EMPLOYEE MANAGEMENT SYSTEM

MYSQL PROJECT PRESENTATION

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Summary

The **Employee Management system** is an automated platform that handles key HR tasks like employee attendance, leave management, and payroll processing. By using a relational database, it simplifies and streamlines HR operations for increased efficiency and accuracy.

Key Features:

- Attendance Tracking: Automatically logs employee attendance and generates reports.
- Leave Management: Allows leave requests, tracks approvals, and integrates with payroll.
- Payroll System: Calculates salaries, bonuses, and deductions, ensuring timely payments.
- Analytics: Provides insights into attendance patterns, leave usage, and payroll trends.

Benefits:

- Increased Efficiency: Automates routine HR tasks, reducing manual effort.
- Improved Data Management: Centralizes all employee data for easy access and analysis.
- Cost Savings: Reduces errors in payroll and attendance calculations, cutting administrative costs.

Objective of Project:

The **Employee Management system** aims to automate and streamline essential HR functions such as attendance tracking, leave management, and payroll processing through a SQL-based database.

The key goals are:

- Simplify HR tasks by automating routine processes.
- Improve accuracy in attendance, leave, and payroll records.
- Enhance decision-making with real-time data analytics.

By achieving these objectives, the system will reduce manual errors, save time, and provide valuable insights into employee management.

Problem Statement:

Challenges the System Solves:

- **Manual Tracking Issues**: Tracking employee attendance and leave requests manually is time-consuming, inefficient, and prone to human error.
- **Data Inaccuracy**: Discrepancies in attendance records and leave requests often result in payroll issues and employee dissatisfaction.
- **Inefficient Reporting**: The lack of automated reporting leads to delays in accessing real-time data and makes it difficult to analyse employee performance trends.

By automating these processes, the system solves these inefficiencies, ensuring accurate and timely data management.

Business Objective

How this will Benefit the Business:

- **Increased Operational Efficiency**: Automating attendance, leave, and payroll processes reduces time spent on manual tasks, allowing HR teams to focus on higher-value activities.
- **Reduced Errors**: Automation minimizes human errors in data entry, improving the accuracy of attendance records and payroll calculations.
- **Real-Time Data Insights**: The system provides real-time access to employee data, enabling managers to make informed decisions based on current attendance, leave trends, and payroll analysis.

These improvements lead to cost savings, better employee satisfaction, and more efficient HR management.

Database Schema

-- Employees table

...Employee table will include all the personal details of the employee and would cover overall information of that particular employee

```
CREATE TABLE Employees (
    EmployeeID INT PRIMARY KEY,
    EmployeeName VARCHAR(100) NOT NULL,
    DateOfJoining DATE,
    Position VARCHAR(50),
    DepartmentID INT,
    Email VARCHAR(100) UNIQUE,
    PhoneNumber VARCHAR(15) UNIQUE
 );
```

Database Schema

-- Departments & Attendance Table

```
CREATE TABLE Departments (
    DepartmentID INT PRIMARY KEY,
    DepartmentName VARCHAR(100) UNIQUE NOT NULL,
    ManagerID INT
);
CREATE TABLE Attendance (
    AttendanceID INT PRIMARY KEY,
    EmployeeID INT,
    AttendanceDate DATE NOT NULL,
    Status ENUM('Present', 'Absent', 'On Leave') NOT NULL
);
```

...Department Table maintains the data of the all the possible departments an employee can belong to.

..Attendance table includes all the data of the employees attendance which includes the days employee has worked in a month.

Database Schema

-- Leave Requests & Shifts Table

```
CREATE TABLE LeaveRequests (
    LeaveID varchar(10) PRIMARY KEY,
    EmployeeID INT,
    LeaveType VARCHAR(50),
    StartDate DATE NOT NULL,
    EndDate DATE NOT NULL,
    Status ENUM('Pending', 'Approved', 'Rejected') DEFAULT 'Pending'
);
```

... LeaveRequests table keeps the record of the number of leaves an employee takes or has taken over the course of month

```
CREATE TABLE Shifts (
    ShiftID varchar(50) PRIMARY KEY,
    ShiftName VARCHAR(50) NOT NULL,
    StartTime TIME NOT NULL,
    EndTime TIME NOT NULL,
    BreakDuration INT -- in minutes
);
```

...Shifts table keeps the record of the shift start time, End time and break duration

