NITTE MEENAKSHI INSTITUTE OF TECHNOLOGY

(AN AUTONOMOUS INSTITUTION, AFFILIATED TO VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM, APPROVED BY AICTE & GOVT.OF KARNATAKA)



A MINI PROJECT REPORT ON "PAYROLL MANAGEMENT SYSTEM"

Submitted in partial fulfillment of the bachelor's degree

In

INFORMATION SCIENCE AND ENGINEERING

V SEMESTER

DBMS LABORATORY WITH MINI PROJECT (18ISL57)

Submitted By

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DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

CERTIFICATE

Certified that the mini project entitled "Payroll Management System" is a bonafide work carried out by SANIDHYA SRIVASTAVA (1NT20IS145), RAJ GUPTA (1NT20IS131), SOJITRA PREET(1NT20IS167) and SHASHI KUMAR (1NT20IS152) in partial fulfilment for the award of Degree of Bachelor of Engineering in Information Science and Engineering of the Visvesvaraya Technological University, Belagavi during the year 2022-23. It is certified that all corrections / suggestions indicated for the Internal Assessment have been incorporated in the mini project report deposited in the departmental library. The Mini Project report has been approved as it satisfies the academic requirements in respect of DBMS Laboratory with Mini Project (18ISL57) prescribed for the Bachelor of Engineering Degree.

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Dept. of ISE, NMIT	Dept. of ISE, NMIT

Signature with date

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1.	
2.	

Name of Examiners

DECLARATION

We hereby declare that the entire work embodied in this Project work "PAYROLL MANAGEMENT SYSTEM" has been carried out by us during the Fifth semester of Bachelor of Engineering in Information Science and Engineering at Nitte Meenakshi Institute of Technology, Bengaluru affiliated to Visvesvaraya Technological University, Belagavi, under the guidance of **Prof. Priyanka K**, Nitte Meenakshi Institute of Technology, Bengaluru. The work embodied in this mini project work is original and it has not been submitted in part time or full-time completion for any other degree in any other university.

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We are extremely thankful to the teaching and non-teaching staff of the Department of Information Science and Engineering for their valuable guidance and cooperation throughout our dissertation.

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AABSTRACT

Payroll management is one of the key operational aspects of a business. It involves the financial records of employees' salaries, wages, bonuses, net pay, and deductions. Payroll Management system abstract the name suggests, this module helps keeping a record of winnings of the important achievements of employees over a specified period, thus helping the management to decide increases in their salary.

This module specifically organizes staff wise databases. It comes in handy in arranging the records of staff details including their salary, information well-nigh their retirement and in fact every detail that matters to the company.

Most HR departments are experiencing unconfined relief with the use of the streamlined Human Resource Management Software, and larger companies are integrating custom-made features into their software equal to their needs. Selection of the right software is an important part of your agenda, and you must devote quality time on the Internet to search for software that has all the features you require and more.

Payroll in any Business is a priority. Staff must be paid on time every time and be paid correctly. Payroll Management system abstract can result in highly valued employees leaving to rival organizations who will pay on time.

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Normalization Tables of PMS

GLOSSARY

1NF: 1st Normal Form2NF: 2nd Normal Form3NF: 3rd Normal Form

BCNF: Boyce-Codd Normal Form

CSS: Cascading Style Sheets

DBMS: Database Management System

DFD: Data Flow Diagram ER: Entity-Relationship

PMS: Payroll Management System

HTML: Hypertext Markup Language

JS: JavaScript

ML: Machine Learning NoSQL: Not only SQL

RDBMS: Relational Database Management System

SQL: Structured Query Language

SRS: Software Requirements Specification

Chapter 1

Introduction

Payroll Management system is to provide an option to generate the salary automatically every month. This software is also equipped to enter the attendance of each employee in the organization, it helps them to track each employee's attendance, based on this we can generate the salary. The software is built to generate individual pay slip and summary of the payroll. This has also played a very important role in this COVID-19 scenario to ensure that every employee of the company is paid the right amount of money at the right time not only that this system helps to work or give access to the employee if they are requesting for any leave. The main advantage for this software is to provide all the facilities to a company to take care about all the issues regarding their employee in a very short, sorted way.

