

InsightStream: Navigatethe News

Introduction

Project Title: InsightStream: Navigation the News

Team Members:

- Lingeshwari R– Team Leader
- Harini E– Team Member
- Harini S – Team Member
- Aswini R- Team Member

Project Overview

Purpose

InsightStream is an innovative web-based news application designed to revolutionize how users access, explore, and consume news. By leveraging cutting-edge technologies and an intuitive user interface, it provides a seamless and highly interactive experience.

Unlike traditional news platforms, InsightStream goes beyond static articles by offering dynamic search features, categorized news exploration, and personalized content. Whether users are casual readers, journalists, or researchers, the platform ensures quick access to the latest updates from credible sources through real-time API integrations.

Features

- **News from API Sources:** Fetches news articles from external APIs using Rapid API integration.
- **Visual News Exploration:** Presents news with images and categorized sections for easy navigation.

- **Advanced Search Feature:** Enables users to find news articles based on keywords and specific topics.
- **User-Friendly Design:** Provides an intuitive UI for smooth browsing and interaction.
- **Subscription Feature:** Users can subscribe to receive daily news updates.
- **Dark Mode:** Allows users to switch between light and dark themes for better readability.
- **Commenting System:** Users can engage in discussions on news articles.
- **User Authentication:** Enables personalized news feeds and saved articles.

Architecture

Component Structure

- **Pages Folder:** Stores files for different routes, such as Home, Categories, Search Results, and Article Pages.
- **Components Folder:** Contains reusable components like Navbar, Hero Section, News Cards, Search Bar, and Footer.
- **Context Folder:** Handles global state management using Context API.
- **Styles Folder:** Contains CSS files for styling the application.
- **Assets Folder:** Stores images, icons, and static resources.

State Management

- **Global State:** Managed using Context API to ensure efficient data sharing across components.
- **Local State:** Managed using React's useState and useEffect hooks to optimize rendering.

Routing

Uses React Router Dom to navigate between different pages seamlessly.

Setup Instructions

Prerequisites

To run the InsightStream application, install the following:

- **Node.js & npm:** [Download here](#)
- **Git:** [Download here](#)
- **Code Editor (Recommended: Visual Studio Code):** [Download here](#)

Installation Steps

1. Clone the repository:
2. `git clone [repository link]`
3. Navigate to the project directory:
4. `cd news-app-react`
5. Install dependencies:
6. `npm install`
7. Run the application:
8. `npm start`
9. Open a browser and visit:
10. `http://localhost:3000`

Component Documentation

Key Components

- **Navbar:** Provides easy navigation across the application.
- **Hero Section:** Displays trending news and a search bar.
- **Category Cards:** Highlights different news categories for quick access.
- **News List:** Fetches and displays relevant news articles dynamically.

- **Article Page:** Presents full news articles fetched from the API.
- **Subscription Section:** Allows users to subscribe to daily updates.

Reusable Components

1. **Button** ◦ A standard button component for interactive elements.

- Used across different pages for actions like "Read More," "Subscribe," and "Search."
- Supports different styles and sizes.
- **File Location:** /components/Button.js

2. **SearchBar**

- Provides search functionality to find articles quickly.
- Allows users to enter keywords and fetch relevant news. ◦ Works in sync with News List and Category Pages.
- **File Location:** /components/SearchBar.js

3. **NewsCard**

- Displays individual news articles in a structured format.
- Includes title, thumbnail image, summary, and a "Read More" button. ◦ Enhances user experience with an interactive layout.
- **File Location:** /components/NewsCard.js

Styling

CSS Frameworks and Libraries

- **Tailwind CSS:** For modern and responsive styling. [Learn more](#)

- **React Icons:** Provides a collection of UI icons.

Testing Strategy Unit

Testing

- Uses Jest and React Testing Library to validate individual components and functionalities.

Integration Testing

- Tests API calls and UI interactions to ensure smooth user experience.

Project Execution Plan

Milestone 1: Project Setup

- Install necessary tools and dependencies.
- Set up the project structure and routing paths.

Milestone 2: Development

- Develop Navbar and Hero components.
- Fetch and display trending news.
- Implement category-based news navigation.
- Add the subscription section and footer.
- Build the category page to filter news articles.

