Hamdard University Department of Computing Final Year Project



HR System for Hiring (FYP-018/FL24) Software Requirements Specifications

Submitted by Muhammad Hassan (1669-2021) Ramiz Shahnawaz (1678-2021) Shayan Yar Khan (1889-2021)

Supervisor(s)
Aamir Hussain
Maaz Ahmed

Fall 2021

HR System for Hiring	Version: 1.0
Software Requirements Specifications	Date: 16-01-2021
FYP-018/FL24-SRS	

Document Sign off Sheet

Document Information

Project Title	HR System for Hiring	
Project Code	FYP-018/FL24	
Document Name	Software Requirements Specifications	
Document Version	<1.0>	
Document Identifier	FYP-018/FL24-SRS	
Document Status	Draft	
Author(s)	Muhammad Hassan, Ramiz Shahnawaz, Shayan Yar Khan	
Approver(s)	Aamir Hussain, Maaz Ahmed	
Issue Date	16-01-2021	

Name	Role	Signature	Date
Muhammad Hassan	Team Lead	Ha	16-01-2025
Ramiz Shahnawaz	Team Member 2	-townit	16-01-2025
Shayan Yar Khan	Team Member 3	Jan	16-01-2025
Aamir Hussain	Supervisor	De'r	16-01-2025
Maaz Ahmed	Co-Supervisor	Now De leg	16-01-2025
	Project Coordinator		

HR System for Hiring	Version: 1.0	
Software Requirements Specifications	Date: 16-01-2021	
FYP-018/FL24-SRS		

Revision History

Date	Version	Description	Author
16-01-2025	1.0	First Draft	Ramiz Shahnawaz, Shayan Yar Khan

HR System for Hiring	Version: 1.0
Software Requirements Specifications	Date: 16-01-2021
FYP-018/FL24-SRS	

Definition of Terms, Acronyms, and Abbreviations

Term	Description		
HR	Human Resources		
CV	Curriculum Vitae		
GHz	Gigahertz		
GB	Gigabyte		
SSD	Solid-State Drives	Solid-State Drives	
HTTPS	Hypertext Transfer Protocol Secure		
API	Application Programming Interface		
PDF	Portable Document Format		
DOC	Document		
SHA-256	Secure Hash Algorithm (256-bit)		

HR System for Hiring	Version: 1.0	
Software Requirements Specifications	Date: 16-01-2021	
FYP-018/FL24-SRS		

Table of Contents

1. In	troduction	6
1.1	Purpose of Document	6
1.2	Intended Audience	6
1.3	Abbreviations	
2. O	verall System Description	7
2.1	Project Background	7
2.2	Problem Statement	7
2.3	Project Scope	7
2.4	Not In Scope	7
2.5	Project Objectives	7
2.6	Stakeholders & Affected Groups	8
2.7	Operating Environment	8
2.8	System Constraints	8
2.9	Assumptions & Dependencies	8
	sternal Interface Requirements	9
3.1	Hardware Interfaces	9
3.2		9
3.3	Communications Interfaces	9
	stem Functions / Functional Requirements	10
4.1	System Functions	10
4.2	Use Cases	11
	2.1 List of Actors	11
	2.2 List of Use Cases	11
	2.3 Use Case Diagram	12
	2.4 Description of Use Cases	13
	on - Functional Requirements	17
5.1	Performance Requirements	17
5.2	Safety Requirements	17
5.3	Security Requirements	17
5.4	Reliability Requirements	17
5.5	Usability Requirements	17
5.6	Supportability Requirements	17
5.7	User Documentation	17
6. Re	eferences	

HR System for Hiring	Version: 1.0	
Software Requirements Specifications	Date: 16-01-2021	
FYP-018/FL24-SRS		

1. Introduction

The HR System will serve as a platform that simplifies the hiring process providing a seamless experience for candidates, HR personnel, and companies, ensuring the right fit for each position. Our goal is to minimize the gap between organizations, HR professionals and job applicants by developing an easy-to-use virtual platform with advanced features that help organizations, HR personnels in receiving and assessing resumes and applications, scheduling interviews, conducting tests, and shortlisting applicants based on job requirements and for Organization by finding the right fit for their open position without spending vast amount of cost and manpower.

