Problem Statement: MERN Product Management Application

This application is a full-stack MERN (MongoDB, Express, React, Node.js) solution to manage a product catalog.

Functional Requirements:

- Display all products in a Material UI table with pagination.

- Provide a search bar to filter products based on their name.

- Style the table header with a custom blue background and bold white font.

- Add a new backend API route `/api/products/search?name=...` for server-side search.

- Ensure the frontend supports paginated filtering based on live search input.

Features:

- Search by partial match on product name (e.g., 'lap' shows 'Laptop').

- Pagination options (10, 25, 50, 100).

- Dynamic rendering using React hooks and Axios.

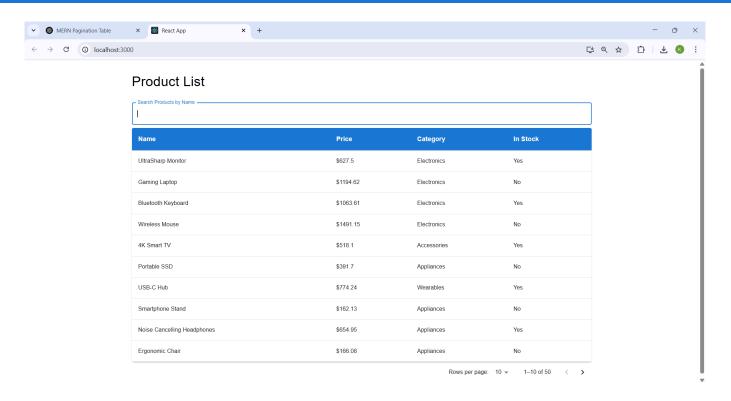- Styled using Material UI components.

Test Case:

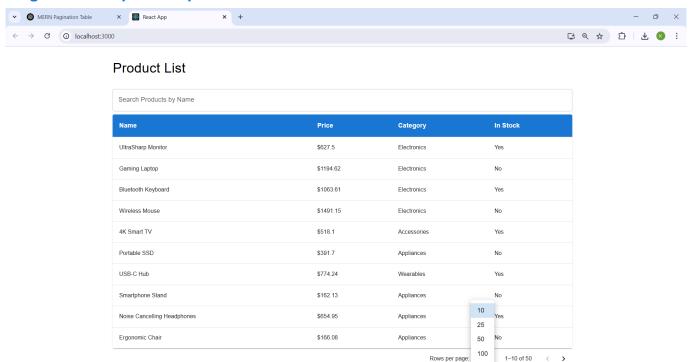- A Playwright test is added to validate that searching 'cam' returns 5 rows.

Screenshots

Default product list with table header styling and pagination.

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Pagination dropdown options enabled via Material UI.

Search result for 'Lap' filtering relevant laptop products.

Product List

Search Products by Name

Lap

Name	Price	Category	In Stock
Gaming Laptop	$1194.62	Electronics	No
Laptop Cooling Pad	$1282.46	Accessories	Yes
Laptop Stand	$748.32	Accessories	Yes

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