EmployEase

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# Project Detail

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| --- | --- | --- | --- | --- | --- |
| Type (Nature of project) | | | [✔ ] **D**evelopment [ ] **R**esearch [ ] **R**&**D** | | |
| Area of specialization | | | Web Development | | |
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# Plagiarism Free Certificate

This is to certify that, I am \_\_Zohaib Shafique\_\_S/D/o \_\_\_Muhammad Shafique\_\_\_, group leader of FYP under registration no CIIT/SP21-BSE-070/LHR at Computer Science Department, COMSATS University Islamabad, Lahore Campus. I declare that my FYP report is checked by my supervisor and the similarity index is \_\_\_\_\_\_\_\_% that is less than 20%, an acceptable limit by HEC. Report is attached herewith as Appendix A.

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**Abstract**

The purpose of this project is to develop HRMS (Human Resource Management System) named "EmployEase". This system will be connecting companies and employees. When the companies have to outsource employees’ project requirements, it is mostly hectic for the companies to find employees and manage them in terms of their payroll and attendance. This system will act as a third party and solve this problem for both companies and employees.

This system will collect information regarding both companies and employees. AI resume scanner will be used to extract all necessary information from the resumes. The system will display all the eligible employees on the company's dashboard according to a specific ranking algorithm based on their performance (displaying the top-ranked employees at the top).

Moreover, the payroll and attendance of the employees will also be carried out using the system. Hence, by using "EmployEase" the difficult task of outsourcing employees and managing them will become simpler and more efficient.

**Acknowledgement**

"We owe a huge debt of gratitude to Mam Humaira Afzal for his incredible support and guidance throughout the development of 'EmployEase.' His wisdom and encouragement were like a guiding light, helping us navigate the ups and downs of creating a system to connect companies and employees seamlessly. Mam Humaira’s dedication and belief in our project truly lifted our spirits and pushed us to do our best. We can't thank him enough for being such an amazing mentor."

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# Chapter 1: Introduction

## Introduction

Nowadays, in the era of technological advancements, the requirements of the people are changing rapidly. To meet these requirements, the projects have become more and more complex and challenging. For this purpose, companies must outsource different employees and they may not have the required staff with the required skill set to accomplish the task. For this reason, they must find and hire the best-suited employees to meet the requirements and this itself is a very complex task.

The purpose of this project is to develop "Employ Ease", a platform that can ease this problem and handle all the complexities for the companies and employees so that the companies can focus on other important tasks and the employees can find jobs easily.

**Our system will include the following portals:**

A centralized portal for our Employ Ease system that will handle the details of registered employees and companies. The contract agreement of our outsourced employees for the companies and their associated payrolls will be managed by our Centralized portal. Once the company gives feedback to our employees and uploads their daily attendance, we can be able to see our outsourced employee performance.

Portal for companies who hire our outsourced employees based on the contract to manage their payroll, performance, and attendance.

Portal for employees to manage their information in our Employ Ease System.

Breaking down the project, we have the following main components:

**CV Parsing and Inspection:**

Utilize CV parsing techniques to extract relevant information from resumes. Implement automated inspection with keywords, experience, and location filters. We will try to implement this module using automated CV screening program.

**Departmental Queue Management:**

Categorize CVs based on relevant departments or fields (accounting, IT, sales, operations). Establish a queue system for each department to streamline the recruitment workflow.

**Allow companies to register and log in to the system:**

The companies will be registered in a centralized HRMS. Enable registered companies to add job descriptions, specifying their hiring requirements (along with the salary package they will be offering to the employee.)

**Scheduler for Recruitment Process:**

Develop a scheduler to manage the recruitment workflow efficiently.

* Calling candidates for preliminary information ( we will try to negotiate the price according to the company’s pay )
* Moving shortlisted CVs to the interview queue.

**Ranking algorithm:**

The registered employees will be ranked based on their performance using a specific ranking algorithm. Top ranked employees will be displayed at the top of the list on the company's dashboard for hiring.

**Interview Process:**

Facilitate interviews conducted by registered companies.

Capture feedback from companies regarding candidates.

Handling outcomes:

1. Move accepted candidates to an accepted list.

2. Queue deferred candidates for other opportunities.

3. Send rejected candidates back to the departmental queue.

**Payrolls:**

Payrolls will be managed by the centralized portal as the company will not pay the employee directly.

The company will have the contract agreement with centralized HRMS, and the company will pay to the centralized HRMS and then the centralized HRM will pay to its outsourced employee, the centralized HRM will itself manage the benefits that will be given to the employee based on their performance.

**Performance:**

The performance of the certain employee will be managed by the company’s login as the company will give feedback to the certain projects completed by the employee or it shall give the yearly performance feedback to their employee. And according to the employee performance, we will be able to rank the employee’s worth into our HRMS system.

**Attendance:**

The company’s HR is responsible for attendance of the employee, the company will mark the attendance of their employee in their portal. Their exit time, overtime, etc.

The success of our project will be measured by the accuracy of matches between employees and employers and user satisfaction rates. By the end of the project cycle, our final report will present data on successful job matches and efficiency improvements in the recruitment process compared to traditional methods.

It is our goal to make simple and trustworthy hiring and managing of the employees using "Employ Ease”.

## Aims and Objectives

* In this project we are going to build a Employ Ease, A SAAS centralized human resource Management that connect the employee with the companies. The companies will no longer have to manage the employees as they will hire the outsource employee and then manage the employee activities from there portals.
* The Employee will able to be hired in the reputed companies which will help them into their career growth.
* The difficulties in hiring skilled employees and the long process of manually observing the resume will be solved by our Ranking Algorithm and AI-based resume Scanner.
* Our system will act like a third-party system, which will outsource the employee to the companies in need based on our Ranking algorithm.
* The companies will be able to manage employee attendance, payroll, and performance through their portal.
* The Registered companies will be able to hire the employees based on their job descriptions for specific projects or full-time based on their skills and experience.

## Success Criteria

1. To determine the success of "Employ Ease", we have outlined specific, achievable benchmarks that align with our goals. Meeting these criteria will not only validate our platform's effectiveness and accuracy but could also demonstrate that it improves existing employee search solutions.
2. Accurate Resume Extraction: A significant reduction in user-reported errors after using our Resume Scanner tool, aiming for a 90% accuracy rate in extracting details from uploaded resumes of the employees.
3. Relevant Job Matching: A decrease in irrelevant job recommendations for job seekers by at least 60%. From the employer's side, an increase in interview invitations based on our platform's recommendations, targeting at least a 50% relevancy rate.
4. User Satisfaction: Through feedback surveys, achieve an average user satisfaction score of 4 out of 5 or higher from both job seekers and employers within the first six months of platform launch.
5. Comparison to Traditional Methods: Demonstrate, through collected data, that our platform reduces the average time it takes for an employer to find a suitable candidate by at least 30% compared to traditional methods.
6. Achieving these benchmarks will solidify the platform's standing as a revolutionary tool in the employee hiring and managing process. The success of our platform will be not just by achieving these targets, but by witnessing genuine improvements in the experiences of both employees and employers in the recruitment landscape.

## Problem Statement

Nowadays in many countries, companies do not hire employees on their payroll and do not want to take the headache of managing employees. Instead of that, they want to get outsourced employees from other recruitment companies. These companies are our direct clients, and they will use our software to get employees hired as per their clients.

## Assumptions and Constraints

* **Assumptions:**

1. The user shall have knowledge of the basic functionality of the system.

2. The admin and assessor shall have login credentials to log into the system.

3. The user shall have an active email account.

4. The user shall have device that to run the web application.

5. The user shall have built-in camera in device or additional hardware device to conduct Interviews.

6. The user shall have internet connection.

7. The user shall have a compatible web browser installed in the device to use the

system.

8. The user shall be proficient in English language.

9. The user shall know have knowledge to operate the system.

10. The user shall have an active account with one of the payment services available for their salaries.

* **Constraints:**

1. The proposed system shall be completed by the specified time (i.e. by November, 2024).

2. The budget shall not exceed than the planned budget.

3. The documentation shall follow IEEE standards.

4. The architecture and diagrams shall be according to UML standards.

5.Apis that will used into our project is hardly available.

6.Difficult to observe the working of Current HRMS in the industry as they are all paid.

## Scope

The System is to reduce the burden of the organization to manage the employee on their own instead; they can outsource the employee Employ Ease. This system can be adopted by any organization that wants their employee to get outsourced to different companies and based on the company's feedback we can rank our employees into the Employ Ease system by our custom ranking algorithm.

**Deliverables**:   Full HRMS system for the companies that will hire and outsource their employees as per company requirements.

**Features**:  Our system will include the CV parsing and inspection detail, categorize the CV based on relevant departments, Allow the companies to register and post their job descriptions, make a schedule for the recruitment process based on the ranking Algorithm, handle the Interview process,  payrolls, performance, attendance of our outsourced employee.

**Timelines:** Over a 12-month Project period, the project will be categorized into design, development, testing, and deployment phases.

## Individual Task

Table 11: Individual Task

|  |  |  |
| --- | --- | --- |
| **Team Member** | **Activity** | **Tentative Date** |
| Abdul Rehman Khalid  Zohaib Shafique  Mohid Khan | Requirements Engineering | February 2024 |
| Abdul Rehman Khalid  Mohid Khan | System Design  Documentation | March 2024 |
| Abdul Rehman Khalid  Zohaib Shafique  Mohid Khan | Frontend  Development | April 2024  May 2024  June 2024 |
| Abdul Rehman Khalid  Zohaib Shafique  Mohid Khan | Backend  Development | July 2024  August 2024  September 2024 |
| Zohaib Shafique  Mohid Khan | Integration | October 2023 |
| Abdul Rehman Khalid  Zohaib Shafique | Testing  Deployment | November 2023 |

## Tools and Technologies

**Frontend:**  
we are going to use React.js framework to implement our frontend. Further we are going to using **Flux architecture** in React and **Material UI library** to make dynamic and interactive web interfaces.

**Backend:**

We are going to use ASP.NET to implement our backend side. **ASP.NET** is an server-side web application framework which is designed to produce dynamic web sites, applications and services.  
Further we are going to Use **REST API’s** in order to full fill over functionality.

Further we are going to use these frameworks and libraries:

* Microsoft entity framework.
* Microsoft SQL library
* Dapper (if required)
* Auto mappers

**Database:**

* **Microsoft SQL** will be used as a database for our System.

**Security:**

* Authentication and authorization mechanism will be provided by the Json **Web Token (JWT)** token. As it provides a security layer to secretly transfer of data between the server and web pages using encryption techniques.

**Integrated development environment:**

* **Visual Studio** will be used as an IDE for our development.

**Version Control:**

* **Git Hub** will be used for software configuration management.

**Project management Tool:**

* **JIRA** will be used to manage our Agile Project management process.

# Chapter 2: Requirement Analysis

## Literature Review / Existing System Study

### 2.1.1 [**www.workable.com**](http://www.workable.com/)

This website provides an HRMS system for hiring and managing employees once they are hired. This system can submit job descriptions to different websites so that employees can get in contact with them. However, it also fails to hire the employee instantly because once an employee sees their job ad than he will apply to it but in our system, companies will be able to the competent employees instantly who are available for jobs. Its starter package cost 149$ which only manages up to 50 employees. [1]

### 2.1.2 **Trackabi.com**

This is the website that provides employee monitoring (team activity data, time worked, application logs) and leave management although it does not provide any functionality to hire outsourced employees or any platform in which companies can post their job descriptions. [2]

### 2.1.3 **Resourceinn.com**

This website provides the best HRM software in Pakistan although they divided the HRMS software into different modules such as Core HR, Attendance and leave, Payroll, performance, recruitment etc., The organization that wants to buy their HRMS software can pay for the module that they want. However, it also lacks a centralized platform in which multiple companies can register to find the outsourced employee based on the job description. [3]

### 2.1.4 **OrangeHRMS**

An open-source HRMS system is available online. It is used to manage the human resource management activities of a single company. such as it is used to manage the interview process, requirement process, editing employee information, and leave management but it cannot handle the multiple companies who want to connect to the outsourced employee instantly. [4]

### 2.1.5 **Multiplier**

It is a System in which you can hire outsourced employees from all around the world. You can manage their entire payroll, compliance, and benefits using this system. In this system, you hire the right candidate and then generate its contract instantly, after that the employee gets onboarded on the multiplier payroll, and after that, the multiplier handles the payroll in the employee's local currency. The system lacks the functionality for performance measures, interview processes, and attendance records. [5]

### 2.1.6 Upwork

This online freelancing platform is used to find outsourced employee based on their performance. You can hire the employee for a specific task or project. It allows you to Interview potential fits for your job, negotiate rates, and only pay for work you approve. But this system only allows you to hire the employees it does not allow you to manage their attendance and it lacks the AI Resume Scanner Employees must enter their information by themselves. [6]

### 2.1.7 Comparison Table:

Table 2 Comparison Table

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Functionality** | **Workable** | **Trackabi** | **ResourceInn** | **OrangeHRM** | **Multiplier** | **Upwork** | **EmployEase** |
| Register Employees | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| Register Companies | ✔ | ✘ | ✔ | ✘ | ✔ | ✘ | ✔ |
| Outsourced Employee | ✔ | ✘ | ✘ | ✘ | ✔ | ✔ | ✔ |
| Job Posting | ✔ | ✘ | ✔ | ✘ | ✔ | ✔ | ✔ |
| Leave Management | ✔ | ✔ | ✔ | ✔ | ✔ | ✘ | ✔ |
| Payroll Management | ✘ | ✘ | ✔ | ✘ | ✔ | ✔ | ✔ |
| Performance Management | ✔ | ✘ | ✔ | ✔ | ✘ | ✔ | ✔ |
| Interview Process Management | ✔ | ✘ | ✔ | ✔ | ✘ | ✔ | ✔ |
| AI Resume Scanner | ✘ | ✘ | ✘ | ✘ | ✘ | ✘ | ✔ |
| Employee Recommendation System | ✘ | ✘ | ✘ | ✘ | ✔ | ✔ | ✔ |
| Centralized Portal | ✘ | ✘ | ✘ | ✘ | ✘ | ✘ | ✔ |
| Attendance Tracking | ✘ | ✔ | ✔ | ✔ | ✘ | ✘ | ✔ |

## Stakeholder’s List:

Following are stakeholders involved in our project:

* **Users:**

Both Employee and Companies who actively engage in EmployEase.

* **Admin:**

Responsible for managing the day-to-day operations, ensuring platform integrity and user experience.

* **Project team:**

Team responsible for designing, building, and maintaining the EmployEase platform.

* Zohaib Shafique
* Abdul Rehman Khalid
* Mohid Khan
* **Project supervisor:**

Provides guidance and oversight, ensuring project alignment with its goals and objectives.