1.1 Purpose of Document

This document outlines the requirements, functionalities, and design constraints for the development of HR System. It serves as a guide for developers, testers, and stakeholders to understand the system specifications and ensure a successful implementation.

1.2 Intended Audience

The hiring practices followed today requires a vast amount of manual labor and time for gathering resumes, shortlisting candidates, and scheduling interviews, leading to inefficiencies, higher expenses, and longer hiring periods. Organizations struggle to find top talents, HRs are stressed out, and candidates aren't given enough opportunity during the hiring process.

- Project Team
- Supervisors
- End-users (Companies, HRs, Candidates

HR System for Hiring	Version: 1.0
Software Requirements Specifications	Date: 16-01-2021
FYP-018/FL24-SRS	

2. Overall System Description

2.1 Project Background

The hiring approach in today's workplace is time-consuming and demands a lot of resources. our goal is to simplifies these processes by bringing organizations, HR personnels and candidates on one platform.

2.2 Problem Statement

The hiring practices followed in today's workplaces includes gathering resumes, shortlisting candidates and scheduling interviews, which typically demands a vast amount of manual labor and time. This lengthy practice might result in increased cost, longer hiring period and inefficiencies.

Organizations usually waste time and man power in finding the best fit for the open position and HR personnel find it difficult to go through numerous resumes. Companies lack the resources to effectively hire top talent, HR personnel are left with little time to focus on other tasks, and Candidates often struggle with the lack of visibility and opportunities.

2.3 Project Scope

The following significant elements will be a part of the project.

- 1. Improving the overall efficiency of HR processes and procedures.
- 2. Simplifying and optimizing hiring processes.
- 3. Provide organization to manage job openings, hire HR professionals, and automate shortlisting.
- 4. Allow HR professionals and Organizations to conduct assessments and schedule interviews.
- 5. Allow candidates to apply for jobs, give assessment, and attend interviews.

2.4 Not In Scope

- 1. Salary negotiations between HR and companies.
- 2. Candidate evaluation based on non-quantifiable criteria (e.g., cultural fit).

2.5 Project Objectives

To design an efficient, system that connects candidates with job opportunities, facilitates HR tasks, simplify the hiring process for organizations and improve candidate management efficiency.

HR System for Hiring	Version: 1.0
Software Requirements Specifications	Date: 16-01-2021
FYP-018/FL24-SRS	

2.6 Stakeholders & Affected Groups

❖ Primary Stakeholders:

- Companies.
- HR professionals.
- Job candidates.

❖ Secondary Stakeholders:

• Developers and project team.

2.7 Operating Environment

The system will operate in a browser-based environment and should support the following:

- Browsers: Chrome, Firefox, Safari.
- **Devices:** Desktop, laptop, tablet, and smartphone.

2.8 System Constraints

- Must operate within a web browser without requiring additional software.
- Support for up to 500 concurrent users.
- Limited initial budget and resources
- Tight development timeline for MVP launch
- Potential challenges in scaling the platform quickly

2.9 Assumptions & Dependencies

- Availability of qualified interviewers
- Reliable video conferencing and recording capabilities
- Timely feedback and cooperation from clients and candidates

HR System for Hiring	Version: 1.0
Software Requirements Specifications Date: 16-01-2021	
FYP-018/FL24-SRS	

3. External Interface Requirements

3.1 Hardware Interfaces

• Server Requirement

- Processor: 2 GHz or higher.

- RAM: 8 GB minimum.

- Storage: 100 GB SSD.

• Client Requirement

- Any modern device that supports web browser.

