



Front-end Web Development

Report on:
Contact-Hub Web Application

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Introduction to Project

Contact-Hub is a modern web-based contact management application inspired by the traditional phonebook concept, but implemented using contemporary web technologies and the CRUD Operations concept.

The project allows users to efficiently manage their contacts by adding, editing, deleting, and searching for contact information through a clean and user-friendly interface.

All data is stored locally using the browser's LocalStorage, ensuring persistence even after page reloads.

The main objectives of this project are:

- ✓ Applying CRUD operations in a real-world scenario.
- ✓ Building a complete Front-End web application using JavaScript.
- ✓ Managing application data without a back-end.
- ✓ Enhancing user experience through responsive design and interactive alerts.

The project is fully implemented using HTML, CSS, and JavaScript, and version-controlled using GitHub.

What are CRUD Operations?

CRUD Operations represent the four fundamental actions used to manage data in any application:

1) Create:

The process of adding new data. In Contact-Hub, this refers to creating a new contact with full details such as name, phone number, email, address, photo, notes, and status (favorite or emergency).

2) Read:

The process of retrieving and displaying data. In Contact-Hub, users can:

- ✓ View all saved contacts.

- ✓ View favorite contacts.
- ✓ View emergency contacts.
- ✓ Search contacts by name, phone number, or email.

3) Update:

The process of modifying existing data. In Contact-Hub, users can edit any contact using a modal form, update its details, and save the changes instantly.

4) Delete:

The process of removing data permanently. In Contact-Hub, contacts can be deleted only after user confirmation to prevent accidental data loss.

The Contact-Hub project demonstrates a complete and practical implementation of all CRUD operations within a single web application.

Technologies & Tools

- ✓ VS Code as an IDE.
- ✓ HTML5.
- ✓ CSS3.
- ✓ Bootstrap.
- ✓ JavaScript (ES6).
- ✓ Sweetalert2 Library.
- ✓ GitHub.

Project Features

1) Add Contact:

- ✓ Users can add new contacts through a modal form.
- ✓ Each contact includes full name, phone number, email, address, group category, notes, profile photo, favorite and emergency status.

2) Input Validation:

- ✓ Comprehensive validation using Regular Expressions.
- ✓ Validates full name, phone number, email structure, and address format.
- ✓ Prevents invalid data submission and provides clear error feedback.

3) Duplication Prevention:

- ✓ Prevents adding contacts with duplicate phone numbers.
- ✓ Displays an error alert specifying the duplicated contact name.

4) Profile Photo Upload:

- ✓ Allows users to upload a profile photo for each contact.
- ✓ Uses FileReader to convert images into Data URLs.
- ✓ Displays uploaded images instantly.
- ✓ If no image is provided, initials are generated with a random gradient background.

5) Display Contacts:

- ✓ Contacts are displayed as organized cards showing personal details, group label, favorite and emergency indicators, and action buttons.

6) Update Contact:

- ✓ Contacts can be edited using a dedicated modal.
- ✓ Existing data is preloaded for convenience.
- ✓ Validation is enforced before saving updates.
- ✓ Successful updates trigger confirmation alerts.

7) Delete Contact:

- ✓ Deletion requires user confirmation via SweetAlert.
- ✓ Prevents accidental data loss.
- ✓ UI updates immediately after deletion.

8) Search Functionality:

- ✓ Real-time search by name, phone number, or email.
- ✓ Displays filtered results without altering the original data.

Future Enhancements

- Implement a back-end server with database integration (e.g., SQL Server or MongoDB) to store contacts securely and enable multi-device access.
- Add user authentication and authorization to allow multiple users with private contact lists.
- Enable cloud storage for profile images to reduce LocalStorage dependency.
- Add notifications or reminders for important contacts or events.
- Include analytics for user activity and contact statistics.
- Add multi-language support to cater to a broader audience.

Sources

GitHub Repository:

<https://github.com/alimohameeed74/Contact-Hub-.git>

Live Website:

<https://alimohameeed74.github.io/Contact-Hub-/>