Ms. Humaira Afzal

## Requirement Elicitation

### Functional Requirements

Table 3 Functional and Non-Functional Requirements

|  |  |  |
| --- | --- | --- |
| User Authentication and Authorization | | |
| **Functional Requirement** | | **Description** |
| FR01-1 | Implement user authentication using JWT tokens for secure access. | |
| FR01-2 | Enforce role-based access control to restrict unauthorized access to sensitive features and data. | |
| FR01-3 | Provide user registration functionality for employees and companies. | |
| FR01-4 | Allow users to reset their passwords securely through email verification. | |
| FR01-5 | Log all authentication and authorization attempts for audit purposes. | |
| FR01-6 | The system shall encrypt and store user credentials securely to prevent unauthorized access. | |
| Centralized Portal | | |
| FR02-1 | Generate customizable reports on recruitment metrics for the centralized portal. | |
| FR02-2 | Provide visualizations such as charts and graphs for easy interpretation of recruitment data within the centralized portal. | |
| FR02-3 | Allow users to filter and export reports in various formats within the centralized portal. | |
| FR02-4 | Analyse historical recruitment data to identify trends and patterns for strategic decision-making within the centralized portal. | |
| FR02-5 | Ensure data accuracy and integrity in all generated reports within the centralized portal. | |
| Company Portal | | |
| FR03-1 | Require companies to register and log in securely to access the company portal. | |
| FR03-2 | Authenticate companies using JWT tokens for secure access to payroll, performance, and attendance management features. | |
| FR03-3 | Allow companies to view and manage payroll details of outsourced employees based on contract agreements. | |
| FR03-4 | Provide features for companies to evaluate and provide feedback on the performance of outsourced employees. | |
| FR03-5 | Enable companies to upload daily attendance records for outsourced employees for performance tracking purposes. | |
| FR03-6 | Provide notifications to companies regarding pending tasks or actions related to employee management. | |
| Employee Portal | | |
| FR04-1 | Require employees to register and log in securely to access the employee portal. | |
| FR04-2 | Authenticate employees using JWT tokens for secure access to personal information and features. | |
| FR04-3 | Allow employees to view and update their personal information securely. | |
| FR04-4 | Provide features for employees to view their contract agreements and payroll details securely. | |
| FR04-5 | Allow employees to view feedback provided by companies on their performance. | |
| FR04-6 | Enable employees to view their attendance records uploaded by companies for verification purposes. | |
| CV Parsing and Inspection | | |
| FR05-1 | Utilize CV parsing techniques to extract relevant information from resumes. | |
| FR05-2 | Implement automated inspection with keyword filters to match job descriptions with candidate resumes. | |
| FR05-3 | Filter resumes based on specified location preferences provided by companies. | |
| FR05-4 | Categorize resumes into different departments or fields for streamlined processing. | |
| FR05-5 | Provide a feature to manually review and verify information extracted through CV parsing for accuracy. | |
| FR05-6 | Generate reports on the effectiveness of CV parsing and inspection processes. | |
| Departmental Queue Management | | |
| FR06-1 | Categorize incoming resumes into department-specific queues based on predefined criteria. | |
| FR06-2 | Establish a priority system within each departmental queue to highlight urgent or high-potential candidates. | |
| FR06-3 | Allow recruiters to easily access and manage resumes within their assigned departmental queues. | |
| FR06-4 | Provide notifications to recruiters when new resumes are added to their departmental queues. | |
| FR06-5 | Track the time taken to process each resume within departmental queues for performance analysis. | |
| FR06-6 | Automatically archive resumes in departmental queues after a specified period for data cleanliness. | |
| Scheduler for Recruitment Process | | |
| FR07-1 | Provide a scheduler tool to manage the recruitment workflow efficiently. | |
| FR07-2 | Integrate with company's calendar systems to avoid scheduling conflicts. | |
| FR07-3 | Send automated reminders to recruiters and candidates about scheduled appointments. | |
| FR07-4 | Allow recruiters to easily reschedule appointments through the scheduler interface. | |
| FR07-5 | Track and log all scheduling activities for audit purposes. | |
| FR07-6 | Provide reporting capabilities to analyze the efficiency of the recruitment process based on scheduling data. | |
| Ranking Algorithm | | |
| FR08-1 | Implement a ranking algorithm to evaluate employee performance based on predefined metrics. | |
| FR08-2 | Consider factors such as project completion rates, client feedback, and tenure in the ranking algorithm. | |
| FR08-3 | Display top-ranked employees prominently on the company's dashboard. | |
| FR08-4 | Provide transparency regarding the factors contributing to employee rankings. | |
| FR08-5 | Continuously update employee rankings based on ongoing performance evaluations. | |
| FR08-6 | Generate reports comparing employee rankings over time to identify trends and patterns. | |
| Interview Process | | |
| FR09-1 | Facilitate scheduling and conducting interviews between companies and candidates. | |
| FR09-2 | Provide a secure platform for conducting remote interviews, including video conferencing capabilities. | |
| FR09-3 | Record interview feedback from companies regarding candidate performance. | |
| FR09-4 | Allow companies to rate candidates based on predefined criteria during or after interviews. | |
| FR09-5 | Track the progress of candidates through the interview process and update their status accordingly. | |
| FR09-6 | Generate reports on interview outcomes, including acceptance rates and reasons for rejection. | |
| Payrolls Management | | |
| FR10-1 | Generate and manage payroll records for outsourced employees based on contract agreements. | |
| FR10-2 | Calculate employee salaries, including deductions and bonuses, according to predefined criteria. | |
| FR10-3 | Integrate with banking systems to facilitate direct deposit of employee salaries. | |
| FR10-4 | Provide transparency regarding payroll calculations and deductions to employees. | |
| FR10-5 | Generate payroll reports for companies and employees, including tax withholding summaries. | |
| FR10-6 | Ensure compliance with legal and regulatory requirements related to payroll processing. | |
| Performance Management | | |
| FR11-1 | Capture performance feedback from companies regarding completed projects or employee performance. | |
| FR11-2 | Allow companies to provide periodic performance evaluations for their outsourced employees. | |
| FR11-3 | Track and analyse employee performance data to identify strengths and areas for improvement. | |
| FR11-4 | Provide recommendations for professional development based on performance evaluations. | |
| FR11-5 | Generate reports on employee performance trends and patterns for HR analysis. | |
| Attendance Tracking | | |
| FR12-1 | Provide a feature for companies to mark employee attendance, including entry and exit times. | |
| FR12-2 | Allow companies to manage overtime and leave requests for their employees. | |
| FR12-3 | Generate automated notifications for late or absent employees based on predefined rules. | |
| FR12-4 | Track attendance records and generate reports for payroll processing. | |
| FR12-5 | Ensure data accuracy and security in attendance records. | |
| Non-Functional Requirements | | |
| Security | | |
| Measurement | Regular security audits to achieve a score of 95% on industry benchmarks. | |
| Criteria | Enable multi-factor authentication (MFA) for 100% of user accounts. | |
| Scalability | | |
| Measurement: | Ensure the system handles a 20% increase in user registrations without performance degradation. | |
| Criteria: | Sustain 1000 simultaneous user interactions during peak periods. | |
| Reliability | | |
| Measurement | Maintain 99.9% uptime over three months. | |
| Criteria | Recover from server failures within five minutes. | |
| Performance | | |
| Measurement | Maintain average response time of <500ms for key functions. | |
| Criteria | Handle 50% increase in concurrent user requests during peak usage without performance drop. | |
| Accessibility | | |
| Measurement | Achieve 90% score on accessibility audits. | |
| Criteria | Ensure compatibility with latest versions of major browsers. | |
| Usability | | |
| Measurement | Achieve minimum usability score of 4 out of 5 on user testing surveys. | |
| Criteria | Provide documentation for 100% of features. | |
| Measurement | Interface should be easy to use and user can understand the interface in very less time. | |
| Criteria | User will learn to use system in maximum of 3 hours. | |

## Use Case Description

### User Authentication and Authorization

#### User Authentication

Table 4:UCD User Authentication

|  |  |
| --- | --- |
| **Use Case Id** | 1 |
| **Use Case Name** | User Authentication |
| **Actors** | User (Employee or Company) |
| **Description** | Describes the process of user authentication to access the system securely |
| **Pre-conditions** | - User must have an account registered in the system |
| **Post-conditions** | - User's credentials are verified and granted access to the system |
| **Normal Flow** | 1. User enters registered email. |
|  | 2. User enters password. |
|  | 3. User presses "log in" button. |
| **Alternative Flows** | Login through Microsoft or Gmail |
| **Exceptions** | - 1. User account does not exist. |
|  | - 2. Invalid credentials provided by user. |
|  | - 3. Server or database error occurs. |

#### User Registration

Table 5:UCD User Registration

|  |  |
| --- | --- |
| **Use Case Id** | 2 |
| **Use Case Name** | User Registration |
| **Actors** | User (Employee or Company) |
| **Description** | Describes the process of user registration for an account in the system |
| **Pre-conditions** | - Navigating to registration page |
| **Post-conditions** | - User's account is successfully created |
| **Normal Flow** | 1. User fills registration form. |
|  | 2. User submits form. |
| **Alternative Flows** | - |
| **Exceptions** | - 1. Attempt to register with existing email. |
|  | - 2. Server or database error. |

#### Password Reset

Table 6:UCD Password Reset

|  |  |
| --- | --- |
| **Use Case Id** | 3 |
| **Use Case Name** | Password Reset |
| **Actors** | User (Employee or Company) |
| **Description** | Describes the process of resetting password securely through email verification |
| **Pre-conditions** | - User must have existing account |
| **Post-conditions** | - User's password is successfully reset |
| **Normal Flow** | 1. User navigates to password reset page. |
|  | 2. User enters registered email. |
|  | 3. User receives email with reset link. |
|  | 4. User clicks link and follows instructions. |
| **Alternative Flows** | - |
| **Exceptions** | - 1. Email not associated with account. |
|  | - 2. Server or database error. |

#### Role-Based Access Control

Table 7 UCD Role-Base Control

|  |  |
| --- | --- |
| **Use Case Id** | 4 |
| **Use Case Name** | Role-Based Access Control |
| **Actors** | Administrator |
| **Description** | Describes process of managing role-based access control by administrator |
| **Pre-conditions** | - Administrator must be logged in |
| **Post-conditions** | - Access permissions are successfully assigned or revoked |
| **Normal Flow** | 1. Administrator navigates to role management. |
|  | 2. Administrator selects users. |
|  | 3. Administrator assigns or revokes access permissions. |
| **Alternative Flows** | - |
| **Exceptions** | - 1. Error in assigning or revoking permissions. |
|  | - 2. Server or database error. |

### Centralized Portal

#### Generate Reports

Table 8:UCD Generate Reports

|  |  |
| --- | --- |
| **Use Case Id** | 5 |
| **Use Case Name** | Generate Reports |
| **Actors** | Administrator |
| **Description** | Describes process of generating customizable reports on recruitment metrics |
| **Pre-conditions** | - Administrator must be logged in |
| **Post-conditions** | - Customizable reports on recruitment metrics are generated |
| **Normal Flow** | 1. Administrator navigates to reporting. |
|  | 2. Administrator selects metrics and customization. |
|  | 3. Administrator generates report. |
| **Alternative Flows** | - |
| **Exceptions** | - 1. Error in report generation. |
|  | - 2. Server or database error. |

#### Provide Visualizations

Table 9:UCD Provide Visualizations

|  |  |
| --- | --- |
| **Use Case Id** | 6 |
| **Use Case Name** | Provide Visualizations |
| **Actors** | Administrator |
| **Description** | Describes process of providing visualizations for easy interpretation of recruitment data |
| **Pre-conditions** | - Administrator must be logged in |
| **Post-conditions** | - Visualizations are provided for recruitment data |
| **Normal Flow** | 1. Administrator navigates to visualization section. |
|  | 2. Administrator selects data for visualization. |
|  | 3. Visualizations are displayed. |
| **Alternative Flows** | - |
| **Exceptions** | - 1. Error in displaying visualizations. |
|  | - 2. Server or database error. |

#### Filter and Export Reports

Table 10:UCD Filter and Export Reports

|  |  |
| --- | --- |
| **Use Case Id** | 7 |
| **Use Case Name** | Filter and Export Reports |
| **Actors** | Administrator |
| **Description** | Describes process of filtering and exporting reports in various formats |
| **Pre-conditions** | - Administrator must be logged in |
| **Post-conditions** | - Reports are filtered and exported in selected formats |
| **Normal Flow** | 1. Administrator navigates to reporting. |
|  | 2. Administrator applies filters. |
|  | 3. Administrator selects export format. |
|  | 4. Administrator exports report. |
| **Alternative Flows** | - |
| **Exceptions** | - 1. Error in exporting report. |
|  | - 2. Server or database error. |

#### Analyse Historical Data

Table 11:UCD Analyse Historical Data

|  |  |
| --- | --- |
| **Use Case Id** | 8 |
| **Use Case Name** | Analyze Historical Data |
| **Actors** | Administrator |
| **Description** | Describes process of analyzing historical recruitment data for trends and patterns |
| **Pre-conditions** | - Administrator must be logged in |
| **Post-conditions** | - Trends and patterns in historical recruitment data are identified |
| **Normal Flow** | 1. Administrator navigates to analytics section. |
|  | 2. Administrator selects historical data to analyze. |
|  | 3. Analysis tools are applied. |
|  | 4. Trends and patterns are identified. |
| **Alternative Flows** | - |
| **Exceptions** | - 1. Error in analyzing data. |
|  | - 2. Server or database error. |

#### Ensure Data Accuracy

Table 12:UCD Ensure Data Accuracy

|  |  |
| --- | --- |
| **Use Case Id** | 9 |
| **Use Case Name** | Ensure Data Accuracy |
| **Actors** | Administrator |
| **Description** | Describes process of ensuring data accuracy and integrity in generated reports |
| **Pre-conditions** | - Administrator must be logged in |
| **Post-conditions** | - Data accuracy and integrity are verified in reports |
| **Normal Flow** | 1. Administrator reviews generated reports. |
|  | 2. Data accuracy checks are performed. |
| **Alternative Flows** | - |
| **Exceptions** | - 1. Data discrepancies found. |
|  | - 2. Server or database error. |

### Company Portal

#### Company Registration and Login

Table 13:UCD Company Registration and Login

|  |  |
| --- | --- |
| Use Case Id | 10 |
| Use Case Name | Company Registration and Login |
| Actors | Company |
| Description | Describes the process of company registration and login to the company portal securely |
| Pre-conditions | Navigating to registration or login page |
| Post-conditions | Company is successfully registered and logged into the portal |
| Normal Flow | 1. Company fills registration form. |
|  | 2. Company submits form. |
|  | 3. Company receives confirmation email and verifies. |
|  | 4. Company logs in with registered credentials. |
| Alternative Flows | - |
| Exceptions | 1. Attempt to register with existing email. |
|  | 2. Invalid credentials provided during login. |
|  | 3. Server or database error. |

#### Company Registration and Login

Table 14:UCD Company Registration and Login

|  |  |
| --- | --- |
| Use Case Id | 11 |
| Use Case Name | Company Registration and Login |
| Actors | System |
| Description | Describes process of authenticating companies using JWT tokens |
| Pre-conditions | Company must be registered |
| Post-conditions | Company is authenticated and granted access to portal features |
| Normal Flow | 1. Company logs in with registered credentials. |
| Alternative Flows | - |
| Exceptions | 1. Invalid credentials provided. |
|  | 2. Server or database error. |

#### View and Manage Payroll

Table 15:UCD View and Manage Payroll

|  |  |
| --- | --- |
| Use Case Id | 12 |
| Use Case Name | View and Manage Payroll |
| Actors | Company |
| Description | Describes process of viewing and managing payroll details of outsourced employees |
| Pre-conditions | Company must be logged in |
| Post-conditions | Payroll details of outsourced employees are accessed and managed |
| Normal Flow | 1. Company navigates to payroll section. |
|  | 2. Company selects outsourced employee. |
|  | 3. Payroll details are displayed and managed. |
| Alternative Flows | - |
| Exceptions | 1. Error in accessing payroll details. |
|  | 2. Server or database error. |

#### Evaluate Employee Performance

Table 16:UCD Evaluate Employee Performance

|  |  |
| --- | --- |
| Use Case Id | 13 |
| Use Case Name | Evaluate Employee Performance |
| Actors | Company |
| Description | Describes process of evaluating and providing feedback on performance of outsourced employees |
| Pre-conditions | Company must be logged in |
| Post-conditions | Performance of outsourced employees is evaluated and feedback is provided |
| Normal Flow | 1. Company navigates to performance evaluation section. |
|  | 2. Company selects employee to evaluate. |
|  | 3. Performance evaluation criteria are applied. |
|  | 4. Feedback is provided. |
| Alternative Flows | - |
| Exceptions | 1. Error in providing feedback. |
|  | 2. Server or database error. |

#### Upload Attendance Records

Table 17:UCD Upload Attendance Records

|  |  |
| --- | --- |
| Use Case Id | 14 |
| Use Case Name | Upload Attendance Records |
| Actors | Company |
| Description | Describes process of uploading daily attendance records for outsourced employees |
| Pre-conditions | Company must be logged in |
| Post-conditions | Attendance records for outsourced employees are uploaded |
| Normal Flow | 1. Company navigates to attendance section. |
|  | 2. Company selects date and employee. |
|  | 3. Attendance records are uploaded. |
| Alternative Flows | - |
| Exceptions | 1. Error in uploading attendance records. |
|  | 2. Server or database error. |

#### Receive Notifications

Table 18:UCD Receive Notifications

|  |  |
| --- | --- |
| Use Case Id | 15 |
| Use Case Name | Receive Notifications |
| Actors | Company |
| Description | Describes process of receiving notifications regarding pending tasks or actions related to employee management |
| Pre-conditions | Company must be logged in |
| Post-conditions | Notifications regarding pending tasks or actions are received |
| Normal Flow | 1. Company receives notifications on dashboard or via email. |
| Alternative Flows | - |
| Exceptions | 1. No pending tasks or actions. |
|  | 2. Server or database error. |

### Employee Portal

#### Employee Registration and Login

Table 19:UCD Employee Registration and Login

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 16 |
| Use Case Name | Employee Registration and Login |
| Actors | Employee |
| Description | Describes the process of employee registration and login to the employee portal securely |
| Pre-conditions | Navigating to registration or login page |
| Post-conditions | Employee is successfully registered and logged into the portal |
| Normal Flow | 1. Employee fills registration form. |
|  | 2. Employee submits form. |
|  | 3. Employee receives confirmation email and verifies. |
|  | 4. Employee logs in with registered credentials. |
| Alternative Flows | - |
| Exceptions | 1. Attempt to register with existing email. |
|  | 2. Invalid credentials provided during login. |
|  | 3. Server or database error. |

#### Authenticate Employees

Table 20:UCD Authenticate Employees

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 17 |
| Use Case Name | Authenticate Employees |
| Actors | System |
| Description | Describes process of authenticating employees using JWT tokens |
| Pre-conditions | Employee must be registered |
| Post-conditions | Employee is authenticated and granted access to portal features |
| Normal Flow | 1. Employee logs in with registered credentials. |
| Alternative Flows | - |
| Exceptions | 1. Invalid credentials provided. |
|  | 2. Server or database error. |

#### View and Update Personal Information

Table 21:UCD View and Update Personal Information

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 18 |
| Use Case Name | View and Update Personal Information |
| Actors | Employee |
| Description | Describes process of viewing and updating personal information in the employee portal |
| Pre-conditions | Employee must be logged in |
| Post-conditions | Personal information is viewed and updated |
| Normal Flow | 1. Employee navigates to personal information section. |
|  | 2. Employee selects information to update. |
|  | 3. Information is updated. |
| Alternative Flows | - |
| Exceptions | 1. Error in updating personal information. |
|  | 2. Server or database error. |

#### View Contract Agreements

Table 22:UCD View Contract Agreements

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 19 |
| Use Case Name | View Contract Agreements |
| Actors | Employee |
| Description | Describes process of viewing contract agreements in the employee portal |
| Pre-conditions | Employee must be logged in |
| Post-conditions | Contract agreements are viewed |
| Normal Flow | 1. Employee navigates to contract agreements section. |
|  | 2. Contract agreements are displayed. |
| Alternative Flows | - |
| Exceptions | 1. Error in accessing contract agreements. |
|  | 2. Server or database error. |

#### View Payroll Details

Table 23:UCD View Payroll Details

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 20 |
| Use Case Name | View Payroll Details |
| Actors | Employee |
| Description | Describes process of viewing payroll details in the employee portal |
| Pre-conditions | Employee must be logged in |
| Post-conditions | Payroll details are viewed securely |
| Normal Flow | 1. Employee navigates to payroll section. |
|  | 2. Payroll details are displayed. |
| Alternative Flows | - |
| Exceptions | 1. Error in accessing payroll details. |
|  | 2. Server or database error. |

