**UDHNA CITIZEN COMMERCE COLLEGE & S.P.B. COLLEGE OF BUSINESS ADMINISTRATION & SMT. DIWALIBEN HARJIBHAI GONDALIA COLLEGE OF BCA AND I.T.**

Bachelor of Computer Applications

(BCA) Programme

Minor Project Report

Partial Fulfillment of

BCA Sem.-V

A.Y. 2023-24

*Project Title: PAYROLL MANAGEMENT SYSTEM*

*Submitted By:*

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**Project Guided by:**

* *Prof. Dr. Manish Kayasth*
* *Prof. Swapnil Patil*

**Acknowledgement**

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We would also want to thank the VNSGU for accepting my project in our desired field of expertise. We had also to thank my friends and parents for their support and encouragement as we worked on this project.

**Date**: ……………..

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**Payroll-Central**

Payroll Management System

1. **Introduction:**
   1. **Project description:**

A payroll management system is a software application that automates the process of calculating and paying employee salaries. It typically involves keeping track of employee hours worked, calculating taxes and deductions, and generating pay checks. Payroll management systems can save businesses time and money by eliminating the need for manual calculations and processing.

This project will develop a payroll management system for a small business. The system will be designed to be easy to use and affordable. It will also be scalable so that it can be used by businesses of all sizes

* 1. **Project Profile:**
* Project Title: Payroll-Central
* Project Description: It is a payroll management system web application created in ReactJS and Nodejs.
* Project Duration: 2 months
* Project Team Members: Kishore Sunchu, Jyoti Dwivedi, Rupa Chauhan
* Project Status: completed

1. **Environment Description:**
   1. **Hardware and Software Requirements:**

Follows are the Hardware requirements of the project:

* Processor: Intel Core i5
* SSD: 512GB
* RAM: 8GB

Follows are the Software requirements of the project:

* Windows 7 or higher
* MongoDBCompass
* NodeJs
* Visual Studio Code
* Google Crome Developer Options
  1. **Technologies Used:**

The Technology which are used in the project is as follows:

* **Fronted:**
* ReactJS
* Tailwind CSS
* Material UI
* **Backend:**
  + NodeJs
  + Express
  + MongoDB
  + Mongoose

1. **System Analysis and Planning:**
   1. **Existing System and its Drawbacks:**

**Follows are the existing system for payroll management systems:**

* greytHR
* Keke HR
* HROne
* Workday HCM

**Drawbacks of above system:**

* High cost: The cost of implementing and maintaining can be high, especially for small business
* Inflexibility: Traditional payroll system are often inflexibility and can be difficult to adapt changes in employee information or company policies.
* Difficult to scale: Manual payroll system can be difficult to scale as a company grows.
  1. **Feasibility Study:**
* Technical feasibility: Is the system technically feasible to develop and implement?
* Financial feasibility: Can organization afford to develop and implement the system?
* Market feasibility: Is there a demand for the system in the marketplace?
* Operational feasibility: Can the organization effectively use the system?
  1. **Requirement Gathering and Analysis:**
* Payroll compliance: The system must be able to calculate and deduct all applicable taxes.
* Expense management: The system must be able to track and manage employee expense.
* Dashboard and reporting: The system must provide a dashboard with real-time data on payroll, expenses, and other financial information.

1. **Proposed System:**
   1. **Scope:**

* To develop a user-friendly and efficient payroll management system that automates the process of calculating and disbursing employee salaries, bonuses, and deductions.
* To ensure compliance with all relevant tax laws and regulations.
* To provide accurate and timely payroll reports to management.
* To improve the efficiency of the HR department by freeing up time to focus on other tasks.
* To improve employee satisfaction by ensuring that they are paid accurately and on time.
  1. **Project modules:**

The system comprises of 2 major modules with their sub-modules as follows:

1. Admin
2. Employee
   1. **Module Vise objectives/functionalities Constraints:**

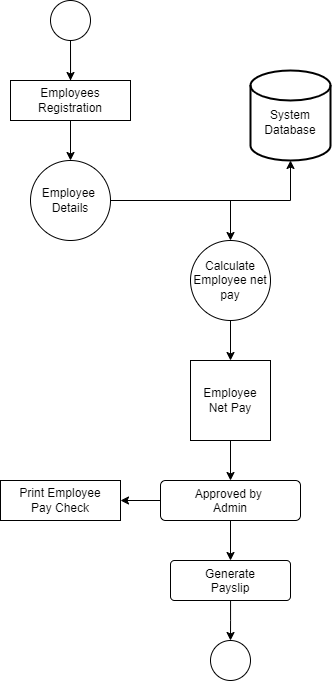
Admin:

* Login: Admin can login into system.
* Add Employee: Admin can add employee.
* Employee Details: Admin can view all employee details.
* Change Details: Admin can change the details of employees.
* Change Status: Admin can change the status of the employee.
* Generate Payroll: Admin can generate payslip for employees

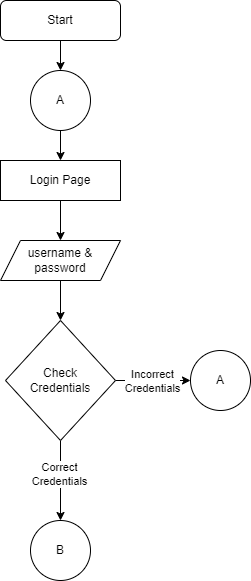
Employee:

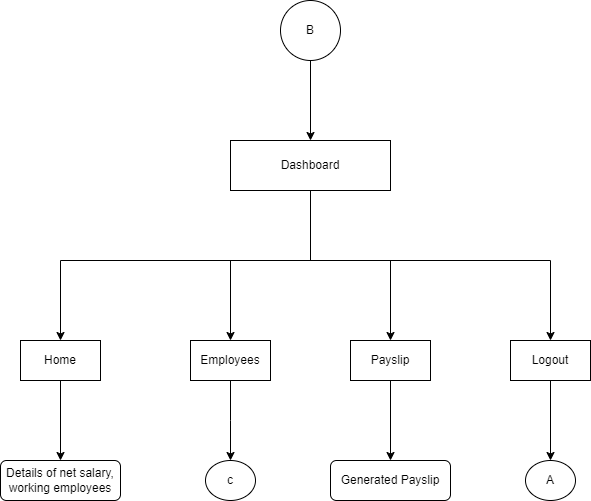
* Login: Employee can login in his profile.
* Profile: Employee view his profile details.
* Change Details: Employee can change his limited details.
* Generate Payroll: Employee can generate payslip for themselves.