1.1 Objective

The payroll management system is a set of processes that helps you streamline salaries, bonuses, deductions, taxes, and other necessary aspects of the net pay of all the employees in your organization. There are two primary objectives of the payroll management system in India. One is the macro-objective, which is related to sales, strategy, revenue, etc. Another is micro, which is associated with the daily tasks of the business. The aim behind having a_payroll management system is to automate and streamline micro tasks such that the HR team has time to focus on the macro tasks.

1.2 Scope

It may help collect perfect management in detail. In a very short time, the collection will be obvious, simple, and sensible. It will help a person to know the management of the past year perfectly and vividly. It also helps in current all works relative to the Payroll Management System. It will also reduce the cost of collecting the management & collection procedure will go on smoothly.

Our project aims at Business process automation, i.e., we have tried to computerize various processes of Payroll Management System

- In computer systems the person must fill the various forms & number of copies of the forms can be easily generated at a time.
- In computer system, it is not necessary to create the manifest, but we can directly print it, which saves our time,
- To assist the staff in capturing the effort spent on their respective working areas.
- To utilize resources in an efficient manner by increasing their productivity through automation
- The system generates types of Information that can be used for various purposes.
- It satisfies the user requirement
- Be easy to understand by the user and operator
- Be easy to operate
- Have a good user interface
- Be expandable
- Delivered on schedule within the budget.

1.3 Proposed System

The proposed software will solve all the problems they are facing now. This software is designed such that it will generate the salary automatically every month in time. So, there are not many worries. This software also equipped with to enter the attendance of each employee in the organization, it helps them to track each employee attendance, based on this we can generate the salary. This system will help to work on all the issues faced by the company to maintain them records in very efficient way, taking a fraction of second and easy environment to do so. With this system we can easily satisfy all the needs of the employee they want to keep in front of their official department.

1.4 Societal Concern

This Portal helps organization to manage financial records of employees i.e., Prepare a detailed salary record of all the employees in an organization; Generate Pay Slips through the calculation of salary; ensure the proper use of manpower. Problem with Payroll management is Administrative Overwhelm, Organizational Issues, Incompatible Software, Tracking Employee Absence, Compliance Issues which can be resolved using this system in future we can add an option to print the records and intend to add a leave structure in it. I would also like to implement a regular backup mechanism to back up the employee database to avoid disasters. The system can also be developed in such a way that its existing features can be modified to better versions, and it will make sure that all the problems will be dealt with in a very easy way which will lead to the betterment of society.

Chapter 2

Requirement Specification

A software requirements specification (SRS) is a document that describes what the software will do and how it will be expected to perform. It also describes the functionality the product needs to fulfill all stakeholders (business, users) needs.

2.1 Hardware Requirements:

- System with Windows XP or higher version.
- 1.8 GHz processor, 256MB RAM, 80 GB HDD.
- Optical mouse, keyboard, Serial, and parallel port.
- Suitable Printer

2.2 Software Requirements:

Language Used: PHP

• Database Used: MySQL and NoSQL

• Browser: Any of Mozilla, Opera, Chrome

• Design Interface: CSS, JavaScript, HTML

• Software: WAMP/ XAMPP

2.3 Functional Requirements:

Login Description:

System allows users to get authenticated for the registered users.

R1.1 Login based on the type of user Input:

- User provides username, password, and type of user.
- System allows access based on the type of user.

R1.2 Admin module:

- Login for Admin
- Forgot password for Admin
- Edit Profile for Admin
- Change Password for Admin
- Logout Functionality
- Dashboard for Admin User

Manage Employee Department

- 1. Adding New Employee Department
- 2. Edit the Exiting Employee Department
- 3. View details of the Employee Department
- 4. Listing of all Employee Department

Manage Employee Designation

- 1. Adding New Employee Designation
- 2. Edit the Exiting Employee Designation
- 3. View details of the Employee Designation
- 4. Listing of all Employee Designation

Manage Employee

- 1. Adding New Employee
- 2. Edit the Exiting Employee
- 3. View details of the Employee
- 4. Listing of all Employee

Manage Employee Salary

- 1. Adding New Employee Salary
- 2. Edit the Exiting Employee Salary
- 3. View details of the Employee Salary
- 4. Listing of all Employee Salary

Manage System User

- 1. Adding New System User
- 2. Edit the Existing System User
- 3. View details of the System User
- 4. Listing of all System User

