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ACKNOWLEDGMENTS

Acknowledgments



ABSTRACT

Abstract



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CHAPTER 1

INTRODUCTION

In today's fast-paced corporate environment, the demand for efficient, centralized systems to manage human resources processes is greater than ever. Traditional methods of handling employee data, leave requests, and attendance tracking often rely on physical paperwork or disparate digital tools, leading to inefficiencies, inconsistencies, and potential security risks. These manual processes can create delays, increase administrative workload, and reduce overall productivity, making it challenging for HR personnel to maintain accurate records and for employees to access their information easily.

The Web-Based Corporate Portal is designed to address these challenges by providing a streamlined, integrated platform for managing essential HR functions. This portal enhances the efficiency of HR processes by automating critical steps, reducing the reliance on manual intervention, and facilitating smoother communication between HR and employees. Employees can experience a more accessible and user-friendly interface for interacting with HR services, from leave submissions to tracking attendance summaries, reducing the need for in-person visits or physical paperwork.

Additionally, the centralized system addresses security and compliance concerns by providing a secure, compliant platform for managing sensitive employee information. By storing and managing all HR-related data in a single, secure system, the portal minimizes risks associated with fragmented or unsecured record handling, ensuring that sensitive information is protected and managed in line with organizational standards.



Problem Statement

Before the implementation of a centralized web-based corporate portal, the company's human resources processes were heavily dependent on manual methods, which led to several significant challenges in managing employee information, leave requests, and attendance:

1. Leave requests and attendance tracking relied on physical forms and in person communication, making the process cumbersome and time consuming. Without a unified system, tracking leave approvals and attendance records became inconsistent, creating operational disruptions and reducing HR productivity.
2. The lack of a centralized portal meant that employee data, leave approvals, and attendance summaries were often scattered across multiple files or systems. This

setup made accessing up to date information difficult for HR personnel and supervisors, leading to delays in processing requests and decision making.

3. Communication between departments particularly HR and employee was often fragmented due to the absence of a unified platform. As a result, coordination on attendance records, leave requests, and employee information was inefficient, frequently leading to misunderstandings and delays in addressing employee needs.
4. Managing sensitive employee information through physical documents or unsecured systems presented risks to data security. Additionally, ensuring compliance with company policies and legal requirements was challenging without a standardized system to securely track, manage, and store employee information.

I.2 Objective

The main objective of this project is to develop a Web-Based Enterprise Portal that simplifies and improves key human resource processes within a company. The system is designed to provide a seamless and efficient experience for HR personnel and employees, with a focus on key features such as employee data management, leave request and approval processing, and attendance summary.

I.3 System Scope

This corporate portal is designed to improve and simplify various human resource (HR) processes in a company's operations. It provides an integrated platform to manage employee data, leave requests and approvals, and attendance summaries, to ensure that all HR procedures are carried out efficiently and in accordance with company policies.

The system will be developed as a comprehensive web-based application that can be accessed by authorized users across the company's internal network. The portal's primary focus is human resources (HR), although it has the potential to be expanded to include features for other divisions in the future, offering a versatile tool for the company's management needs.

I.4 Target User

There are TWO (2) target users for the system as below:

1. Human Resources (HR) *staff*

As the primary user, HR *staff* uses this portal to manage employee data, approve leave and summarize attendance data.

2. Employees

All employees can use this portal to apply for leave and monitor their leave status.

I.5 Project Timeline

The project timeline can be found in Appendix A.

CHAPTER II 2

LITERATURE REVIEW

II.1 Introduction

There are several kinds of portals, including call center a business to employee (b2e) intranet portal, a b2b Extranet portal, a business to consumer (b2c) e-commerce portal and a self-service portal [1]. Web-based personnel management systems are an evolution of the long-standing manual process. With the rapid advancement of internet technology, the need for online systems has become more apparent, especially in terms of efficiency and accessibility. The existing literature shows that online systems have become a central element in the discourse on higher education and various other industries [2][3].

Research has shown that web-based systems allow employee administration and management processes to be carried out across multiple locations and times [2]. With the ongoing development of web-based system applications, many companies have begun to adopt digital solutions as an alternative to previously manual administration processes.

With the advancement of internet technology, web-based portals have become vital tools in modern employee administration and management, facilitating faster access to services while reducing the reliance on time-intensive manual processes [2][3]. This evolution is particularly evident in web-based leave management systems, which streamline the processes of requesting, tracking, and approving leave requests—traditionally managed by administrative departments in a manual, paperwork-heavy approach [4][5].

The importance of automated leave management has grown with increasing demands for efficiency and the need to minimize the errors often associated with conventional methods [6]. Research highlights that such systems provide an efficient platform for employees, enabling timely leave requests while supporting administrative departments in structuring employee data more systematically [7][8]. Implementing web-based systems for leave management thus presents an ideal solution for institutions, allowing them to offer improved services to both academic and administrative staff, and ensuring adherence to institutional policies [4][8].

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2 II.2

Review on the Existing System

2 II.2.1 Exist 1: Employee Management System at PT. Kirana Megatara

Employee User Access Management at PT. Kirana Megatara is a solution developed internally and integrated directly into the company portal. This system is specifically designed to simplify employee data management and user access within an organization. Built using PHP CodeIgniter and Microsoft SQL Server, this system is customized to meet the specific needs and policies of the company, allowing for seamless integration with existing processes. Although the technology and user interface used are somewhat outdated, this system provides a cost-effective solution by utilizing the company's existing infrastructure.

Features:

1. User access management, digitizing forms for requests to add, change, or delete user access that are integrated directly into the company portal.
2. Automated workflow, automated processes connected with various departments to ensure completeness of documents and approvals.
3. Email notification, automated email notification system to remind users of user access status or other actions required.

Benefits:

1. Seamless integration, because this system is integrated directly into the company portal, users can access and complete requests without having to switch to another platform, thereby increasing operational efficiency.
2. Tailored to the needs of the company, built with the specific needs of the company in mind, this system can be adapted to meet the company's internal policies and processes.
3. Affordable cost for internal integration, using existing technology (PHP CodeIgniter and Microsoft SQL Server), implementation costs can be minimized because it utilizes existing resources and infrastructure in the company.

Limitations:

1. Outdated technology, use of outdated technology and programming languages such as PHP CodeIgniter and Microsoft SQL Server, which may be less flexible and difficult to update.
2. Unattractive user interface, unattractive and outdated interfaces can reduce user experience and efficiency of use.
3. Performance issues, the system tends to slow down or experience performance degradation when facing high loads, which can interfere with user productivity.

II.2.2 Exist 2: Vendor User Management System

Vendor User Access Management System is a web-based solution provided by an external vendor, where companies rent this application to manage the employee user access management process. This system is designed to operate outside the corporate portal, offering separate access through a web interface provided by the vendor. This approach allows companies to immediately take advantage of advanced features without having to build a system from scratch.

Features:

1. User data management, management of user data that includes personal information, employment status, and access history.
2. Automated workflow, automated workflow that coordinates various departments to complete the user access management process efficiently.
3. Notifications and alerts, an automated alert system that ensures each step in the user access management process is completed on time.

Benefits:

1. Quick implementation, because this system is provided by the vendor, companies can implement it quickly without the need for internal development.
2. Minimal maintenance, the vendor is responsible for maintaining the system, reducing the burden on the company's IT team.
3. Access speed, with a professionally managed infrastructure, this system offers fast and responsive web access speeds, reducing waiting times and increasing user productivity.

Limitations:

1. High rental costs, High rental costs, using vendor systems often involves significant rental costs, which can be a burden for companies, especially in the long run.
2. Complex integration, because these systems are outside the corporate portal, users must access a separate platform to complete the access management process, which can add complexity and hassle to daily workflows.
3. Data security, there are concerns about data security because user data is stored and managed by a third party, which may not be in accordance with the company's internal security policies.

By using systems from external vendors, companies can take advantage of the latest technology and advanced features for user access management, but they also need to consider the associated risks and costs.

2 II.2.4 Comparison with Chakra Portal

Aspect	Vendor User Management System	PT. Kirana Megatara's System	Proposed System for Chakra Portal
Technologies Used	Using modern technologies managed by vendors	PHP CodeIgniter, Microsoft SQL Server, old technologies	Latest technologies such as React and Node.js
Integration with Corporate Portal	Separate, accessed via separate web interface	Integrated in corporate portal	Integrated in corporate portal
User Interface (UI)	Modern and user-friendly	The template looks old-fashioned, lack of good UI	Modern and user-friendly
Performance	Responsive and fast	A bit slow when overloaded	Responsive and fast
Implementation and Maintenance Costs	High, with significant rental costs	Relatively inexpensive, using existing infrastructure	Higher initial investment, but more efficient maintenance
Data Security and Privacy	Data is managed by vendors, data security risks	Managed internally, in accordance with company policies	Data is stored at the vendor (cloud), but managed internally

CHAPTER III 3 SYSTEM ANALYSIS

III.1

System Development Process

III.1.1 Project Planning and Oversight

Project Planning and Oversight are essential components in developing the Chakra Employee Portal. This portal is designed to streamline and automate various HR functions, including employee attendance tracking, leave management, and approval workflows. This section outlines the approach used in planning and supervising the development of the portal, focusing on ensuring efficient, timely progress in alignment with the company's goals.

This project is categorized under Theory Development and Implementation as it involves the creation of an entirely new, integrated module within the existing company portal. The project will be developed using Node.js as the primary back-end technology with MongoDB as a NoSQL database solution. The infrastructure will include both a local development server for testing and a production environment for final deployment.