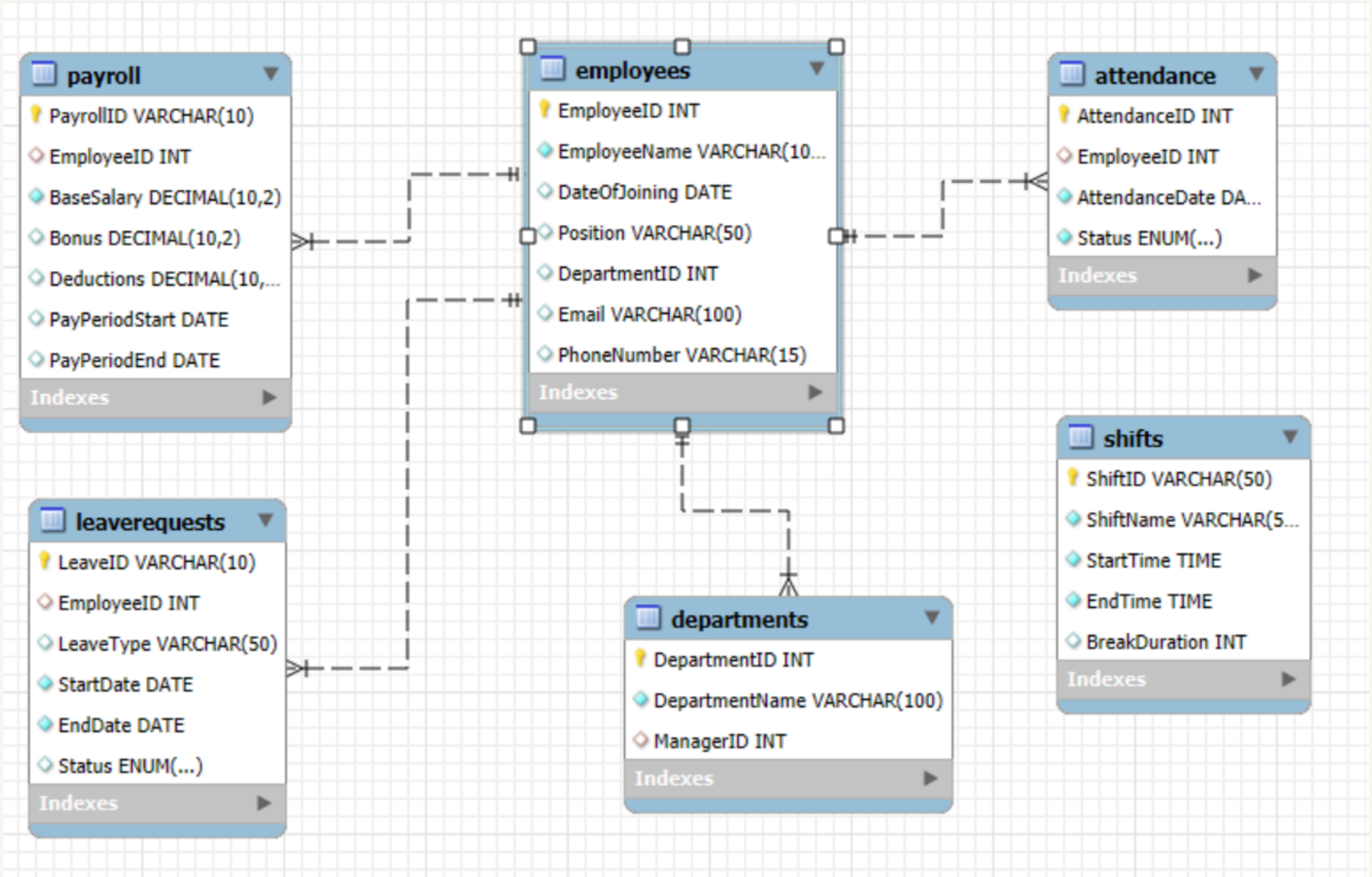
Database Schema

-- Payroll Table

```
CREATE TABLE Payroll (
    PayrollID Varchar(10) PRIMARY KEY,
    EmployeeID INT,
    BaseSalary DECIMAL(10, 2) NOT NULL,
    Bonus DECIMAL(10, 2),
    Deductions DECIMAL(10, 2),
    PayPeriodStart DATE,
    PayPeriodEnd DATE
);
```

...Payroll table keeps track of Pay period, Bonus and base salary of particular employees.

Enhanced Entity-Relationship(EER) model



Queries Used:

Key SQL Queries in the Employee Management System:

1. Employee Attendance Insertion:

```
INSERT INTO Attendance (AttendanceID, EmployeeID, AttendanceDate, Status)
```

This query automates the process of inserting attendance records for employees.

2. Leave Request Analysis:

```
SELECT EmployeeID, LeaveType, Status
FROM LeaveRequests
WHERE Status = 'Approved';
```

Used to retrieve leave requests that have been approved, helping HR track employee leave usage.

Queries Used:

3. Total Leave Count per Employee:

```
SELECT EmployeeID, COUNT(*) AS TotalLeaves
FROM LeaveRequests GROUP BY EmployeeID;
```

This query summarizes the total number of leave requests for each employee, providing an overview of leave trends.

4. Employee Payroll Summary:

```
SELECT EmployeeID, PayrollID, BaseSalary, Bonus FROM Payroll
WHERE Bonus > 500;
```

Retrieves payroll details for employees who received bonuses, aiding in payroll analysis.

These queries are pivotal for ensuring smooth management of employee attendance, leave, and payroll systems.

System Features:

Main Features of the Employee Management System:

- **Attendance Tracking**: Records and reports employee attendance (present/absent).
- **Leave Request Management**: Allows employees to request leave, tracks status, and integrates with payroll.
- **Payroll Processing**: Automates salary, bonus, and deduction calculations.
- **Employee Analytics**: Provides insights into leave trends, attendance, and payroll distribution across departments.

These features enhance operational efficiency, streamline HR processes, and improve decision-making.

Conclusion:

Key Takeaways:

- The Employee Management system successfully automates key HR functions like attendance tracking, leave management, and payroll processing.
- By reducing manual work and errors, the system improves accuracy, saves time, and provides real-time data insights for better decision-making.
- This system is an essential tool for businesses looking to improve HR efficiency and ensure smooth employee management.

The Employee Management system not only simplifies HR operations but also drives productivity by providing valuable insights and automating routine tasks.

Thank you!