Software Requirements Specification

Resource Management Group

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1 . Introduction:

This document is a software requirement specification for the Resource Management Group Project. After giving information about the definition of the project at the beginning part of the document, we will give complete description for overview and list the requirements which meet the needs of the company roughly.

1.1 Problem Definition

Nowadays, companies try to enhance their management and have a better control over their employees. In order to fulfill these requirements in a more efficient way they need software called Resource Management System.

Resource Management System is software which satisfies the needs of the Human Resources Department of a company to manage employee personal data (citizen identity number, name, surname, birth- date, birthplace, educational information etc.), annual leaves, payroll, trainings, skills, performance evaluation and so on. Our Resource Management System will meet the needs for managing the personal data, system authentication and authorization of an employee.

Our RMG project is being developed for companies who want to control and manage their employee's data in a more appropriate and neat way. With the help of our project they will have better software to manage their personal data, control mechanism to authorize and authenticate for the employees' entry.

1.2 Purpose

This document aims to give a brief description about the Resource Management Group Project. With the help of this document the needs of the company and the solution that will be provided to that needs will be clearly presented. In other word's this document will provide a basis for validation and verification.

1.3 Scope

This document covers the whole definition of the RMG project. It

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basically includes the requirements for managing the personal data, controlling authentication and authorization mechanism, and evaluating of employees' performance. After creating the new RMG we have to accomplish data migration from their existing system to our new one.

More specifically, our RMG controls and manages the personal database such that any user with different role types as manager, employee and human resource will be able to manipulate their personal data.

In addition to manipulating the personal data, our RMG will provide authentication and authorization mechanism. Every user with any role type can be able to login to the system with his/her username and password.

2 . Existing System:

Although most of the companies of the world have been using RMG for a long time as a result of a need for reaching and managing the data of employees, RMG projects are developed without the required properties they to be well-formed.

Due to the rapid progress in companies like increase in number of the employees, the increase in the expectations in employees' skills and the variations of the employee types, the existing RMG becomes inadequate to meet these required needs.

We aim to develop an RMG in such a manner that it would be able to fulfill the upcoming changes in the needs of the Company. In other words, our RMG will be a flexible system such it could be improved according to the future needs of the Company in a digital way.

3 . Proposed System:

Asp.net Support code behind technology

- It supports different controls like html controls, server controls
- It Supports language interoperability

MVC application is to be developed for increasing the efficiency and easy understanding of the project.

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After understanding the existing system and understanding the need for developing a new system different people involved in the related activities have been consulted. Through this project managing the resources becomes easy and digitalized. Any employee can view their data easily and it also helps to separate employees based on their role of work along with their project details. This helps the organization to make works easier.

4 . Functional Requirements and Non-Functional Requirements:

Functional Requirements

In this section, we will explain the major functions of HRMS along with the data flow. So the major functionality of the project such as authentication mechanism, personal data processing, recruitment, report, and graphical user interface unit will explained step by step.

Authentication

Login	User can login to the HRMS system with his/her username and password.
Logout	User can logout from the HRMS system.
Login failure	If the user does not exist in the database or the user did not get authorized by the HRMS admin yet.

Authorization

User role check	After logging in, the user role will be checked from the database and the user interface will be created according to that role/roles.

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Process Data

Display	User with defined roles can display the content of the database. Being more specific, employee can only view his/her personal information. Manager can see not only his/her personal information but also employees' information who are working under his/her coverage. Admin and HR can display their personal information and all employees' information.
Edit	A user with employee role can edit his/her specific personal information. Manager can only edit employees' personal information that is under his/her coverage except user role type. HR can edit all employees' information except user role type. Admin can edit all information related to all employees' including their user role type.
Search	User with manager role type can search the content of database for the employees who are under his/her coverage. HR and admin roles can search all the employees' information in the database. Search feature works on specific keywords showing employees' characteristics, peculiarities, skills, features, and etc. For example, HR wants to find employees who are well trained in "Java Programming Language". He/she will write the specific keyword in the search bar and press the available search button. Afterwards, he/she will find a list of all the employees' who know "Java Programming Language".