This project will be built using Node.js technology with NoSQL database support. In addition, the required IT infrastructure will include a local development server for testing, as well as a production server for final implementation.

The project timeline is designed to support efficient and structured completion, consisting of several main phases:

1. Requirement Analysis Phase

Define the specific requirements of the Chakra Employee Portal, identifying core features like leave applications, attendance summary, user roles, and integration needs with other organizational systems.

2. System Design Phase

Create the architectural framework, focusing on the data structure, APIs, and user interfaces. Make technical design decisions on how to implement functionality effectively using Node.js, MongoDB, and other supporting tools.

3. Development Phase

Develop the portal according to the approved design, ensuring that code is secure, efficient, and scalable. Features like user roles, notifications, attendance management, and leave applications will be coded following best practices.

4. Testing Phase

Conduct thorough testing of the portal, covering functionality, security, and performance. This phase will include both manual and automated testing methods to ensure all components meet quality standards.

5. Deployment Phase

Deploy the portal to a production environment, performing necessary checks to ensure smooth integration with existing systems. Initial monitoring will help detect any potential issues post-deployment for timely resolution.

Project progress will be tracked using a project management tool, such as Jira, allowing for real-time monitoring of each phase. Regular reviews of development and testing results will ensure that the project adheres to its timeline and objectives. Should any issues or scope adjustments arise, prompt corrective actions will be taken.

With a structured approach to project planning and supervision, the Chakra Employee Portal is expected to be delivered successfully, meeting the company's HR management needs while ensuring an intuitive, user-friendly experience for all employees.



III.1.2 System Requirement Analysis

In the development of the Web-Based Employee Portal, a focused observation and feedback-gathering approach was applied to identify user needs and address existing pain points. By observing how users interact with current HR-related processes, we identified critical areas for improvement, forming a solid foundation for the new system's design.

From these observations, the following system requirements were defined, categorized into functional and non-functional aspects, each essential to enhancing the portal's usability, efficiency, and alignment with user needs.

1. Functional Requirements

- The portal should allow users to submit, approve, and track leave applications directly, minimizing paperwork and delays.
- A centralized attendance summary feature should be included, enabling both employees and HR to view attendance records and any discrepancies easily.
- The system must provide automated notifications for important actions, such as leave application status changes or reminders for incomplete tasks.
- Access control is essential, allowing secure and authorized access to personal, leave, and attendance data for different user roles (e.g., HR, employees).

2. Non-Functional Requirements

- The system must maintain speed and responsiveness, handling concurrent users effectively without lag.
- User data, including sensitive HR records, must be protected with robust security mechanisms (e.g., encryption and role-based access) to prevent unauthorized access or data breaches.
- The interface should be intuitive and user-friendly, enhancing user experience and minimizing the learning curve for all levels of users.
- The portal should be built with scalability in mind to allow future enhancements for other departmental modules beyond HR.

