

# Project Documentation

InsightStream: Navigate the News Landscape

## 1. Introduction






- **Project Title:** InsightStream: Navigate the News Landscape
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## 2. Project Overview

**InsightStream** is a modern news aggregation and personalization platform that curates trustworthy, real-time news from various sources across the globe. It's designed to empower users to **navigate the news landscape** intelligently by offering a blend of AI-powered recommendations, bias detection, topic clustering, and user-centric customization.

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### 2. Project Objectives

-  Aggregate reliable news from multiple global and local sources.
  -  Provide intelligent, bias-aware news recommendations.
  -  Offer tools for comparing perspectives across different outlets.
  -  Deliver a clean, distraction-free reading experience.
  -  Help users stay informed without being overwhelmed.
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### 3. Key Features

#### a. News Aggregation Engine

- Collects articles from diverse sources (APIs, RSS feeds, web scraping).
  - Categorizes content by topic, region, source, and date.
  - Supports international and regional languages.
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#### b. AI-Powered Personalization

- Recommends news based on reading habits, interests, and feedback.
- Adaptive to evolving preferences.
- “Trending for you” and “Continue reading” sections.

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#### c. Bias & Source Transparency

- Detects political or ideological bias using NLP and third-party data.
- Displays bias rating and credibility score for each source.
- Offers a “Compare Sources” view for different takes on the same topic.

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#### d. Topic Clustering

- Groups related articles into story clusters.
- Timeline view of story development over hours/days/weeks.
- Helps track the evolution of events or topics.

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#### e. Distraction-Free Reader Mode

- Clean, ad-free reading interface.
- Save articles for offline or later reading.
- Highlight and annotate text.

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#### f. Custom Notifications & Alerts

- Alerts for breaking news, keywords, or topics of interest.
- Scheduled digests (morning, noon, evening).
- Region-specific notifications.

### 3. Architecture

- **Frontend:** React.js with Bootstrap and Material UI
- **Backend:** Node.js and Express.js managing server logic and API endpoints
- **Database:** MongoDB stores user data, project information, applications, and chat messages

