

MERN Stack Training

Company: Sensation Software Solutions

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Training Duration: 6 Months

Days: 78

Objective of the Day

The primary objective of Day 78 was to implement a Search system on the GadgetShop frontend. The user should be able to type a query and filter the products based on keywords. The feature was designed to operate on the frontend initially, with optional backend search enhancement planned for future stages. The search functionality ensures improved product discoverability and enhances the overall user navigation experience.

Work Done on Day 78

1. Introducing the SearchBar Component

A dedicated component named `SearchBar.jsx` was created to handle search input and trigger filtering operations. It was placed strategically on the main Shop page for immediate user access.

The component structure includes:

- Input field for keyword entry
- State management for search text
- Event handling for live filtering
- UI integration with Tailwind CSS

2. Filter Logic Implementation

The filter was implemented by comparing user-entered text against:

- Product name
- Product category
- Short description (optional)
- Brand reference (if present)

Filtering is case-insensitive and updates results dynamically.

3. Performance and Rendering Optimization

To avoid unnecessary re-renders and maintain optimal performance, the filter logic was executed with controlled state updates. Data arrays were cached locally, eliminating repetitive loops and improving speed.

4. UI and Results Dropdown

A real-time result preview container was designed and integrated under the search bar. It appears only when results are available and hides automatically when the user clears the input.

Multiple states were handled:

- No input: hide preview
 - Valid input with results: visible
 - No matching results: notify user that no product matches the keyword
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Hands-on Practice

- Tested product search with partial matches
 - Checked multiple keyword recognition
 - Verified layout responsiveness
 - Confirmed error-free user experience across resolutions and device types
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Conclusion

Day 78 successfully created the first user navigation and discovery-improvement feature of the GadgetShop project. The search system now allows customers to locate products immediately and filter catalog content intelligently. This feature will evolve further as the backend matures.