A Mini Project Synopsis on

Employee Payroll Management

S.E. – Computer Science and Engineering-Data Science

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CERTIFICATE

This to certify that the Mini Project report on Employee Payroll Management has been submitted by Shreyas Revankar (21107065), Swapnil Rathod (21107064), Ankit Purohit (21107020) and Meghraj Padwal (21107025) who are a Bonafede students of A. P. Shah Institute of Technology, Thane, Mumbai, as a partial fulfilment of the requirement for the degree in **Computer Science and Engineering(Data Science)**, during the academic year **2022-2023** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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CHAPTER 1

Introduction

The project “Employee Payroll Management System” is a program designed such that it can be used by any law firm to manage the records and pay-out of its employees in a safe, efficient, and organized manner. The program is aimed at automizing the manual pre-existing system of calculating the payroll on sheets which takes a lot of to compose salary of all employees and that can generate error which can cause large problems.

No matter the size of the organization, managing the payroll system is crucial. New business owners who are not knowledgeable in the process may find the procedure challenging because of the various federal and state laws requirements that must be complied with. Therefore, purchasing an automated payroll system is cost-efficient and timesaving. Having an efficient system helps streamline and centralize the payroll method.

Payroll management is very simple, flexible, and user-friendly management software. That takes care all your requirements relating to accounting and management of employees’ payroll.

Payroll stores complete records of the employee generate play-slips and e attendance register, computes all allowance and deductions, and generates all statutory reports. Payroll is the only one software processing with good and wide-industry range of clients. It offers very high flexibility in defining various allowances, deductions; leave rules etc. for the employees and all formula for P.F etc. are definable and changeable for user’s end.

Payroll application has been designed for the purpose of the maintaining details of various allowances and deductions that need to be given to the employee of the organization. Also, it generates the salary sheet of employee of organization that assists the accounts department in many ways.

1.1. Purpose:

The electronic and computerized payroll system will not only offer exact calculations and accurate data of designated employees, but it will also implement security measures and confidentiality of the files and accordingly arrange documents provided by an ingenious and quick-witted database that will indeed construct a paperless environment.

As businesses grow, employee management becomes complex. Payroll Management System is easy to use, employee-centric and HR effective that simplifies managing of employees significantly.

Payroll software often requires very little input from the employer. The employer is required to input employee wage information and hours, then the software uses the information to perform calculations and deduct withholdings automatically. The payroll software is automatically updated whenever a tax law changes and will remind employers when to file various tax forms.

With the help of this system the admin has the information on his fingertips and can easily prepare a good record based on their requirements. Finally, we can say that this system will not only automate the process but save the valuable time of the manager or the admin, which can be well utilized buy his institute.

1.2 Objectives:

The main objective of the project is to achieve accuracy and precision. Save time and manpower. Designing a user-friendly software which is easy to operate. Organizing progress of employee and handle budget of the firm. To calculate payroll and pay checks with ease. To administer and keep an active record of all the transactions. To process the finances of the firm in safe and secure way. It helps a person to know the management of current year. It will also reduce the cost of collecting and processing employee payroll information as there is no need for papers and paysheets.

1.3. Scope:

This project's scope comprises solutions for handling employee personal data, leave management, personnel actions, calculating payroll, accurately registering employee hours using desk time tracking tools, system authentication and authorization for software users. Furthermore, the program will generate various reports for the senior management to aid them in their decision-making process. Specific users with distinct role kinds, such as manager, administrator, human resource people, and finance, will be able to change the system database based on their assigned access capabilities.

Every user with a specified role type can log in with their username and password and gain access to the system to which they have been granted access. Various stats and graphs based on the database will help in understanding the performance and efficiency if the company employees.

CHAPTER 2

Problem Definition

Payroll is usually the most expensive part of a business. Employee attendance systems that use paper sheets are inefficient and make it very easy for employees to cheat the system by entering incorrect data on the sheet. To avoid the mentioned issues, an automatic, secure, and flexible system should be implemented, of which the suggested system is one. Most payroll system lack easy to interact interface. There are lot of errors in calculating payroll manually. Lack of understanding of data in statistical form. No consistent accurate results and no Data Back-up features. Time consuming procedures that led to wastage of time. Data cannot be accessed from anywhere and anytime.

To prevent data redundancy and misuse of data, we have created an application where employees can login and check their pay out of the proposed work. The work aims to not only provide a high-quality user experience, but also provide better features than the prevalent systems, while keeping in mind that these features are provided not at the compromise or loss of any other features that the existing systems provide personal details, leaves taken, salary deducted, and all the functionalities mentioned above.