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Report	This feature is basically used to filter the contents of the search mechanism. For instance, as we mentioned in the above search feature. The HR wants to get a report of some specific employees who know "java programming Language". The list of employees obtained from the result of search feature he/she can get the specific report by selecting the corresponding checkbox available for each employee. Or a manager role type can get a report of some or all employees' who are working under his/her coverage by selecting the checkbox. Except employee role type, all other role types such as admin, HR, and manager can use this feature.
Update authentication	This feature can be used only by admin role type. Admin can update the role type of a specific user. For example, an employee got promotion and his role type will be changed from employee role to manager role. Admin will be able to update this authentication mechanism.

Recruitment

Add a new employee	HR role type is able to add a new employee to the database. The new employee will have all the required personal information related to his/her. The new created employee will have an id.
Add a new user	After being created a new employee by HR role, admin role is responsible for creating a new user by the specified id assigned in the "Add a new employee" feature. The unique id will be given by the system. Admin will assign a new role such as employee, manager, HR, and admin to the new created user.

Non-functional Requirements:

Application features:

- The application's servers should perform bad balancing efficiently.
- Application should be lightweight and give quick response.
- The user's data should be kept safe.
- The application should be platform independent.

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It consists of following parameters:

Reliability:

The system will consistently perform its indented function.
For Example, important information must be validated.

Efficiency:

Unnecessary data will not be transmitted on the network and database server will be properly connected.

Reusability:

The system can be used in any Organization or site of the same group.

Integrity:
Only system administrator has right to access the database not every user can access all the information.

Hardware Requirements:

The RMG application will be storing … employees' personal data. Roughly … MB of storage capacity is needed.

Software Requirements:

1. Since RMG application is a web-based application, internet connection must be established.
2. The RMG software will be used on PCs and will function via internet or intranet in any web browser.
3. The application is an MVC application.
4. The required IDE is Visual Studio Code.
5. The RMG software personal database model will support SQL Server environment as DBMS.

5 . High-Level and Low-Level Design

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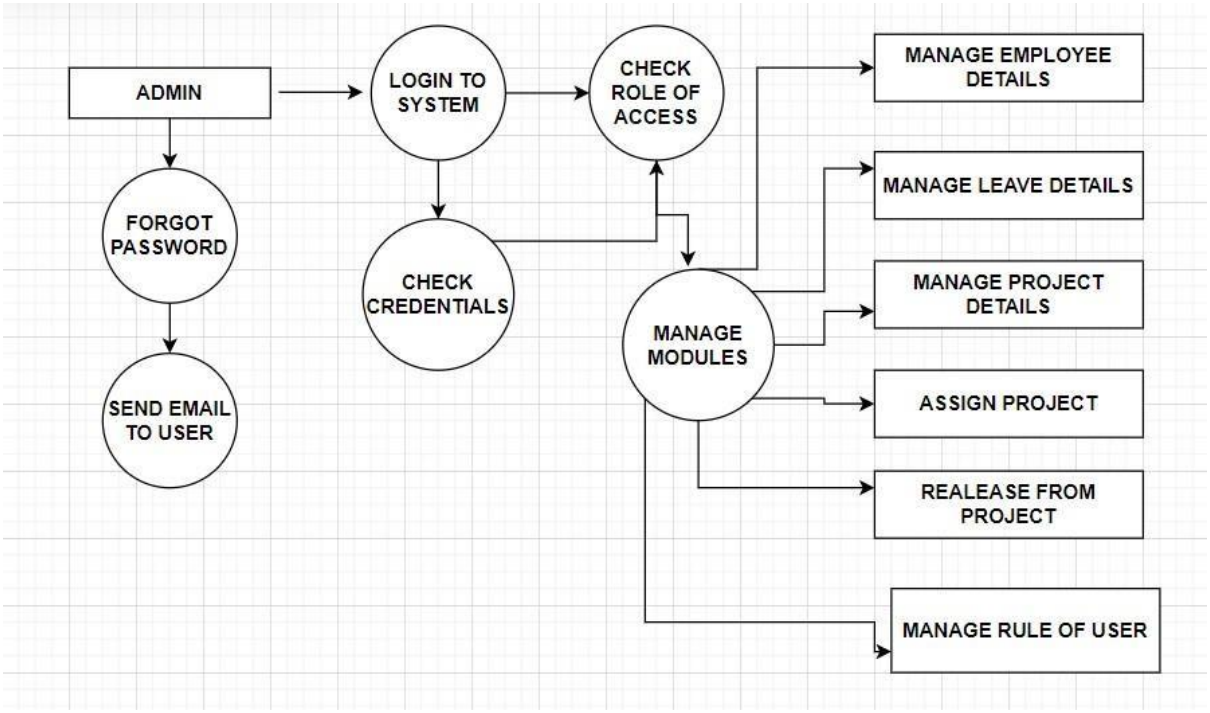
High Level Design:



- The user can log in with a properly authenticated organization mail ID. The credentials are verified from the data stored in the database and the log in check is passed.
- Then the RMG can access data of other employees. The RMG can edit the details of the employees, add details View current project data (starting date and ending date).
- The RMG can assign the employees to other project, release them from projects and assign end time for project release.

Low Level Design:

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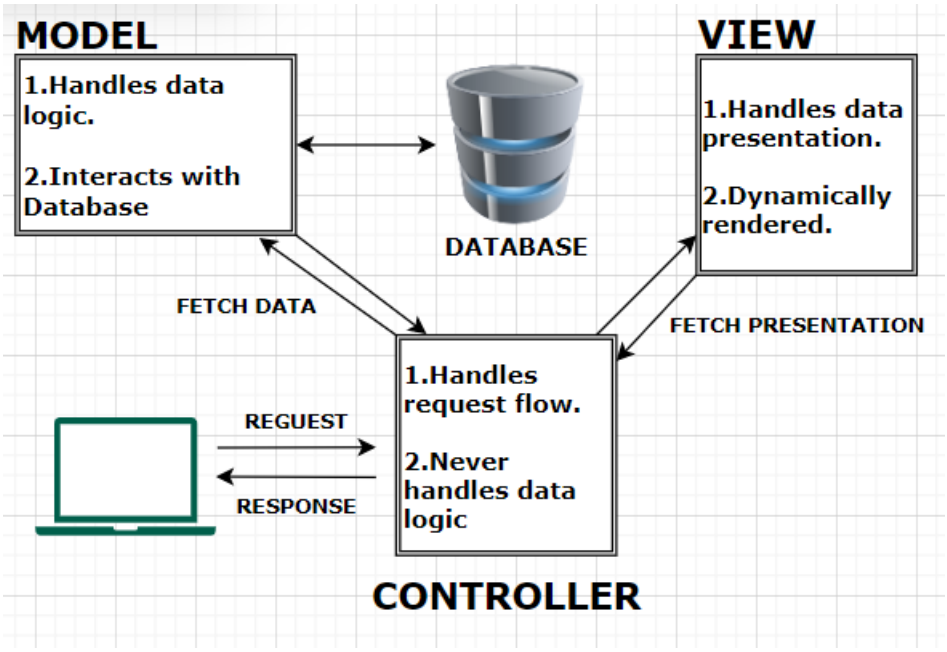

- The controller receives the request for the application and passes it to the model to send and receive data.
- The view then uses the data from the controller to generate presentable information to the end-user.

6 . Module Descriptions:

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In this application there are four modules:

1. Register and Login
2. Manager
3. HR
4. Employees

1. Register/Login.

- All the employees of the company have to register and after that login should be done with correct credentials.
- The credentials will be validated. Only the employees with the company will be able to register

2. Manager

After login, the manager can perform various tasks.

- The manager can view all the details of the employees.
- Can edit details of the employees.
- View the project details in the company and the employees under the project
- Can assign projects to bench employees
- They can request for any resources like laptop, technicians, etc...
- Can move the employees to bench

3. HR (Human Resource):

- Can view all the employee details and the project they are working with.
- Can edit the details of the employees.
- Can remove the employee from the Data Base after their termination.

4. Employees:

- Can view and edit their details.
- Can view the project that they are working.

