Introduction To Software Engineering

CS Group 17: Employee Management System Project

User Manual

Content

Chapter 1:

General Information

In this section, you will find general information about our web-based software system and this user manual, including their intended purposes.

1.1 System Overview

The Employee Management System (EMS) is a web-based platform designed to assist managers in efficiently managing project assignments, task progress, and employee feedback. Key functionalities include project creation, task allocation, performance evaluation, and an interactive feedback module. EMS provides an intuitive and streamlined solution to enhance productivity and communication within teams.

1.2 Targeted Audience

The primary users of EMS are project managers and developers within a company. Managers utilize the system to oversee projects, assign tasks, and review developer performance, while developers can track their assigned tasks, provide updates, and submit feedback. This dual-role functionality allows for improved project management and clear task delegation, catering to teams aiming for organized task tracking and accountability.

1.3 User Manual Organization

The user manual for EMS is organized into six main sections: General Information, System Summary, Getting Started, Using EMS, Frequently Asked Questions (FAQs), and Troubleshooting.

1)System Summary: This section provides an overview of EMS, covering essential software requirements, access levels, and a description of core functionalities, ensuring a smooth initial experience for users.

2)Getting Started: This section contains step-by-step instructions on accessing and setting up EMS, including information on establishing projects and tasks.

3)Using EMS: A comprehensive guide to the primary functions of EMS, such as:

i)Project and Task Management: Establishing, assigning, and evaluating tasks. (Refer to "Establish Task" and "Assign Task" sections in the system for detailed task management workflows).

ii)Feedback and Suggestions: Submitting suggestions and responding to feedback. (See "Suggestion Box" for submitting suggestions and "Suggestion Reply" for managers to reply to suggestions).

iii)User Search and Activity Tracking: Navigating project information and tracking employee activities using the search functionality.

4)FAQs: This section addresses common user questions about task management, feedback submission, and troubleshooting issues related to access and setup.

5)Troubleshooting: Provides solutions for potential technical issues, such as access errors, task assignment issues, and project establishment problems, ensuring minimal disruptions during EMS usage.

Chapter 2:

System Summary

The System Summary section outlines the overall state of the system, covering hardware and software requirements, user access privileges, and other relevant details.

2.1 System Operating Environment Requirements

The System Summary section provides an overview of the system's general specifications, including hardware and software requirements, user access levels, and other essential information.

2.1.1 Operating Systems Requirements:

i.Windows 10 or higher
ii. MacOS Mojave or higher

2.1.2 Browser Requirements:

i. Chrome (latest version)
ii. Microsoft Edge (latest version)

2.1.3 Hardware Requirements:

i. CPU: Intel Pentium i3 or higher
ii. Memory: 4GB RAM or higher
iii. Hard Disk: Minimum 5GB free space
iv. Network: 1GB Ethernet connection or higher

Chapter 3:

Getting Started

The Getting Started section offers a detailed guide on installing and running the Employee Management System software on your device.

3.1 Download and Install

You can download our Employee Management System software from DicongLi/Employee_Management_System or from the relevant section on any platform where it's available. The software is packaged as a ZIP file.

3.2 Load Pages

Step1:
Unzip the File: Download and unzip the Employee_Management_System-master.zip file. Navigate to the extracted folder and locate the path **Group17_Project > Company_Management_System-main > Project_Group17 > Web > templates**.

Step2:
Open the Project File: Use **Visual Studio Code** (recommended latest version 1.95.0) to open the project folder, and navigate to the location of the **index.html** file. You can download the latest version of Visual Studio Code from the Download Visual Studio Code - Mac, Linux, Windows.

Step3:
Install Required Packages: Open the **terminal** in Visual Studio Code, ensure that the terminal is in the root directory of the project (e.g., the directory containing the server.js file), and run the following command to install the necessary Node.js packages:

```
#bash
npm install express mysql2 body-parser cors
```

These packages are used for setting up the server, connecting to the database, handling request body data, and enabling cross-origin resource sharing.

