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# Master of Computer Applications Micro Project Report

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# Acknowledgement

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## 1. Introduction

This microproject is dedicated to the refinement and enhancement of leave management within the broader context of Human Resource Management (HRM). Recognizing the pivotal role of effective leave management in fostering organizational productivity and employee satisfaction, the project focuses on developing a sophisticated Leave Management System tailored to the unique needs of modern workplaces. Through specialized modules catering to Employees, Managers, and the CEO, the system aims to centralize and streamline the leave approval process, thereby ensuring seamless coordination and transparency across all hierarchical levels. By integrating advanced features such as automated notifications and comprehensive leave analytics, the system empowers HR professionals to efficiently handle leave requests, optimize workforce planning, and make data-driven decisions to drive organizational success.

At its core, this microproject represents a concerted effort to elevate the standards of leave management practices within HRM. By leveraging technology to automate and enhance traditional leave administration processes, the system not only reduces administrative burden but also facilitates a more agile and responsive approach to managing employee leave. Through its emphasis on transparency, accountability, and efficiency, the Leave Management System aims to serve as a cornerstone of HRM, empowering organizations to cultivate a positive work environment, maintain high levels of employee satisfaction, and ultimately achieve their strategic objectives with greater efficacy.

# 2. Key Features

## **Employee Module:**

Submit leave requests specifying type and duration.

View the status of submitted requests.

Receive notifications on request approval/rejection.

## **Manager Module:**

Receive leave requests from employees.

Review and approve requests or forward to the CEO.

Access leave history and reports for team members.

## **CEO Module:**

Receive forwarded leave requests from managers.

Review and approve leave requests.

Access comprehensive leave analytics and reports.

#### **Customizable Leave Policies:**

- Define and configure various types of leave such as annual leave, sick leave, maternity/paternity leave, etc.
- Set up rules for accrual rates, carryover limits, and eligibility criteria based on organizational policies.

# **Automated Approval Workflow:**

- Design flexible approval workflows based on organizational hierarchy and departmental structures.
- Route leave requests to the appropriate managers for approval, with options for delegation and escalation.

#### **Real-Time Notifications:**

- Send automatic notifications to employees upon submission, approval,
   rejection, or modification of leave requests.
- Notify managers of pending leave requests and upcoming leave schedules for better planning.

#### **Leave Calendar:**

- Provide a centralized calendar view to visualize employee leave schedules and identify potential conflicts.
- Allow managers to make informed decisions about leave approvals based on team availability.

## **Compliance Management:**

- Ensure compliance with company policies, labor laws, and regulatory requirements.
- Automatically enforce leave policies and track usage to prevent unauthorized leaves and mitigate compliance risks.

## **Integration with HRIS and Payroll Systems:**

- Seamlessly integrate with existing HRIS (Human Resource Information System) and payroll systems to synchronize employee data and leave balances.
- Streamline payroll processing by automatically updating leave balances and deductions.

## **Reporting and Analytics:**

- Generate customizable reports on leave utilization, trends, and patterns to gain insights into workforce management.
- Monitor attendance, absenteeism, and productivity metrics to identify areas for improvement.

## **Employee Engagement Tools:**

- Provide self-service features for employees to manage their profiles, preferences, and notifications.
- Offer feedback mechanisms and surveys to gather employee input and enhance user experience.

#### 3.Benefits

## **Streamlined Booking Process:**

- Effortless Booking: Customers can conveniently book train tickets from anywhere, reducing the need to visit physical ticket counters or stations.
- Time-saving: The online booking system saves time for both customers and railway staff by automating the ticketing process, thereby reducing long queues and waiting times.

## **Convenient Management:**

- Centralized System: The system provides administrators with a centralized platform to manage train schedules, seat availability, and bookings, streamlining operations and reducing administrative overhead.
- Real-time Updates: Admins can quickly update train details, such as schedules or seat availability, ensuring that customers have access to the latest information

## **Improved User Experience:**

- User-friendly Interface: The intuitive and easy-to-navigate interface enhances the overall user experience, making it simple for customers to search for trains, book tickets, and manage their bookings.
- Customization: The system allows customers to personalize their booking preferences, such as selecting preferred seats or specifying meal options, enhancing their satisfaction and loyalty.
- Prompt Notifications: Automated notifications regarding booking confirmations, seat assignments, and any changes in train schedules keep customers informed and engaged throughout the booking process.