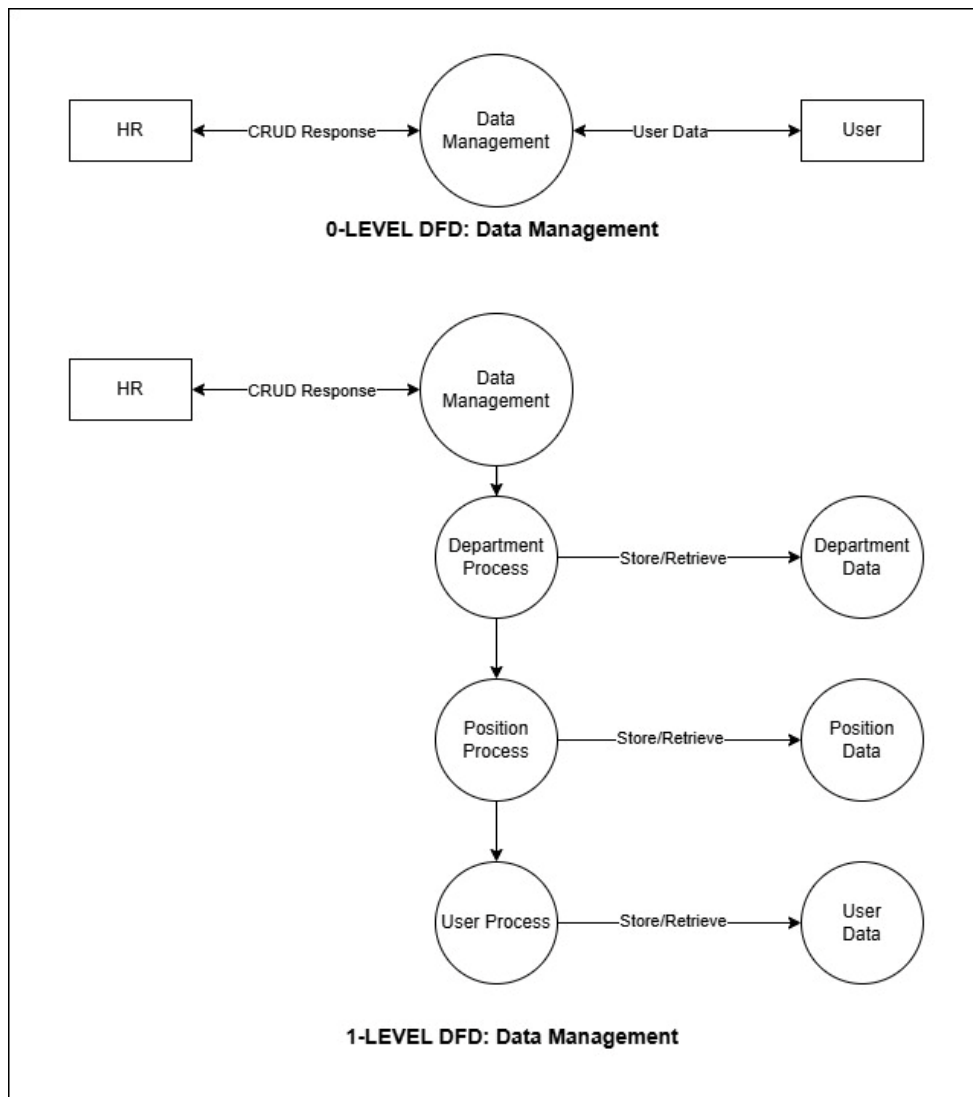


Figure 3.1 DFD Data Management

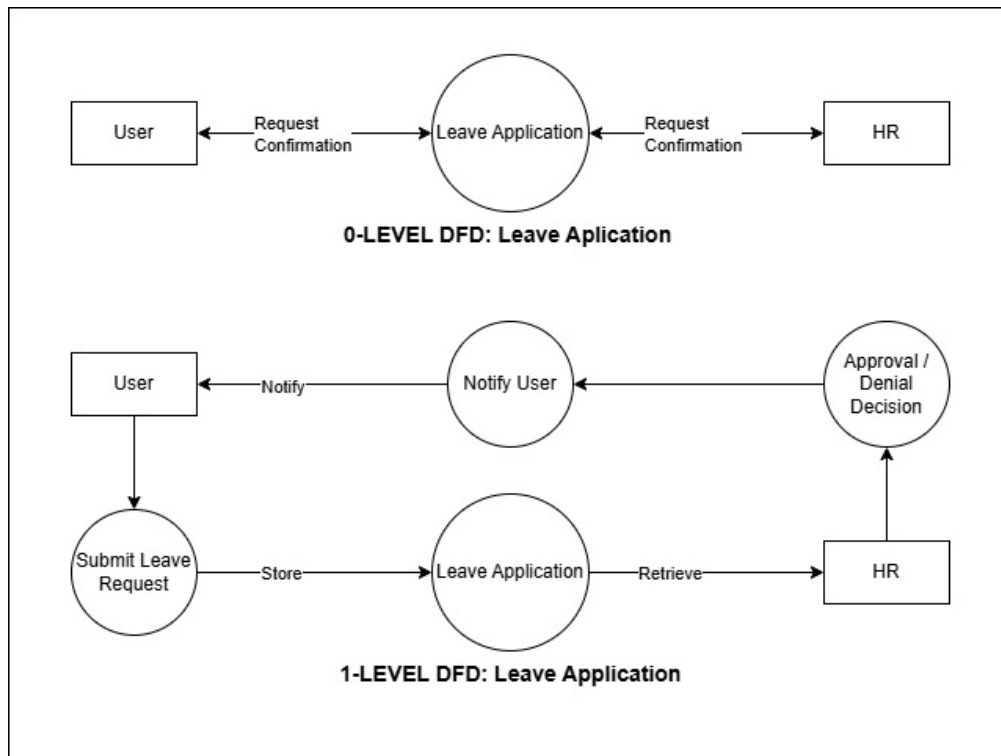


Figure 3.2 DFD Leave Application

III.2.2 Logical Modelling

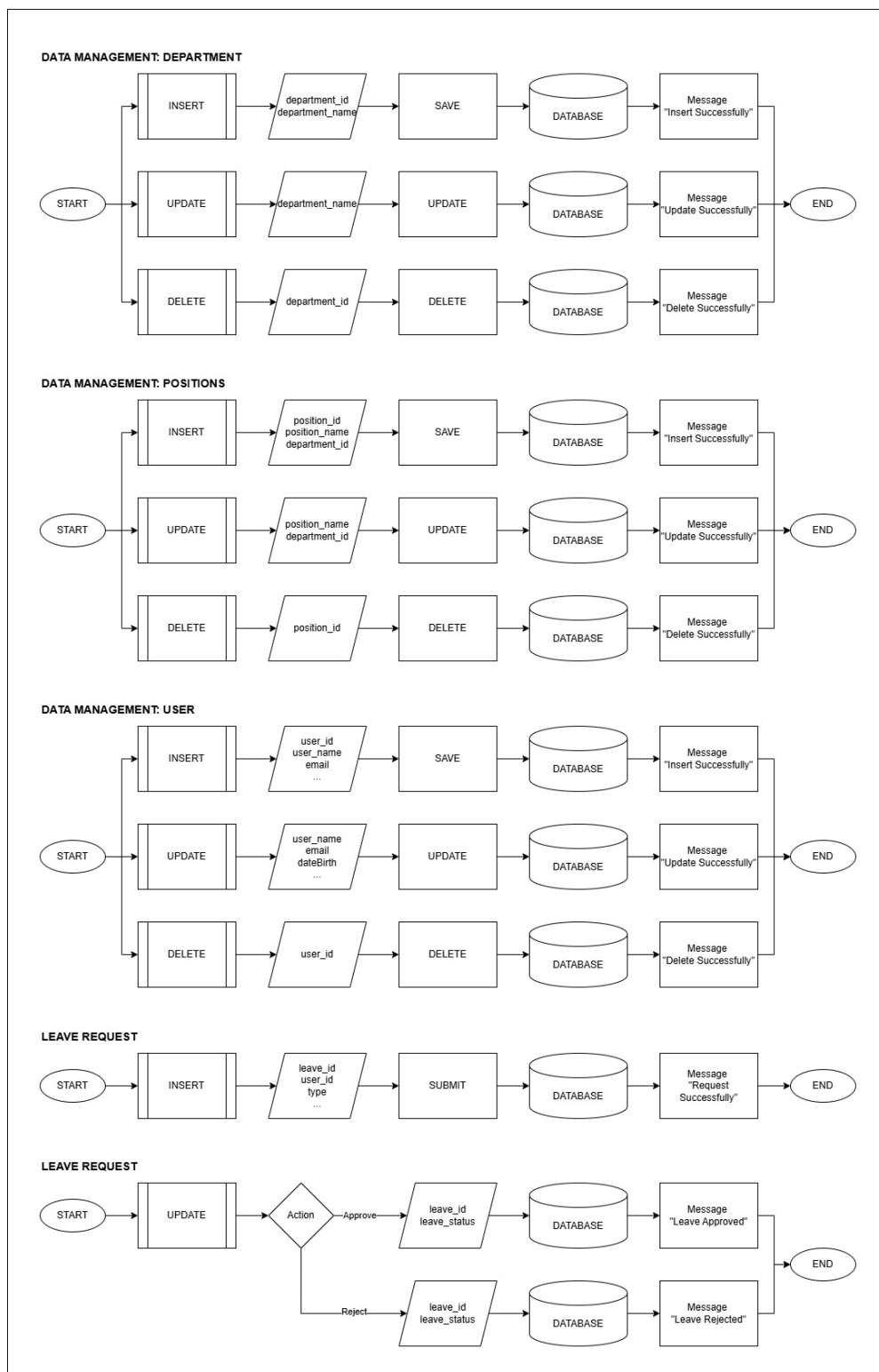


Figure 3.3 Flowchart

III.2.3 Data Modelling



