

Frontend Development with React.js

Project Documentation for NewsApp

1. Introduction

- **Project Title:** NewsApp
- **Team Members:**

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2. Project Overview

- **Purpose:**

The NewsApp is a web application designed to provide users with the latest news articles from various categories such as technology, sports, business, and entertainment. The app fetches news data from a third-party API and displays it in a user-friendly interface.
 - **Features:**
 - Fetch and display news articles from a news API.
 - Categorize news into sections (e.g., Technology, Sports, Business).
 - Search functionality to find specific news articles.
 - Responsive design for mobile and desktop devices.
 - Pagination or infinite scroll for browsing articles.
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3. Architecture

- **Component Structure:**

The app is built using React components. The main components include:

 - **App:** The root component that manages routing and global state.
 - **Navbar:** A navigation bar for switching between categories and searching.
 - **NewsList:** Displays a list of news articles.
 - **NewsItem:** Represents a single news article with a title, description, and image.

- **SearchBar:** Allows users to search for specific news articles.
 - **Footer:** Displays additional information or links.
 - **State Management:**
 - **Context API:** Used for managing global state, such as the selected news category or search query.
 - **Local State:** Each component manages its own local state (e.g., loading states, error messages).
 - **Routing:**
 - **React Router:** Used for navigating between different categories of news (e.g., /technology, /sports).
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4. Setup Instructions

- **Prerequisites:**
 - Node.js (v16 or higher)
 - npm (v8 or higher)
 - A news API key (e.g., from [NewsAPI](#))
 - **Installation:**
 1. Clone the repository: git clone : <https://github.com/unm12911749/news-app.git>
 2. Navigate to the project directory: cd newsapp
 3. Install dependencies: npm install
 4. Create a .env file in the root directory and add your API key:

REACT_APP_NEWS_API_KEY = react-scripts start
 5. Start the development server: npm start
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5. Folder Structure

Client:

- **src/ components** - Reusable components (e.g., Navbar, NewsItem)
- **src/ pages** - Page components (e.g., Home, CategoryPage)
- **src/ assets** - Images, icons, and other static files
- **src/context** - Context API for global state management
- **src/hooks** - Custom hooks (e.g., useFetchNews)
- **src/utills** - Utility functions (e.g., API fetch functions)
- **src/ App.js** - Main application component
- **src/ index.js** - Entry point of the application
- **src/ styles** - CSS or SCSS files

- **Utilities:**
 - **Use Fetch News:** A custom hook to fetch news data from the API.
 - **Format Date:** A utility function to format the date of news articles.
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6. Running the Application

- **Frontend:**

Run the following command in the project directory: `npm start`

The app will be available at <http://localhost:3000>
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7. Component Documentation

- **Key Components:**
 - **App:** Manages routing and global state.
 - **Navbar:** Displays navigation links and a search bar.
 - **News List:** Fetches and displays a list of news articles based on the selected category or search query.
 - **News Item:** Represents a single news article with a title, description, image, and publication date.
 - **Reusable Components:**
 - **Button:** A reusable button component for actions like "Load More" or "Search".
 - **Loading Spinner:** Displays a loading spinner while fetching data.
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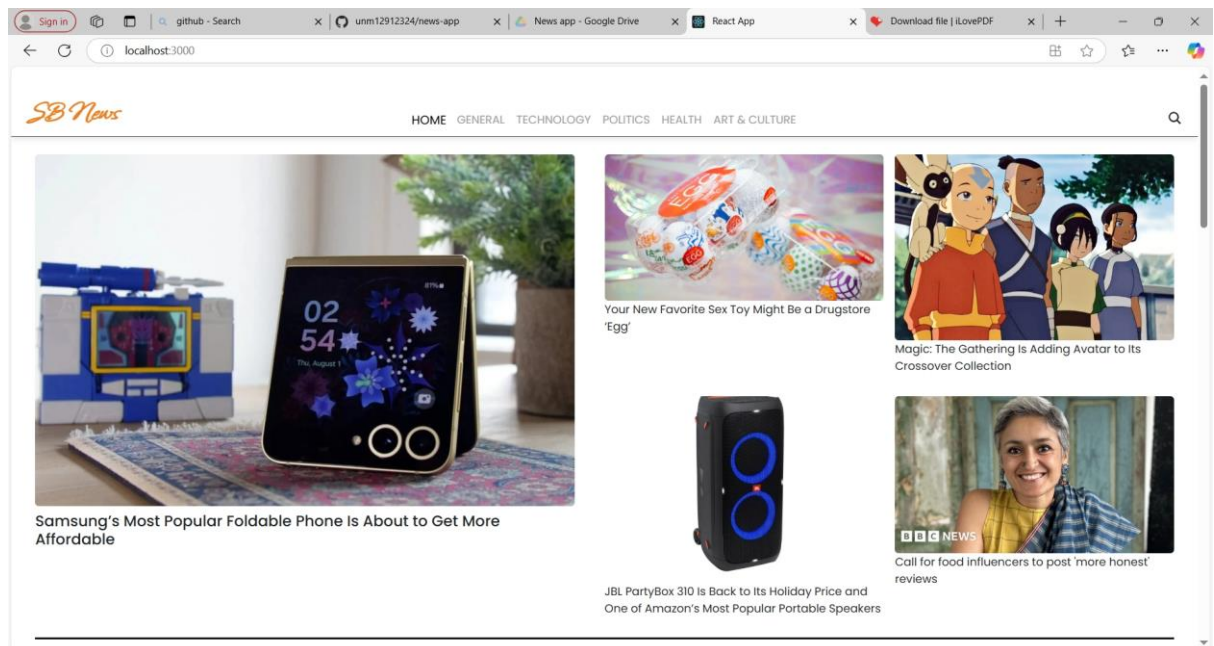
8. State Management