Efficiency Improvement: An automated leave management system streamlines the entire process, reducing the time and effort spent on manual tasks such as leave request submission, approval routing, and tracking. This efficiency improvement allows HR personnel to focus on more strategic initiatives.

**Enhanced Accuracy:** Automation reduces the likelihood of errors associated with manual data entry and calculations. Accurate tracking of leave balances, entitlements, and usage ensures that employees receive the correct benefits and prevents disputes over discrepancies.

**Compliance Assurance:** Leave management systems can be configured to enforce company policies and legal regulations, ensuring that leave requests are processed consistently and in accordance with applicable laws. This reduces the risk of non-compliance penalties and litigation.

**Transparency and Visibility:** Both employees and managers have access to real-time information regarding leave balances, request statuses, and approvals. This transparency fosters trust and communication within the organization, as employees know exactly where they stand regarding their leave entitlements and managers can make informed decisions about staffing levels.

Employee Empowerment: Self-service portals empower employees to manage their leave requests autonomously, without the need for constant intervention from HR personnel. This independence promotes a sense of ownership and accountability among employees, leading to higher satisfaction and engagement. Cost Savings: By streamlining processes, reducing errors, and improving efficiency, an employee leave management system can result in significant cost savings for the organization. These savings come from reduced administrative overhead, increased productivity, and better resource allocation.

**Strategic Insights:** Leave management systems often come equipped with reporting and analytics capabilities that provide valuable insights into leave trends, patterns, and utilization rates. HR administrators can use this data to identify areas for improvement, optimize staffing levels, and make data-driven decisions to better manage workforce resources.

Flexibility and Adaptability: Modern leave management systems are flexible and can be customized to meet the unique needs of different organizations and industries. They can accommodate various types of leave, including vacation, sick leave, maternity/paternity leave, and unpaid leave, as well as complex leave policies and accrual rules.

#### 4.Abstract

The Leave Management System aims to automate and streamline the process of handling employee leave requests within the organization. By incorporating separate modules for Employees, Managers, and the CEO, the system ensures a structured and transparent leave approval workflow, enhancing organizational efficiency and employee satisfaction

Managing employee leave efficiently is crucial for organizational productivity and employee satisfaction. Traditional leave management systems often rely on manual processes, leading to inefficiencies and errors. To address these challenges, this project introduces StreamlineHR, a modern employee leave management system. StreamlineHR offers a comprehensive platform that automates leave requests, approval workflows, and tracking, while providing real-time updates and customizable reporting tools. By streamlining the leave management process, StreamlineHR enhances efficiency, improves compliance, and enhances the employee experience. This abstract provides an overview of the features and benefits of StreamlineHR, highlighting its potential to revolutionize leave management and optimize workforce management practices.

# **5.Existing System Study**

## 1. Overview of the Current System:

- Brief description of the existing leave management system.
- How leave requests are currently submitted, processed, and tracked.
- Any manual processes involved in managing leave requests.
- Challenges faced by employees and HR personnel with the current system.

## 2. Process Flow Analysis:

- Step-by-step analysis of the leave management process.
- Identification of key stakeholders involved in leave request submission and approval.
- Mapping out the flow of information and approval hierarchy.
- Analysis of the time taken to process leave requests and any bottlenecks in the system.

## 3. Technology Infrastructure:

- Overview of the technology stack used in the existing system.
- Description of any software applications, databases, or spreadsheets used for leave management.
- Integration with other HR systems or payroll software.

 Assessment of the scalability and flexibility of the current technology infrastructure.

## 4. User Experience Evaluation:

- Feedback from employees regarding the usability of the current leave management system.
- Common pain points or usability issues reported by users.
- Employee satisfaction levels with the existing system.
- Comparison of user experience across different departments or teams.

## 5. Compliance and Policy Adherence:

- Analysis of how leave policies are enforced and communicated within the organization.
- Compliance with legal regulations and labor laws related to leave entitlements, accruals, and usage.
- Documentation of any instances of policy violations or inconsistencies.

## 6. Data Management and Reporting:

- Examination of how leave data is stored, managed, and accessed.
- Reporting capabilities of the existing system (e.g., leave balances, usage reports).
- Accuracy and reliability of leave data for payroll and compliance purposes.

• Identification of any gaps in reporting or analytics functionality.