3.2 Software Interfaces

• Server Requirement

- **Backend**: Node.js, Express.js

- Database: MongoDB (Mongoose for connection)

- Frontend: React.js

3.3 Communications Interfaces

- Communication over HTTPS.
- APIs for assessment tools and scheduling services (if applicable).

HR System for Hiring	Version: 1.0
Software Requirements Specifications Date: 16-01-2021	
FYP-018/FL24-SRS	

4. System Functions / Functional Requirements

4.1 System Functions

Ref #	Functions	Category	Attribute	Details & Boundary Constraints
R1.1	User registration and login for candidates, HRs, and organizations	Evident	Response time	User registration should complete within 5 seconds
R1.2	CV submission by candidates	Evident	Data storage	System should allow CV uploads in standard formats (PDF, DOC)
R1.3	Job posting and management by organizations	Evident	System availability	Accessible 24/7
R1.4	Shortlisting of CVs by HRs based on job criteria	Hidden	System processing	CV shortlisting to complete within 10 seconds for 100 resumes
R1.5	Scheduling and conducting assessments/interviews	Evident	Integration support	Supports integration with online assessment tools
R1.6	Hiring HRs temporarily for recruitment tasks	Hidden	User load	Supports concurrent access by at least 50 users

HR System for Hiring	Version: 1.0
Software Requirements Specifications Date: 16-01-2021	
FYP-018/FL24-SRS	

4.2 Use Cases

4.2.1 List of Actors

The following are the key actors in the system

<u>Candidates:</u> Individuals who apply for jobs by sending in their resumes and taking part in assessments and interviews.

<u>HRs:</u> Human resource experts in managing recruitment, interviewing candidates, and shortlisting applications.

<u>Organizations:</u> Companies that post job openings, hire HR personnel, and manage the recruitment process.

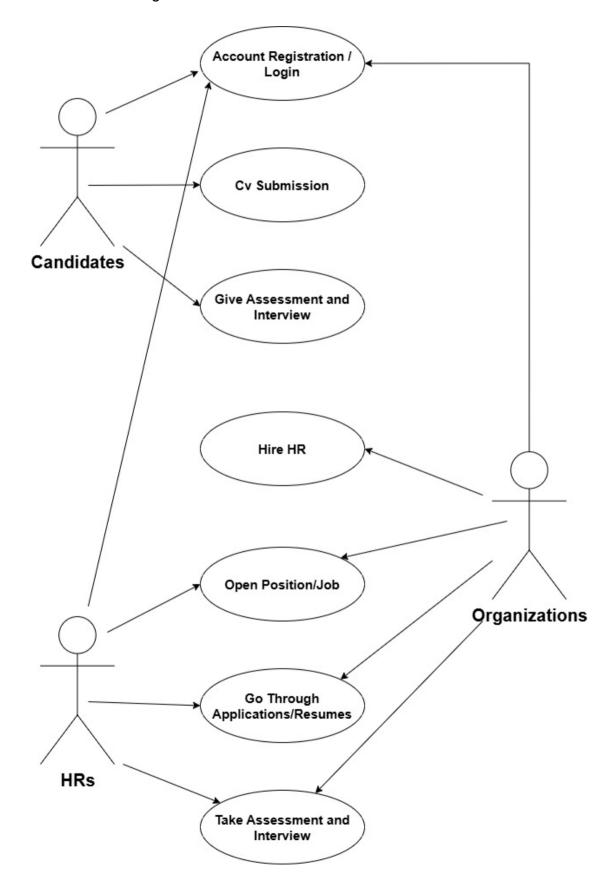
4.2.2 List of Use Cases

The system supports the following use cases:

Use Case #	Name	Brief Description	
UC1	Account Registration / Login	Allows organizations, HRs, and candidates to register or login to their accounts.	
UC2	CV Submission	Candidates can upload their CVs in standard formats for job applications.	
UC3	Open Position / Job	Organizations and HR personnels can post new job openings for candidates to apply.	
UC4	Go Through Applications / Resumes	Organizations and HR personnels can review resumes based on job requirements.	
UC5	Take Assessment and Interview	Organizations and HR personnels can schedule assessments and interviews for candidates.	
UC6	Hire HR	Organizations can hire HRs temporarily to handle specific recruitment tasks.	

