

EMPLOYEE MANAGEMENT SYSTEM

By Team Pseudo Mavericks



Version 1.0

Software Requirements Specification

For

Employee Management System

Version 1.0

Prepared by PseudoMavericks

04/28/2022

Table of Contents

1. Functional Requirements for Phase-2 3

1.1 Login 3

1.2 Employee registration 3

1.3 Leave Management 3

1.4 Payroll Management 3

1.4PayrollManagement 3

1.4.1 Modified Requirement 3

1.5 Project Management 4

1.6 Time Sheet Records 4

2. UML Design for Phase-3 5

2.1 Class Diagram 5

2.2 Sequence Diagram 6

2.3 UseCase Diagram(Normal Case) 7

2.4 UseCase Diagram(Exception Case) 7

3. Test Cases for Phase-2 8

4. User Manual 11

4.1 Authorized user permissions 11

4.2 Login 11

4.3 Employee Management 12

4.3 Project Management 13

4.3 Billing Hours 15

4.3 Leave Management 16

4.3 Payroll 17

5. How to Compile/Run the Application 18

5.1 List of instructions how to run and minimum requirements 18

5.2 Clear instructions on how to compile/run the program and testcases 19

6. A section that briefluy describes accomplishments and limitations 20

7. A brief reflection on what has been accomplished, what went well and could be improved 21

7.1 Accomplished 21

7.2 What went well 21

7.3 What could be improved 21

8. Member Contribution Table 22

1. **Functional Requirements for phase 3**
   1. **Login**

* It allows the user to login to the application by entering their credentials.
* There are two fields in it: username and password.
* It verifies the user's credentials and directs them to a certain page.
  1. **Employee registration**
* HR and HR team officials have access to this feature.
* It's also known as the registration page, and it allows users/organizations to add new users to the application on their own.
* First Name, Last Name, Mobile Number, Email Id, and Password Address are all fields on this page.
* If any mandatory fields are missing, the system will check for them and notify users with validation messages.
* The user information will be saved and kept in the database after it is completed.
  1. **Leave Management**
* Users can request leaves based on their billing hours and the consent of their manager.
  1. **Payroll Management**
* It's where you'll find information on employee pay slips.
* It has two dropdown options, one for selecting the month and the other for selecting the year.
* An employee has the privilege to download the pay slip by simply clicking on the download button in the payroll screen.
  + 1. **Modified Requirement:**
  + Initially the requirement was to autogenerate the pay slip and mail it to the employees’ email address at the end of every month.
  + Modified requirement: HR will be sending the pay slips manually to all the employees’ email address for that month provided billing hours submitted by the employees for the month should be approved, every month end.
  + The reason for this modification is that auto generation of a pay slip was a difficult process which requires a job scheduler to be setup on server, and it wasn’t possible to achieve it before the deadline.

* 1. **Project Management**
* HR team have access to this feature.
* A HR can add, amend, and delete projects and their associated personnel.
* It displays information about a certain project when it is searched for, as well as the managers and people who work on it.
  1. **Time Sheet Records**
* This tool allows a user to keep track of their billable hours, excluding any applied leaves, public holidays, and other factors.
* According to the time sheet submitted, HR might accept it or reject it.

1. **UML Design for Phase 3:**
   1. **Diagram

      Description automatically generatedClass Diagram for Phase 3:**

Figure 1. Class Diagram for Phase 3

* 1. A picture containing diagram

     Description automatically generated **Sequence Diagram for Phase 3:**

Figure 2. Sequence Diagram for Phase 3

* 1. **Use Case Diagram of Phase 3 (Normal Case):**

**Diagram

Description automatically generated**

Figure 3. Use case diagram of phase 3(normal case)

* 1. **Diagram

     Description automatically generated Use Case Diagram of Phase 3 (Error Case):**

Figure 4. Use Case Diagram(error case)