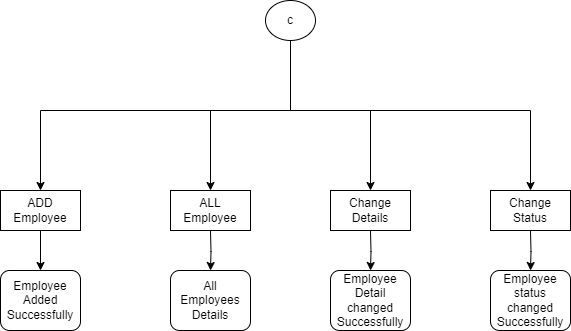
1. **Detail Planning:**
   1. **Data Flow Diagram / UML:**

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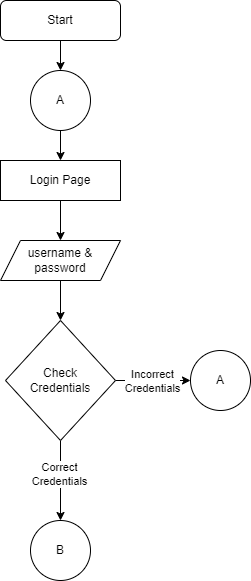
* 1. **Process Specification / Activity Flow Diagram:**
* **Admin:**

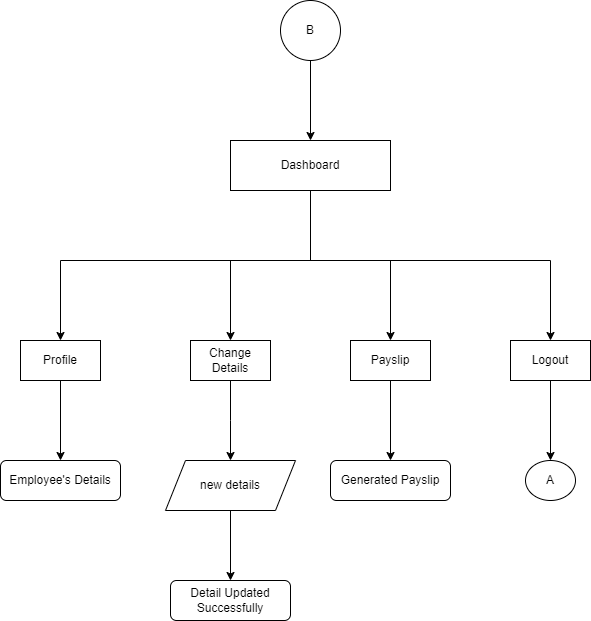






* Employees:





* 1. **Data Dictionary:**

**Table name: Admin**

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Description |
| Id | Integer | Unique identifier for admin |
| Username | String | Name of the admin |
| Email | String | Email address of admin |
| Password | String | Pass code to login into the system |

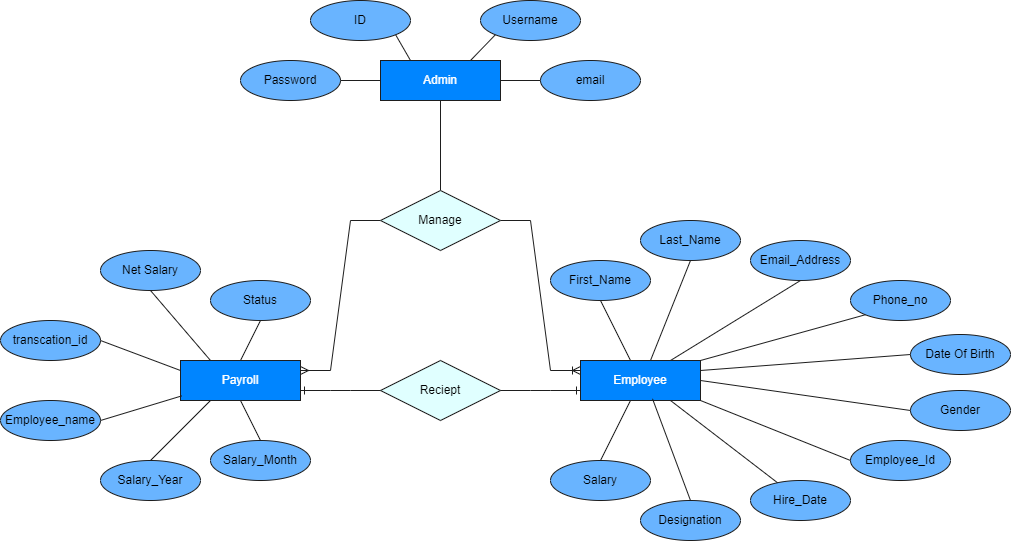
**Table name: Employees**

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Description |
| Employee id | Integer | Unique Identifier for each employee |
| First Name | String | First name of the employee |
| Last Name | String | Last name of the employee |
| Email address | String | Email address of the employee |
| Phone No. | Integer | Contact No. of the employee |
| Date of Birth | Date | Birth date of the employee |
| Gender | String | Gender of the employee |
| Hire Date | Date | Hiring date of the employee |
| Designation | String | Designation of the employee |
| Salary | Integer | Salary of the employee |

**Table name: Pay-slips**

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Description |
| Transaction id | Integer | Unique id for each transaction |
| Salary month | Date | Month of salary month |
| Salary year | Date | Year of salary year |
| Employee id | Integer | Employee id for references to the employee |
| Net salary | Integer | Total salary of the employee |
| Status | Integer | Status of the salary (paid/unpaid) |

* 1. **Entity-Relationship Diagram / Class Diagram:**

****

1. **System Desing:**
   1. **Database design:**

* Admin Table:

This table stores the basic information about admin, such as id unique identifier, name for login purpose, email, password for login into the system.