#### View Feedback

Table 24:UCD View Feedback

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 21 |
| Use Case Name | View Feedback |
| Actors | Employee |
| Description | Describes process of viewing feedback provided by companies on employee performance |
| Pre-conditions | Employee must be logged in |
| Post-conditions | Feedback provided by companies is viewed |
| Normal Flow | 1. Employee navigates to feedback section. |
|  | 2. Feedback provided by companies is displayed. |
| Alternative Flows | - |
| Exceptions | 1. No feedback available. |
|  | 2. Server or database error. |

### CV Parsing and Inspection

#### CV Parsing

Table 25:UCD CV Parsing

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 22 |
| Use Case Name | CV Parsing |
| Actors | System |
| Description | Describes the process of parsing resumes to extract relevant information |
| Pre-conditions | Resumes must be available |
| Post-conditions | Relevant information from resumes is successfully extracted and stored |
| Normal Flow | 1. System receives resume for parsing. |
|  | 2. System parses resume to extract information. |
|  | 3. Extracted information is stored in database. |
| Alternative Flows | If parsing fails, prompt for manual review. |
| Exceptions | 1. Incompatible resume format. |
|  | 2. Parsing error. |
|  | 3. Server or database error. |

#### Inspect Resumes

Table 26:UCD Inspect Resumes

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 23 |
| Use Case Name | Inspect Resumes |
| Actors | System |
| Description | Describes process of inspecting resumes with keyword filters |
| Pre-conditions | Resumes must be available |
| Post-conditions | Resumes are inspected to match with job descriptions |
| Normal Flow | 1. System applies keyword filters to resumes. |
|  | 2. Resumes matching filters are identified. |
| Alternative Flows | - |
| Exceptions | 1. No matching resumes found. |
|  | 2. Server or database error. |

#### Filter Resumes by Location

Table 27:UCD Filter Resumes by Location

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 24 |
| Use Case Name | Filter Resumes by Location |
| Actors | System |
| Description | Describes process of filtering resumes based on specified location preferences provided by companies |
| Pre-conditions | Resumes and location preferences must be available |
| Post-conditions | Resumes are filtered based on specified location preferences |
| Normal Flow | 1. System receives location preferences from companies. |
|  | 2. System filters resumes based on location preferences. |
| Alternative Flows | - |
| Exceptions | 1. No resumes available for specified location. |
|  | 2. Server or database error. |

#### Categorize Resumes

Table 28:UCD Categorize Resumes

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 25 |
| Use Case Name | Categorize Resumes |
| Actors | System |
| Description | Describes process of categorizing resumes into different departments or fields |
| Pre-conditions | Resumes must be available |
| Post-conditions | Resumes are categorized into different departments or fields |
| Normal Flow | 1. System receives resumes for categorization. |
|  | 2. System categorizes resumes based on predefined criteria. |
| Alternative Flows | - |
| Exceptions | 1. No resumes available for categorization. |
|  | 2. Server or database error. |

#### Review and Verify Information

Table 29:UCD Review and Verify Information

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 26 |
| Use Case Name | Review and Verify Information |
| Actors | System |
| Description | Describes process of manually reviewing and verifying information extracted through CV parsing |
| Pre-conditions | Extracted information must be available |
| Post-conditions | Extracted information is manually reviewed and verified for accuracy |
| Normal Flow | 1. System presents extracted information for review. |
|  | 2. User reviews and verifies information. |
| Alternative Flows | - |
| Exceptions | 1. Inaccurate or incomplete information. |
|  | 2. Server or database error. |

#### Generate CV Parsing Reports

Table 30:UCD Generate CV Parsing Reports

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 27 |
| Use Case Name | Generate CV Parsing Reports |
| Actors | System |
| Description | Describes process of generating reports on the effectiveness of CV parsing and inspection processes |
| Pre-conditions | CV parsing and inspection processes must be completed |
| Post-conditions | Reports on effectiveness of CV parsing and inspection processes are generated |
| Normal Flow | 1. System collects data on CV parsing and inspection processes. |
|  | 2. Reports are generated based on collected data. |
| Alternative Flows | - |
| Exceptions | 1. Error in generating reports. |
|  | 2. Server or database error. |

### Departmental Queue Management

#### Categorize Resumes into Queues

Table 31:UCD Categorize Resumes into Queues

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 28 |
| Use Case Name | Categorize Resumes into Queues |
| Actors | System |
| Description | Describes process of categorizing incoming resumes into department-specific queues |
| Pre-conditions | Resumes and departments must be available |
| Post-conditions | Resumes are categorized into department-specific queues |
| Normal Flow | 1. System receives resumes for categorization. |
|  | 2. System categorizes resumes into department-specific queues based on predefined criteria. |
| Alternative Flows | - |
| Exceptions | 1. No resumes available for categorization. |
|  | 2. Server or database error. |

#### Establish Priority System

Table 32:UCD Establish Priority System

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 29 |
| Use Case Name | Establish Priority System |
| Actors | System |
| Description | Describes process of establishing a priority system within each departmental queue |
| Pre-conditions | Resumes must be categorized into departmental queues |
| Post-conditions | Priority system within departmental queues is established |
| Normal Flow | 1. System categorizes resumes into departmental queues. |
|  | 2. System assigns priorities based on predefined criteria within each queue. |
| Alternative Flows | - |
| Exceptions | 1. No resumes available in queues. |
|  | 2. Server or database error. |

#### Access and Manage Resumes

Table 33:UCD Access and Manage Resumes

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 30 |
| Use Case Name | Access and Manage Resumes |
| Actors | Company |
| Description | Describes process of accessing and managing resumes within assigned departmental queues |
| Pre-conditions | Company must be logged in |
| Post-conditions | Resumes within assigned departmental queues are accessed and managed |
| Normal Flow | 1. Company navigates to departmental queue. |
|  | 2. Company selects resume to manage. |
|  | 3. Resumes are managed (e.g., reviewed, updated). |
| Alternative Flows | - |
| Exceptions | 1. No resumes available in queue. |
|  | 2. Server or database error. |

#### Receive Notifications

Table 34:UCD Receive Notification

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 31 |
| Use Case Name | Receive Notifications |
| Actors | Company |
| Description | Describes process of receiving notifications when new resumes are added to assigned departmental queues |
| Pre-conditions | Company must be logged in |
| Post-conditions | Notifications regarding new resumes are received |
| Normal Flow | 1. Company receives notifications on dashboard or via email. |
| Alternative Flows | - |
| Exceptions | 1. No new resumes added to queue. |
|  | 2. Server or database error. |

#### Track Processing Time

Table 35:UCD Track Processing Time

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 32 |
| Use Case Name | Track Processing Time |
| Actors | System |
| Description | Describes process of tracking the time taken to process each resume within departmental queues |
| Pre-conditions | Resumes must be available in departmental queues |
| Post-conditions | Processing time for each resume within departmental queues is tracked |
| Normal Flow | 1. System starts timer when resume enters queue. |
|  | 2. System stops timer when resume processing is completed. |
| Alternative Flows | - |
| Exceptions | 1. No resumes available in queue. |
|  | 2. Server or database error. |

#### Archive Resumes

Table 36:UCD Archive Resumes

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 33 |
| Use Case Name | Archive Resumes |
| Actors | System |
| Description | Describes process of automatically archiving resumes in departmental queues after a specified period |
| Pre-conditions | Resumes must be processed and archived |
| Post-conditions | Resumes are automatically archived to maintain data cleanliness |
| Normal Flow | 1. System checks expiration of resumes in departmental queues. |
|  | 2. Expired resumes are archived. |
| Alternative Flows | - |
| Exceptions | 1. No resumes available for archiving. |
|  | 2. Server or database error. |

### Scheduler for Recruitment Process

#### Schedule Candidate Calls and Interviews

Table 37:UCD Schedule Candidate Calls and Interviews

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 34 |
| Use Case Name | Schedule Candidate Calls and Interviews |
| Actors | Company |
| Description | Describes process of scheduling candidate calls and interviews efficiently |
| Pre-conditions | Company must be logged in |
| Post-conditions | Candidate calls and interviews are scheduled efficiently |
| Normal Flow | 1. Company navigates to scheduling tool. |
|  | 2. Company selects candidate. |
|  | 3. Company schedules call or interview. |
| Alternative Flows | - |
| Exceptions | 1. Scheduling conflicts arise. |
|  | 2. Server or database error. |

#### Integrate with Company's Calendar Systems

Table 38:UCD Integrate with Company's Calendar Systems

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 35 |
| Use Case Name | Integrate with Company's Calendar Systems |
| Actors | System |
| Description | Describes process of integrating with company's calendar systems to avoid scheduling conflicts |
| Pre-conditions | Company's calendar systems must be available |
| Post-conditions | Integration with company's calendar systems is successful |
| Normal Flow | 1. System syncs with company's calendar systems. |
|  | 2. Scheduling conflicts are identified and resolved. |
| Alternative Flows | - |
| Exceptions | 1. Synchronization failure with calendar systems. |
|  | 2. Server or database error. |

#### Send Automated Reminders

Table 39:UCD Send Automated Reminders

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 36 |
| Use Case Name | Send Automated Reminders |
| Actors | System |
| Description | Describes process of sending automated reminders to Companies and candidates about scheduled appointments |
| Pre-conditions | Appointments must be scheduled |
| Post-conditions | Automated reminders are sent to Companies and candidates |
| Normal Flow | 1. System checks scheduled appointments. |
|  | 2. Automated reminders are sent based on schedule. |
| Alternative Flows | - |
| Exceptions | 1. No scheduled appointments. |
|  | 2. Server or database error. |

#### Reschedule Appointments

Table 40:UCD Reschedule Appointments

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 37 |
| Use Case Name | Reschedule Appointments |
| Actors | Company |
| Description | Describes process of easily rescheduling appointments through the scheduler interface |
| Pre-conditions | Company must be logged in |
| Post-conditions | Appointments are successfully rescheduled |
| Normal Flow | 1. Company navigates to scheduling tool. |
|  | 2. Company selects appointment to reschedule. |
|  | 3. Company selects new time slot. |
|  | 4. Appointment is rescheduled. |
| Alternative Flows | - |
| Exceptions | 1. Unable to find appointment to reschedule. |
|  | 2. Server or database error. |

#### Track Scheduling Activities

Table 41:UCD Track Scheduling Activities

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 38 |
| Use Case Name | Track Scheduling Activities |
| Actors | System |
| Description | Describes process of tracking and logging all scheduling activities for audit purposes |
| Pre-conditions | Scheduling activities must occur |
| Post-conditions | Scheduling activities are tracked and logged |
| Normal Flow | 1. System logs scheduling activities in database. |
| Alternative Flows | - |
| Exceptions | 1. No scheduling activities to log. |
|  | 2. Server or database error. |

#### Analyze Recruitment Process Efficiency

Table 42:UCD Analyse Recruitment Process Efficiency

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 39 |
| Use Case Name | Analyse Recruitment Process Efficiency |
| Actors | Administrator |
| Description | Describes process of analyzing the efficiency of the recruitment process based on scheduling data |
| Pre-conditions | Scheduling data must be available |
| Post-conditions | Efficiency of recruitment process is analyzed |
| Normal Flow | 1. Administrator accesses scheduling data. |
|  | 2. Data analysis tools are applied. |
|  | 3. Efficiency metrics are generated. |
| Alternative Flows | - |
| Exceptions | 1. No scheduling data available. |
|  | 2. Server or database error. |

### Ranking Algorithm

#### Implement Ranking Algorithm

Table 43:UCD Implement Ranking Algorithm

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 40 |
| Use Case Name | Implement Ranking Algorithm |
| Actors | System |
| Description | Describes process of implementing a ranking algorithm to evaluate employee performance |
| Pre-conditions | Predefined metrics must be available |
| Post-conditions | Ranking algorithm evaluates employee performance based on predefined metrics |
| Normal Flow | 1. System collects data on predefined metrics. |
|  | 2. Ranking algorithm evaluates employee performance. |
| Alternative Flows | - |
| Exceptions | 1. Insufficient data for evaluation. |
|  | 2. Server or database error. |

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#### Consider Factors in Ranking

Table 44:UCD Consider Factors in Ranking

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 41 |
| Use Case Name | Consider Factors in Ranking |
| Actors | System |
| Description | Describes process of considering factors such as project completion rates, client feedback, and tenure in the ranking algorithm |
| Pre-conditions | Factors must be available for evaluation |
| Post-conditions | Factors are considered in ranking algorithm |
| Normal Flow | 1. System collects data on factors such as project completion rates, client feedback, and tenure. |
|  | 2. Factors are weighted and incorporated into ranking algorithm. |
| Alternative Flows | - |
| Exceptions | 1. Insufficient data for factors. |
|  | 2. Server or database error. |

#### Consider Factors in Ranking

Table 45:UCD Consider Factors in Ranking

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 41 |
| Use Case Name | Consider Factors in Ranking |
| Actors | System |
| Description | Describes process of considering factors such as project completion rates, client feedback, and tenure in the ranking algorithm |
| Pre-conditions | Factors must be available for evaluation |
| Post-conditions | Factors are considered in ranking algorithm |
| Normal Flow | 1. System collects data on factors such as project completion rates, client feedback, and tenure. |
|  | 2. Factors are weighted and incorporated into ranking algorithm. |
| Alternative Flows | - |
| Exceptions | 1. Insufficient data for factors. |
|  | 2. Server or database error. |

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 42 |
| Use Case Name | Display Top-Ranked Employees |
| Actors | System |
| Description | Describes process of displaying top-ranked employees prominently on company's dashboard |
| Pre-conditions | Top-ranked employees must be determined |
| Post-conditions | Top-ranked employees are displayed on company's dashboard |
| Normal Flow | 1. System identifies top-ranked employees. |
|  | 2. Top-ranked employees are displayed prominently on dashboard. |
| Alternative Flows | - |
| Exceptions | 1. No top-ranked employees available. |
|  | 2. Server or database error. |

#### Provide Transparency in Rankings

Table 46:UCD Provide Transparency in Rankings

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 43 |
| Use Case Name | Provide Transparency in Rankings |
| Actors | System |
| Description | Describes process of providing transparency regarding factors contributing to employee rankings |
| Pre-conditions | Factors contributing to rankings must be available |
| Post-conditions | Transparency in rankings is provided |
| Normal Flow | 1. System provides breakdown of factors contributing to employee rankings. |
| Alternative Flows | - |
| Exceptions | 1. No factors available for breakdown. |
|  | 2. Server or database error. |

#### Update Rankings Continuously

Table 47:UCD Update Rankings Continuously

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 44 |
| Use Case Name | Update Rankings Continuously |
| Actors | System |
| Description | Describes process of continuously updating employee rankings based on ongoing performance evaluations |
| Pre-conditions | Ongoing performance evaluations must occur |
| Post-conditions | Rankings are continuously updated based on performance evaluations |
| Normal Flow | 1. System receives ongoing performance evaluation data. |
|  | 2. Rankings are recalculated and updated. |
| Alternative Flows | - |
| Exceptions | 1. No performance evaluation data available. |
|  | 2. Server or database error. |

### Interview Process

#### Facilitate Interviews

Table 48:UCD Facilitate Interviews

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 46 |
| Use Case Name | Facilitate Interviews |
| Actors | System |
| Description | Describes process of facilitating scheduling and conducting interviews between companies and candidates |
| Pre-conditions | Interviews must be scheduled |
| Post-conditions | Interviews between companies and candidates are facilitated |
| Normal Flow | 1. System schedules interviews between companies and candidates. |
| Alternative Flows | - |
| Exceptions | 1. No interviews scheduled. |
|  | 2. Server or database error. |

#### Provide Secure Platform

Table 49:UCD Provide Secure Platform

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 47 |
| Use Case Name | Provide Secure Platform |
| Actors | System |
| Description | Describes process of providing a secure platform for conducting remote interviews, including video conferencing capabilities |
| Pre-conditions | Remote interviews must be conducted |
| Post-conditions | Secure platform for remote interviews is provided |
| Normal Flow | 1. System sets up secure video conferencing for remote interviews. |
| Alternative Flows | - |
| Exceptions | 1. No remote interviews scheduled. |
|  | 2. Server or database error. |

#### Record Interview Feedback

Table 50:UCD Record Interview Feedback

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 48 |
| Use Case Name | Record Interview Feedback |
| Actors | System |
| Description | Describes process of recording interview feedback from companies regarding candidate performance |
| Pre-conditions | Interviews must be conducted |
| Post-conditions | Interview feedback from companies is recorded |
| Normal Flow | 1. System collects interview feedback from companies. |
|  | 2. Feedback is recorded and stored. |
| Alternative Flows | - |
| Exceptions | 1. No interview feedback available. |
|  | 2. Server or database error. |

#### Rate Candidates

Table 51:UCD Rate Candidates

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 49 |
| Use Case Name | Rate Candidates |
| Actors | Company |
| Description | Describes process of allowing companies to rate candidates based on predefined criteria during or after interviews |
| Pre-conditions | Interviews must be conducted |
| Post-conditions | Candidates are rated based on predefined criteria |
| Normal Flow | 1. Company provides ratings for candidates based on predefined criteria. |
| Alternative Flows | - |
| Exceptions | 1. No candidates available for rating. |
|  | 2. Server or database error. |

#### Track Candidate Progress

Table 52:UCD Track Candidate Progress

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 50 |
| Use Case Name | Track Candidate Progress |
| Actors | System |
| Description | Describes process of tracking the progress of candidates through the interview process and updating their status accordingly |
| Pre-conditions | Interviews must be conducted |
| Post-conditions | Candidate progress through interview process is tracked |
| Normal Flow | 1. System updates candidate status based on progress through interview process. |
| Alternative Flows | - |
| Exceptions | 1. No candidates available for tracking. |
|  | 2. Server or database error. |

