CSE 2004 - DATABASE MANAGEMENT SYSTEMS

PAYROLL MANAGEMENT SYSTEM

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I. ABSTRACT

Finance framework is the core of any Human Resource System of an association. The arrangement needs to deal with the figuring of pay according to guidelines of the organization. A few associations are doing the counts physically yet there are couple of utilizations promptly accessible which figure the month to month pay moreover. This won't be reasonable to all situations, Especially in Software organizations or for legally binding representatives in any association, the worker compensation depends on the days he/she has worked. The proposed application which joins Attendance administration, leave administration, occasions and schedule of organization lastly the pay calculation. The system framework computes the no. of days, the representative is in office, including days for his/her affirmed leaves and pronounced occasions and ends of the week and conclusion the unapproved or approved work days.

This project is built keeping in mind that it is to be used by only one user that is the admin. It is built for use in small scale organization where the number of employees is limited. According to the requested requirement the admin can add, manipulate, update and delete all employee data in his organization. The admin can add new departments and delete them. The Admin can also add predefined pay grades for the employees. The required records can be easily viewed by the admin anytime time he wants in an instant. The payment of the employee is based on monthly basis. Numerous validations implemented would enable the admin to enter accurate data. The main objective of this framework is to save time, make the system cost effective and management records efficiently.

II. INTRODUCTION

We are living in the 21st century ,witnessing a lot of multinational and startup companies.So it seemed really interesting and challenging to take up a project , which is the basis of a modern day company-"The Payroll Management System".We believe that it would provide an opportunity see the deep side of the application of Databases through this project.This is a vast area of study and discussion, so we hope to make as much as possible out of this topic. The proposed project "Payroll Management System" has been developed to overcome the problems faced in the practicing of manual system. This software is built to eliminate and in some cases reduce the hardships faced by the existing system. Moreover this system is designed for particular need of the company to carry out its operations in a smooth and effective manner.It is user-friendly as no formal knowledge is required to use the system.

Human resource challenges are faced by every organization which has to be overcome by the organization. Every organization has different employee and payroll management needs. Therefore I have design exclusive Employee and payroll Management System that are adapted to the organization's Managerial Requirements. The proposed project "Employee Database and Payroll Management System" has been developed to overcome the problems faced in the practicing of manual system. This software is built to eliminate and in some cases reduce the hardships faced by the existing system. Moreover this system is designed for particular need of the company to carry out its operations in a smooth and effective manner.

III.   AIM & OBJECTIVE

The purpose of this document is to describe the functionality and specifications of the design of a web application for Managing Employees and their payroll. The expected audiences of this document are the developers and the admin of the web application. Now with the help of this system the admin has the information on his finger tips and can easily prepare a good record based on their requirements.

The main objective of this project is to create a user friendly interface for Payroll Management System which can be used by both admin and employee to track their day to day progress, providing a wide range of functions with in the interface to do so. 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. This will be an additional advantage and management of power based on their free time from his normal duty.

IV.   SOFTWARE AND APPLICATION SPECIFICATION

• **Front End**:Python and PAGE GUI Builder ,PyCharm

• **Back End**:MySQL

- **PYCHARM :**

PyCharm allows developers to work with a number of relational databases including Oracle, SQL Server, MySQL and PostgreSQL.

The developers can further use the IDE to run queries, edit SQL code, browse data, alter table data, and alter schemas.

PyCharm further supports SQLAlchemy library and inject SQL code into code written in various programming languages.

The professional edition of the IDE further makes it easier for developers to handle large volumes of data efficiently through data grids.

PyCharm makes it easier for programmers to write various web applications in Python supporting widely used web technologies like HTML, CSS, JavaScript, TypeScript and CoffeeScript.