* Employees Table:

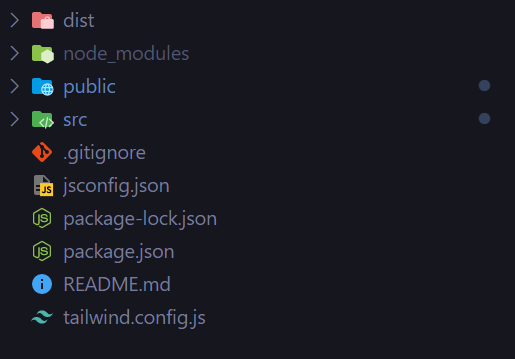
This table stores the basic information about each employee, such as employee id, first and last name, email address, phone number, gender, date of birth, joining and hiring date of the employee, designation of the employee and the salary of the employee

* Payslip Table:

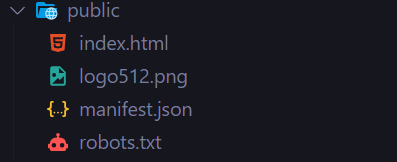
This table stores the information about pay-slips, such as transaction id, month of the salary is given, year of the salary is given, employee name, net salary of employee and status of payment.

* 1. **Directory Structure:**

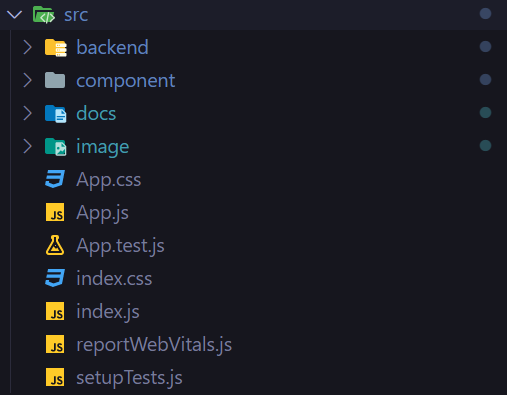
Project folders:

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Public folders:



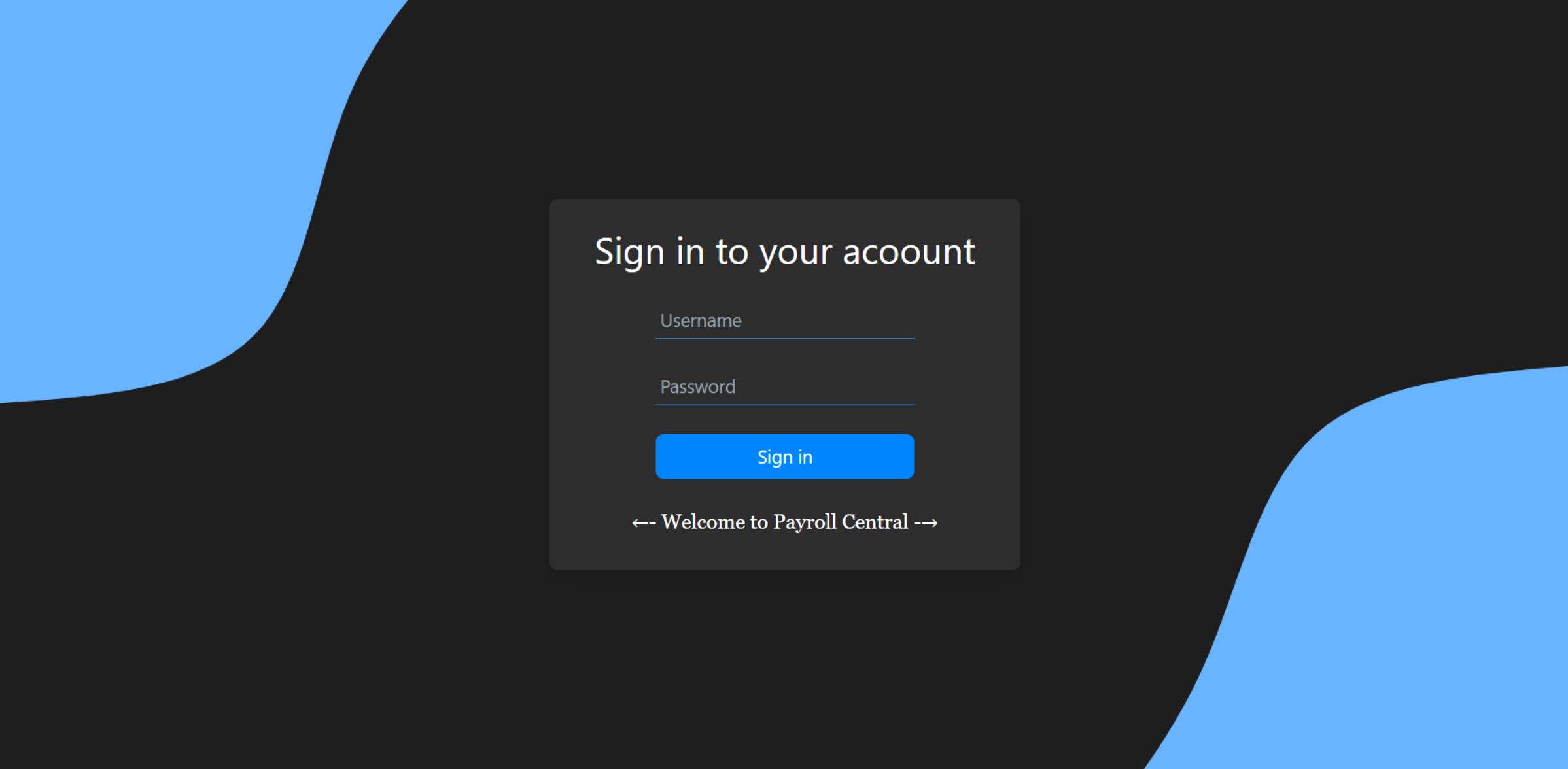
Src folders:

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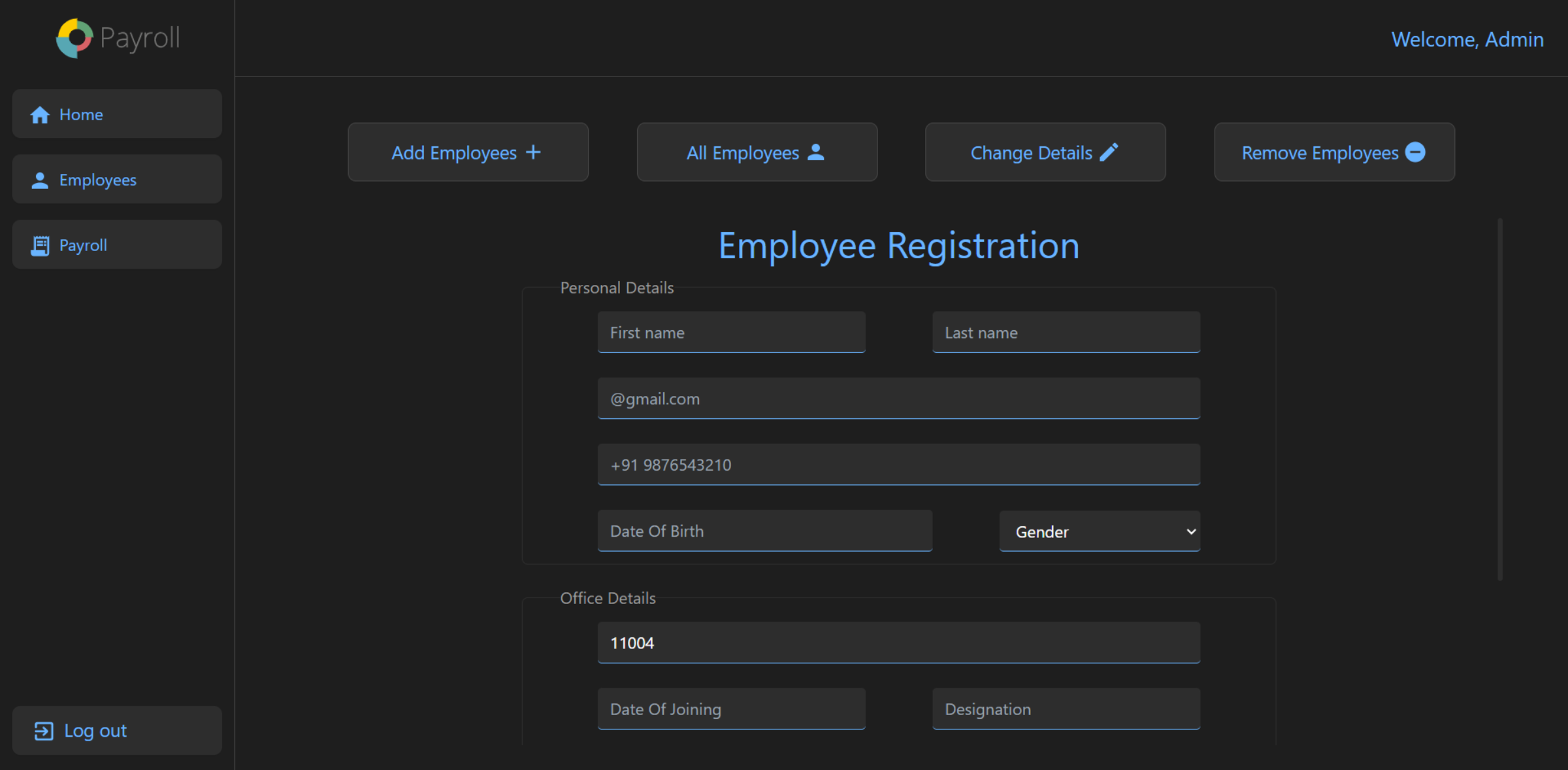
Backend folders:



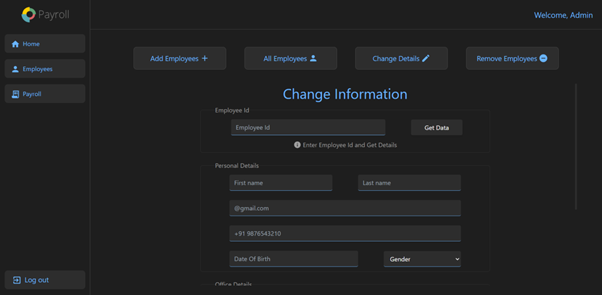
* 1. **Input Design:**
* Login page:

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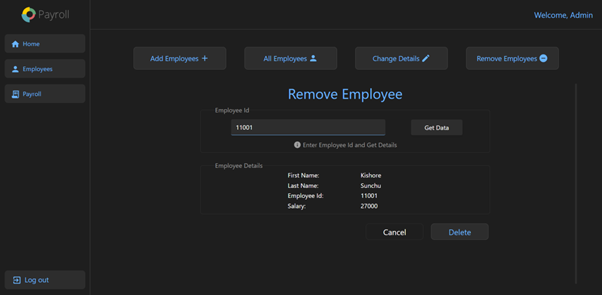
* Employee Registration Form:



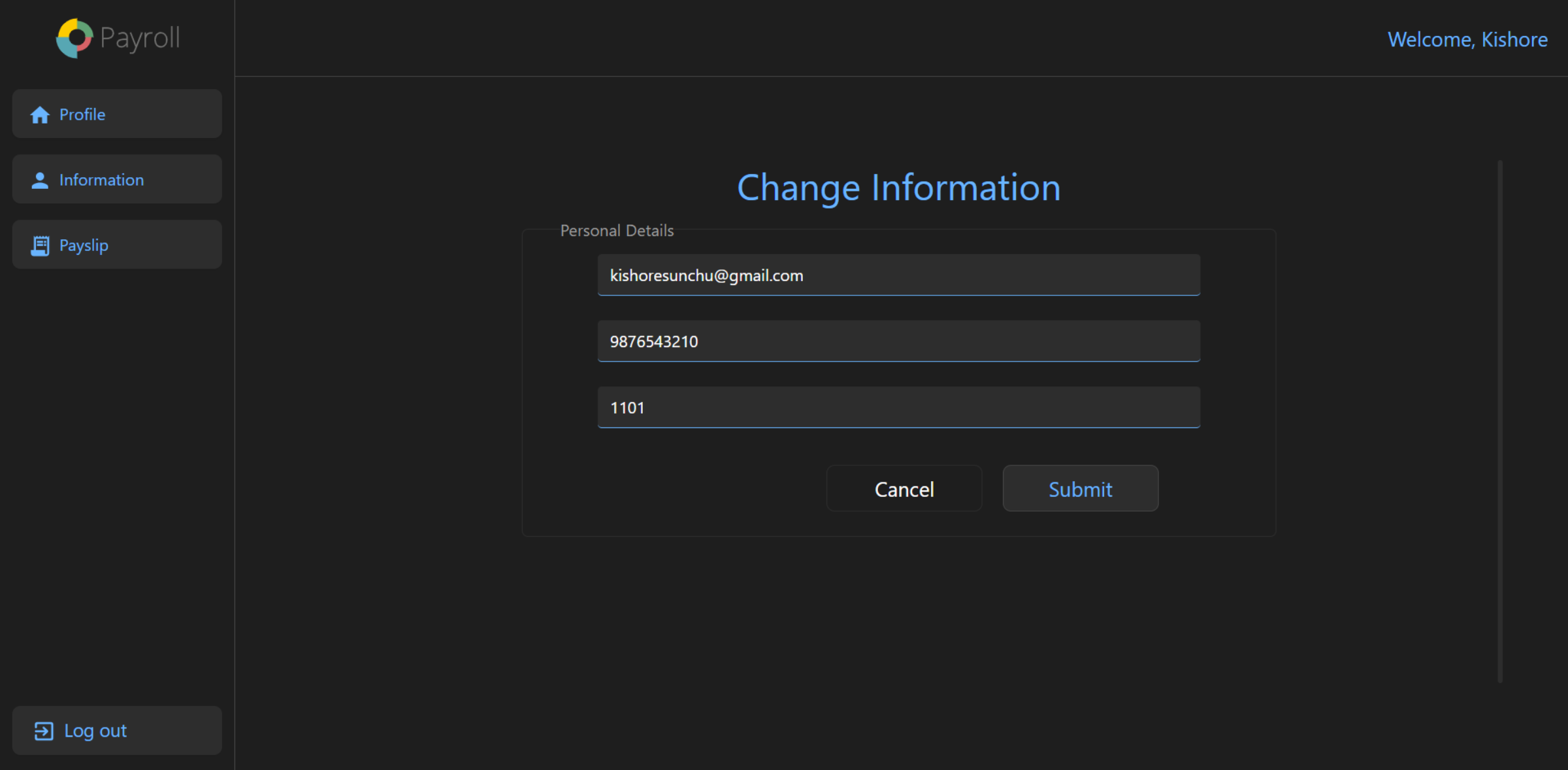
* Employee Change Information Form (Admin Side):



* Employee Active or Inactive Status Change Form:

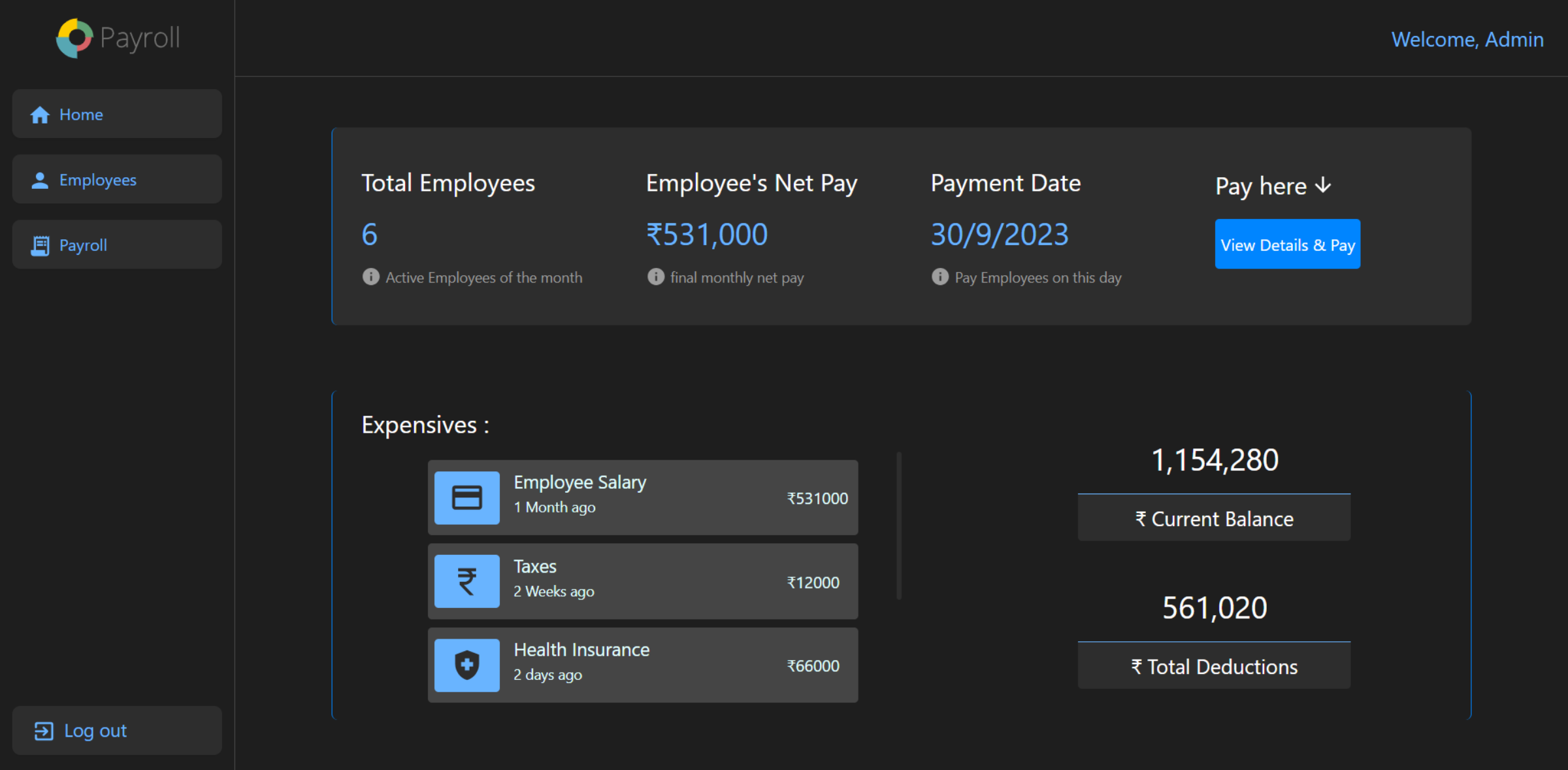


* Change Information Form (Employee Side):

