A

Mini Project Report

on

PayTrack : Expenditure Tracker

Submitted in partial fulfillment of the requirements for the

degree

Second Year Engineering – Computer Science Engineering (Data Science)

by

Aditya Kate	**23107126**
Tanmay Harmalkar	**23107099**
Roshan Ahire	**23107094**
Abdullah Khan	**23107119**

Under the guidance of

Ms. Rajashri Chaudhari

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING (DATA SCIENCE)

A.P. SHAH INSTITUTE OF TECHNOLOGY

G.B. Road, Kasarvadavali, Thane (W)-400615

UNIVERSITY OF MUMBAI

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CERTIFICATE

This to certify that the Mini Project report on **PayTrack : Expenditure Tracker** has been submitted by **Aditya Kate (23107126)**, **Tanmay Harmalkar (23107099)**, **Roshan Ahire (23107094)** and **Abdullah Khan (23107119)** who are bonafide students of A. P. Shah Institute of Technology, Thane as a partial fulfillment of the requirement for the degree in **Computer Science Engineering (Data Science)**, during the academic year **2024-2025** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

Ms. Rajashri Chaudhari
Guide

Ms. Anagha Aher
HOD, CSE(Data Science)

Dr. Uttam D. Kolekar
Principal

External Examiner:
1.

Internal Examiner:
1.

Place: A. P. Shah Institute of Technology, Thane
Date:

ACKNOWLEDGEMENT

This project would not have come to fruition without the invaluable help of our guide **Ms. Rajashri Chaudhari**. Expressing gratitude towards our HoD, **Ms. Anagha Aher**, and the Department of Computer Science Engineering (Data Science) for providing us with the opportunity as well as the support required to pursue this project. We would also like to thank our project coordinator **Ms. Rajashri Chaudhari and Mr. Vaibhav Yavalkar** who gave us his/her valuable suggestions and ideas when we were in need of them. We would also like to thank our peers for their helpful suggestions.

TABLE OF CONTENTS

Chapter 1

Introduction

The PayTrack : Expenditure Tracker or Payroll System project was designed using Java as the frontend and MySQL as the backend, aiming to automate payroll processing. The need for this system arises from the complexity and time consumption in manually handling payroll for large organizations. The system ensures efficient data handling, timely salary disbursements, and the ability to generate reports. The main focus is to offer a user-friendly interface and robust backend operations to ensure accuracy and security in salary calculations, deductions, and report generation.

1.1. Purpose:

The purpose of this document is to detail the development process, objectives, and results of the PayTrack : Expenditure Tracker or Payroll System. The target audience includes developers, organizations looking for payroll automation, and future researchers interested in similar systems. The document serves as a guide to understanding the system's functionalities and its technical implementation.

1.2. Problem Statement:

Manual payroll processing in large organizations is often prone to errors, time-consuming, and lacks efficiency, leading to inaccurate salary calculations, delayed disbursements, and security vulnerabilities in handling sensitive employee data. HR departments face challenges managing employee data, calculating salaries, handling deductions, bonuses, withholdings without a streamlined, automated system. Furthermore, manual payroll systems struggle to generate accurate and timely payroll reports and payslips, complicating decision-making for HR teams and management.

1.3. Objectives:

The primary objective of this project is to automate payroll processing for organizations, reducing the need for manual intervention and ensuring accuracy in salary calculations and deductions. The system is designed to securely manage employee data and salary records using MySQL as the backend database. Additionally, the project aims to provide a user-friendly interface, developed in Java, for HR teams to manage payroll operations and for employees to access their salary details. Another key objective is to enable the generation of comprehensive payroll reports and payslips efficiently, ensuring timely disbursement of salaries while maintaining data security and integrity.

1.4. Scope:

The PayTrack : Expenditure Tracker or Payroll System automates payroll management using Java for the frontend and MySQL for the backend. It handles salary calculations, deductions, bonuses, allowing HR to efficiently manage employee data and process payments accurately. The System generates payroll reports, payslips while ensuring compliance with financial regulations. It supports multi-user access with role based privileges, ensuring secure data management. Scalable and customizable, the System is designed to streamline payroll processes and resolve administrative workload.

Chapter 2

Proposed System

The proposed PayTrack : Expenditure Tracker or Payroll System is an automated solution designed to streamline payroll management using Java for the frontend and MySQL for the backend. The system automates salary calculations, deductions, bonuses, ensuring accuracy and compliance with regulations. It allows HR administrators to manage employee data efficiently, generate pay slips, and produce payroll reports on demand.

2.1. Features and Functionality :

Automated Payroll: The system automatically calculates employee salaries by factoring in basic pay, allowances, bonuses, overtime, and other earnings with proper reports.
Employee Data Management: Maintains employee records and salary details with safe & secure.
Report Generation: Creates payroll reports and payslips, also generates Employee lists, Audit.
Role-Based Access: Secure access for authorized users i.e. Admin as HR or Sales.
Scalability: Can handle growing employee data, no data compliance and legal issues.
Data Security: Protects sensitive information with secure access of all Employees.
User-Friendly Interface : Easy to access for the users, as Interface is simple and easy to use.

