

WEB-BASED EMPLOYEE MANAGEMENT SYSTEM

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This Report Presented in Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science in Computer Science and Engineering

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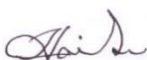
DHAKA, BANGLADESH

DECEMBER 2022

APPROVAL

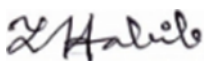
This Project titled “**Web-based Employee Management System**”, submitted by **Sanjeda Akter Oyshi** bearing ID 181-15-10578 and **Sk Sharmin Beenty Amin** bearing ID 181-15-11225 to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 5 January, 2022.

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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Dewan Mamun Raza, Senior Lecturer**, Department of CSE, Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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ACKNOWLEDGEMENT

First we express our heartiest thanks and gratefulness to almighty God for His divine blessing makes us possible to complete the final year project/internship successfully.

We really grateful and wish our profound our indebtedness to **Dewan Mamum Raza, Senior Lecturer**, Department of CSE Daffodil International University, Dhaka. Deep Knowledge & keen interest of our supervisor in the field of “*Web Development*” to carry out this project. His endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior drafts and correcting them at all stage have made it possible to complete this project.

We would like to express our heartiest gratitude to **Dr. Touhid Bhuiyan, Professor** and Head, Department of CSE, for his kind help to finish our project and also to other faculty member and the staff of CSE department of Daffodil International University.

We would like to thank our entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, we must acknowledge with due respect the constant support and patients of our parents.

ABSTRACT

Nowadays technology is everywhere. All of our manual works are getting advanced day by day for technology. So, for the better use of technology, our teams are interested to develop a web-based Employee Management system that can be used in a company or organization. To manage a company correctly there should be some shortcuts. Employee management system is that kind of shortcut which will help a company or organization to manage its employee in a better way. Employees are the backbone of any company therefore their management plays a major role in deciding the success of an organization. Employees Management Software makes it easy for the employer to keep track of all records. This software allows the administrator to edit employees, add new employees, promote/terminate employees. Most of all, the employer can assign tasks to employees and assess their progress in order to keep track of employee performance. A flexible and easy to use Employee Management system solution for small and medium sized companies provides modules for personnel information management thereby organization and companies are able to manage the crucial organization asset people. It is simple to understand and can be used by anyone who is not even familiar with simple employees' system. This system is user friendly and just asks the user to follow step by step operations by giving easy to follow options. It is fast and can perform many operations for a company. The goal of this project is to design and develop an employee management system to fill existing gaps in the electronic management of employees. And this paper discusses the proposed system, an overview of the design and its implementation.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Employee Management System is a distributed system, developed to maintain the details of employees working in any organization. It maintains the information about the personal details of their employees, also the details about the payroll system which enable to generate the pay slip [1]. This system is specially developed for companies and organizations. In the employee management system, you can manage admin activities in an easier and quicker way. Employees are an important part of your organization it is their work that ultimately contributes to the bottom line of the company [3]. It is an important part of HR management. It also helps to employee engagement and employee retention brings down costs and increases productivity. In such a day of technology, we have to do a lot of work manually. But through the internet, we can solve those issues very easily. In this system there are two panel, one is admin panel and another is employee panel. For example, if an employee needs leave, he has to call his boss to inform him. But with our system, employee will be able to inform his/her boss by this system. There are many other features in this system. Employees and admin panel can connect via real time chat in this system. There is attendance system, payroll system. Admin panel can give task or reports to employees and in the same way employee will submit his/her task or reports and will submit it to the admin panel. Admin panel/manager can monitor employees. Admin/employees can download their daily, weekly or monthly report. Manager can promote or demote employees. Employee Management system is an application that enables users to create and store Employee Records. This application is helpful to department of the organization which maintains data of employees related to an organization. In this world of growing technologies everything has been computerized. With large number of works opportunities, the Human workforce has increased. Thus, there is a need of a system which can handle the data of such a large number of Employees in an organization. This project simplifies the task of maintain records because of its user-friendly nature.

1.2 Motivation

- No more manual attendance.
- Keep employee's information safe
- Better Use of Technology.
- Easy Management [10].
- Payroll facility.
- Performance management
- Improve workforce management
- User friendly interface.
- Real time chat
- Notifications

1.3 Objective

- Developed a web-based Employee management system is our main goal.
- This project aims to simplify the task of maintaining records of the employees of Company.
- To develop a well-designed database to store employee information
- This system is a totally online-based management system.
- Provides full functional reports to management of Company.
- This is a demo project. Any kind of company and organizations can use this project.
- Modernize Employee Management system.

1.4 Expected Outcome

- Create a good environment in Bangladeshi company and organizations.
- Less manual work.
- Increased good employee service.
- Improved employee satisfaction and quality.
- Employees can use the resources for the new system.
- Employees will be able to do this kind of activity digitally.

1.5 Project Management and Finance

There will be an admin who will manage the whole system. This is a non-profitable system. If an entrepreneur wants, he can make a good financial profit from here. Admin will be able to manage all the activities of this project very easily.

1.6 Report Layout

Chapter 2: In this chapter, we are going to give an overall idea of our project along with a discussion about the current situation of this kind of service.

Chapter 3: Here, we provide diagrams based on the project.

Chapter 4: Here, we present our Front-end Design and Back-end Design. And details about implementation requirements.

Chapter 5: Here, we discuss the database implementation of our project. And also, this project test result.

Chapter 6: Provide a future plan for this project. And discuss the update of our developments.

CHAPTER 2

BACKGROUND

2.1 Preliminaries/Terminologies

Technology is in our hands nowadays. Every employee owns a smartphone or computer and they also have an email address. Besides, company or organizations provide a unique email address for their employees. Employees will log in through their official email address so that we can detect the employee is not outside of our company. It will be very difficult for us if random people register to our system. In this chapter, we are going to give an overall idea of our project along with a discussion about the current situation of this kind of service.

2.2 Related Works

Some examples of the Employee management system related to our project are given below:

N.I Biz Soft:

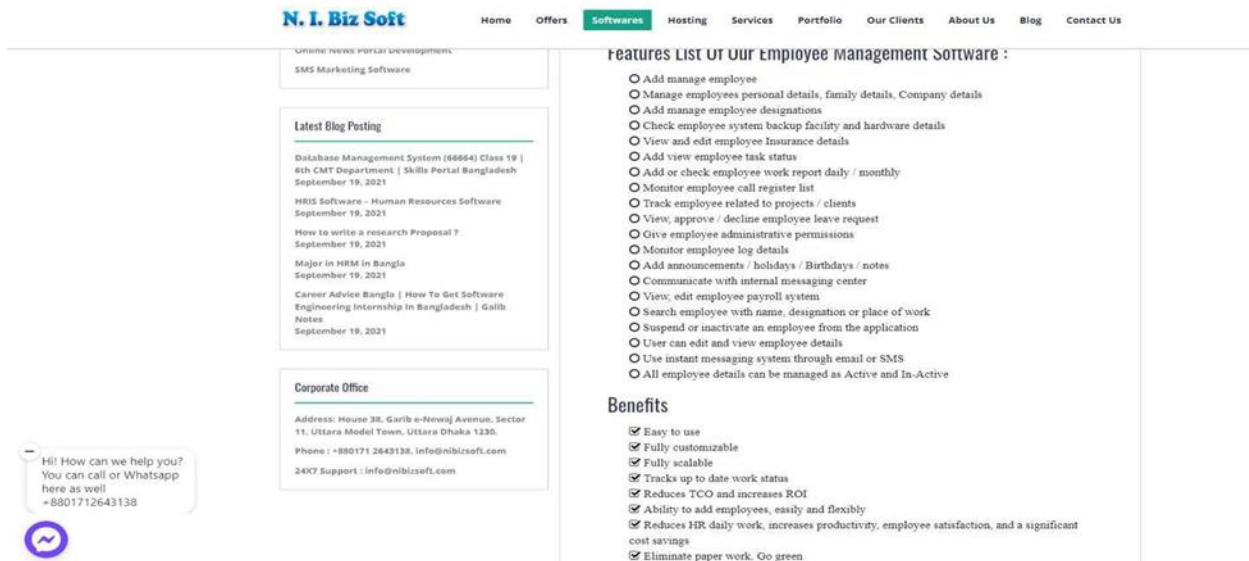


Figure 2.2.1: N.I Biz Soft

As we all know that N.I Biz Soft is a leading software company located in Dhaka, Bangladesh. N.I Biz Soft provides software facilities all over the country. They provide multi featured software [2]. They also have a unique Employee management system. They have all the features that an Employee management system should have. That's where the difference between service and services. We have some other features which they don't have like attendance system and real time chat system. These features are really necessary for an Employee management system. That's why we developed this project so that companies or organizations can have a better service and a better employee management system.

