Hamdard University
Department of Computing
Final Year Project

Recruit Right: Precision Hiring with AI Insight

FYP-029/FL24

Software Plan Document

Submitted by

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Fall 2024

Document Sign off Sheet

Document Information

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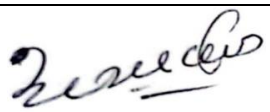
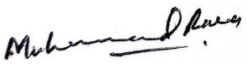
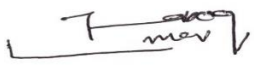
Name	Role	Signature	Date
Muhammad Naeemuddin	Team Lead		17-01-25
Muhammad Abdullah	Team Member 2		17-01-25
Muhammad Raza	Team Member 3		17-01-25
Dr. Umer Farooq	Supervisor		17-01-25

Revision History

Date	Version	Description	Author
17/01/2025	1.0	First Draft	Muhammad Naeemuddin
18/01/2025	1.1	Final	Muhammad Naeemuddin

Table of Contents

1. Introduction

Purpose

This Software Plan Document serves as the principal guide for the development and implementation of the Recruitment/Interview Platform. It outlines the project's scope, objectives, timeline, and methodologies to ensure aligned understanding among all stakeholders and team members.

Project Overview

The Recruitment/Interview Platform is an AI-powered application designed to streamline the hiring process. The platform will leverage Named Entity Recognition (NER) technology for automated resume screening and facilitate efficient interview scheduling and management. By automating time-intensive processes, the platform enables faster and data-driven hiring decisions.

Scope

In Scope:

- Resume parsing and analysis using NER
- Candidate ranking system
- Interview scheduling module
- Basic applicant tracking
- Email notification system
- User authentication and authorization
- Basic reporting and analytics

Out of Scope:

- Video interview capabilities
- Integration with external job boards
- Advanced HR analytics
- Payroll or compensation management
- Employee onboarding processes

2. Objectives

1. Develop an automated resume screening system using NER technology with 90% accuracy.
2. Create an intuitive user interface for HR professionals, candidates, and interviewers.
3. Implement secure data handling compliant with GDPR and CCPA.
4. Enable automated interview scheduling with calendar integration.
5. Reduce resume screening time by 75%.
6. Generate comprehensive screening reports and analytics.

7. Achieve 99.9% system uptime.

3. Roles and Responsibilities

Muhammad Naeemuddin - Team Lead

- Project management and coordination
- Resource allocation
- Timeline management
- Documentation oversight
- Frontend development
- UI/UX implementation
- Integration testing
- Third-party API integration

Muhammad Raza- Lead Developer

- Architecture design
- Backend development
- Database management
- API design and implementation
- Code review management
- Third-party API integration

Muhammad Abdullah- Developer

- Documentation
- Test planning and execution
- Quality assurance
- Bug tracking and reporting
- Performance testing

4. Project Plan

Phase 1: Requirements Analysis

- Stakeholder interviews
- Requirements documentation
- Technical specification
- Project scope finalization

Phase 2: Design

- System architecture design
- Database schema design
- UI/UX wireframing

- API specification

Phase 3: Development

- Backend development
- Frontend development
- API implementation
- Integration development

Phase 4: Testing

- Unit testing
- Integration testing
- System testing
- User acceptance testing

Phase 5: Deployment

- System deployment
- Documentation
- Training
- Handover

5. Development Approach

Methodology

- Agile Scrum methodology
- Two-week sprint cycles

Technical Stack

Frontend:

- HTML CSS JS
- Material-UI
- Redux for state management
- Jest for testing

Backend:

- Flask
- Python 3.11

Database:

- Firebase database

DevOps:

- GitHub for version control
- Firebase

6. Risk Management Plan

Risk	Probability	Impact	Mitigation Strategy
NER accuracy below target	Medium	High	Implement fallback keyword matching system
Timeline delays	Medium	Medium	Buffer time in schedule, flexible resource allocation
Technical debt	Medium	Medium	Regular code reviews, maintaining documentation
Team member unavailability	Low	Medium	Cross-training team members, documentation

