SMART CONTACT MANAGER

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Abstract - The Smart Contact Manager (SCM) is a comprehensive and secure web-based solution developed using Java Spring Boot to streamline the organization, storage, and access of personal and professional contacts. This system introduces functionalities like CRUD operations, user authentication, role-based access control, dynamic search, and image handling. With responsive UI design using Thymeleaf and Tailwind CSS, SCM ensures usability across devices while maintaining robust security and scalability. This paper discusses the architecture, methodology, features, and testing strategy of SCM and outlines its relevance in real-world applications, along with future enhancements.

Key Words: Contact Management, Spring Boot, CRUD Operations, Authentication, Responsive UI, Tailwind CSS, MVC Architecture.

1.INTRODUCTION

This article illustrates the design and utility of a Smart Contact Manager application aimed at secure and organized contact management. Unlike conventional address books or generic contact tools, SCM integrates modern technologies to offer advanced search, contact grouping, cloud-ready features, and secure access controls. It provides a unified solution for individuals and businesses to efficiently manage their network.

2. Literature Review

previous exploration and being tools, including Google Connections, Microsoft Outlook, and Cloze CRM, give introductory or advanced contact operation. still, these frequently warrant personalization, bear subscriptions, or are over-engineered for individual druggies. AI- grounded tools like Cove give smart monuments and syncing but raise sequestration enterprises.
This study identifies a gap between simplistic tools and complex CRM systems. While business druggies may profit from advanced CRM results, individual druggies seek intuitive, secure, and affordable systems. SCM islands this gap by offering acclimatized functionality without compromising usability or data sequestration.

3 . METHODOLOGIES

The development process followed the Agile Software Development Life Cycle (SDLC):

- ➢ **Requirement Gathering:** Identification of essential features.
- ➢ **Design:** UI wireframing and database schema creation.
- ➢ **Development:** Modular coding using Java, Spring Boot.
- ➢ **Testing:** Unit and integration testing after each sprint.
- ➢ **Deployment:** Local and cloud-ready via Maven and Spring Boot's embedded Tomcat.

4. Results

The SCM operation was successfully stationed as a full mound result. crucial features enforced include :-

- User registration and login using Spring Security.
- Role-based access control.
- Add, update, view, and delete contacts.
- Contact image upload.
- Responsive user interface.
- Contact search functionality.
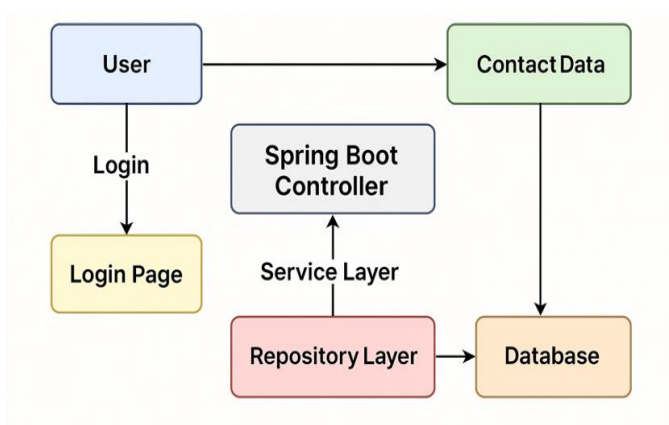- Email notification for contact sharing.

Table -1: Test Cases & Test Results

Test Case ID	Functionality	Status
TC001	User Registration	Pass
TC002	Login (Valid)	Pass
TC003	Login (Invalid)	Pass
TC004	Add Contact	Pass
TC005	Delete Contact	Pass
TC006	Unauthorized Access	Pass
TC007	Image Upload	Pass
TC008	Email Contact	Pass

MODULE
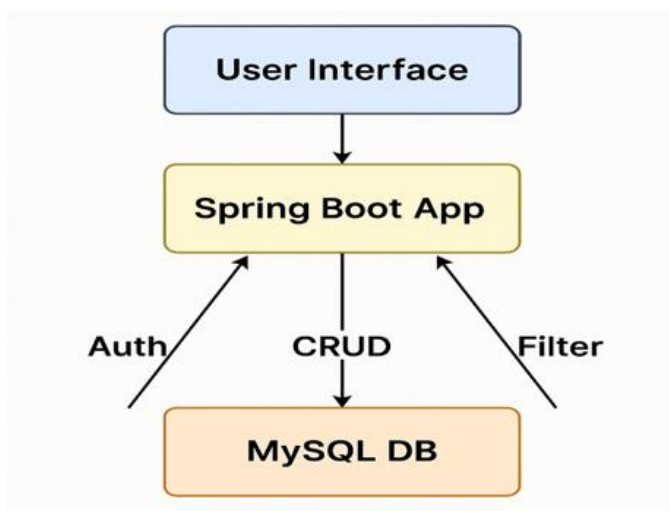
WORKING PROCESS

5. Discussion

The success of the Smart Contact Manager illustrates the effectiveness of Java- grounded full- mound development for particular productivity tools. The decision to avoid REST APIs simplified deployment but limited external integration a trade- off respectable for the intended followership. Security features, including word mincing with BCrypt and CSRF protection, handed robust defense against common vulnerabilities. still, limitations like the absence of two- factor authentication or a mobile interpretation indicate areas for unborn enhancement. In terms of usability, the operation's simplicity and visual clarity were well- entered in stoner testing. Feedback emphasized appreciation for the distributed contact view and search effectiveness.

6. CONCLUSIONS

SCM delivers a practical and secure solution for contact data organization. The robust Spring Boot architecture and clean UI make it ideal for individual and small business use.

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