InsightStream: Redeflning News Consumption

Introduction

InsightStream is an advanced web-based application designed to transform the way users
access and engage with news. It provides an intuitive, user-friendly interface, powerful search capabilities, and a broad selection of news categories, catering to diverse audiences.

Whether you're a casual reader or an avid news follower, InsightStream is designed to enhance your news discovery experience by offering seamless navigation and dynamic content delivery.

Description

Welcome to InsightStream, a platform that revolutionizes traditional news consumption!
Designed with cutting-edge technology, InsightStream provides an immersive experience that simplifies the process of discovering and engaging with news.

With its sleek, modern interface and a variety of categories to explore, users can effortlessly stay updated on global affairs. The application is equipped with dynamic search features, ensuring that you receive the most relevant news articles tailored to your interests.

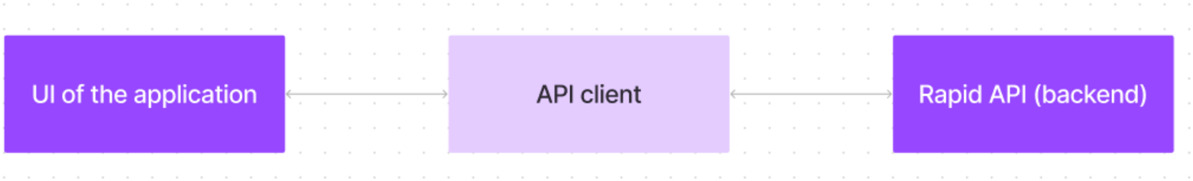
InsightStream is more than just a news aggregator—it fosters a community where users can discover, share, and interact with news in a way that is both informative and engaging.
Whether you are looking for breaking news or in-depth analysis, InsightStream ensures that every story you read broadens your perspective and keeps you well-informed.

Scenario-Based Introduction

Imagine returning home after a long day at work, unaware of the latest developments in the world. You remember downloading InsightStream, a news app that promises to offer a unique and engaging news experience.

Curious, you launch the app and are immediately greeted with visually rich headlines,
detailed articles, and a variety of news categories. Unlike other news apps, InsightStream feels intuitive and interactive. You explore trending stories, filter news based on your preferences, and dive into an enriched reading experience. With InsightStream, staying informed has never been easier!

Technical Architecture



The application’s user interface is built using **React.js**, offering a fast, seamless, and engaging experience. The front-end interacts with an API client that communicates with the backend, leveraging **Rapid API** to fetch data from multiple external sources.

This approach enriches the user experience by integrating real-time news updates without requiring custom-built backend infrastructure. The use of modern web technologies ensures emciency, scalability, and an enjoyable browsing experience.

Project Goals and Objectives

The primary mission of InsightStream is to create a streamlined and personalized news platform for users passionate about staying informed. The core objectives include:

✔ **Seamless User Experience** – Develop an intuitive and responsive interface for smooth navigation and effortless news consumption.

✔ **Advanced News Management** – Provide features such as personalized news feeds, bookmarking, and easy sharing options.

✔ **Innovative Technology Stack** - Utilize modern web technologies, including **React.js**, for an emcient and interactive platform.

Key Features

✔ **News Aggregation from API Sources** - Access a wide array of news articles from trusted sources, ensuring well-rounded coverage of global events.

✔ **Visual News Discovery** – Explore stories through curated image galleries, making news consumption visually appealing and engaging.

✔ **User-Friendly Interface** – A clean, responsive design that enhances readability and user interaction.

✔ **Advanced Search Capabilities** – Quickly find news articles using keywords, categories, or topics that interest you the most.

Pre-Requisites

To develop and run the InsightStream application, the following tools and technologies are required:

✔ **Node.js and npm** - JavaScript runtime and package manager for running and managing dependencies.

● Download: https://nodejs.org/en/download/

● Installation instructions: https://nodejs.org/en/download/package-manager/

✔ **React.js** – JavaScript library for building the user interface.

● Create a new React app: npx create-react-app my-react-app Replace my-react-app with your preferred project name.