Step4:
Start the Server: In the terminal, run the following command to start the server:

```
#bash
cd "Employee_Management_System-master\Company_Management_System-main\Project_Group17\Web\static\js"
node server
```

Step5:

Run the Project: Open the index.html file in a browser to start using the Employee Management System product.

```
PS C:\Users\20243\desktop> cd "Employee_Management_System-master\Company_Management_System-main\Project_Group17\Web\static\js"
PS C:\Users\20243\desktop\Employee_Management_System-master\Company_Management_System-main\Project_Group17\Web\static\js> node server
Server started on port 3001
Connected to project_task_db database...
Connected to employee_management database...
Connected to new_project_task_db database...
Connected to ProjectManagementSystem database...
Connected to department_management database...
```

Figure 3-1 Running the server

Chapter 4:

Using Our Employee Management System

In this section, we will provide you with a comprehensive guide on how to use our TravelTrack software, covering the entire usage process.

4.1 Homepage Introduction

Figure 4-1 Home Page

The user will first enter the homepage (as shown in Figure 1), where there are two types of user roles: one is a manager, and the other is a developer. Before logging in, all users can view the company's employee handbook by clicking "Employee Handbook." The page will then redirect to the employee handbook page .

After clicking "Return," the page will redirect back to the homepage. Users can also view feedback records by clicking the "Feedback" button, which will take them to the feedback page .

Similarly, after clicking the "Return" button, the user will return to the homepage. They can also view information about technical fixes and updates for the webpage by clicking the "Update" button, which will redirect them to the bulletin board page .

After clicking "Return," the user can also scroll down the page to view announcements on the company homepage .

Finally, employees can log in to their accounts by clicking "Login," which will take them to the account login page .

Since all our users are default employees of the company, we need to access the files **developer.sql** or **manager.sql** through the path:

Employee_Management_System-master/Company_Management_System-main/Project_Group17/Database

to view the ID and password of an account (as shown in Figures 2).

```
NSERT INTO `developer` (`Employee_id`, `Developer_id`, `Developer_password`, `Developer_name`, `Gender`,
'e10001', 'd00001', 'Aa123456', 'Bob', 'Male', '18666908886', 'Postgraduate', 'RQA Engineer'),
'e10002', 'd00002', 'wcxJpGHNDLaeA', 'Rachelle', 'Male', '19461752830', 'Undergraduate', 'Test Engineer'
'e10003', 'd00003', '15oQgJt3n9EZIDOl', 'Barack', 'Male', '15124073968', 'Undergraduate', 'Hardware Deve
'e10004', 'd00004', 'rZEKHbua0mwfS6Q', 'Paisley', 'Male', '14392857016', 'Undergraduate', 'Hardware Deve
'e10005', 'd00005', 'kp9ZsrGYPBFyCIe', 'Vasco', 'Male', '12781496035', 'Postgraduate', 'Hardware Develop
'e10006', 'd00006', 'VeuAEOYBQc8wa3S', 'Safiya', 'Male', '12051847369', 'Undergraduate', 'Embedded Softw
'e10007', 'd00007', '2yWGzsrTpIhbiE', 'Wallis', 'Female', '16297583401', 'Postgraduate', 'PC Software En
'e10008', 'd00008', 'z0qSKefAG9', 'Odele', 'Male', '16942380157', 'Postgraduate', 'RQA Engineer'),
'e10009', 'd00009', '1LPJCHqdVAmutgZf', 'Farah', 'Male', '14312870569', 'Postgraduate', 'Hardware Develo
```

Figure 4-2 Developer Database Page

4.2 Manager Dashboard

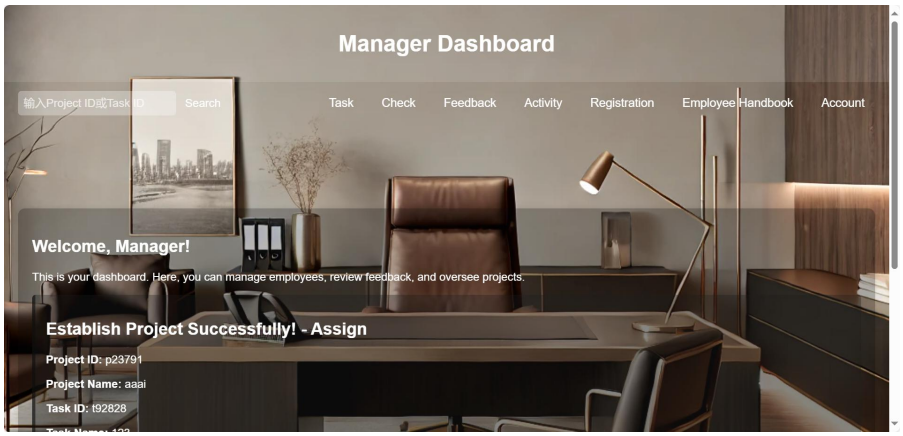

Figure 4-3 Manager Dashboard Page

After entering the Manager Dashboard (as shown in Figure 3), the manager can enter the corresponding Task ID or Project ID in the search bar to query task information .