- **Global State:**
 - The News Context (created using Context API) manages the selected news category and search query.
 - The use Fetch News custom hook fetches news data based on the global state.
 - **Local State:**
 - Each component manages its own local state, such as loading states or error messages.
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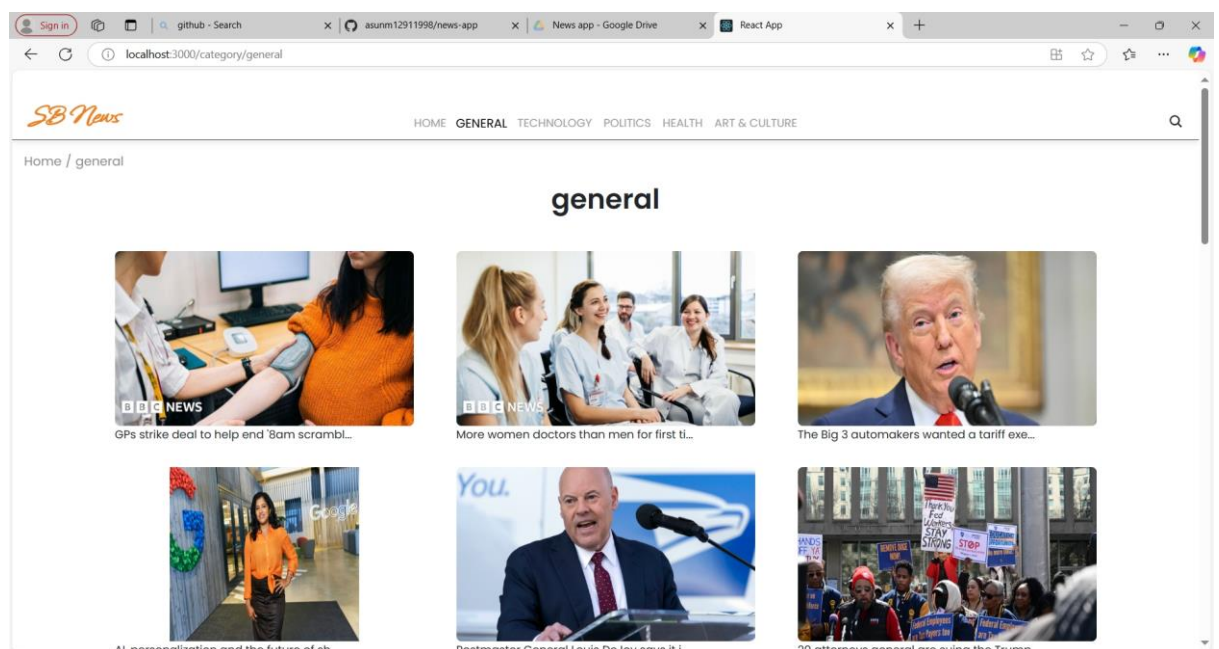
9. User Interface

- **Screenshots:**

- **DASHBOARD:**



- **SEARCH PAGE:**



10. Styling

- **CSS Frameworks/Libraries:**
 - **Bootstrap:** Used for responsive design and pre-styled components.
 - **Styled-Components:** Used for custom styling and theming.

- **Theming:**
 - A light and dark theme is implemented using Styled-Components.
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11. Testing

- **Testing Strategy:**
 - **Unit Testing:** Jest and React Testing Library are used to test individual components.
 - **Integration Testing:** Ensures that components work together as expected.
 - **End-to-End Testing:** Cypress is used for testing user flows.
 - **Code Coverage:**
 - Jest is configured to generate a code coverage report.
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12. Screenshots or Demo

- **Live Demo:**
https://drive.google.com/drive/folders/1E9QxUsJfs_W1pTK3qt8IB_yWaYAecCWd?usp=sharing
 - **Screenshots:** See Screenshot 9 for UI Screenshot
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13. Known Issues

- **Issues:**
 - The API has a rate limit, which may cause delays in fetching data.
 - The search functionality may not return results for very specific queries.
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14. Future Enhancements

- **Future Features:**
 - Add user authentication to save favorite articles.
 - Implement infinite scroll for a smoother browsing experience.
 - Add support for multiple languages.
 - Integrate a comments section for each article.
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This documentation provides a comprehensive overview of the **NewsApp** project, including its architecture, setup instructions, and future enhancements. Let me know if you need further details or adjustments!