Reports of the project Payroll Management System

- 1. Report of all Employee Departments
- 2. Report of all Employee Designations
- 3. Report of all Employees
- 4. Report of all Employee Salary
- 5. Report of all System Users

R1.3 Employee Module:

- No specific knowledge or skills are required from the end user
- End user should have basic idea about computer operations and database
- Login For employee
- Forgot password for employee
- Edit Profile For employee
- Change Password For employee
- Logout Functionality
- Dashboard for Normal User
- Download as PDF and print the pay slip
- Manage their profile details

Chapter 3

ER Diagram

An Entity-relationship model (ER model) describes the structure of a database with the help of a diagram, which is known as Entity Relationship Diagram (ER Diagram). An ER model is a design or blueprint of a database that can later be implemented as a database. The main components of the E-R model are entity set and relationship set.

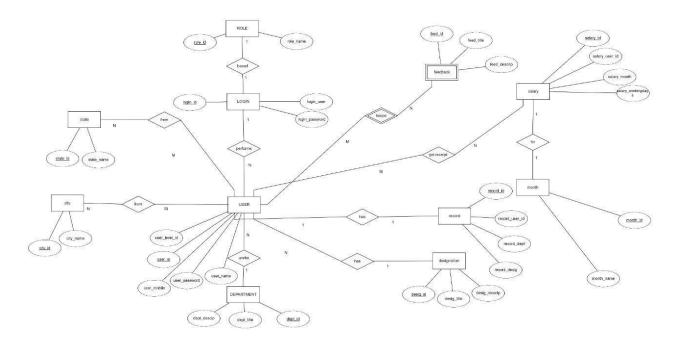


Fig. 3.1 ER Diagram of PMS

The above ER diagram shows how all the entities are related to each other and have their connection with their attributes like USER, LOGIN, SALARY etc. which are the main entities through which the system is working and the next process in the system takes place.

The above ER diagram also consist of the relationship such as WORKS, PERFORM, KEEP etc. which are connecting all the entities and make it meaningful

Chapter 4

Detailed Design

A data-flow diagram is a way of representing a flow of data through a process or a system. The DFD also provides information about the outputs and inputs of each entity and the process itself. A data-flow diagram has no control flow, there are no decision rules and no loops

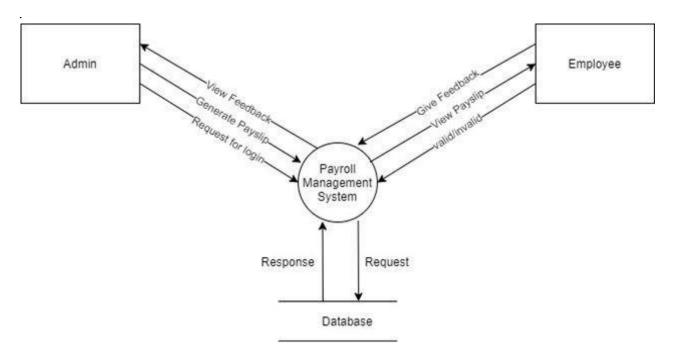


Fig 4.1 level 0 DFD of PMS

In the above diagram you can see how the system works where the database is either is requested to give information or it gives response to the request. In this the employee section is used for operations like giving feedback, view pay slip etc. and the admin section provides operations like generating payslip requests for login etc.

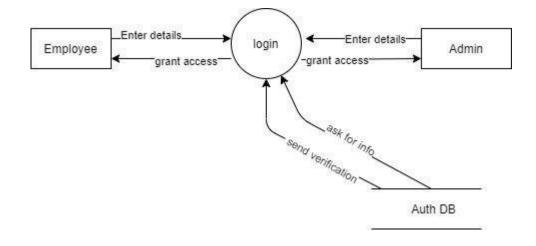


Fig 4.2 Level 1 DFD for login of PMS

In this diagram you can see that the database sends for the verification that the user is an employee or admin and according to that it grants the permission to access the information required.