The manager can also click the 'Task' button to trigger a dropdown menu, select 'Establish,' and enter the task creation page to create a new task .

After clicking the 'Establish Project' button, enter the corresponding Project ID (which must not duplicate any existing Project ID), Project Name, and Manager ID (as a verification method) to confirm that the user creating the task is the authorized user

After successfully entering the information, click Establish Task to create the corresponding task. The manager needs to enter the Task ID (which must not duplicate any existing Task ID) and Task Name. Upon successful entry, they can click Add to add another task. If they wish to withdraw a task, they can click Back to cancel the editing field for the most recent task. Once all information is confirmed, they can click Confirm to create the task.

Upon returning to the Manager Dashboard, the manager can assign tasks with the status "Unassigned" that are under their responsibility by selecting Assign from the Task dropdown list. After entering the Developer ID, they can click Confirm to complete the assignment .

The manager can enter the Task Evaluate page by selecting Evaluate from the Task dropdown list to review tasks with the status "Unevaluated." First, they select the Task ID, then click the Find Task button, and finally choose the appropriate grade (A, B, C, D, Fail) along with a comment. Once all information is confirmed, they can click Confirm to submit the evaluation.

Click the Check button to trigger a dropdown menu, then select Developer List to enter the Department homepage . The manager can then select the corresponding department .Once selected, the IDs of the developers and managers in that department will be displayed.

After the manager clicks the Check button and selects Task Progress, the page will navigate to the Task Progress page. Here, the manager can select a specific Task State, and all tasks corresponding to that status will be displayed .

The manager can also click the Feedback button and select Suggestion Reply from the dropdown menu. This action navigates to the Suggestion Reply page , where the manager can select the relevant Type and then view all suggestions under that category. After selecting a suggestion, the manager can enter a reply and click Submit to complete the response.

The manager can also view all feedback and responses by selecting Suggestion Review from the dropdown menu under the Feedback button.

By clicking the Registration button, the manager can create accounts for employees in their department. The system will automatically generate the latest Employee ID and Developer ID based on the database (incremented by one from the current total). The manager fills in information such as the employee’s password, name, education, phone number, and gender based on the individual’s details .

The manager can also click on Employee Handbook to view the contents of the employee handbook.

After the manager clicks the Account button, they are taken to their personal information page , where they can view their Employee ID, Manager ID, gender, phone number, name, education, and position. At the bottom of the page, the manager can click the Logout button to exit the Dashboard and return to the homepage.

On the Account page, the manager can also click the Edit button in the top right corner to enter the Account Edit page. Here, they can edit their name, phone number, and education information. Once all details are filled in, clicking the Confirm button will save the changes, and the page will automatically redirect back to the Manager Dashboard.

4.3 Developer Dashboard

After entering the Developer Dashboard (as shown in Figure 4), the developer can enter the corresponding Task ID or Project ID in the search bar to query task information .