- Navigate to the project directory: cd my-react-app

- Running the React App: With the React app created, you can now start the development server and see your React application in action.

- Start the development server: npm start This command launches the development server, and you can access your React app at http://localhost:3000 in your web browser.

✔ **HTML, CSS, and JavaScript** – Fundamental technologies for structuring, styling, and scripting the application.

✔ **Git for Version Control** - Manage and track code changes emciently.

- Git: Download and installation instructions can be found at: https://git-scm.com/downloads

✔ **Development Environment** - Preferred code editor such as Visual Studio Code, Sublime Text, or WebStorm.

- Visual Studio Code: Download from https://code.visualstudio.com/download

- Sublime Text: Download from https://www.sublimetext.com/download

- WebStorm: Download from https://www.jetbrains.com/webstorm/download

Installation & Setup

Follow these steps to install and run the application:

1. **Get the Code** - Download the source code from the provided Google Drive link.
2. **Install Dependencies** – Navigate to the project directory and install required packages:
3. cd news-app-react

npm install

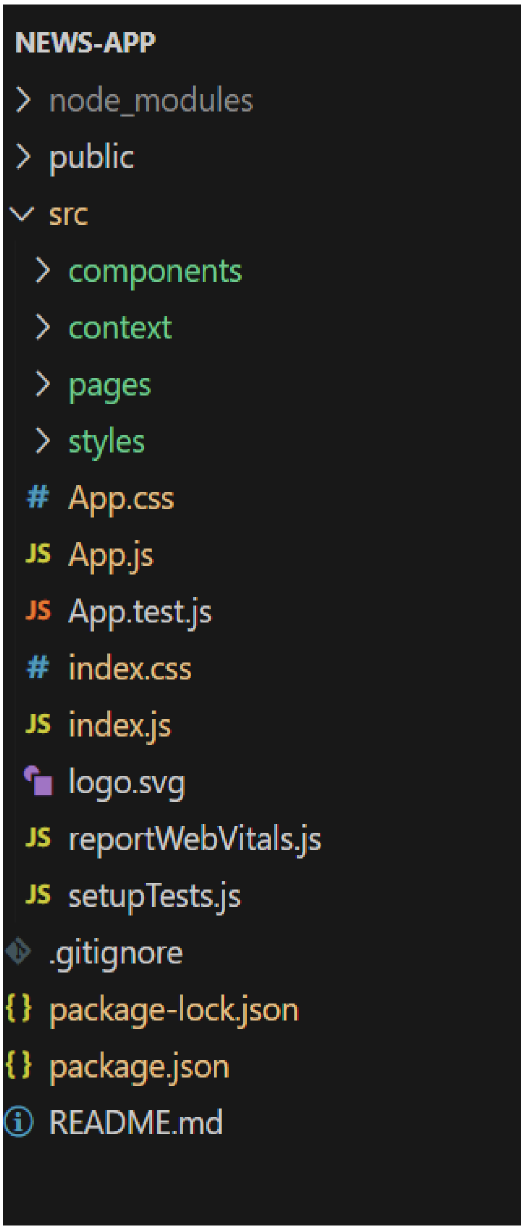
1. **Start the Development Server** - Run the following command to launch the application:

npm start

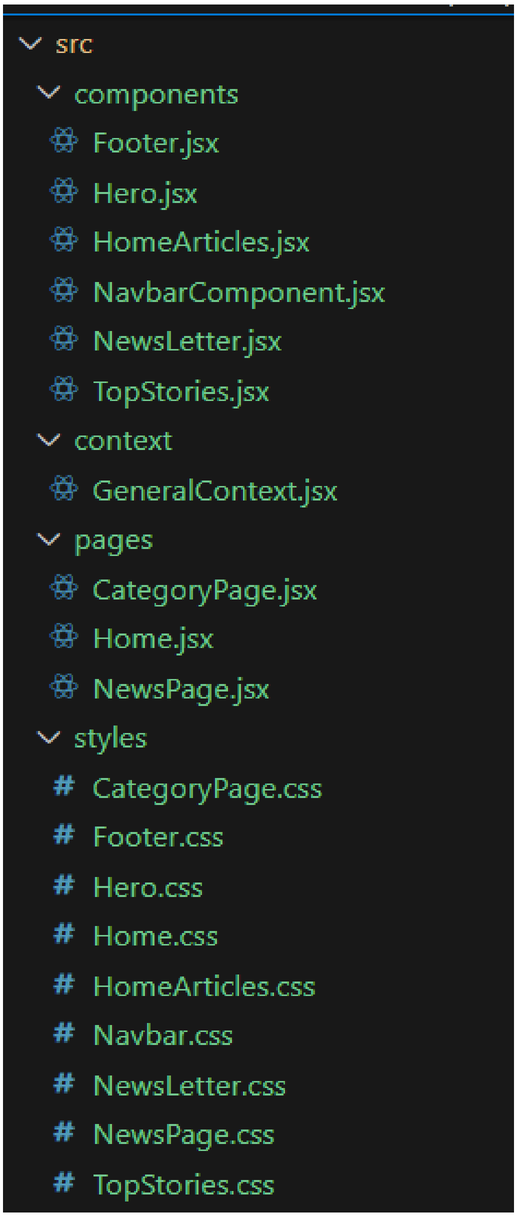
1. **Access the Application** - Open your browser and navigate to http://localhost:3000.

Once installed, you can explore, customize, and enhance the application as per your requirements.

Project Structure



```
NEWS-APP
> node_modules
> public
v src
  > components
  > context
  > pages
  > styles
  # App.css
  JS App.js
  JS App.test.js
  # index.css
  JS index.js
  logo.svg
  JS reportWebVitals.js
  JS setupTests.js
.gitignore
{} package-lock.json
{} package.json
README.md
```



```
v src
  v components
    Footer.jsx
    Hero.jsx
    HomeArticles.jsx
    NavbarComponent.jsx
    NewsLetter.jsx
    TopStories.jsx
  v context
    GeneralContext.jsx
  v pages
    CategoryPage.jsx
    Home.jsx
    NewsPage.jsx
  v styles
    # CategoryPage.css
    # Footer.css
    # Hero.css
    # Home.css
    # HomeArticles.css
    # Navbar.css
    # NewsLetter.css
    # NewsPage.css
    # TopStories.css
```

The project is organized into four main folders:

- **Components** - Contains reusable UI components.
- **Context** - Manages global application state.
- **Pages** - Includes different screens and views of the application.

- **Styles** – Stores CSS files for styling the app

Project flow

Project demo:

Before starting to work on this project, let’s see the demo.

Demo link:

Use the code in: https://github.com/SangaviSD/News-App.git

Development Milestones

✔ Milestone 1: Project Setup & Conflguration

- Install required dependencies and set up project structure.
- Implement foundational UI components using React.js and Tailwind CSS.
  - For further reference, use the following resources

o https://react.dev/learn/installation

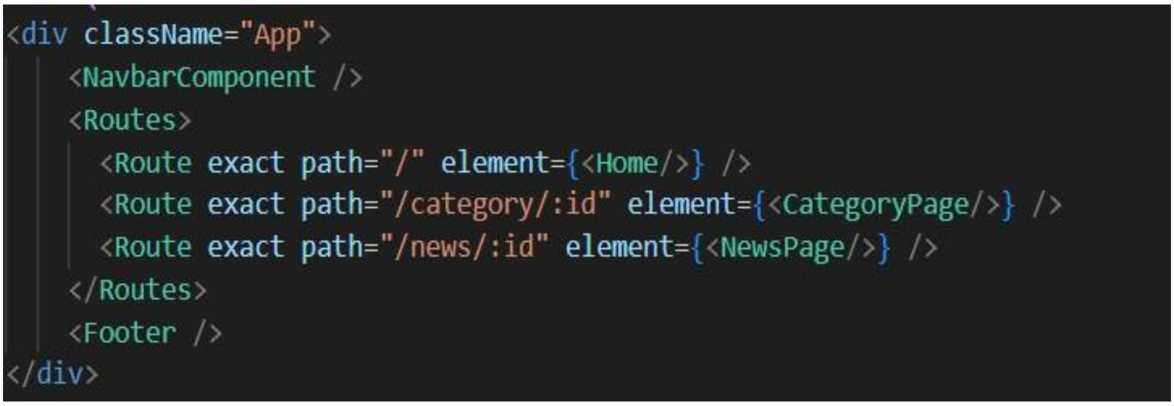
o https://react-bootstrap-v4.netlify .ap p/getting-started/introduction/