Figure 3.4 ERD

CHAPTER IV SYSTEM DESIGN

IV.1 Design Forms and Reports

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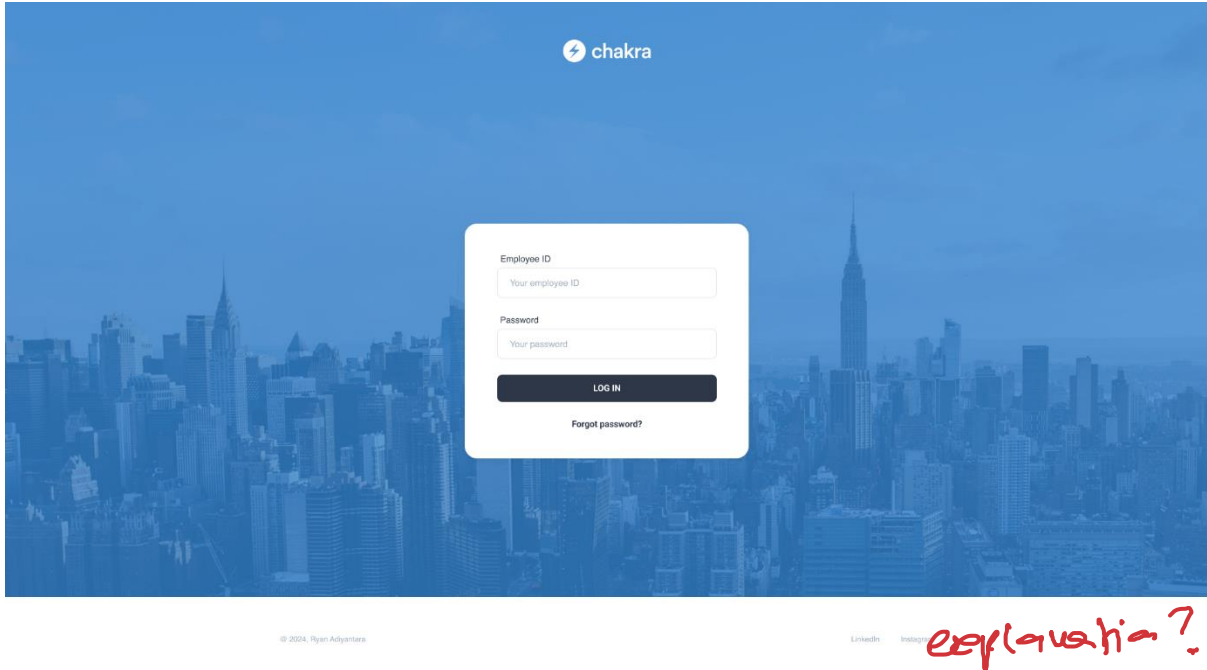


Figure 4.1 Chakra Login Form

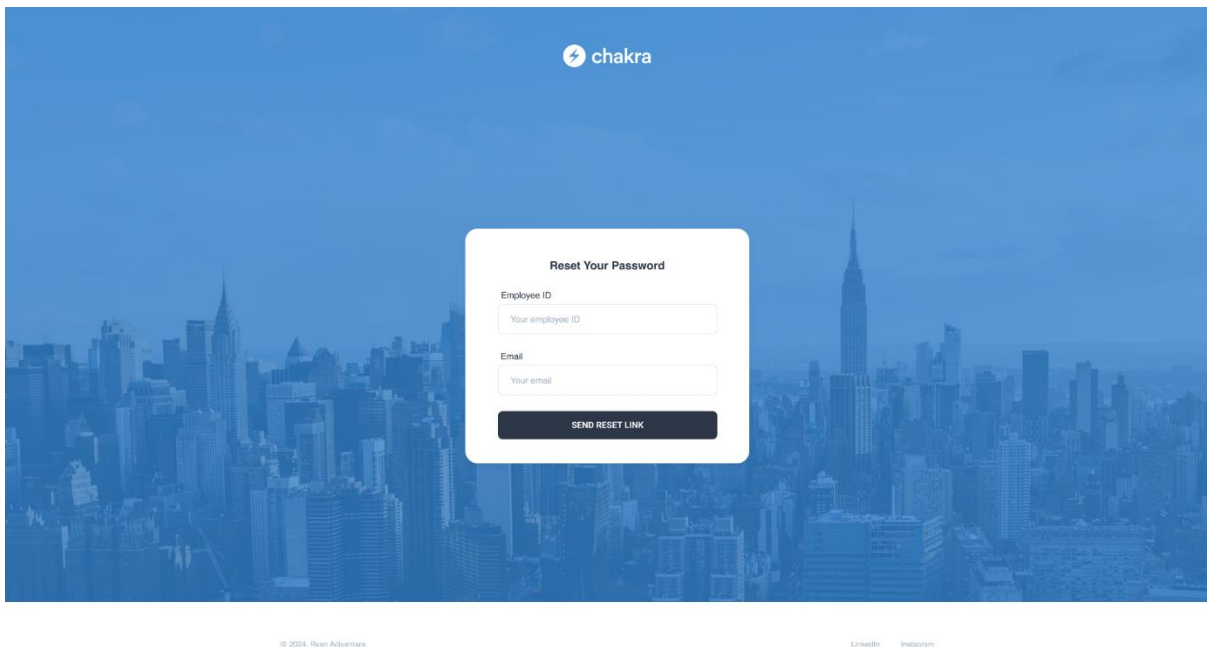
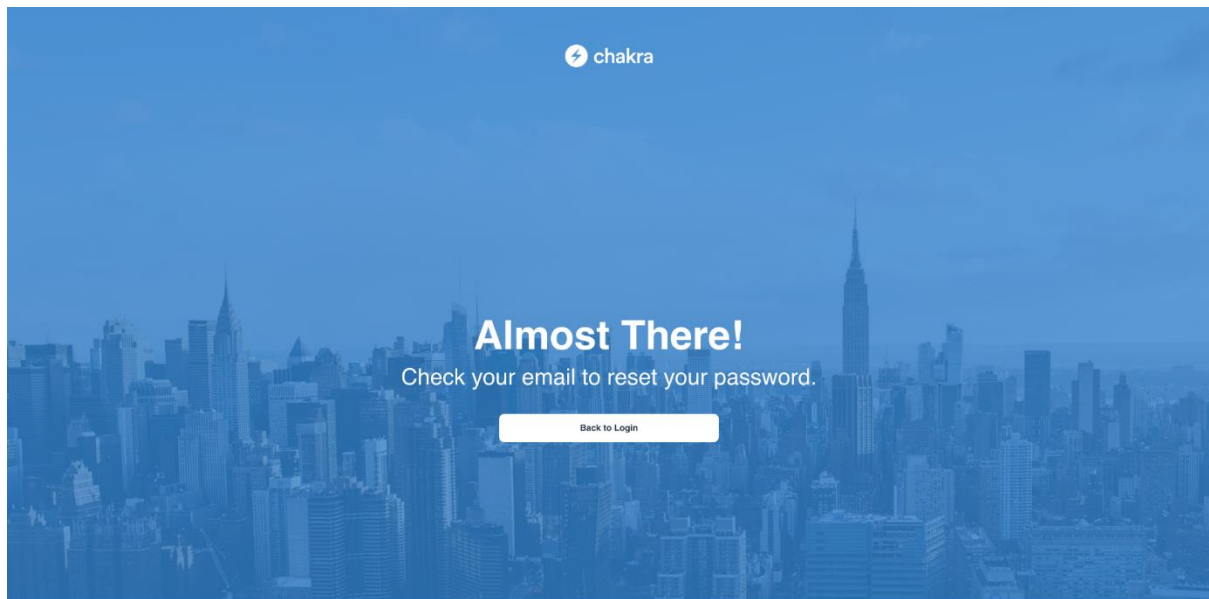