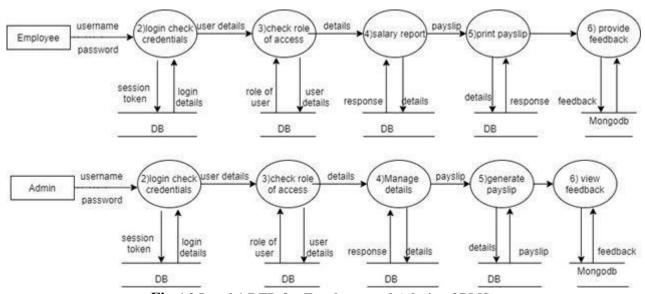


Fig 4.3 Level 1 DFD for Employee and Admin of PMS

In this diagram the privileges of user and admin is shown that what all functionalities user and admin has and how everything is getting authenticated

Chapter 5

Relational Schema and Normalization

The relational schema is the primary element of the relational database. These databases are managed using language and structure that is consistent with first-order logic. This allows for database management based on entity relationships, making them easy to organize according to volume. Relational schema refers to the meta-data that describes the structure of data within a certain domain. It is the blueprint of a database that outlines the way its structure organizes data into tables. Normalization is the process of minimizing redundancy from a relation or set of relations. Redundancy in relation may cause insertion, deletion and updation anomalies. So, it helps to minimize the redundancy in relations. Normal forms are used to eliminate or reduce redundancy in database tables.

5.1 Relational Schema

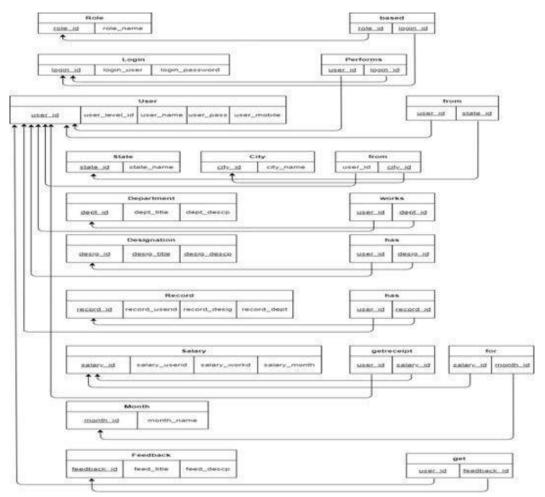
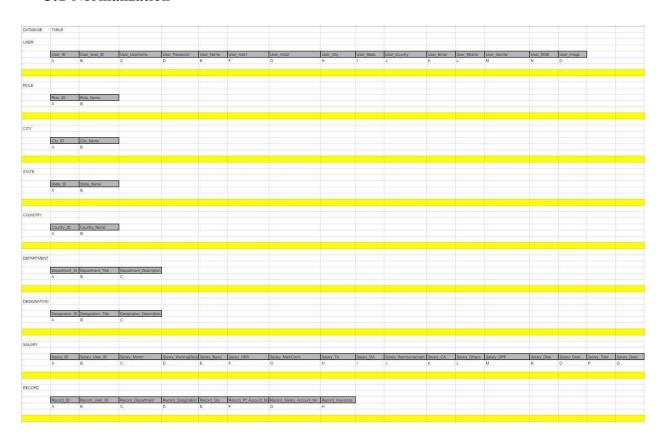


Fig 5.1 Relational Schema of PMS

Figure 5.1 shows the relational schema of the project, which has been obtained from the ER diagram by following certain conversion rules. The relations Roles, login, based, performs and salary describe entities. The other relations, namely designation and department relationships between some entities. The conversion from ER diagram to the above Relational Schema has been done in accordance with the stepwise procedure based on M: N, 1:N and strong and weak entities

5.1 Normalization



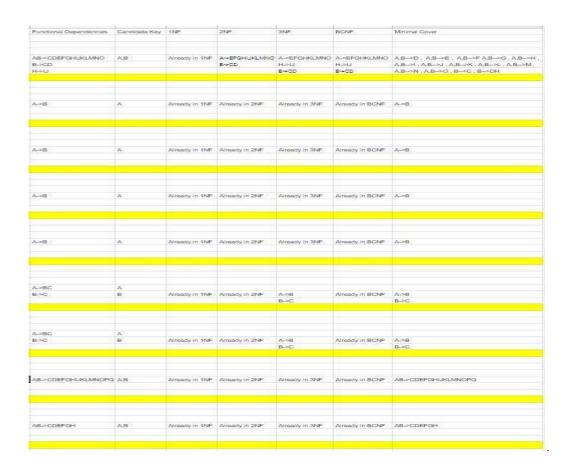


Table 5.1 Normalization tables of PMS

First Normal Form (1NF)

If a relation contains a composite or multi-valued attribute, it violates first normal form or a relation is in first normal form if it does not contain any composite or multi-valued attribute. A relation is in first normal form if every attribute in that relation is a single valued attribute

Second Normal Form (2NF)

To be in second normal form, a relation must be in first normal form and relation must not contain any partial dependency. A relation is in 2NF if it has No Partial Dependency, i.e., no non-prime attribute (attributes which are not part of any candidate key) is dependent on any proper subset of any candidate key of the table. Partial Dependency – If the proper subset of candidate key determines non-prime attribute, it is called partial dependency.

