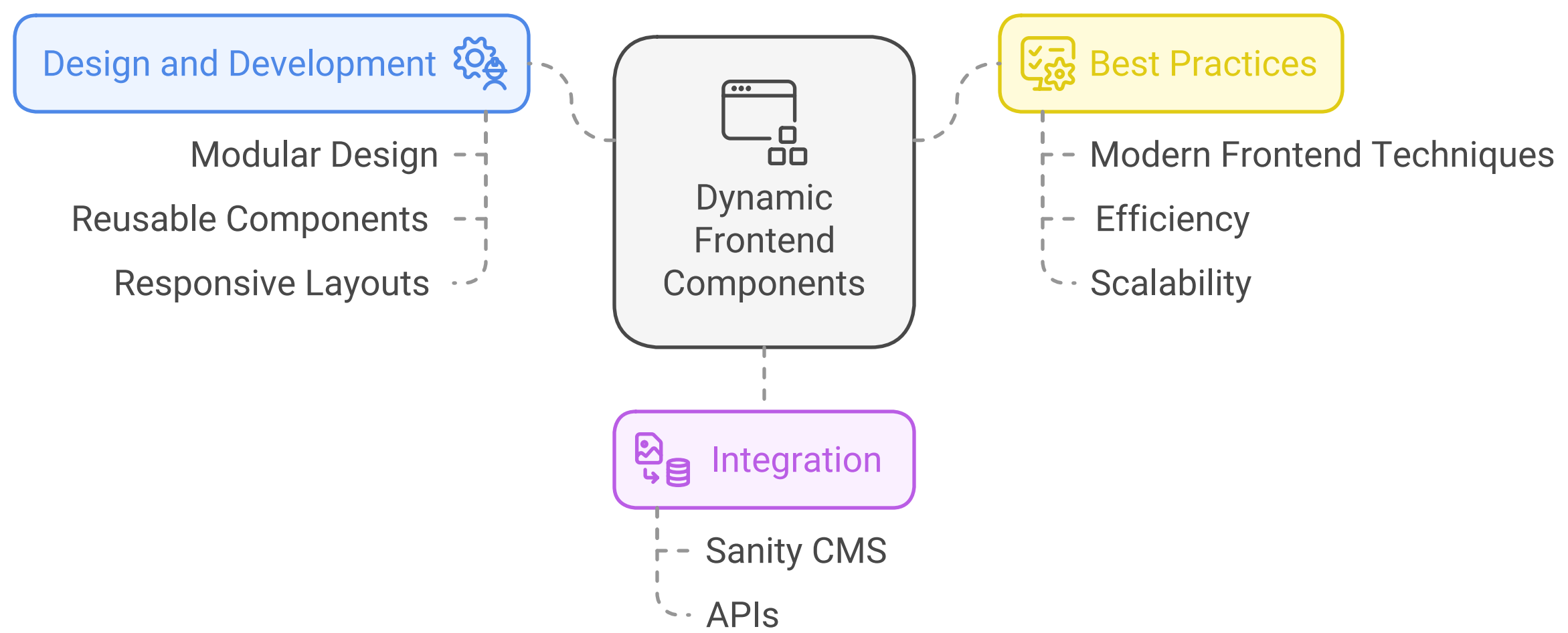


Day 4 - Dynamic Frontend Components: Achievement Report

Objective Achieved: Successfully designed and developed dynamic frontend components for the marketplace, integrating data from Sanity CMS and APIs. These components are modular, reusable, and responsive, aligning with best practices in modern frontend development.