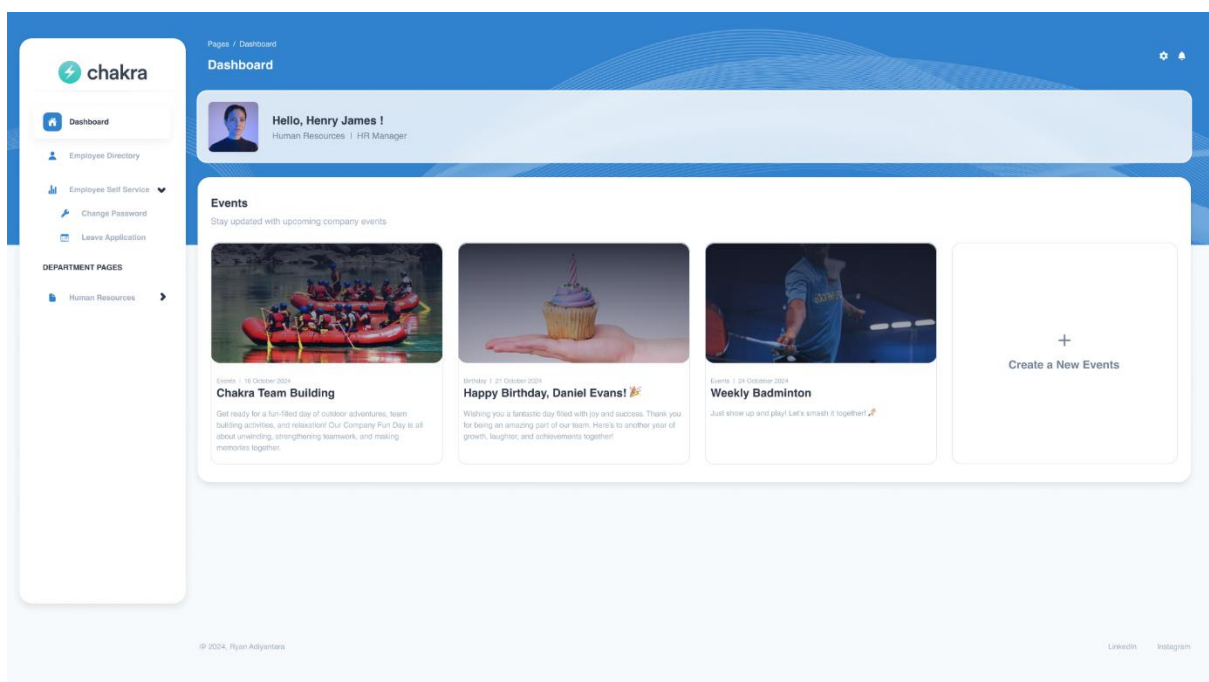
Figure 4.2 Chakra Forgot Password



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LinkedIn Instagram

Figure 4.3 Chakra Forgot Password Confirmation



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Figure 4.4 Chakra Dashboard

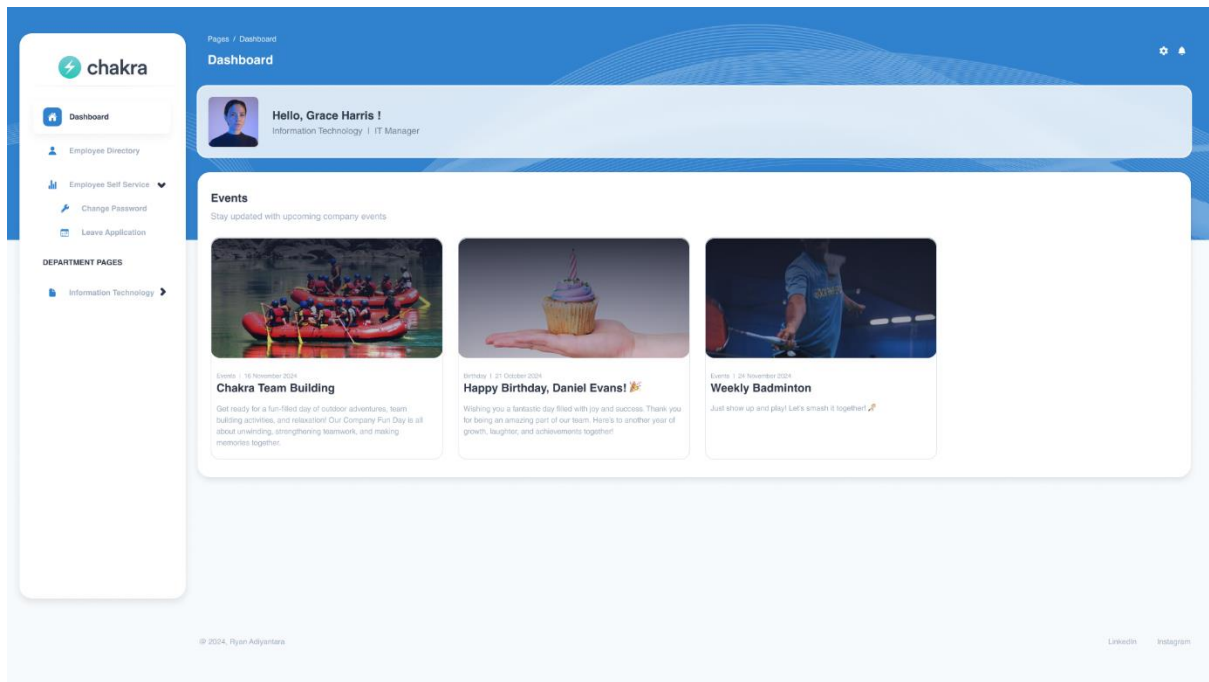


Figure 4.5 Chakra Dashboard If Not HR

