

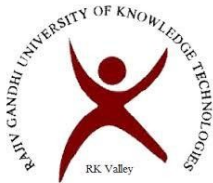
Project Report
On
Human Resource Management System
Submitted by

ID NO: R170717, Madugundu Vamsi

Under the guidance of
B Lingamurthy
(Software Engineer, RGUKT IIIT RK Valley)



Rajiv Gandhi University of Knowledge and Technologies(RGUKT),
R.K.Valley, Kadapa, Andhra Pradesh



Rajiv Gandhi University of Knowledge and Technologies(RGUKT),

R.K.Valley, Kadapa(Dist), Andhra Pradesh, 516330.

CERTIFICATE

This is to certify that the project work titled “**Human Resource Management System (Apta Hr 2.0)**” is a bonafide project work submitted by **M.Vamsi** Id: **R170717** in the department of **COMPUTER SCIENCE AND ENGINEERING** in partial fulfillment of requirements for the award of degree of Bachelor of Technology for the year **2022-2023** carried out the work under the supervision.

B. LINGAMURTHY

GUIDE

SATYANANDARAM

HEAD OF THE DEPARTMENT

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ABSTRACT

This project aims to design and develop a comprehensive “**Human Resource Management System (Aptahr 2.0)**” that will streamline the HR processes of an organization. The HRMS will be a web-based application that will automate various HR functions such as employee information management, attendance and leave management, performance management, payroll processing, and recruitment management. The system will be designed to ensure data security, accessibility, and integrity. It will also provide various reports and analytics to help the management make informed decisions. The project will be developed using the latest technologies and best practices to ensure scalability and maintainability. Overall, the HRMS will provide a user-friendly and efficient platform for managing the human resources of an organization.

INTRODUCTION

The management of human resources is a critical aspect of any organization. The traditional methods of managing employee information, attendance, payroll, and other HR functions using manual systems are not only time-consuming but also prone to errors. To streamline these processes and make them more efficient, many organizations have adopted Human Resource Management Systems (HRMS). An HRMS is a software application that combines various HR functions into a single platform, making it easier to manage the human resources of an organization. The HRMS provides several benefits, including improved data accuracy, time savings, and reduced administrative costs. This project aims to design and develop a comprehensive HRMS that will automate various HR functions and improve the efficiency of HR processes. The project will use the latest technologies and best practices to ensure scalability, maintainability, and data security. The resulting system will provide a user-friendly and efficient platform for managing the human resources of an organization.

The HRMS that will be developed in this project will be a web-based application that can be accessed from anywhere, allowing for more flexible and remote work arrangements. It will also be designed to be user-friendly, making it easy for HR staff and employees to navigate and use the system. The system will incorporate various modules to handle different HR functions, including employee information management, attendance and leave management, performance management, payroll processing, and recruitment management.

To ensure the success of this project, a thorough analysis of the organization's existing HR processes will be conducted to identify the pain points and opportunities for improvement. The requirements for the HRMS will be gathered through consultations with HR staff, management, and other stakeholders. The design and development of the HRMS will follow an iterative and agile methodology, allowing for continuous feedback and adjustments to ensure that the final system meets the requirements and expectations of the organization. The project team will comprise of experienced software developers and HR professionals who will work together to deliver a high-quality HRMS. Ultimately, the HRMS will provide a valuable tool for managing an organization's human resources, helping to improve productivity, employee satisfaction, and overall organizational performance.

PURPOSE

The purpose of this project is to develop a comprehensive Human Resource Management System (HRMS) that will automate various HR functions and streamline the HR processes of an organization. The HRMS will be designed to provide a single platform for managing employee information, attendance and leave management, performance management, payroll processing, and recruitment management.

The primary goal of the HRMS is to improve the efficiency of HR processes by reducing manual administrative tasks, eliminating errors, and providing accurate and timely HR data. The system will also improve communication between HR staff and employees, providing greater transparency and accountability. The HRMS will also provide valuable insights and analytics to help the management make informed decisions based on HR data.

The system will be designed to be scalable, user-friendly, and secure, ensuring that it can meet the current and future needs of the organization. Overall, the purpose of this project is to provide a comprehensive and efficient platform for managing the human resources of an organization, ultimately improving organizational performance and employee satisfaction.

PRELIMINARIES

JAVASCRIPT

JavaScript is a high-level, interpreted programming language commonly used for web development. It runs on the client-side of web applications and can manipulate the Document Object Model (DOM) to dynamically change the content and style of web pages. It has a rich set of built-in functions and libraries that make it easy to add interactivity and functionality to web applications. JavaScript can be used on both the client-side and server-side of web development, making it a versatile language. Overall, JavaScript is an essential part of modern web development.

REACT JS

React is a JavaScript library created by Facebook. It's the most popular library for building single-page applications and interactive user interfaces. Interestingly enough, oftentimes React is referred to as a framework. It can be used with **different libraries and tools**, such as **Mantine, Redux, or Create React App**. Doing so can allow the library to spread the wings even more.

Django

Django is a high-level Python web framework that is used for building robust, scalable, and secure web applications. It was created in 2003 by Adrian Holovaty and Simon Willison and has since become one of the most popular web frameworks in the world. Django follows the Model-View-Controller (MVC) architectural pattern, and it includes many built-in features such as an Object-Relational Mapping (ORM) system, an admin panel, and a templating engine, making it easy to develop web applications quickly. Django also has a large and active community of developers who contribute to its continuous improvement, making it a reliable and widely used framework for web development.

MYSQL

MySQL is an open-source relational database management system (RDBMS). Its name is a combination of "My", the name of co-founder Michael Widenius's daughter My and "SQL", the acronym for Structured Query Language. A relational database organizes data into one or more data tables in which data may be related to each other. These relations help structure the data. SQL is a language programmers use to create, modify and extract data from the relational database, as well as control user access to the database

TAILWIND CSS

Tailwind CSS is a utility-first CSS framework that provides a set of pre-designed and customizable CSS classes to quickly build modern user interfaces. It is known for its simplicity, flexibility, and efficiency, and it helps developers write less CSS code while improving productivity. Overall, Tailwind CSS is an excellent choice for developers who want a fast and easy way to create beautiful user interfaces.