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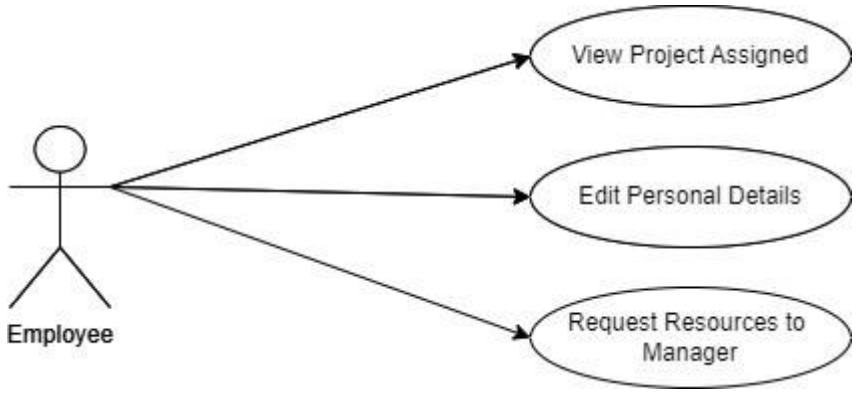
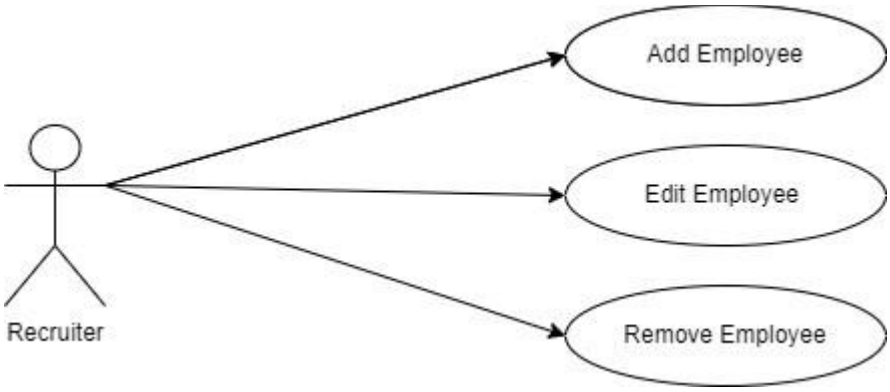
7. Diagram:

Use-Case Diagram





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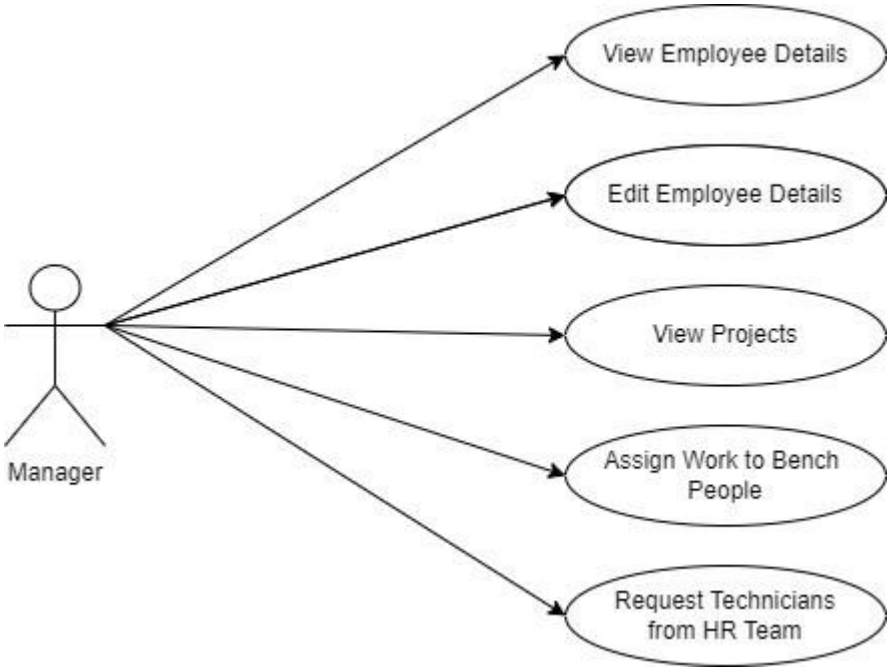