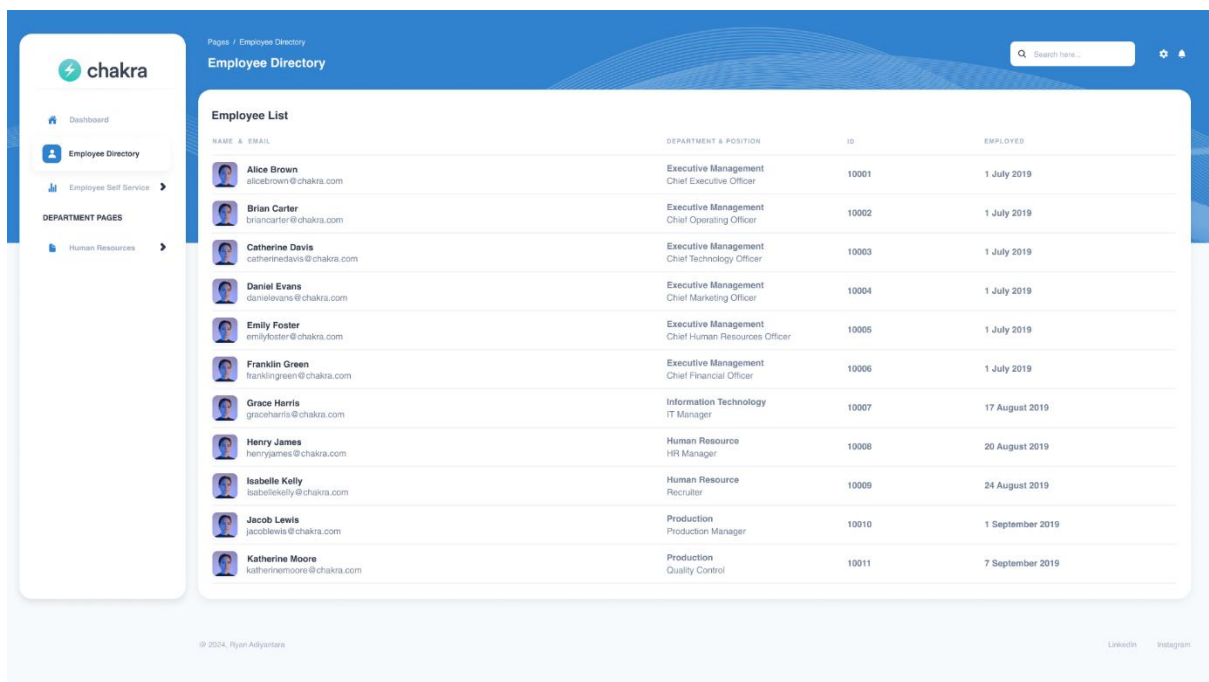


Figure 4.6 Chakra Employee Directory

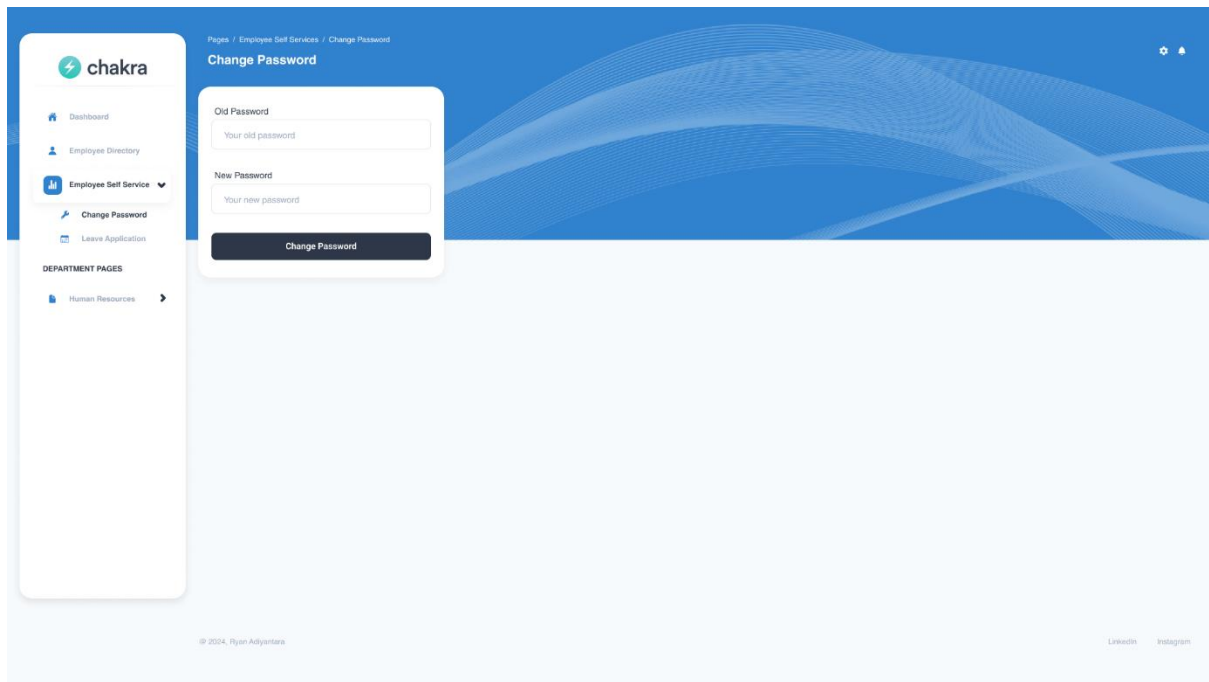


Figure 4.7 Chakra Employee Self Services - Change password

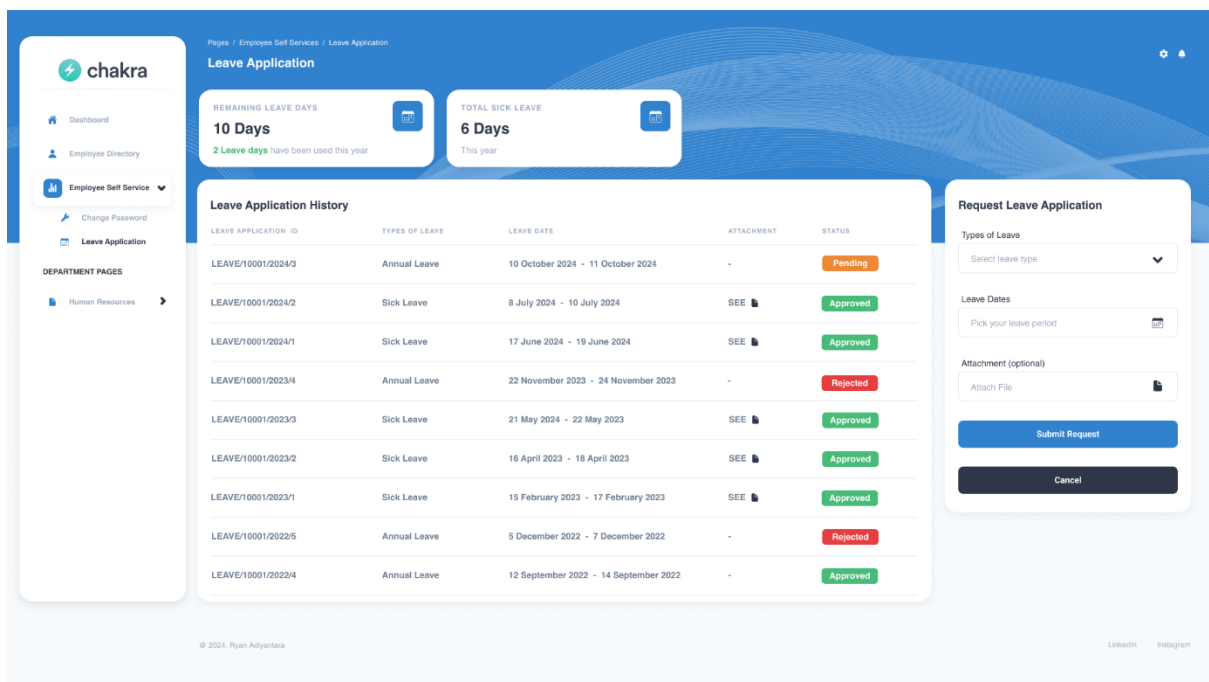


Figure 4.8 Chakra Employee Self Services - Leave Application

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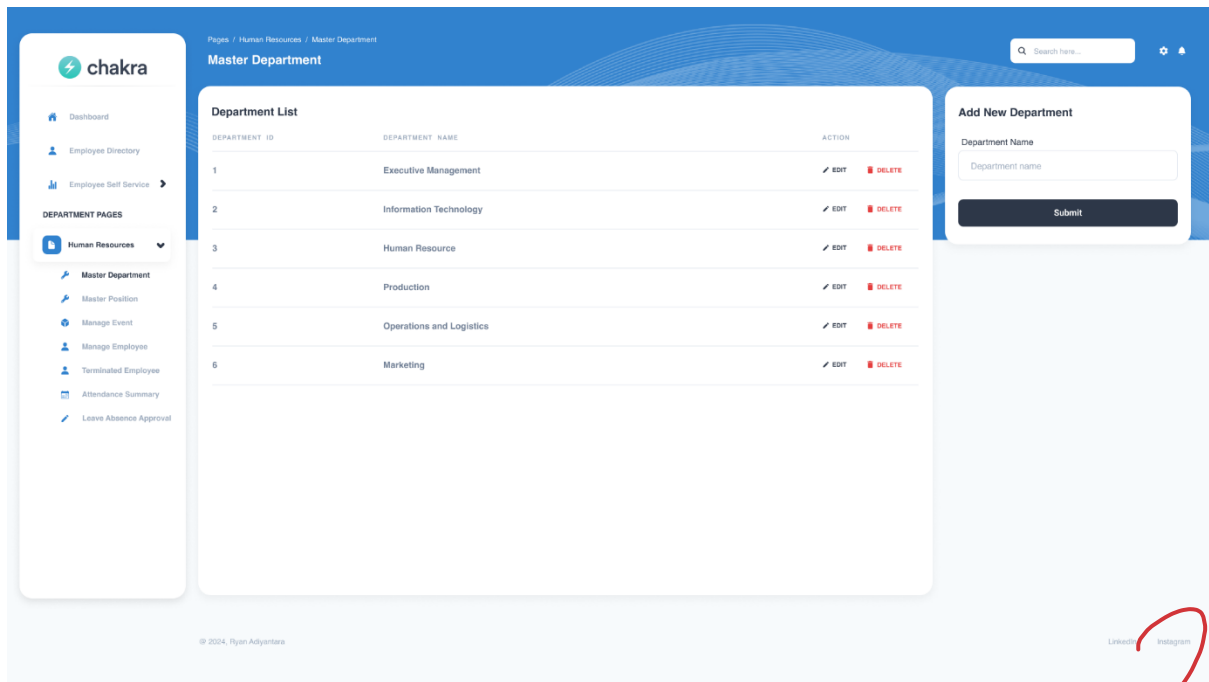