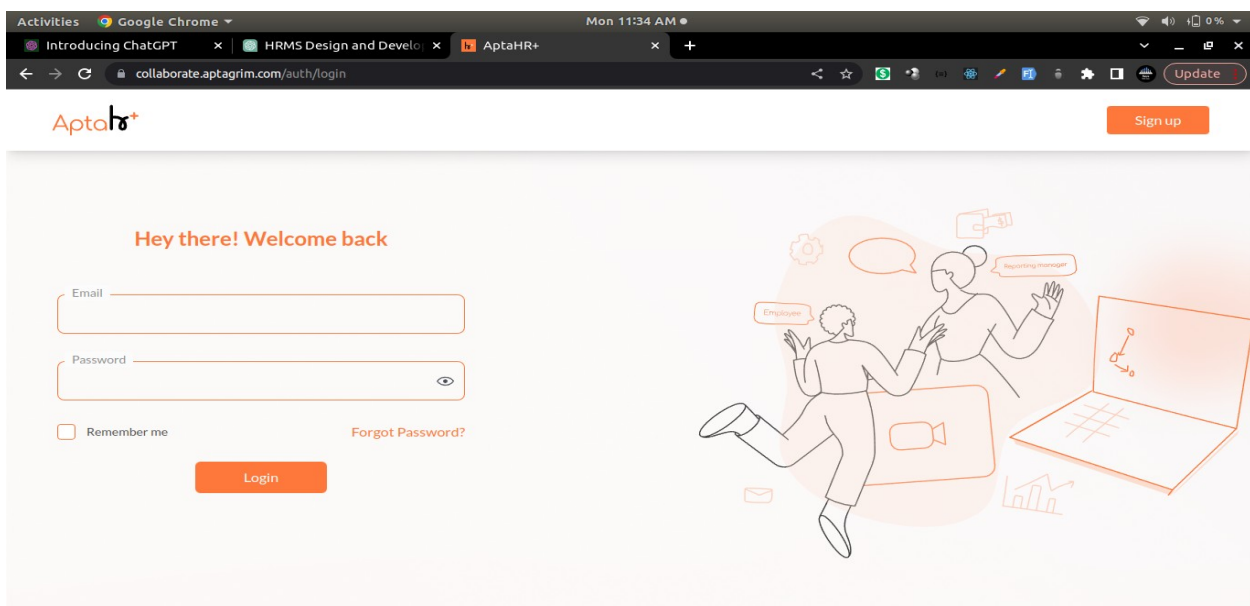
INPUT AND OUTPUT

LOGIN

The system has four types of users – Super-Admin, Sub-Admin, Admin, Employee . Each user type has its set of privileges and permissions. For example, Super-Admin can add child organizations and elect the Sub-Admins. Super-Admin will be the CEO of the organization. Super-Admin will be having the entire access of all child organisations.

Employees, on the other hand, can check their performance, leave balance, payroll, meetings etc. Dashboard will show the statistics of their work and project progress.

The login process ensures that only authorized users can access the system, and their roles and permissions are validated before granting access. Overall, the system aims to provide a seamless experience to all users, ensuring that they can perform their tasks efficiently and effectively.



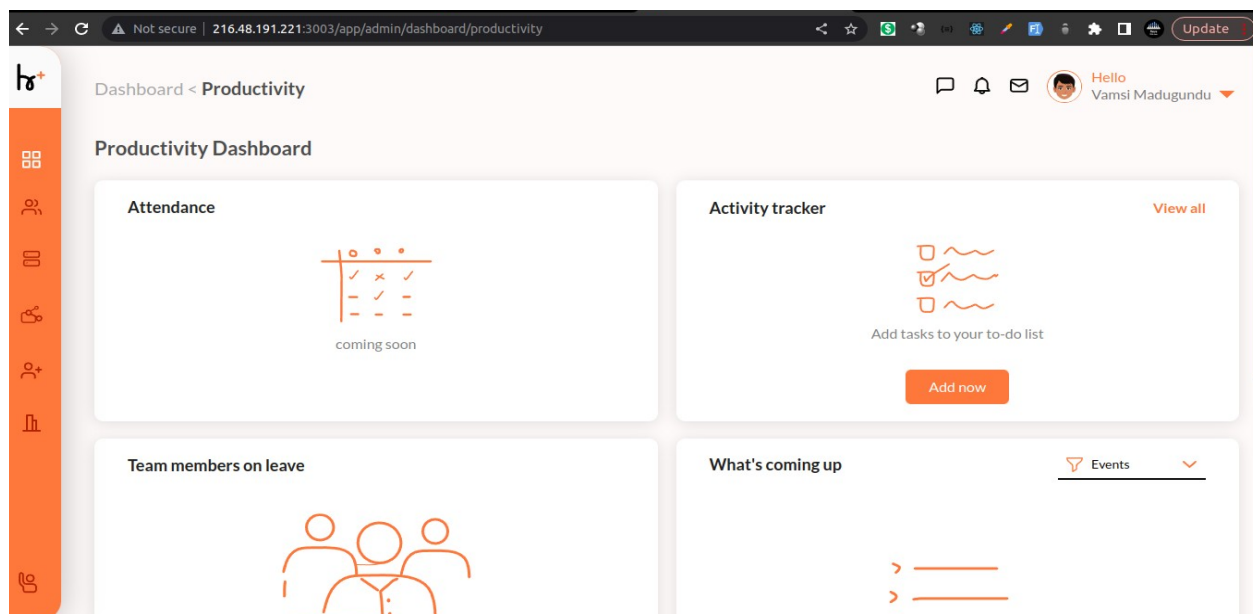
Dashboard

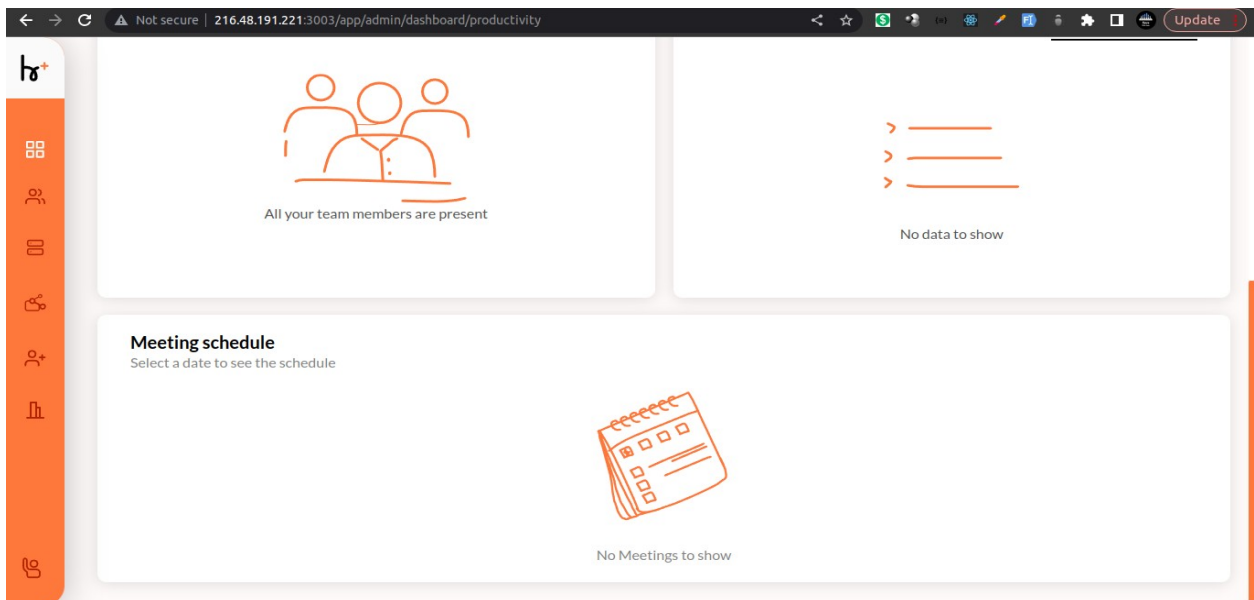
A dashboard page for a Human Resource Management System (HRMS) is a central page that provides an overview of essential HR data and metrics. The dashboard page can be designed to display information on key HR functions such as employee information management, attendance and leave management, performance management, payroll processing, and recruitment management.