Third Normal Form (3NF)

A relation is in third normal form if there is no transitive dependency for non-prime attributes as well as it is in second normal form.

Boyce Codd Normal Form (BCNF)

A relation is in Boyce Codd Normal Form if R is in Third Normal Form and for every functional dependency, Left Hand Side is a super key.

Chapter 7

Conclusion and Future Enhancement

Conclusion

Our project is only a humble venture to satisfy the needs to manage their project work. Several user-friendly coding has also been adopted. This package shall prove to be a powerful package in satisfying all the requirements of the school. The objective software planning is to provide a framework that enables the manager to r reasonable estimates made within a limited time frame at the beginning of the soft project and should be updated regularly as the project progresses.

At the end it is concluded that we have tried on the following points...

- A description of the background and context of the project and its relation to work already done in the area.
- Made statement of the aims and objectives of the project.
- The description of Purpose, Scope, and applicability.
- We define the problem on which we are working in the project.
- We describe the requirement Specifications of the system and the actions to be done on these things.
- We understand the problem domain and produce a model of the system, which describes operations that can be performed on the system.
- We included features and operations in detail, including screen layouts
- We designed the user interface and security issues related to the system.
- Finally, the system is implemented and tested according to test cases.

Future Enhancements

In a nutshell, it can be summarized that the future scope of the project circles around maintaining information regarding:

- We can add a printer in future.
- We can give more advance software for Payroll Management System including more facilities
- We will host the platform on online servers to make it accessible worldwide Integrate multiple load balancers to distribute the loads of the system
- Create the master and slave database structure to reduce the overload of the database queries
- Implement the backup mechanism for taking backup of codebase and database on regular basis on different servers

The above-mentioned points are the enhancements which can be done to increase the applicability and usage of this project. Here we can maintain the records of Employee and Employee Salary.

Also, as it can be seen that now-a-days the players are versatile, i.e. so there is a scope for introducing a method to maintain the Payroll Management System. Enhancements can be done to

maintain all the Employee, Employee Salary, Leave, Department, Payslip.

SOURCE CODE AND SNAPSHOTS

Snapshots

A1 - Home Page



A2 - About Us Page

PAYROLL MANAGEMENT SYSTEM

ABOUT NMIT CORP

With its global headquarters in California; NMIT Corp is a top IT services firm servicing clients across Fortune 500 Companies to Startups. Our talented team of Business Consultants and Technologists average over 18 years of industry-honed experience and have conducted many engagements worldwide.

As the division between strategy, execution, and optimization become increasingly blurred, and knowledge becomes a key source of value for organizations in the new global economy, NMIT Corp's leadership team and consultants have combined historical data, industry best practices, and analytical models to continue the support of our clients as trusted partners. Our approach has continuously evolved and been refined to help organizations reduce project complexities and accelerate return on investments.

NMIT Corp Expert advisors work with clients to deliver customized services and yield superior business outcomes in three primary domains: Strategic IT Outsourcing, Implementing Cloud & Transformative Technologies for Enterprise Solutions, and Incremental Staffing Services.

CORE VALUES

NMIT Corp gives you the power to:

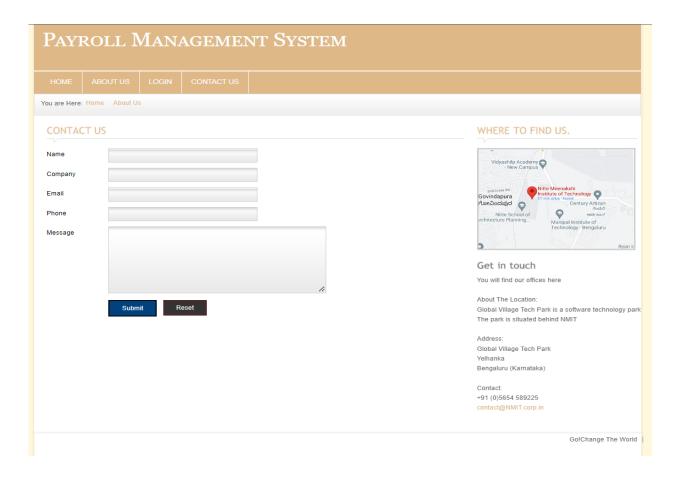
- Client Value: Client is our first focus as Organization we come together to deliver the best to the client. Focus on client's business performance and needs and create long term trusted partnership.
 Top Talent:Create an environment which attracts best talent and retains them to be able to successfully deliver client
- Integrity:Be responsible, reliable and uphold high ethical standards, and treat others with respect.
 Innovative:Develop new ideas, be creative and show case thought leadership.

ADVERTISEMENT

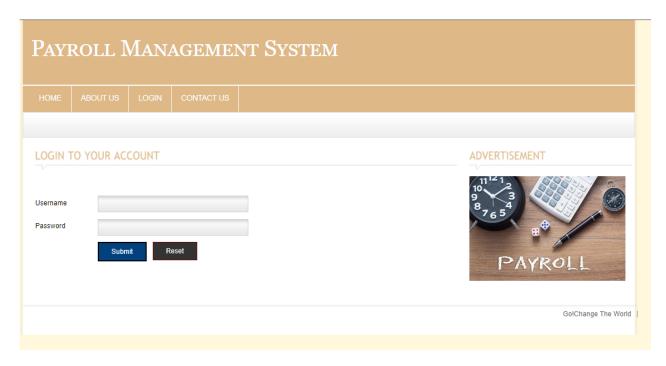


Go!Change The World

A3 - Contact Us



A4 - Login Page



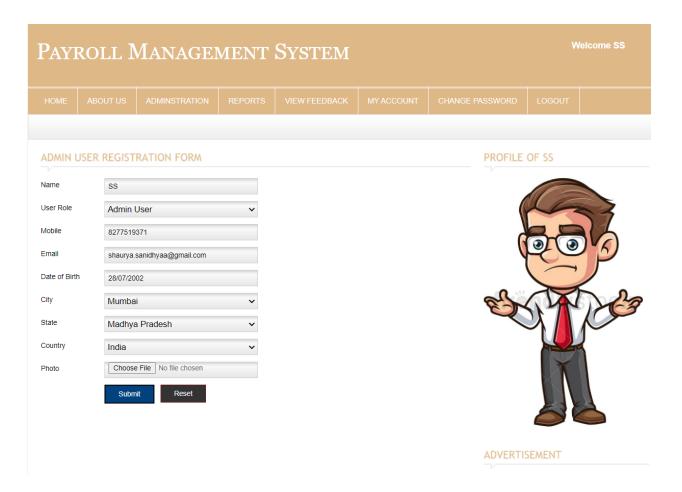
A5 - Change Password

			TOTAL SECOND	MY ACCOUNT	CHANGE PASSWORD	LOGOUT	
CHANGE New Passwo		OUNT PASSWORD				AD\ 10, 9	VERTISEMET
Confirm Pas	sword	ge Password Re	set			8,7	PAYROLL