o https://axios-http.com/docs/intro

o https://reactrouter.com/en/main/start/tutorial

✔ Milestone 2: Core Functionality Implementation

- Develop navigation, hero section, and trending news display.
- Integrate API calls to fetch and display news article
- Implement search and filtering features
- Add category-based browsing.



```
<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>
```

✔ Milestone 3: Enhancements & Testing

- Optimize performance and UI responsiveness.
- Conduct thorough testing to ensure smooth functionality. ● Deploy the application for user accessibility.

-

Code Snippets

Application Screens

✔ **Hero Section** – Displays trending news with a search bar for quick access.

✔ **Popular Categories** - Showcases news segmented into different categories.

✔ **Newsletter Subscription** – Allows users to subscribe for daily news updates.

✔ **Search/Category Page** – Displays results based on user queries or selected categories.

✔ **Full Article Page** - Redirects users to the full news article from the original source.

Project Demonstration

To see InsightStream in action, check out the demo: Demo Link

Conclusion

InsightStream is designed to revolutionize the way users consume news by providing an
interactive, engaging, and informative experience. With its intuitive design, powerful search capabilities, and extensive news coverage, it ensures that

staying informed is both effortless and enjoyable.

API URL:

The URL used in the API request is 'https://newsapi.org/v2/everything?q=popular&apiKey=37306aca596542f0a840297 8de3d4224'.

This is likely a specific API endpoint that returns popular news articles. You might need to replace this URL with the actual endpoint you want to use depending on the API you're using. Replace '37306aca596542f0a8402978de3d4224' with a placeholder instructing users to replace it with their own API key.

Error Handling (catch block):

The catch block handles any errors that might occur during the API request. If there's an error, it's logged to the console using console.error(error).

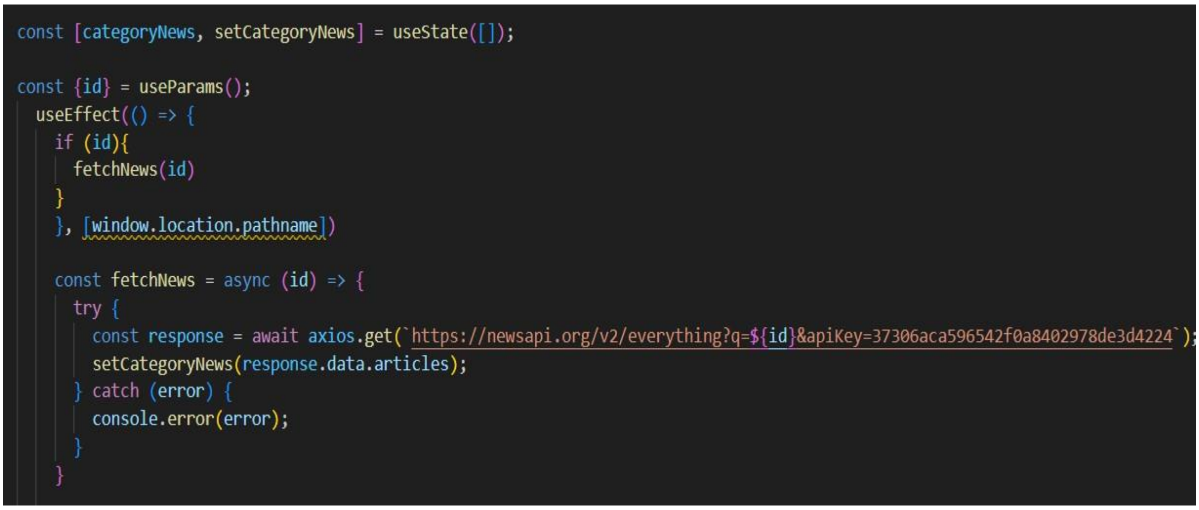
Setting State (then block not shown):

The .then method (not shown in the code snippet) is likely used to process the fetched data after a successful API request.