The dashboard page can provide an at-a-glance view of the current status of various HR functions, such as the number of employees on leave, activity tracker ,upcoming events , scheduled meetings etc .

The design of the dashboard page should be user-friendly and intuitive, with clear visual cues and easy navigation. The page should be customizable, allowing users to configure the information and metrics displayed according to their needs and preferences.

Overall, the dashboard page for an HRMS is an essential feature that provides a centralized view of key HR data and metrics, helping to improve the efficiency and effectiveness of HR management.

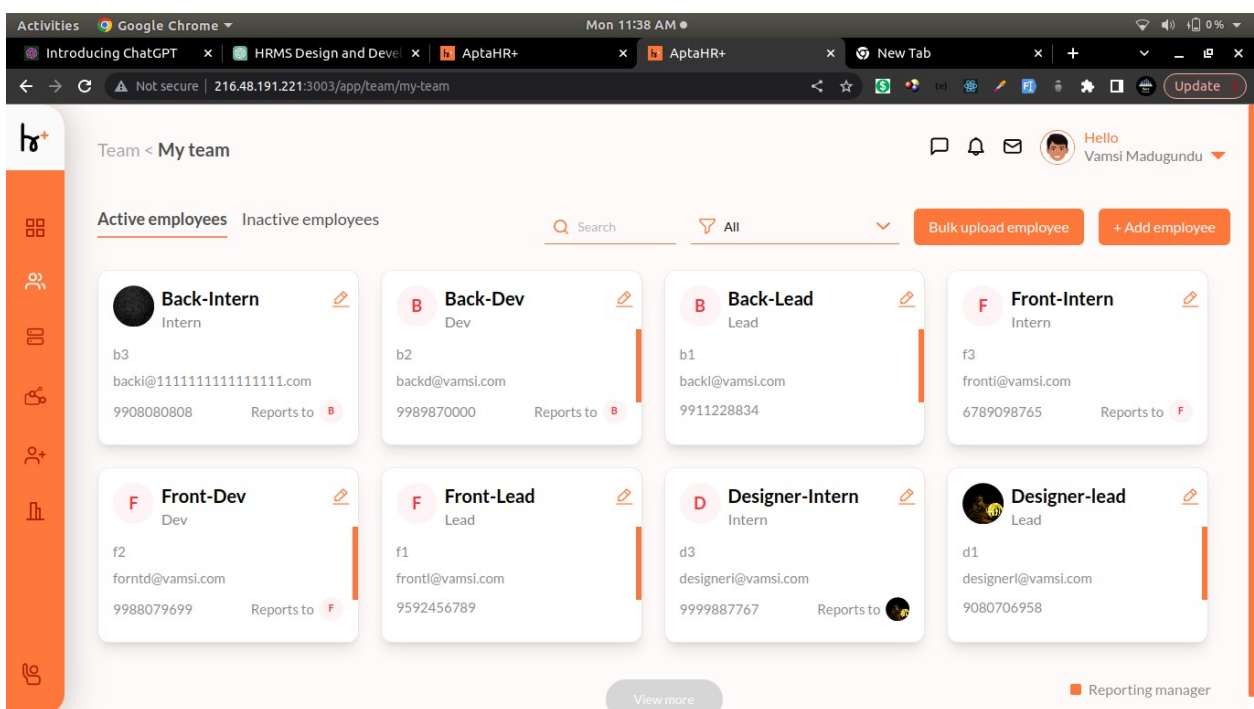




Team

The **My team** Page is only accessed for Super-Admin ,Sub-Admin and Admin users. Here they can view all their employees ie., Active and InActive employees. Not only they can view but also they can add employees.

Here we ask for detailed information about new employee. We provide two options in adding employees. Bulk Upload and add employee buttons.



Add Employee

Step 1:

To add a new employee, Admin should fill the form that contains the detailed information about that employee(s). Example employee name, email, phone number, address, date of joining, department, designation, employment type, unique employee id, grade, reports to, working days and timings .

The screenshot shows a web browser window with the URL `216.48.191.221:3003/app/team/my-team`. The browser tabs show 'Google' and 'AptHR+'. The page displays a modal form titled 'Add employee' with a progress bar indicating step 1 of 2. The form is divided into sections: 'Basic employee details' and 'Working days & timings'. The 'Basic employee details' section includes fields for Full name, Work email, Country, Contact, Gender, Date of joining, Department, Designation, Employment type, Employee ID, Grade, and Reports to. The 'Working days & timings' section includes a checkbox for 'Working hours are same in each day', a 'Select working days' dropdown, and a 'Timings' input field. The form has a 'Next' button at the bottom.

Step 2:

In this step the employee should be provided with the special permissions. Whether they can add other employees, can publish stories and rate others performance etc.

The screenshot shows the same web browser window as the previous image, but the modal form is now at step 2 of 2. The form is titled 'Add employee' and has a progress bar indicating step 2 of 2. The form is divided into sections: 'Setting permissions' and 'Working days & timings'. The 'Setting permissions' section includes three checkboxes: 'Employee can add other employees', 'Employee can review and publish blogs', and 'Employee can view and comment on performance reports'. The 'Working days & timings' section is visible but not active. The form has 'Back' and 'Save' buttons at the bottom.

Performance

In this page , Admin can create **Performance reports** and **Appraisal** for the employees by clicking on the create new button. They have to select the employee, review type and review period . Then the complete form will be displayed and need to be filled by them.

The screenshot shows a web browser window with the URL `216.48.191.221:3003/app/team/performance`. A modal titled "Create Performance Report" is displayed. It contains the following fields:

- Select Employee:** A dropdown menu with "test" selected.
- Select Review Type:** A dropdown menu with "Weekly" selected.
- Review Period:** A date range field showing "May 10, 2023 – May 17, 2023" with a calendar icon.
- Buttons:** "Discard" and "Next" buttons at the bottom.

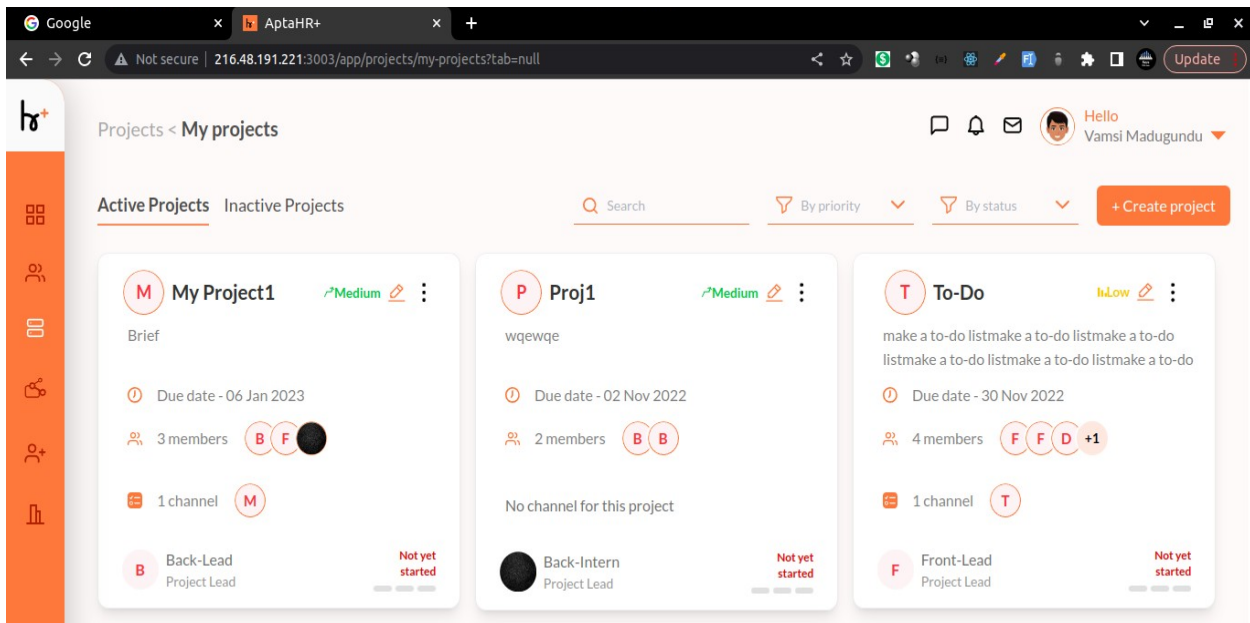
This screenshot shows the same "Create Performance Report" form, but with the "Next" button clicked, revealing the detailed rating sections. The form includes:

- Overall objective rating:** Fields for "Overall objective rating", "Weight", "Number", and "Comments (Number/100)".
- Overall behavioral assessment rating:** Fields for "Overall behavioral assessment rating", "Weight", "Number", and "Comments (Number/100)".
- Set KPI / goals for next review:** Fields for "Set KPI / goals for next review", "Type of KPI", and "Value".
- Overall performance summary:** Fields for "Overall performance summary", "Type of KPI", "Overall performance", and "Comments (Number/100)".
- Buttons:** "Save draft" and "Save & submit" buttons at the bottom.

Projects

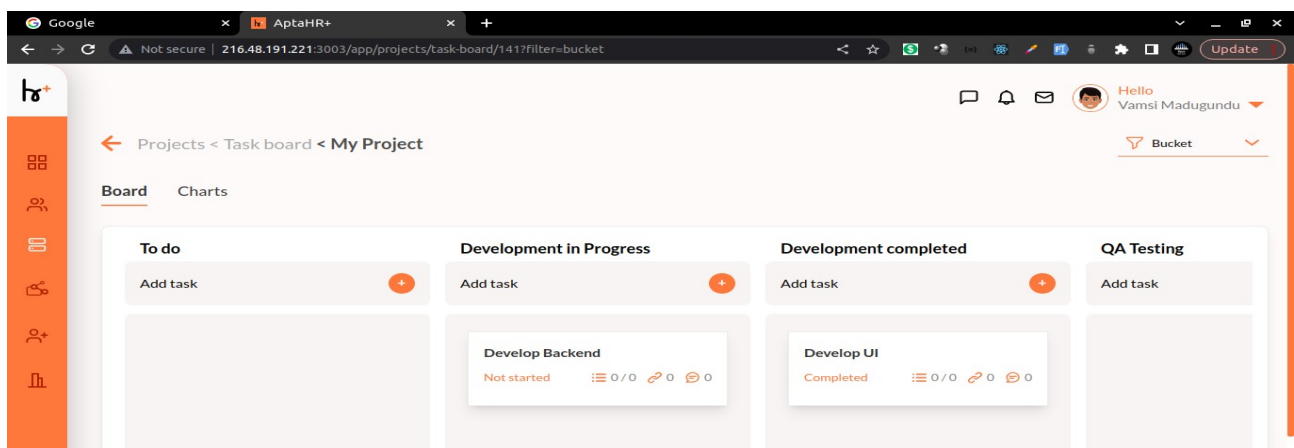
My Projects

This is the page where we can find all the projects and their status along with the team lead for the project, assignees and due date. This page is dynamically rendered based on the login account. If he is a admin then all the projects are displayed to him. If the user is reporting mannager the projects which are allocated to him are shown and same for employees too.



Task board

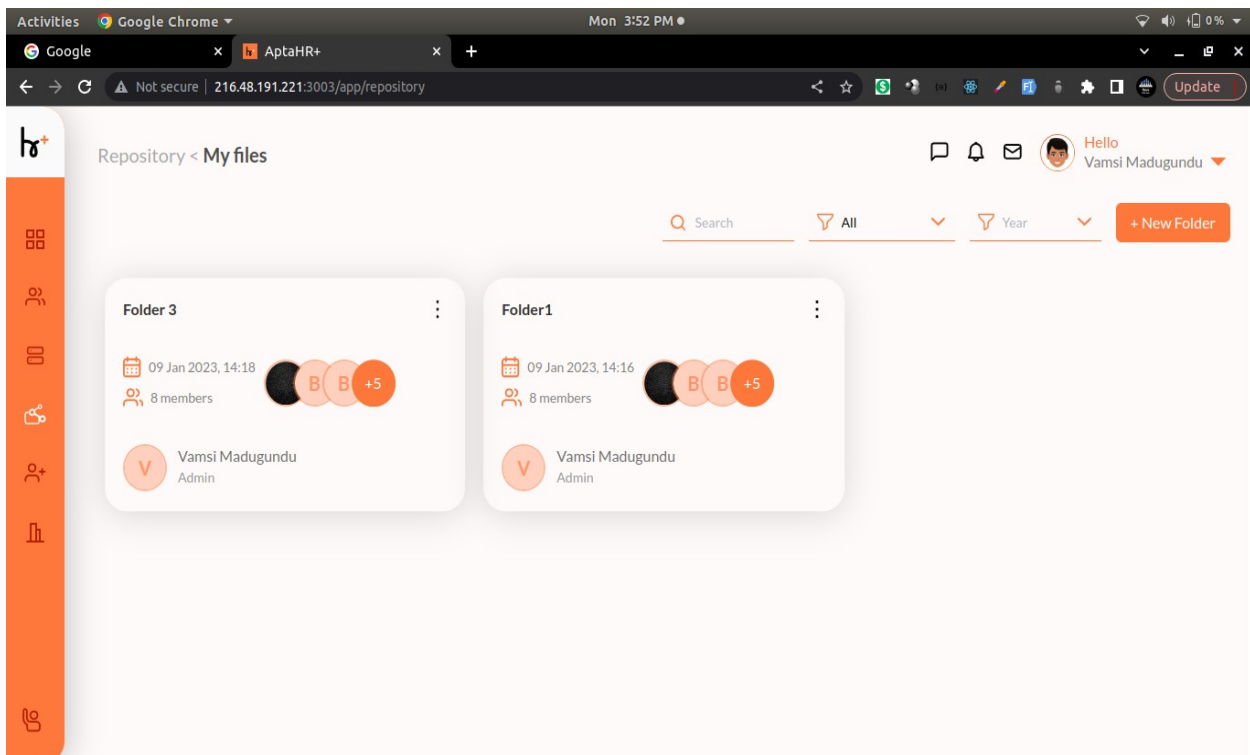
Taskboard is a place where we can track the progress of each task predominantly a project. Its inspired from the “JIRA” software. Where we are having the stages of progress like Todo, Development in Progress, Development completed, QA testing, Approved , Deployed etc,



Repository

The Repository is the external and advanced feature integrated in HRMS. This feature helps in sharing files within the organization. We can create a repository for an individual project or for a team or for personal groups. This makes the sharing of large files easy and fast. We can perform all the necessary operations like adding, deleting, copying, moving etc on a single file or group of files.