### 4. Setup Instructions

- **Prerequisites:**
  - Node.js
  - MongoDB

- Git
- React.js
- Express.js – Mongoose – 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

```
SB-Works/
|-- client/           # React frontend
    |-- components/
    |-- pages/
|-- 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

- **User:**

- /api/user/register
- /api/user/login

- **Projects:**

- /api/projects/create
  - /api/projects/:id • **Applications:** /api/apply
- **Chats:**
    - /api/chat/send
    - /api/chat/:userId

## 8. Authentication

- JWT-based authentication for secure login
- Middleware protects private routes

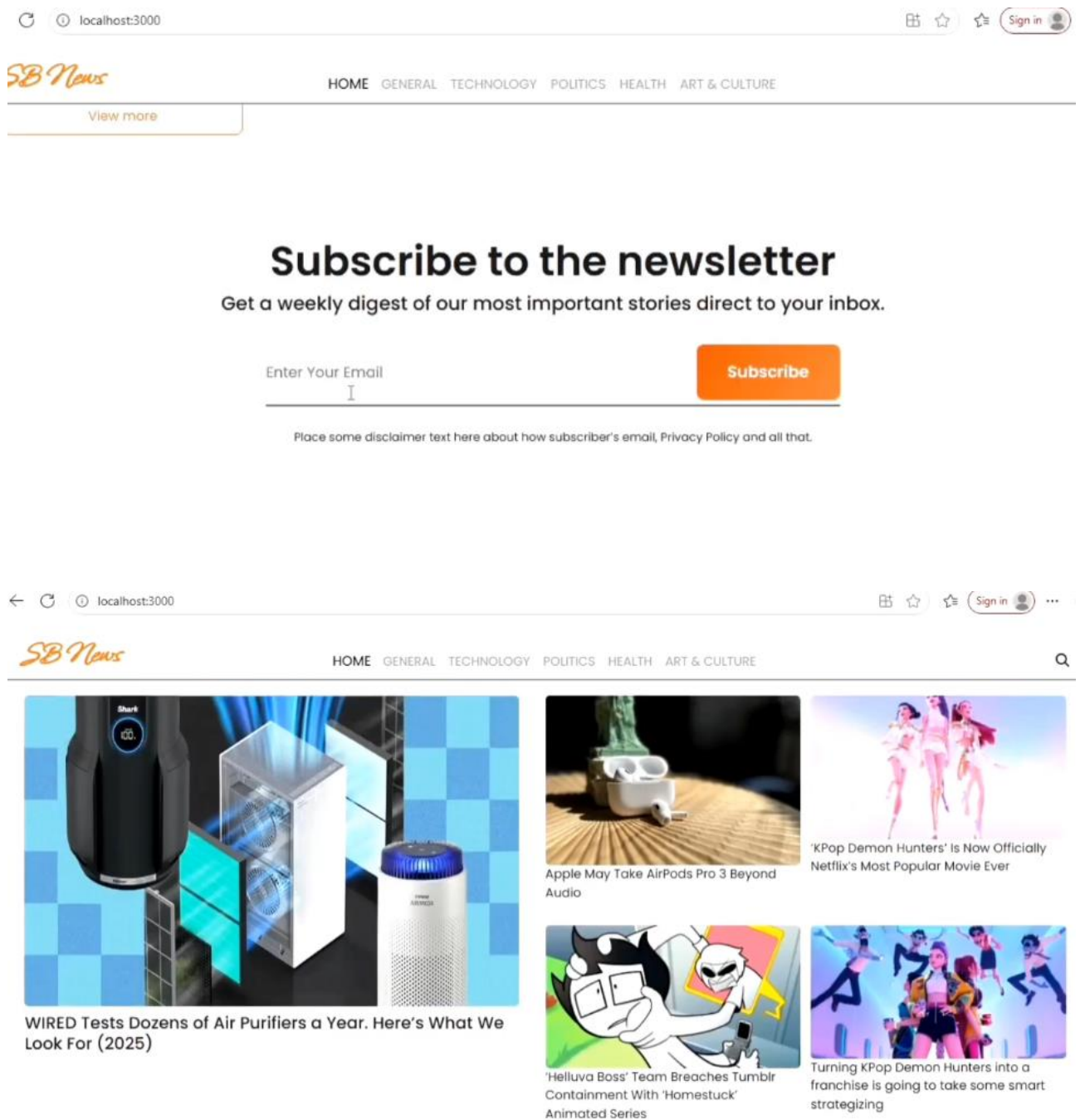
## 9. User Interface

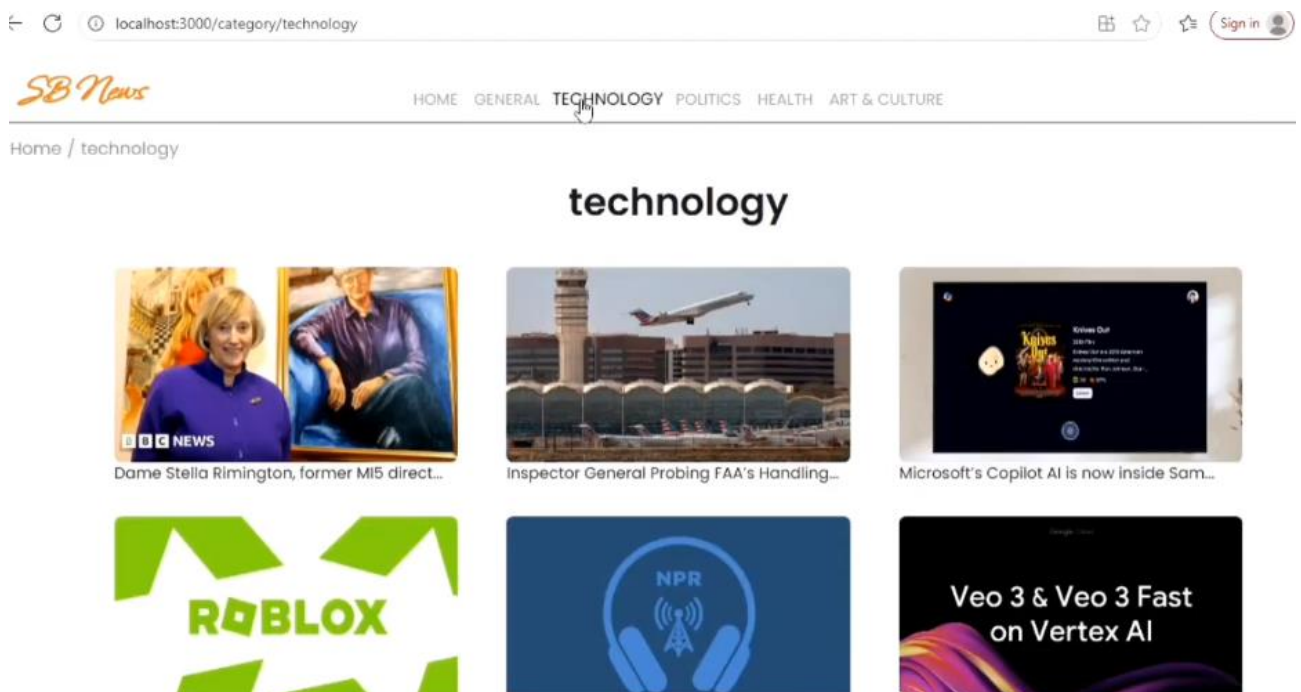
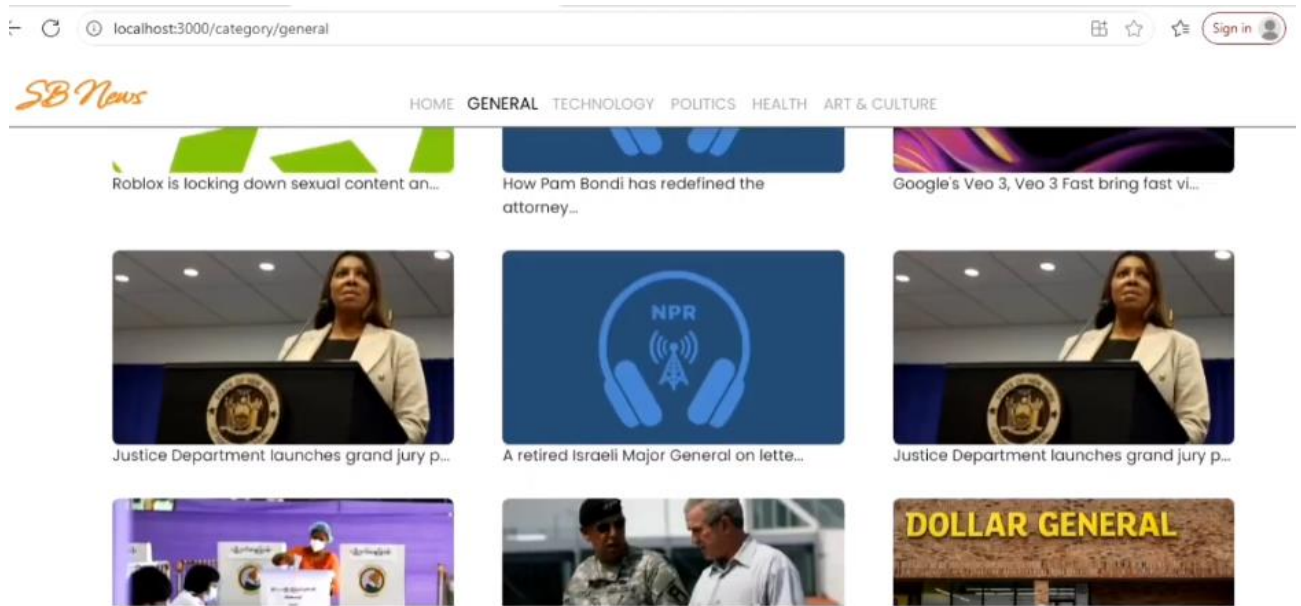
- Landing Page
- Freelancer Dashboard
- Admin Panel
- Project Details Page

## 10. Testing

- Manual testing during milestones
- Tools: Postman, Chrome Dev Tools

## 11. Screenshots or Demo





## 12. Known Issues

## 13. Future Enhancements

### 1. Personalized News Summaries (AI Digest)

- **Description:** Deliver daily or weekly personalized news digests tailored to the user's reading habits.
- **Features:**
  - Email and in-app delivery
  - Short AI-generated summaries with source links

- **Benefit:** Saves time and enhances daily news consumption efficiency.
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## 2. Interactive News Timeline

- **Description:** Visual timeline for major news stories showing how events unfolded over time.
  - **Features:**
    - Chronological article mapping
    - Highlighting key turning points
  - **Benefit:** Helps users understand the full context of complex stories.
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## 3. Advanced News Filtering

- **Description:** Give users more control over what they see.
  - **Features:**
    - Filters by political bias, source reputation, region, article length
  - **Benefit:** Reduces information overload and allows for targeted news consumption.
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## 4. Fact-Checking Integration

- **Description:** Collaborate with fact-checking platforms (like PolitiFact, Snopes) to flag disputed claims in articles.
  - **Features:**