In this case, it likely updates a state variable named topNews (based on the function name fetchTopNews) with the fetched news articles. This state variable might be used to display the news articles in a user interface.

? Fetching news by search/category

With the specific category or search keyword, we use API request to fetch all the news articles related to that.



```
const [categoryNews, setCategoryNews] = useState([]);

const {id} = useParams();
  useEffect(() => {
    if (id){
      fetchNews(id)
    }
    }, [window.location.pathname])

    const fetchNews = async (id) => {
      try {
        const response = await axios.get(`https://newsapi.org/v2/everything?q=${id}&apiKey=37306aca596542f0a8402978de3d4224`);
        setCategoryNews(response.data.articles);
      } catch (error) {
        console.error(error);
      }
    }
```

The code snippet shows a function called get_news_articles that fetches news articles from a news API. Here's a breakdown of the code:

Imports:

The code starts by importing the requests library. The requests library is a popular Python library for making HTTP requests. If you don't already have it installed in your project, you can install it using pip install requests.

API Key:

The line API_KEY = 'YOUR_API_KEY' defines a variable named API_KEY and assigns it a placeholder value 'YOUR_API_KEY'. You should replace this with a placeholder instructing users to replace it with their own API key obtained from the news API provider they want to use.

Function Definition (get_news_articles):

The code defines a function named get_news_articles that takes two parameters:

- query: This parameter is likely a string representing the search query for news articles.
- source: This parameter is likely a string representing the news source (e.g., 'bbc-news', 'cnn').

Building the API Request URL:

The line url = f'https://newsapi.org/v2/everything?q={query}&apiKey={API_KEY}' constructs the URL for the API request using a formatted string literal (f-string).

The URL includes the following parts:

- Base URL: https://newsapi.org/v2/everything
- Query parameters:
- q: This parameter is set to the query argument passed to the function.
- apiKey: This parameter is set to the API_KEY variable, which should contain the user's API key.

Making the API Request (requests.get):

The line response = requests.get(url) sends a GET request to the API URL constructed earlier. The requests.get function from the requests library is used to make the HTTP request. The response from the API is stored in the response variable.

Error Handling (try...except block):

- The try...except block is used to handle potential errors during the API request.
- The try block contains the code that attempts to fetch data from the API using requests.get(url).
- The except block handles any exceptions that might occur during the request, such as network errors or invalid API responses. In this case, it prints an error message to the console using print(f'Error fetching news articles: {e}').

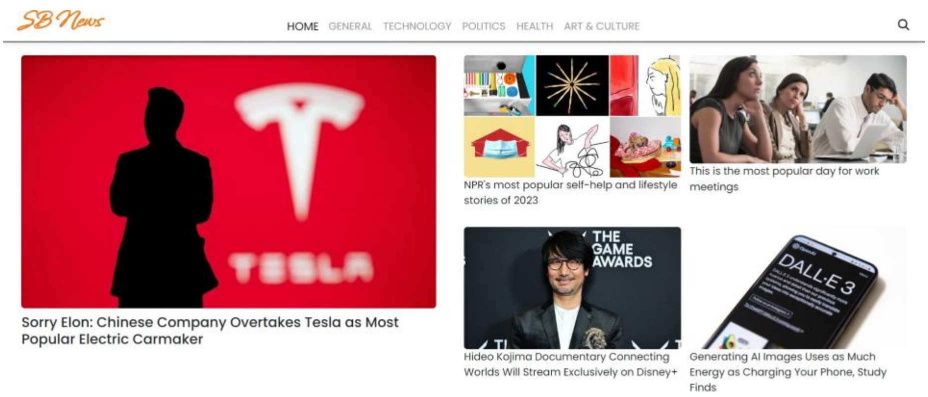
Project Execution:

After completing the code, run the react application by using the command "npm start" or "npm run dev" if you are using vite.js

Here are some of the screenshots of the application.