- **PAGE GUI BUILDER :**

PAGE is a drag-and-drop GUI generator for Python and Tkinter which generates Python modules which display a relatively simple GUI constructed from Tk and ttk widget sets using the Place Geometry Manager. PAGE is a cross platform tool runing on any OS which has Tcl/Tk installed. PAGE output requires only Python and Tkinter and runs on Linux, Unix, Windows, OS X, and even Rasperian.

- Drag-and-drop GUI generator for Python.

- PAGE is cross-platform running wherever tcl/tk is installed.

- Generated Python only requires Python to run.

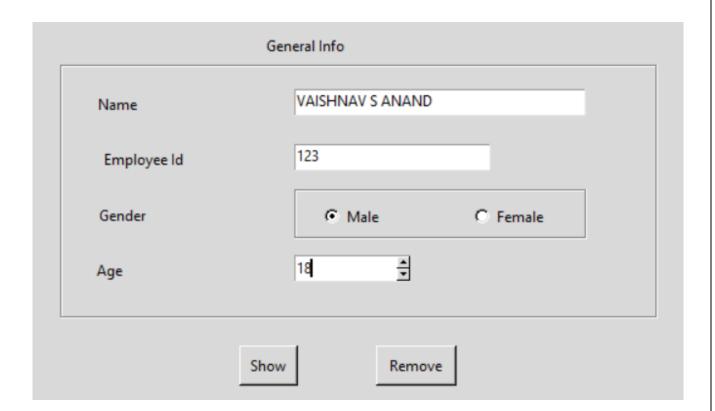- Extensive documentation, tutorial, and examples.

V.   <u>MODULES</u>

MODULE	NAME
EMPLOYEE MANAGEMENT	VAISHNAV S ANAND
LEAVE	AKILAN N
SALARY	SANTHOSH PRIAN RS
PROJECT ALLOTMENT	UDHAYAKUMAR R
DEPARTMENT	ABHAY MISHRA

VI. MODULE DESCRIPTION

- **Employee Management Module**

Admin can Add,Remove,Show the Employees.We can Manages Employee information.Each employee has unnique Employee_id within the system. Message Boxes are provided for best user experience letting users know about their current processes.Set of Primary Keys and Attributes are defined for the easy understanding of the fimal Result
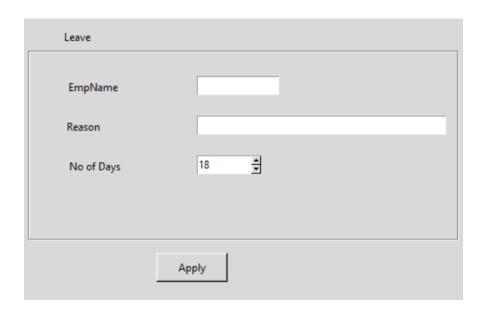
Buttons used in general are :

- **SHOW**:To fetch the entire details
- **REMOVE** :To kickOut an Employee
- **ADD**:To add a new employee
- UPDATE:To update existing data of the employees

- **Leave Module**

Employee can apply for leave after login to system. Admin can respond leave by approve or reject. Employee can check his leave status it would be approve or reject. Leave directly affects Payment reducing a penalty of

PENALTY=SALARY*LEAVE/2

Leave

EmpName

Reason

No of Days 18

Apply

- **Attendence Module**

Admin can edit the attendance attribute of each employee manually.Salary will be dependent on the attendance pattern.

Payment is done on the basis of

PAYMENT=ATTENDENCE * SALARY/DAY

Attendance

EmpId

Give

- **Salary Module**

At the time of salary generation Admin can set manually HR, DA, Travel, Medical, Washing Allowance.for each employee.Leave will be deducted from salary.Admin can generate month wise salary for each employee one by one.

Personal Info

Address	
Phone	

Career Info

Designation	
Department	
Salary	
Project	

Add   Update

- **Project Allotment Module**

Admin can allot specific project to the employee to work on.He has to specify the number of days within which it has to be completed.Salary bonus and deductions are affected through this.