Smart Software Limited:

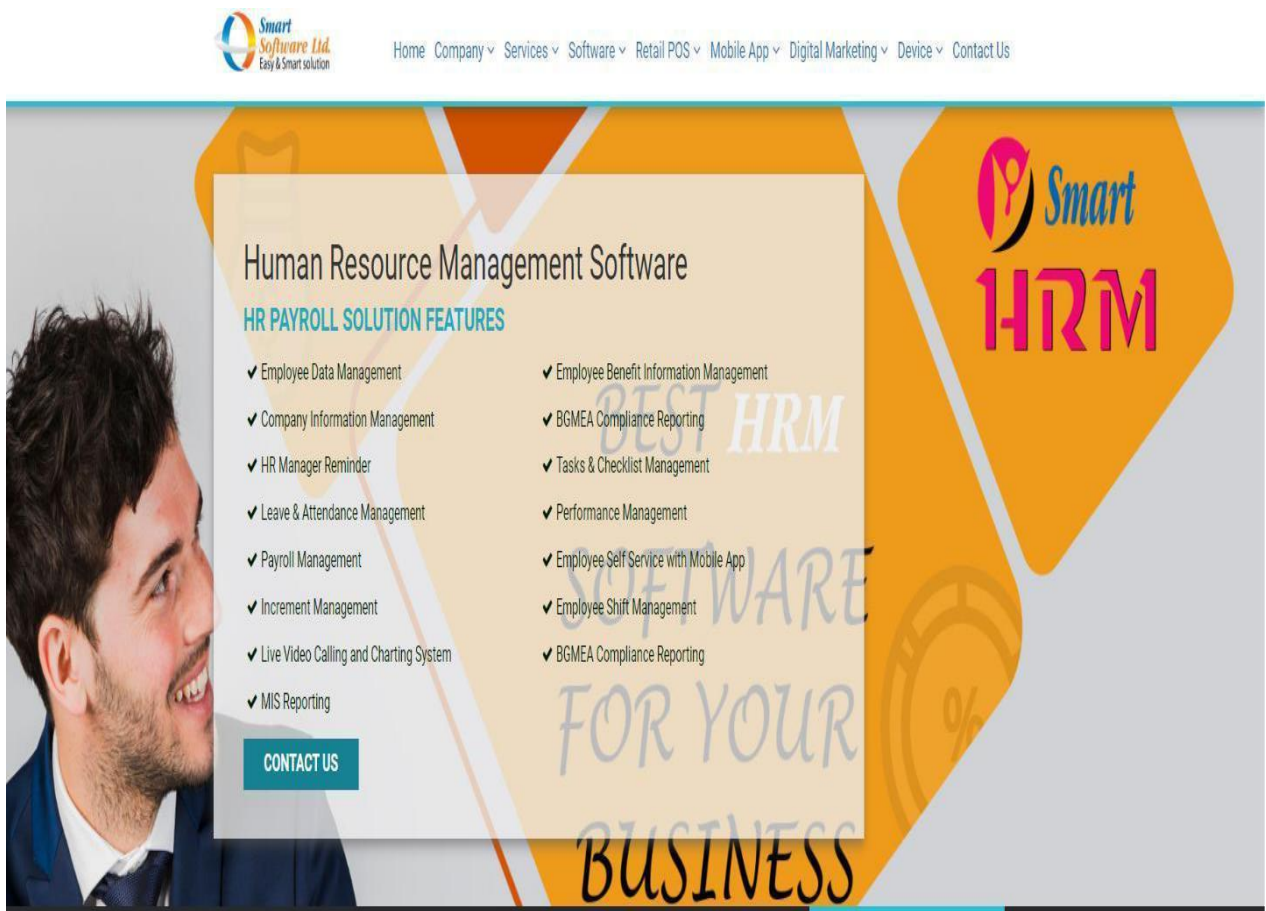


Figure 2.2.2: Smart Software Limited

We all know that what HR Management software is. We also know that Employee Management system is a part of HR Management system. But there are many similarities. Smart software limited is a leading software company of Bangladesh [5]. They have one of the best HR Management system. But our project is little bit different to them. There are 70% plus similarities in features with them. Their main differences are our project is not about HR management System. We are fully focused On Employee Management system. And they don't have that level of features in employee Management system which we have.

PiHR:

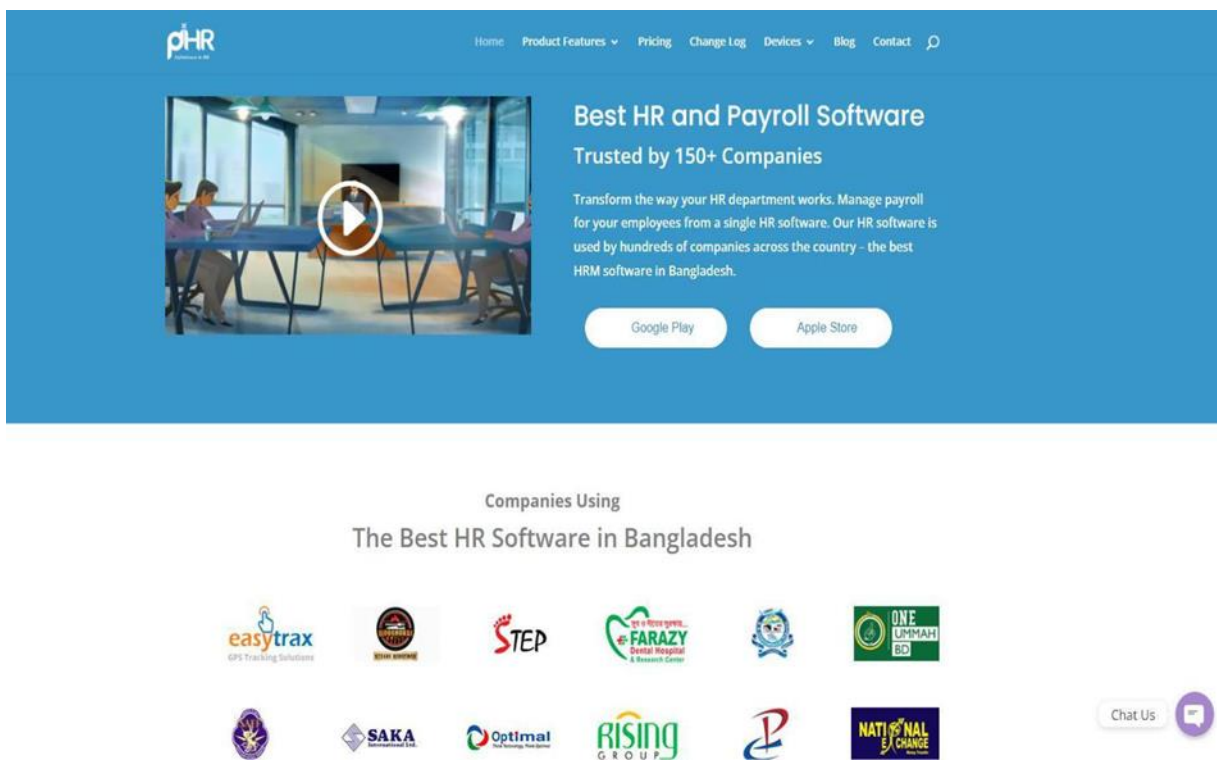


Figure: 2.2.3 PiHR

PiHR provides this type of facilities related to our project. But we have some differences. We provide digital attendance system along with real time chat system, report and file sharing system. And we can assure that we have better user-friendly interface than others.