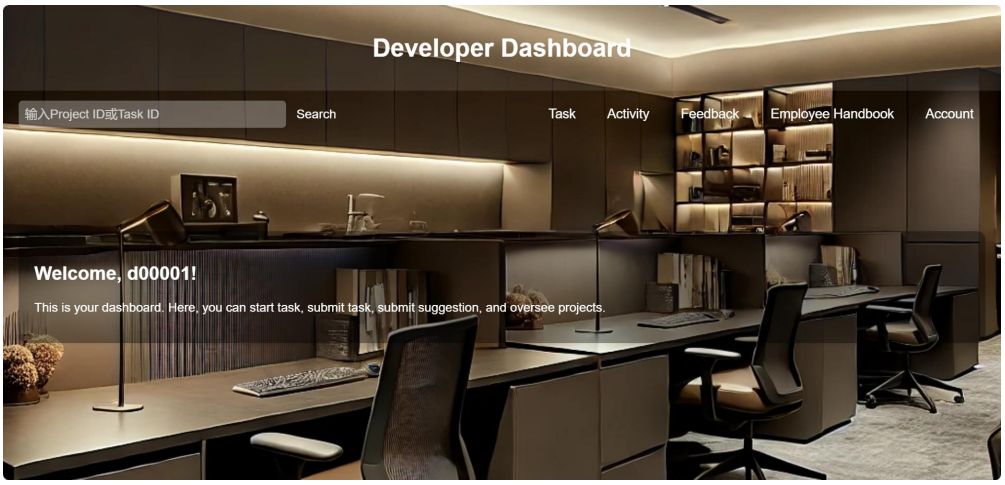

Figure 4-4 Developer Dashboard Page

The developer can click the "Task" button to trigger a dropdown list, then click "Start Task" to enter the Start Task page .The developer can select a Task ID with the status "Standing by" that is assigned to them. After making the selection, they can click the "Start Task" button to begin the task.

Employees can also click "Submit Task" from the Task dropdown list to navigate to the Submit Task page After selecting a Task ID with the status "In process" that they are responsible for, they can click "Submit" to hand in the task.

The developer can click the "Feedback" button to trigger a dropdown list and select "Suggestion Box" to enter the Suggestion Box page. They can then choose a Type, add tags, and edit the content. Once the content editing is complete, they can click "Submit" to send it to all managers.

The developer can also view all feedback and responses by selecting Suggestion Review from the dropdown menu under the Feedback button.

The developer can also click on Employee Handbook to view the contents of the employee handbook.

After the developer clicks the Account button, they are taken to their personal information page , where they can view their Employee ID, Developer ID, gender, phone number, name, education, and position. At the bottom of the page, the manager can click the Logout button to exit the Dashboard and return to the homepage.

On the Account page, the developer can also click the Edit button in the top right corner to enter the Account Edit page . Here, they can edit their name, phone number, and education information. Once all details are filled in, clicking the Confirm button will save the changes, and the page will automatically redirect back to the Developer Dashboard.

Chapter 5:

Frequent Asked Questions (FAQs)

Q1: What is the Employee Management System (EMS)?

A1: The Employee Management System (EMS) is a software tool designed to streamline project management, task assignments, and personnel management within an organization. EMS allows managers to create and assign tasks, evaluate completed work, and manage developer information, making workflow organization more efficient.

Q2: How can the EMS assist managers with project management?

A2: EMS includes a variety of tools specifically for managers, such as the ability to create new projects, assign tasks to developers, evaluate completed tasks, and manage team rosters. Managers can monitor task statuses in real-time, ensuring that all aspects of project management are handled within a single platform.

Q3: How do developers interact with EMS for task management?

A3: Developers can view tasks assigned to them, mark tasks as "In Progress" when they start working on them, and submit tasks for evaluation upon completion. Additionally, developers have access to personal information management options, allowing them to update their contact details and review employee handbooks directly within EMS.

Q4: How can I submit feedback or suggestions within EMS?

A4: Managers can submit suggestions for system improvements through the Suggestion Box feature. This feature allows managers to document and share feedback, which is accessible to other managers in the system. Developers do not have access to the Suggestion Box.

Q5: Is my data secure on EMS?

A5: Our project team prioritizes user data security. All personal and project-related data collected in EMS is solely for internal use within the system. We implement robust security measures, including encryption and role-based permissions, to ensure that sensitive information remains protected.

Chapter 6:

Trouble Shooting

1. Users find abnormalities in system operation, such as inability to use certain functions:

A1: Users should check if they have downloaded and installed the latest version of the system and ensure that all necessary components in the zip file have been successfully installed. Additionally, users should verify that they meet the software and hardware requirements listed below and are using the recommended browsers.

2. Users find themselves unable to register:

A2: Users should check if they have entered their email and password as required and agreed to the user agreement. Furthermore, users should check their network connection and refresh the page to try again.

3. Users find they are unable to load the Task List page:

A3: Our project team uses supportive tools to display the Task List page. Due to slower network speeds in certain regions, users may need to wait for a moment or refresh the page to reload the Task List page.

4. Users find that the system has lost connectivity:

A4: The system depends on the normal operation of the backend server. Users should check if the backend service is running normally, as the system may lose connectivity during maintenance or server downtime.

Acknowledgement:

Author	Student ID
Dicong Li	50091051