InsightStream: Navigate the News Landscape

1. Introduction

· Project Title: InsightStream: Navigate the News Landscape

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2. Project Overview

· **Purpose:** InsightStream is a comprehensive news aggregation and analysis platform that helps users navigate the complex media landscape by providing personalized content, bias detection, and trend analysis.

· **Features:**

· Multi-source news aggregation from reputable publishers

· Media bias indicator and transparency scoring

· Personalized news feed based on user preferences

· Topic trend visualization and analytics

· Save articles and create reading lists

· Cross-platform accessibility (web and mobile)

3. Architecture

· **Frontend:** React.js with Tailwind CSS and Chart.js for visualizations

· **Backend:** Node.js and Express.js managing news API integrations and user data

· **Database:** MongoDB stores user profiles, saved articles, preferences, and analytics

· **External APIs:** NewsAPI, Media Bias/Fact Check integration, Natural Language Processing services

4. Setup Instructions

· **Prerequisites:**

 · Node.js (v16 or higher)

 · MongoDB Atlas account or local installation

 · Git

 · NewsAPI key (free tier available)

 · Visual Studio Code (recommended)

· **Installation Steps:**

```bash
# Clone the repository

git clone https://github.com/insightstream/news-platform.git


# Install client dependencies

cd client

npm install


# Install server dependencies

cd ../server

npm install


# Set up environment variables

cp .env.example .env

# Add your API keys to the .env file
```

5. Folder Structure

```

```
InsightStream/

|-- client/   # React frontend

  |__ components/   # Reusable UI components

  |__ pages/   # Application pages

  |__ hooks/   # Custom React hooks

  |__ utils/   # Helper functions

|-- server/   # Node.js backend

  |__ routes/   # API route handlers

  |__ models/   # MongoDB schemas

  |__ controllers/ # Business logic

  |__ middleware/   # Custom middleware

|-- docs/   # Project documentation
```
```

6. Running the Application

· Frontend:

```bash
cd client

npm start
```

· Backend:

```bash
cd server

npm run dev
```

· Access: Visit http://localhost:3000

7. API Documentation

· User Management:

  · POST /api/user/register - Create new account

  · POST /api/user/login - Authenticate user

  · GET /api/user/profile - Get user profile

· News Content:

  · GET /api/news/feed - Retrieve personalized news feed

  · GET /api/news/search?q=query - Search news articles

  · GET /api/news/sources - Get available news sources

· User Preferences:

  · POST /api/preferences - Save user preferences

  · GET /api/preferences - Retrieve user preferences

· Saved Content:

  · POST /api/saved - Save article to reading list

  · GET /api/saved - Retrieve saved articles

  · DELETE /api/saved/:id - Remove saved article

8. Authentication

· JWT-based authentication for secure login

· Protected routes for user-specific content
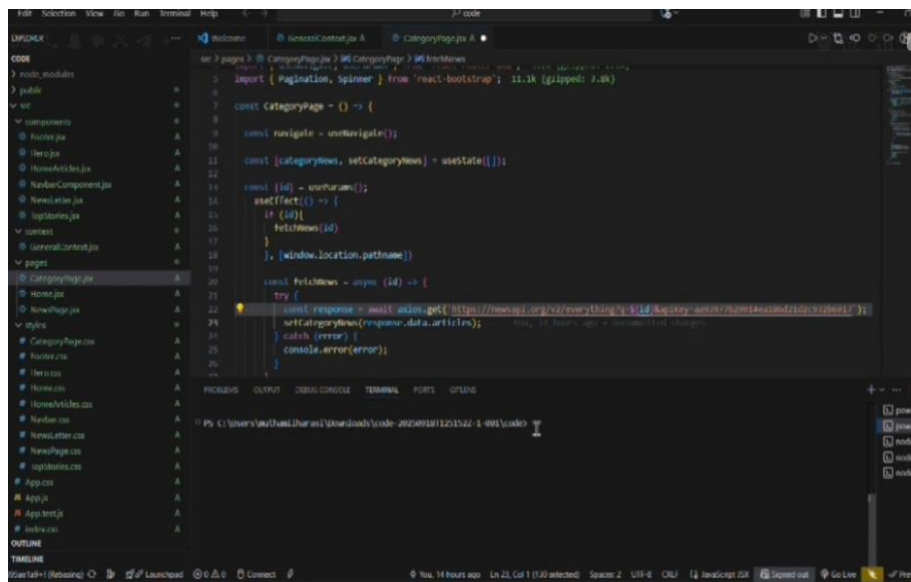
· Password hashing with bcrypt

9. User Interface

· **Landing Page:** Overview of platform features and trending stories

· **Personalized Dashboard:** Custom news feed based on user preferences

· **Source Analysis Page:** Media bias information and source reliability ratings

· **Search Results Page:** Filtered news content with various sorting options

· **User Profile Page:** Account settings and reading history

10. Testing

· Unit testing with Jest and React Testing Library

· API testing with Postman

· End-to-end testing with Cypress

· Cross-browser compatibility testing

11. Screenshots or Demo

12. Known Issues

· Occasional latency in news API responses during peak times

· Limited news sources in certain regional markets

· Mobile app still in development (web version fully functional)

13. Future Enhancements

· Browser extension for quick news verification

· Advanced sentiment analysis of news content

· Social features for sharing and discussing articles

· Podcast integration and audio news briefings

· Multilingual support for international users