7. Quality Assurance Plan

Testing Levels

Unit Testing:

- Jest for frontend
- PyTest for backend
- 90% code coverage target

Integration Testing:

- API testing
- Component integration testing
- Database integration testing

System Testing:

- End-to-end testing with Cypress
- Performance testing with Apache JMeter

Quality Metrics

- Code coverage: 90%
- Maximum response time: 2 seconds
- System uptime: 99.9%
- Bug resolution time: 48 hours for critical issues

8. Sign-Up Sheet

FYP Fortnightly Sign-Up Sheet

Course: ✓ FYP-1 ☐ FYP-2 Project Code: FYP-029/FL24 Project Name: Recruit Right: Precision Hiring with AI Insight

Group Members Names & Reg#: Muhammad Naeemuddin (1955-2021) Muhammad Abdullah (2206-2021) Muhammad Raza (2207-2021)

Supervisor Name: Ms. Muntaha Mehboob Co-Supervisor's Name: _____

Meeting #	Date	Agenda (Brief Statement)	Attended By (Student's Name only)	Supervisor's Sign	Co-supervisor's Sign	FYP Officer's Sign
1	12/09/2024	Kick off & Initial Design Discussion	M. Naeemuddin M. Abdullah M. Raza		–	
2	03/10/2024	Literature Review, Prototype and Resume Shortlisting Algorithm Discussion	M. Naeemuddin M. Abdullah M. Raza		–	
3	17/10/2024	Discussion for UML Diagrams	M. Naeemuddin M. Abdullah M. Raza		–	
4	31/10/2024	First draft of SRS and SDS	M. Naeemuddin M. Abdullah M. Raza		–	
5	14/11/2024	Progress Evaluation and Corrections	M. Naeemuddin M. Abdullah M. Raza		–	
6	25/11/24	Discussion of process flow and UI.	M. Naeemuddin M. Abdullah M. Raza		–	
7	12/12/24	Front-End Progress Review and Achievements	M. Naeemuddin M. Abdullah M. Raza		–	

9. Work Breakdown Structure

Work-Breakdown Structure
Recruit Right: Precision Hiring with AI Insight
FYP-029/FL24

Project Name	*Recruit Right*
Start Date	*9/2/2024*
Current Date	*1/19/2025*
Week in Progress	*Wk 20*

WBS Number	Task	Start Date	End Date	Progress %
Project Objective and Approval				
1.1	Obtain project approval and define objectives.	9/2/2024	9/19/2024	100%
Use Cases and Actors Determination				
2.1	Identify Key Actors	9/23/2024	9/30/2024	100%
2.2	Define Use Cases	10/1/2024	10/3/2024	100%
Documentation (SRS, SDS)				
3.1	First Draft of SRS Structure	10/7/2024	10/24/2024	100%
3.2	Define System Description	10/7/2024	10/24/2024	100%
3.3	Identify and Document Functional & Non-Functional Requirements	10/7/2024	10/24/2024	100%
3.4	Plan and Draft SDS Content Outline	10/7/2024	10/24/2024	100%
3.5	Develop Architectural Design Section	10/7/2024	10/24/2024	100%
3.6	Plan for Data Design and Interfaces	10/7/2024	10/24/2024	100%
UI/UX Design				
4.1	Research and Analysis	10/28/2024	11/28/2024	100%
4.2	Define Requirements and Create Design Specifications	10/28/2024	11/28/2024	100%
4.3	Create Wireframes and Prototypes	10/28/2024	11/28/2024	100%
Front-End Development				
5.1	Build the Project Structure	12/2/2024	12/16/2024	100%
5.2	Implement Core Features	12/2/2024	12/16/2024	100%
5.3	Integrate APIs and Test	12/2/2024	12/16/2024	100%
5.4	Style the Application	12/2/2024	12/16/2024	100%