

Project Documentation

Project Title

1. Introduction

- **Project Title:** InsightStream Navigate the News Landscape
- **Team ID:** NM 2025TMID37770
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2. Project Overview

- **Purpose:** To build a news aggregator platform that fetches real-time news articles using the GNews API and delivers daily curated news updates to subscribed users via email newsletters.
- **Features:**
 - Fetches real-time news using GNews API
 - Displays latest headlines from various categories (e.g., Technology, Sports, Business, etc.)
 - Automatic news updates daily
 - Simple, clean interface to browse top news

3. Architecture

- **Frontend:** Developed using React.js, enhanced with Bootstrap and Material UI to deliver a responsive, interactive, and user-friendly interface.
- **Backend:** Built with Node.js and Express.js, responsible for handling server-side logic, managing API requests, and defining application routing.
- **Data Source:** Integrated with the GNews API, which serves as the primary source for fetching and delivering real-time news articles, eliminating the need for a dedicated database.

4. Setup Instructions

- **Prerequisites:**

- Node.js
- Express.js
- Git
- React.js
- Visual Studio Code

- **Installation Steps:**

Clone the repository git clone

Install client dependencies cd
client npm install

Install server dependencies cd
../server npm install

5. Folder Structure

```
IF-News/  
|-- client/      # React frontend  
|  |-- components/  
|  |-- context/  
|  |-- pages/  
|  |-- styles/  
|  
|-- server/      # Node.js backend  
|  |-- routes/  
|  |-- models/  
|  |-- controllers/
```

6. Running the Application

- **Frontend:**

cd client
npm start

- **Backend:**

cd server npm
start

- **Access:** Visit <http://localhost:3000>

7. API Documentation

- **News:**
 - </api/news/top-headlines>
 - </api/news/search?q={keyword}>
 - </api/news/category/:topic>
- **Newsletter:**
 - </api/newsletter/subscribe>

8. Authentication

- API Key Authentication is implemented to securely fetch live news from the GNews API.
- Since the application is public, users can directly access news without login or registration.
- The API key is securely stored in the project environment to prevent unauthorized access.

9. User Interface

- Home Page
- Search Page
- Category Page
- News Detail Page

10. Testing

- Manual testing during milestones
- Tools: Postman, Microsoft Edge DevTools

11. Screenshots or Demo

[Demo link](#)

12. Known Issues

- Each category displays only one page of results due to GNews API limitations
- API rate limits may restrict the number of requests per day
- Some articles may not display images if the source does not provide them

13. Future Enhancements

- Add pagination or infinite scroll to display more articles per category
- Implement user login system to allow saving and bookmarking favorite news
- Provide personalized news recommendations based on user interests
- Introduce dark mode for better readability and user experience
- Develop a mobile app version of IF-News for wider accessibility