2.3 Comparative Analysis

Our service will be a demo type of project. Any kind of company or organizations can use this system. Other services have limited features. We provide attendance system, payroll system, leave management, real-time chat system and performance management at the same time. Employee can submit documents or files and small-sized and also, they can take full advantage of this system. This system will reduce employee's tension.

2.4 Scope of the problem

The scope of the problem is given below:

- Other services don't apply digital attendance system.
- Most of the services cannot make any improvement
- And these services can't find a way to handle the system in the shortest time.
- No other Employee management system is working in an open world project.
- Others don't have real time chat system.

2.5 Challenges

One has to face many challenges to develop any project. Similarly, we have had to face various challenges to create the project. We have tried to develop a user-friendly system.

The challenges we have faced are discussed below:

We don't know how our system going to react with a lot of users.

- Highly Competitive Industry - There are a lot of employee management system around us. As our system is an open world project, we are thinking big and we are hopeful that we can overcome this challenge.
- Responding to their needs - responding to customer's needs is essential to survive in the business.
- Keeping Employees Updated – Employees will have to update their profiles time to time. We will try our best to make them realize that we have respect for their trust.
- At the very beginning, it will be a web-based project. And there is no Android application.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Modeling

BPMN model provides several notations to describe the business process in more detail. By this business processing model, the organizer & admin panel can maintain and easily understood the overall strategy of this system. Organizers can improve process communication. Increased their control & consistency. And also, operational efficiency. In this model, there is 2 actors. Admin, employee.

3.2 Requirement Collection and Analysis

There are two parts to our project. Manager's End and Employee's End.

Employees End:

Any Web Browser (Chrome/Firefox Considered Best)

- Operating System:
- Android or Windows
- Internet connection
- Employee's email address
- Employee's phone number

Managers End:

- Any Web Browser (Chrome/Firefox Considered Best)
- Operating System: Android or Window
- Internet Connection

3.3 Use Case Modeling and Description

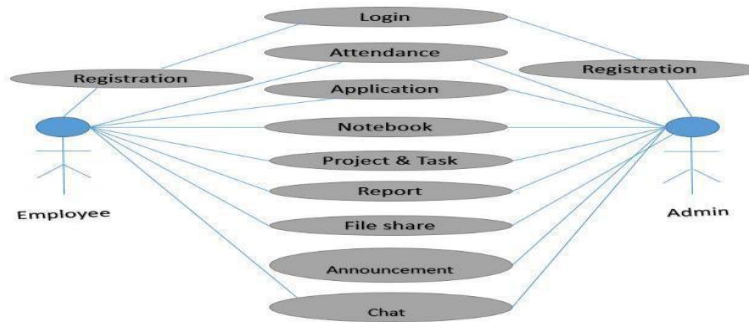


Figure: 3.3.1
Use case
diagram

Figure: 3.3.1: Use case diagram

Here is the use case model of our system. In this diagram, we have shown the working process. At first, the employee will register to the website. If they are already registered then they will login to the website. After successfully logged in then can see their dashboard. IN the dashboard sections there are many options like attendance, application, notebook, report, file share, chat system and many other things. Admin also have these facilities too.

3.3 Design Requirement

- User Friendly: Everyone can use this website so easily. Because this website's interface is so user friendly & smooth.
- Interface: This website should run on any version of the Android operating system.
- Efficient
- Responsiveness

CHAPTER 4

DESIGN SPECIFICATION

4.1 Front-end Design

Front-end of Employee Management System:

This is our Employee Management system ho. This is a responsive website. We tried to make it simple and user-friendly. We use HTML, CSS, bootstrap, and JavaScript for the front-end.