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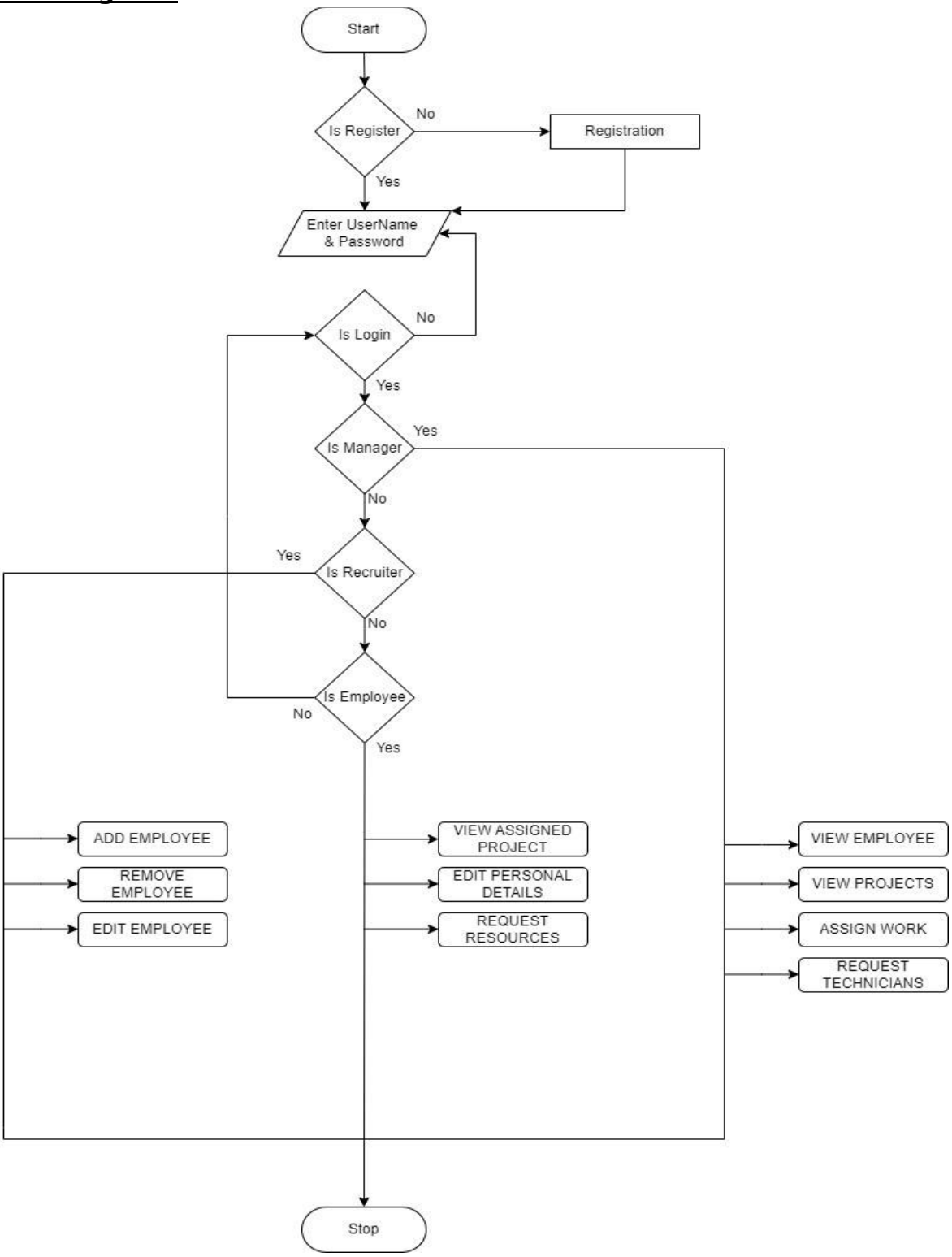
Flow Diagram:



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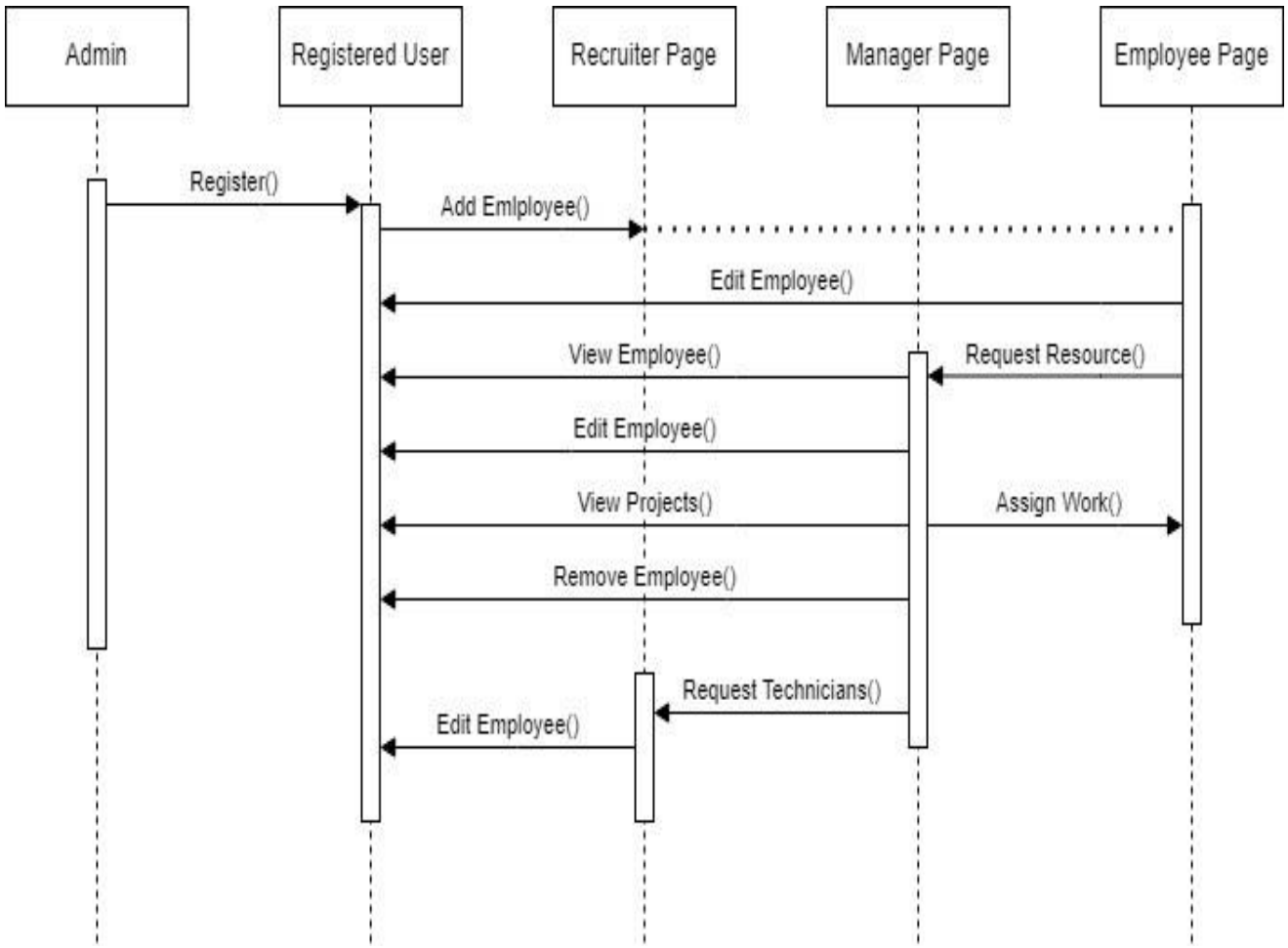
Sequential Diagram