1. **Test Cases for Phase :**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Scenario ID** | **Test Scenario Description** | **Test Case ID** | **Test Case Description** | **Test Steps** | **Preconditions** | **Post Conditions** | **Expected Result** | **Comments(if any)** |
| TS\_EMS  \_001 | Verify the Registration functionality of Employee page | TC\_EMS  \_Reg\_  001 | Enter new employee first name, Last name, email and password | Enter new Employees First Name, Last Name, Email and password  2.Click on register button | 1.Valid URL  2.Test Data  3.User must not have registered earlier | User must be able to register successfully | Successful registration |  |
| TS\_EMS  \_001 | Verify the Registration functionality of Employee page | TC\_EMS  \_Reg\_  002 | Enter already existing employees first name, last name, email id and password | 1.Enter existing Employees First Name, Last Name, Email and password  2.Click on register button | 1.Valid URL  2.Test Data  3.User must have registered earlier | User must see a message “User already exists” | A popup message box to show an error “User already exists” |  |
| TS\_EMS  \_002 | Verify the login functionality of Employee page | TC\_EMS  \_login\_  001 | Enter a valid email  & Password | 1.Enter valid Email  2.Enter valid password  3.Click on login button | 1.Valid URL  2.Test Data | User should be able to see the homepage | Successful login |  |
| TS\_EMS  \_002 | Verify the login functionality of Employee page | TC\_EMS  \_login\_  002 | Enter a valid email  & Invalid password | 1.Enter valid Email  2.Enter invalid password  3.Click on login button | 1.Valid URL  2.Test Data | Error message  “Invalid Email  or password” | A popup message box to show an error “Invalid Email  or password” |  |
| TS\_EMS  \_002 | Verify the login functionality of Employee page | TC\_EMS  \_login\_  003 | Enter an invalid email  & Valid password | 1.Enter invalid Email  2.Enter valid password  3.Click on login button | 1.Valid URL  2.Test Data | Error message  “Invalid Email  or password” | A popup message box to show an error “Invalid Email  or password” |  |
| TS\_EMS  \_002 | Verify the login functionality of Employee page | TC\_EMS  \_login\_  004 | Enter an invalid email  & Invalid password | 1.Enter invalid Email  2.Enter invalid password  3.Click on login button | 1.Valid URL  2.Test Data | Error message  “Invalid Email  or password” | A popup message box to show an error “Invalid Email  or password” |  |
| TS\_EMS\_003 | Verify the billing  hours of employee  page | TC\_EMS  \_BH\_  001 | Enter valid no.of hours, invalid month and valid year | 1.Enter valid no.of hours.  2.Enter Invalid months.  3.Enter valid year.  4.Click on submit. | 1.Valid URL 2. Test Data | Error message “Invalid month” | A popup message box to show an error “Invalid month” |  |
| TS\_EMS\_003 | Verify the billing  hours of employee  page | TC\_EMS  \_BH\_  002 | Enter invalid no.of hours, invalid month and invalid year | 1.Enter invalid no.of hours.  2.Enter Invalid months.  3.Enter invalid year.  4.Click on submit. | 1.Valid URL 2. Test Data | Error message “Invalid no.of hours, months and year” | A popup message box to show an error “Invalid no.of hours, months and year” |  |
| TS\_EMS\_004 | Verify the leave  request of employee page | TC\_EMS  \_LR\_  001 | Enter valid  Leave start  Date, Leave end date,  reason | 1.Enter valid leave start date.  2.Enter valid Leave end date  3.Enter valid reason.  4.Enter Submit. | 1.Valid URL 2. Test Data | User must be able to submit the request | Successful submission of leave request |  |
| TS\_EMS\_004 | Verify the leave  request of employee page | TC\_EMS  \_LR\_  002 | Enter valid  Leave start  Date, invalid Leave end date | 1.Enter valid leave start date.  2.Enter invalid Leave end date  3.Enter reason.  4.Enter Submit. | 1.Valid URL 2. Test Data | Error message “invalid end date” | A popup message box to show an error “Invalid  end date” |  |
| TS\_EMS\_004 | Verify the leave  request of employee page | TC\_EMS  \_LR\_  003 | Enter invalid  Leave start  Date, valid Leave end date | 1.Enter invalid leave start date.  2.Enter valid Leave end date  3.Enter reason.  4.Enter Submit. | 1.Valid URL 2. Test Data | Error message “invalid start date” | A popup message box to show an error “Invalid  start date” |  |
| TS\_EMS\_004 | Verify the leave  request of employee page | TC\_EMS  \_LR\_  004 | Enter invalid  Leave start  Date, Leave end date,  reason | 1.Enter invalid leave start date.  2.Enter invalid Leave end date  3.Enter reason.  4.Enter Submit. | 1.Valid URL 2. Test Data | Error message “invalid start and end date” | A popup message box to show an error “Invalid  start and end date” |  |
| TS\_EMS\_005 | Verify the Add  new employee  of hr page | TC\_EMS  \_ANE\_  001 | Enter valid firstname, last  Name, phone  Number and email | 1.Enter valid First Name.  2. Enter valid Last Name.  3.Enter valid Phone Number.  4.Enter valid email. | 1.Valid URL 2. Test Data | He must be able to add new employee successfully. | Successfully added a new employee |  |
| TS\_EMS\_005 | Verify the Add  new employee  of hr page | TC\_EMS  \_ANE\_  002 | Enter valid firstname, last  Name, email  and invalid  phone number | 1.Enter valid First Name.  2. Enter valid Last Name.  3.Enter invalid Phone Number.  4.Enter valid email. | 1.Valid URL 2. Test Data | Error message “invalid phone number” | A popup message box to show an error “Invalid  phone number” |  |