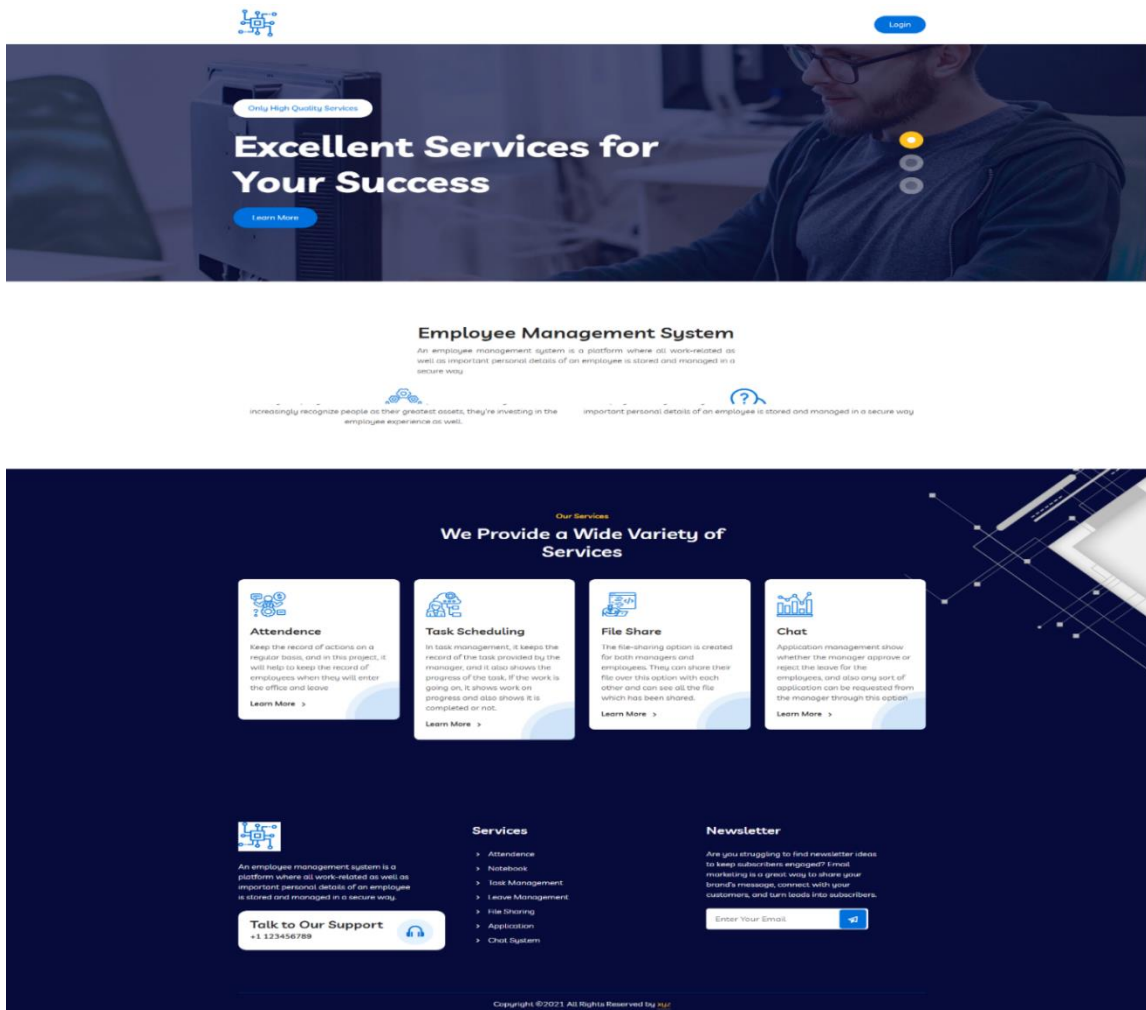
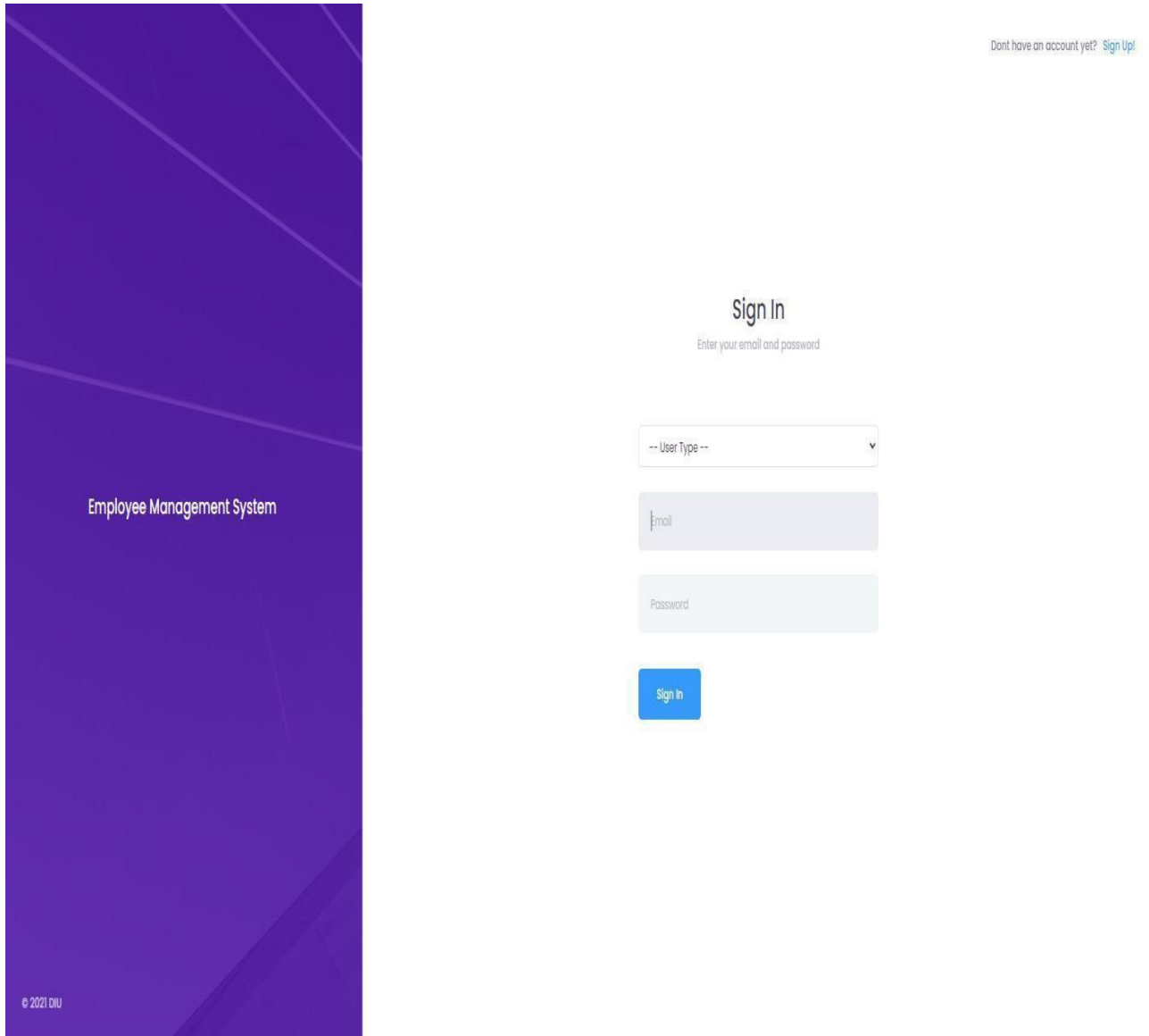


Figure 4.1.1 Front-end design

Login Page:

If you are an old user then you will login to the website. Then the website will take them to the user panel. Where they can give their attendances, chat in real time, monitor the tasks, can create report, can request for an application and many more.



The image shows a login page for an Employee Management System. The page has a purple background with the text "Employee Management System" in the center. In the top right corner, there is a link that says "Don't have an account yet? Sign Up!". The main content area is white and contains the following elements:

- The text "Sign In" in a large font.
- The instruction "Enter your email and password" below the "Sign In" text.
- A dropdown menu with the text "-- User Type --" and a downward arrow.
- An input field for "Email" with a placeholder text "Email".
- An input field for "Password" with a placeholder text "Password".
- A blue button labeled "Sign In".

At the bottom left of the purple background, there is a small copyright notice: "© 2021 DIU".

Figure 4.1.2: Login page

Signup Page:

This is our signup page. If you are a new user then you have to sign up. After login website will take them to the user panel.

already have an account? [Sign In!](#)

Sign Up

Enter your details to create your account

Full Name

Email

Password

Confirm Password

Choose File No file chosen

I Agree the terms and conditions

© 2021 DIU [Contact](#)

Figure 4.1.3 Signup page

User Panel:

Users will see this page after logged in. Here, we can see there are many options. They can give their attendance and they can create an application direct to their leader. There is a notebook system for reminder purpose. In the project and task section they can see what projects are pending and how many projects are delivered which is created by their manager. In the report section they can submit any kind of project or normal report direct to their leader. There is also a file sharing system where they can share files between each and every people of this system. And finally, in the chat option they can chat in real time.