CHAPTER 3

Proposed System

The project is built keeping in mind that the calculations to be the done would give data consistent results and the data would have timely updated backups to cloud. As we use automated and paperless method the cost expenses are reduced significantly, and we get precise outputs with zero chances of error. It saves HR department time as the calculation are done efficiently. The system can be accessed from anywhere and anytime thus having ease of access. Better understanding of data via statistics and visual representation of information that would help in better decision making.

3.1 Features and Functionality:

Accuracy:
An automated system minimizes the possibility of human error, as the only real factor is whether employees remember to clock in and out.

Deductions:
Payroll systems do not simply record work hours and pay. They perform more complex operations, such as deductions for tax and benefits purposes.

Record-Keeping:
Payroll system can be used to keep detailed and accurate records. These records can be stored in a main database on site, online or in an outside record-keeping facility. Record-keeping can help you monitor trends such as how much overtime you're paying and how many employees participate in your company retirement plans.

Streamlining:
An automated payroll system can help eliminate busywork by streamlining the whole process of scheduling, record-keeping, and payment. Employees can access their records,

print pay stubs and, in some cases, put in requests for time off and leaves through an automated payroll system.

Time Importation:
Many employers use a timekeeping system, such as time clock, to track employees ’work hours. A manual system requires tracking employee time by hand, but a computerized payroll system has the ability to automatically transmit employee entries from the timekeeping system into the payroll system.

Automatic Calculations:
Computerized payroll systems can round employee work hours into quarter-hour segments and accurately calculate the total hours worked and to be paid, thereby saving time spent on manual calculations.

Paycheck Processing:
A manual payroll system requires you to print paychecks on a typewriter or by hand. A computerized payroll system has direct-deposit capability, which saves money spent on live checks and reconciliation. Additionally, computerized printing of paychecks and pay stubs occurs quickly, regardless of volume.

Report Generation:
A computerized payroll system generates payroll reports that allow you to double-check the payroll before printing paychecks or pay stubs. Computerized systems help ensure payroll tax compliance by generating tax reports, including quarterly and annual wage statements.

CHAPTER 4

Project Outcomes

Our task was to develop a payroll system that would keep a record of employee data including their PF, Mediclaim status, and taxes and to be able to calculate the pay of the employees taking into consideration employee data. We have been able to achieve these tasks. The software we developed calculates the employee net pay from the deductions. Most of the bugs that we found and those that the clients and beta users found have been corrected. Any new bugs found will also be corrected and the software will be updated and released.

- User can access his/her portal easily.
- User can check his/her salary details.
- User can check his/her activity status.
- User can his performance report and leave allowances.

CHAPTER 5

Software Requirements

Software Requirement Specification (SRS) is complete specification and description of requirements of software that needs to be fulfilled for successful development of software system. These requirements can be functional as well as non-functional depending upon type of requirement. This is description of features and functionalities of the target system. Requirements convey the expectations of users from the software product. It is the responsibility of system analyst to document the requirements in technical language so that they can be comprehended and useful by the software development team.

The software and technology stacked used in development of an automated resume builder are: -

Operating System: MAC OS, Windows7/8/10/11

Coding Language: Java

Database: MYSQL Database
MySQL is a Database Management System
MySQL, the most popular Open-Source SQL database management system, is developed, distributed, and supported by Oracle Corporation.

Tools: NetBeans, JFrame, Swing,
NetBeans is an integrated development environment (IDE) for Java.
Netbeans IDE version-14

Software development kit: Java JDK 18.0.1The JDK includes tools useful for developing and testing programs written in the Java programming language and running on the Java platform.

CHAPTER 6

Project Design

Design is the first step in the development phase for any engineering product (or) system. It may be defined as “the process of applying various techniques and principles for the purpose of defining a device, a process, or a system insufficient detail to permit its physical realization”. Software design is an iterative process through which requirements are translated into a ‘Blueprint’ for constructing the software.

The design is represented at a high level of abstraction, a level that can be directly translated to specific data, functional and behavioural requirements. The interface design describes how the software communicates within itself, to systems that interoperate with it, and with humans who use it. An interface implies a flow of information (e.g., data and /pr control). Therefore, the data and control flow diagrams provide the information required for interface design.