Chapter 3

Project Outcomes

The implementation of the PayTrack : Expenditure Tracker or Payroll System is anticipated to yield several significant outcomes. Firstly, by automating payroll processes, the system enhances accuracy in salary calculations, deductions, thus minimizing the risk of errors commonly associated with manual processing. This increased accuracy translates into more reliable payroll management and greater employee satisfaction with correct salary payments. Additionally, the system streamlines various payroll tasks, improving overall efficiency and allowing HR personnel to allocate more time to strategic activities rather than manual data entry.

Timely and accurate salary disbursements, along with precise report and payslip generation, are crucial outcomes of the system, contributing to better employee satisfaction and compliance with payment schedules. The system ensures adherence to relevant labor regulations, thereby reducing the risk of legal complications and financial penalties. Enhanced data security is another critical outcome, as the system incorporates secure access controls and encryption to protect sensitive employee and financial information. Finally, the system's scalability allows it to accommodate growing employee numbers and diverse payroll structures, making it a versatile solution for organizations of varying sizes. Overall, these outcomes collectively contribute to improved operational efficiency, data integrity, and security.

Chapter 4

Software Requirements

The PayTrack : Expenditure Tracker or Payroll System project requires specific software for development and deployment, as follows:

- **Java Development Kit (JDK)**: Provides the libraries and tools needed for developing the Java-based frontend of the system.
- **NetBeans IDE**: Used for writing, testing, and debugging Java code, NetBeans offers an integrated environment to streamline development processes.
- **MySQL Database Server**: Manages and stores employee and payroll data, handling SQL queries and transactions for backend operations.
- **MySQL Workbench**: A graphical tool for database design, management, and maintenance, facilitating schema design and query execution.
- **Java Runtime Environment (JRE) :** Required to run the Java application on user machines, ensuring smooth operations in the production environment.

Chapter 5

Project Design

This chapter focuses on the architectural and design decisions that shape the system's development, covering both the architecture and the system components.

User Interface Design

The user interface (UI) is designed for simplicity and ease of use. Key sections include:

- **Dashboard:** The home page provides quick access to essential functions like employee management, salary updates, allowances, deductions, and payments. Graphical data insights are also displayed.
- **Employee Manager:** Users can add, edit, or remove employee information, with easy navigation between records for efficient management.
- **Allowance and Deduction Pages:** These pages allow users to manage employee allowances and deductions, with options to view, add, or update entries.
- **Salary Update Page:** Enables bulk or individual salary adjustments, including bonuses and other modifications.
- **Payment Page:** Manages payroll disbursements and generates payment reports, ensuring secure access to payroll operations.
- **Search Functionality:** Allows users to efficiently search through employee or payroll records with filters.

Database Design

The database is designed to store Staff Information, login details, Audit, Deductions, and Allowance. The system uses MySQL as the database.

Users (for storing login details of Admin or Sales Department of Company), **Allowance** (for storing the allowance of an employee based on their Expenses), **Deductions** (For Storing Deductions of Each Employee with proper Salary details), **Staff Information** (Storing Information of Each Employee with all their details), and **Audit** (for reviewing actions performed in the application).

