

# **Employee Management System**

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## **Visual Programming – Assignment # 2**

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## Introduction

This project, titled **Employee Management System**, was developed as part of the **Visual Programming** course under the supervision of **Ms. Maheen Nadir**. The system is built using **C# Windows Forms** and connected to a **SQL Server Express** database. The main objective of this project is to create an easy-to-use desktop application for managing employee information in a structured and organized way.

The system provides essential features such as employee registration, login, salary management, and record updates. It allows the user to navigate through different sections like Dashboard, Add Employee, Live Data Display, and Salary using a sidebar menu. The purpose of this project is to demonstrate the application of visual programming concepts in real-world software development.

## Objectives

- - To provide a secure login/signup system
- - To manage employee data (Add, Update, Delete)
- - To display and update employee information in real-time
- - To manage and update employee salary details
- - To implement form navigation using a sidebar
- - To apply a proper and professional visual theme

## Tools & Technologies Used

- - Microsoft Visual Studio
- - C# (.NET Framework – Windows Forms)
- - SQL Server Express (SQL Database)
- - Windows Forms GUI Components
- - Custom Icons and Styling

## Project Description

The **Employee Management System** is a desktop application developed using **C# Windows Forms** and connected to a **SQL Server Express** database. This system aims to simplify and digitize the process of managing employee data within an organization. The application provides user-friendly forms and an organized interface that allows authorized users to securely sign up, sign in, and perform operations like adding, editing, deleting, and viewing employee information in real time.

After successful login, users are directed to a **Home Form** featuring a **sidebar menu** for easy navigation across multiple components:

### SignUp Form

New users can register using the Sign In form. The form collects basic user information and credentials and stores them securely in the database. Input validation ensures proper data entry.

### Login Form

Existing users can log in using the Login form. The system verifies credentials from the SQL Express database. Successful login grants access to the Home page.

## Home Form & Sidebar

After logging in, users are redirected to the Home Form, which features a sidebar navigation menu to access Dashboard, Add Employee, Live Data Display, Salary Management, and Sign Out.

## Dashboard

Displays a general overview of employee data. It includes summary cards and quick info like total employees or departments.

## Add Employee

Users can Add, Update, or Delete employee records. The form includes fields like name, contact, department, and designation. All actions are synced with the SQL database.

## Live Data Display

This component displays real-time employee records from the database in a grid or table. Users can also edit, update, or delete entries directly from this view.

## Salary Form

A dedicated form to view and upgrade an employee's salary. Users can apply increments, allowances, or make salary changes.

## Sign Out

Users can securely log out of the system using the Sign Out option, returning to the login page.

## Database

The application uses SQL Server Express for backend data storage. Tables include user authentication and employee information with real-time syncing for CRUD operations.

## Conclusion

The **Employee Management System** successfully fulfills the goals set for this project. It provides a complete solution for managing employee data through a user-friendly interface with secure login and registration features. The system allows real-time operations such as adding, updating, and deleting employee records, as well as managing employee salaries.

By integrating Windows Forms with a SQL Server Express database, the application demonstrates the effective use of visual programming and database connectivity. This project not only helped us improve our technical skills in C# and SQL but also enhanced our understanding of software design, user interface development, and data handling.

Overall, the system is efficient, functional, and meets the essential requirements for a basic employee management application.