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Employee management system using spring boot and react JS

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ABSTRACT

In this era of technological developments, people tend to use more sophisticated data management with goodperformance . Web Pages are the face of the Internet, which helps users to access the information across the Internet. Web Pages are made by developing them using various tools and technology stacks like HTML defines structure, CSS decorates the structure, JavaScript Enables us to have Dynamic Web Pages or Applications, One of the famous stacks which is put to usage for decades is the JEE of Java and Spring with Spring Boot. Therefore these latest technologies named Spring Boot and React are playing a very prominent role in managing the data. Sprint Boot is considered as a light-weight framework and helps in retrieving and storing the data with less complexity. React JS is extremely competent and handles dependencies. Our model helps in managing employees data in a database with Sprint boot as backend and react JS as front end. Axios is used to connect frontend with backend

***Keywords*:** *Spring Boot, React JS, Axios*

1. INTRODUCTION

Our Project (Employee Management System using spring boot and React Js) is an implementation of a web application using Spring with Spring Boot as Backend and React with router as Frontend. React is one of the most popular libraries for the front-end development. React uses components rendering over a single web page. Axiosis the bridge with closes the gap between the Spring Framework and React Library, Making it a robust Web Application. This project takes users' information through the web page on the react and passes that informationthrough the Axios to the backend which in-turn places the information in the database called derby, Apache Derbywas used along with JDBC integration as a Database. This Process can be implemented with any other SQL Database as well. Therefore Employees data can be maintained with the operations like add, edit, view and deleteusing flexible home page.

2. EXISTING SYSTEM

In the existing system, Employees data is managed using Java servlets using Tomcat server. Servlets uses containers which has in-built services like security, mails, messages which makes the container heavy weight andresults in poor performance of data management. This is considered as drawback in existing system.

3. PROPOSED SYSTEM

Spring Boot is considered as a light-weight framework which results in less complexity in maintaining the data. In our project, we have implemented the spring framework since it uses less weight containers. To overcome thedrawback in the existing system, we have used spring framework in our model. Therefore we can easily manage data operations of employee.

4. WORKING PROCEDURE

4.1 Backend and Frontend

We have Connected backend with front-end using eclipse and visual studio code.Backend Eclipse:
Created spring boot project accordingly for our requirements and implemented it. Added three dependencies toit. They are:
1)Derby dependency: Any derby driver is to to be added for implementation.2)Data-JPA: This is used as a dependency for JDBC program.
3)Dev-tools: These are used to restart spring automatically. Also defined all the properties of database in a application file.Frontend-Visual studio code:
Implemented a code for operations like add employee, list all employees. Also implemented edit, view anddelete operations.

Added necessary dependencies and implemented it.Connecting Backend with frontend:
Axios is used to connect frontend with back end.

4.2 Working Flowchart

User lands in a Home Page which initially shows two operations. They are Add employee and list all employees.When user clicks on Add employee, it asks for a employee details to fill. After filling employees details, user clickon register button which adds employee to the list of all employees. Therefore a new record with employee detailsis created.

When user clicks on List all Employees, all the employees details in the form of list is displayed.

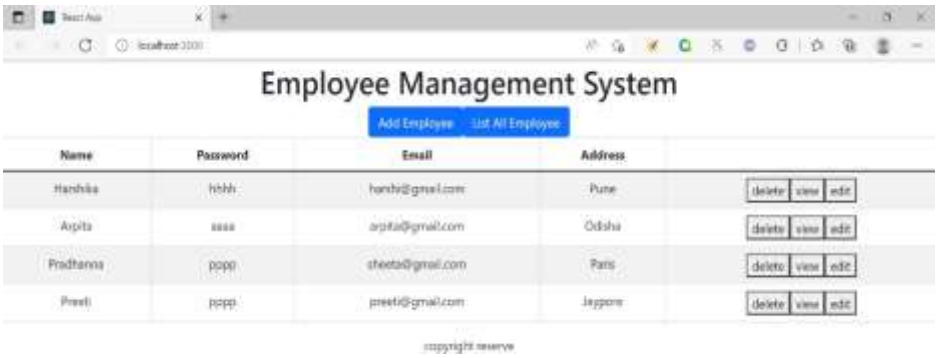

Figure 1: Home page of Employee Management System

Each employee record has three functions. They are Edit, View and Delete.Edit: Each field of employee details can be edited.
View: This is used to view the particular employee details.