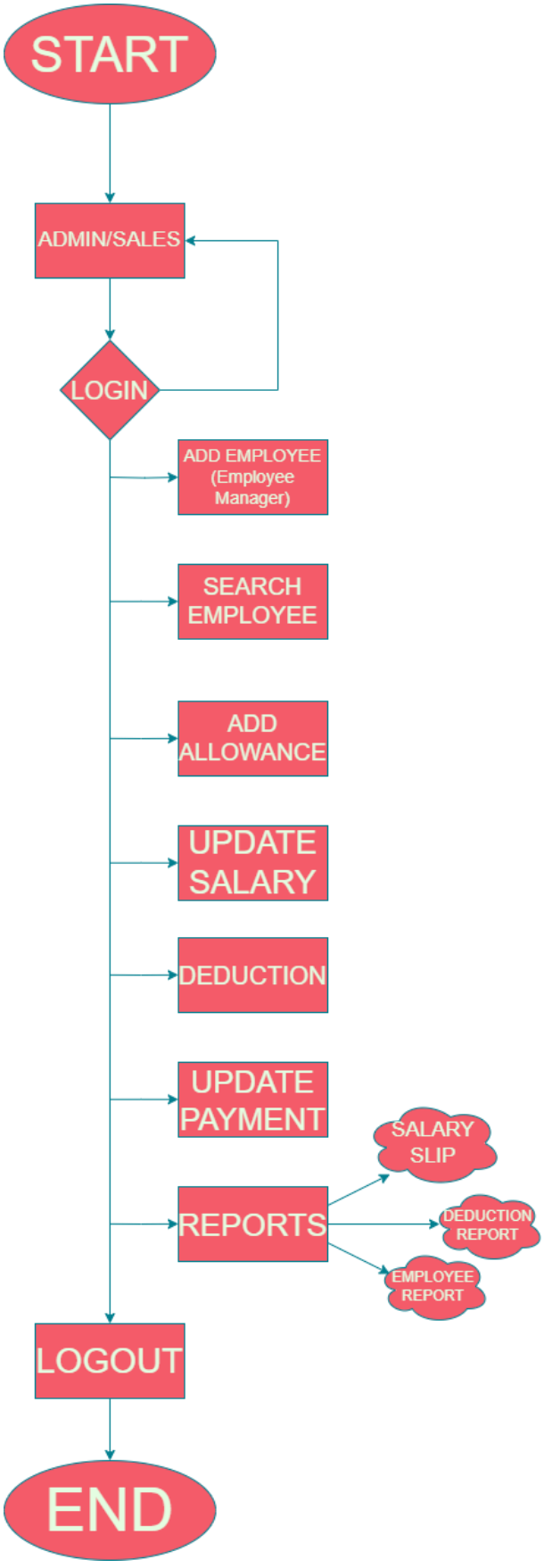

Figure 5.1. Workflow of PayTrack : Expenditure Tracker

Chapter 6

Project Scheduling

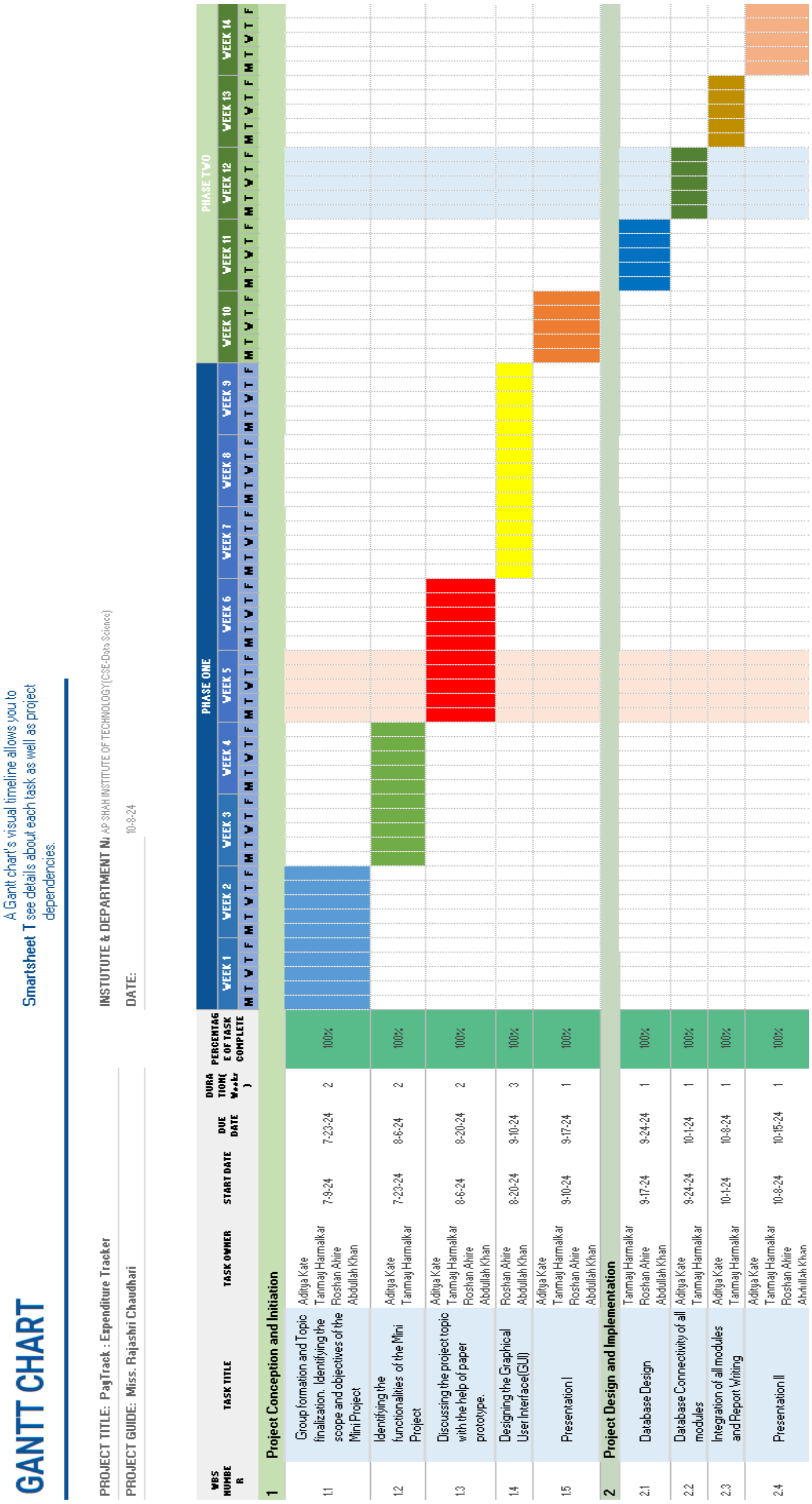

Figure 6.1. Gantt Chart

Following is the detail of the Gantt Chart:

In the second & third week of July, Aditya Kate, Tanmay Harmalkar, Roshan Ahire, Abdullah Khan formed a group for our mini project. We have discussed and finalized the project's topic, scope, and objectives during this meeting. In the following weeks, Aditya Kate, Tanmay Harmalkar, Roshan Ahire, Abdullah Khan used a paper prototype to explore and refine project ideas, completing this phase by the 2nd week of August.

