**Report Final Project SSIP**

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# **Overview**

## This project is a Java Swing Desktop Application developed in NetBeans IDE, designed to manage employee and department data. It connects to a MySQL database (employee\_db), offering CRUD functionality along with GUI-based filtering.h ticket booking and event management.

# **Database Structure**

Table: departments

- dept\_id (int, PK, AI): Unique department ID

- dept\_name (varchar(50)): Department name

- location (varchar(100)): Department location

Table: employees

- emp\_id (int, PK, AI): Unique employee ID

- name (varchar(100)): Full name

- email (varchar(100)): Unique email

- salary (decimal(10,2)): Salary

- hire\_date (date): Date of hiring

- dept\_id (int, FK): Foreign key to departments

# **Application Features (GUI)**

1.Dashboard.java

- Displays all employee records in a table.

- Provides filtering based on department (via JComboBox) and salary range (via JTextField).

- Navigation Buttons: Edit Employee (EmployeeManagementSystem) and Edit Department (DepartmenManagementForm)

2.EmployeeManagementSystem.java

- Add new employee: ID, name, email, hire date, salary, department.

- Edit and delete employee via name selection dropdown.

- Displays all employee data in a table.

- Includes a Back to Dashboard button.

3.DeparmentManagementForm.java

- Displays department data in a table.

- Add new department with ID, name, and location.

- Includes a Back to Dashboard button.

# **CRUD Functionality**

1. **Create** a new employee by filling out a form with details such as ID, name, email, hire date, salary, and associated department. This is done in the EmployeeManagementForm. And you can **Create** a new department by inputting the department ID, name, and location. This functionality is available in the DeparmentManagementForm.
2. **Read** existing employee data in a table view. Users can also filter records by department or salary range on the Dashboard form.
3. **Update** employee information by selecting the employee’s name from a dropdown and editing the details accordingly.
4. **Delete** an employee record by selecting their name and confirming deletion.

# **Conclusion**

The Employee Management System is a well-structured Java Swing desktop application that effectively simulates real-world business processes in human resource and department administration. It demonstrates the practical use of CRUD operations integrated with a MySQL database, allowing users to manage employee and department data efficiently through an intuitive GUI.

By supporting key operations such as employee onboarding, data tracking, and salary or department-based filtering, the application reflects essential workflows found in professional HR systems.

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