#### Generate Interview Outcome Reports

Table 53:UCD Generate Interview Outcome Reports

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 51 |
| Use Case Name | Generate Interview Outcome Reports |
| Actors | System |
| Description | Describes process of generating reports on interview outcomes, including acceptance rates and reasons for rejection |
| Pre-conditions | Interviews must be conducted |
| Post-conditions | Reports on interview outcomes are generated |
| Normal Flow | 1. System collects data on interview outcomes. |
|  | 2. Reports are generated based on collected data. |
| Alternative Flows | - |
| Exceptions | 1. Insufficient data for report generation. |
|  | 2. Server or database error. |

### Payrolls Management

#### Generate and Manage Payroll Records

Table 54:UCD Generate and Manage payroll Records.

|  |  |
| --- | --- |
| Use Case Id | 52 |
| Use Case Name | Generate and Manage Payroll Records |
| Actors | System |
| Description | Describes process of generating and managing payroll records for outsourced employees |
| Pre-conditions | Payroll records must be generated |
| Post-conditions | Payroll records for outsourced employees are managed |
| Normal Flow | 1. System generates payroll records based on contract agreements. |
|  | 2. Payroll records are managed (e.g., updated, stored). |
| Alternative Flows | - |
| Exceptions | 1. Error in generating payroll records. |
|  | 2. Server or database error. |

#### Calculate Employee Salaries

Table 55:UCD Calculate Employee Salaries

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 53 |
| Use Case Name | Calculate Employee Salaries |
| Actors | System |
| Description | Describes process of calculating employee salaries, including deductions and bonuses, according to predefined criteria |
| Pre-conditions | Payroll records must be generated |
| Post-conditions | Employee salaries are calculated accurately |
| Normal Flow | 1. System calculates employee salaries based on predefined criteria. |
| Alternative Flows | - |
| Exceptions | 1. Error in calculating salaries. |
|  | 2. Server or database error. |

#### Integrate with Banking Systems

Table 56:UCD Integrate with Banking Systems

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 54 |
| Use Case Name | Integrate with Banking Systems |
| Actors | System |
| Description | Describes process of integrating with banking systems to facilitate direct deposit of employee salaries |
| Pre-conditions | Payroll records must be generated |
| Post-conditions | Integration with banking systems is successful |
| Normal Flow | 1. System initiates direct deposit of employee salaries through banking systems. |
| Alternative Flows | - |
| Exceptions | 1. Direct deposit transaction failure. |
|  | 2. Server or database error. |

#### Provide Transparency in Payroll Calculations

Table 57:UCD Provide Transparency in Payroll Calculations

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 55 |
| Use Case Name | Provide Transparency in Payroll Calculations |
| Actors | System |
| Description | Describes process of providing transparency regarding payroll calculations and deductions to employees |
| Pre-conditions | Payroll records must be generated |
| Post-conditions | Transparency in payroll calculations and deductions is provided |
| Normal Flow | 1. System provides breakdown of payroll calculations and deductions to employees. |
| Alternative Flows | - |
| Exceptions | 1. No payroll records available for breakdown. |
|  | 2. Server or database error. |

#### Handle Tax Deductions

Table 58:UCD Handle Tax Deductions

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 56 |
| Use Case Name | Handle Tax Deductions |
| Actors | System |
| Description | Describes process of handling tax deductions from employee salaries according to tax regulations |
| Pre-conditions | Payroll records must be generated |
| Post-conditions | Tax deductions from employee salaries are handled according to regulations |
| Normal Flow | 1. System calculates and deducts taxes from employee salaries according to tax regulations. |
| Alternative Flows | - |
| Exceptions | 1. Error in handling tax deductions. |
|  | 2. Server or database error. |

#### Generate Payroll Reports

Table 59:UCD Generate Payroll Reports

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 57 |
| Use Case Name | Generate Payroll Reports |
| Actors | System |
| Description | Describes process of generating reports on payroll expenses, deductions, and bonuses |
| Pre-conditions | Payroll records must be generated |
| Post-conditions | Reports on payroll expenses, deductions, and bonuses are generated |
| Normal Flow | 1. System collects data on payroll expenses, deductions, and bonuses. |
|  | 2. Reports are generated based on collected data. |
| Alternative Flows | - |
| Exceptions | 1. Insufficient data for report generation. |
|  | 2. Server or database error. |

### Performance Management

#### Establish Evaluation Criteria

Table 60:UCD Establish Evaluate Criteria

|  |  |
| --- | --- |
| Use Case Id | 58 |
| Use Case Name | Establish Evaluation Criteria |
| Actors | Administrator |
| Description | Describes process of establishing evaluation criteria for assessing employee performance |
| Pre-conditions | Administrator must be logged in |
| Post-conditions | Evaluation criteria are established and made available |
| Normal Flow | 1. Administrator navigates to evaluation criteria section. |
|  | 2. Administrator defines evaluation criteria. |
| Alternative Flows | - |
| Exceptions | 1. No evaluation criteria defined. |
|  | 2. Server or database error. |

#### Conduct Regular Performance Reviews

Table 61:UCD Conduct Regular Performance Review

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 59 |
| Use Case Name | Conduct Regular Performance Reviews |
| Actors | Administrator |
| Description | Describes process of conducting regular performance reviews for employees based on predefined evaluation criteria |
| Pre-conditions | Performance evaluation criteria must be established |
| Post-conditions | Performance reviews are conducted for employees |
| Normal Flow | 1. Administrator conducts performance reviews for employees based on predefined criteria. |
| Alternative Flows | - |
| Exceptions | 1. No performance evaluation criteria available. |
|  | 2. Server or database error. |

#### Gather Feedback from Multiple Sources

Table 62:UCD Gather Feedback From Multiple Sources

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 60 |
| Use Case Name | Gather Feedback from Multiple Sources |
| Actors | Administrator |
| Description | Describes process of gathering feedback from multiple sources, including peers and clients, for comprehensive performance evaluation |
| Pre-conditions | Performance reviews must be conducted |
| Post-conditions | Feedback from multiple sources is gathered for performance evaluation |
| Normal Flow | 1. Administrator gathers feedback from peers, clients, and other relevant sources. |
| Alternative Flows | - |
| Exceptions | 1. No performance reviews conducted. |
|  | 2. Server or database error. |

#### Provide Constructive Feedback

Table 63:UCD Provide Constructive Feedback

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 61 |
| Use Case Name | Provide Constructive Feedback |
| Actors | Administrator |
| Description | Describes process of providing constructive feedback to employees based on performance evaluation |
| Pre-conditions | Performance reviews must be conducted |
| Post-conditions | Constructive feedback is provided to employees |
| Normal Flow | 1. Administrator provides constructive feedback to employees based on performance evaluation. |
| Alternative Flows | - |
| Exceptions | 1. No performance reviews conducted. |
|  | 2. Server or database error. |

#### Set Performance Improvement Goals

Table 64:UCD Set Performance Improvement Goals

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 62 |
| Use Case Name | Set Performance Improvement Goals |
| Actors | Administrator |
| Description | Describes process of setting performance improvement goals for employees based on performance evaluation |
| Pre-conditions | Performance reviews must be conducted |
| Post-conditions | Performance improvement goals are set for employees |
| Normal Flow | 1. Administrator sets performance improvement goals for employees based on performance evaluation. |
| Alternative Flows | - |
| Exceptions | 1. No performance reviews conducted. |
|  | 2. Server or database error. |

#### Monitor Progress towards Goals

Table 65:UCD Monitor Progress towards Goals

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 63 |
| Use Case Name | Monitor Progress towards Goals |
| Actors | Administrator |
| Description | Describes process of monitoring employees' progress towards performance improvement goals |
| Pre-conditions | Performance improvement goals must be set |
| Post-conditions | Progress towards performance improvement goals is monitored |
| Normal Flow | 1. Administrator monitors employees' progress towards performance improvement goals. |
| Alternative Flows | - |
| Exceptions | 1. No performance improvement goals set. |
|  | 2. Server or database error. |

#### Track Performance History

Table 66:UCD Track Performance History

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 64 |
| Use Case Name | Track Performance History |
| Actors | System |
| Description | Describes process of tracking and maintaining a history of employee performance evaluations and feedback |
| Pre-conditions | Performance evaluations must occur |
| Post-conditions | Performance history for employees is tracked and maintained |
| Normal Flow | 1. System tracks and maintains a history of employee performance evaluations and feedback. |
| Alternative Flows | - |
| Exceptions | 1. No performance evaluations conducted. |
|  | 2. Server or database error. |

### Attendance Tracking

#### Mark Employee Attendance

Table 67:UCD Mark Employee Attendance

|  |  |
| --- | --- |
| Use Case Id | 65 |
| Use Case Name | Mark Employee Attendance |
| Actors | Company |
| Description | Describes process of marking employee attendance, including entry and exit times |
| Pre-conditions | Employee attendance tracking must be initiated |
| Post-conditions | Employee attendance is marked, recording entry and exit times |
| Normal Flow | 1. Company accesses attendance tracking system. |
|  | 2. Employee attendance is marked, recording entry and exit times. |
| Alternative Flows | - |
| Exceptions | 1. No employee attendance tracking initiated. |
|  | 2. Server or database error. |

#### Manage Overtime and Leave Requests

Table 68:UCD Manage Overtime and Leave Requests

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 84 |
| Use Case Name | Manage Overtime and Leave Requests |
| Actors | Company |
| Description | Describes process of managing overtime and leave requests for employees |
| Pre-conditions | Employee attendance tracking must be initiated |
| Post-conditions | Overtime and leave requests are managed according to company policies |
| Normal Flow | 1. Company accesses overtime and leave management system. |
|  | 2. Overtime and leave requests are reviewed and managed. |
| Alternative Flows | - |
| Exceptions | 1. No employee attendance tracking initiated. |
|  | 2. Server or database error. |

#### Generate Notifications

Table 69:UCD Generate Notification for Late or Absent Employee

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 66 |
| Use Case Name | Generate Notifications for Late or Absent Employees |
| Actors | Company |
| Description | Describes process of generating automated notifications for late or absent employees based on predefined rules |
| Pre-conditions | Employee attendance tracking must be initiated |
| Post-conditions | Automated notifications are generated for late or absent employees |
| Normal Flow | 1. System monitors employee attendance based on predefined rules. |
|  | 2. Automated notifications are generated for late or absent employees. |
| Alternative Flows | - |
| Exceptions | 1. No employee attendance tracking initiated. |
|  | 2. Server or database error. |

#### Track Attendance Records

Table 70:UCD Track Attendance Records

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 67 |
| Use Case Name | Track Attendance Records |
| Actors | Company |
| Description | Describes process of tracking attendance records and generating reports for payroll processing |
| Pre-conditions | Employee attendance tracking must be initiated |
| Post-conditions | Attendance records are tracked and reports are generated for payroll processing |
| Normal Flow | 1. System tracks employee attendance records. |
|  | 2. Reports are generated based on attendance records for payroll processing. |
| Alternative Flows | - |
| Exceptions | 1. No employee attendance tracking initiated. |
|  | 2. Server or database error. |

#### Ensure Data Accuracy and Security

Table 71:UCD Ensure Data Accuracy and Security

| **Use Case Details** | **Details** |
| --- | --- |
| Use Case Id | 68 |
| Use Case Name | Ensure Data Accuracy and Security |
| Actors | System |
| Description | Describes process of ensuring data accuracy and security in attendance records |
| Pre-conditions | Employee attendance tracking must be initiated |
| Post-conditions | Data accuracy and security measures are implemented in attendance records |
| Normal Flow | 1. System implements data accuracy and security measures in attendance records, including encryption and access controls. |
| Alternative Flows | - |
| Exceptions | 1. No employee attendance tracking initiated. |
|  | 2. Server or database error. |

## Use Case Diagrams

### Employee

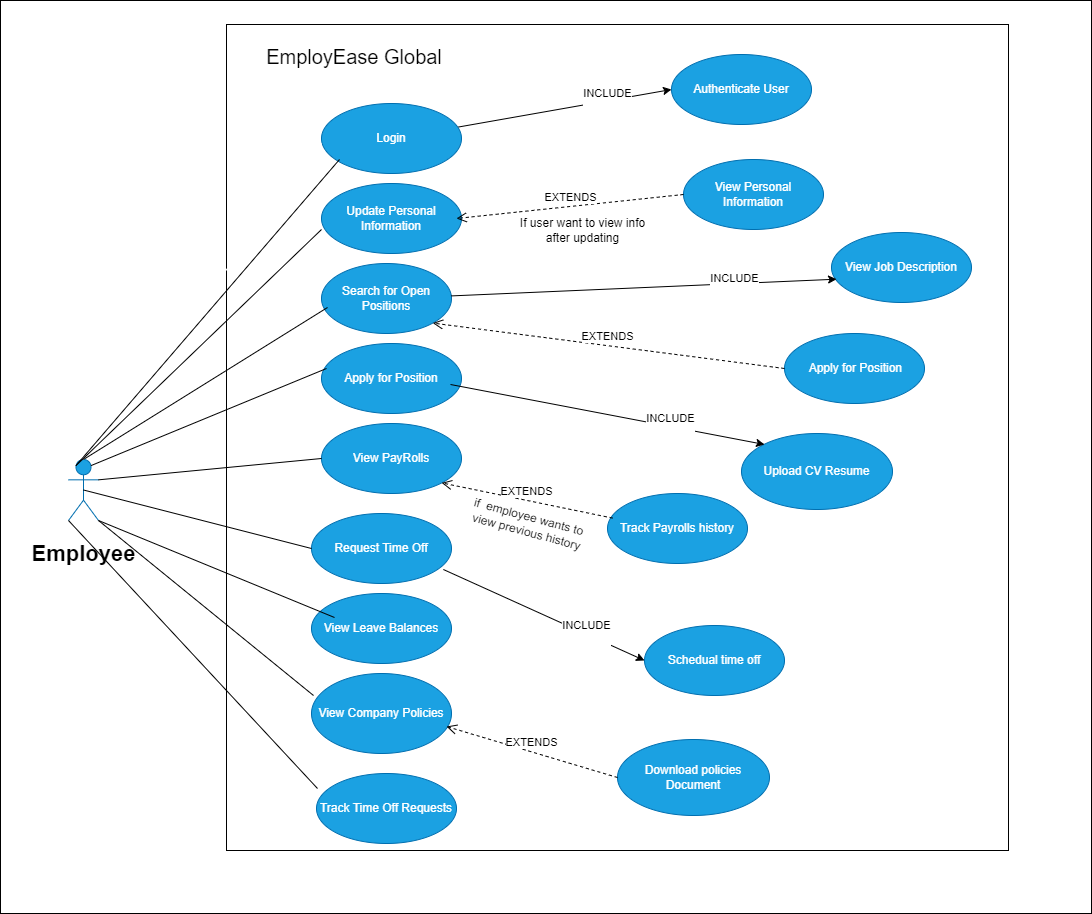


Figure 1:UCD Employee

### Company

A diagram of a company

Description automatically generated

Figure 2:UCD Company

### Administrator

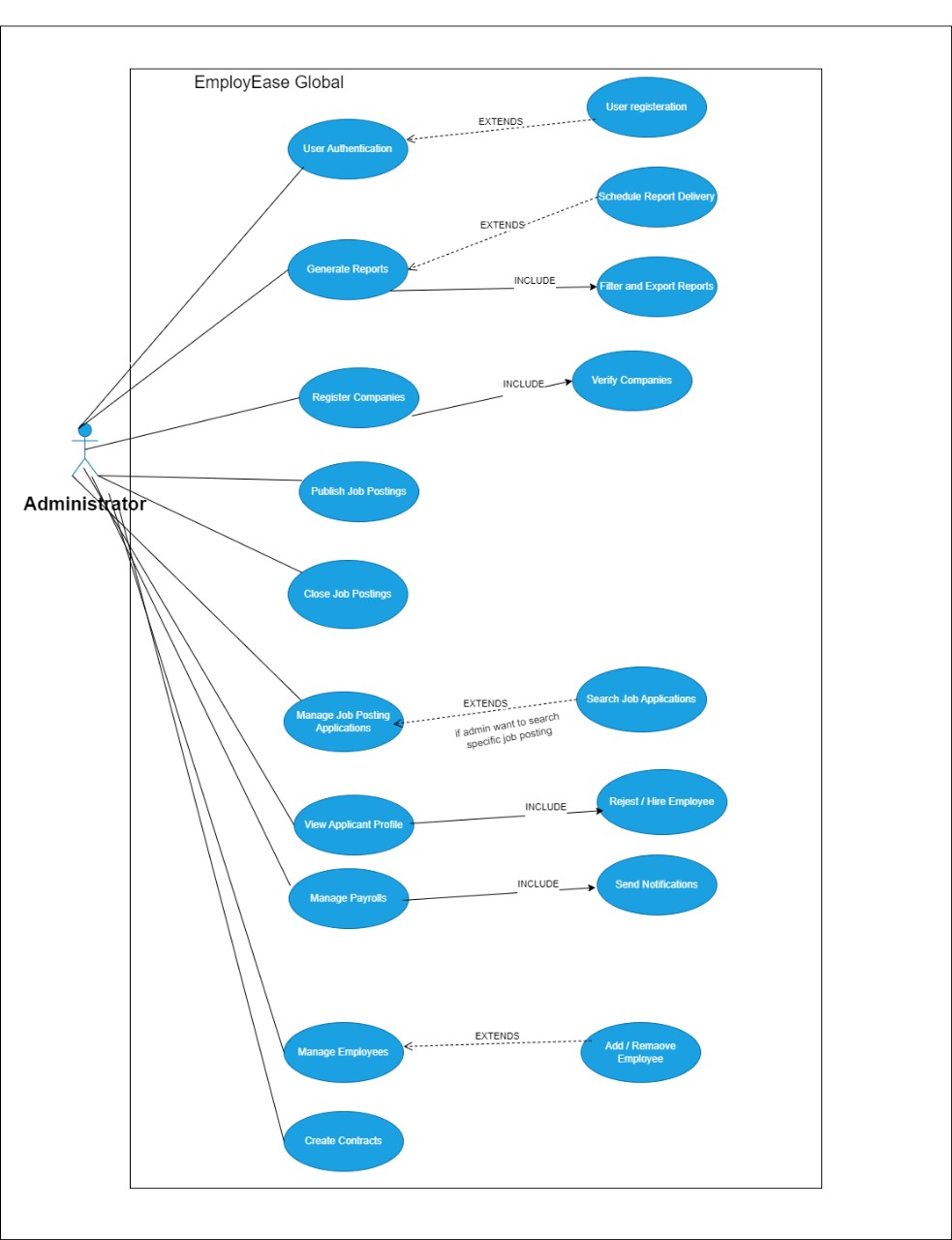


Figure 3:UCD Administrator

## SDLC Model

Agile methodology will be used to develop our System. Agile methodology is use full for small – medium projects. The agile methodology consists of following processes:

* Requirements gathering
* Design the requirements.
* Construction/ iteration
* Testing/ Quality assurance
* Deployment
* Feedback

In order to develop our project, we divide our project modules into sprints. In each sprint, we go through the process that I have mentioned above to ensure incremental development.