In late August, Tanmay Harmalkar, Abdullah Khan executed the design and integration of the graphical user interface (GUI). Afterward, on 12th of September, the first project review took place, and the faculty suggested some changes to the GUI, which were subsequently approved. Following this, Tanmay Harmalkar, Roshan Ahire, Abdullah Khan collaborated to create a structured database system, facilitating the systematic storage of information.

This, in turn, made it easier for Aditya Kate and Roshan Ahire to connect the database to the project. This database work was completed by end of September. Finally, the team integrated all modules and completed the report writing, resulting in our final presentation on 8 th october, which was approved by the faculty.

Chapter 7

Results

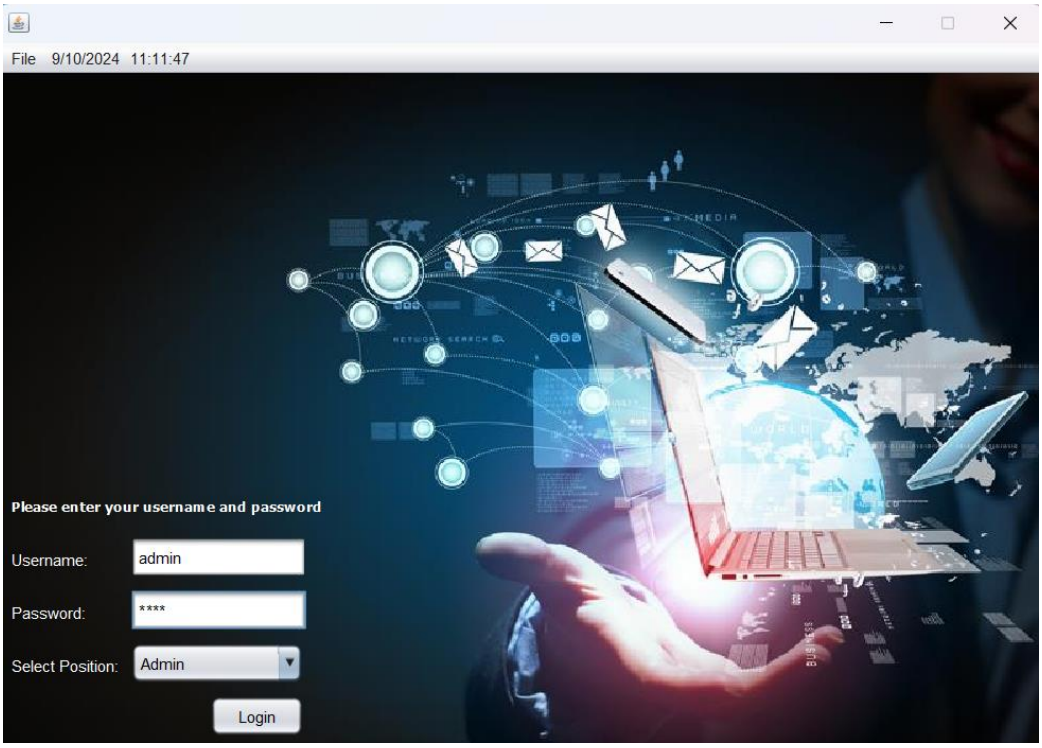

Figure 7.1: PayTrack : Expenditure Tracker – Login Page

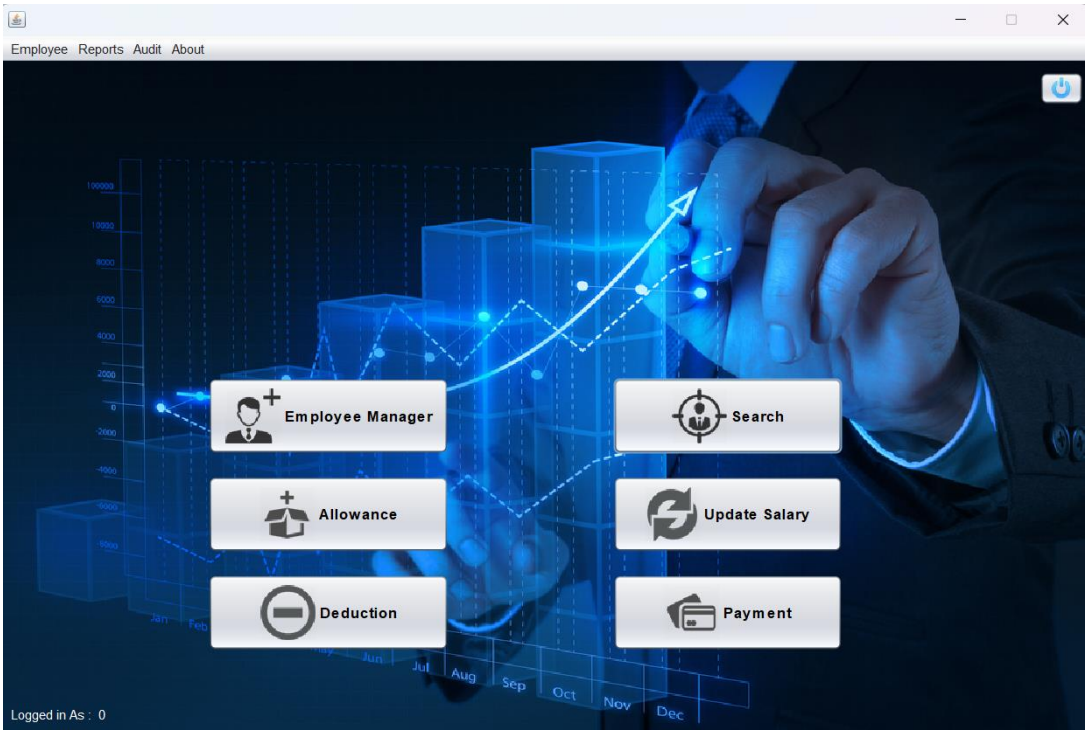

Figure 7.2. PayTrack – Expenditure Tracker : Main Menu

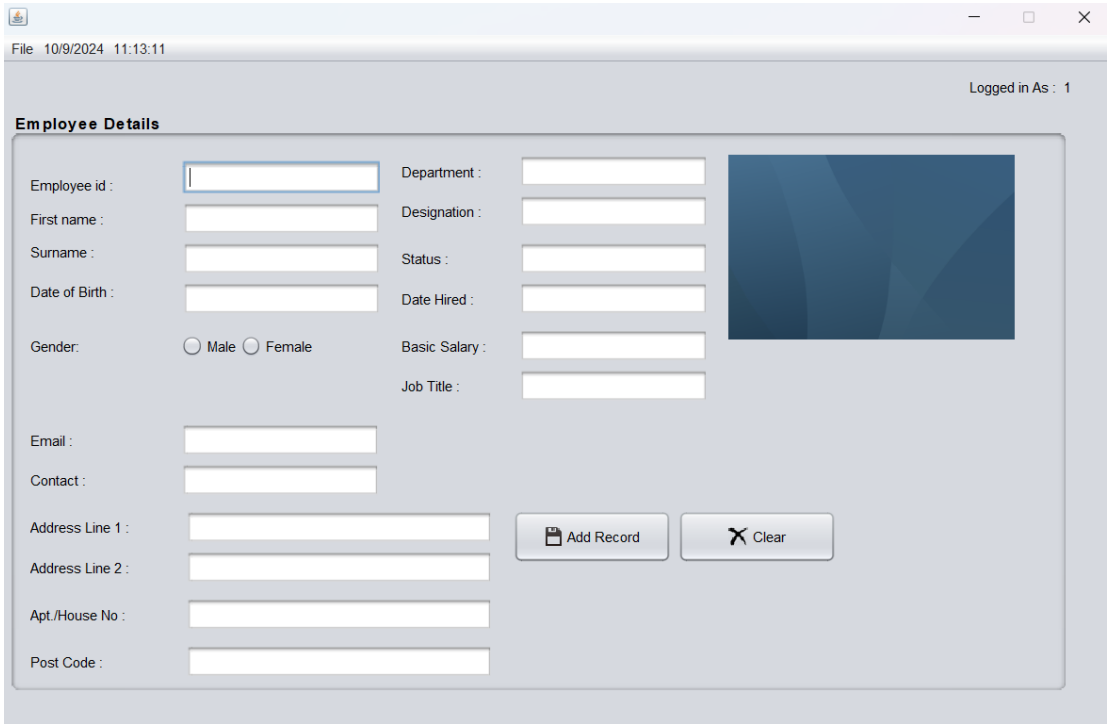

Figure 7.3. PayTrack – Expenditure Tracker : Employee Manager

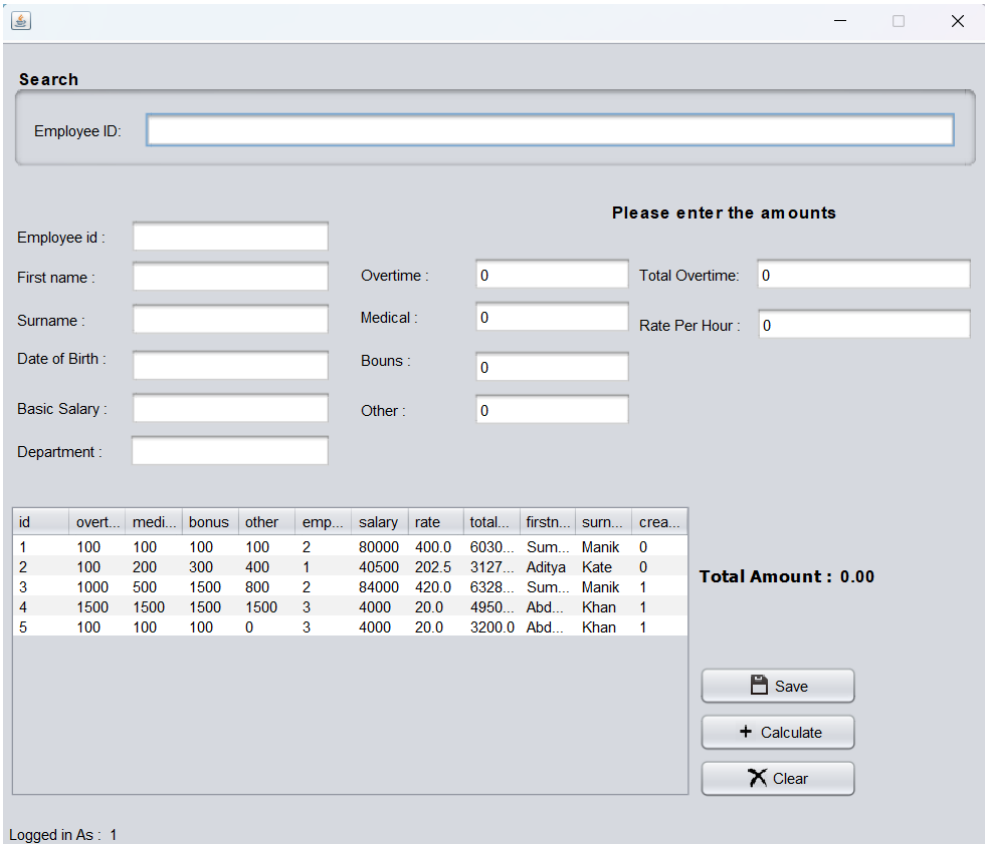

Figure 7.4. PayTrack – Expenditure Tracker : Allowance

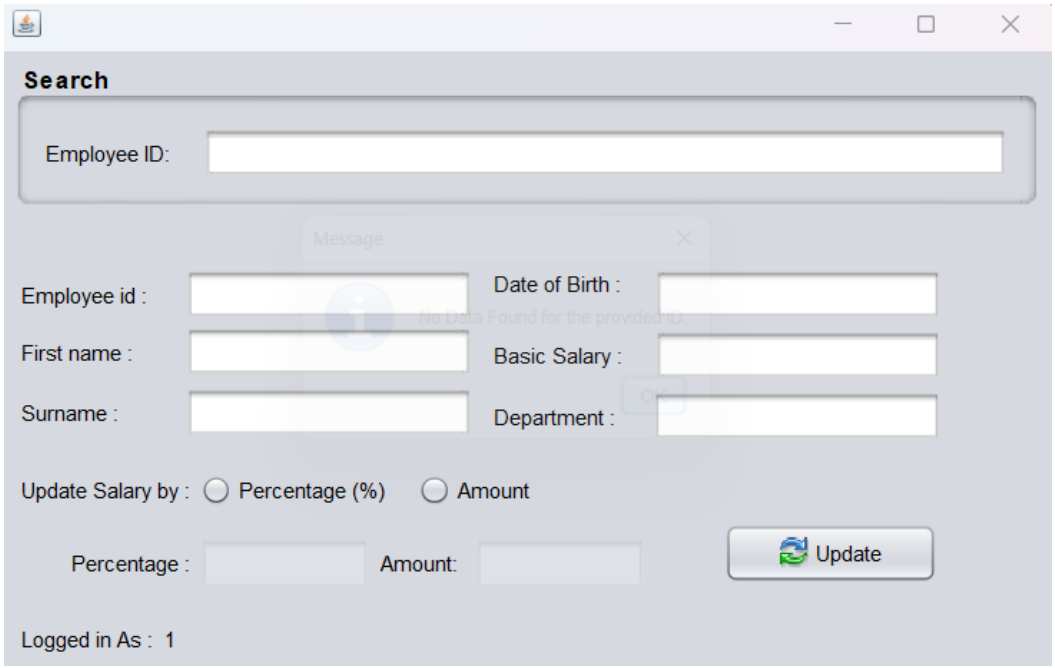

Figure 7.5. PayTrack – Expenditure Tracker : Employee Salary Update

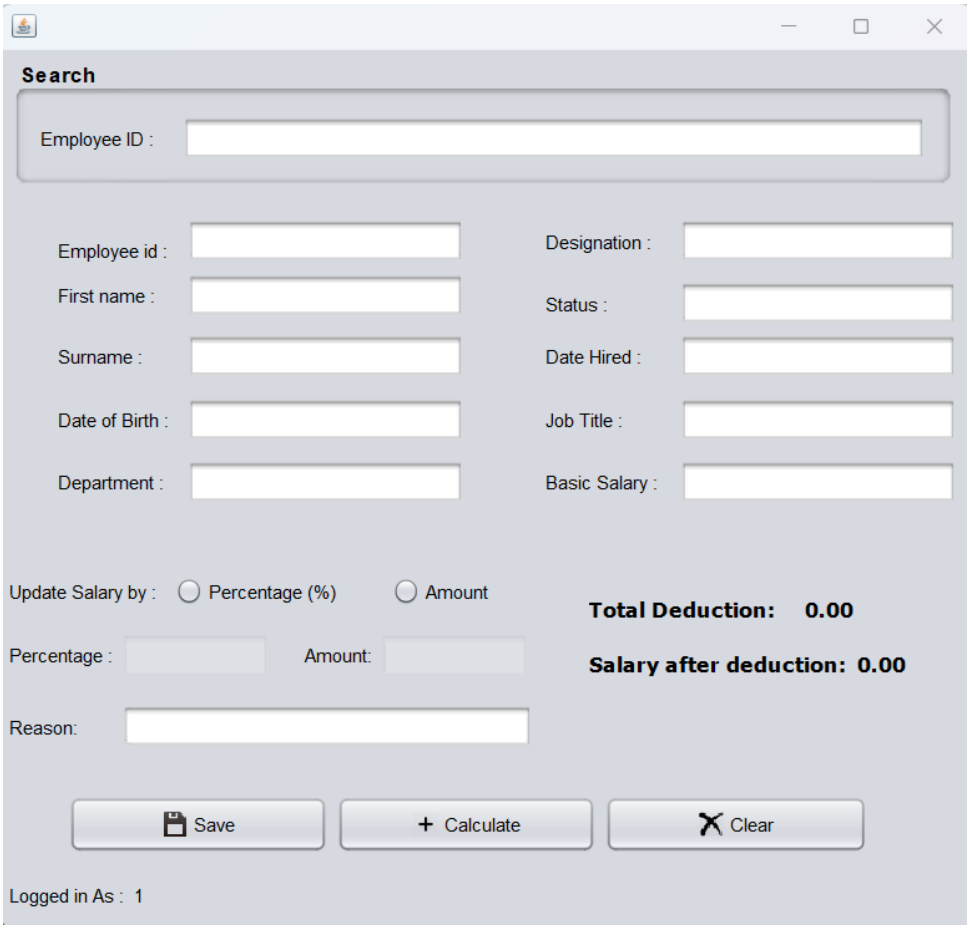

Figure 7.6. PayTrack – Expenditure Tracker : Deductions