EMPLOYEE

ATTRIBUTE	DATATYPE	WIDTH	CONSTRAINTS
EMPLOYEE_ID	VARCHAR	10	PRIMARY KEY
EMPLOYEE_NAME	CHAR	30	NOTNULL, UNIQUE
AGE	INT	3	CHECK>18
DOB	DATE		
ADDRESS	VARCHAR	30	
DATE OF JOINING	DATE		
DESIGNATION	CHAR	15	DEFAULT=TRAINEE
GENDER	CHAR	1	CHECK='M' OR 'F'
DEPT_NO	INT	5	FOREIGN KEY

LEAVE

ATTRIBUTE	DATATYPE	WIDTH	CONSTRAINTS
LEAVE_ID	VARCHAR	15	PRIMARY KEY
FROM DATE	DATE		
TO DATE	DATE		
REASON	CHAR	20	
STATUS	CHAR	20	

PROJECT

ATTRIBUTE	DATATYPE	WIDTH	CONSTRAINTS
PROJECT NAME	VARCHAR	15	UNIQUE
PROJECT NUMBER	NUMBER	5	PRIMARY KEY
DEPT_NUMBER	NUMBER	5	FOREIGN KEY
LOCATION	VARCHAR	15	NOT NULL
START DATE	DATE		
END DATE	DATE		

SALARY

ATTRIBUTE	DATATYPE	WIDTH	CONSTRAINTS
EMP_ID	VARCHAR2	15	FOREIGN KEY
BANK ACCOUNT	NUMBER	15	UNIQUE
SALARY AMOUNT	NUMBER	8	CHECK
LEAVE (DAYS)	NUMBER	15	CHECK
TRAVEL ALLOWANCE	NUMBER	6	
DEARNESS ALLOWANCE	NUMBER	5	
MEDICAL ALLOWANCE	NUMBER	4	
BONUS	NUMBER	5	

DEPARTMENT

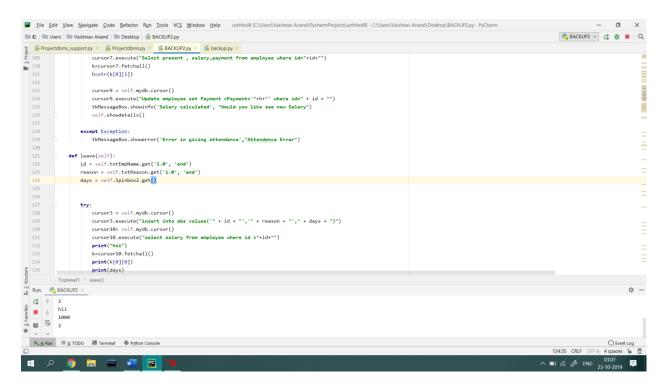| ATTRIBUTE	DATATYPE	WIDTH	CONSTRAINTS
DEPT_NAME	VARCHAR2	15	UNIQUE
DEPT_NUMBER	NUMBER	5	PRIMARY KEY
MANAGER_SSN	VARCHAR2	10	FOREIGN KEY
MANAGER STARTDATE			