API Integration

Fetching Trending News

```
const fetchTopNews = async () => {try
{
  const response = await
axios.get('https://newsapi.org/v2/everything?q=popular&apiKey=YOUR_API_KEY'); return
  response.data.articles;
```

```
    } catch (error) { console.error('Error  
fetching news:', error); }  
};
```

Fetching News by Category

```
const fetchCategoryNews = async (category) => {  
  try {  
    const response = await  
axios.get(`https://newsapi.org/v2/top-headlines?category=${category}&apiKey=YO  
UR_API_KEY`); return response.data.articles;  
  } catch (error) { console.error('Error  
fetching news:', error); }  
};
```

Future Enhancements

User Authentication: Enabling personalized news feeds.

AI-based News Summarization: Automatically generating summaries for lengthy articles.

Enhanced User Interactions: Implementing features like likes, comments, and social sharing.

Offline Mode: Allowing users to save articles for offline reading.

Known Issues

API Rate Limits: Some articles may be unavailable due to API restrictions.

Image Loading Issues: Certain news sources may not provide images.

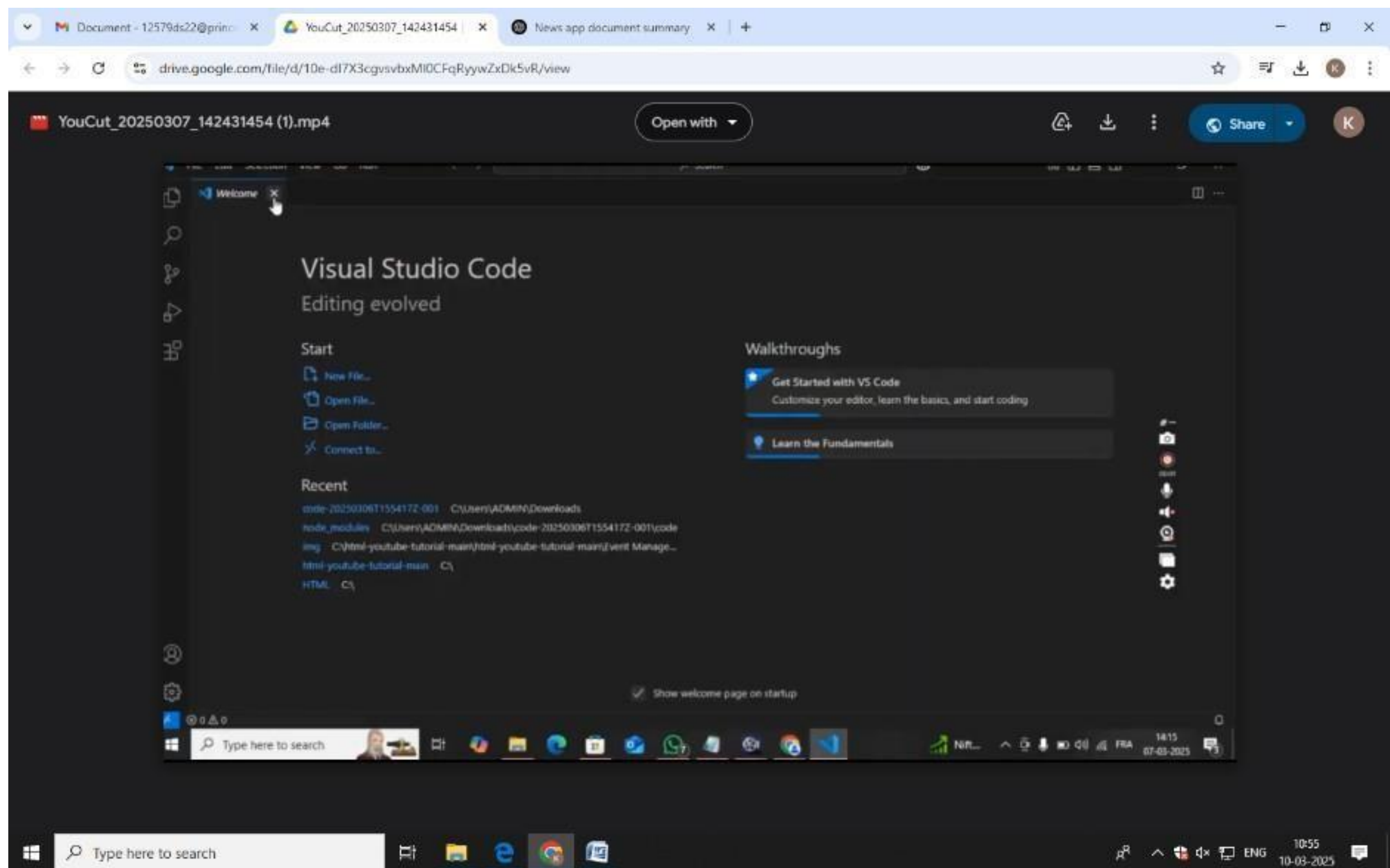
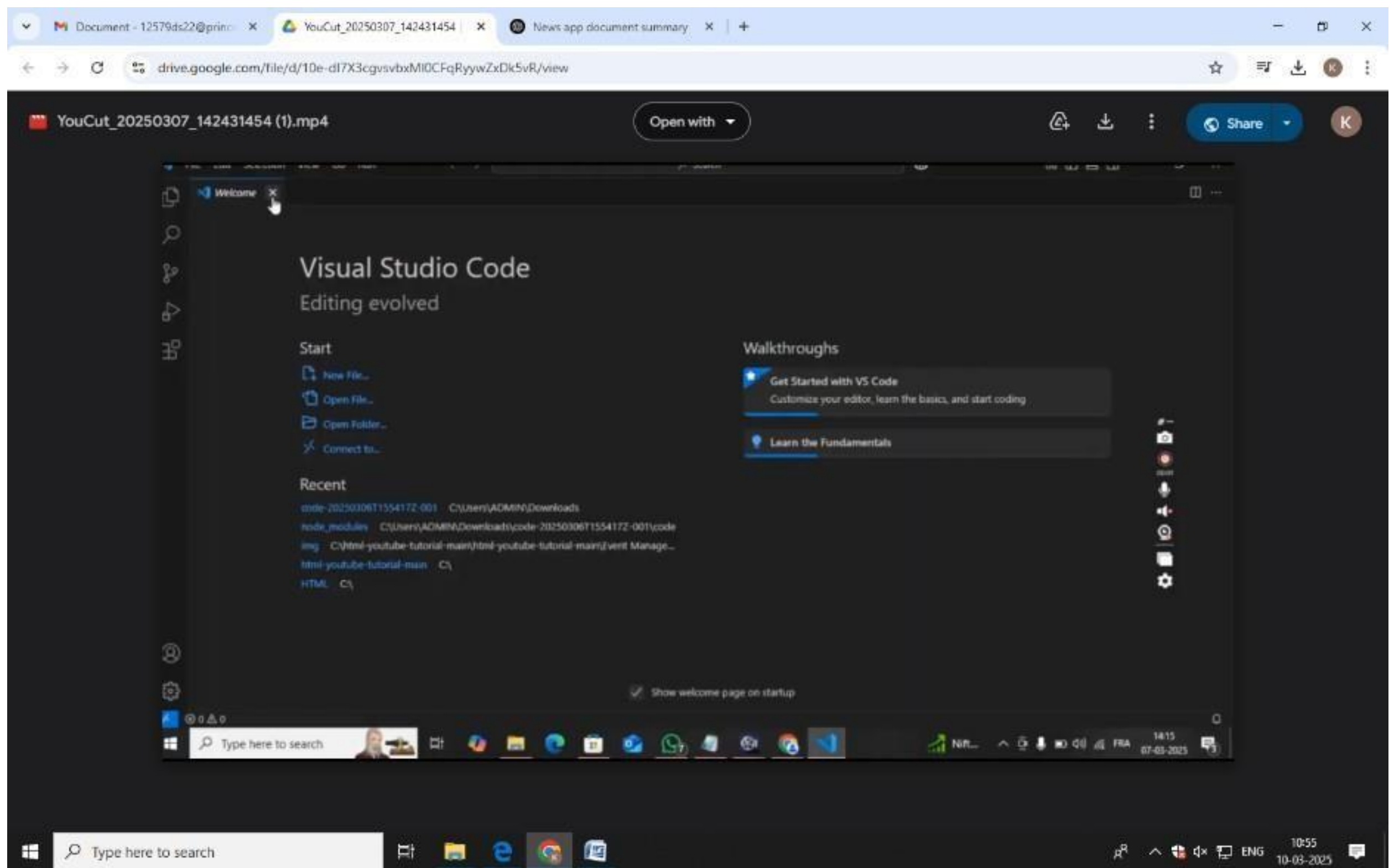
Project Demo