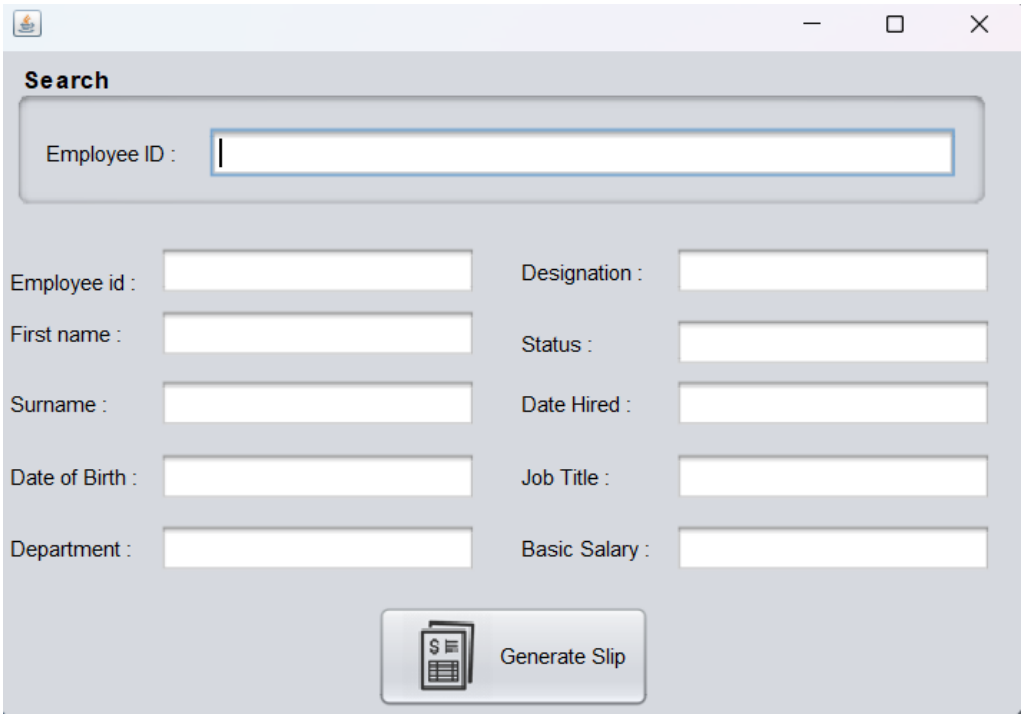

Figure 7.7. PayTrack – Expenditure Tracker : Salary Slip

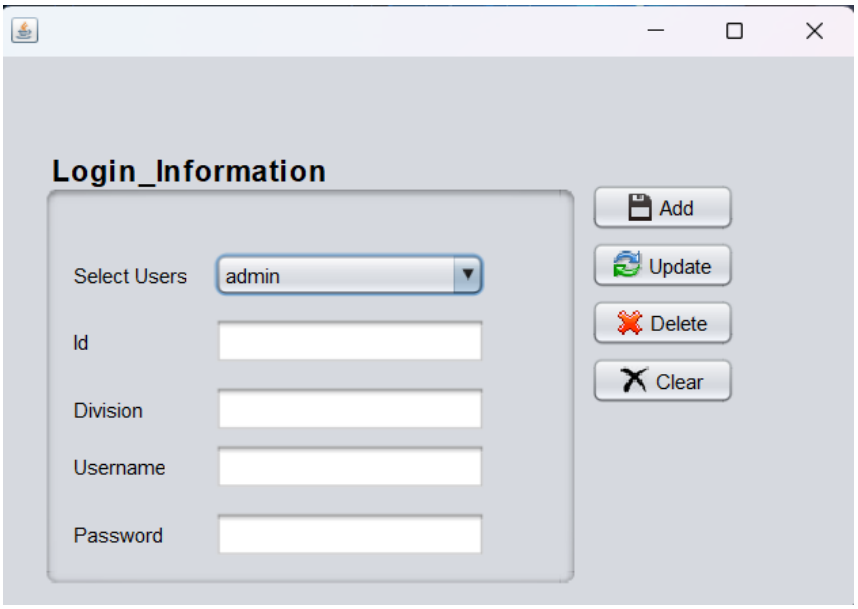

Figure 7.8. PayTrack – Expenditure Tracker : Add User

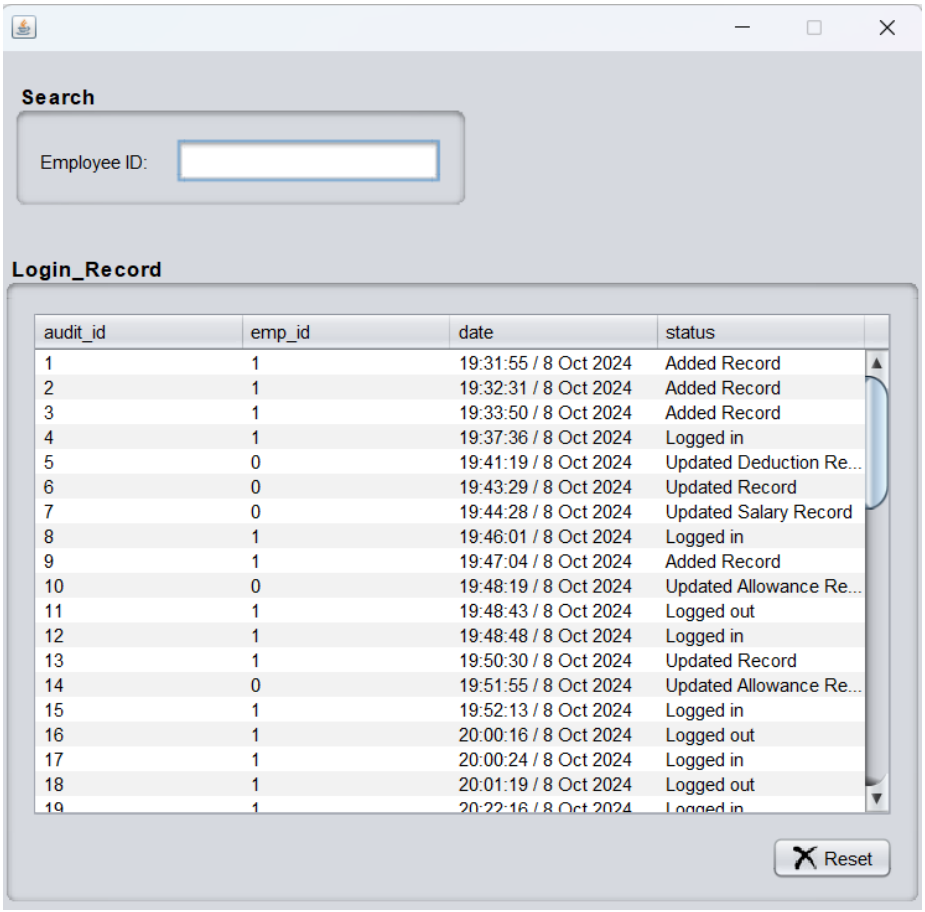

Figure 7.9. PayTrack – Expenditure Tracker : Audit Details

Chapter 8

Conclusion

The development of the PayTrack : Expenditure Tracker or Payroll System represents a significant advancement in automating and optimizing payroll management for organizations. By leveraging Java for the frontend and MySQL for the backend, the system provides a robust solution to the challenges associated with manual payroll processing. It ensures accurate salary calculations, timely payments, and compliance while enhancing data security and reducing administrative overhead.

The successful implementation of the system demonstrates its capability to streamline payroll operations, improve efficiency, and minimize errors. The user-friendly interface and secure backend integration ensure that both HR personnel and employees benefit from a reliable and effective payroll management tool. Overall, the project not only addresses the key issues in traditional PayTrack : Expenditure Tracker or Payroll Systems but also sets a foundation for future enhancements and scalability, making it a valuable asset for organizations seeking a modern payroll solution.

The PayTrack: Expenditure Tracker or Payroll System is a modern solution designed to automate payroll management for organizations. Using Java for the frontend and MySQL for the backend, it simplifies salary calculations, ensures compliance with enhances data security. The system streamlines payroll processes, minimizes errors, and offers a user-friendly interface for HR teams and employees alike. It provides accurate, real-time salary computations, tracks deductions, and generates pay slips with ease. With its scalable backend, PayTrack can grow with the organization and adapt to future enhancements, making it a reliable and efficient tool for modern payroll needs.

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