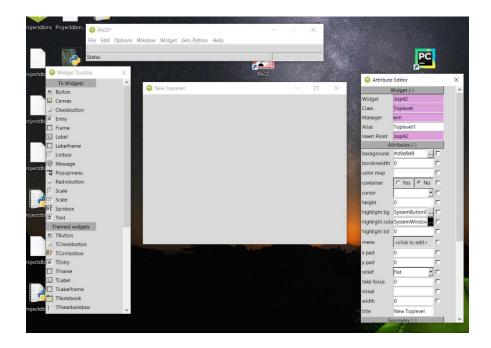# VII. IMPLEMENTATION SNAPS

Figure 1Using PyCharm

Figure 2Using PAGE GUI Builder

```
MySQL 8.0 Command Line Client
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 126
Server version: 8.0.17 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use projectdbms
Database changed
mysql> show tables;
+----------------------+
| Tables_in_projectdbms |
+----------------------+
| abs                  |
| employee             |
+----------------------+
2 rows in set (0.14 sec)

mysql> desc employee;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| name        | char(20)    | YES  |     | NULL    |       |
| id          | varchar(15) | YES  |     | NULL    |       |
| gender      | char(10)    | YES  |     | NULL    |       |
| age         | int(5)      | YES  |     | NULL    |       |
| address     | varchar(30) | YES  |     | NULL    |       |
| phone       | int(15)     | YES  |     | NULL    |       |
| designation | varchar(15) | YES  |     | NULL    |       |
| department  | varchar(15) | YES  |     | NULL    |       |
| salary      | int(10)     | YES  |     | NULL    |       |
| project     | varchar(10) | YES  |     | NULL    |       |
| present     | int(15)     | YES  |     | NULL    |       |
| Payment     | int(16)     | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
12 rows in set (0.08 sec)

mysql> desc abs;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| id     | varchar(10) | YES  |     | NULL    |       |
| reason | char(20)    | YES  |     | NULL    |       |
| days   | int(5)      | YES  |     | NULL    |       |
```

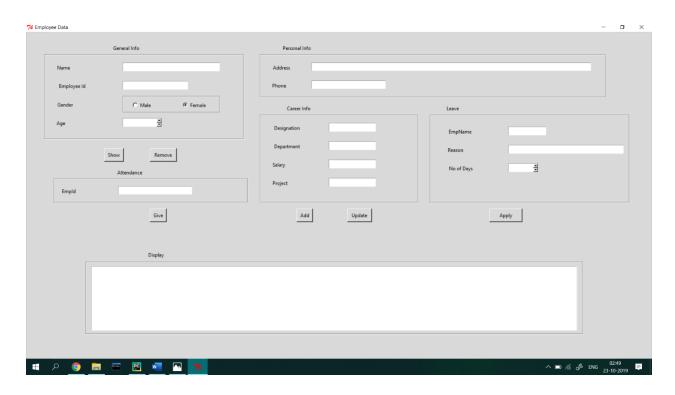*Figure 3MySQL Backend*

Figure 4Normal Output Screen
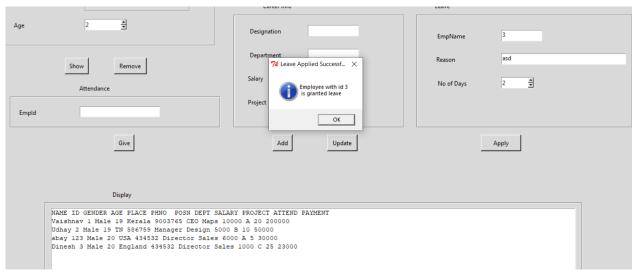

Figure 5Sample Output

Figure 6Message Box Example

Figure 7Display Box Structure

VIII.   <u>CONCLUSION</u>

The application Payroll System has made the best possible efforts to satisfy the needs of Employees and Administrator. The details can be accessed and the salary calculation is done according to the rules and regulations of particular company in shortest time frame and keeps Employers up to date on his statutory obligations. Efficiently manage employee information with easy to use interfacing and process monthly payroll along with satisfying features like leave reports, time sheet and work sheet. So that it promotes clear, transparent, accountable and user friendly administration . This project is built keeping in mind that it is to be used by only one user that is the admin. It is built for use in small scale organization where the number of employees is limited. According to the requested requirement the admin can add, manipulate, update and delete all employee data in his organization. The admin can add new departments and delete them. The Admin can also add predefined pay grades for the employees. The required records can be easily viewed by the admin anytime time he wants in an instant. The payment of the employee is based on monthly basis. Numerous validations implemented would enable the admin to enter accurate data. The main objective of this framework is to save time, make the system cost effective and management records efficiently.

IX.   <u>REFERENCES</u>

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