

Project Documentation

1. Introduction

Project Title: InsightStream: Navigate the News Landscape

Team ID: NM2025TMID30467

Team Size: 4

Team Leader: GIRI G – Ganeshangiri08@gmail.com

Team Members:

1. KEERTHIVASAN K – keerthivasankeerthi840@gmail.com
2. NANTHAKUMAR N – Nandhakumar333333@gmail.com
3. RAHUL R – R91182558@gmail.com

2. Project Overview

Purpose:

InsightStream helps users navigate today's overwhelming news environment by curating, analyzing, and presenting news from multiple sources in a structured and insightful manner.

Features:

- 1 News aggregation from multiple sources
- 2 AI-powered summarization and categorization
- 3 Personalized dashboards and topic tracking
- 4 Search and filter functionalities
- 5 User authentication and saved preferences
- 6 Admin panel for content management

3. Architecture

- 1 Frontend: React.js with TailwindCSS & Material UI
- 2 Backend: Node.js with Express.js (API endpoints, server logic)
- 3 Database: MongoDB (stores user profiles, preferences, news data, analytics)
- 4 Integrations: News API, AI summarization models

4. Setup Instructions

Prerequisites:

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

Installation Steps:

- 1 Clone the repository: git clone
- 2 Install client dependencies: cd client && npm install
- 3 Install server dependencies: cd ../server && npm install

5. Folder Structure

```
InsightStream/  
■ -- 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

- 1 User:
- 2 - POST /api/user/register
- 3 - POST /api/user/login
- 4 News:
- 5 - GET /api/news/latest
- 6 - GET /api/news/category/:id
- 7 - GET /api/news/search?q=keyword
- 8 Preferences:
- 9 - POST /api/preferences/save
- 10 - GET /api/preferences/:userId

8. Authentication

- JWT-based authentication
- Middleware for route protection

9. User Interface

- 1 Landing Page (Top headlines, trending topics)
- 2 Personalized Dashboard (saved categories & sources)
- 3 Admin Panel (content and user management)
- 4 News Details Page (full article + AI summary)

10. Testing

- 1 Manual testing during development phases
- 2 API testing with Postman
- 3 Frontend debugging with Chrome Dev Tools

11. Screenshots or Demo

(To be added after UI completion)

12. Known Issues

- 1 Occasional API rate limits
- 2 Performance optimization for large-scale news data

13. Future Enhancements

- 1 Mobile app version
- 2 Multi-language support
- 3 Advanced AI insights (sentiment analysis, bias detection)