HR System for Hiring	Version: 1.0
Software Requirements Specifications Date: 16-01-2021	
FYP-018/FL24-SRS	

4.2.3 Use Case Diagram



HR System for Hiring	Version: 1.0
Software Requirements Specifications Date: 16-01-2021	
FYP-018/FL24-SRS	

4.2.4 Description of Use Cases

	Section: Main		
Name: Ac		Account Registration / Login	
Ac	tors:	Candidates, HRs, Organization	S
Pu	rpose:	To allow users with a secure ac	ecount to access the system.
De	scription:	Users can create an account or	log in using valid credentials.
Cro	oss References:	Functions: R1.1	
Pre-Conditions User must have valid email and password for login or registration.		password for login or registration	
Successful post- conditions Upon a successful login, the user is taken to their dashb		er is taken to their dashboard.	
Failure post- conditions		Login fails and error message i	s displayed.
		Typical Course of Events	
	1	Actor Action	System Response
1	User enters registr	ration details or login credentials.	System verifies the credentials and redirects to the appropriate dashboard.
2	2 Incorrect credentials are provided.		System displays an error message and asks the user to retry or reset password.

Section: Main	
Name:	CV Submission
Actors:	Candidates
Purpose:	To allow candidates to upload their CVs.
Description:	Candidates can upload CVs in standard file formats for job applications.
Cross References:	Functions: R1.2

HR System for Hiring	Version: 1.0
Software Requirements Specifications Date: 16-01-2021	
FYP-018/FL24-SRS	

Pr	Pre-Conditions User must be logged into their account.		eir account.	
	Successful post- Conditions CV is successfully uploaded and stored in the system.			
	Failure post- Conditions Error message is displayed if the file format is invalid or uplo fails.			
	Typical Course of Events			
	A	Actor Action	System Response	
1	Candidate selects a CV file and clicks upload.		System validates the file format and stores the CV in the database.	
2	Invalid file format is selected.		System displays an error message and asks the candidate to re-upload.	

	Section: Main		
Na	ne: Open Position / Job		
Ac	tors:	HRs, Organizations	
Pu	rpose:	To allow organizations and HI	Rs to post job openings.
Description: Organizations and HR personnels can create job possincluding details such as job title, description, qualification salary.		3 1 5	
Cro	oss References:	Functions: R1.3	
Pro	e-Conditions	The organization and HR mus	t be logged into their account.
Successful post- conditions Job posting is successfully created and management of the candidates.		created and made visible to	
I dilai e post		Error message is displayed if system encounters an issue.	required fields are missing or the
		Typical Course of Even	ts
	A	ctor Action	System Response
1	Organization enter	rs job details and clicks "Post."	System validates the information and publishes the job posting.
2	Required fields are	e not filled.	System displays an error message and asks the organization pr HR to complete missing fields.

HR System for Hiring	Version: 1.0
Software Requirements Specifications	Date: 16-01-2021
FYP-018/FL24-SRS	

	Section: Main			
Na	me:	Go Through Applications / Resumes		
Ac	tors:	HRs, Organizations	HRs, Organizations	
Pui	pose:	To enable HRs and Organizations to review applications/resumes for job openings.		
De	scription:	Organizations and HRs can review applications based on qualifications, skills, and job requirements.		
Cro	oss References:	Functions: R1.4		
Pro	e-Conditions	Organization and HR must be logged into their account and connected with a job posting.		
	ccessful post- iditions	Resumes are shortlisted, and candidates are notified of the next steps.		
	Failure post- conditions Error message is displayed if filtering criteria are not valid system processing fails.		filtering criteria are not valid or	
		Typical Course of Even	ts	
	A	ctor Action	System Response	
1	Organization and I applications.	HR selects a job posting to review	System retrieves and displays all resumes submitted for the job.	
2	Organization and I the list.	HR applies filters to narrow down	System displays a filtered list of candidates matching the criteria.	