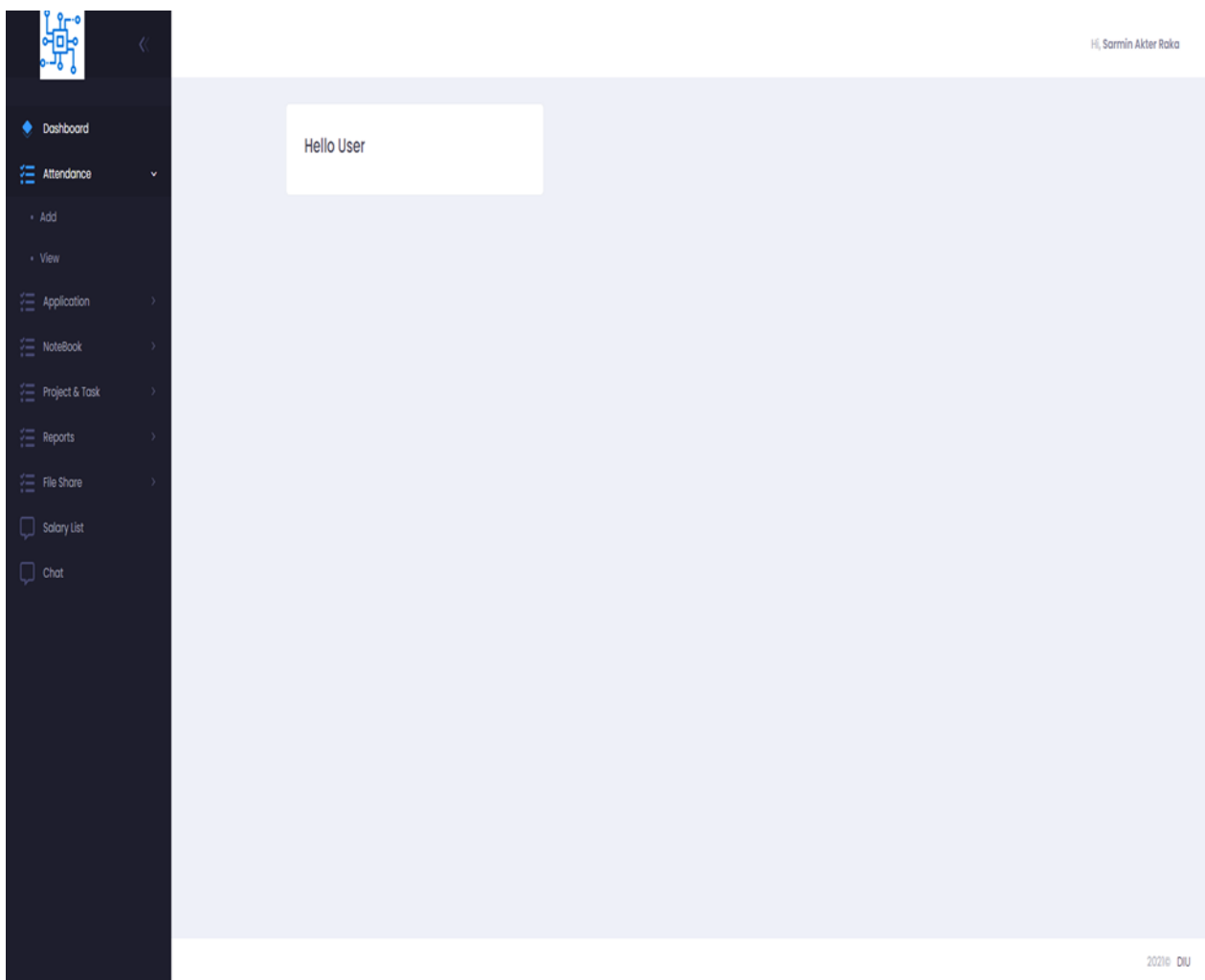


Figure 4.1.4 User panel

4.2 Back-end Design

Admin panel:

This is the admin panel of our website. As we can see there is many options.

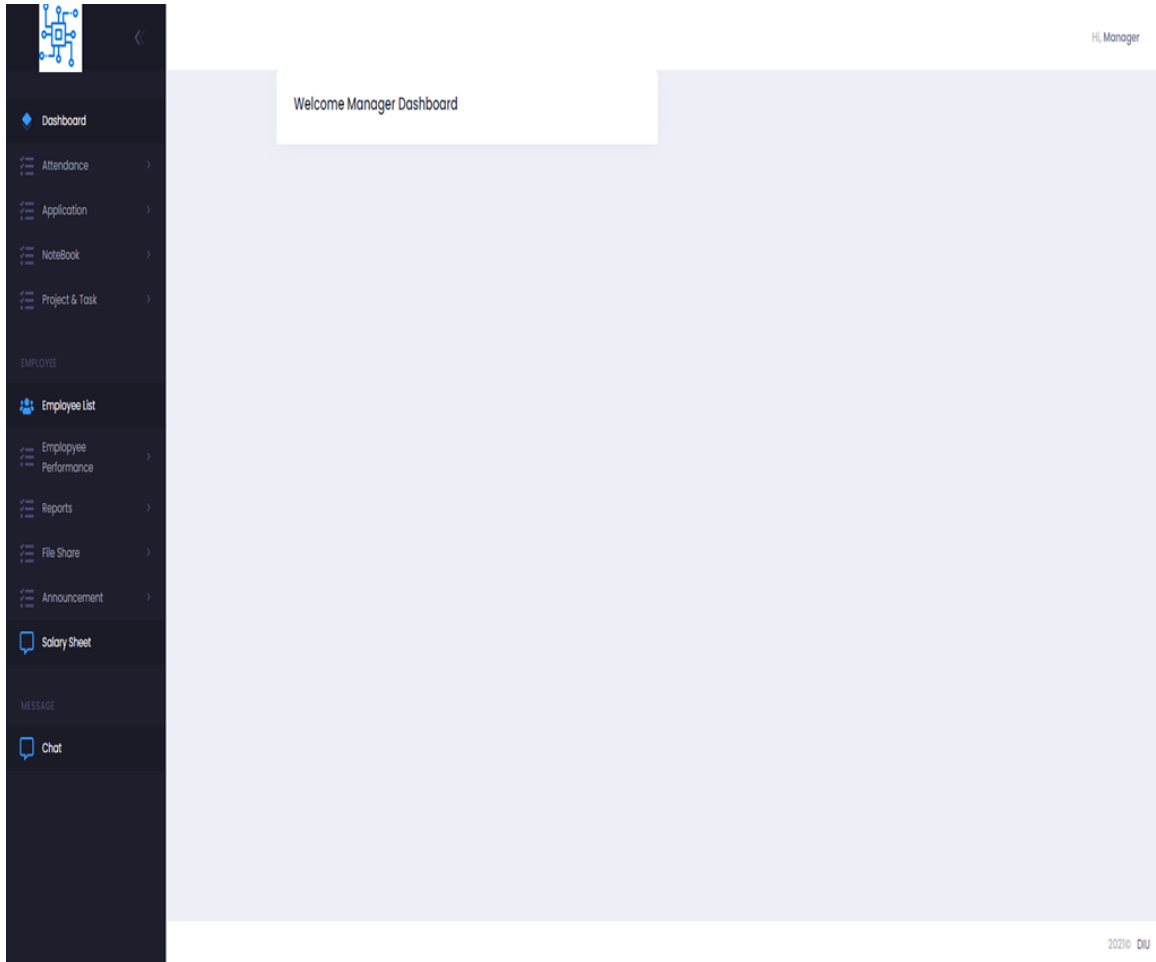


Figure 4.2.1 Admin Panel

Admin can see the dashboard where all kinds of information will be provided like how many users are there in the website. How many tasks are pending, how many tasks are completed, how many orders are pending and how many orders are left to be delivered? He also can see the employee lists. He will be able to see the requests created by the user.

Admin Panel task creation:

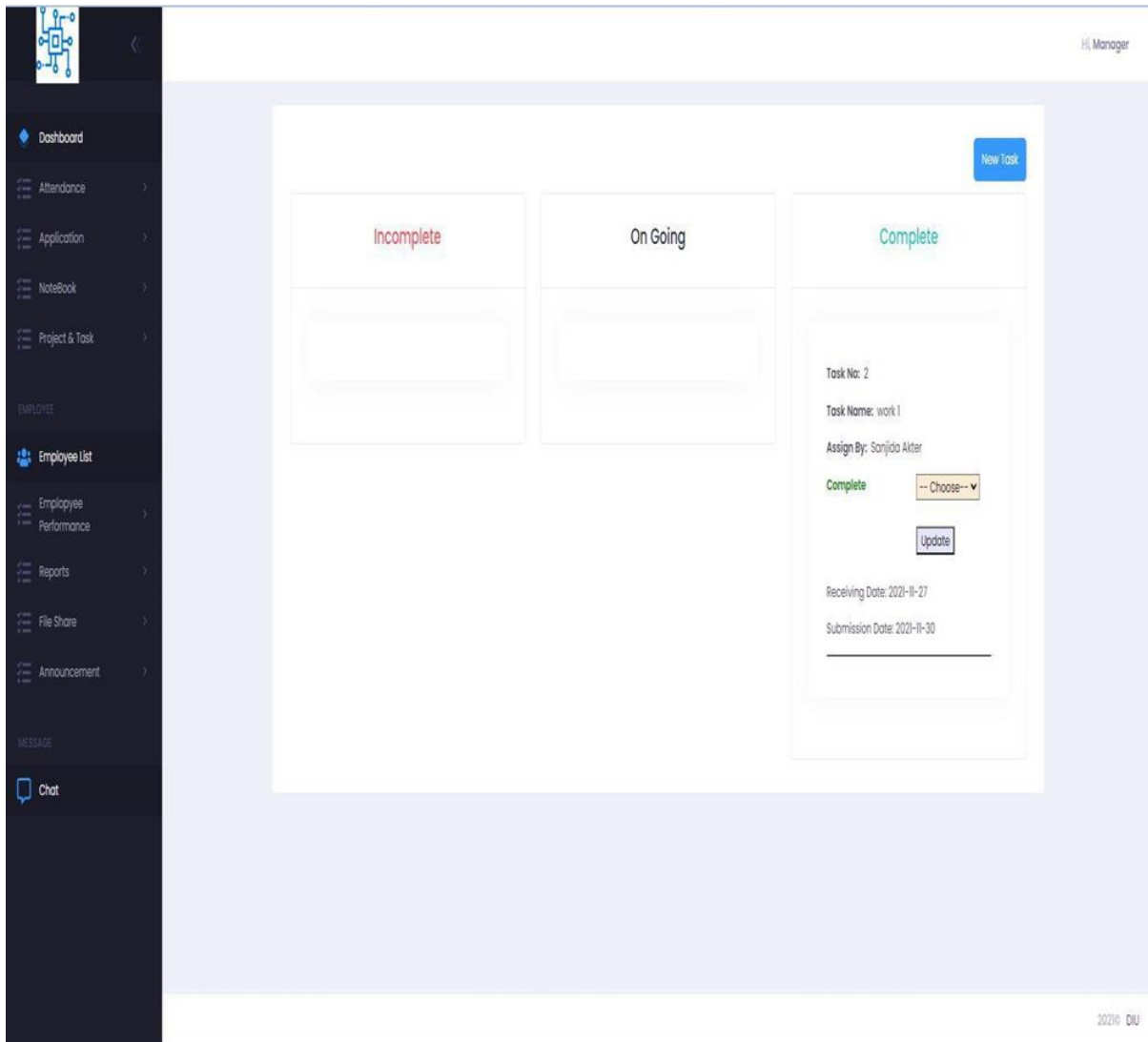


Figure 4.2.2 Admin Panel task creation

These are the tasks created by the admin. And we can see that the task created successfully and he can monitor the ongoing task in the system.

Admin Panel Task Track:

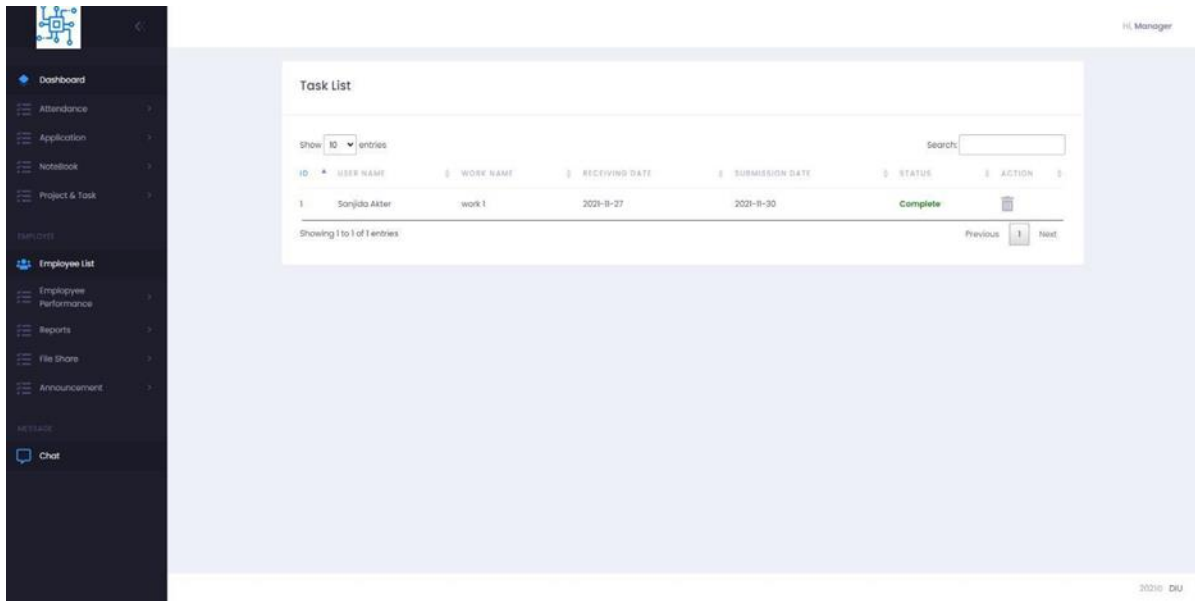


Figure 4.2.3 Admin Panel task track

4.3 Implementation Requirements

Front-end:

- Html
- CSS
- Bootstrap
- JavaScript

Back-end:

- PhP
- Laravel

Database:

- My-SQL

Ide:

- Vs Code

CHAPTER 5

IMPLEMENTATION & TESTING

5.1 Implementation of Database

As we are developing a website, for that we need to store all the data under a database. We used MySQL database. Figure 5.1.1 shows the entire Employee Management database. Some more important database table is given below:

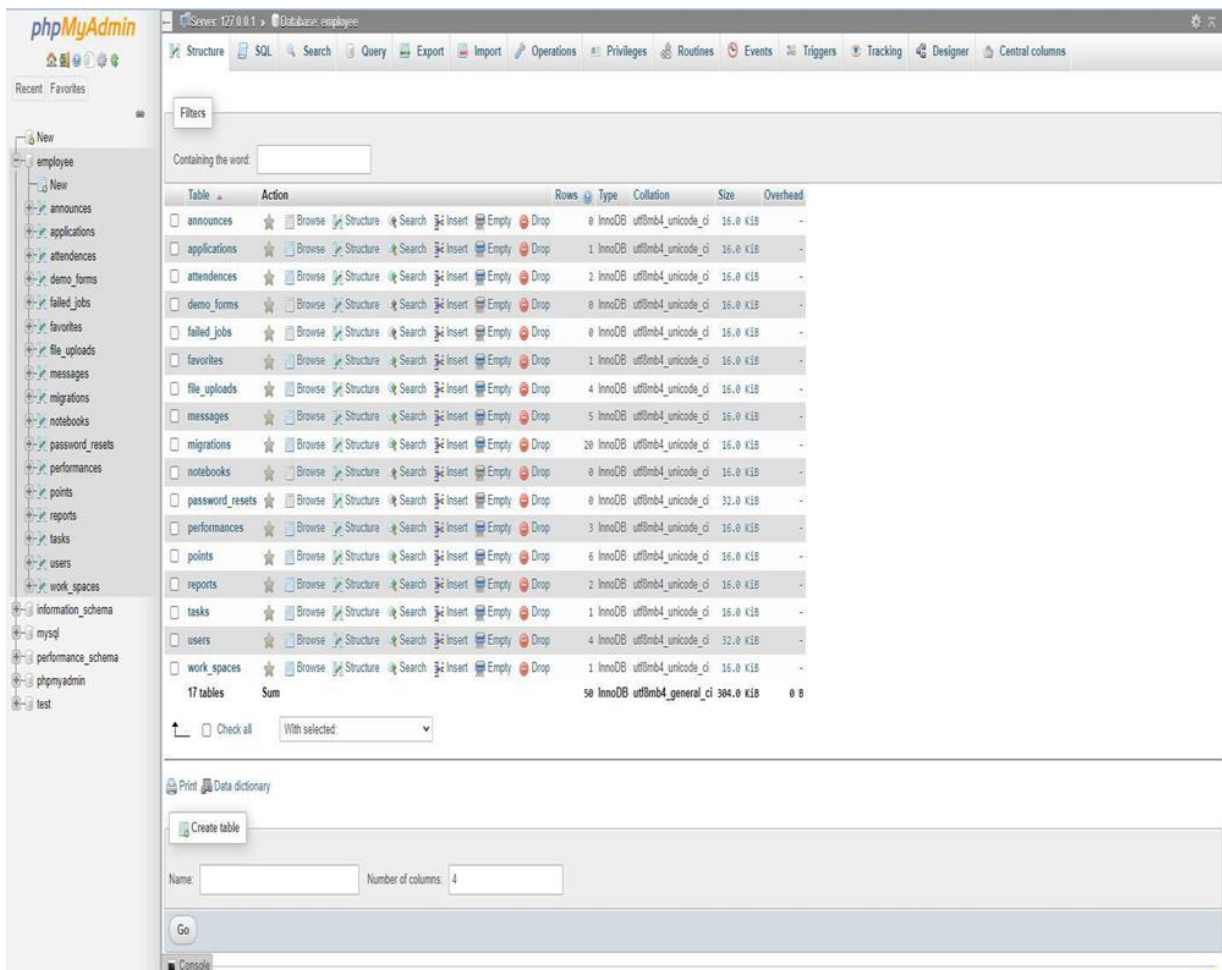


Figure 5.1.1 Employee Management database tables

This figure shows the database table of the users of the system.

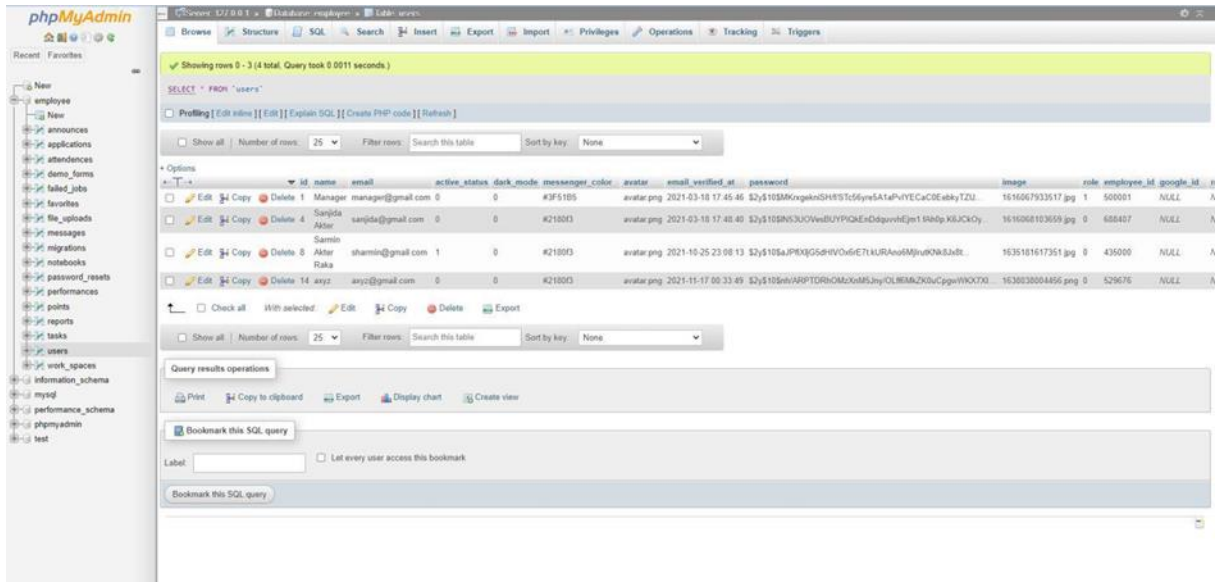


Figure 5.1.2: User's database

This figure shows the database table of creating an application.

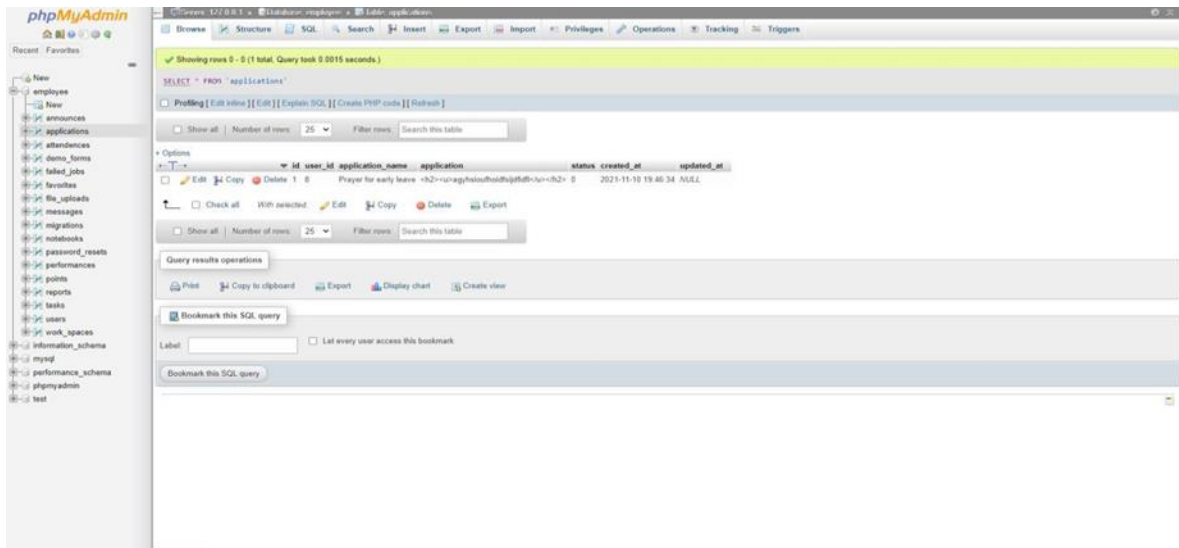


Figure 5.1.3 application creation database

This figure shows the database table of the attendances submitted by the employees.

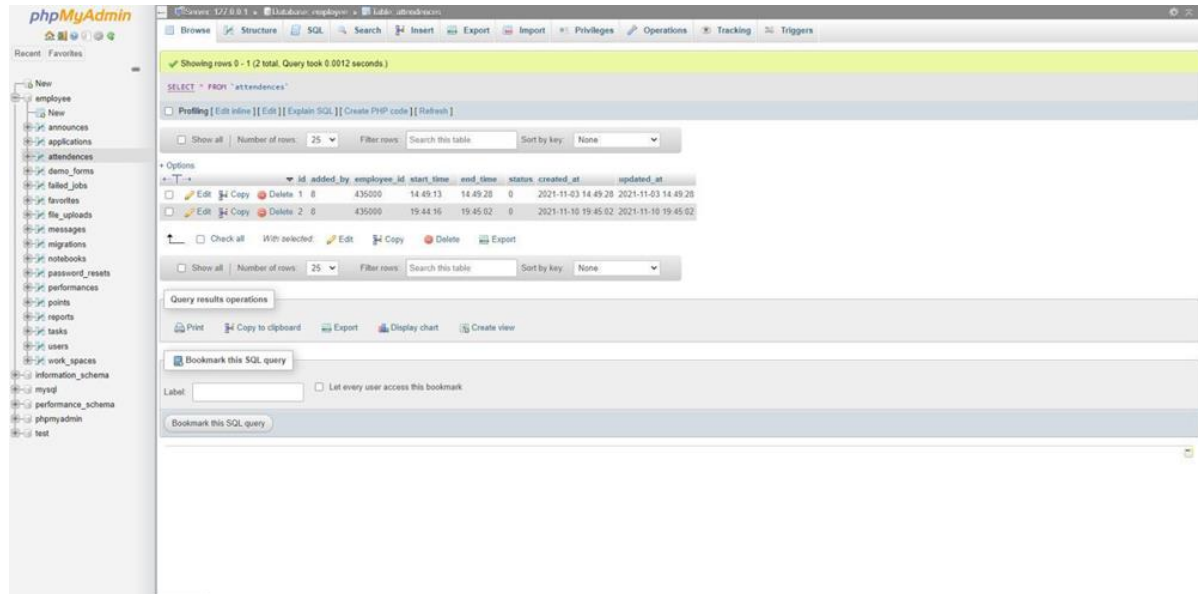


Figure 5.1.4 attendance database

5.2 Testing Implementation

We put the highest priority on testing to create this website. Our main goal was to create a bug free website. We tried our best to make this website user friendly and bug free. That's why testing was an important part of our project. We have done testing a lot of times. We will tell the details in the following part and we will attach some pictures of our testing. In Figure 5.2.1 we are trying to create a parcel and we can see that the parcel is created successfully and the data successfully stored in database.