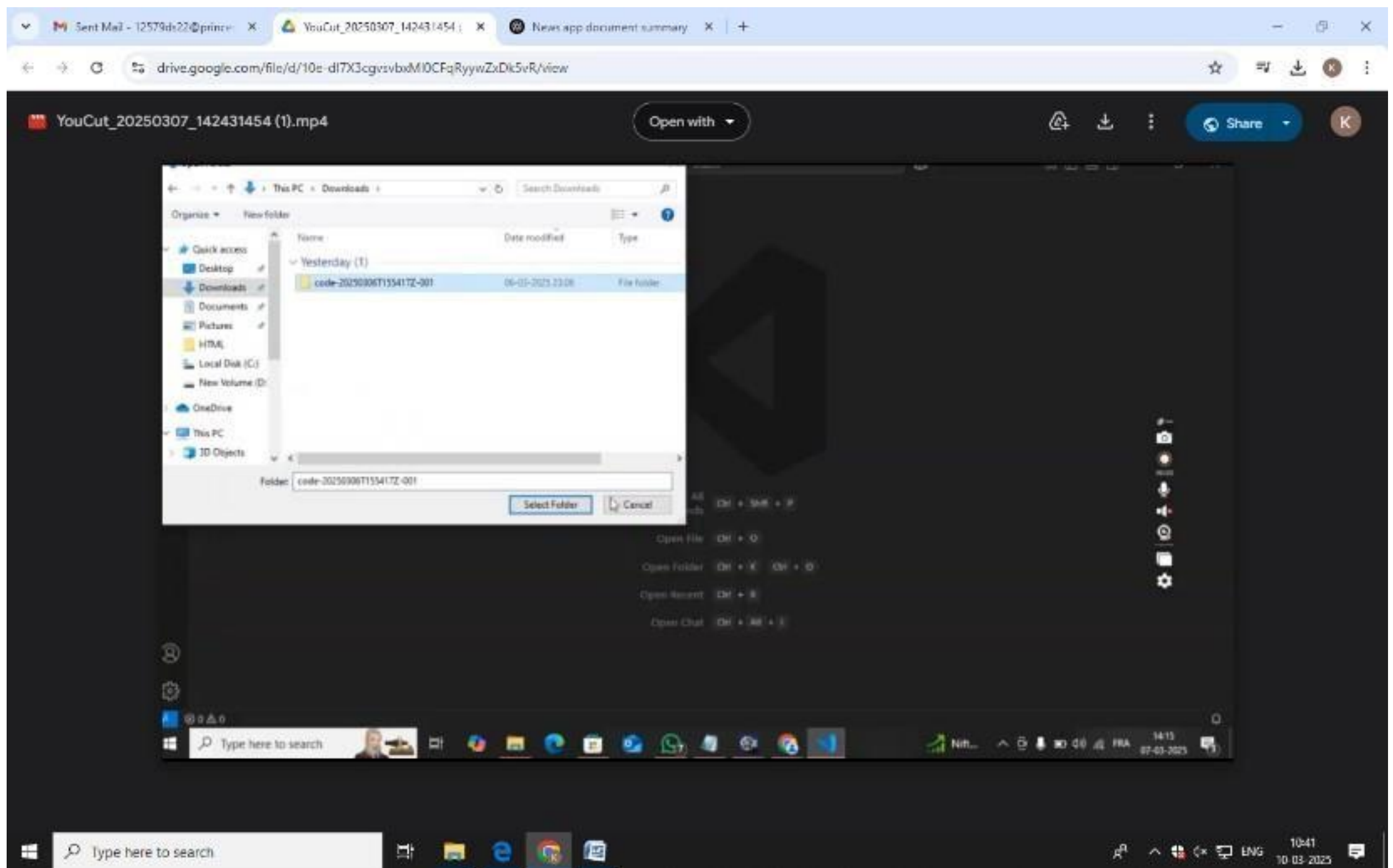
Watch the project demo here:

https://drive.google.com/file/d/18QlrD-e87iQua65NRsdEwshL9q_hs29/view?usp=sharing