# 7. Cost and Resource Analysis:

- Assessment of the time and resources allocated to managing leave requests.
- Calculation of the cost associated with manual processes, administrative overhead, and errors.
- Comparison of the total cost of ownership of the existing system versus potential alternatives.

#### 6.Modules

#### **Admin Panel:**

This module provides functionalities for system administrators to manage various aspects of the railway reservation system.

- Login: Secure authentication for administrators to access the admin panel.

  Admin management: Allows admins to add, edit, and delete leave details, including the employee name, leave reject/approve..
- View employee leave Management: View and manage leave type including the ability to cancel leave if necessary.
- User Management: Manage user accounts, including adding new users and modifying existing ones.
- Reports: Generate reports on employee schedules, leave, and other system data for analysis and decision-making.

#### **Customer Interface:**

This module provides functionalities for customers to search for leave type, apply for leave, and manage their leave.

- User Authentication: Secure login for customers to access the booking functionalities.
- Leave type Search: Enables customers to search for leave type based on starting date, ending date, .
- Apply leave: Allows customers to select their desired leave, specify user details, and confirm their leave.

# 7. Hardware & Software Requirements

## **Hardware Requirements:**

#### Server:

- A dedicated or virtual server is recommended to host the employee leave management
- Minimum hardware specifications include:
  - o Processor: Dual-core or higher processor.
  - o RAM: 2 GB or more for smooth performance.
  - Storage: Sufficient disk space to store system files and database backups.
- Network Infrastructure:
- Stable internet connectivity is essential to ensure uninterrupted access to the system.
- Adequate network bandwidth to handle concurrent user requests during peak hours.

## **Software Requirements:**

## Operating System:

- The server should run a stable and secure operating system capable of hosting web applications. Recommended choices include:
  - Linux distributions (e.g., Ubuntu Server, CentOS)
  - Windows Server

#### Web Server:

- Apache HTTP Server or compatible web server software is required to host the PHP-based web application.
- Configuration of the web server to handle PHP scripts is necessary for proper functionality.

## Database Management System (DBMS):

- MySQL or compatible relational database management system is needed to store and manage data related to trains, users, bookings, and passengers.
- Ensure compatibility with the chosen web server and PHP version.

## Server-Side Scripting Language:

- PHP (Hypertext Preprocessor) is the primary scripting language used for server-side processing in the railway reservation system.
- The server should have PHP installed and configured to execute PHP scripts.

#### Client:

- Any modern web browser with JavaScript enabled is compatible with the employe leave management
- Compatibility with popular browsers such as Google Chrome, Mozilla Firefox, Microsoft Edge,

# 8.Data Flow Diagram (DFD)

A Data Flow Diagram (DFD) is a visual representation that depicts the flow of data within a system or process. It's a graphical tool used to model the interactions and transformations of data as it moves through various components of a system.

## • Zero th Level Data Flow Diagram

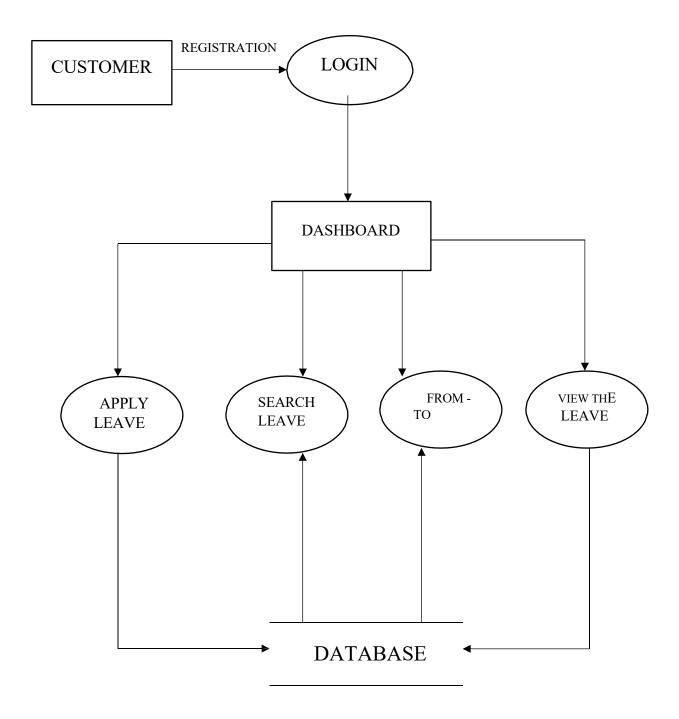
Provides an overview of the entire system or process at a high level, showing the interactions between system and user. It's a simplified diagram that presents a top-level perspective without going into the details of internal processes.

