**

* Provide a basis for evaluating project scope, timelines, and resource allocation.
* Enable stakeholders to make informed decisions about feature prioritization and trade-offs.

1. **Track Progress and Changes:**

* Serve as a living document that evolves with the project, incorporating updates and feedback throughout the development lifecycle.

## 1.5 Intended Audience

**1. Development Team**

* **AI Engineer:**
  + Responsible for training and integrating the AI model for resume parsing and ranking.
  + Will use the document to understand the requirements for NLP (Natural Language Processing) and machine learning components.
* **Backend Developers:**
  + Tasked with building the server-side logic, database, and APIs.
  + Will refer to the document for database schema, API specifications, and integration requirements.
* **Frontend Developers:**
  + Responsible for designing and developing the user interface for candidates and HR teams.
  + Will use the document to understand UI/UX requirements, including wireframes and mockups.
* **DevOps Engineers:**
  + Responsible for managing CI/CD pipelines, cloud infrastructure, and deployment processes.
  + Will use the document to understand deployment requirements, scalability needs, and security configurations.

**2. HR Stakeholders**

* **HR Managers:**
  + Primary users of the platform who will post job openings and review AI-ranked candidates.
  + Will use the document to validate that the platform meets their recruitment needs and improves hiring efficiency.
* **Hiring Managers:**
  + Will rely on the platform to identify the best candidates for open positions.
  + Will use the document to understand how the AI-driven portal will streamline candidate screening and selection.

**3. Project Sponsors**

* **Capital Fin Leadership ( CEO, CFO):**
  + Responsible for approving budgets and ensuring the project aligns with business goals.
  + Will use the document to evaluate the project's feasibility, ROI, and strategic value.

## 1.6 Group Agreement

**TEAM AGREEMENT**

**Team #: Group 6**

**Project Title: AI-Driven Recruitment Portal**

**Project Time Frame: 10 Months**

**Team Members:**

* Duc Long Hoang
* Evan Boileau
* Sebastian Perez Nakazona

**Team Leadership:**

Project and Tech Leader: Duc Long Hoang

* Responsible for overall project coordination, timeline management, and stakeholder communication.
* Oversees technical decisions, code quality, and integration of AI/ML components.

**Team Functions:**

* *We will share information through MS Teams, GIthub.*
* *Weekly sprint reviews.*
* ***AI Developer:****Focuses on training and integrating the AI model for resume ranking.*
* ***Backend Developer:****Builds the server-side logic, database, and APIs.*
* ***Frontend Developer:****Designs and develops the user interface for candidates and HR teams.*
* ***DevOps Engineer:****Manages CI/CD pipelines, cloud infrastructure, and deployment processes.*

**Team Meetings:**

1. **Primary Tools:**
   * **MS Teams:** For daily standups, team meetings, and quick communication.
   * **GitHub:** For version control, code reviews, and issue tracking.
   * **OneDrive:** For document sharing and collaborative editing.
2. **Meeting Schedule:**
   * **Weekly Meetings:** 1-hour sessions every Wednesday to review milestones and plan for the next week.
   * **Ad-Hoc Meetings:** Scheduled as needed to address urgent issues.

**Team Problems:**

* Lack of communication among team members
* Limited contribution to tasks or assignments

**Team Commitment**

**The undersigned members agree to work together on the project until the end of the PRJ666 next Semester. They recognize that as a team and individually they are responsible for the quality of all deliverables.**

**Name Date**

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| Long | 2025-01-27 |
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# 2 - Project Overview

## 2.1 Project Proposal

Project Background

Capital Fin, a growing financial services company, is expanding its operations to meet increasing market demands. This growth requires a significant workforce expansion, resulting in a high volume of job applications. The current manual recruitment process is inefficient, time-consuming, and prone to human error, leading to delays in hiring and potential oversights in identifying top talent.

To address these challenges, Capital Fin is developing an AI-driven recruitment portal. This platform will automate resume screening, improve hiring efficiency, and enhance the candidate experience by leveraging AI to analyze and rank resumes based on job requirements.