1. **User Manual:**

Companies can attract and keep the greatest personnel by using an employee management system that streamlines and automates HR procedures. Companies can use these systems to more successfully recruit and train employees, as well as keep track of a variety of data, such as personal information, compensation, and other details. This system has features such as leave management, project management, timesheet submission, and payroll management.

### **Authorized user permissions**:

The user login is used to control the employee management system application. Admins and HR personnel can use the app to establish projects and approve user requests. Employees, on the other hand, can log onto the application to produce payrolls and send requests to HR, such as leave or timesheet requests.

Users can access the application using the below URL

<https://pseudomavericksems.xyz>

* 1. **Login:**

The first page that shows when the website is viewed in the browser is login. The user must enter their credentials accurately to log in. The program authenticates either it redirects to the dashboard or displays an error message if the entered credentials are incorrect. In login, there are two options: HR login and Employee login. The user should choose the appropriate screen.

Graphical user interface, application, Teams

Description automatically generated

Figure 1: HR Login Screen

Graphical user interface, application, Teams

Description automatically generated

Figure 2: Employee Login Screen

* 1. **Employee Management:**

This page is only accessible to HR, who will be able to manage the employees and do the necessary tasks such as adding new employees and examining current employees' information.

Graphical user interface, application, Teams

Description automatically generated

Figure 3: Viewing Employees’ Information

Graphical user interface, application, Teams

Description automatically generated

Figure 4: Adding New Employees

* 1. **Project Management:**

This page is only available to HR. HR has the privilege to add new projects and can allocate new employees to the respective projects. HR can also view employees working under their respective projects.

Graphical user interface, application, Teams

Description automatically generated

Figure 5: Adding new projects

Graphical user interface, application, Teams

Description automatically generated

Figure 6: Viewing the list of employees in projects

Graphical user interface, application, Teams

Description automatically generated

Figure 6: Assigning employees to projects

* 1. **Billing hours:**

In this page employees can submit their billing hours particular to month and the year and HR must approve or reject them. Employees can view their billing hours.

Graphical user interface, application, Teams

Description automatically generated

Figure 7: Adding billing hours for employees

Graphical user interface, application, Teams

Description automatically generated

Figure 8: Viewing billing hours for employees

* 1. Leave Management:

Employees can submit their leave requests and HR must approve or reject them.

Graphical user interface, application

Description automatically generated

Figure 9: Adding leave request for employees

Graphical user interface, application, Teams

Description automatically generated

Figure 10: Viewing the leave requests

Graphical user interface, application

Description automatically generated

Figure 11: HR leave management screen

* 1. **Payroll:**

This page allows employees to download their pay slip based on the month and year entered. To be able to download the pay slip document, billing hours of employees must be approved by the HR. HR can send pay slips to the employees’ email address by clicking on the send button provided the billing hours of those employees’ for that particular month should be approved.

Graphical user interface, application, Teams

Description automatically generated

Figure 12: Payroll screen for employees

Graphical user interface

Description automatically generated

Figure 13: Generated pay slip

Graphical user interface, application, Teams

Description automatically generatedFigure 14: Payroll screen for HR to send pay slips

1. **How to Compile/Run the Application:**
   1. **Requirements/Setup instructions to run the project:**
2. The list of instructions to run the project in their local/computer, the minimum requirements should be:
3. System specifications
4. Minimum of intel 5th generation or higher.
5. RAM: minimum of 4 GB.
6. Around 5GB of hard disk storage.
7. To construct the application, the user must first install an IDE (Integrated Development Environment). We prefer Eclipse or NetBeans.
8. Import the project repository into the IDE and configure the PHP connection.
9. On the local PC, install the PHP libraries.
10. Additionally, they must set up a XAMPP server on their PC.
11. After installation, they need to start the Apache server, and MySQL database admin control panels using XAMPP.
12. After launching, it will navigate the phpMyAdmin console page, where we need to create a database according to the connection file in the project.
13. After the database has been created, we need to import the SQL file to the database from the appropriate folder location.
14. Then the user can access the application using their localhost URL.
    1. **Instructions to run the project:**
15. Download the project zip file.