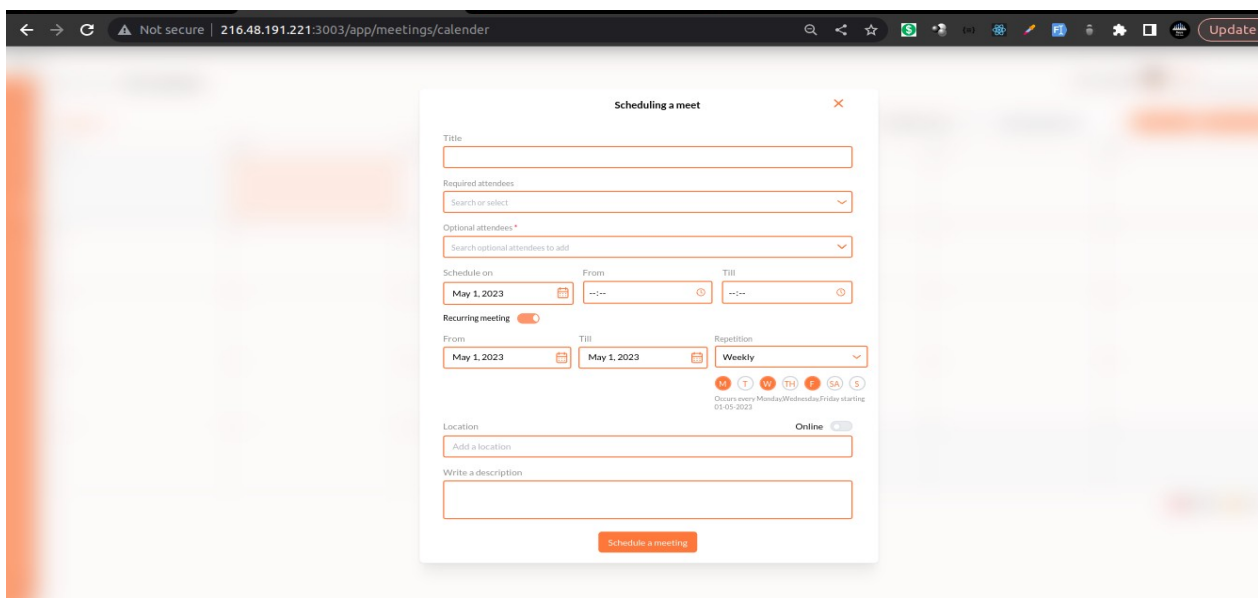
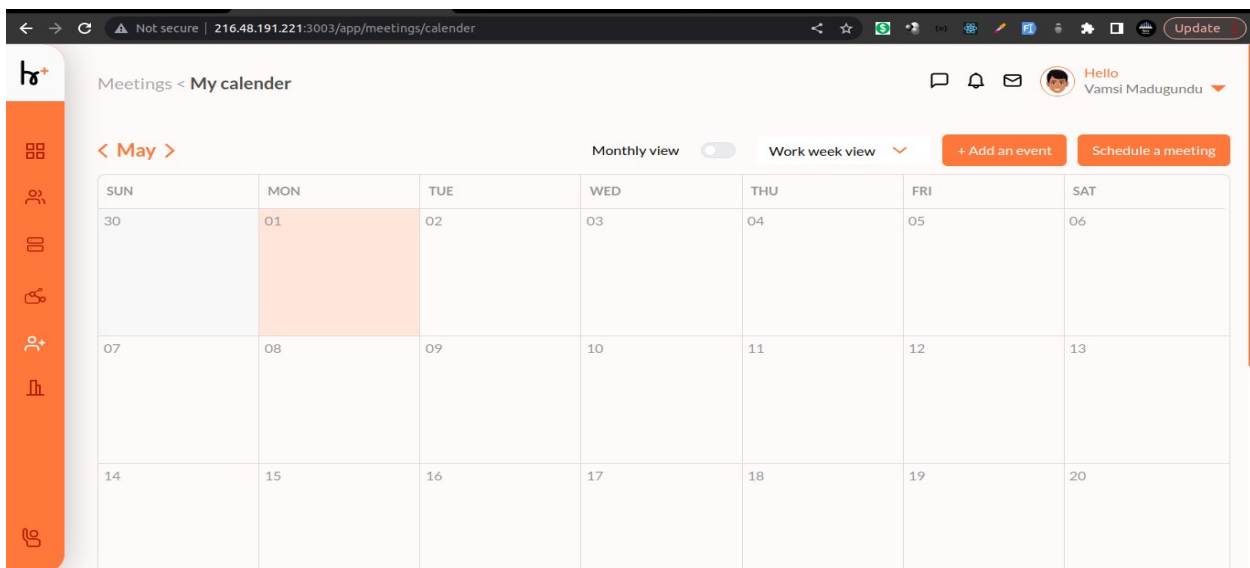
We can create a new folder by clicking on the “+New Folder” button. All the necessary filters are provided for filtering the repositories along with the search functionality. Here we display each repository as a “repository card”. Each card contains Repo name, created date, number of people associated with it and admin (who created that repo).



Meetings

Meetings play an essential role in Human Resource Management Systems (HRMS). HRMS is a software system that helps organizations manage their HR functions, including recruitment, employee records, payroll, and performance management. Meetings are an integral part of the HRMS process as they facilitate communication and collaboration between different stakeholders.

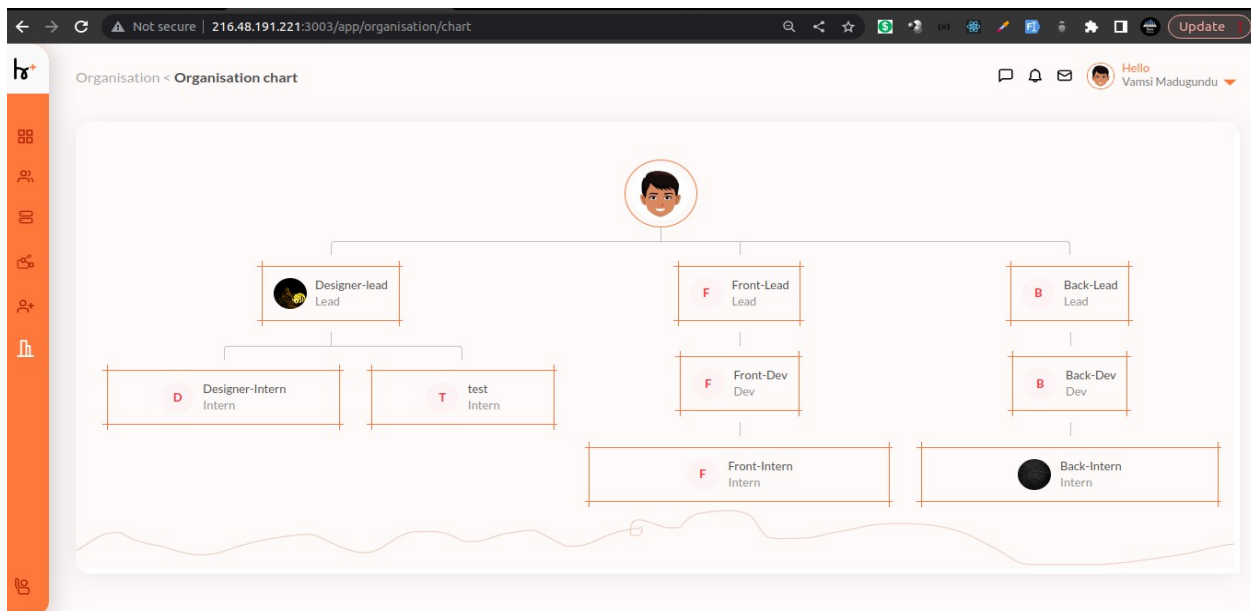
In this page we are using “**React Big Calender**” for displaying the events and meetings scheduled in the present month. Any user logged can create meeting with internal people and also with extrenal invities too. When meeting or event is scheduled e-mail is send with the invitation link attached to it. We also provide various modes of views like Work week view, Weekly view and Day view.