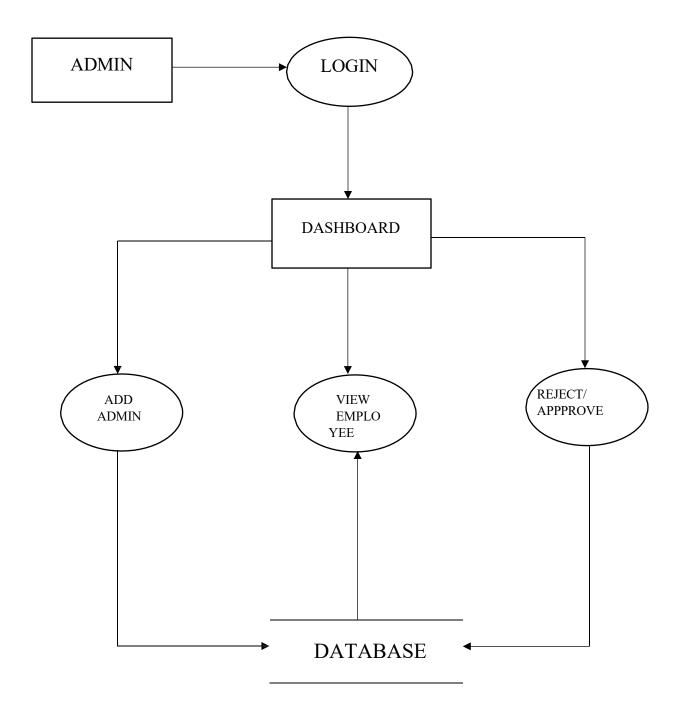


## • First Level Data Flow Diagram

A First-Level Data Flow Diagram (DFD) is a visual representation of the most essential processes and data flows within a system or process. It provides a high-level overview of how data moves between major components of the system without delving into intricate details. First-Level DFDs are often used as an initial step in the process of system analysis and design.

## FIRST LEVEL DFD

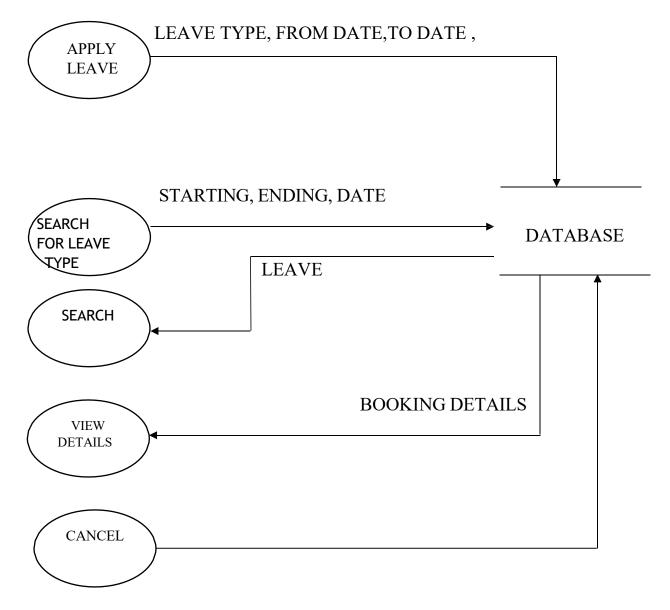




## • Second Level Data Flow Diagram

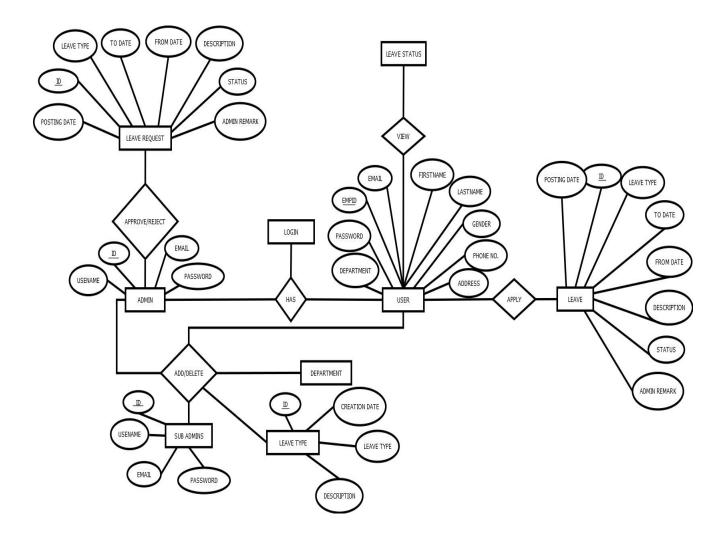
A Second-Level Data Flow Diagram (DFD) is a more detailed representation of specific processes and data flows within a system that were initially outlined in a First-Level DFD. It provides a deeper insight into the system's functionality by breaking down major processes from the first-level diagram into their subprocesses and interactions.