A diagram of a scrum process

Description automatically generatedAfter developing each sprint, we will perform unit testing (testing the developed sprint) and integration testing (testing the newly developed sprint with the previous sprints).  
By developing the sprints of our project we will get more close to its objectives.

Figure 4SDLC Model

# Chapter 3: System Design

## Work Breakdown Structure (WBS)

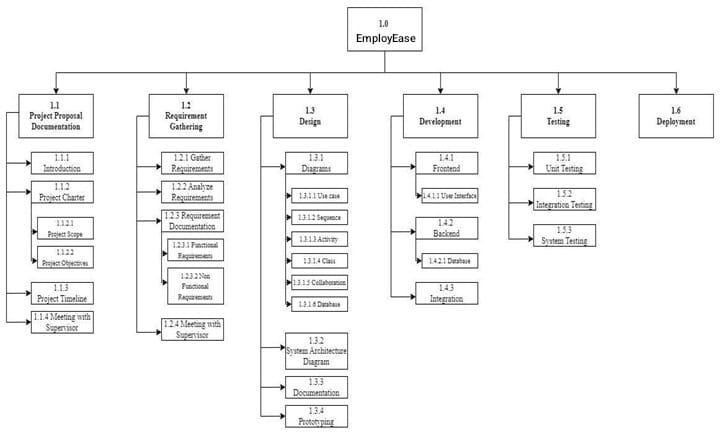


Figure 5:WBS (Work Breakdown Structure)