1)LOGIN

This is the very first page of the application. Here the user needs to enter his/her username and password to sign up in the application. If he/she is new, then they need to first register and the log up. The system also gives option to reset the credentials

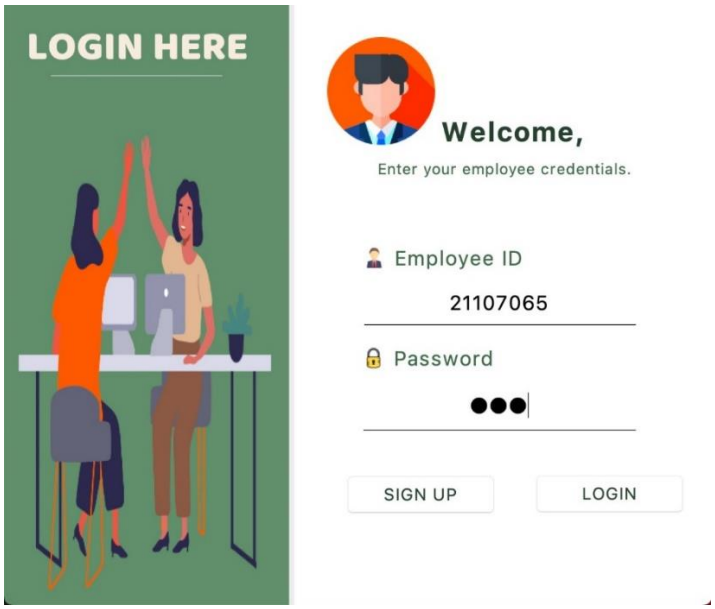

Fig 6.1. Login Page

2) SIGNUP

The user can interact with login page via SIGN UP and LOGIN. After clicking SIGNUP, a registration form will appear, user has to fill the following details: 1) First name 2) Last name 3) Employee ID 4) Password 5) Mobile number 6) Gender 7) Email ID.

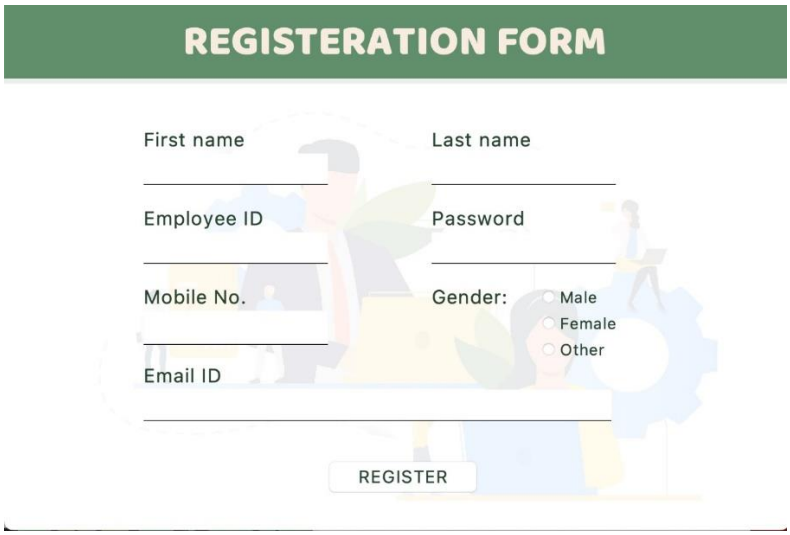

Fig 6.2 Sign up Page

3) DASHBOARD

After LOGIN, the user can select PROFILE,REPORT,SALARY/ALLOWANCE options.

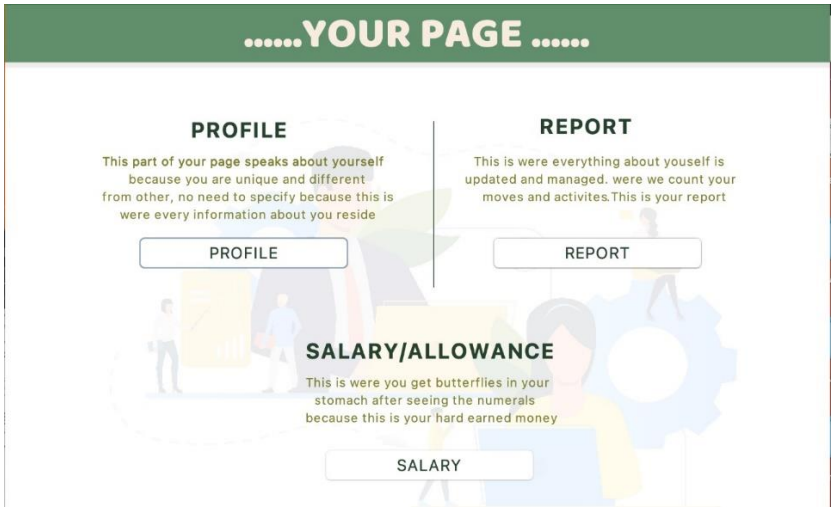

Fig 6.3 Dashboard Page

4) PROFILE

In PROFILE Page, User can view NAME, POST, DATE OF JOINING, COMPANY, BRANCH.