Section: Main		
Name:	Take Assessment and Interview	
Actors:	HRs, Organizations	
Purpose:	To allow Organizations and HRs to schedule and conduct assessments and interviews for candidates.	
Description:	Organizations and HRs can set up online assessments or schedule interviews for shortlisted candidates.	
Cross References:	Functions: R1.5	

HR System for Hiring	Version: 1.0
Software Requirements Specifications	Date: 16-01-2021
FYP-018/FL24-SRS	

Pr	Pre-Conditions Organization and HR must have shortlisted candidates for a job posting.			
	ccessful post- nditions	± 1		
	ilure post- nditions	Error message is displayed if scheduling conflicts or system errors occur.		
Typical Course of Events				
Actor Action		tor Action	System Response	
1	Organization and schedules an assess	HR selects a candidate and ment or interview.	System saves the schedule and notifies the candidate.	
2	Organization and assessment.	HR conducts an online	System records the candidate's performance and saves the results.	

	Section: Main			
Na	ime:	Hire HR		
Ac	etors:	Organizations	Organizations	
Pu	rpose:	To enable organizations to hire HRs temporarily for recruitment tasks.		
De	escription:	Organizations can browse available HR profiles, negotiate terms, and hire them for specific recruitment needs.		
Cr	oss References:	Functions: R1.6		
Pr	e-Conditions	Organization must be logged into their account.		
	ccessful post- nditions	HR is successfully hired, and their tasks are assigned.		
	Failure post- conditions Error message is displayed if the HR profile is unavailable terms are not agreed upon.		the HR profile is unavailable or	
	Typical Course of Events			
Actor Action		ctor Action	System Response	
1	Organization brow	rses available HR profiles.	System displays a list of HRs with their expertise and availability.	
2	Organization selec	ts an HR and negotiates terms.	System finalizes the agreement and assigns tasks to the hired HR.	

HR System for Hiring	Version: 1.0
Software Requirements Specifications	Date: 16-01-2021
FYP-018/FL24-SRS	

5. Non - Functional Requirements

5.1 Performance Requirements

• Every operation should have a response time of less than two seconds.

5.2 Safety Requirements

- All data transmission over HTTPS.
- Passwords encrypted using SHA-256.

5.3 Security Requirements

- All user data (e.g., CVs, job postings, candidate test results) must be stored securely and protected from unauthorized access.
- Require two-factor authentication.

5.4 Reliability Requirements

• System uptime: 99.5%

5.5 Usability Requirements

• Simple and interactive user interfaces for all users.

5.6 Supportability Requirements

- The system must be scalable to handle a growing user base without significant performance degradation.
- Incorporate cloud-based solutions for dynamic resource allocation.
- The system must adapt to different screen sizes (responsive design) for mobile and desktop users.
- Use version control systems (e.g., Git) to manage source code and track changes.

5.7 User Documentation

Candidates:

- Guide on creating an account and submitting CVs.
- Instructions for participating in scenario-based tests and attending interviews.

HR Professionals:

- Overview of dashboard functionalities for shortlisting candidates, scheduling tests, and interviews.
- Steps for defining job requirements and managing candidate data.

Companies:

• Instructions for hiring HR professionals, posting jobs, and managing recruitment processes.

Answers to common questions (e.g., "How do I reset my password?").

• Troubleshooting steps for common issues like login problems or file upload errors.

HR System for Hiring	Version: 1.0
Software Requirements Specifications	Date: 16-01-2021
FYP-018/FL24-SRS	

Help Desk Support:

- Contact details for technical support.
- Support hours and escalation procedures for unresolved issues.