#### SECOND LEVEL DFD



## 9. Entity Relationship Diagram

An Entity-Relationship Diagram (ERD) is a visual representation of the relationships between different entities (objects or concepts) within a system or database. ERDs are commonly used to model the structure of databases and the relationships between the data entities.

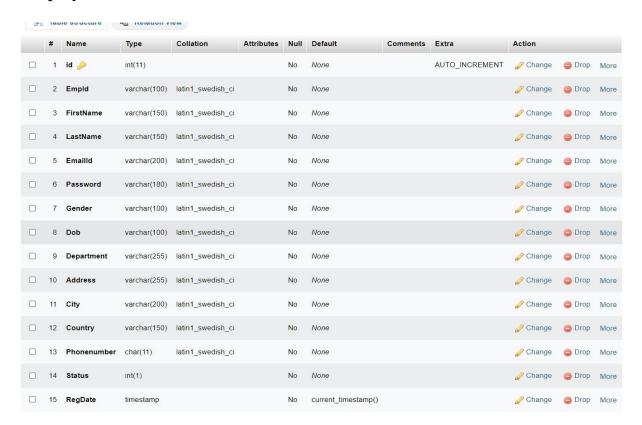


# 10. Table Designs

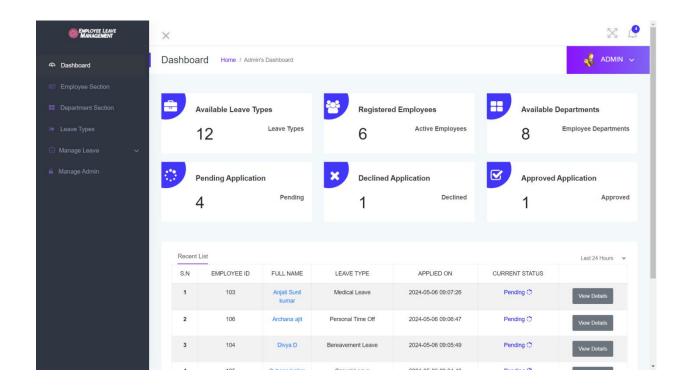
#### **Admin Table**

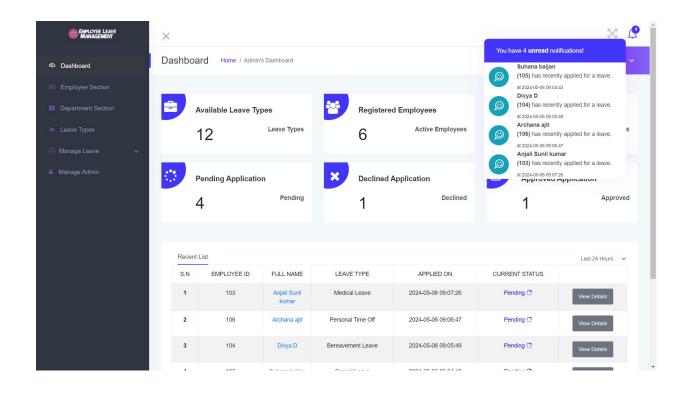


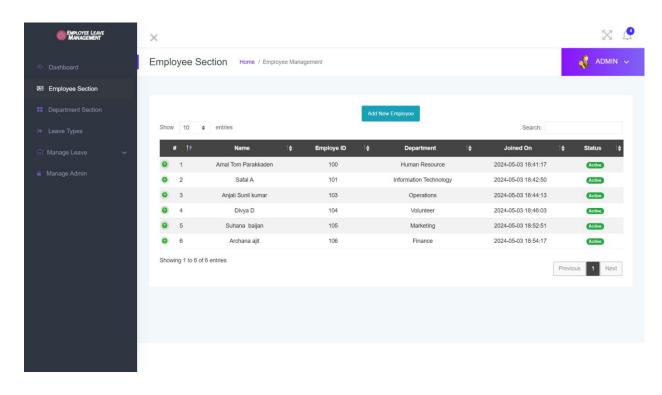
## **Employee Table**

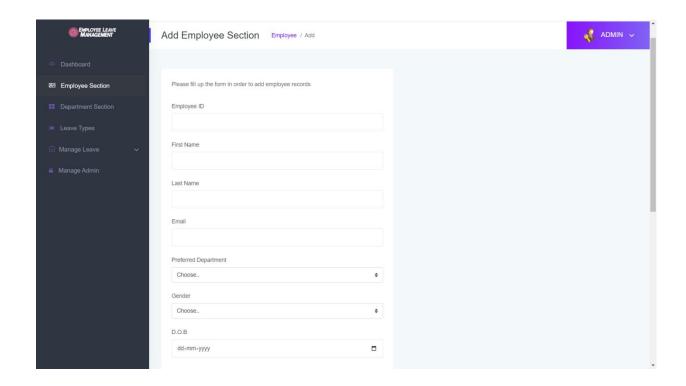


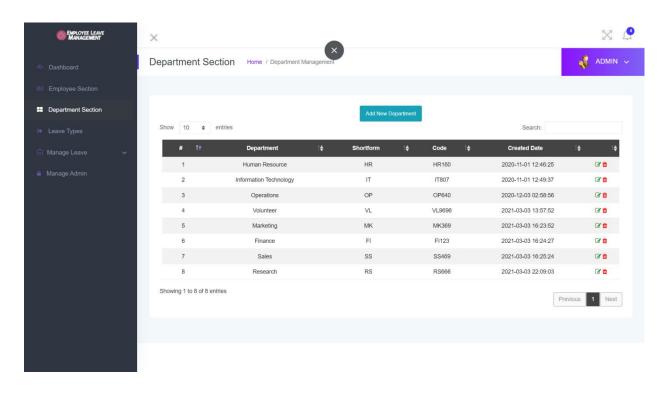