## Activity Diagram

### User Authentication and Authorization

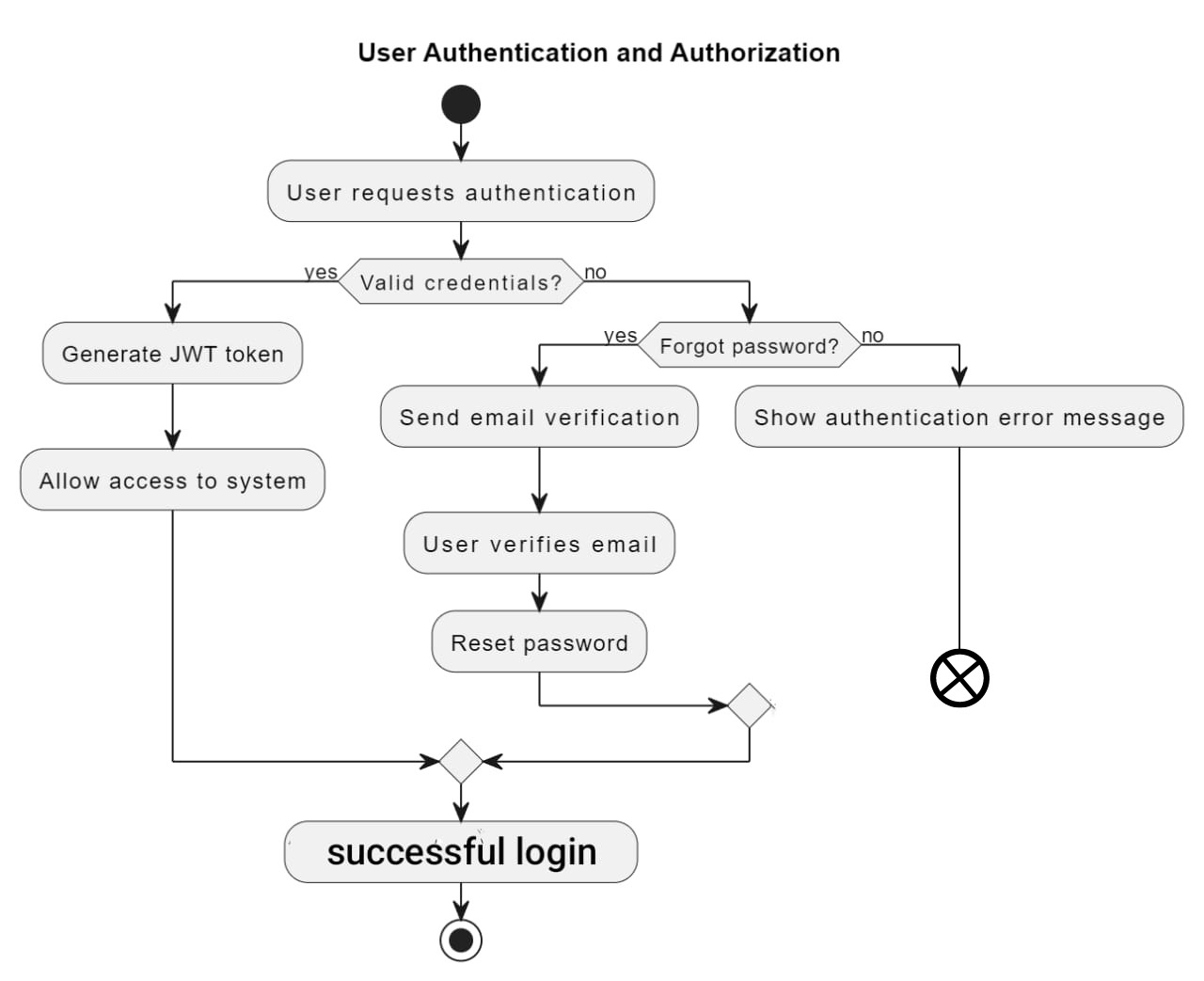


Figure 6:AD User Authentication and Authorization

### Centralized Portal

A diagram of a software process

Description automatically generated with medium confidence

Figure 7: AD Centralized Portal

### Company Portal

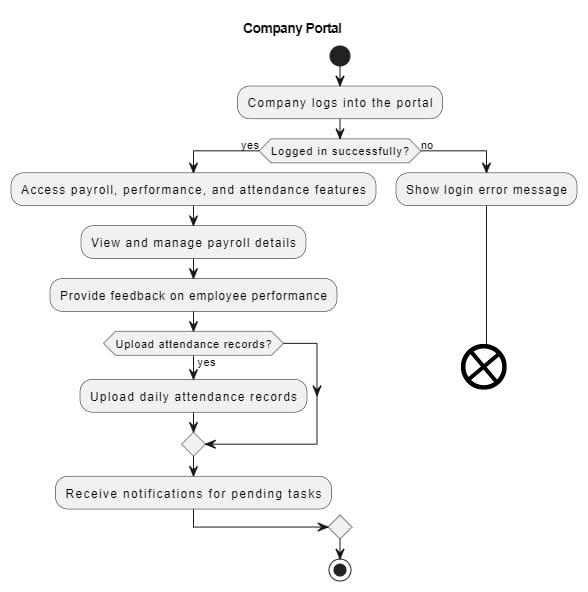


Figure 8: AD Company Portal

### Employee Portal

A diagram of a workflow

Description automatically generated

Figure 9: AD Employee Portal

### CV Parsing and Inspection

A diagram of a cv parsing and inspection

Description automatically generated

Figure 10:AD CV Parsing and Inspection

### Departmental Queue Management

A flowchart of a process

Description automatically generated

Figure 11:AD Departmental Queue Management

### Schedular for Recruitment Process

A diagram of a schedule

Description automatically generated

Figure 12:AD Scheduler for Recruitment Process

### Interview Process

A diagram of a job interview

Description automatically generated

Figure 13:AD Interview Process

### Payrolls Management

A diagram of a company's management

Description automatically generated

Figure 14:AD Payrolls Management

### Performance Management

A diagram of performance management

Description automatically generated

Figure 15:AD Performance Management

### Attendance Tracking

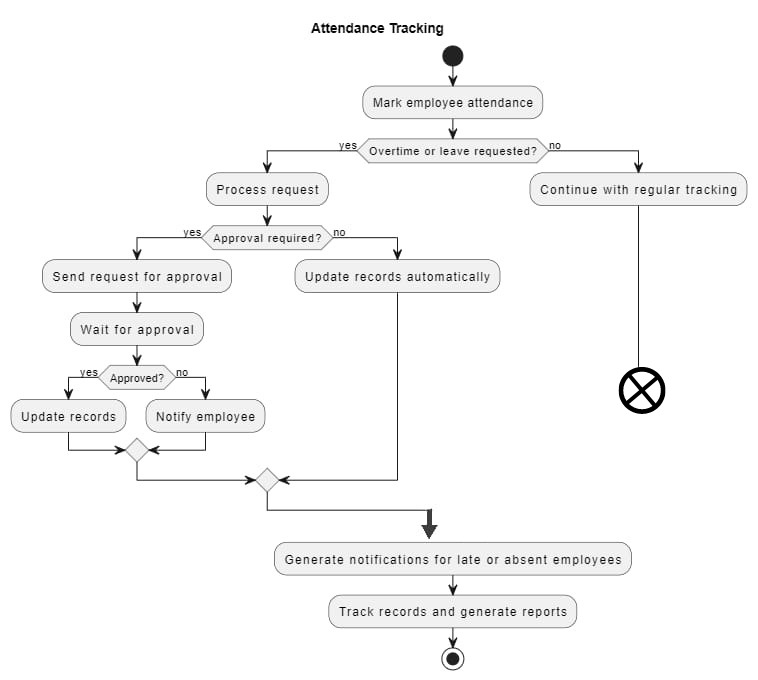


Figure 16:AD Attendance Tracking

## Sequence Diagrams

### User Authentication and Authorization

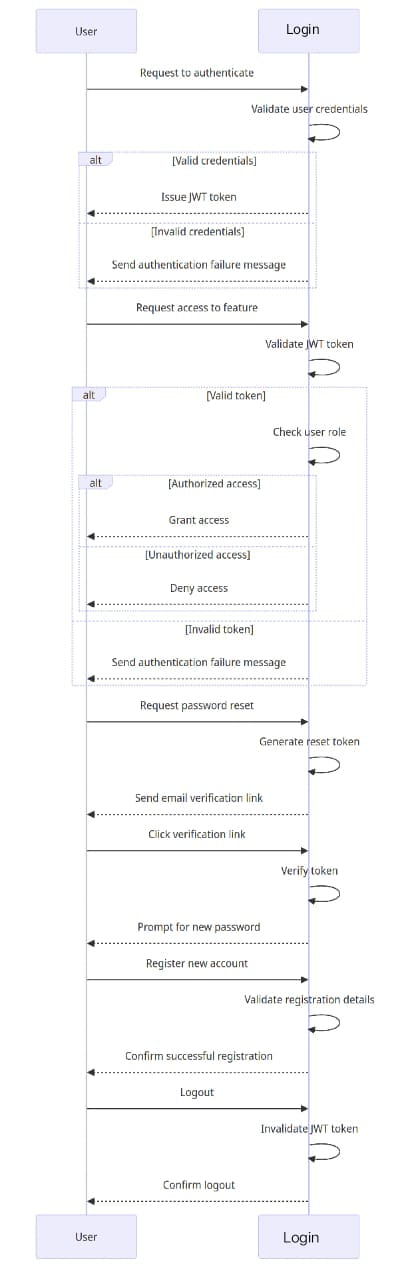


Figure 17: SD User Authentication and Authorization

### Centralized Portal

A diagram of a process

Description automatically generated

Figure 18:SD Central Portal

### Company Portal

A diagram of a company

Description automatically generated with medium confidence

Figure 19:SD Company Portal

### Employee Portal

A diagram of a company

Description automatically generated

Figure 20:SD Employee Portal

### CV Parsing and Inspection

A screenshot of a computer

Description automatically generated

Figure 21:SD CV Parsing and Inspection

### Departmental Queue Management

A screenshot of a diagram

Description automatically generated

Figure 22:SD Departmental Queue Management

### Scheduler for Recruitment Process

A diagram of a process

Description automatically generated

Figure 23:SD Scheuler for Recruitment Process

### Ranking Algorithm

A screenshot of a computer

Description automatically generated

Figure 24:SD Ranking Algorithm

### Interview Process

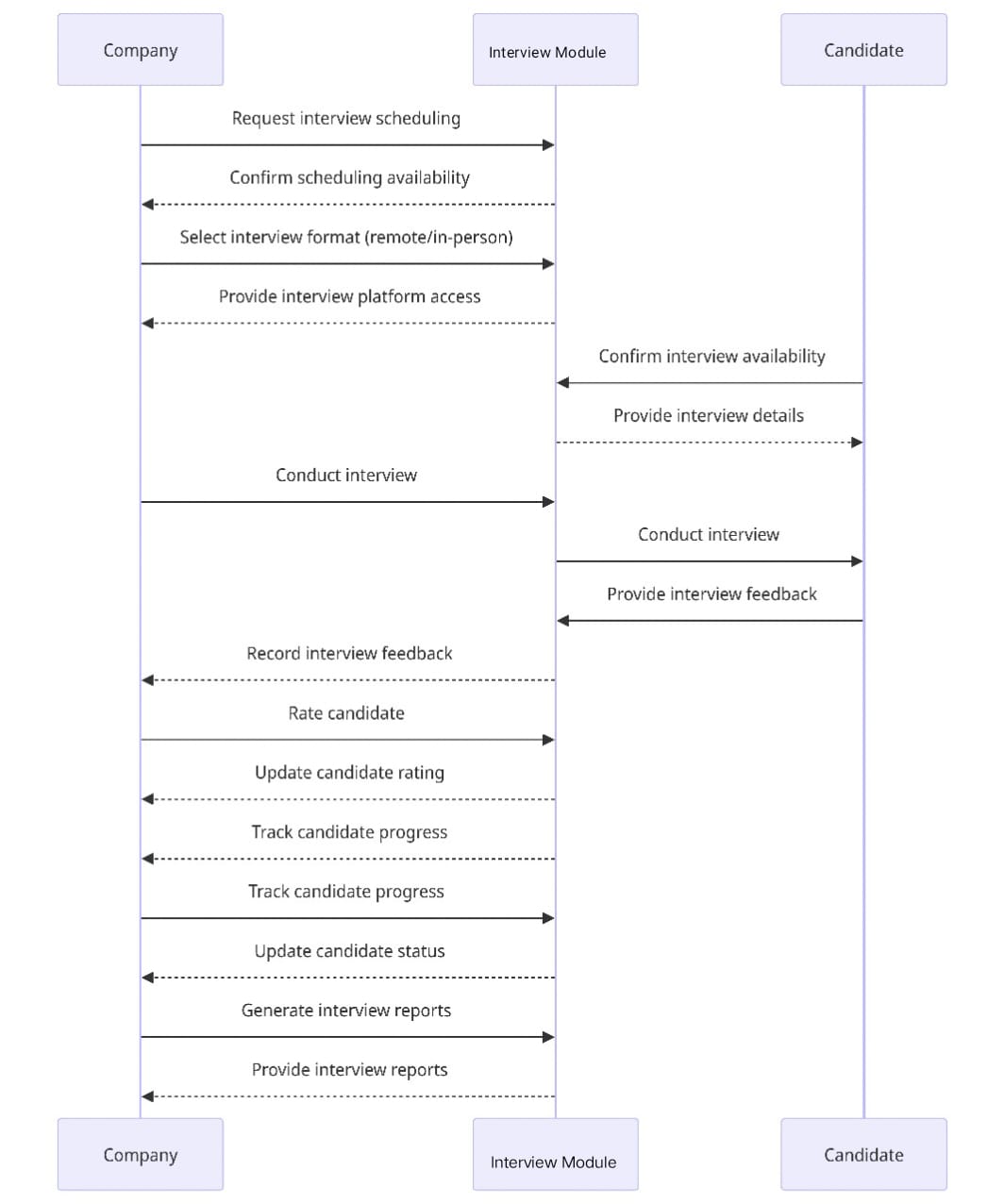


Figure 25:SD Interview Process

### Payrolls Management

A screenshot of a computer

Description automatically generated

Figure 26:SD Payrolls Management

### Performance Management

A screenshot of a computer program

Description automatically generated

Figure 27:SD Performance Management

### Attendance Tracking

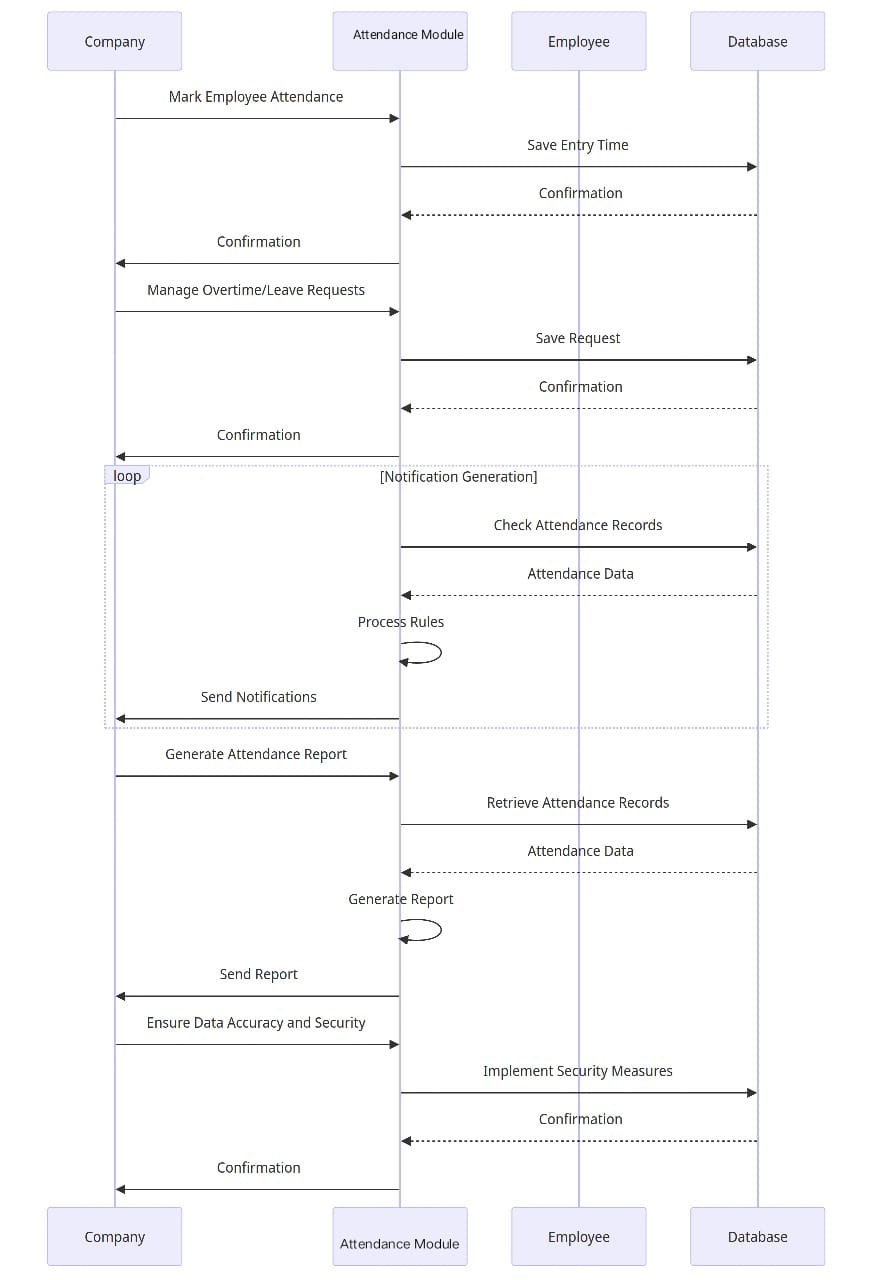


Figure 28:SD Attendance Tracking

## Software Architecture Description

We will be using layered architecture for our Employ HRMS system. The reason for using this architecture is that we want our system to be interconnected but independent. The modifications can be handled easily as these modifications can be adjusted in a specific layer without modifying other layers making the system maintainable.

**Our system will have the following layers:**

We will be using layered architecture for our HRMS system. The reason for using this architecture is that we want our system to be interconnected but independent. The modifications can be handled easily as these modifications can be adjusted in a specific layer without modifying other layers making the system maintainable.

**Our system will have the following layers:**

1. Presentation Layer

2. Business Logic Layer

3. Data Access Layer

The presentation layer will handle views for both the employees and the employer. This layer will display information such as shortlisted employees, selected, rejected, or deferred ones, employee skills extracted from their respective resumes, and the scheduling information. This presentation layer will provide a user-friendly interface that will be simple and easy to use without ambiguities.

Moreover, the logic layer will include all the business logic of the system and the logic of how different components will interact with each other. The logic of ranking different employees based on their performance will be handled in this layer along with handling different requests made from the presentation layer by the user.

The data access layer will handle all the data relevant to our system concerning both employees and employers. The interaction of other components with the data will also be handled in this layer along with security and encryption mechanisms to ensure data integrity. All the data such as attendance, payrolls, employee performance, skill data, and company requirements will be held in this layer.

The business logic layer will implement processing and logic onto the specific data available in the database layer and present it to the user through the presentation layer i.e. interface.

## Software Architecture Diagram

A diagram of data access

Description automatically generated

Figure 29:Software Architecture Diagram

## ER Diagram

A diagram of a network

Description automatically generated

Figure 30:ER Diagram

## Network Diagram

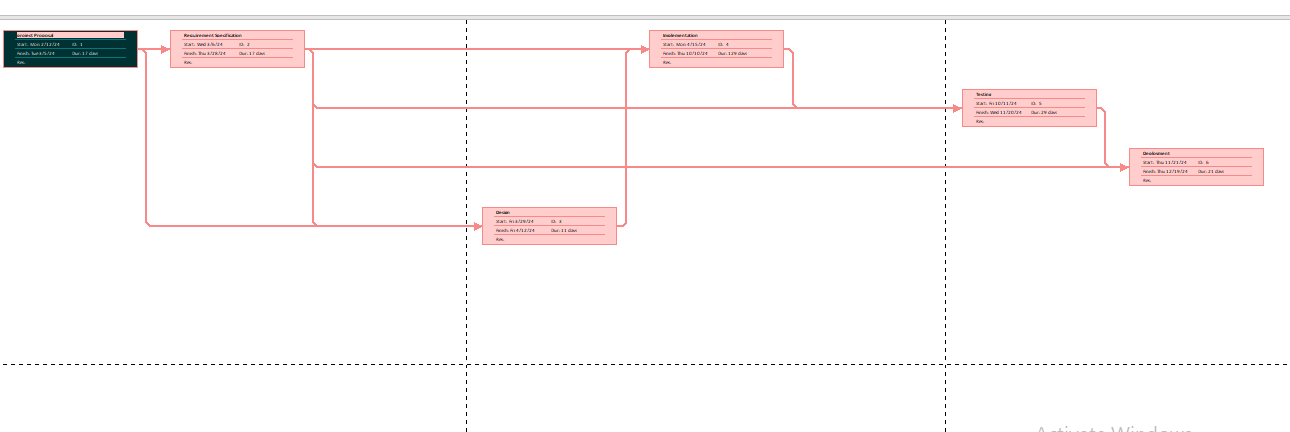


Figure 31:Network Diagram

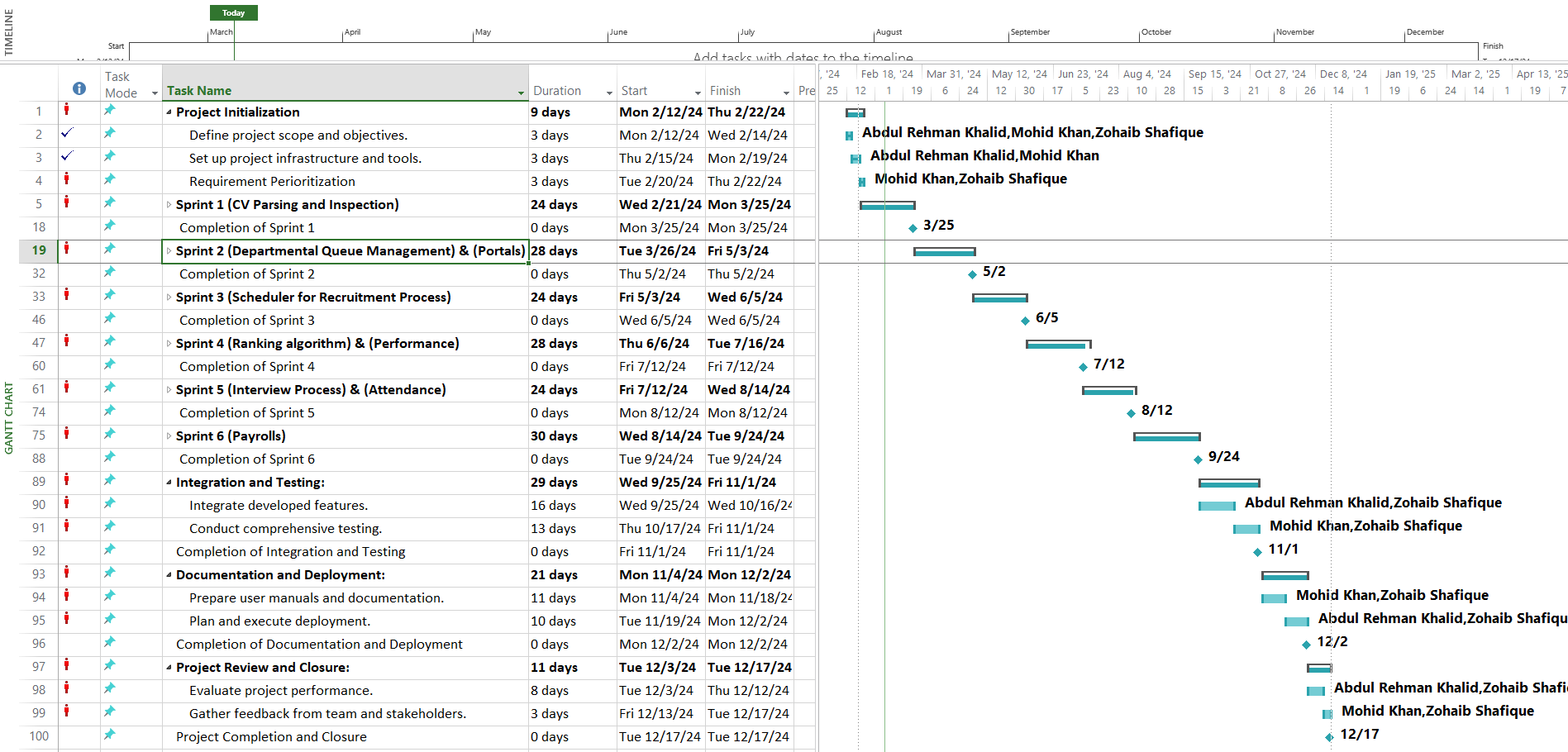


Figure 32:GANTT CHART

## Class Diagram

A diagram of a computer

Description automatically generated with medium confidence

Figure 33:Class Diagram

# Chapter 4: System Testing

## Test Cases

### User Login

Table 72:TC User Login

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 1 |
| Test Case Name | User Login |
| System | Recruitment Management System |
| Subsystem | User Authentication |
| Designed by | Abdul Rehman Khalid |
| Designed date | May 20, 2024 |
| Executed by | Mohid Khan |
| Execution date | May 25, 2024 |
| Description | Test that a user (employee or company) can successfully log in to the system. |
| Test Data | Email :Zohaibshafique48@gmail.com  password: zohaib1234 |
| Pre-conditions | The user must have an account registered in the system.  The user must fill in the login form. |
| Step | The user enters registered email. |
| Actual Result |  |
| Expected Response | The email should appear as entered. |
| Pass/Fail |  |
| Comment | Redirected to the dashboard upon successful login. |
| Post conditions | The user's account is verified.  The user is redirected to the dashboard. |

### User Authentication Failure

Table 73:TC User Authentication Failure

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 2 |
| Test Case Name | User Authentication Failure |
| System | Recruitment Management System |
| Subsystem | User Authentication |
| Designed by | Mohid Khan |
| Designed date | May 21, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | May 26, 2024 |
| Description | Test that the system handles authentication failure scenarios appropriately. |
| Test Data | Email :[Zohaibshafique60@gmail.com](mailto:Zohaibshafique48@gmail.com)  password: zohaib1234 |
| Pre-conditions | The user must have an account registered in the system.  The user must fill in the login form. |
| Step | The user enters an unregistered email. |
| Actual Result |  |
| Expected Response | The system should display an error message indicating that the account does not exist. |
| Pass/Fail |  |
| Comment | Error message displayed for invalid credentials. |
| Post conditions | User authentication failure scenarios are appropriately handled by the system. |

### User Registration

Table 74:TC User Registration

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 3 |
| Test Case Name | User Registration |
| System | Recruitment Management System |
| Subsystem | User Authentication |
| Designed by | Abdul Rehman Khalid |
| Designed date | May 22, 2024 |
| Executed by | Mohid Khan |
| Execution date | May 27, 2024 |
| Description | Test that a user (employee or company) can successfully register for an account in the system. |
| Test Data | Email : (enter valid email)  password: (enter password according to criteria ) |
| Pre-conditions | Navigating to the registration page. |
| Step | User fills registration form. |
| Actual Result |  |
| Expected Response | User account is successfully created. |
| Pass/Fail |  |
| Comment | - |
| Post conditions | User account is successfully created. |

### Password Reset

Table 75:TC Password Reset

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 4 |
| Test Case Name | Password Reset |
| System | Recruitment Management System |
| Subsystem | User Authentication |
| Designed by | Mohid Khan |
| Designed date | May 23, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | May 28, 2024 |
| Description | Test the process of resetting the password securely through email verification. |
| Test Data | Email :[Zohaibshafique48@gmail.com](mailto:Zohaibshafique48@gmail.com) |
| Pre-conditions | User must have an existing account. |
| Step | User navigates to password reset page. |
| Actual Result |  |
| Expected Response | User receives email with reset link. |
| Pass/Fail |  |
| Comment | - |
| Post conditions | User's password is successfully reset. |

### Role-Based Access Control

Table 76:TC Role-Based Access Control

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 5 |
| Test Case Name | Role-Based Access Control |
| System | Recruitment Management System |
| Subsystem | User Authorization |
| Designed by | Zohaib Shafique |
| Designed date | May 24, 2024 |
| Executed by | Abdul Rehman Khalid |
| Execution date | May 29, 2024 |
| Description | Test the process of managing role-based access control by the administrator. |
| Test Data | Click on role management Tab on the Sidebar |
| Pre-conditions | Administrator must be logged in. |
| Step | Administrator navigates to role management. |
| Actual Result |  |
| Expected Response | Access permissions are successfully assigned or revoked. |
| Pass/Fail |  |
| Comment | - |
| Post conditions | Access permissions are successfully assigned or revoked. |

### Portal Access

Table 77:TC Portal Access

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 6 |
| Test Case Name | Portal Access |
| System | Recruitment Management System |
| Subsystem | Centralized Portal |
| Designed by | Abdul Rehman Khalid |
| Designed date | May 30, 2024 |
| Executed by | Mohid Khan |
| Execution date | June 5, 2024 |
| Description | Test that authorized users can access the centralized portal interface. |
| Test Data | Click on Centralized Tab on the Sidebar |
| Pre-conditions | User must be logged in. |
| Step | User navigates to the centralized portal URL. |
| Actual Result |  |
| Expected Response | The portal interface loads successfully. |
| Pass/Fail |  |
| Comment | Users with proper authorization should be able to access the portal. |
| Post conditions | Centralized portal interface is successfully loaded. |

### Navigation within Portal

Table 78:TC Navigation within Portal

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 7 |
| Test Case Name | Navigation within Portal |
| System | Recruitment Management System |
| Subsystem | Centralized Portal |
| Designed by | Mohid Khan |
| Designed date | May 31, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | June 6, 2024 |
| Description | Test the navigation flow within the centralized portal interface. |
| Test Data | Click on Hire employee Option on the side bar |
| Pre-conditions | User must be logged in and on the centralized portal interface. |
| Step | User clicks on various menu items and links. |
| Actual Result |  |
| Expected Response | User is navigated to the corresponding page or section. |
| Pass/Fail |  |
| Comment | Navigation within the portal should be smooth and intuitive. |
| Post conditions | User is successfully navigated to the desired page or section. |

### Dashboard Display

Table 79:TC Dashboard Display

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 8 |
| Test Case Name | Dashboard Display |
| System | Recruitment Management System |
| Subsystem | Centralized Portal |
| Designed by | Abdul Rehman Khalid |
| Designed date | June 1, 2024 |
| Executed by | Mohid Khan |
| Execution date | June 7, 2024 |
| Description | Test that the dashboard in the centralized portal displays relevant information. |
| Pre-conditions | User must be logged in and on the centralized portal interface. |
| Step | User navigates to the dashboard section. |
| Actual Result |  |
| Expected Response | The dashboard displays key metrics and data. |
| Pass/Fail |  |
| Comment | Dashboard should provide a snapshot of important information. |
| Post conditions | Relevant information is displayed on the dashboard. |

### Notification Handling

Table 80:TC Notification Handling

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 9 |
| Test Case Name | Notification Handling |
| System | Recruitment Management System |
| Subsystem | Centralized Portal |
| Designed by | Mohid Khan |
| Designed date | June 2, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | June 8, 2024 |
| Description | Test the system's ability to handle notifications within the centralized portal. |
| Pre-conditions | User must be logged in and on the centralized portal interface. |
| Step | User receives notifications and interacts with them. |
| Actual Result |  |
| Expected Response | Notifications are displayed promptly and accurately. |
| Pass/Fail |  |
| Comment | Notifications should be timely and actionable. |
| Post conditions | Notifications are handled correctly within the centralized portal. |

### Customization Options

Table 81:TC Customization Options

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 10 |
| Test Case Name | Customization Options |
| System | Recruitment Management System |
| Subsystem | Centralized Portal |
| Designed by | Abdul Rehman Khalid |
| Designed date | June 3, 2024 |
| Executed by | Mohid Khan |
| Execution date | June 9, 2024 |
| Description | Test the availability and functionality of customization options within the portal. |
| Pre-conditions | User must be logged in and on the centralized portal interface. |
| Step | User accesses settings or customization options. |
| Actual Result |  |
| Expected Response | User can customize aspects such as theme, layout, etc. |
| Pass/Fail |  |
| Comment | Users should be able to personalize their portal experience. |
| Post conditions | Customization options are available and functional within the portal. |

