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# **Software Requirements Specification**

**For**

**Employee Management System**

**Version 1.0**

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# **1. Introduction**

## **1.1 Purpose**

An employee management system is a distributed system developed to maintain the employee details and the company workflow process systematically. EMS helps to eliminate the manual process and saves a lot of time and money. This system maintains the professional and personal details of the employees and the company in a safe manner.

## **1.2 Document Conventions**

We adhered to the IEEE format throughout. We used the same font, Times New Roman, in sizes 16 for heading 1, 14 for heading 2, and 12 for heading 3.

IEEE: The Institution of Electronic and Electrical Engineering

SRS: Software Requirement and Specification.

OS: Operating System.

GUI: Graphical User Interface.

## **1.3 Intended Audience and Reading Suggestions**

The web designers who are testing and contributing to the software are the people who should study this content with the utmost attention. It is important for the users of the system to read this SRS and familiarize themselves with the requirements. In the other sections of this SRS, the operational needs are broken out in further detail.

## **1.4 Product Scope**

The primary concern of this Employee Management System project is to make a system which will help any organization to maintain the employee's information. The user can easily operate this system as it will provide the user-friendly interface. The Employee Management System will be based on the internet and can be accessed from anywhere. This project will make the entire management system automate to increase the speed of the management system, further it will reduce the cost of management by reducing the number of persons required to maintain any information. While the development of the system will be simple and allow for the expansion of the project in the future as per the requirement

## **2. Overall Description**

### **2.1 Product Perspective**

This Employee Management System project will help the organization with the management of the information of the employees. The system will centralize the management system and will provide different options through access to data will become accessible. The system will be based on the internet so that any user can use it from any place with ease. The Employee Management System software will make a report of each employee of the organization at the end of the month so that the organization will have information about the work of each employee. This Employee Management System will not only reduce the time but as well it will make the system efficient.

### **2.2 Employee Management System Module**

#### **Super Admin:**

The Super Admin will be the controller of the organization and will have access to the whole system. The Super Admin can add or remove any user from the system while it will provide the user ID and password to the admin at the time of registration.

#### **Admin:**

The admin will be the chairman of the organization and will also have access to the whole system. The admin can add or remove any employee from the system. Admin can also update the information of any employee of needed.

#### **Login:**

The user will get access to the system only after they will enter the password and ID provides

#### **Register:**

The user needs to provide the information to get registered into the system.

### **2.3 Operating Environment**

The Employee Management System is a web-based software and will be able to run on all existing popular platforms such as for a model we are taking Microsoft edge, Google Chrome, and Mozilla Firefox. It is mostly designed to work on the Windows Operating System. The processor for the computer in use should have the minimum specification of Intel Core i3 8th generation (8109U) or above along with a 4GB RAM or above. The hard disk in use should have 1Tb or less capacity for proper functionality of the software.

## 2.4 Design and Implementation Constraints

- The ID, passwords, information of the users and the details of the user should be stored in a database accessible by the software. PostgreSQL would be the required database system for this.
- The front end is designed with the use of HTML5, CSS3, JavaScript and Bootstrap while the backend is designed using JavaScript.
- The framework for the site is implemented using Node.js and the editor side uses Visual Studio Code.
- The site must be able to perform 24 hours of the day and accessed whenever needed.
- Acknowledgement of the correct ID and passwords should be ensured for the software to be accessed by the users on any regulatory computer.

## 2.5 User Documentation

The SRS provides a written documentation of the planning and implementation procedure of the product approved by the client. It works as a guide for the requirements approved and a manual for any future user with the details and functionality of the product.

## 2.6 Assumptions and Dependencies

- The super admin and the admin is able to update the information anytime. For this security must be maintained with proper authentication.
- Proper documentation of the data should be updated in the database.
- It is dependent on PostgreSQL for database purposes and requires Node.js to develop the product.

# 3. External Interface Requirements

## 3.1 User Interfaces

The front-end view through which the user interacts with the software is the user interface of the software. The users of the employee management software are the admin and super admin.

The jobs of each users are different for this software so their interfaces after logging in to the software will be different. With the help of HTML, CSS, JavaScript and bootstrap the software's web pages will be formatted, designed, made responsive and interactive. The different user interfaces are explained below:

### 3.1.1 Log-in Interface

The log in interface will help the users to get into the software and do their respective duties. This interface will contains a form that will contain:

- User ID
- Password

Then the form is to be submitted using a “Submit” button, which will allow the user to get into the next interface. If the User ID or Password are not relevant or correct then it will show “Incorrect Password”.