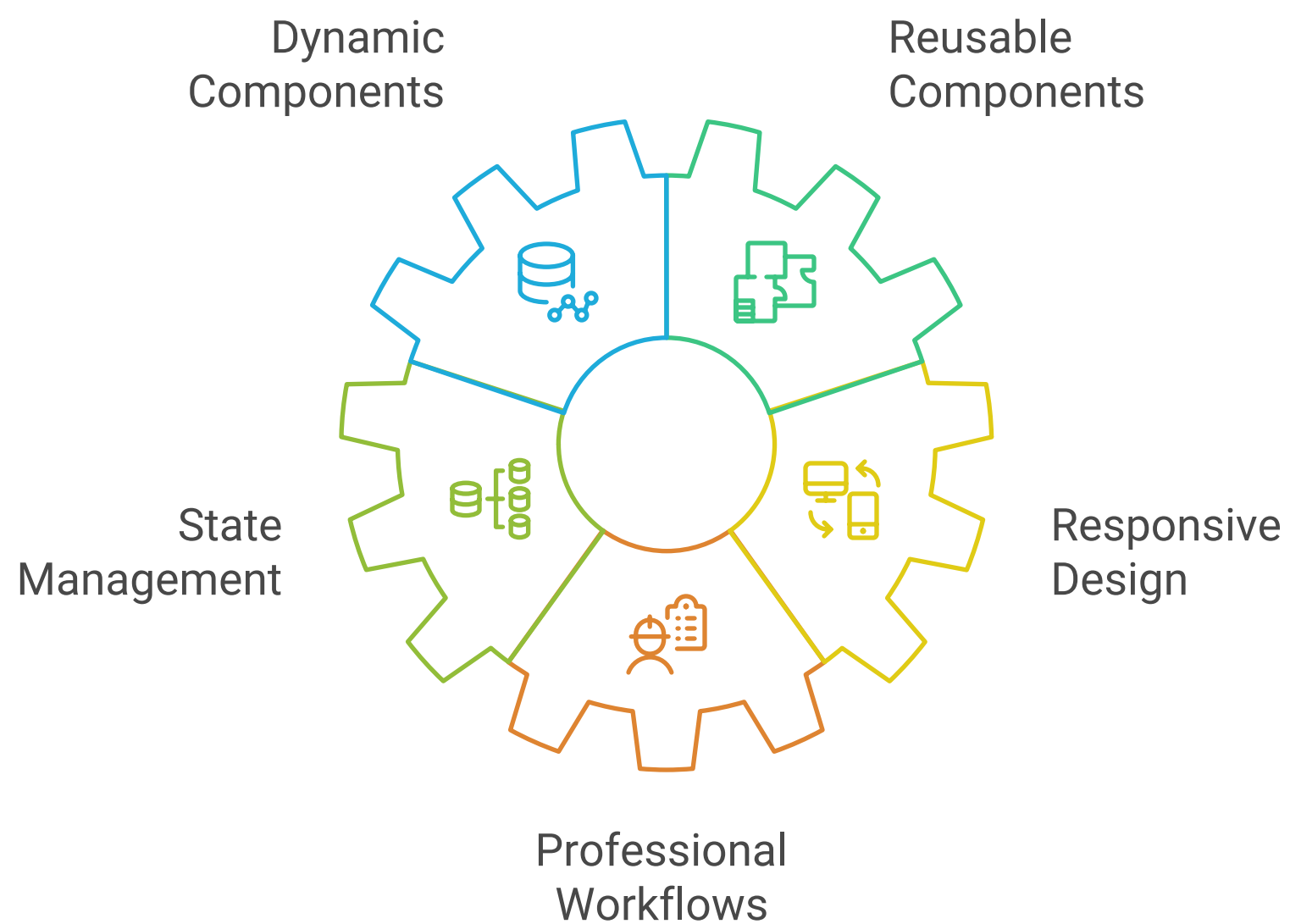


Achievements

1. Key Learning Outcomes:

- Built dynamic frontend components to display data from Sanity CMS and APIs.
- Developed reusable and modular components for flexibility.
- Applied state management techniques effectively.
- Designed responsive and user-friendly interfaces.
- Emulated professional workflows to prepare for real-world projects.

Achievements



2. Developed Components:

1. Product Listing Component:

- Dynamically renders product data in a grid layout.
- Includes key fields:
 - Product Name
 - Price
 - Image
 - Stock Status
- Utilized a reusable **ProductCard** component.

2. Product Detail Component:

- Dynamic routing implemented with Next.js.
- Displays detailed product information, including description, price, and variations.

3. Category Component:

- Dynamically fetches and displays categories.
- Enables filtering products by category.

4. Search Bar:

- Filters products by name or tags dynamically.

5. Cart Component:

- Tracks added items, quantity, and total price using state management.

6. Wishlist Component:

- Allows users to save products for future reference, leveraging local storage.

7. Checkout Flow Component:

- Multi-step checkout form, including billing and shipping details.

8. User Profile Component:

- Displays user information and order history dynamically.

9. Reviews and Ratings Component:

- Users can submit and view product reviews.
- Average ratings displayed dynamically.