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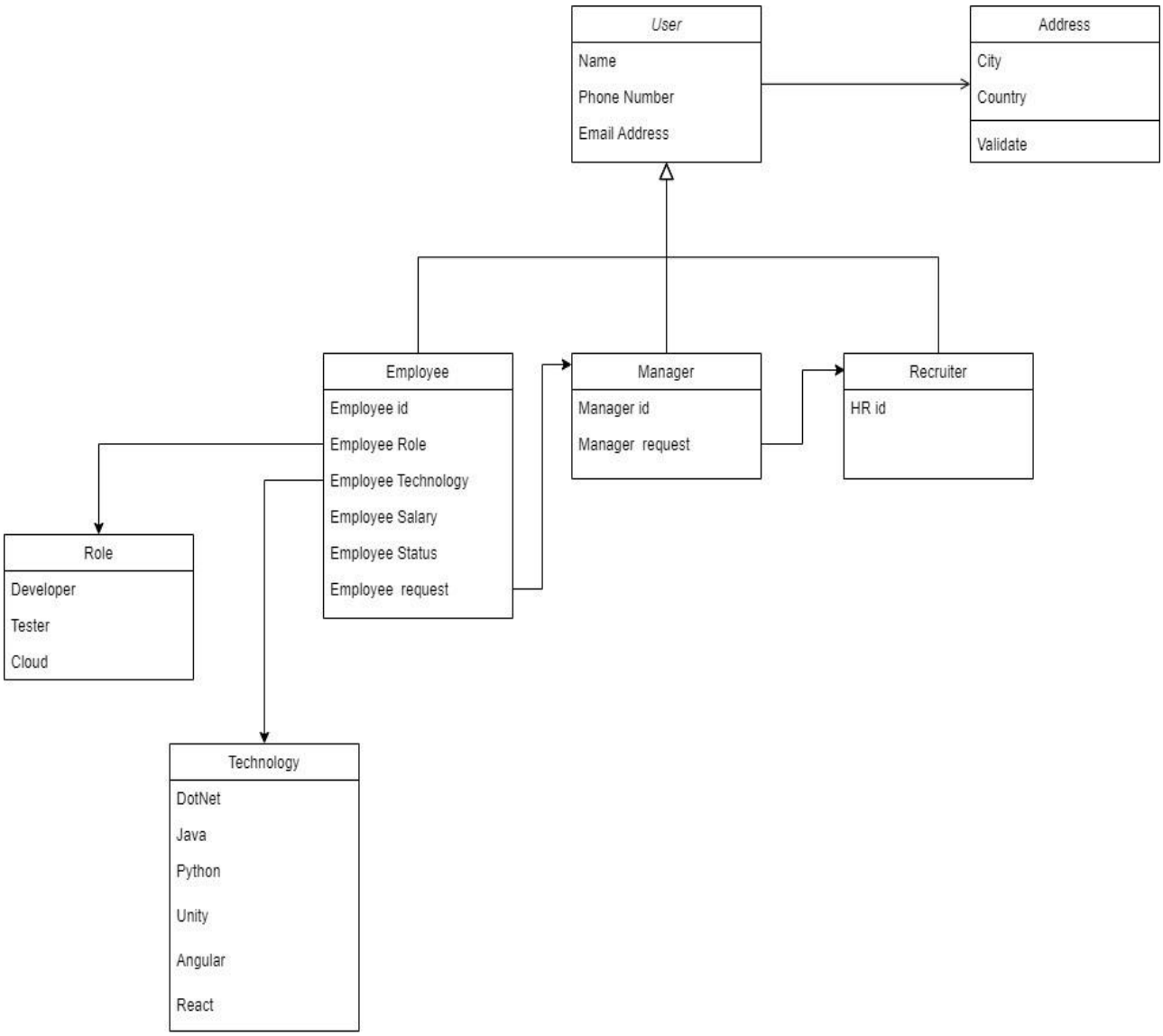
Class Diagram