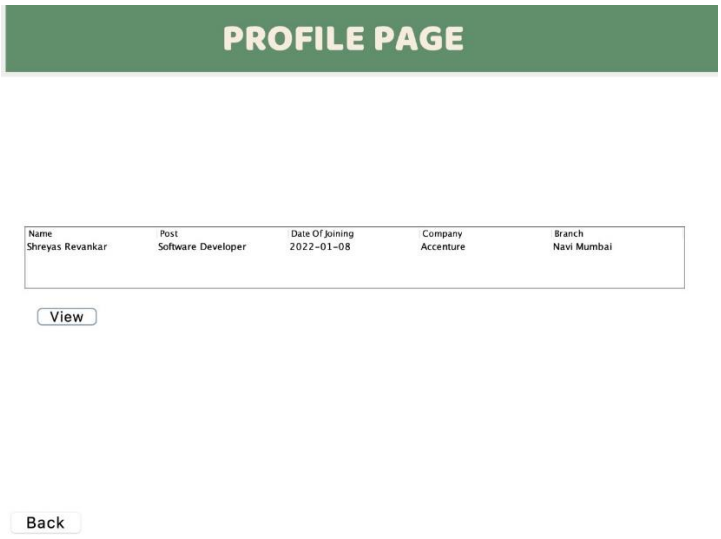

Fig 6.4 Profile Page

5) REPORT

In REPORT Page, User can view his Login, Logout and Meetings as per date and time.

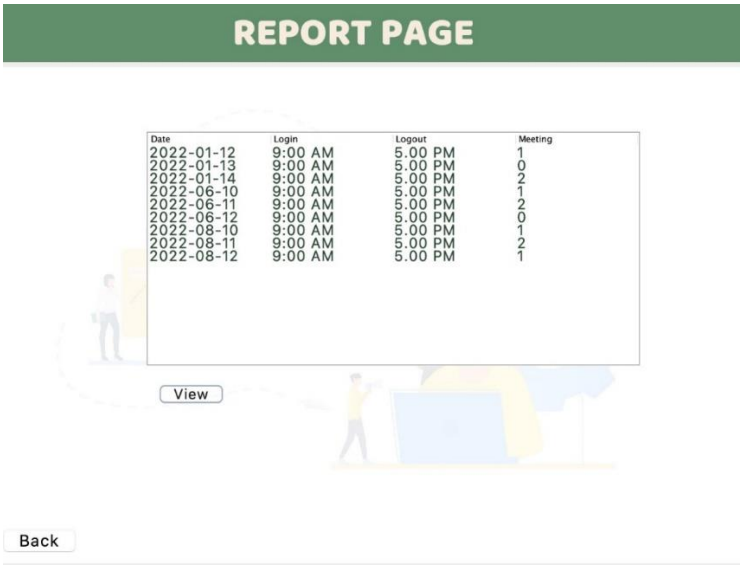

Fig 6.5 Report Page

6) SALARY

On SALARY Page, User can view the date, login, logout, meeting, name, pose, date of joining, company branch, annual salary, monthly salary, in hand salary, PF, rent, Mediclaim, and taxes.