Figure 4.9 Chakra Human Resources - Master Departments

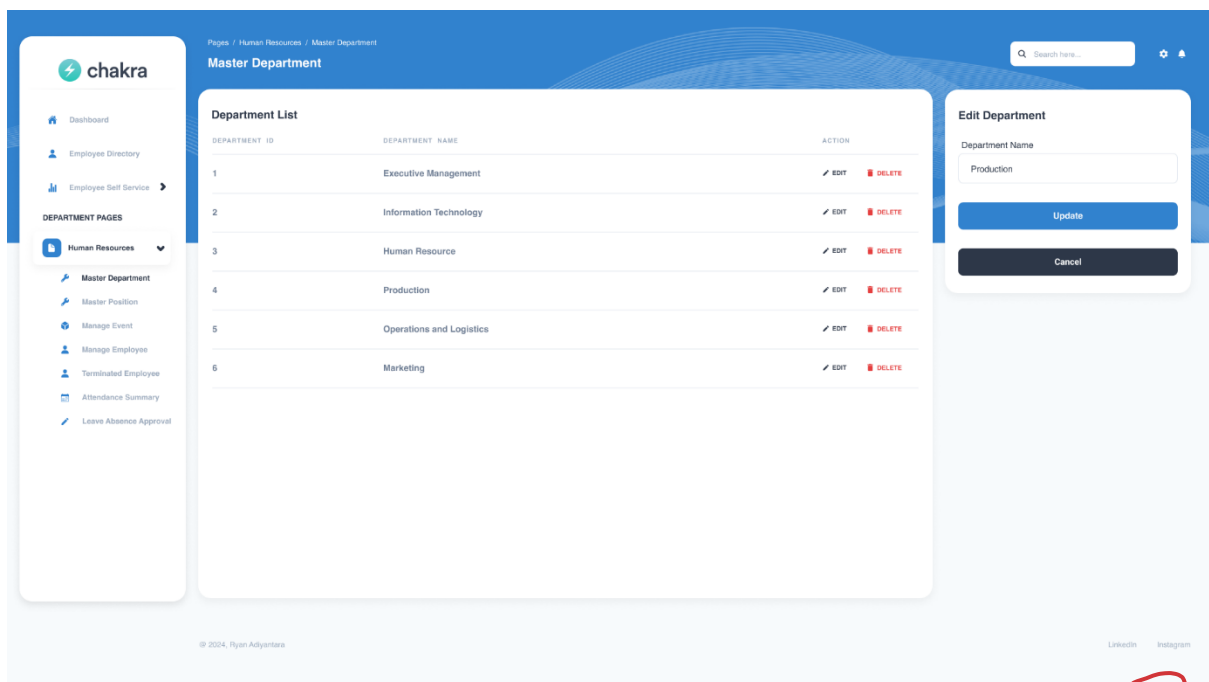


Figure 4.10 Chakra Human Resources - Master Departments Update

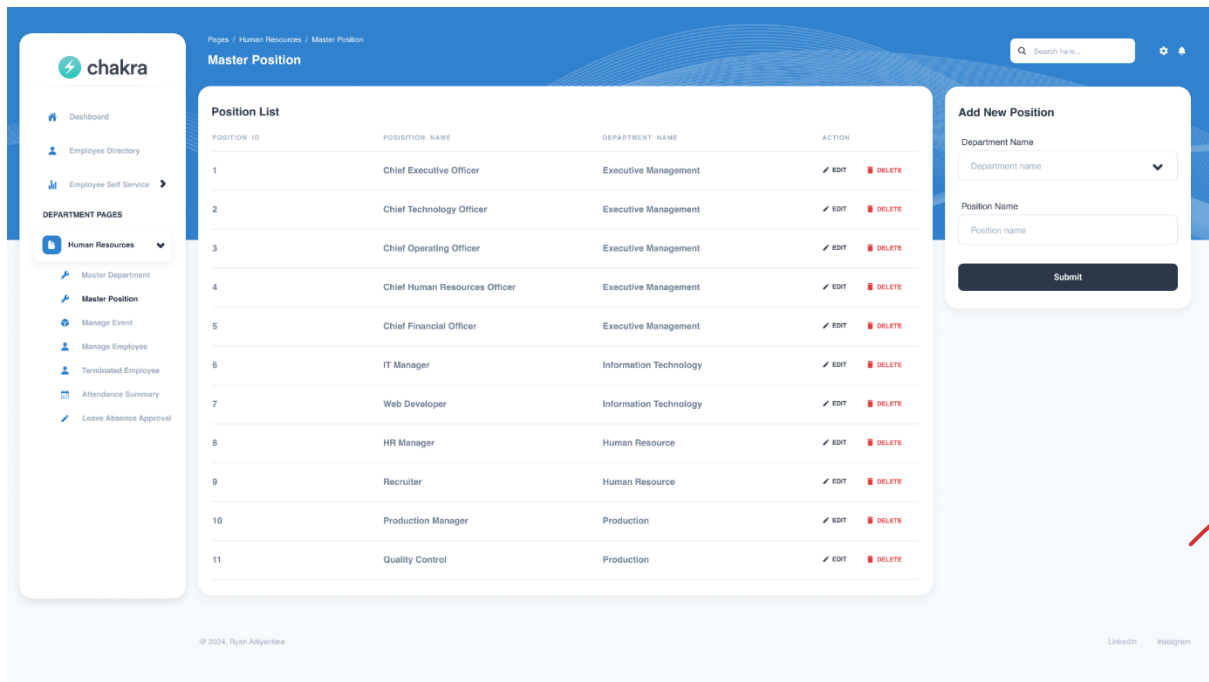


Figure 4.11 Chakra Human Resources - Master Positions

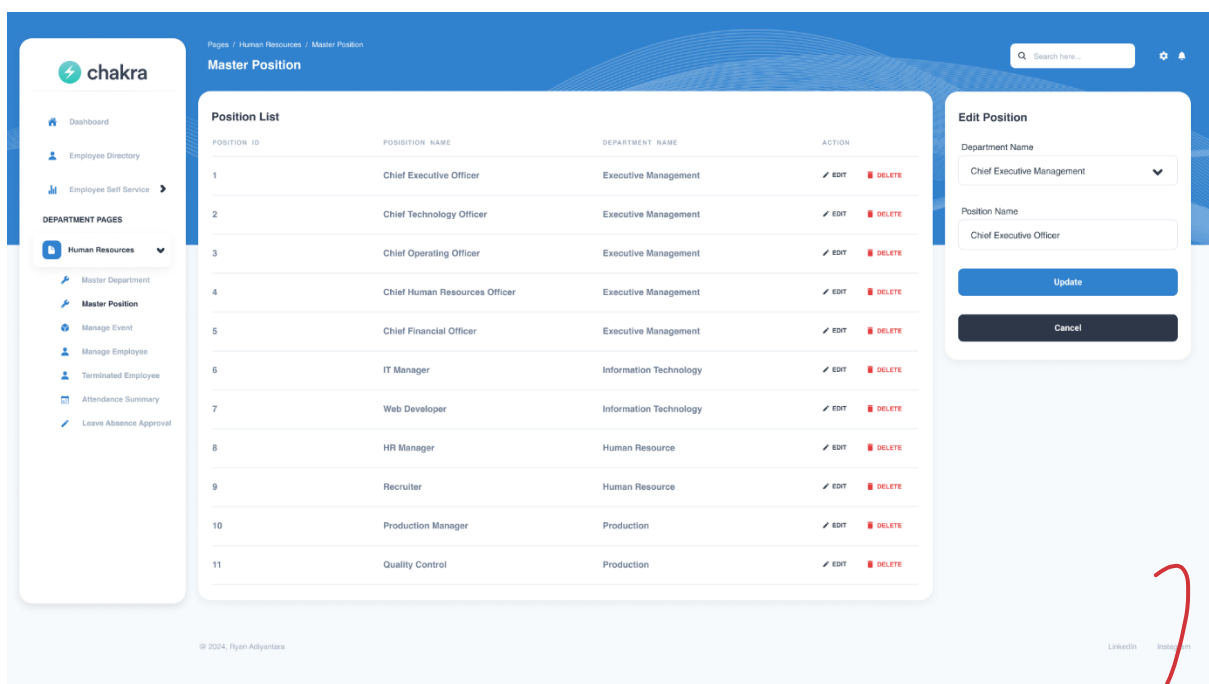


Figure 4.12 Chakra Human Resources - Master Positions Update

explain

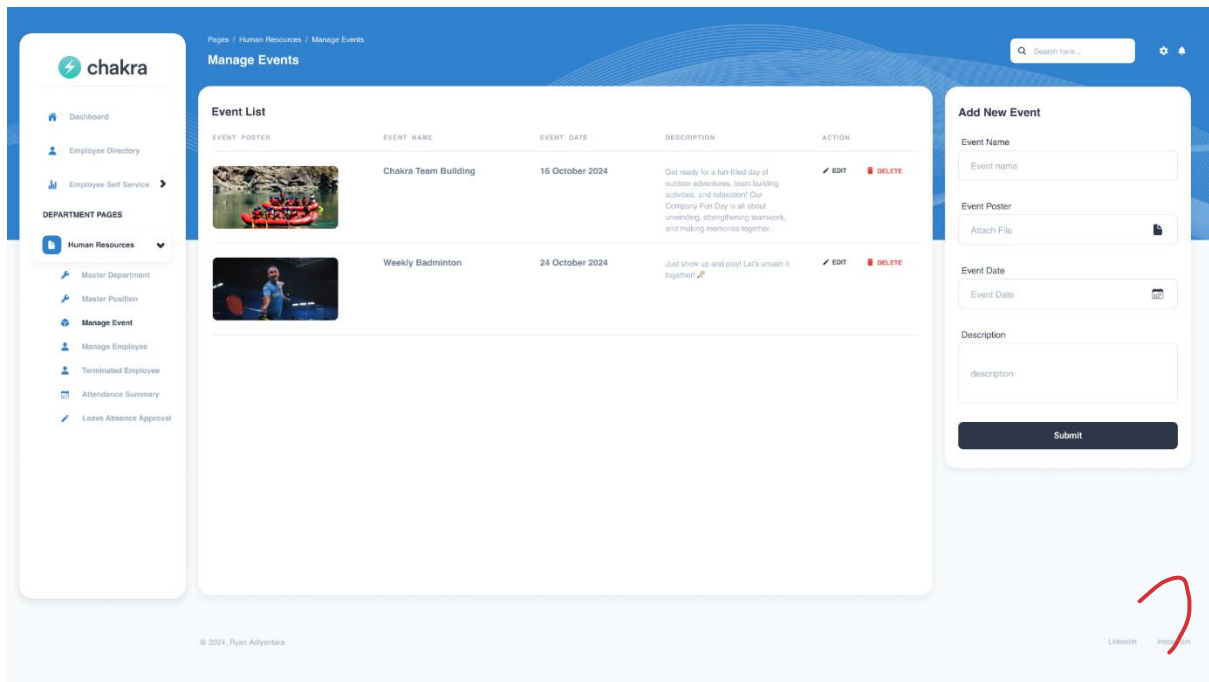


Figure 4.13 Chakra Human Resources - Manage Event

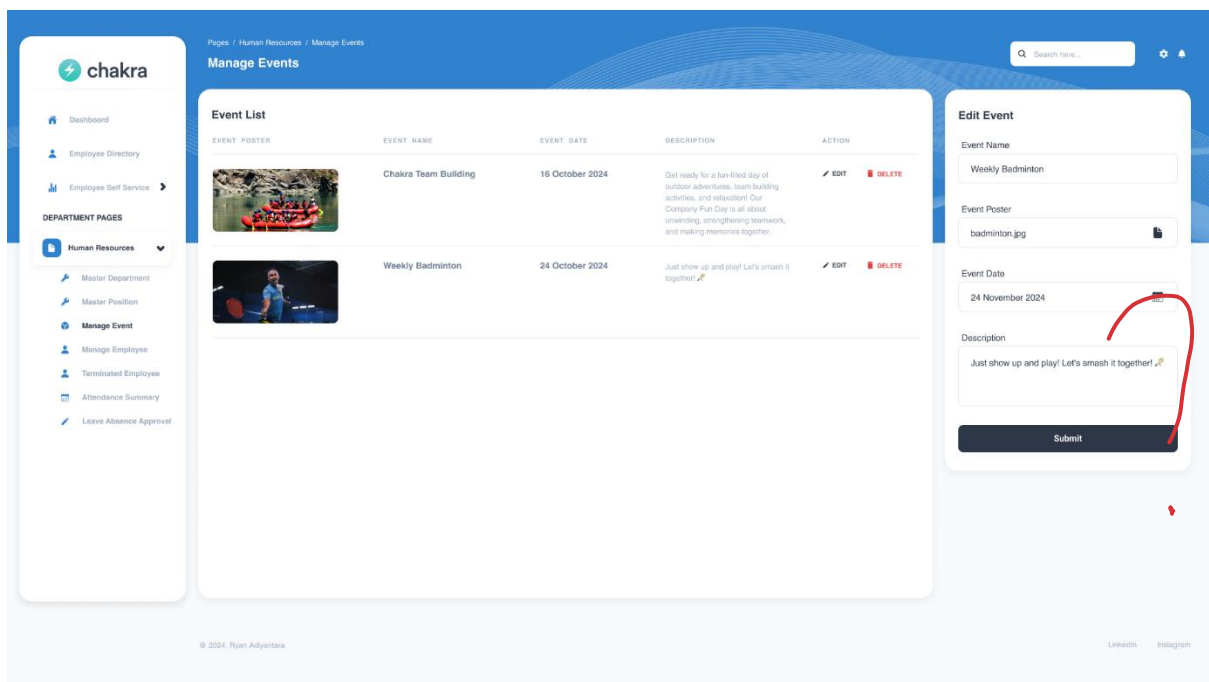


Figure 4.14 Chakra Human Resources - Manage Event Update

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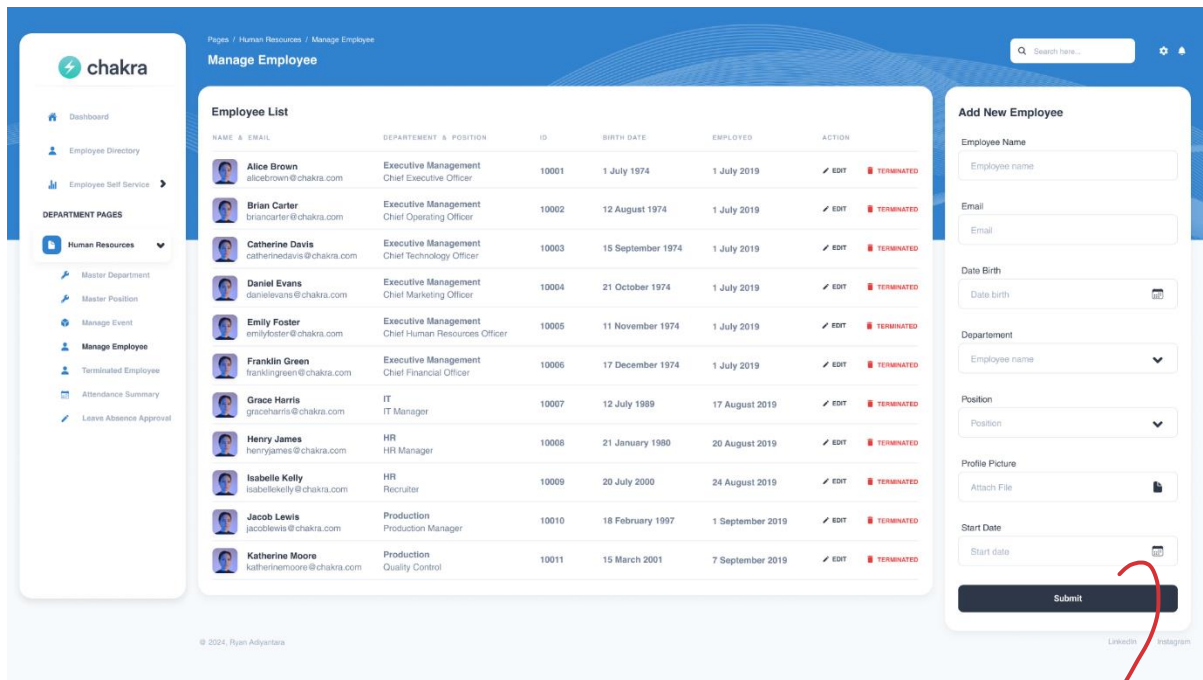