? Hero components

In the hero component, the trending news articles are displayed. It is to highlight them. Apart from that, the search bar is also available to search for various articles and categories.



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Generating AI Images Uses as Much Energy as Charging Your Phone, Study Finds

? Popular categories

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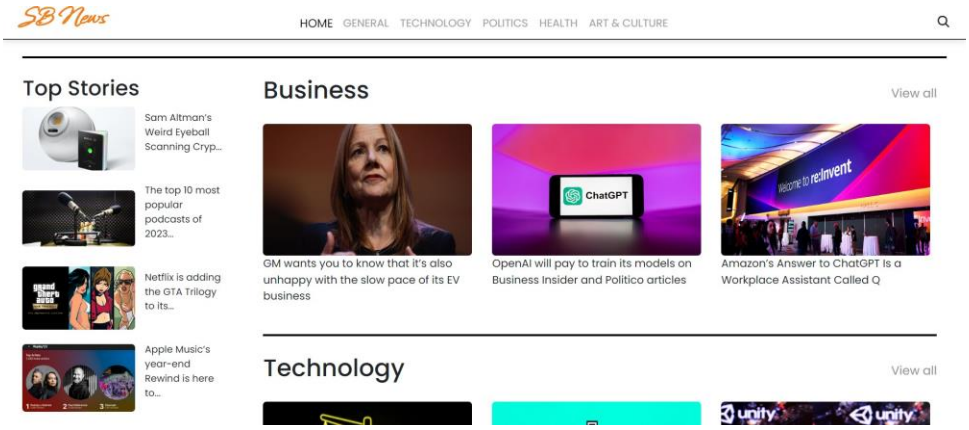

Top Stories

Sam Altman's Weird Eyeball Scanning Cryp...

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Business

View all

GM wants you to know that it's also unhappy with the slow pace of its EV business

OpenAI will pay to train its models on Business Insider and Politico articles

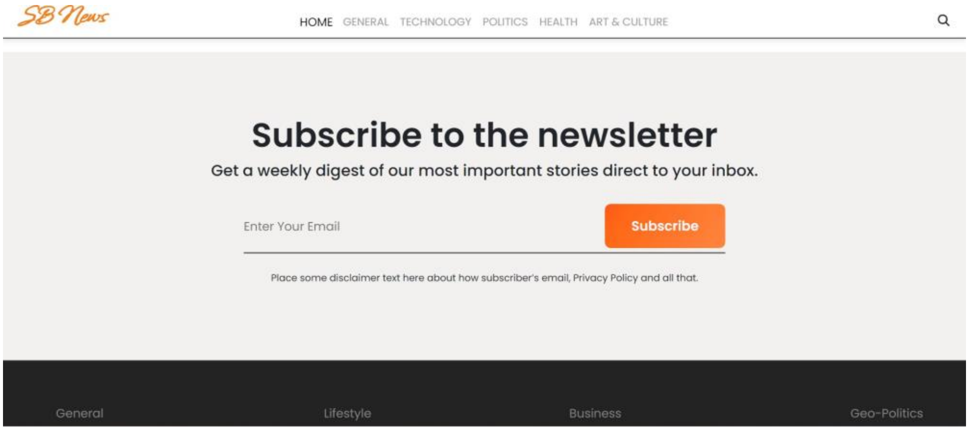
Amazon's Answer to ChatGPT Is a Workplace Assistant Called Q

Technology

View all

? Newsletter

Staying informed is key! This section would act as a magnet for users who want to stay up-to-date on the latest news. A brief signup form with an email field would be presented, along with a clear call to action button like "Subscribe Now" or "Get Daily News Updates." With a simple click, users can join the InsightStream community and receive curated news delivered straight to their inbox.



