Report on the Product Display System

**Introduction:**

The product display system aims to provide a user-friendly interface for browsing and searching through a variety of products available in different categories. The system comprises HTML, CSS, and JavaScript components to enable effective display, filtering, and pagination of products. The key functionalities include the ability to search by category or product name, view product details, and navigate through paginated results.

**Components Overview:**

*HTML (index.html):*

Defines the structure of the webpage, including the search bar, product container, and pagination controls.

Integrates JavaScript files and CSS stylesheets.

*CSS (styles.css):*

Defines the styling and layout for various elements in the product display interface, ensuring a responsive design across different devices.

*JavaScript (Products.js):*

Fetches product data from a dummy API (https://dummyjson.com/products).

Displays products based on category and search query, with pagination functionality to manage product listings.

Handles category selection, search input, and pagination controls dynamically.

*HTML (productDetails.html):*

Displays detailed information about a selected product.

Utilizes JavaScript to fetch specific product details based on the ID provided in the query parameter.

*CSS (productDetails.css):*

Styles the layout for displaying detailed product information.

Includes containers for product images and details, with styling for images, thumbnails, and product details section.

**Functionality Overview:**

*Product Display:*

Retrieves product data from the dummy API and displays it in a structured manner.

Enables filtering by category or search query, providing a dynamic update of products based on user inputs.

Utilizes pagination to display a limited number of products per page, enhancing user experience.

*Product Details:*

Retrieves detailed information about a selected product based on its ID from the query parameter.

Displays product images, price, discount, category, and any additional information available.

Enhances user interaction by allowing thumbnail images to be clicked for a larger view in the main image container.

**Conclusion:**

The product display system provides an intuitive interface for users to explore and search for various products efficiently. It employs responsive design principles, ensuring a seamless experience across different devices. The integration of filtering, pagination, and detailed product viewing functionalities enhances usability and engagement. Future improvements may involve additional features such as sorting options, user authentication, and expanded product details.

Overall, the system offers a robust foundation for an interactive and user-centric product browsing experience.