

Internship Progress Report

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Internship Role: Research Intern

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1. Introduction

This week focused on implementing and refining the "Favorite Contacts" feature in the Smart Contact Manager project. The task involved full-stack development using AI assistance, with careful attention to frontend consistency, accessibility, and backend logic. Multiple iterative improvements were made to the codebase for maintainability and best practices.

2. Objective

To introduce a 'Favorite Contacts' feature that allows users to mark contacts as favorite, view them on a separate page, and perform searches. The implementation needed to maintain UI/UX consistency, match the existing codebase style, and follow good software engineering practices.

3. Features and Functionality Developed

- Separate view page (`/user/contacts/favorites`) for displaying favorite contacts.
- Integrated favorite contact filtering and searching by name, email, phone, and relationship.
- Updated UI to match existing `view_contacts` layout, including table, export, and modal support.
- Added "Favorite Contacts" navigation to the sidebar and dashboard with consistent icons and colors.
- Implemented controller logic and service methods to support filtered favorite contact queries.
- Ensured the search form uses POST correctly and results update dynamically.
- Applied error handling and fixed Thymeleaf form binding issues.
- Conducted full cleanup of Java files for formatting, structure, and removal of unused code/comments.

4. AI's Role in Development

- Suggested structured steps for implementing the feature across all layers.
- Identified and resolved binding and model attribute issues in Thymeleaf templates.
- Helped reformat and organize Java code (controllers, services, repos) with best practices.
- Provided guidance on UI consistency, icon styling, and proper placement in sidebar/dashboard.

- Assisted in debugging and fixing form submission and search handler issues.
- Flagged and helped fix duplicate or misplaced code blocks and unresolved syntax errors.

5. Challenges Faced

- Thymeleaf errors due to missing model attributes and incorrect form field bindings.
- Misplaced method declarations causing service/impl/repo structure issues.
- Java files had duplicate methods and commented blocks, leading to compile-time warnings.
- Search results not updating due to incorrect HTTP method in form submission.
- Sidebar and dashboard styling inconsistencies and icon mismatches.

6. Outcome and Learning

The Favorite Contacts module was successfully implemented with full search capabilities and UI consistency. AI significantly aided in navigating Thymeleaf complexities, improving code hygiene, and optimizing structure across backend components. This phase deepened understanding of cross-layer integration and reinforced the importance of clean, maintainable code in production-grade applications.