

# Frontend Development with React.js

## Project Documentation [MHKRS NEWS]

### Introduction

**Project Title:** MHKRS NEWS

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### Project Overview

**Purpose:**

MHKRS NEWS is a front-end news website that fetches real-time news articles using the NewsAPI.org service. This project aims to provide a clean, responsive, and user-friendly platform where users can explore trending news, browse categories, and search for specific articles.

**Features:**

- Fetch and display live news articles using an API
- Interactive UI with React components
- Search functionality for specific news topics
- Category-based news filtering

- Responsive design for mobile and desktop
  - Dark mode toggle for user preference
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## Architecture

### Component Structure:

- **Navbar Component** – Contains site navigation and search bar
- **Hero Component** – Displays featured news articles
- **Categories Component** – Shows different news categories
- **NewsCard Component** – Renders individual news articles
- **Footer Component** – Contains site information and links
- **Context API** – Manages global state

**State Management:** The application uses **React Context API** to manage global state, particularly for user preferences (such as dark mode) and API responses.

**Routing:** React Router is implemented for seamless navigation between different news categories and article details.

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## Setup Instructions

### Prerequisites:

- Node.js ( $\geq 14.x$ )
- npm or yarn package manager
- Basic knowledge of React.js

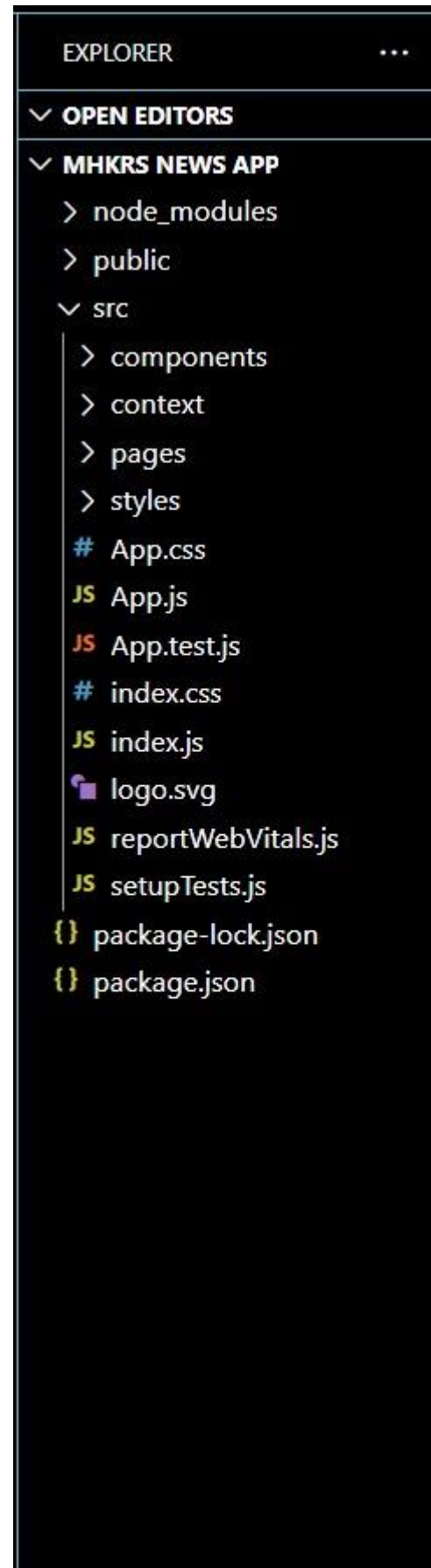
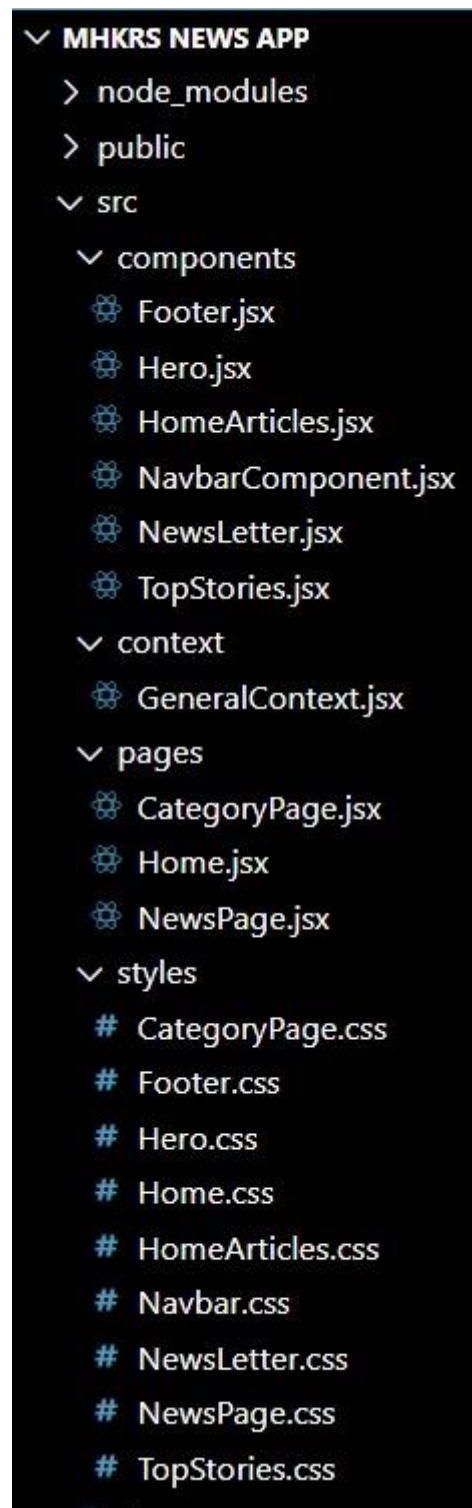
### Installation:

```
# Clone the repository
git clone https://github.com/madheshlakshmanan/MHKRS-NEWS.git

# Navigate to the project directory
cd MHKRS-NEWS

# Install dependencies
npm install
```