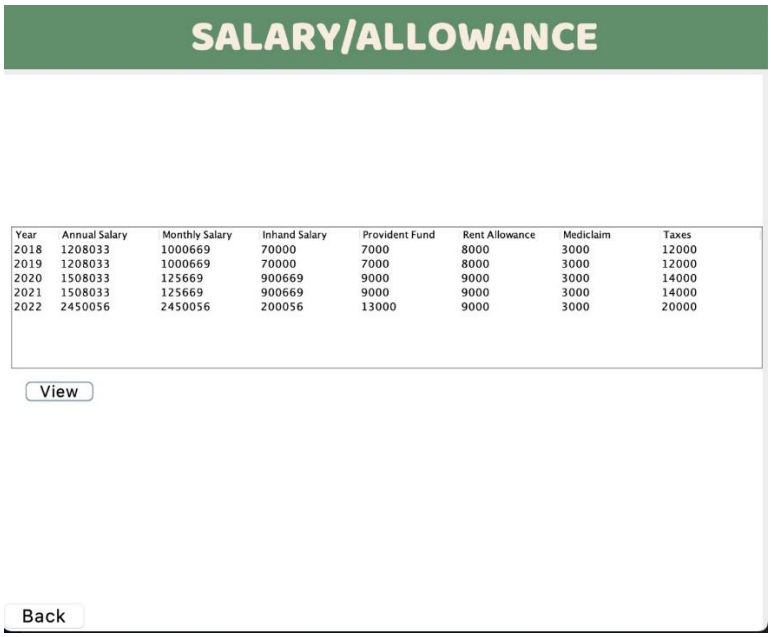

Fig 6.6 Salary Page

CHAPTER 7

Project Scheduling

Scheduling in this project management is the listing of activities, deliverables, and milestones within a project. A schedule also usually includes a planned start and finish date, duration, and resources assigned to each activity. Effective project scheduling is a critical component of successful time management, especially for professional service businesses.

A Gantt chart is a type of bar chart that illustrates a project schedule. Modern Gantt charts also show the dependency relationships between activities and the current schedule status. This chart lists the tasks to be performed on the vertical axis, and time intervals on the horizontal axis. The width of the horizontal bars in the graph shows the duration of each activity. Gantt charts can be used to show current schedule status using percent-complete shadings.

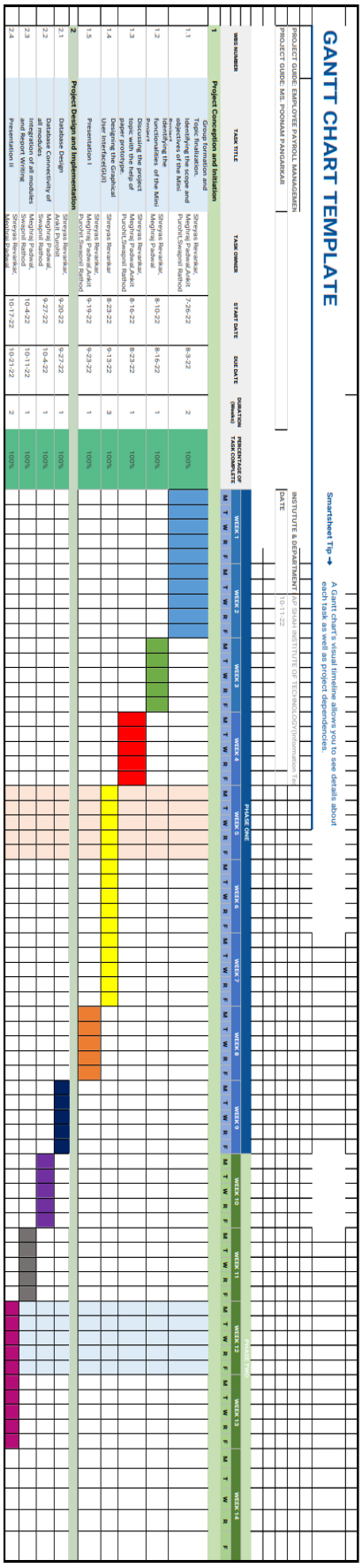

Fig 7.1 Gantt Chart

CHAPTER 8

Conclusion

“Payroll Management System” software developed for a company has been designed to achieve maximum efficiency and reduce the time taken to handle the Payroll activity. It is designed to replace an existing manual record system thereby reducing time taken for calculations and for storing data. The system is strong enough to withstand regressive daily operations under conditions where the database is maintained and cleared over a certain time of span. The implementation of the system in the organization will considerably reduce data entry time and also provide readily calculated reports. Payroll Management System Project in Java with Source Code. This system is meant to supply the power to line up all the tasks of employee payment. This system deals with the financial aspects of employee’s Salary, Deductions, allowances, Net pay. The user can view the account from anywhere at any time and user can also manage deductions, modify overtime and salary rate. Each and every detail about employee’s payment is displayed which includes Name with deduction, overtime, bonus and net pay. This system makes easier to the user for managing payroll system as it is not time-consuming. This project is not difficult to operate and understood by the users. A payroll management system is a software that is used to manage all your employee's financial records in a simple and automated fashion. This payroll management system manages employee's salaries, deductions, other conveyance, net pay, bonuses etc.

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[3] Connect Mysql with NetBeans:

https://www.youtube.com/watch?v=rLzNu-iHOyw&t=34s

[4] Update data:

https://www.youtube.com/watch?v=1DeFr3h4O8E&t=278s

[5] GUI Application development video:

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[6] Form Validation:

http://moodle.apsit.org.in/moodle/mod/url/view.php?id=121701

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