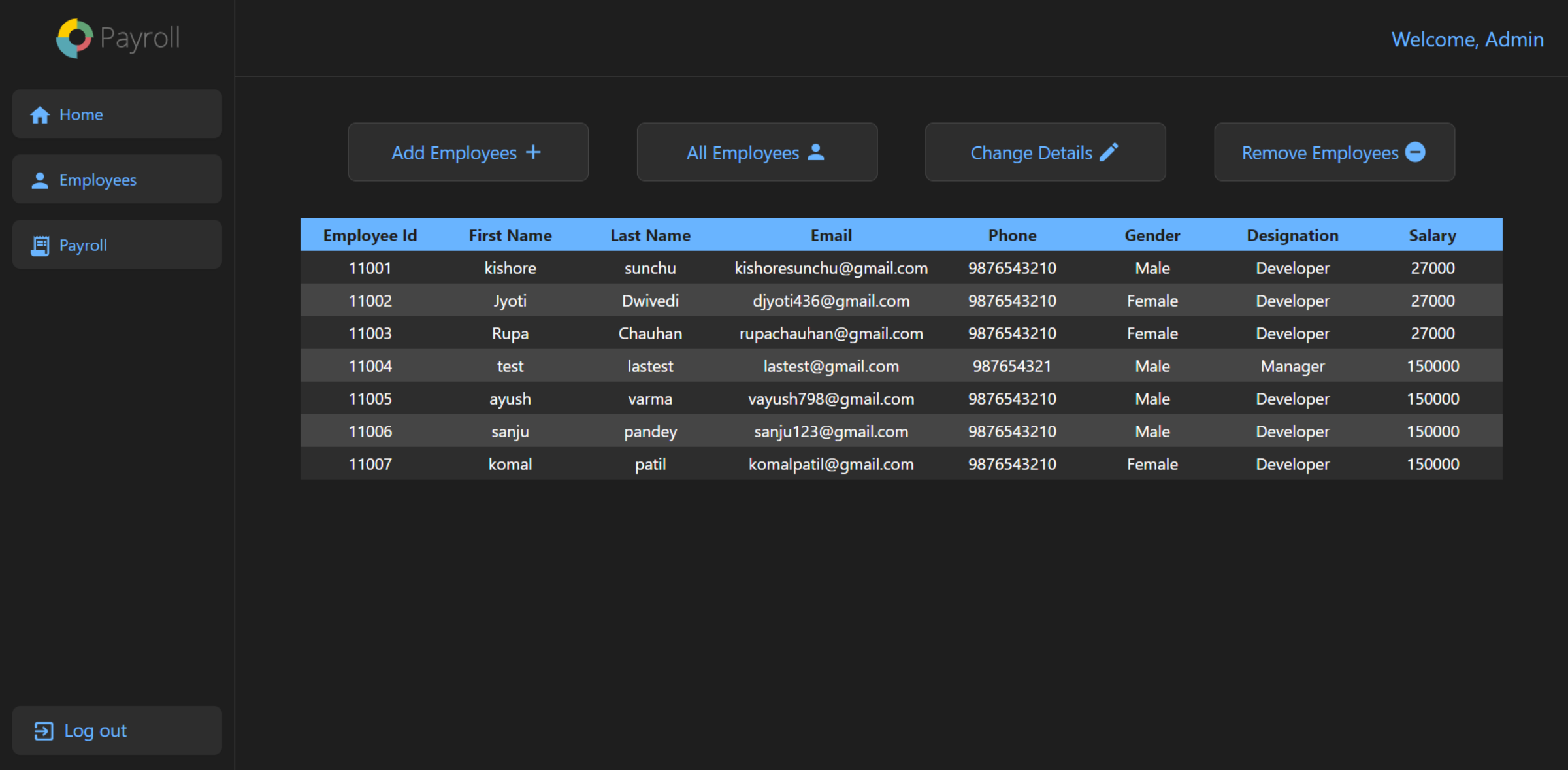


* 1. **Output design:**

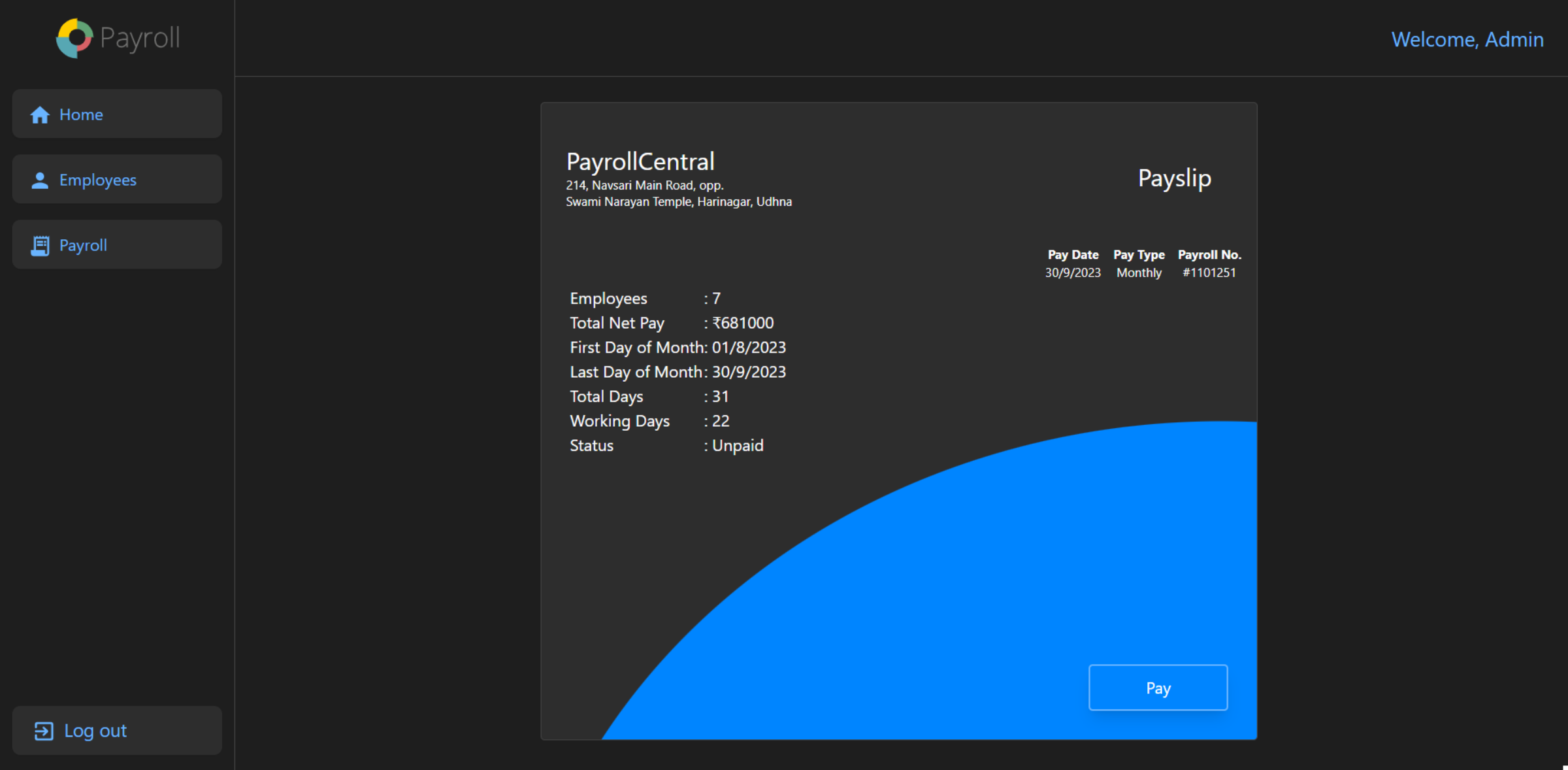
Admin Dashboard – Home page:

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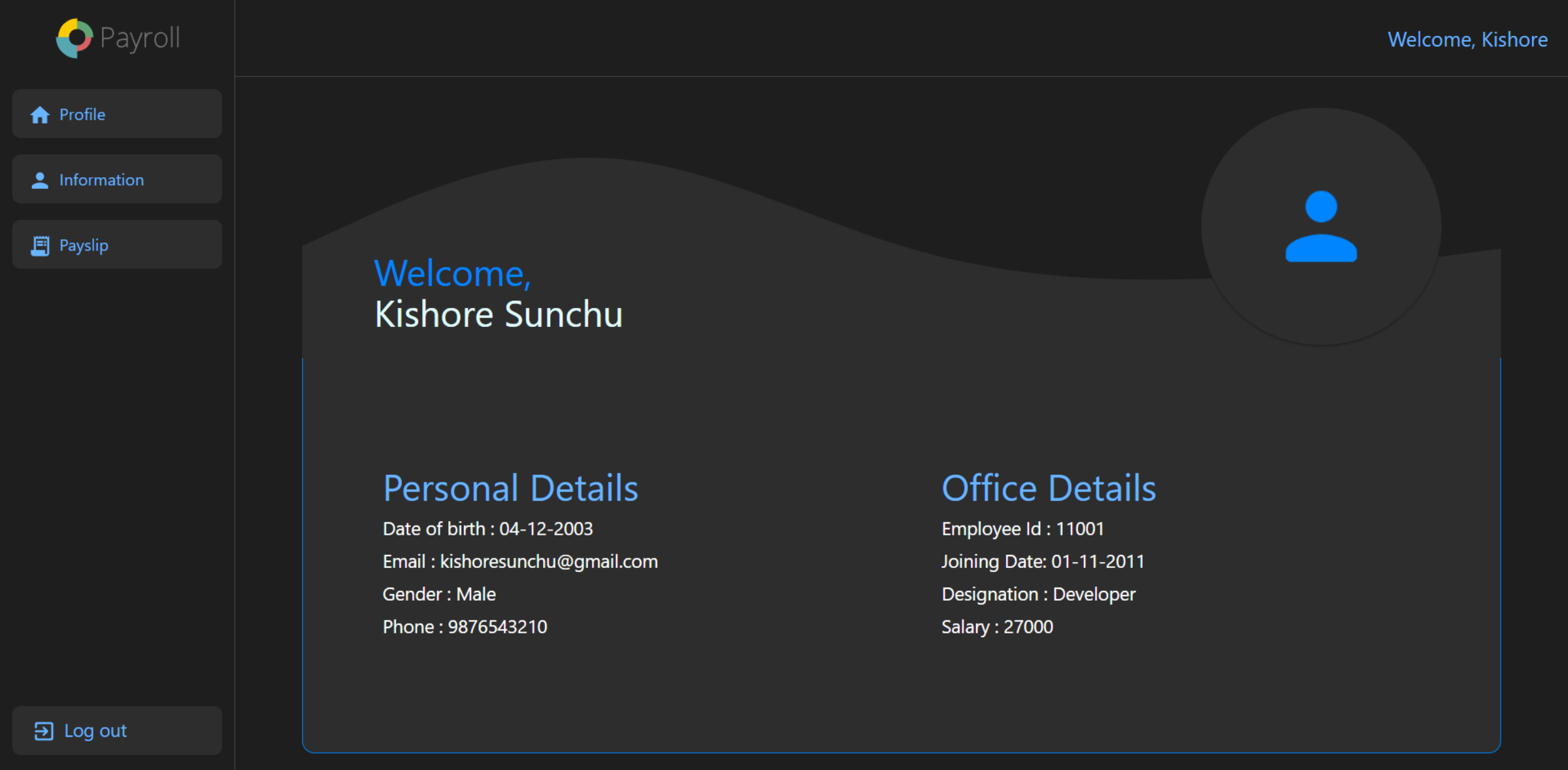
Admin Dashboard – Employees