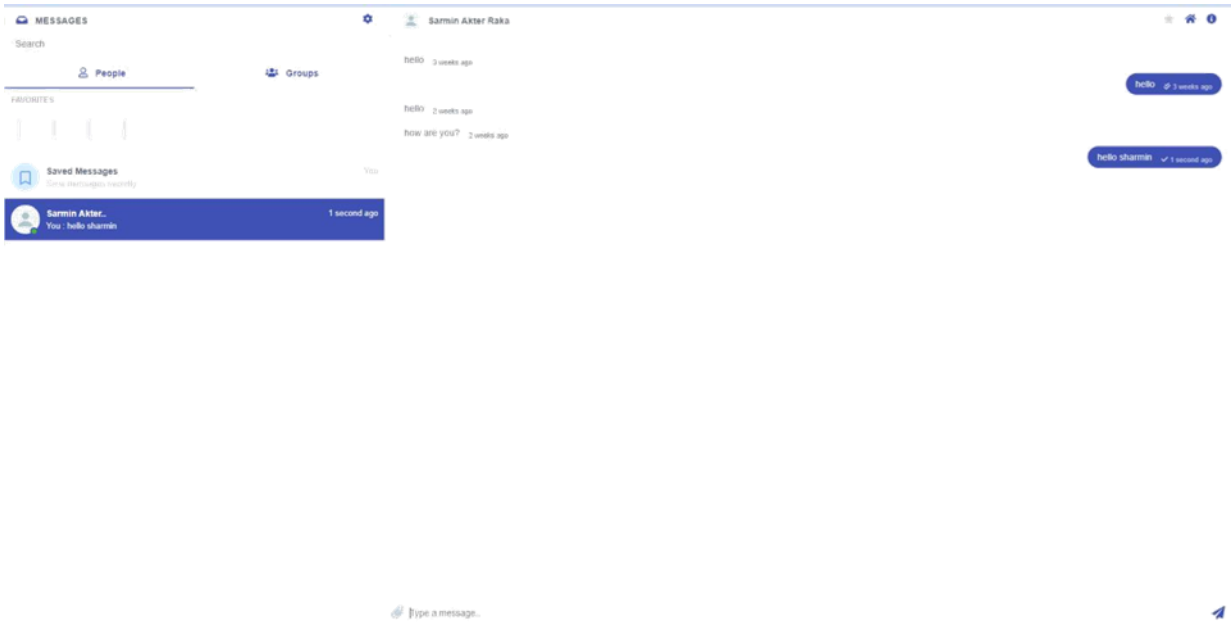


Figure 5.2.1: Real-time chat testing

In this figure we tried chat with an employee in real time. And it works successfully.

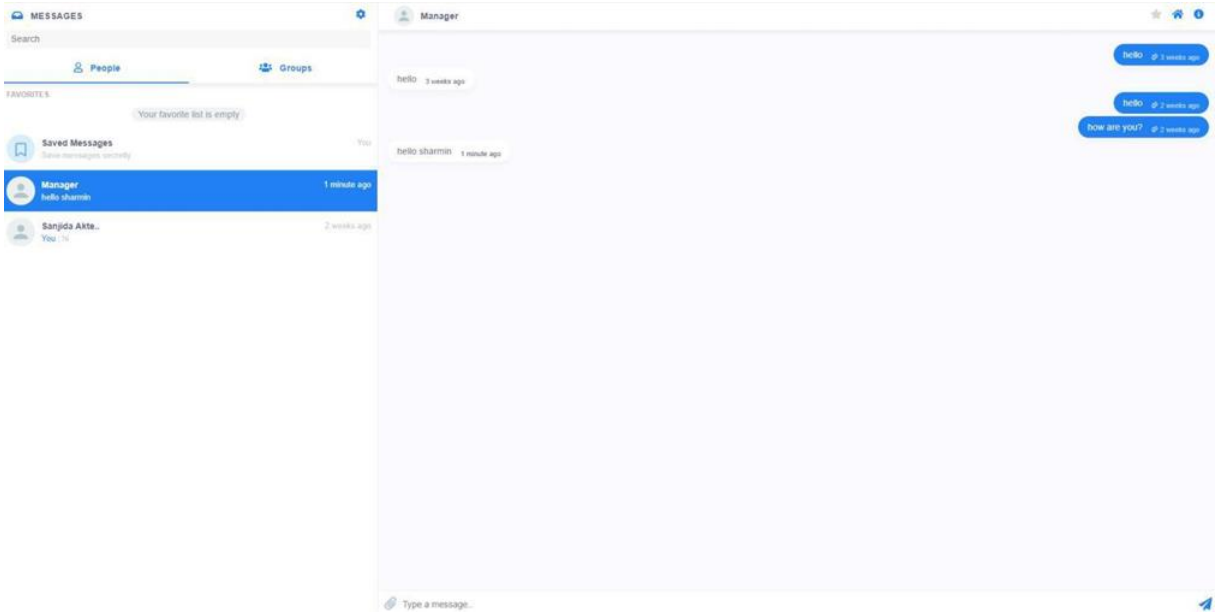


Figure 5.2.2 Real-time chat testing

5.3 Test Results and Reports

Table 5.3.1: Testing Table

Test case	Expected outcome	Obtained outcome	Successful/Failed	Testing period
Front End design	Work successfully	Did not work successfully	Successful	28-4-2021
Sign up	Work successfully	work successfully	Successful	15-5-2021
Login	Work successfully	work successfully	Successful	28-5-2021
Login as admin	Work successfully	Did not work successfully	Failed	15-6-2021
Login as admin	Work successfully	work successfully	Successful	21-6-2021
Database	Work successfully	work successfully	successful	19-7-2021
Back end design	Work successfully	Did not work successfully	failed	5-8-2021
Project and task	Work successfully	Work successfully	Successful	1-9-2021
File share	Work successfully	Work successfully	Successful	17-9-2021
Attendance	Work successfully	Did not work successfully	failed	28-9-2021
Attendance	Work successfully	work successfully	Successful	2-10-2021
Password reset	Work successfully	work successfully	Successful	13-10-2021
Point system	Work successfully	Did not work successfully	failed	25-10-2021
Point system	Work successfully	work successfully	Successful	6-11-2021
Chat	Work successfully	work successfully	Successful	15-11-2021

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Discussion and Conclusion

We have tried to create a unique Employee Management System that is easy to use. Basically, our system has some unique concepts which are already explained. However, we have tried to keep this system as simple as possible. If we want in the future, the system can be improved and extended on a large scale as per employee demand. In doing this project we have learned many new concepts which will be helpful in our next project.

6.2 Future work and Further Development

The Employee Management project is a good concept for our country companies and organizations. If we work on a good plan then we can benefit from here. Our project is web-based only. We have created the project with some very simple functionality. We want to work on this project on a larger scale in the future. There are some other creative features in our mind. We will work with those features in the future. There will be an Android application in the future. And we will work on how to provide our online courier service across the country.

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