### Company Profile Creation

Table 82:TC Company Profile Creation

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 11 |
| Test Case Name | Company Profile Creation |
| System | Recruitment Management System |
| Subsystem | Company Portal |
| Designed by | Zohaib Shafique |
| Designed date | June 10, 2024 |
| Executed by | Abdul Rehman Khalid |
| Execution date | June 15, 2024 |
| Description | Test that companies can successfully create and set up their profiles within the portal. |
| Pre-conditions | Company must be registered and logged in. |
| Step | Company navigates to profile settings. |
| Actual Result |  |
| Expected Response | Company profile is successfully created and saved. |
| Pass/Fail |  |
| Comment | Companies should be able to present themselves effectively. |
| Post conditions | Company profile is successfully created and saved. |

### Job Posting

Table 83:TC Job Posting

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 12 |
| Test Case Name | Job Posting |
| System | Recruitment Management System |
| Subsystem | Company Portal |
| Designed by | Abdul Rehman Khalid |
| Designed date | June 11, 2024 |
| Executed by | Mohid Khan |
| Execution date | June 16, 2024 |
| Description | Test that companies can successfully post job vacancies within the portal. |
| Test Data | Create job posting by filling all the revalent fields |
| Pre-conditions | Company must be registered and logged in. |
| Step | Company navigates to job posting section. |
| Actual Result |  |
| Expected Response | Job vacancy is successfully posted within the portal. |
| Pass/Fail |  |
| Comment | Companies should be able to advertise their job openings. |
| Post conditions | Job vacancy is successfully posted within the portal. |

### Application Management

Table 84:TC Application Management

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 13 |
| Test Case Name | Application Management |
| System | Recruitment Management System |
| Subsystem | Company Portal |
| Designed by | Mohid Khan |
| Designed date | June 12, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | June 17, 2024 |
| Description | Test the functionality for managing job applications received from candidates. |
| Pre-conditions | Company must be registered and logged in. |
| Step | Company accesses the applications section. |
| Actual Result |  |
| Expected Response | Applications are successfully managed within the portal. |
| Pass/Fail |  |
| Comment | Companies should be able to efficiently manage applications. |
| Post conditions | Applications are successfully managed within the portal. |

### Communication with Candidates

Table 85:TC Communication with Candidates

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 14 |
| Test Case Name | Communication with Candidates |
| System | Recruitment Management System |
| Subsystem | Company Portal |
| Designed by | Zohaib Shafique |
| Designed date | June 13, 2024 |
| Executed by | Abdul Rehman Khalid |
| Execution date | June 18, 2024 |
| Description | Test the system's ability to facilitate communication between companies and candidates. |
| Pre-conditions | Company must be registered and logged in. |
| Step | Company accesses the messaging feature. |
| Actual Result |  |
| Expected Response | Communication with candidates is facilitated effectively within the portal. |
| Pass/Fail |  |
| Comment | Companies should be able to interact seamlessly with candidates. |
| Post conditions | Communication with candidates is facilitated effectively within the portal. |

### Analytics and Insights

Table 86:Analytics and Insights

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 15 |
| Test Case Name | Analytics and Insights |
| System | Recruitment Management System |
| Subsystem | Company Portal |
| Designed by | Abdul Rehman Khalid |
| Designed date | June 14, 2024 |
| Executed by | Mohid Khan |
| Execution date | June 19, 2024 |
| Description | Test the availability and accuracy of analytics and insights provided to companies. |
| Pre-conditions | Company must be registered and logged in. |
| Step | Company navigates to analytics section. |
| Actual Result |  |
| Expected Response | Analytics and insights are available and accurate within the portal. |
| Pass/Fail |  |
| Comment | Companies should have access to actionable data for decision-making. |
| Post conditions | Analytics and insights are available and accurate within the portal. |

### Profile Creation

Table 87:TC Profile Creation

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 16 |
| Test Case Name | Profile Creation |
| System | Recruitment Management System |
| Subsystem | Employee Portal |
| Designed by | Mohid Khan |
| Designed date | June 20, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | June 25, 2024 |
| Description | Test that employees can successfully create and set up their profiles within the portal. |
| Pre-conditions | Employee must be registered and logged in. |
| Step | Employee navigates to profile settings. |
| Actual Result |  |
| Expected Response | Employee profile is successfully created and saved. |
| Pass/Fail |  |
| Comment | Employees should be able to showcase their skills and experiences. |
| Post conditions | Employee profile is successfully created and saved. |

### Job Search and Application

Table 88:TC Job Search and Application

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 17 |
| Test Case Name | Job Search and Application |
| System | Recruitment Management System |
| Subsystem | Employee Portal |
| Designed by | Abdul Rehman Khalid |
| Designed date | June 21, 2024 |
| Executed by | Mohid Khan |
| Execution date | June 26, 2024 |
| Description | Test that employees can search for job vacancies and apply for positions within the portal. |
| Test Data | Search Job: Web developer.  Employee fill all the fields required by the company |
| Pre-conditions | Employee must be registered and logged in. |
| Step | Employee searches for job vacancies. |
| Actual Result |  |
| Expected Response | Job application is successfully submitted within the portal. |
| Pass/Fail |  |
| Comment | Employees should be able to explore job opportunities easily. |
| Post conditions | Job application is successfully submitted within the portal. |

### Application Tracking

Table 89:TC Application Tracking

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 18 |
| Test Case Name | Application Tracking |
| System | Recruitment Management System |
| Subsystem | Employee Portal |
| Designed by | Mohid Khan |
| Designed date | June 22, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | June 27, 2024 |
| Description | Test the functionality for tracking the status of job applications within the portal. |
| Pre-conditions | Employee must be registered and logged in. |
| Step | Employee accesses the applications section. |
| Actual Result |  |
| Expected Response | Application status is displayed accurately within the portal. |
| Pass/Fail |  |
| Comment | Employees should be able to keep track of their application status. |
| Post conditions | Application status is displayed accurately within the portal. |

### Interview Scheduling

Table 90:TC Interview Scheduling

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 19 |
| Test Case Name | Interview Scheduling |
| System | Recruitment Management System |
| Subsystem | Employee Portal |
| Designed by | Abdul Rehman Khalid |
| Designed date | June 23, 2024 |
| Executed by | Mohid Khan |
| Execution date | June 28, 2024 |
| Description | Test the system's ability to schedule interviews for employees within the portal. |
| Pre-conditions | Employee must be registered and logged in. |
| Step | Employee views interview invitations. |
| Actual Result |  |
| Expected Response | Interview schedule is successfully confirmed within the portal. |
| Pass/Fail |  |
| Comment | Employees should be able to manage interview schedules efficiently. |
| Post conditions | Interview schedule is successfully confirmed within the portal. |

### Feedback and Reviews

Table 91:TC Feedback and Reviews

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 20 |
| Test Case Name | Feedback and Reviews |
| System | Recruitment Management System |
| Subsystem | Employee Portal |
| Designed by | Mohid Khan |
| Designed date | June 24, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | June 29, 2024 |
| Description | Test the functionality for providing feedback and reviews on interview experiences within the portal. |
| Pre-conditions | Employee must be registered and logged in. |
| Step | Employee accesses the feedback section. |
| Actual Result |  |
| Expected Response | Feedback and reviews are submitted successfully within the portal. |
| Pass/Fail |  |
| Comment | Employees should be able to share their experiences and feedback. |
| Post conditions | Feedback and reviews are submitted successfully within the portal. |

### CV Parsing and Data Extraction

Table 92:TC CV Parsing and Data Extraction

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 21 |
| Test Case Name | CV Parsing and Data Extraction |
| System | Recruitment Management System |
| Subsystem | CV Parsing and Inspection |
| Designed by | Abdul Rehman Khalid |
| Designed date | July 1, 2024 |
| Executed by | Mohid Khan |
| Execution date | July 6, 2024 |
| Description | Test the system's ability to parse CVs and extract relevant data such as skills, experience, and education. |
| Pre-conditions | CV document must be uploaded or provided for parsing. |
| Step | User uploads or provides a CV document. |
| Actual Result |  |
| Expected Response | Relevant data is successfully extracted from the CV. |
| Pass/Fail |  |
| Comment | System should accurately extract key information from CVs. |
| Post conditions | Relevant data is successfully extracted from the CV. |

### Data Validation and Error Handling

Table 93:TC Data Validation and Error Handling

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 22 |
| Test Case Name | Data Validation and Error Handling |
| System | Recruitment Management System |
| Subsystem | CV Parsing and Inspection |
| Designed by | Mohid Khan |
| Designed date | July 2, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | July 7, 2024 |
| Description | Test the system's ability to validate extracted data and handle errors gracefully during the parsing process. |
| Pre-conditions | CV document must be uploaded or provided for parsing. |
| Step | User uploads or provides a CV document. |
| Actual Result |  |
| Expected Response | System should flag any inconsistencies or errors in the CV data. |
| Pass/Fail |  |
| Comment | System should flag any inconsistencies or errors in the CV data. |
| Post conditions | Data validation and error handling are performed effectively during parsing. |

### Integration with Database

Table 94:TC Integration with Database

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 23 |
| Test Case Name | Integration with Database |
| System | Recruitment Management System |
| Subsystem | CV Parsing and Inspection |
| Designed by | Abdul Rehman Khalid |
| Designed date | July 3, 2024 |
| Executed by | Mohid Khan |
| Execution date | July 8, 2024 |
| Description | Test the integration of the CV parsing module with the database for storing parsed data. |
| Pre-conditions | CV parsing module and database must be properly configured and connected. |
| Step | System parses a CV and extracts data. |
| Actual Result |  |
| Expected Response | Parsed data is stored correctly in the database. |
| Pass/Fail |  |
| Comment | Parsed data should be stored securely and accurately. |
| Post conditions | Parsed data is successfully integrated and stored in the database. |

### Compatibility with Different Formats

Table 95:TC Compatibility with Different Formats

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 24 |
| Test Case Name | Compatibility with Different Formats |
| System | Recruitment Management System |
| Subsystem | CV Parsing and Inspection |
| Designed by | Mohid Khan |
| Designed date | July 4, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | July 9, 2024 |
| Description | Test the system's compatibility with various CV formats such as PDF, DOC, DOCX, and TXT. |
| Pre-conditions | CV documents in different formats are provided for parsing. |
| Step | User uploads CV documents in various formats. |
| Actual Result |  |
| Expected Response | System successfully parses and extracts data from CVs in different formats. |
| Pass/Fail |  |
| Comment | System should be able to handle common CV formats effectively. |
| Post conditions | CV parsing module is compatible with various CV formats. |

### Performance and Scalability

Table 96:TC Performance and Scalability

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 25 |
| Test Case Name | Performance and Scalability |
| System | Recruitment Management System |
| Subsystem | CV Parsing and Inspection |
| Designed by | Abdul Rehman Khalid |
| Designed date | July 5, 2024 |
| Executed by | Mohid Khan |
| Execution date | July 10, 2024 |
| Description | Test the performance and scalability of the CV parsing module under different load conditions. |
| Pre-conditions | CV parsing module must be deployed and tested under varying load conditions. |
| Step | System processes a large volume of CVs. |
| Actual Result |  |
| Expected Response | System performance remains stable and responsive even under heavy load. |
| Pass/Fail |  |
| Comment | System should be able to handle high volumes of CV processing. |
| Post conditions | CV parsing module exhibits stable performance and scalability under load. |

### Employee Data Entry

Table 97:TC Employee Data Entry

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 26 |
| Test Case Name | Employee Data Entry |
| System | Recruitment Management System |
| Subsystem | Payrolls Management |
| Designed by | Mohid Khan |
| Designed date | August 21, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | August 26, 2024 |
| Description | Test the system's ability to accurately capture and input employee data for payroll processing. |
| Pre-conditions | Employee data must be complete and accurate within the system. |
| Step | HR or Admin enters employee data into the system. |
| Actual Result |  |
| Expected Response | Employee data is successfully entered and recorded within the system. |
| Pass/Fail |  |
| Comment | Employee data should be entered accurately to avoid errors in payroll. |
| Post conditions | Employee data is successfully entered and recorded within the system. |

### Salary Calculation

Table 98:TC Salary Calculation

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 27 |
| Test Case Name | Salary Calculation |
| System | Recruitment Management System |
| Subsystem | Payrolls Management |
| Designed by | Abdul Rehman Khalid |
| Designed date | August 22, 2024 |
| Executed by | Mohid Khan |
| Execution date | August 27, 2024 |
| Description | Test the system's accuracy in calculating salaries based on predefined criteria and inputs. |
| Pre-conditions | Employee data and predefined salary criteria must be available within the system. |
| Step | System calculates salaries based on employee data and criteria. |
| Actual Result |  |
| Expected Response | Salaries are calculated accurately according to predefined criteria. |
| Pass/Fail |  |
| Comment | Salary calculation should be precise and consistent. |
| Post conditions | Salaries are calculated accurately within the system. |

### Deductions Management

Table 99:TC Deductions Management

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 28 |
| Test Case Name | Deductions Management |
| System | Recruitment Management System |
| Subsystem | Payrolls Management |
| Designed by | Mohid Khan |
| Designed date | August 23, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | August 28, 2024 |
| Description | Test the system's functionality for managing and applying deductions such as taxes and benefits. |
| Pre-conditions | Deduction rules and employee data must be available within the system. |
| Step | System applies deductions to employee salaries. |
| Actual Result |  |
| Expected Response | Deductions are applied accurately according to predefined rules. |
| Pass/Fail |  |
| Comment | Deductions should be applied accurately to ensure correct payouts. |
| Post conditions | Deductions are applied accurately to employee salaries within the system. |

### Payment Processing

Table 100:TC Payment Processing

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 29 |
| Test Case Name | Payment Processing |
| System | Recruitment Management System |
| Subsystem | Payrolls Management |
| Designed by | Abdul Rehman Khalid |
| Designed date | August 24, 2024 |
| Executed by | Mohid Khan |
| Execution date | August 29, 2024 |
| Description | Test the system's ability to process salary payments accurately and efficiently. |
| Pre-conditions | Salary data and payment methods must be available and configured within the system. |
| Step | System processes salary payments for employees. |
| Actual Result |  |
| Expected Response | Salary payments are successfully processed for employees within the system. |
| Pass/Fail |  |
| Comment | Salary payments should be processed timely and without errors. |
| Post conditions | Salary payments are successfully processed for employees within the system. |

### Reporting and Analytics

Table 101:TC Reporting and Analytics

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 30 |
| Test Case Name | Reporting and Analytics |
| System | Recruitment Management System |
| Subsystem | Payrolls Management |
| Designed by | Mohid Khan |
| Designed date | August 25, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | August 30, 2024 |
| Description | Test the availability and accuracy of reporting and analytics features for payroll management. |
| Pre-conditions | Payroll data must be available and accurate within the system. |
| Step | Admin accesses reporting and analytics features. |
| Actual Result |  |
| Expected Response | Reporting and analytics features provide valuable insights for payroll management. |
| Pass/Fail |  |
| Comment | Admins should have access to data for monitoring and optimization. |
| Post conditions | Reporting and analytics features provide valuable insights for payroll management. |

### Interview Scheduling

Table 102:TC Interview Scheduling

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 31 |
| Test Case Name | Interview Scheduling |
| System | Recruitment Management System |
| Subsystem | Scheduler for Recruitment Process |
| Designed by | Abdul Rehman Khalid |
| Designed date | July 21, 2024 |
| Executed by | Mohid Khan |
| Execution date | July 26, 2024 |
| Description | Test the system's ability to schedule interviews for candidates based on availability of stakeholders. |
| Pre-conditions | Candidates and interviewers must be available and accessible within the system. |
| Step | Scheduler identifies available time slots for interviews. |
| Actual Result |  |
| Expected Response | Interviews are successfully scheduled with available stakeholders. |
| Pass/Fail |  |
| Comment | Interviews should be scheduled efficiently without conflicts. |
| Post conditions | Interviews are successfully scheduled within the system. |

### Automated Reminders

Table 103:TC Automated Reminders

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 32 |
| Test Case Name | Automated Reminders |
| System | Recruitment Management System |
| Subsystem | Scheduler for Recruitment Process |
| Designed by | Mohid Khan |
| Designed date | July 22, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | July 27, 2024 |
| Description | Test the system's ability to send automated reminders to stakeholders regarding scheduled interviews. |
| Pre-conditions | Interviews must be scheduled within the system with specified timings. |
| Step | System sends automated reminders to stakeholders. |
| Actual Result |  |
| Expected Response | Stakeholders receive reminders for scheduled interviews on time. |
| Pass/Fail |  |
| Comment | Stakeholders should be reminded of their interview commitments. |
| Post conditions | Automated reminders are sent out accurately and promptly. |

### Rescheduling

Table 104:TC Rescheduling

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 33 |
| Test Case Name | Rescheduling |
| System | Recruitment Management System |
| Subsystem | Scheduler for Recruitment Process |
| Designed by | Abdul Rehman Khalid |
| Designed date | July 23, 2024 |
| Executed by | Mohid Khan |
| Execution date | July 28, 2024 |
| Description | Test the functionality for rescheduling interviews in case of conflicts or changes in availability. |
| Pre-conditions | Interviews must be scheduled within the system with specified timings. |
| Step | Scheduler identifies conflicts and offers rescheduling options. |
| Actual Result |  |
| Expected Response | Stakeholders can reschedule interviews with ease. |
| Pass/Fail |  |
| Comment | Flexibility should be provided for rescheduling interviews. |
| Post conditions | Interviews are successfully rescheduled within the system. |

