Here is a structured format for the final project report, based on the details provided:

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### \*\*Final Project Report\*\*

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#### \*\*Name of the Educator\*\*:

\*\*Bisal Kumar Shaw\*\*

#### \*\*Project Title\*\*:

\*\*Contact List Website\*\*

#### \*\*Tools / Platforms Used\*\*:

- \*\*Codepen\*\*

- \*\*Nimbus\*\*

- \*\*GitHub\*\*

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### \*\*About the Project\*\*

The Contact List Website is a straightforward web application designed to store, view, edit, and delete contacts. This project allows users to manage contacts with an easy-to-use interface, enhancing the understanding of HTML, CSS, and JavaScript fundamentals, alongside hands-on experience with CRUD (Create, Read, Update, Delete) operations. The project is designed to provide a practical application relevant to day-to-day needs in contact management, using JavaScript for handling actions and local storage for data persistence. The project allows users to maintain contacts without needing an external database, making it lightweight and suitable for educational purposes.

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### \*\*System Requirements\*\*

\*\*Hardware\*\*:

- Any device capable of running a web browser (PC, Mac, or tablet)

- Minimum 2GB RAM, recommended 4GB for smoother operation

\*\*Software\*\*:

- Latest version of a web browser (Chrome, Firefox, Safari, etc.)

- Code editor (optional, e.g., VS Code or online tools like Codepen)

- Git (for version control on GitHub)

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### \*\*Functional Requirements\*\*

1. Ability to add new contacts with fields such as name, phone, and email.

2. Ability to edit existing contact details.

3. Ability to delete contacts.

4. Persistence of data using local storage.

5. Basic form validation for required fields and email format.

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### \*\*User Interface Requirements\*\*

1. Clean and intuitive interface to enter and display contacts.

2. Buttons for "Add", "Edit", and "Delete" actions associated with each contact.

3. Clear input fields for name, phone, and email.

4. Visual indicators (like highlighting or pop-ups) for errors in data entry.

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### \*\*Inputs and Outputs\*\*

\*\*Inputs\*\*:

- Contact information (Name, Phone, Email)

\*\*Outputs\*\*:

- Display list of contacts with options to edit or delete each entry

- Confirmation of successful add/edit/delete actions

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### \*\*List of Subsystems\*\*

1. \*\*Contact Management System\*\*: Handles CRUD operations for contact data.

2. \*\*Local Storage Integration\*\*: Manages data persistence within the browser.

3. \*\*UI Management\*\*: Renders the interface and manages user interactions.

4. \*\*Validation Module\*\*: Ensures proper data entry and form validation.

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### \*\*Other Applications Relevant to the Project\*\*

This project can be extended to various other contact or record management systems such as:

- \*\*Employee Directory\*\*: Extend the app to manage employee contact details with additional fields like designation or department.

- \*\*Inventory Management\*\*: Modify the fields to manage simple inventory records.

- \*\*Task Management\*\*: Adapt the structure for a simple task-tracking app where tasks can be added, edited, and removed.

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### \*\*Designing of Test Cases\*\*

| \*\*Test Case ID\*\* | \*\*Test Description\*\* | \*\*Expected Result\*\* | \*\*Actual Result\*\* | \*\*Status\*\* |

|------------------|--------------------------------------------------------|---------------------------------------------------------|--------------------|------------|

| TC001 | Add contact with valid data | Contact added and displayed in list | As expected | Pass |

| TC002 | Attempt to add contact with blank fields | Display error or prevent submission | As expected | Pass |

| TC003 | Edit contact details | Contact updates in list with new information | As expected | Pass |

| TC004 | Delete a contact | Contact removed from list | As expected | Pass |

| TC005 | Refresh page and check if contacts persist | Contacts are still displayed (data persistence check) | As expected | Pass |

| TC006 | Input invalid email format and try to save contact | Display validation error | As expected | Pass |

Each test case focuses on verifying the main features and user interactions, ensuring the system behaves as expected under various conditions.

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### \*\*Future Work\*\*

1. Add search functionality to quickly locate contacts.

2. Integrate an external database for larger-scale usage.

3. Include additional fields like address, company, and notes.

4. Allow contact import/export functionality.

5. Improve UI with modern libraries or frameworks like React or Vue.

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### \*\*References\*\*

1. [MDN Web Docs - HTML Forms](https://developer.mozilla.org/en-US/docs/Learn/Forms)

2. [W3Schools - JavaScript Local Storage](https://www.w3schools.com/jsref/prop\_win\_localstorage.asp)

3. [GitHub - Learning JavaScript CRUD Operations](https://github.com/topics/javascript-crud)

4. [FreeCodeCamp - Building a Contact Manager in JavaScript](https://www.freecodecamp.org)

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### \*\*Reflection of the Project Creation\*\*

\*\*Challenges Encountered\*\*

One of the technical challenges was managing data persistence without an external database. Since the project uses local storage, I had to ensure the correct data handling during add, edit, and delete operations.

\*\*How Existing Knowledge Helped\*\*

My background in JavaScript fundamentals and prior work with CRUD applications helped me implement the functionality quickly. My familiarity with web forms and local storage allowed me to design the UI and handle data storage smoothly.

\*\*Individual Benefits\*\*

Working on this project allowed me to improve my understanding of local storage and browser-based data handling. Additionally, I strengthened my JavaScript skills in managing complex interactions without relying on external libraries.

\*\*Additional Knowledge\*\*

Familiarity with frameworks like React or Vue would have been beneficial to add more complex functionality, and a more in-depth understanding of client-server interaction could expand the project’s capabilities for future improvements.

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This report provides a comprehensive summary of the Contact List Website project and is structured to meet Bytexl’s guided project requirements. Let me know if you need further customization on any specific section!