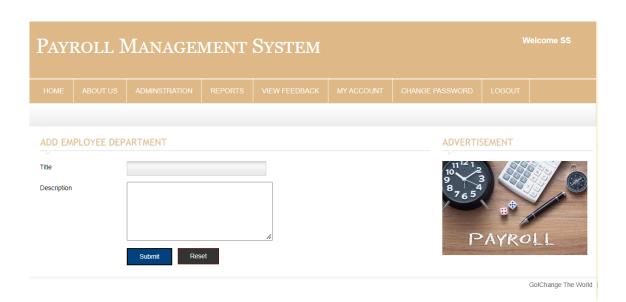
A6 - Salary Report



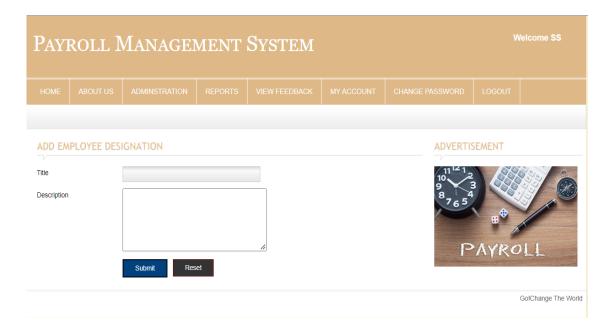
A8 - My Account Page



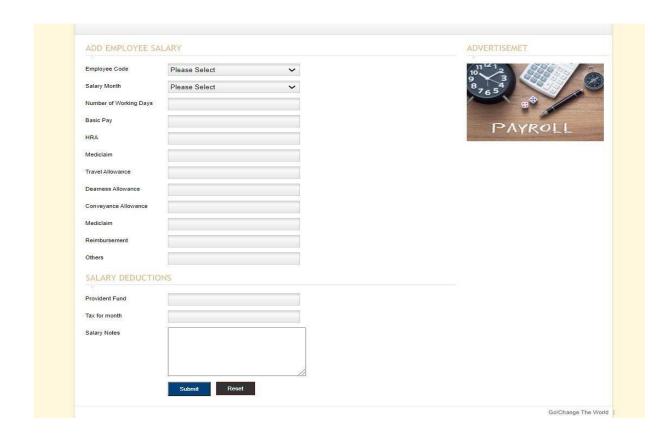
A9 - Add Employee Page



A10 - Add Department Page



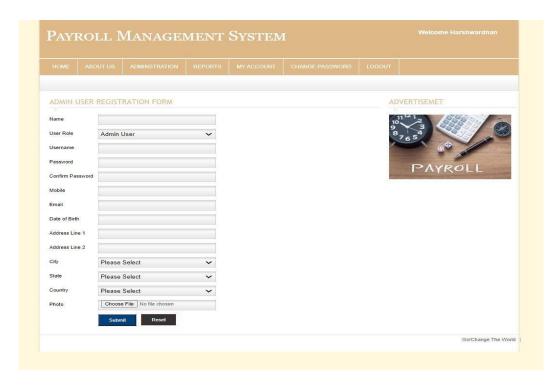
A11 - Add Employee Salary



A12 - Add New User



A13 - User Report



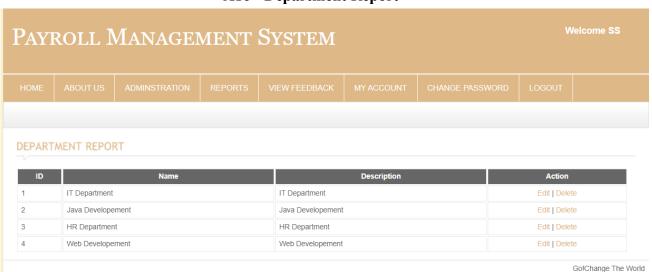
A14 - Salary Report



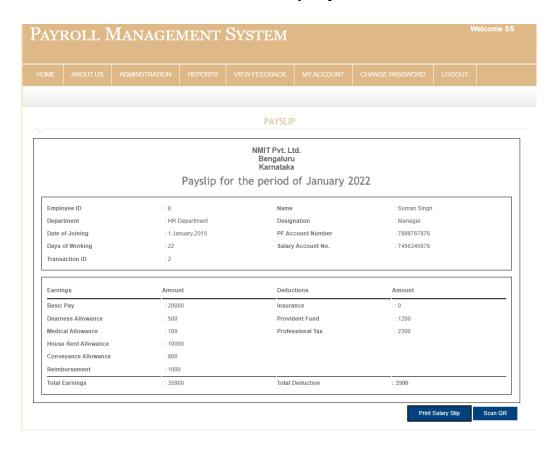
A15 - Designation Report

PAYROLL MANAGEMENT SYSTEM DESIGNATION REPORT Sr. Developer Sr. Developer Edit | Delete Developer Developer Edit | Delete Software Engineer Software Engineer Edit | Delete Manager 6 Sr. Manager Edit | Delete Sr. Manager Go!Change The World

A16 - Department Report



A16 - Salary Slip



SOURCE CODE

Github repository is Given Below: https://github.com/kopstar2309/Payroll-Management-System

CODE SNAPSHOTS

```
| Solution | Solution
```

LOGIN PAGE

```
| Comparison | Com
```

SALARY REPORT PAGE

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