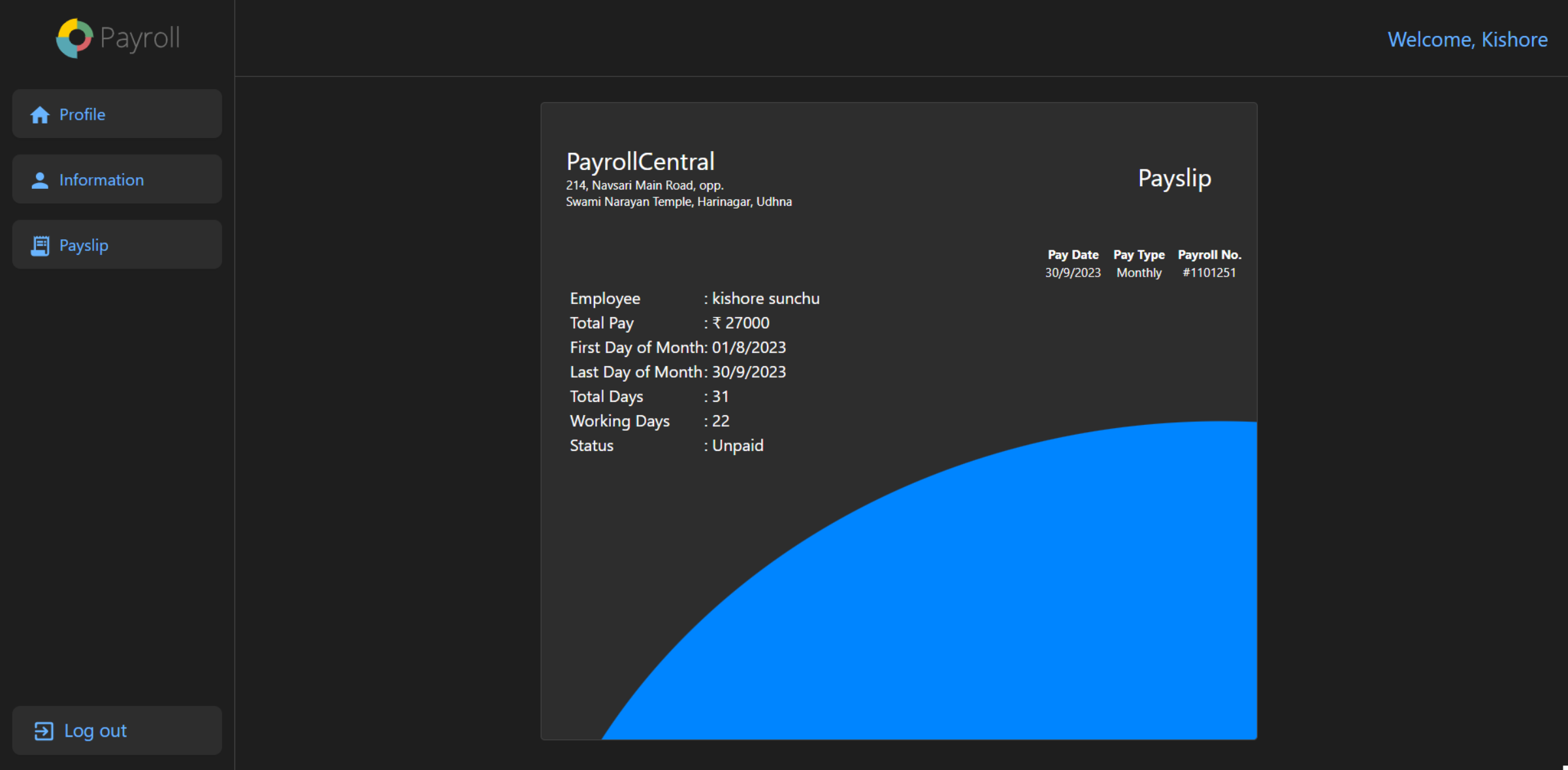
Admin Dashboard – Payroll



Employee Dashboard – Profile



Employee Dashboard – Pay-slip



1. **Software Testing**
2. **Data Entry:**

Test the data entry fields to make sure they are properly formatted and validated. For example, the phone no field should only accept numeric values and 10-digit number and hire date field should only accept date values.

1. **Calculations:**

Test the payroll calculations to make sure they are accurate. For example, the system should correctly calculate all employee salary accurately.

1. **Security:**

Test the security of the payroll system to make sure it is protected form unauthorized access. For example, the system should require users to authenticate themselves before they can access sensitive data.

1. **Reports:**

Test the payroll reports to make sure they are accurate and easy to read. For example, the system should generate a report that list all employees and their pay stubs for a given period.

1. **Limitations and Future Scope of Enhancements:**
2. **Limitations:**
   1. Internet is required
   2. Proper data is needed.
3. **Future scope of Enhancements:**
   1. Make the system more user-friendly.
   2. Use AI and machine learning.
   3. Automate more tasks
   4. Make the system more secure.
   5. Offer mobile access from website.
   6. Make app for the system.
4. **References:**
   * [**https://tailwindcss.com/**](https://tailwindcss.com/)
   * [**https://www.npmjs.com/**](https://www.npmjs.com/)
   * [**https://legacy.reactjs.org/**](https://legacy.reactjs.org/)
   * [**https://www.mongodb.com/**](https://www.mongodb.com/)
   * [**https://mongoosejs.com/**](https://mongoosejs.com/)
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