Figure 4.15 Chakra Human Resources - Manage Employee

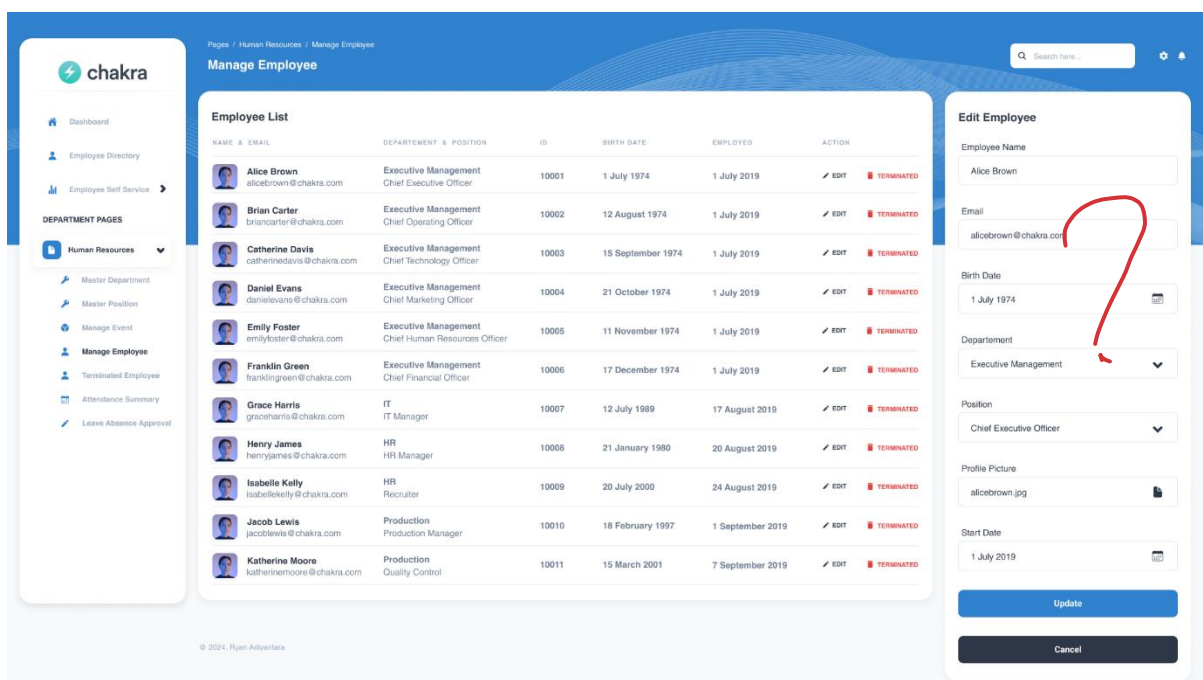


Figure 4.16 Chakra Human Resources - Manage Employee Update

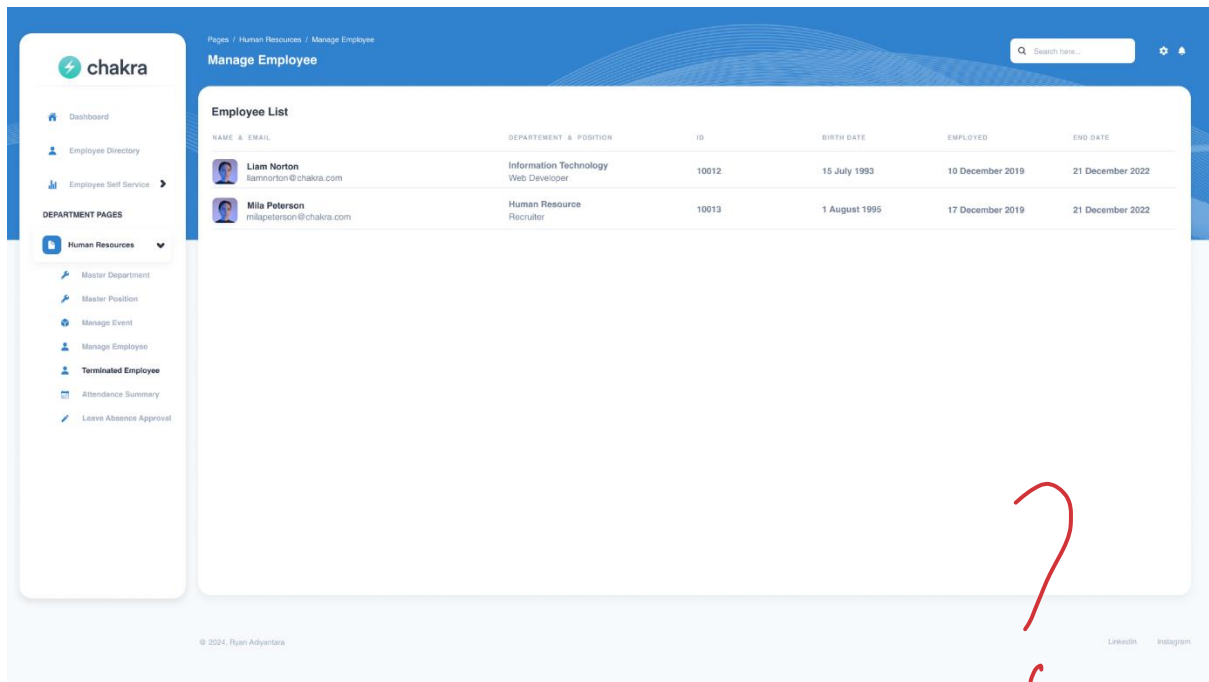


Figure 4.17 Chakra Human Resources - List Employee Terminated

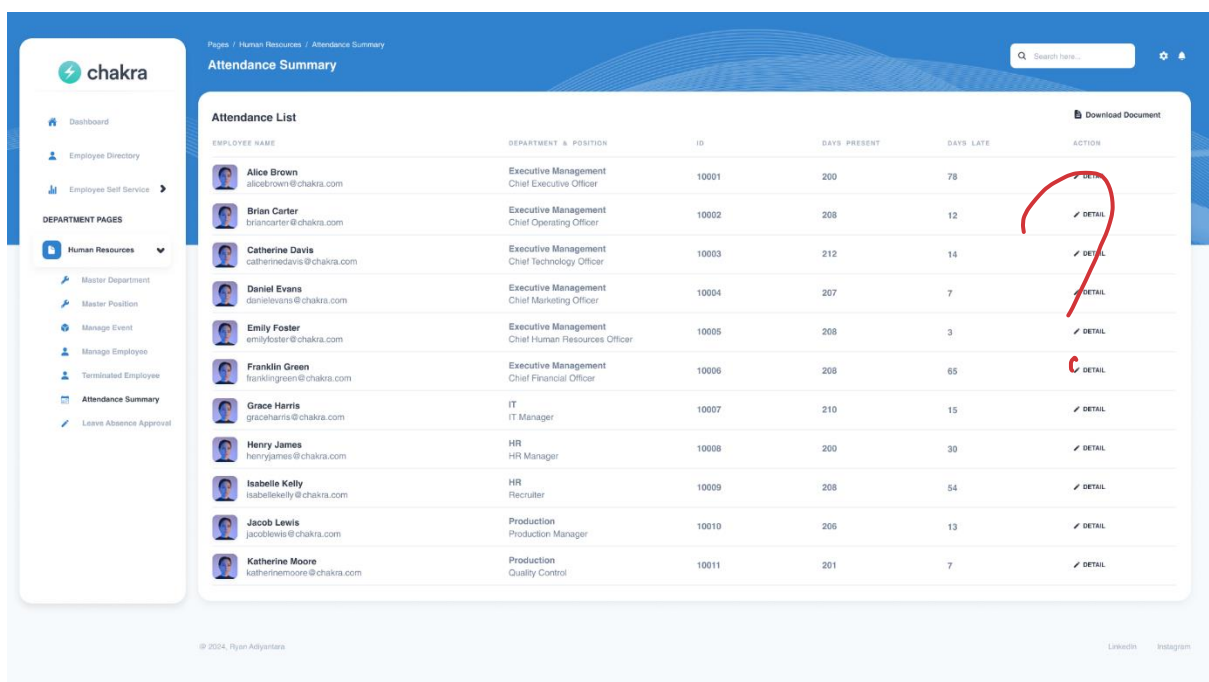


Figure 4.18 Chakra Human Resources - Attendance Summary

Dashboard

Employee Directory

Employee Self Service

DEPARTMENT PAGES

Human Resources

Master Department

Master Position

Manage Event

Manage Employee

Terminated Employee

Attendance Summary

Leave Absence Approval

Pages / Human Resources / Attendance Summary / Detail

Attendance Summary

Download Document

Attendance Detail Alice Brown

ATTENDANCE DATE	CHECK IN TIME	CHECK OUT TIME	STATUS
Friday, 25 October 2024	08:58	17:23	On Time
Thursday, 24 October 2024	09:15	17:12	Late
Wednesday, 23 October 2024	09:10	17:15	Late
Tuesday, 22 October 2024	08:55	17:02	On Time
Monday, 21 October 2024	-	-	No Data
Friday, 18 October 2024	-	-	Leave
Thursday, 17 October 2024	-	-	Leave
Wednesday, 16 October 2024	08:20	17:13	On Time
Tuesday, 15 October 2024	08:38	17:22	On Time
Monday, 14 October 2024	09:12	17:21	Late
Friday, 11 October 2024	09:05	17:05	Late

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LinkedIn

Instagram

Figure 4.19 Chakra Human Resources - Attendance Summary Detail

<div>chakra</div> <ul style="list-style-type: none"> Dashboard Employee Directory Employee Self Service DEPARTMENT PAGES <ul style="list-style-type: none"> Human Resources Master Department Master Position Manage Event Manage Employee Terminated Employee Attendance Summary Leave Absence Approval 	Pages / Human Resources / Leave Absence Approval			Search here...			
	Leave Absence Approval						
	Approval List						
	LEAVE APPLICATION ID	EMPLOYEE NAME	TYPES OF LEAVE	LEAVE DATE	ATTACHMENT	STATUS	ACTION
	LEAVE/10001/2024/3	Alice Brown	Annual Leave	10 October 2024 - 11 October 2024	-	Pending	APPROVE REJECT
	LEAVE/10011/2024/5	Katherine Moore	Sick Leave	7 October 2024 - 7 October 2024	SEE	Approved	-
	LEAVE/10008/2024/3	Henry James	Sick Leave	3 October 2024 - 4 October 2024	SEE	Approved	-
	LEAVE/10004/2024/4	Daniel Evans	Annual Leave	28 August 2024 - 30 August 2024	-	Rejected	-
	LEAVE/10011/2024/4	Katherine Moore	Sick Leave	7 August 2024 - 9 August 2024	SEE	Approved	-
	LEAVE/10001/2024/2	Alice Brown	Sick Leave	8 July 2024 - 10 July 2024	SEE	Approved	-
	LEAVE/10007/2024/2	Grace Harris	Sick Leave	1 July 2024 - 3 July 2024	SEE	Approved	-
	LEAVE/10009/2024/2	Isabelle Kelly	Annual Leave	27 June 2024 - 28 June 2024	-	Rejected	-
	LEAVE/10011/2024/3	Katherine Moore	Annual Leave	24 June 2024 - 25 June 2024	-	Approved	-

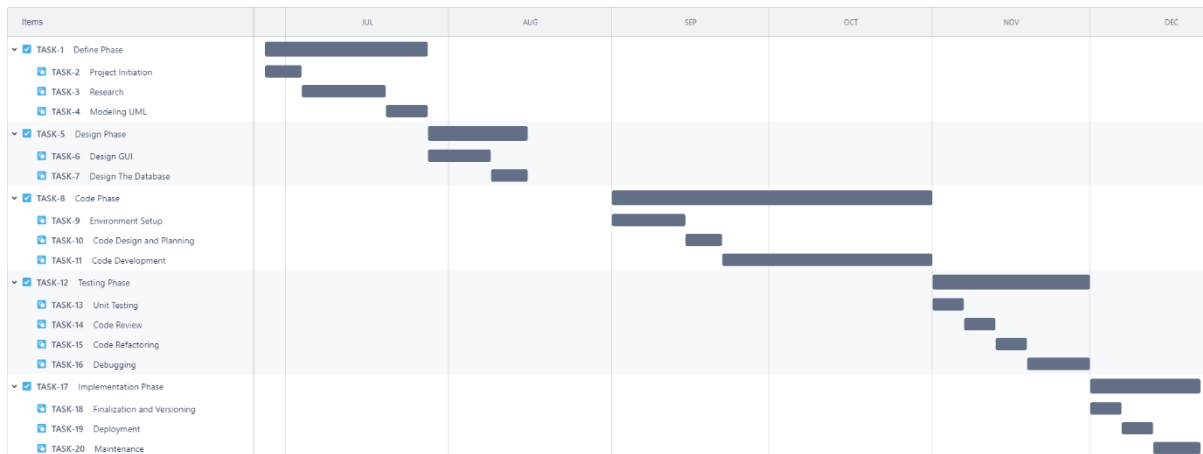
Figure 4.20 Chakra Human Resources - Leave Absence Approval

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APPENDICES

Appendix A



Appendix B

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