Delete: This operation is used to delete the particular employee information.

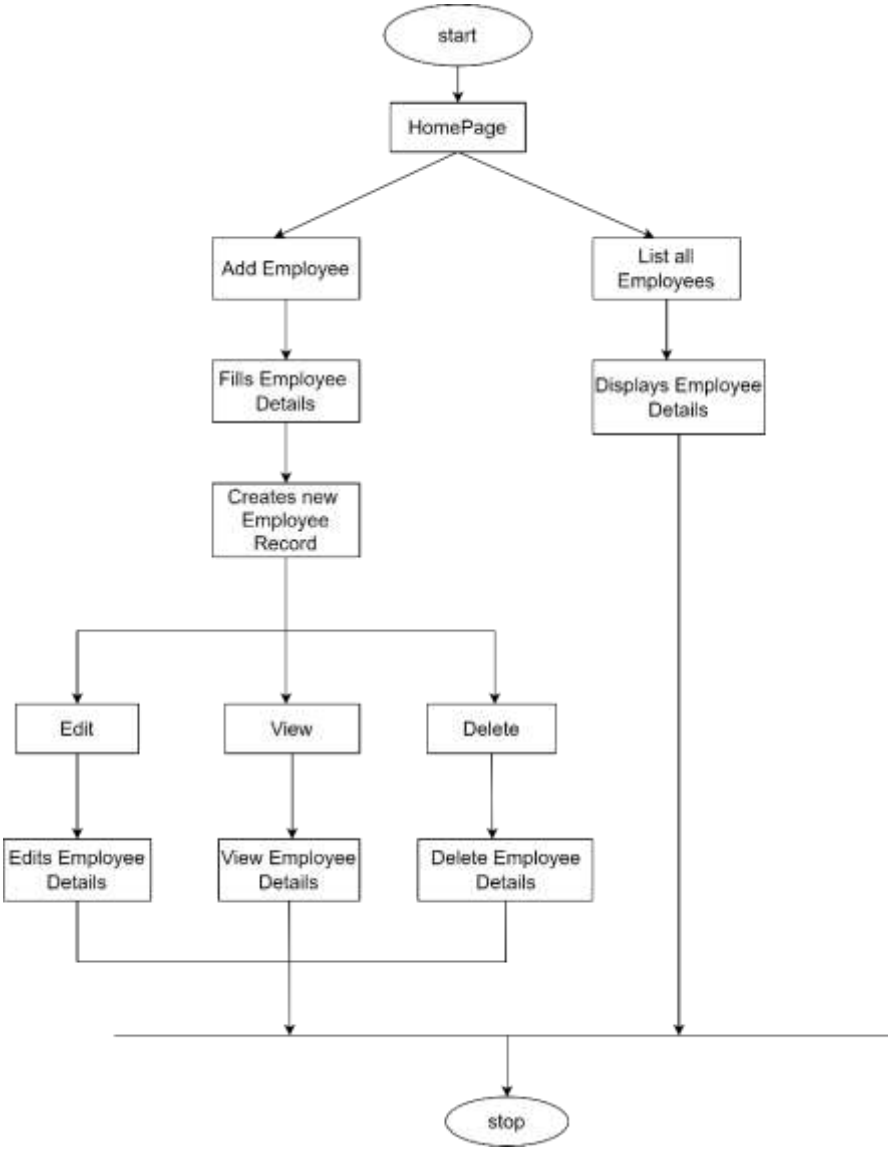

Figure 2: Working Flowchart of Employee Management system

5. CONCLUSION

In today's Web development, a good page design is essential. A bad design will lead to the loss of users and thatcan lead to a loss of business. In general, a good page layout has to satisfy the basic elements of a good page design, so with React we can create amazing web pages which suits and pleases every user of the web page. TheBackend Support by Spring with Spring Boot enables the web page to be dynamic and also be faster with better access to the database. Although, Apache Derby is the Database here. Any SQL based Database would suffice as Axios being the bridge solves the issue of compatibility of the Front-End and the Back-End. Hence, enabling us as a developer to have seem less development experience and enabling us to implement the scalable business logic and also gives the users as non interrupting user experience.

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