Organisation

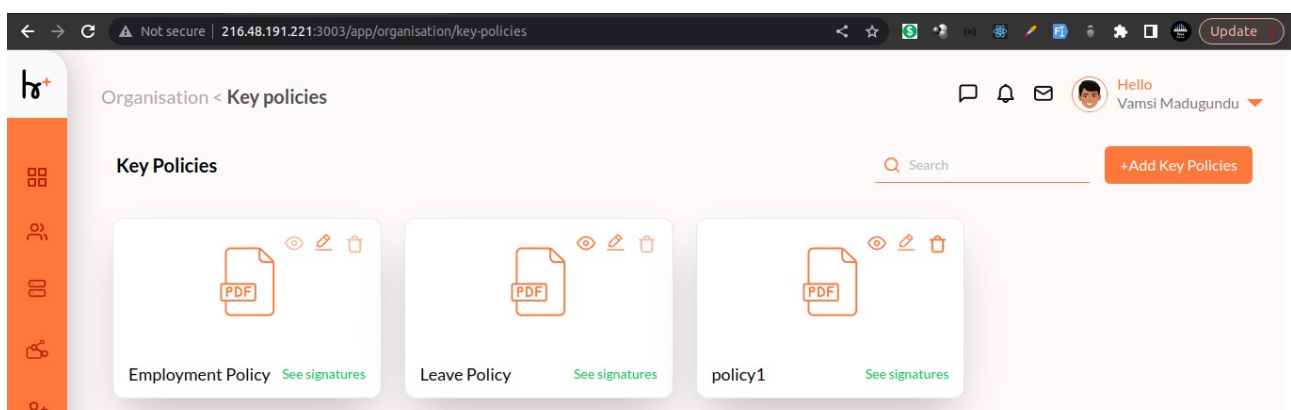
Organisation chart

Organisation chart is the visual representation of all the people working in an organisation. Organisation tree view is displayed here in the hierarchy. This page is displayed to all logged users and their profile is highlighted .



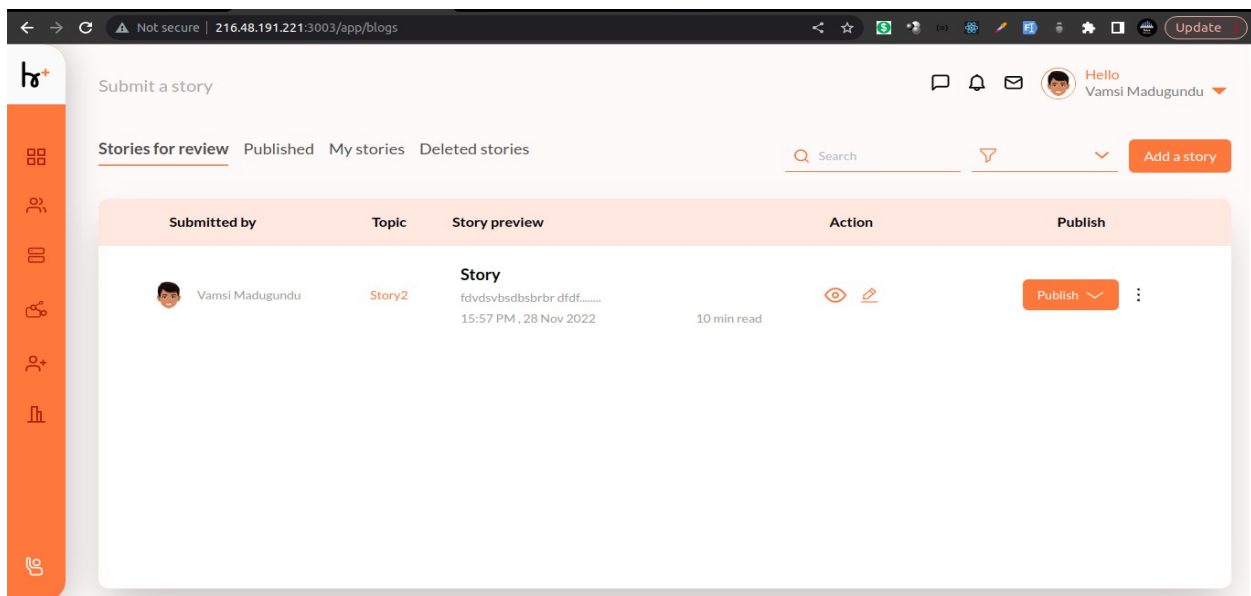
Key Policies

This page is restricted page. Only for Super admin and Sub admin can have access to this page. All the policies for an organization is maintained here. Authorities can add , modify and delete the policies. We also have option of adding concern people to a policy for example for Interns they have Internship policy and for Full-Time employees they have different policies.



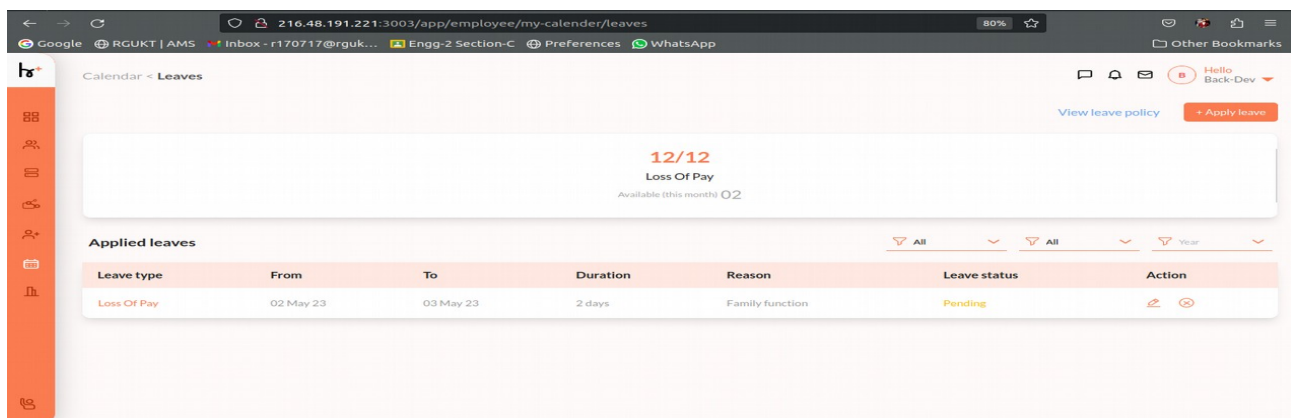
Submit a story

This is dynamically rendered page. This page looks different for different users. For Sub admin, Admin they have the power to reviewing and publishing the stories written by employees. For employees they can only write stories and request for publish. Admin will get notified and can take actions on it. For an Admin we have tabs like Stories for review, Published, My stories and Deleted stories.