## Folder Structure



# Running the Application

To start the frontend server locally, use:

```
npm start
```

This will launch the development server at **http://localhost:3000**.

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## Component Documentation

### Key Components:

- **Navbar:** Displays navigation links and search functionality.
- **Hero Section:** Highlights featured news articles.
- **NewsCard:** Displays news headlines, summaries, and images.
- **Categories:** Provides category-based filtering.
- **Footer:** Contains site information and social links.

### Reusable Components:

- **Button:** A universal button component for various UI interactions.
  - **Loader:** Displays a loading animation while fetching news.
  - **Modal:** Used to show full news article previews.
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## State Management

### Global State:

- **News Context API** stores fetched news articles, user preferences, and API responses.

### Local State:

- **useState** hooks manage component-level UI interactions, such as loading states and search queries.
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## User Interface

- **Homepage:** Displays top news and trending articles.
  - **Category Page:** Shows news articles filtered by category.
  - **Search Page:** Displays results based on user queries.
  - **Article Page:** Opens full news articles with a link to the original source.
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## Styling

### CSS Frameworks/Libraries:

- Tailwind CSS for rapid UI development.
- React Icons for enhanced UI elements.

### Theming:

- Dark mode toggle using Context API.
  - Responsive design using CSS media queries.
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## Testing