Can use GitHub to clone the repository using the below URL.

<https://github.com/amarendhar-reddy/project-pseudo-mavericks.git>

1. Extract the zip file.
2. Place the extracted files in XAMPP's htdocs folder.
3. In the IDE, create a workspace and import the project folder into it.
4. Configure the PHP to the workspace using the instructions below.
   1. On the toolbar, go to the preferences area beneath the window section.
   2. Select the Installed PHPs under the PHP section.
   3. Add the name and PHP executable file.

Graphical user interface, table

Description automatically generated

Fig 5. Configuring for PHP to run

1. Create a database in phpMyAdmin with the name “employee\_ms”.
2. In the database, import the "employee\_ms.sql" file.
3. To start as admin, set up the start page in the IDE's run configurations.
   1. /employee\_ms/login.php

Graphical user interface, application

Description automatically generated

1. Run the application and access the application using the localhost URL.
   1. Ex: [http://localhost/employee\_ms/login.php#](http://localhost/employee_ms/login.php)!
2. To run the test cases, we need to configure the PHPUnit in the IDE.
   1. Navigate to the run configurations, Add the PHPUnit properties.
   2. After adding it, run the application as a PHP unit test.
3. **A section that briefly describes features successfully implemented and any limitations including feedback received during the peer review session and plans for the next phase:**

* We were able to achieve almost all the requirements mentioned until the end of phase 3. By phase 2 we were able to develop separate logins for employee and HR users. The authentication was successful at the login.
* In the HR module, the user can now register new employees and manage them. HR was also able to add new projects and assign the employees to them specifically. We were able to successfully implement approving or rejecting the leave requests and billing hours submitted by the employees.
* In the employee module, the user was able to edit the profile, submit billing hours depending on the year and month, submit leave requests for particular dates along with the reason.
* In the phase 3 we accomplished payroll management. In this module, employee will be able download pay slip for the particular date. We successfully implemented mailing the pay slip as a pdf to registered email address of the user. In the HR module the HR has a privilege of sending the pay slip to the employees provided if the employee submitted billing hours for that month and got them approved. This was bit difficult task but we were able to achieve it through help from videos.
* We had a limitation in the payroll module where we initially thought of implementing auto generation of pay slip and mailing it to the user but it was a challenge as it required a job scheduler and we lacked expertise in that arena.
* We planned to implement this in the next phase of our project where we’ll implement a job scheduler that will automatically send the pay slip in the mail to all the employees at the end of every month.
* In the near future we wanted to enhance the UI and make it much more user-friendly. We planned to implement an OTP feature in the next phase as a security measurement. We also planned to increase attributes for employee and HR. We will be implementing a hierarchy where the employees will be categorically divided and the functionalities between the different users will be divided depending on their position in the company.

1. **A brief reflection on what has been accomplished, what went well and could be improved.**
   1. **Accomplished:**

* Our requirements as specified initially were achieved properly with only minor change regarding auto generation of payslips files.
* Our payroll system was achieved with good UI and functionality since it was a bit complex with calculations and imbibing them into file, we did well.
* HR and Employee users were able to perform multiple operations which are critical in a system like employee management.
* The team was collaboratively and everyone contributed well enough without any major issues.
  1. **What went well:**
* The team was collaboratively and everyone contributed well enough without any major issues.
* Knowledge sharing among the team members was good.
* Deploying the code and learning about hosting and maintaining servers was really a great learning experience.
  1. **What could be improved:**
* We could have more complexity to the HR and employee by adding more information to the users.
* Managing the employees and projects could have been more efficient.

1. **Member Contribution Table:**

|  |  |  |
| --- | --- | --- |
| **Member Name** | **Contribution description** | **Overall contribution** |
| Amarendhar Reddy Chevula | UML Diagrams for phase 3, code checkin github | 12.5% |
| Subbarao Sanka | PPT for Deliverable 5 | 12.5% |
| Vaishnavi Choppalli | User Manual and Instructions to compile/ run the application | 12.5% |
| Kalyani Virivinti | Test Cases for Phase-3 | 12.5% |
| Narasimharao Gurram | Updating meeting minutes, Tracking member contribution | 12.5% |
| Aparna Mirapakayala | Test Cases for Phase 3 | 12.5% |
| Kavya Keerthi Tumarada | Functional Requirements for phase 3 | 12.5% |
| Neha Chowdary Puvvada | A brief reflection on what has been accomplished, what went well and could be improved | 12.5% |