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Enter Your Email

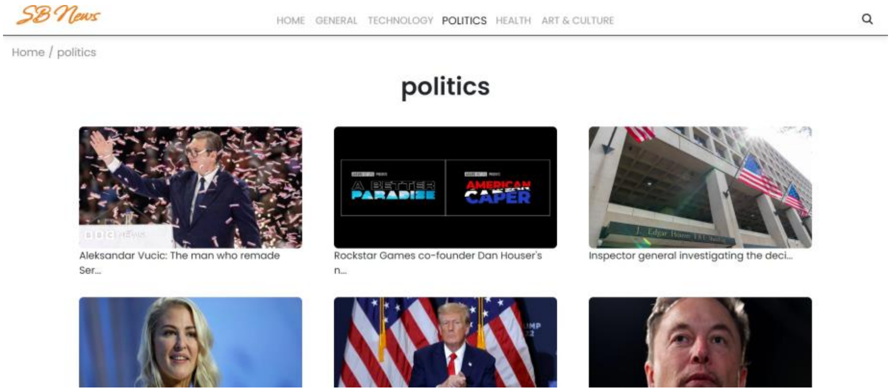
Subscribe

Place some disclaimer text here about how subscriber's email, Privacy Policy and all that.

General Lifestyle Business Geo-Politics

? Category/Search result page

Finding the news you crave is effortless with InsightStream. This page displays a neatly organized list of articles matching your chosen category or specific search query. Each entry would provide a clear headline, a concise summary, and if available, an image to give you a quick glimpse into the story. To further refine your exploration, filters or sorting options might be available. Imagine narrowing down results by date, source, keyword, or other relevant criteria to pinpoint exactly what you're looking for.



politics

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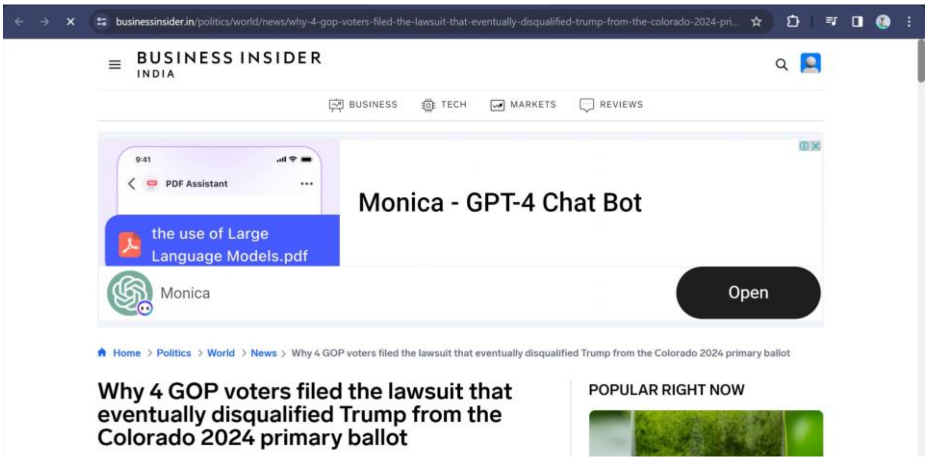
Rockstar Games co-founder Dan Houser's n...

Inspector general investigating the deci...

? Redirected Article page

This is where you dive deep! The article page proudly displays the complete news story, retrieved directly from the original source. To keep you engaged and exploring related topics, the page might also suggest additional articles based on the current story. These suggestions can open doors to a world of interconnected information, allowing you to become a well-rounded news connoisseur.


businessinsider.in/politics/world/news/why-4-gop-voters-filed-the-lawsuit-that-eventually-disqualified-trump-from-the-colorado-2024-pri...
BUSINESS INSIDER
INDIA
BUSINESS
TECH
MARKETS
REVIEWS
9:41
PDF Assistant
the use of Large Language Models.pdf
Monica - GPT-4 Chat Bot
Monica
Open
Home > Politics > World > News > Why 4 GOP voters filed the lawsuit that eventually disqualified Trump from the Colorado 2024 primary ballot
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Why 4 GOP voters filed the lawsuit that eventually disqualified Trump from the Colorado 2024 primary ballot

Project Demo link:

https://drive.google.com/file/d/1i8y09FiMk7QM0akH3my10OBWqXH-8dNh/view?usp=shari ng

Happy coding