### Testing Strategy:

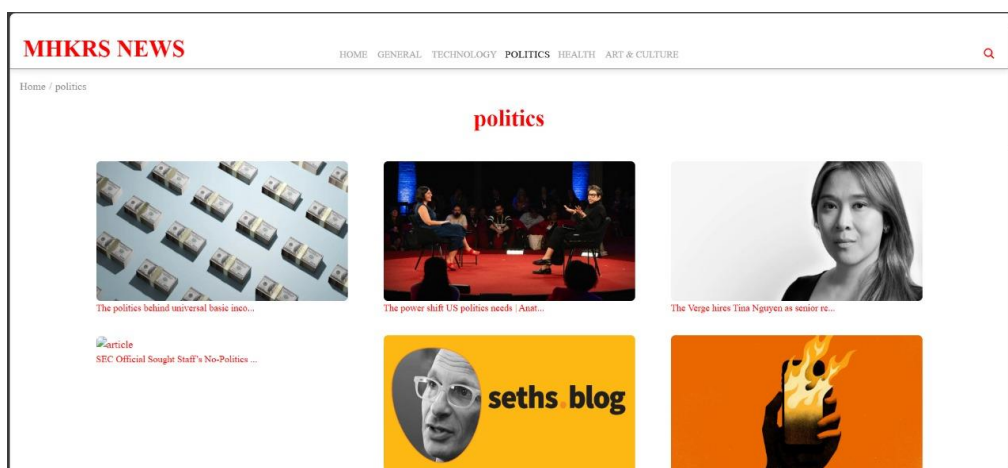
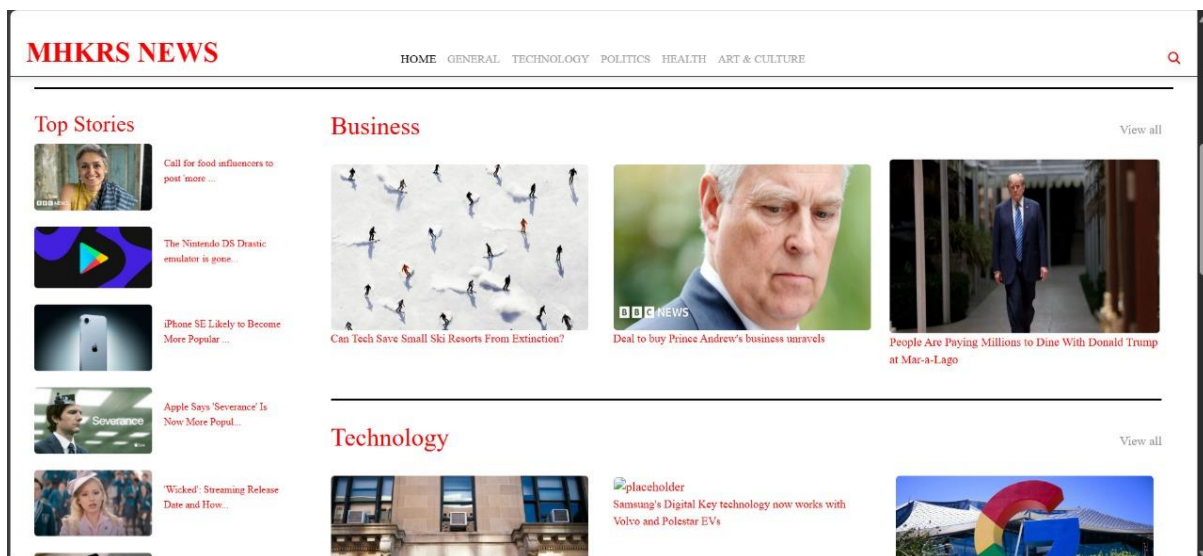
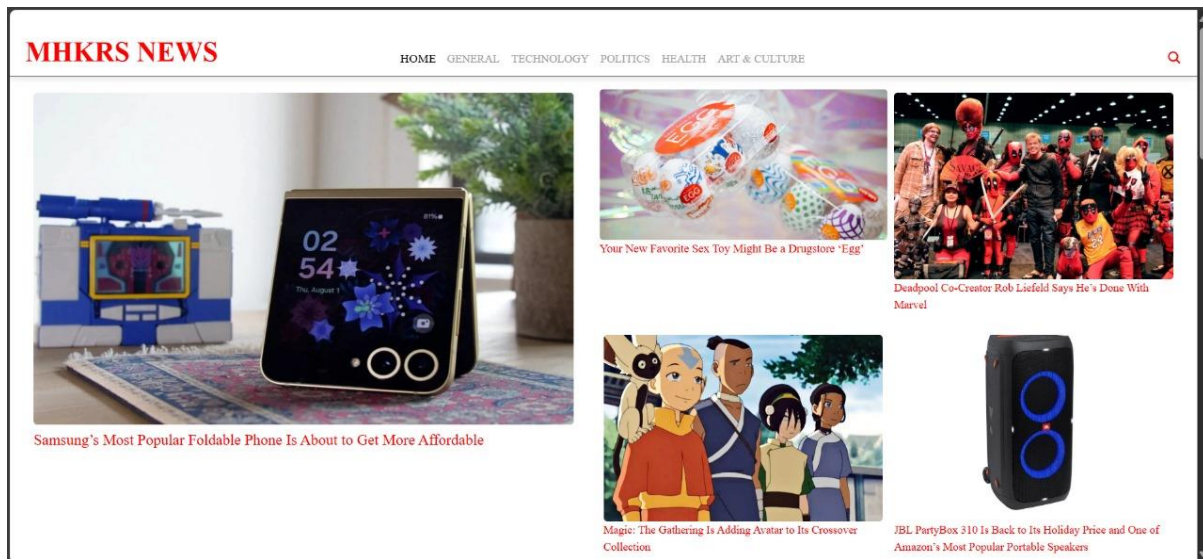
- **Unit Testing:** Using Jest for testing individual components.
- **Integration Testing:** React Testing Library for simulating UI interactions.

### Code Coverage:

- Ensuring 80%+ test coverage with Jest and React Testing Library.
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# Screenshots or Demo

- [Demo Link](#)



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```
<div className="App">
  <NavbarComponent />
  <Routes>
    <Route exact path="/" element={<Home/>} />
    <Route exact path="/category/:id" element={<CategoryPage/>} />
    <Route exact path="/news/:id" element={<NewsPage/>} />
  </Routes>
  <Footer />
</div>
);
}
```

```
const fetchTopNews = async () => {
  try {
    const response = await axios.get("https://newsapi.org/v2/everything?q=popular&apiKey=95a7ff8288154e7d988f0b98115");
    setTopNews(response.data.articles);
  } catch (error) {
    console.error(error);
  }
}
```

```
<div className="App">
  <NavbarComponent />
  <Routes>
    <Route exact path="/" element={<Home/>} />
    <Route exact path="/category/:id" element={<CategoryPage/>} />
    <Route exact path="/news/:id" element={<NewsPage/>} />
  </Routes>
  <Footer />
</div>
);
}
```



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## Known Issues

- API rate limits from NewsAPI.org can sometimes block requests.
- Occasional delays when fetching large datasets.

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## Future Enhancements

- Implement a bookmarking feature for saving favorite articles.
- Add user authentication for personalized news feeds.
- Introduce push notifications for breaking news.
- Expand API sources for a richer news experience.