#### 11. Screenshots

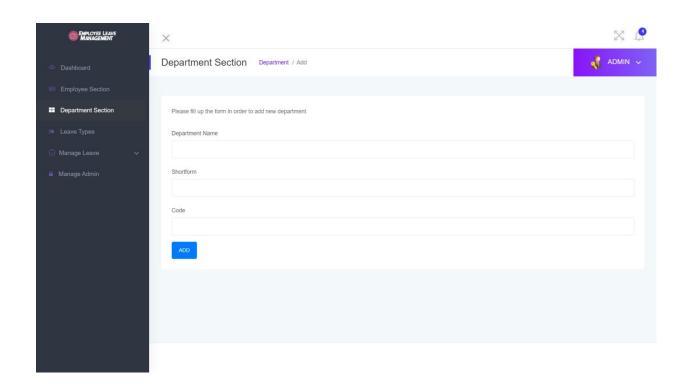


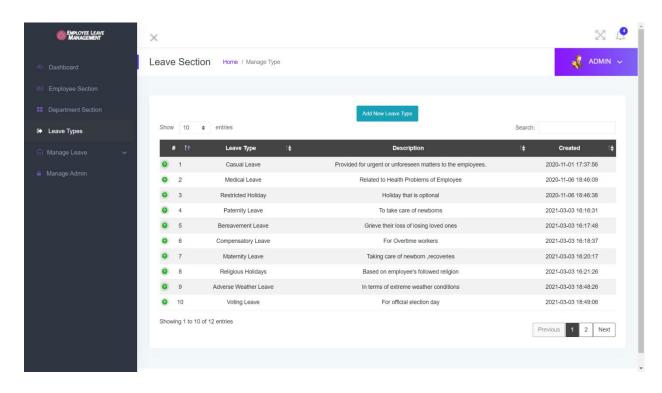


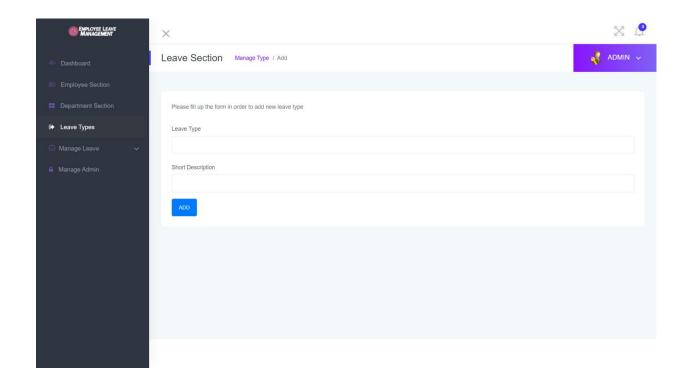


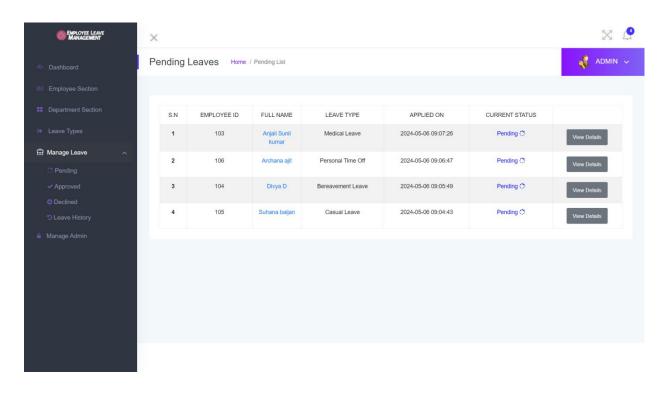


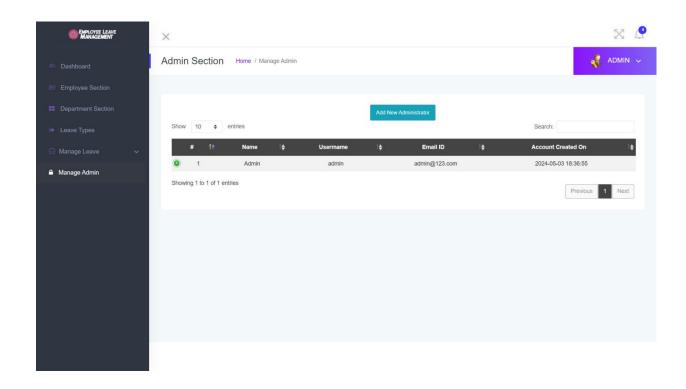


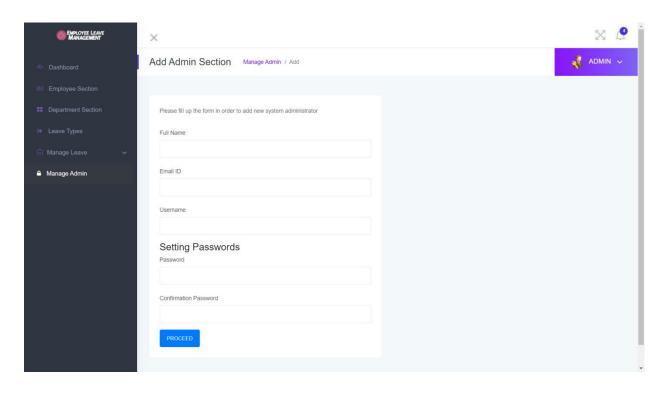


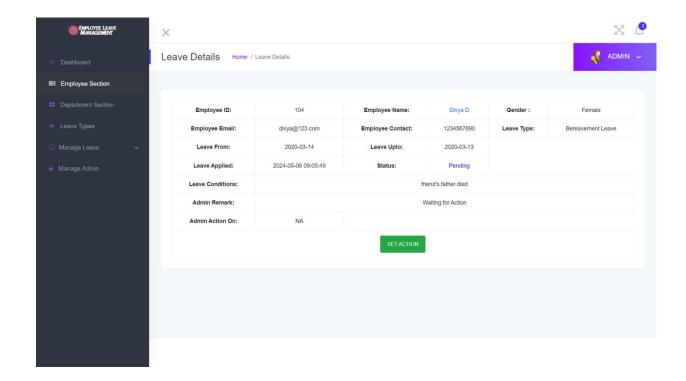


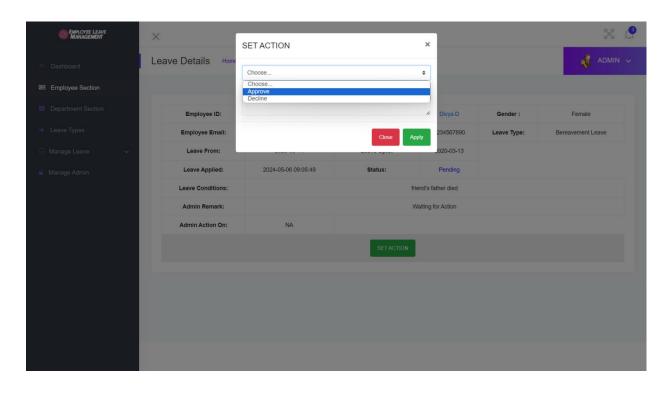


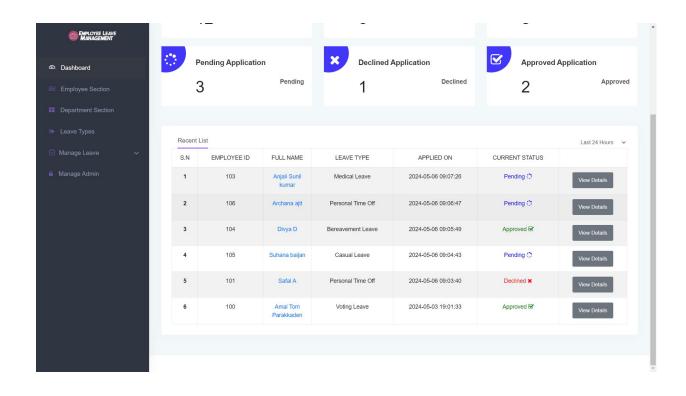


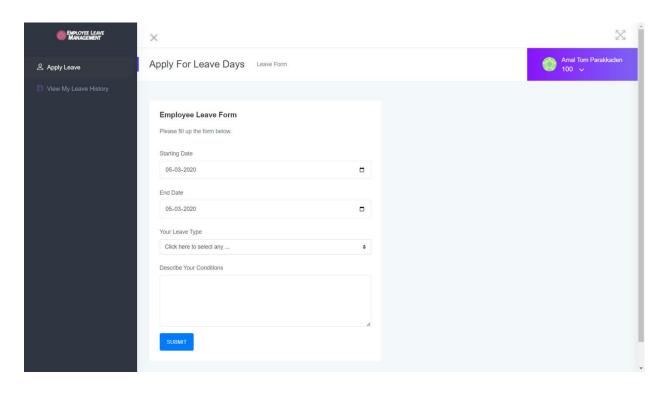


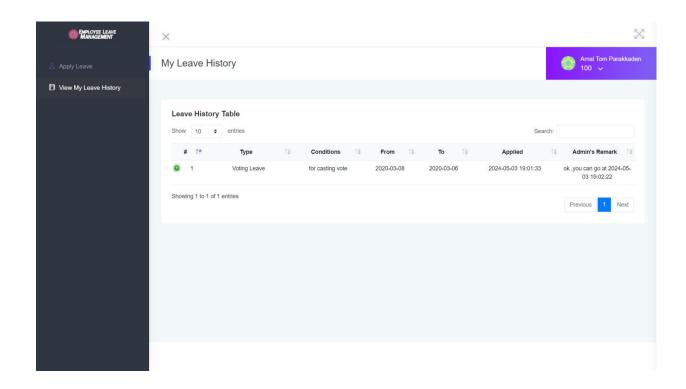












#### 12.Conclusion

In conclusion, the implementation of an efficient employee leave management system is crucial for organizations striving to enhance productivity, employee satisfaction, and operational excellence. Through our project, we have developed a robust solution that addresses the challenges inherent in traditional leave management processes.

By leveraging advanced technology and automation, our system significantly reduces the administrative burden associated with managing leave requests. Employees benefit from a user-friendly interface that allows them to submit requests conveniently and track their leave balances in real-time. Managers are empowered with streamlined approval workflows and comprehensive reporting tools, enabling them to make informed decisions and maintain compliance with organizational policies and regulations.

Moreover, our system promotes transparency and communication by providing instant notifications and updates throughout the leave approval process. This fosters trust between employees and management, leading to a more positive work environment and higher levels of engagement.

Ultimately, our employee leave management project aims to revolutionize how organizations handle leave-related tasks, saving time, reducing errors, and enhancing overall efficiency. By investing in modern solutions like ours, companies can unlock the full potential of their workforce and achieve greater success in today's competitive business landscape