SMART CONTACT MANAGEMENT SYSTEM

Introduction:-

A **Smart Contact Management System** is a web-based application designed to efficiently store, manage, and organize user contacts. This system ensures seamless access to contact details while providing enhanced security, user authentication, and interactive UI elements for an optimal experience. Built using **Spring Boot** and **Thymeleaf**, the system offers a structured and scalable architecture for managing personal or business contacts.

Objectives:-

- To develop a secure and interactive platform for managing contacts.
- To allow users to create, edit, delete, and search contacts easily.
- To implement role-based authentication for users.
- To provide a responsive and user-friendly interface using Thymeleaf and Bootstrap.
- To ensure data persistence using a relational database with Hibernate ORM

Features:-

1. **User Authentication and Authorization**
   - Secure login and registration using Spring Security.
   - Role-based access control (Admin, User).
2. **Contact Management**
   - Add, update, delete, and search contacts.
   - Categorization and tagging for better organization.
3. **Dashboard**

- o User-specific dashboard displaying saved contacts.
- o Contact statistics and recent activities.

4. **Profile Management**

   - o Update user information (name, email, password, etc.).
   - o Change profile picture.

5. **Mobile Responsiveness**

   - o Fully responsive UI using Bootstrap and Thymeleaf templates.

6. **Search and Filtering**

   - o Quick search functionality.
   - o Filter contacts by categories or tags.

7. **Data Security**

   - o Password encryption using BCrypt.
   - o Prevent SQL injection and CSRF attacks.
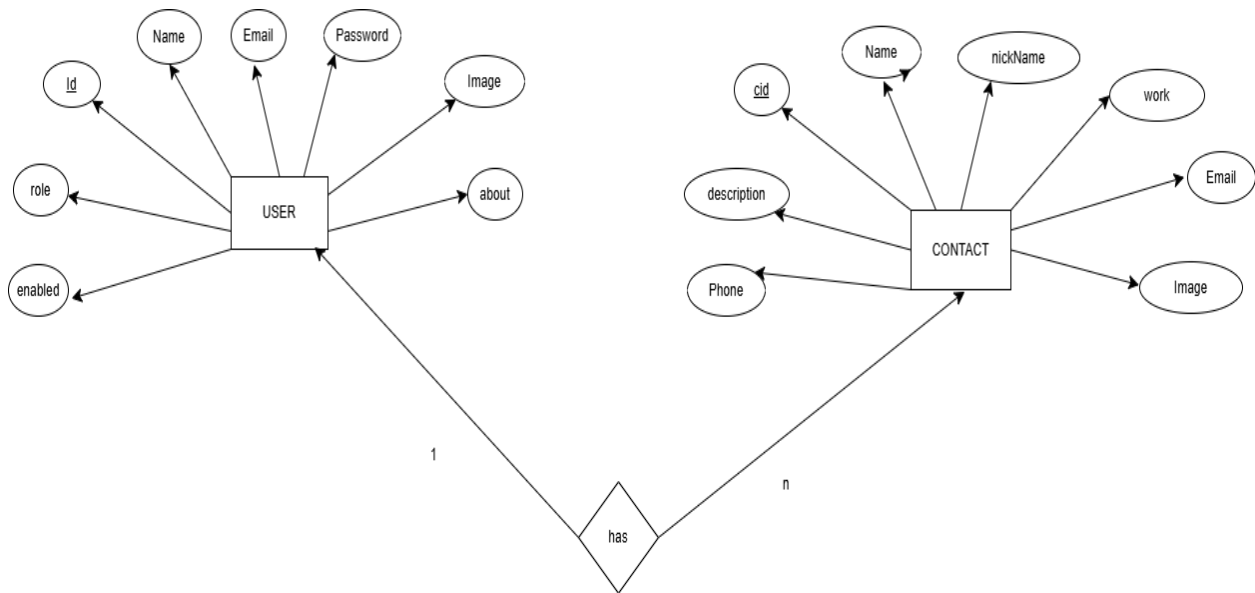
Technology Stack

- **Frontend**: Thymeleaf, HTML, CSS, Bootstrap, JavaScript
- **Backend**: Spring Boot (Spring MVC, Spring Security)
- **Database**: MySQL (with JPA & Hibernate ORM)
- **Security**: Spring Security with JWT (optional for API-based authentication)
- **Build Tool**: Maven/Gradle
- **Deployment**: Apache Tomcat(optional)

System Architecture

The Smart Contact Management System follows the **MVC (Model-View-Controller)** architecture:

1. **Model**: Represents data entities (User, Contact).

2. **View**: Uses Thymeleaf templates to render dynamic web pages.

3. **Controller**: Handles HTTP requests and connects the view with the model.

4. **Service Layer**: Implements business logic and interacts with the repository.

5. **Repository Layer**: Communicates with the database using Spring Data JPA.

ER Diagram SCMS

Conclusion

This **Smart Contact Management System** offers a modern, scalable, and secure solution for organizing contacts efficiently. With the power of **Spring Boot** and **Thymeleaf**, the system provides a seamless user experience and robust backend performance. The project can be further extended with RESTful APIs, cloud storage integration, and mobile app support for enhanced usability.

Developer by:- Sumant Kumar