### Calendar Integration

Table 105:TC Calendar Integration

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 34 |
| Test Case Name | Calendar Integration |
| System | Recruitment Management System |
| Subsystem | Scheduler for Recruitment Process |
| Designed by | Mohid Khan |
| Designed date | July 24, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | July 29, 2024 |
| Description | Test the integration of the interview scheduling system with stakeholders' calendars for availability. |
| Pre-conditions | Stakeholders' calendars must be integrated with the scheduling system. |
| Step | System syncs scheduled interviews with stakeholders' calendars. |
| Actual Result |  |
| Expected Response | Scheduled interviews are reflected accurately in stakeholders' calendars. |
| Pass/Fail |  |
| Comment | Integration should ensure alignment of interview timings with calendars. |
| Post conditions | Interviews are seamlessly integrated with stakeholders' calendars. |

### Reporting and Analytics

Table 106:TC Reporting and Analytics

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 35 |
| Test Case Name | Reporting and Analytics |
| System | Recruitment Management System |
| Subsystem | Scheduler for Recruitment Process |
| Designed by | Abdul Rehman Khalid |
| Designed date | July 25, 2024 |
| Executed by | Mohid Khan |
| Execution date | July 30, 2024 |
| Description | Test the availability and accuracy of reporting and analytics features for interview scheduling. |
| Pre-conditions | Interviews must be scheduled and completed within the system. |
| Step | Admin accesses reporting and analytics features. |
| Actual Result |  |
| Expected Response | Reporting and analytics features provide valuable insights for scheduling optimization. |
| Pass/Fail |  |
| Comment | Admins should have access to data for monitoring and optimization. |
| Post conditions | Reporting and analytics features provide valuable insights for scheduling optimization. |

### Ranking Candidates

Table 107:TC Ranking Candidates

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 36 |
| Test Case Name | Ranking Candidates |
| System | Recruitment Management System |
| Subsystem | Ranking Algorithm |
| Designed by | Mohid Khan |
| Designed date | August 1, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | August 6, 2024 |
| Description | Test the system's ability to rank candidates based on criteria such as qualifications and skills. |
| Pre-conditions | Candidates must be available and their profiles complete within the system. |
| Step | System applies ranking algorithm to candidate profiles. |
| Actual Result |  |
| Expected Response | Candidates are successfully ranked based on the algorithm. |
| Pass/Fail |  |
| Comment | Ranking algorithm should prioritize candidates effectively. |
| Post conditions | Candidates are successfully ranked based on the algorithm. |

### Customization Options

Table 108:TC Customization Options

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 37 |
| Test Case Name | Customization Options |
| System | Recruitment Management System |
| Subsystem | Ranking Algorithm |
| Designed by | Abdul Rehman Khalid |
| Designed date | August 2, 2024 |
| Executed by | Mohid Khan |
| Execution date | August 7, 2024 |
| Description | Test the availability and functionality of customization options for adjusting ranking criteria. |
| Pre-conditions | Admins must have access to customization settings within the system. |
| Step | Admin accesses ranking customization options. |
| Actual Result |  |
| Expected Response | Customization options for ranking criteria are available and functional. |
| Pass/Fail |  |
| Comment | Admins should be able to tailor ranking criteria to specific needs. |
| Post conditions | Customization options for ranking criteria are available and functional. |

### Weighting of Criteria

Table 109:TC Weighting of Criteria

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 38 |
| Test Case Name | Weighting of Criteria |
| System | Recruitment Management System |
| Subsystem | Ranking Algorithm |
| Designed by | Mohid Khan |
| Designed date | August 3, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | August 8, 2024 |
| Description | Test the system's ability to assign appropriate weights to different criteria for ranking candidates. |
| Test Data | Select Number of Project Done Radio button to Change the Ranking Criteria |
| Pre-conditions | Admins must have access to ranking customization settings within the system. |
| Step | Admin adjusts weights for different ranking criteria. |
| Actual Result |  |
| Expected Response | Criteria weights are applied accurately in candidate rankings. |
| Pass/Fail |  |
| Comment | Weighting should reflect the relative importance of different criteria. |
| Post conditions | Criteria weights are applied accurately in candidate rankings. |

### Transparency of Process

Table 110:TC Transparency of Process

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 39 |
| Test Case Name | Transparency of Process |
| System | Recruitment Management System |
| Subsystem | Ranking Algorithm |
| Designed by | Abdul Rehman Khalid |
| Designed date | August 4, 2024 |
| Executed by | Mohid Khan |
| Execution date | August 9, 2024 |
| Description | Test the system's transparency in explaining how candidate rankings are generated. |
| Pre-conditions | Admins and users must have access to view the ranking process and criteria within the system. |
| Step | Admin and users view ranking criteria and process details. |
| Actual Result |  |
| Expected Response | Ranking process details are transparent and accessible within the system. |
| Pass/Fail |  |
| Comment | Transparency ensures trust in the ranking system. |
| Post conditions | Ranking process details are transparent and accessible within the system. |

### Performance Evaluation

Table 111:TC Performance Evaluation

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 40 |
| Test Case Name | Performance Evaluation |
| System | Recruitment Management System |
| Subsystem | Ranking Algorithm |
| Designed by | Mohid Khan |
| Designed date | August 5, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | August 10, 2024 |
| Description | Test the performance of the ranking algorithm in producing quality candidate rankings. |
| Pre-conditions | Candidate profiles and criteria must be consistent and well-defined within the system. |
| Step | System generates candidate rankings based on criteria. |
| Actual Result |  |
| Expected Response | Ranking algorithm produces quality rankings for recruitment purposes. |
| Pass/Fail |  |
| Comment | Performance evaluation ensures the algorithm's effectiveness. |
| Post conditions | Ranking algorithm produces quality rankings for recruitment purposes. |

### Interview Scheduling

Table 112:TC Interview Scheduling

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 41 |
| Test Case Name | Interview Scheduling |
| System | Recruitment Management System |
| Subsystem | Interview Process |
| Designed by | Abdul Rehman Khalid |
| Designed date | August 11, 2024 |
| Executed by | Mohid Khan |
| Execution date | August 16, 2024 |
| Description | Test the system's ability to schedule interviews for candidates based on availability of stakeholders. |
| Pre-conditions | Candidates and interviewers must be available and accessible within the system. |
| Step | Scheduler identifies available time slots for interviews. |
| Actual Result |  |
| Expected Response | Interviews are successfully scheduled with available stakeholders. |
| Pass/Fail |  |
| Comment | Interviews should be scheduled efficiently without conflicts. |
| Post conditions | Interviews are successfully scheduled within the system. |

### Interview Conduct

Table 113:TC Interview Conduct

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 42 |
| Test Case Name | Interview Conduct |
| System | Recruitment Management System |
| Subsystem | Interview Process |
| Designed by | Mohid Khan |
| Designed date | August 12, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | August 17, 2024 |
| Description | Test the effectiveness of the interview process in evaluating candidates based on predefined criteria. |
| Pre-conditions | Candidates and interviewers must participate in scheduled interviews within the system. |
| Step | Interviewers conduct interviews with candidates. |
| Actual Result |  |
| Expected Response | Interviews are conducted effectively and feedback is documented within the system. |
| Pass/Fail |  |
| Comment | Interviews should provide valuable insights into candidate suitability. |
| Post conditions | Interviews are conducted effectively and feedback is documented within the system. |

### Feedback and Evaluation

Table 114:TC Feedback and Evaluation

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 43 |
| Test Case Name | Feedback and Evaluation |
| System | Recruitment Management System |
| Subsystem | Interview Process |
| Designed by | Abdul Rehman Khalid |
| Designed date | August 13, 2024 |
| Executed by | Mohid Khan |
| Execution date | August 18, 2024 |
| Description | Test the process for collecting feedback from interviewers and evaluating candidate performance. |
| Pre-conditions | Interviewers must provide feedback on candidate performance within the system. |
| Step | Interviewers submit feedback on candidate performance. |
| Actual Result |  |
| Expected Response | Candidate performance is evaluated based on interviewer feedback. |
| Pass/Fail |  |
| Comment | Feedback should be comprehensive and contribute to evaluation. |
| Post conditions | Candidate performance is evaluated based on interviewer feedback. |

### Decision Making

Table 115:TC Decision Making

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 44 |
| Test Case Name | Decision Making |
| System | Recruitment Management System |
| Subsystem | Interview Process |
| Designed by | Mohid Khan |
| Designed date | August 14, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | August 19, 2024 |
| Description | Test the system's ability to facilitate decision-making processes based on candidate evaluations. |
| Pre-conditions | Interviewers must submit feedback on candidate performance within the system. |
| Step | Decision-makers review candidate evaluations and make decisions. |
| Actual Result |  |
| Expected Response | Final decisions on candidate selection are made based on evaluation results. |
| Pass/Fail |  |
| Comment | Decision-making should be informed and objective. |
| Post conditions | Final decisions on candidate selection are made based on evaluation results. |

### Communication with Candidates

Table 116:TC Communication with Candidates

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 45 |
| Test Case Name | Communication with Candidates |
| System | Recruitment Management System |
| Subsystem | Interview Process |
| Designed by | Abdul Rehman Khalid |
| Designed date | August 15, 2024 |
| Executed by | Mohid Khan |
| Execution date | August 20, 2024 |
| Description | Test the system's ability to facilitate communication between interviewers and candidates during the process. |
| Pre-conditions | Interviewers and candidates must be able to communicate within the system. |
| Step | Interviewers provide feedback and communicate with candidates. |
| Actual Result |  |
| Expected Response | Communication with candidates is facilitated effectively within the system. |
| Pass/Fail |  |
| Comment | Communication should be clear and timely throughout the process. |
| Post conditions | Communication with candidates is facilitated effectively within the system. |

### Goal Setting

Table 117:TC Goal Setting

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 46 |
| Test Case Name | Goal Setting |
| System | Recruitment Management System |
| Subsystem | Performance Evaluation |
| Designed by | Abdul Rehman Khalid |
| Designed date | August 31, 2024 |
| Executed by | Mohid Khan |
| Execution date | September 5, 2024 |
| Description | Test the system's functionality for setting performance goals for employees. |
| Pre-conditions | Employees must have access to the performance evaluation system. |
| Step | Employees set performance goals within the system. |
| Actual Result |  |
| Expected Response | Employees set measurable and achievable goals for performance evaluation. |
| Pass/Fail |  |
| Comment | Performance goals should be clearly defined and aligned with objectives. |
| Post conditions | Performance goals are successfully set by employees within the system. |

### Continuous Feedback

Table 118:TC Continuous Feedback

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 47 |
| Test Case Name | Continuous Feedback |
| System | Recruitment Management System |
| Subsystem | Performance Evaluation |
| Designed by | Mohid Khan |
| Designed date | September 1, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | September 6, 2024 |
| Description | Test the system's ability to facilitate continuous feedback between employees and supervisors. |
| Pre-conditions | Employees and supervisors must have access to the performance evaluation system. |
| Step | Employees and supervisors provide ongoing feedback. |
| Actual Result |  |
| Expected Response | Continuous feedback is facilitated effectively within the system. |
| Pass/Fail |  |
| Comment | Continuous feedback should support employee development. |
| Post conditions | Continuous feedback is facilitated effectively within the system. |

### Clock In/Out

Table 119:TC Clock In/Out

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 48 |
| Test Case Name | Clock In/Out |
| System | Recruitment Management System |
| Subsystem | Attendance Tracking |
| Designed by | Mohid Khan |
| Designed date | September 10, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | September 15, 2024 |
| Description | Test the system's ability to record employee clock in and clock out times accurately. |
| Pre-conditions | Employees must have access to clock in/out functionality within the system. |
| Step | Employees clock in/out using the system. |
| Actual Result |  |
| Expected Response | Clock in/out times should be captured accurately for attendance records. |
| Pass/Fail |  |
| Comment | - |
| Post conditions | Employee clock in/out times are accurately recorded within the system. |

### Absence Reporting

Table 120:TC Absence Reporting

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 49 |
| Test Case Name | Absence Reporting |
| System | Recruitment Management System |
| Subsystem | Attendance Tracking |
| Designed by | Abdul Rehman Khalid |
| Designed date | September 11, 2024 |
| Executed by | Mohid Khan |
| Execution date | September 16, 2024 |
| Description | Test the system's functionality for employees to report absences and reasons within the system. |
| Pre-conditions | Employees must have access to absence reporting features within the system. |
| Step | Employees report absences and reasons within the system. |
| Actual Result |  |
| Expected Response | Employee absences and reasons are accurately recorded within the system. |
| Pass/Fail |  |
| Comment | Absence reporting should facilitate tracking and management of leaves. |
| Post conditions | Employee absences and reasons are accurately recorded within the system. |

### Leave Management

Table 121:TC Leave Management

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 50 |
| Test Case Name | Leave Management |
| System | Recruitment Management System |
| Subsystem | Attendance Tracking |
| Designed by | Mohid Khan |
| Designed date | September 12, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | September 17, 2024 |
| Description | Test the system's ability to manage various types of leave requests and approvals efficiently. |
| Pre-conditions | Employees must have access to request and approve leave within the system. |
| Step | Employees request leave and supervisors approve within the system. |
| Actual Result |  |
| Expected Response | Leave requests and approvals are managed efficiently within the system. |
| Pass/Fail |  |
| Comment | Leave management should ensure efficient handling of employee absences. |
| Post conditions | Leave requests and approvals are managed efficiently within the system. |

### Overtime Tracking

Table 122:TC Overtime Tracking

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 51 |
| Test Case Name | Overtime Tracking |
| System | Recruitment Management System |
| Subsystem | Attendance Tracking |
| Designed by | Abdul Rehman Khalid |
| Designed date | September 13, 2024 |
| Executed by | Mohid Khan |
| Execution date | September 18, 2024 |
| Description | Test the system's functionality for tracking and managing employee overtime hours. |
| Pre-conditions | Employees must have access to report overtime hours within the system. |
| Step | Employees report overtime hours within the system. |
| Actual Result |  |
| Expected Response | Overtime hours are accurately tracked and managed within the system. |
| Pass/Fail |  |
| Comment | Overtime tracking should ensure compliance with labour regulations. |
| Post conditions | Overtime hours are accurately tracked and managed within the system. |

### Reporting and Analytics

Table 123:TC Reporting and Analytics

| **Heading** | **Description** |
| --- | --- |
| Test Case # | 52 |
| Test Case Name | Reporting and Analytics |
| System | Recruitment Management System |
| Subsystem | Attendance Tracking |
| Designed by | Mohid Khan |
| Designed date | September 14, 2024 |
| Executed by | Zohaib Shafique |
| Execution date | September 19, 2024 |
| Description | Test the availability and accuracy of reporting and analytics features for attendance tracking. |
| Pre-conditions | Attendance data must be available and accurate within the system. |
| Step | Admin accesses reporting and analytics features. |
| Actual Result |  |
| Expected Response | Reporting and analytics features provide valuable insights for attendance tracking. |
| Pass/Fail |  |
| Comment | Admins should have access to data for monitoring and optimization. |
| Post conditions | Reporting and analytics features provide valuable insights for attendance tracking. |

## Unit/Integration/Acceptance Testing

**4.2.1 Unit testing**

Unit testing refers to the type of testing where each individual unit or module is tested

independently. The goal is to validate functionality of each module as per designed

requirements. The unit test may be tool-aided or manually conducted.

The unit tests of our project will be:

* Login
* CV Parsing and Inspection Module
* Job Creation
* Employee Registration
* Recruitment Management
* Scheduler for Recruitment Process Module
* Interview Queue Management Module
* Ranking Algorithm Module
* Interview Facilitation Module
* Payroll Management
* Contract Agreement Management
* Performance Feedback Management
* Attendance Management
* logout

**4.2.2 Integration testing**

Integration testing is the type of testing where individual units or modules are combined

and tested. The purpose of this testing is to expose and fix the errors in the interactions of

different components.

The integration tests of our project will be:

* Centralized Portal Registration Module
* Company Portal Registration Module
* Employee Portal Registration Module
* Job Description and Requirement Management Module
* Scheduler for Recruitment Process Module
* Interview Queue Management Module
* Payroll Management Module
* Attendance Module

**4.2.3 System testing**

In system testing, the system is tested thoroughly to ensure that it delivers the required

functionality. All the components are integrated, and the system is tested to expose errors

and faults. The interactions between components are also tested. Errors and bugs identified

should be fixed.

In our case we will test the System by making the employee profile system will rank the employee based on its experience after the company will post the job description. based on the Job description the company will hire the Employee by making the contract agreement. After that the company will be able to manage its performance, attendance, payrolls.

**4.2.4 Acceptance testing**

Acceptance testing is performed to ensure that the system delivers the business

requirements. The system is tested by the owners and end users. Modifications are made

upon the feedback collected.

# Chapter 5: Conclusion

## Problems faced and lessons learned.

**Technical Problems:**

* Unfamiliar technology
* Inability to design planned functionality.
* Difficulty in meeting deadlines.
* Takes time to R&D

**Lessons Learned:**

* The deadlines should be designed keeping in mind the expertise and prior experiences with the development technology.
* Financial resources and their use should be clearly mentioned in project plan.
* Budget should be managed efficiently.
* All the data and information should be documented properly and deadlines should be managed according to the lessons learned from the previous projects.

## Project Summary

"EmployEase" is a sophisticated HRMS designed to streamline the process of project outsourcing for companies and employees. Utilizing AI resume scanning technology, the system efficiently extracts relevant information from resumes, presenting eligible candidates on a company dashboard ranked by performance. Beyond matchmaking, EmployEase handles essential tasks such as payroll and attendance management, simplifying workforce administration. By centralizing these functions, EmployEase ensures smoother operations and successful project outcomes.

## Future Work

* Making the system cloud-based.
* Shifting to Azure.
* Integrating more AI features into the system.
* Making Mobile Application.

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