### 3.1.2 Super Admin Control Panel

The super admin will control management of the software. The super admin can add delete update the information the admin as well as the employees. The options the Super Admin interface will have are:

- Manage Employee
- Manage Admin

Through manage employee and manage admin, the Admin can add or delete any employee and can also update them.

### 3.1.3 Admin Control Panel

The admin will control management of the software. The options the Admin interface will have are:

- Manage Employee

## 3.2 Hardware Interfaces

The hardware interfaces are given below in tabular form:

Category	Configuration
Device	PC , Laptop
Operating System	Windows
Processor	Intel® Core i3 8th generation (8109U) or above
RAM	4GB or Above
Hard Disk	1TB or less

## 3.3 Software Interfaces

The software interfaces used for the software are stated below:

Database	PostgreSQL
Front-End	HTML5, CSS3, JavaScript and Bootstrap
Back-End	Node.Js
Framework	Node.Js
Editor	Visual Studio Code

### 3.4 Communications Interfaces

Communications functions required by this product, including e-mail, web browser, network server communications protocols, electronic forms, and so on.

#### 1. Web Browsers:

Google Chrome (latest version)	Windows, Mac OS X, iOS, Android
Apple Safari (latest version)	Mac OS X, iOS
Microsoft Edge (latest version)	Windows
Mozilla Firefox (latest version)	Windows

#### 2. Network server communications protocols:

The operating system should support-

- TCP (Transfer Control Protocol) / IP (Internet Protocol),
- SMTP (Simple Mail Transfer Protocol),
- FTP (File Transfer Protocol),
- HTTP (Hyper Text Transfer Protocol) and
- HTTPS (Hyper Text Transfer Protocol Secured) protocols.

#### 3. The Contact forms are also another medium for communication.

## 4. System Features

### 4.1 Login

#### 4.1.1 Insert ID and Password

This is to login within the software by the given ID and password to the authorized users.

#### **4.1.2 Error Notification**

If the entered ID or password fails to match the ones stored in the database, a pop up with the notification of “Incorrect ID/ password” will be displayed.

#### **4.1.3 Password Change**

If a user has forgotten their password, their registered email may be used to retrieve or update the database.

### **4.2 Manage Employee**

#### **Create Employee:**

The admin and the super admin can create any employee by giving the information of the employee.

#### **Read Employee:**

The list of employees can be seen by the admin and the super admin.

#### **Update Employee:**

The information of the employees can be updated by the admin and the super admin.

#### **Delete Employee:**

If any employee leaves the organization then the employee can be deleted by the admin and the super admin.

### **4.3 Manage Admin**

The super admin can create, read, update and delete the admins of the system.

## **5. Non-functional Requirements**

### **5.1 Performance Requirements**

- The system should be lightweight and responsive.
- The system should be run properly in all browsers.

### **5.2 Security Requirements**

- The user will need a user name and password for login to the system.
- Only admin will able to observe the logbook.
- The user will only able to view the availability of the equipment.
- Only the super admin will be able to assign the admin.

### **5.3 Software Quality Attributes**



**5.3.1 Maintainability**

- Any update or bug fixes shall be able to be made on server-side computers only, without any patches required by the user.

**5.3.2 Accuracy**

- The system must contain the accurate information about the employees of the organization.
- The system must contain authentic information of the employees.

**5.3.3 Usability**

- The users of the system should be able to interact with the system naturally.

**5.3.4 Availability**

- The user should be able to access the system on the office hour (except admin).
- If the system crashes it should be back up within a week.

**5.3.5 Reliability**

- The systems average time to failure is 15 days.
- If the server crashes, it will take a week to restart the system.

**5.3.6 Quality**

- The program should show the document that has been opened in less than 10 seconds of being clicked.
- While the user scrolls down, the program shouldn't show any scrolling jerks that last more than 200ms.

**6. Other Requirements**

Be susceptible to future changes of including more users, functionality and branches, along with the commercial prospect of marketing to future customers with similar requirements.

**Appendix A: Glossary****A.1 Super Admin**

A super administration is the user who has complete access to all the objects, folders, templates and groups in the system.

**A.2 Admin**

The administration of a website. Admin is assigned by a super admin.

**A.3 Database**

A database is information that is set up for easy access, management and updating.

#### **A.4 User Interface**

This refers to the interaction between user and the computer system. In particular, the user interface (UI) is the point of human-computer interaction and communication in a device