Leaves

It is an important aspect of any Human Resource Management System (HRMS). An HRMS manages employee leave requests, balances, accruals, and other leave-related activities. This page will not render for Sub-admin. Here are some of the key features of leaves functionality in HRMS:



Leave Types: HRMS systems provide the flexibility to configure different types of leaves that an organization offers, such as annual leave, sick leave, personal leave, and maternity/paternity leave. The system also enables the organization to define policies around leave accrual and eligibility criteria.

Apply leave

12/12
Loss Of Pay

Leave type*
Loss Of Pay

From* To* Leave count*
May 2, 2023 May 3, 2023 2

Reason*
Family function

Apply

Leave Requests: An HRMS enables employees to submit leave requests and allows managers to approve or reject them. The system can be configured to support leave requests in different formats, such as through web-based forms, mobile applications, or email. Employees can also view their leave balances and track their leave requests in real-time.

Team < Manage leaves

New requests Processed requests

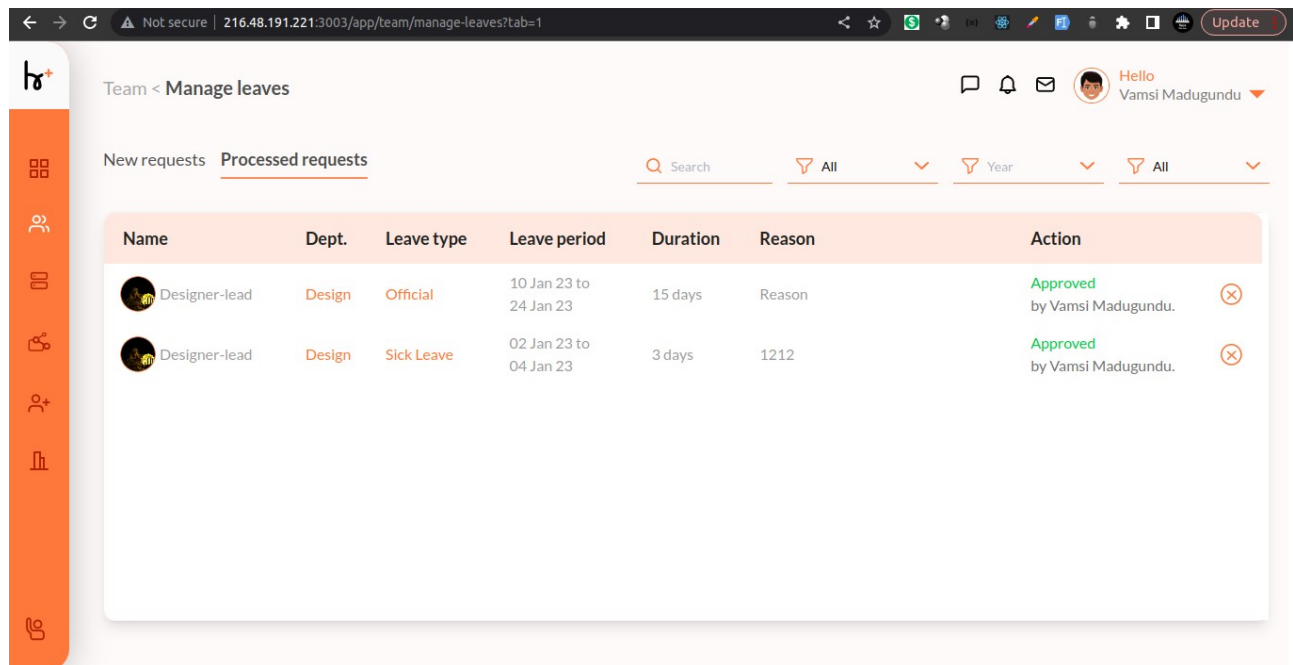
Search All Year

Name	Dept.	Leave type	Leave period	Duration	Reason	Action
B Back-Dev	Back-End	Loss Of Pay	02 May 23 to 03 May 23	2 days	Family function	✗ ✓

This page is for reporting manager

Reporting: HRMS systems generate various leave-related reports, such as leave balances, usage, and trends. These reports help managers and HR administrators monitor leave patterns and take appropriate actions.

Integration with Payroll: An HRMS can integrate with payroll systems to ensure that employee leaves are reflected accurately in their pay. The system can also automate the calculation of leave-related payroll components such as leave encashment and leave deductions.



The screenshot shows a web application interface for managing leaves. The browser address bar indicates the URL is 216.48.191.221:3003/app/team/manage-leaves?tab=1. The interface has a sidebar with icons for various HR functions. The main content area is titled 'Team < Manage leaves' and shows a user profile for 'Hello Vamsi Madugundu'. Below the title, there are tabs for 'New requests' and 'Processed requests', with 'Processed requests' being the active tab. A search bar and filter options (All, Year, All) are present. The table below lists processed leave requests with columns for Name, Dept., Leave type, Leave period, Duration, Reason, and Action.

Name	Dept.	Leave type	Leave period	Duration	Reason	Action
Designer-lead	Design	Official	10 Jan 23 to 24 Jan 23	15 days	Reason	Approved by Vamsi Madugundu.
Designer-lead	Design	Sick Leave	02 Jan 23 to 04 Jan 23	3 days	1212	Approved by Vamsi Madugundu.

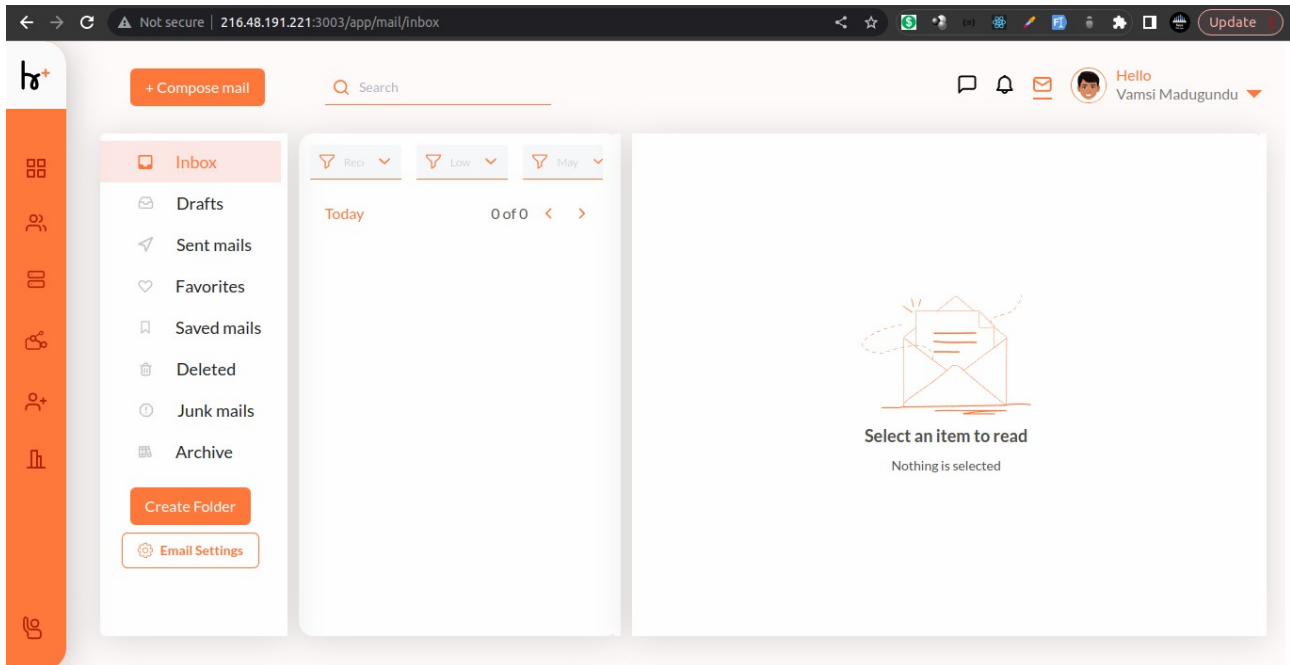
Compliance: HRMS systems help organizations comply with legal requirements around leave policies. The system can track various compliance requirements such as mandatory leave entitlements, leave documentation, and record-keeping.