**Problem Statement**

|  |  |
| --- | --- |
| The Problem of: | Manual recruitment inefficiencies, including slow resume screening, subjective candidate evaluation, and high HR workload. |
| Affects: | HR Teams, Hiring Managers, and Candidates. |
| The impact of which is: | - Delays in hiring due to manual screening processes.  - Increased HR operational costs.  - Potential loss of top talent due to slow response times.  - Inconsistent hiring decisions influenced by human bias. |
| A successful solution would: | - Automate resume screening with AI to improve hiring accuracy and efficiency.  - Reduce time-to-hire by at least 40%.  - Provide a bias-free ranking system for candidates based on job descriptions.  - Offer a real-time dashboard for HR teams and candidates to track hiring progress. |

**Product Vision**

|  |  |
| --- | --- |
| For | HR Teams, Hiring Managers, and Recruitment Decision-Makers at Capital Fin. |
| Who | Need an efficient, automated, and bias-free hiring solution that streamlines resume screening and candidate selection. |
| The Product Name | Capital Fin's AI-Driven Recruitment Portal |
| That | - Automates job posting, resume screening, and candidate ranking using AI. - Reduces manual workload for HR teams and hiring managers. - Provides real-time analytics on hiring efficiency and candidate performance. - Ensures compliance with data privacy regulations. |
| Unlike | Traditional Applicant Tracking Systems (ATS) that rely on keyword-based filtering with minimal AI intelligence. |
| Our product | - Uses explainable AI for transparency in candidate ranking.  - Enhances hiring accuracy and efficiency through data-driven insights.  - Provides mobile-friendly access for both HR teams and candidates.  - Offers seamless integration with Capital Fin’s HR systems. |

## 2.2 Stakeholders and Users

|  |  |
| --- | --- |
| Stakeholder Name/Identifier | Category |
| HR Managers | Primary Users. Responsible for job postings, reviewing AI-ranked candidates, and final hiring decisions. |
| Candidates | End Users. Apply for job positions and track application progress through the platform. |
| Compliance Officers | Regulatory Oversight. Ensure that the platform adheres to industry regulations and data privacy laws (e.g., GDPR, CCPA). |
| Developers | Technical Team. Build and maintain the AI-driven recruitment portal, ensuring seamless integration with existing HR systems. |
| Cost Accountant | Business User. Assesses the cost-effectiveness of the recruitment platform and its impact on HR expenses. |
| Project Sponsor (CEO) | Administration. Provide funding and strategic direction for the project. |

## 2.3 Functional Requirements

1. Job Posting Management:

* HR can create/edit/delete job listings.
* Auto-publish to career page.

1. AI Resume Screening:

* Parse resumes, match keywords to job descriptions.
* Rank candidates (1–5 stars).

1. Candidate Dashboard:

* Apply for jobs, track application status.
* Mobile-friendly interface.

1. HR Analytics:

* Generate reports (e.g., time-to-hire, diversity metrics).

## 2.4 Nonfunctional Requirements

* Performance:
  + Process 500 resumes/hour with <2s response time.
* Security:
  + End-to-end encryption, GDPR/CCPA compliance.
* Scalability:
  + Support 10,000 concurrent users.
* Usability:
  + Intuitive UI (target: 85% satisfaction in UAT).

## 2.5 Project Scope

**In-Scope:**

* AI resume ranking.
* Integration with Capital Fin’s HRIS.
* Compliance with data privacy laws.  
  **Out-of-Scope:**
* Payroll processing.
* Background check automation.

## 2.6 System Risks

|  |  |
| --- | --- |
| **Risk** | **Response** |
| The use of Voice Recognition adds complexity, introducing more ways to hack into your device | Implement various security measures and keep code modular in order to reduce complexity and increase security |
| Some of the team members are not familiar with Android Studio (IDE used to develop Android apps) | Hold team sessions to go over the IDE and how to initialize an APK for app testing /  or the whole team will meet twice a week to complete video tutorials related to . . . |
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## 2.7 Operating Environment

## 2.8 UI/UXD Interface Mock-ups

# Process and Data Modeling

## **3.1 UML/DFD Modeling and Data Modeling**

### Activity Diagrams and Data Flow diagram

## **3.2 Business Rules**

|  |  |  |
| --- | --- | --- |
| Business Rule Number | Business Rule Description | Related UC |
| BR01 | User must provide a username, email and password to register for the app. | UC01 |
| BR02 | Post length can be no longer than 300 characters | UC02 |
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## **3.3 Use Case Specifications with corresponding interface mockups:**

**Each use case needs to have the following:**

1- **Business Rules.**

**2- System Use Case Diagrams.**

**3- Use Case Descriptions.**

**4- Corresponding Mockups**

# Domain Class Diagram

# Database

# Work Breakdown Structure (WBS)

## 

## Work Breakdown Structure

Sample WBS:

Diagram

Description automatically generated

# Milestones and Acceptance Criteria

* 1. Milestone one

Definition

Acceptance Criteria

* …
* ….
* ….
  1. Milestone Two
  2. Milestone Three
  3. ..
  4. …
  5. …
  6. ..
  7. ..
  8. ...etc.

# Implementation Schedule

Implementation Schedule using MS Project (Waterfall)

OR

Product Backlog (Agile-Scrum)

# Client / Faculty Sign-off

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

X .

Name of Client/Rep/Professor