10. Pagination Component:

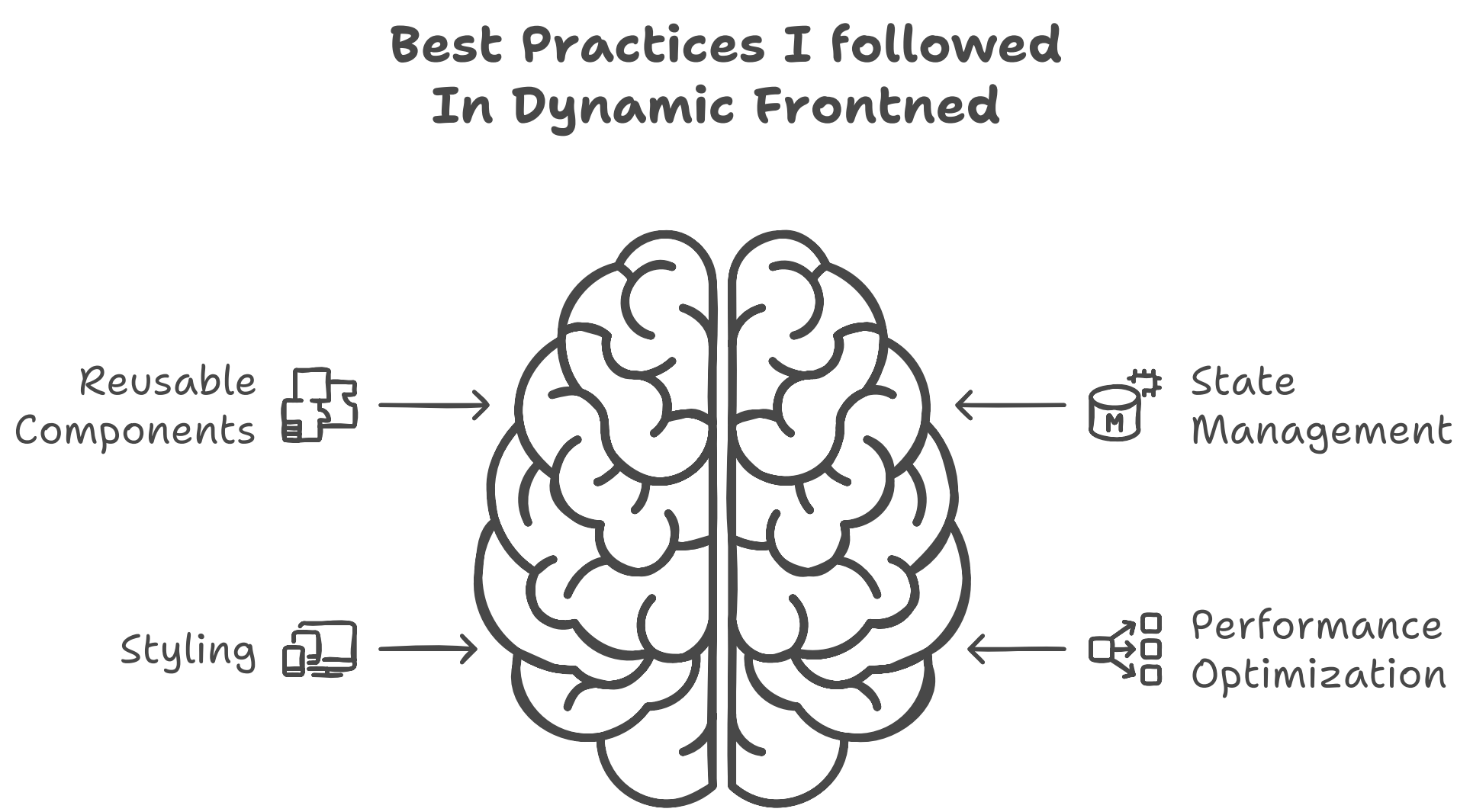
- Breaks down product lists into manageable pages with next/previous buttons.

11. Filter Panel Component:

- Advanced filters such as:
 - Price range sliders
 - Brand selection
 - Availability toggles

12. **Related Products Component:**
 - Dynamically suggests similar products based on tags or categories.
13. **Footer and Header Components:**
 - Consistent navigation and branding elements.
14. **Notifications Component:**
 - Real-time alerts for actions like cart updates or successful purchases.

3. **Best Practices Followed:**
- **Reusable Components:** Modular components built with flexibility using props.
 - **State Management:** Effective use of React's `useState` and `useContext` for local and global states.
 - **Styling:** Tailwind CSS ensured responsive and visually appealing designs.
 - **Performance Optimization:** Implemented lazy loading for images and pagination for large datasets.



4. **Deliverables Submitted:**
1. **Functional Outputs:**
 - Product listing and detail pages showcasing dynamic data integration.
 - Working filters, search bar, and pagination.

2. **Code Implementation:**
 - Highlighted key component snippets, such as `ProductCard` and `SearchBar`.
 - API integration logic and dynamic routing successfully implemented.

3. **Documentation:**
 - Technical report summarizing achievements, challenges, and solutions.

4. **GitHub Repository:**
 - Uploaded complete project with structured folder hierarchy.

6. **Challenges Overcome:**

- Debugged API data fetching issues and ensured accurate rendering.
 - Resolved styling inconsistencies for responsive layouts.
 - Optimized state management for seamless user interactions.

API Issues

Styling Consistencies

State Management

Conclusion: All tasks for Day 4 were successfully achieved, with a focus on dynamic, modular, and scalable frontend development. The completed components align with industry standards and enhance the marketplace functionality and user experience. Let me know if you'd like further refinements or additional evidence of achievements.

Made by Tayyab Ilyas (Student Leader)