Miscellaneous

Emails

An emails section in an HRMS system is a critical tool for efficient and effective communication between the HR department – employees and employee - employee. It streamlines the communication process, reduces paperwork, ensures confidentiality, and provides tracking and reporting features. An effective emails section can improve employee engagement, increase productivity, and promote a positive workplace culture.

For this application, we took the help of **Cloud team** to create a **mail server** for composing mails with custom domain. We are using **SMTP** for sending and receiving mails. We developed all the critical functionalities for smooth working of full-fledged mails section. He can reply, forward, reply all, mark as read, add favourites, add to archive, delete, pin mails etc. He also can add custom folders.

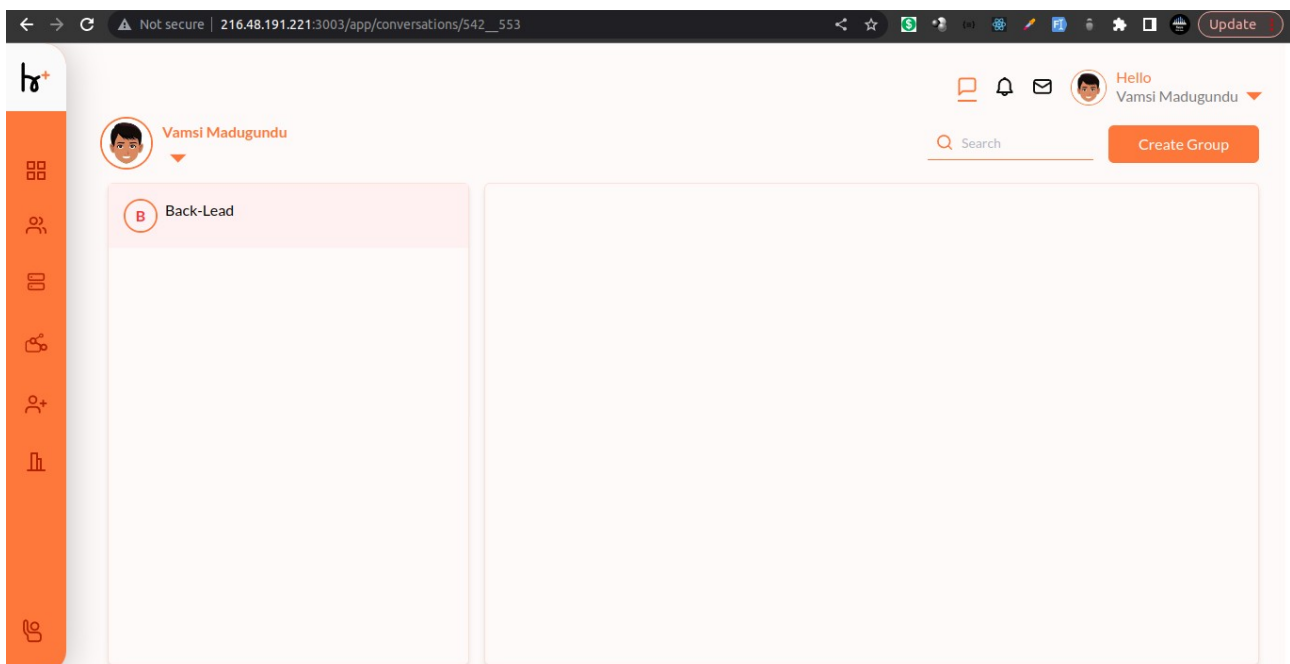


Chat

Chat functionality is an essential component of modern Human Resource Management Systems (HRMS). HRMS with chat functionality allows HR personnel to communicate quickly with employees in real-time. It provides a secure and convenient way to communicate with employees, improve collaboration, and provide support. Here are some of the key features of chat functionality in an HRMS:

1. **Real-time Communication:** HRMS with chat functionality provides employees with real-time communication with HR personnel. This enables employees to get quick answers to their questions and concerns, which can improve their productivity and engagement.

2. **Multi-Channel Support:** Chat functionality in an HRMS can support multiple communication channels, including web-based chat, mobile chat, and desktop chat. This flexibility enables employees to choose the channel that best suits their needs and preferences.
3. **Secure Messaging:** HRMS with chat functionality provides a secure messaging platform that ensures employee data remains private and confidential. The system can use encryption and other security measures to protect sensitive employee data.
4. **Chatbot Integration:** Chat functionality in an HRMS can be integrated with chatbots. Chatbots can automate responses to frequently asked questions, reducing the workload on HR personnel and improving response times.
5. **File Sharing:** HRMS with chat functionality enables file sharing between HR personnel and employees. This allows HR personnel to share documents and information with employees quickly and easily, improving collaboration and reducing the need for email communication.
6. **Audit Trail:** HRMS with chat functionality provides an audit trail that tracks all communications between HR personnel and employees. This provides transparency and accountability, ensuring that all communication is recorded and can be retrieved if necessary.



CONCLUSION

In conclusion, implementing a **Human Resource Management System (HRMS)** is a significant step towards improving the efficiency and effectiveness of an organization's HR functions. An HRMS system provides a centralized database to manage employee data, automates routine tasks, and streamlines HR processes.

Through this project, we have explored the various features and functionalities of an HRMS system, such as the employee profile management, attendance tracking, leave management, performance management, email section, chat functionality, and more.

By implementing an HRMS system, organizations can benefit from increased accuracy and efficiency in HR processes, improved compliance with labor laws and regulations, enhanced employee engagement and satisfaction, and better decision-making based on data analytics.

It is essential to choose an HRMS system that is scalable, customizable, and secure to meet the organization's unique needs and requirements. The success of an HRMS project also depends on the effective communication and collaboration between the HR team and the IT department.

Overall, an HRMS system can significantly improve an organization's HR functions, making it a valuable investment that can lead to long-term benefits.

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