    - Fact-check overlays on controversial statements
    - Reliability meter per article
  - **Benefit:** Builds user trust and promotes responsible journalism.
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## 5. Text-to-Speech (Audio News Mode)

- **Description:** Convert news articles into audio using natural-sounding AI voices.
  - **Features:**
    - Adjustable playback speed
    - Playlists of daily articles
  - **Benefit:** Enables hands-free news consumption for commuters, visually impaired users, or multitaskers.
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## 6. Smart Video News Aggregation

- **Description:** Curate short-form and long-form video news content across platforms (e.g., YouTube, Vimeo).
- **Features:**

- Source labeling and summaries
    - Topic tags for searchability
  - **Benefit:** Caters to visual learners and expands media formats.
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## 7. Sentiment Analysis Tagging

- **Description:** Display sentiment (positive, negative, neutral) for each article using NLP.
  - **Features:**
    - Heatmaps or color-coded labels
    - Topic-wise sentiment breakdown
  - **Benefit:** Helps users gauge the tone and emotional bias of coverage.
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## 8. Collaborative Reading Spaces

- **Description:** Allow small groups (friends, students, teams) to read and annotate news together.
  - **Features:**
    - Shared comments, highlights, and discussion threads
  - **Benefit:** Promotes knowledge-sharing and collaborative learning.
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## 9. Local News Expansion

- **Description:** Deepen support for hyper-local news sources.
  - **Features:**
    - Community-based reporting
    - Geo-targeted alerts
  - **Benefit:** Strengthens local awareness and engagement.
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## 10. AI Chat Assistant for News Queries

- **Description:** Integrate a conversational AI that can answer questions about ongoing events.
- **Examples:**
  - "What's happening in the Russia-Ukraine conflict?"
  - "Summarize today's global economic news."
- **Benefit:** Offers quick insights and makes news more accessible