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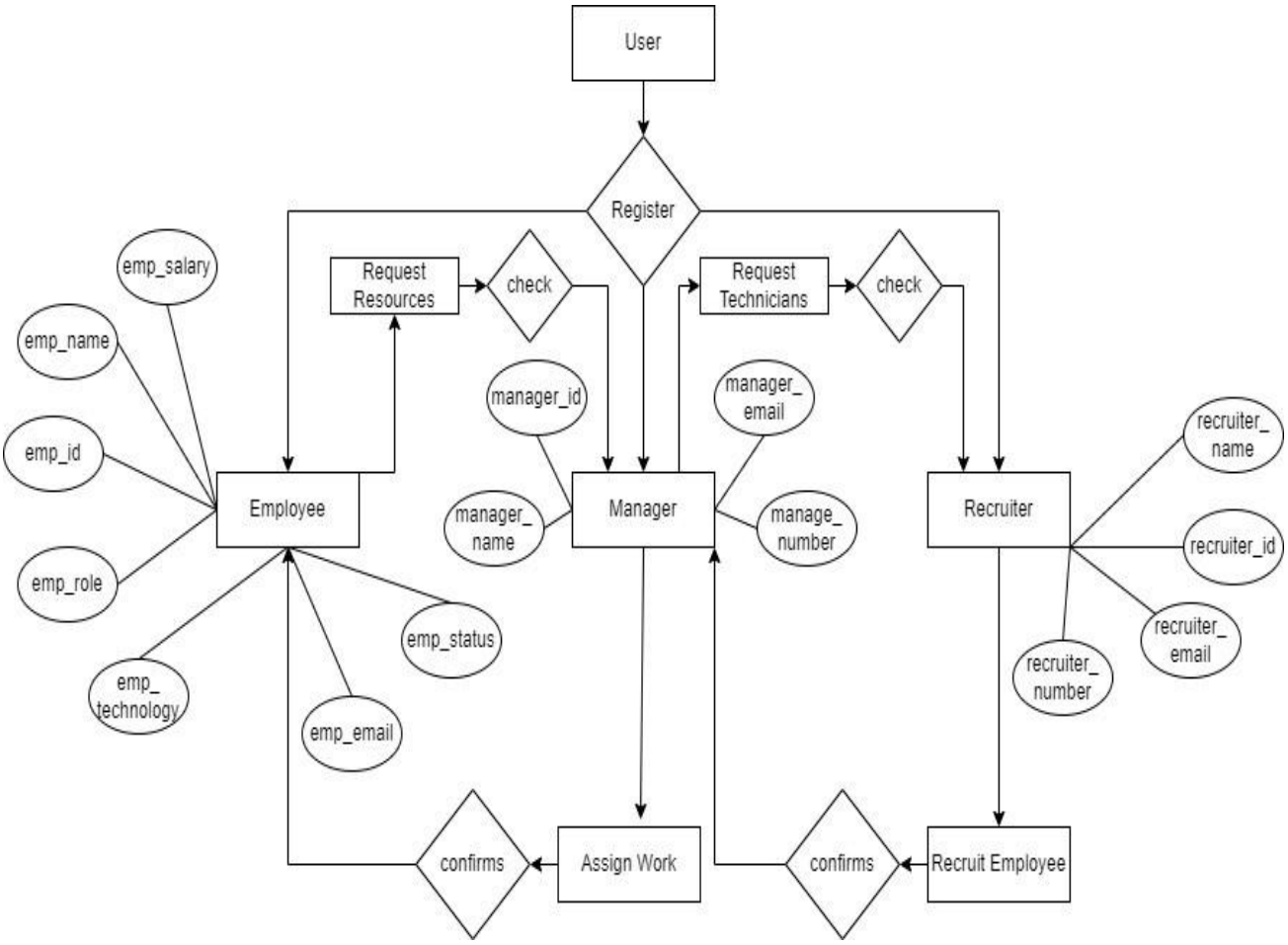
Entity-Relationship Diagram



8. Test Cases:

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- Only the Aspire system employees with proper aspire authenticated mail id must be accepted.
- Check if the password contains one UPPER CASE, one numeric, one symbol and must contain min 8 char.
- Check if the ID field is system generated or requires manual input.
- Check if the ID field auto increments when the next or previous button is pressed.
- Check if the Employee Name field accepts text data only
- Check the minimum required length for the Employee Name.
- Check the maximum required length for the Employee Name.
- Check if the Employee Name accepts both uppercase and lowercase input.
- Check if the Employee Name does not accept any form of special character.
- Check the "No of days" field only accepts numeric data.
- Check the 'No of days" field for the maximum available input. (It should restrict to 31 days per month).
- Check the salary field to verify if it is editable or not.
- Check if the save button saves the data.
- Verify if the save button saves the valid data.
- Check if the update button allows the modified data to be added to the database.
- Check if the update button does not retain the old information in the database
- Check if the delete button removes the data from the database.
- Check if the deleted data using the delete button does not remain in the database.

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