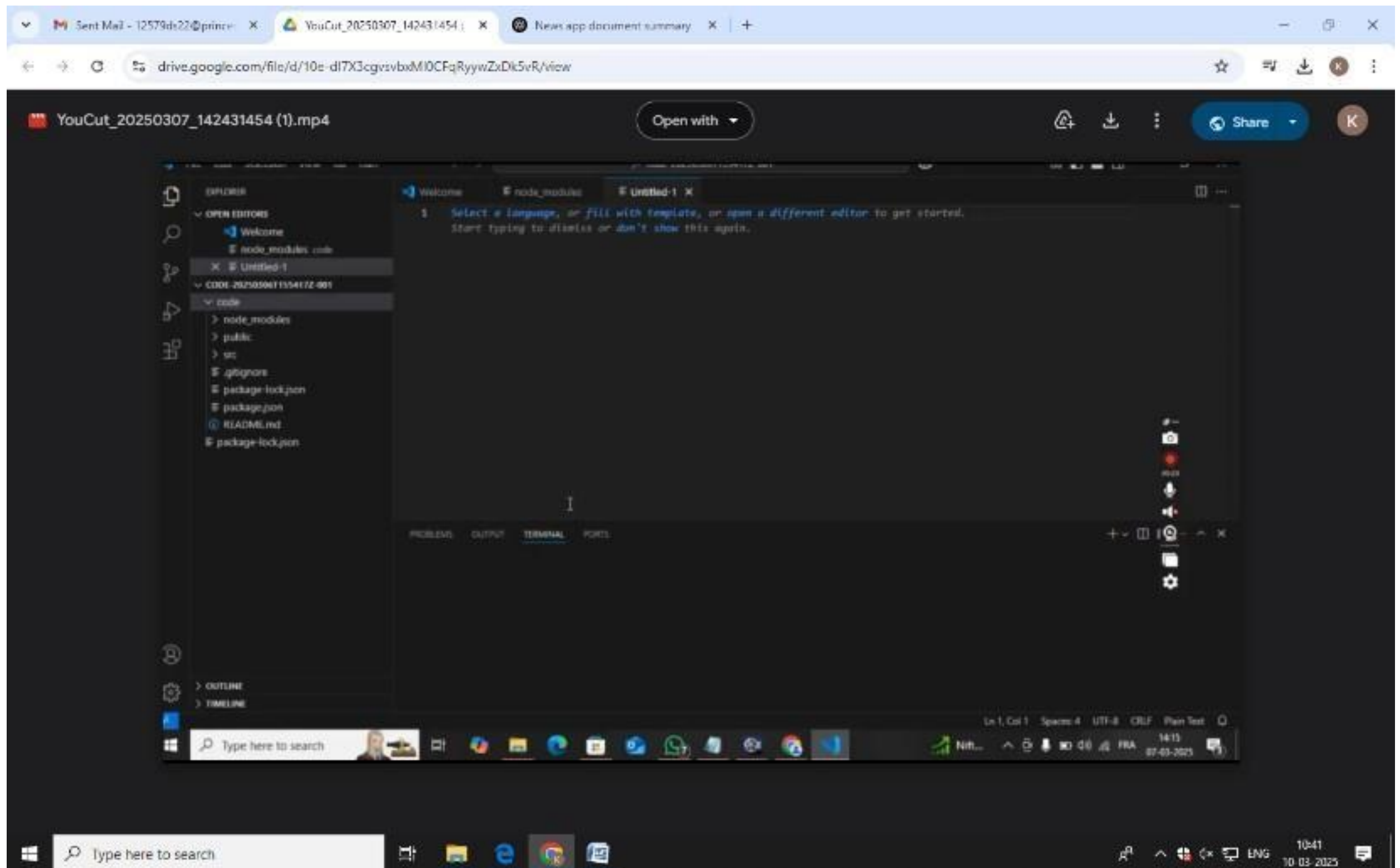
SCREEN SHOT:

STEP 1

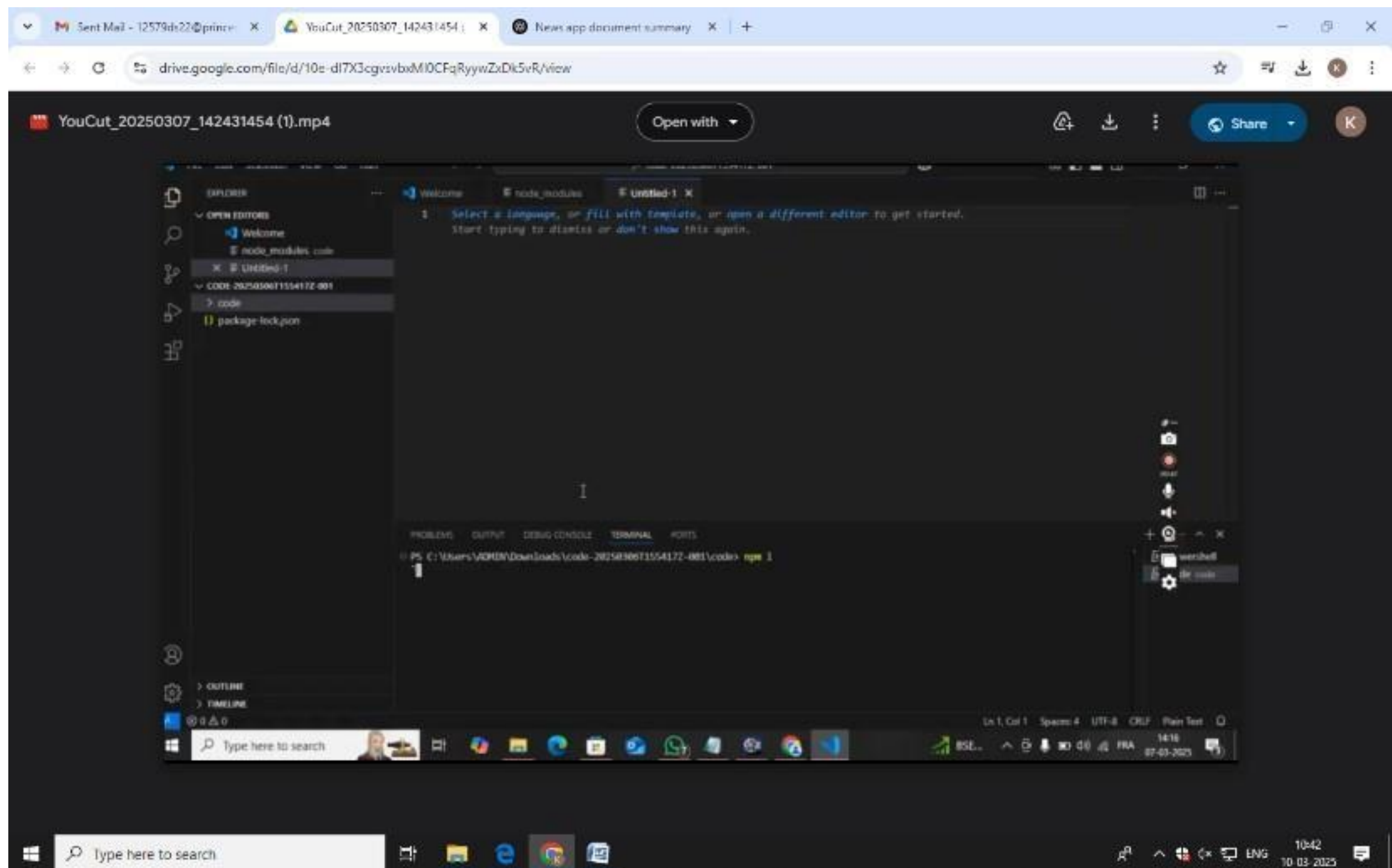




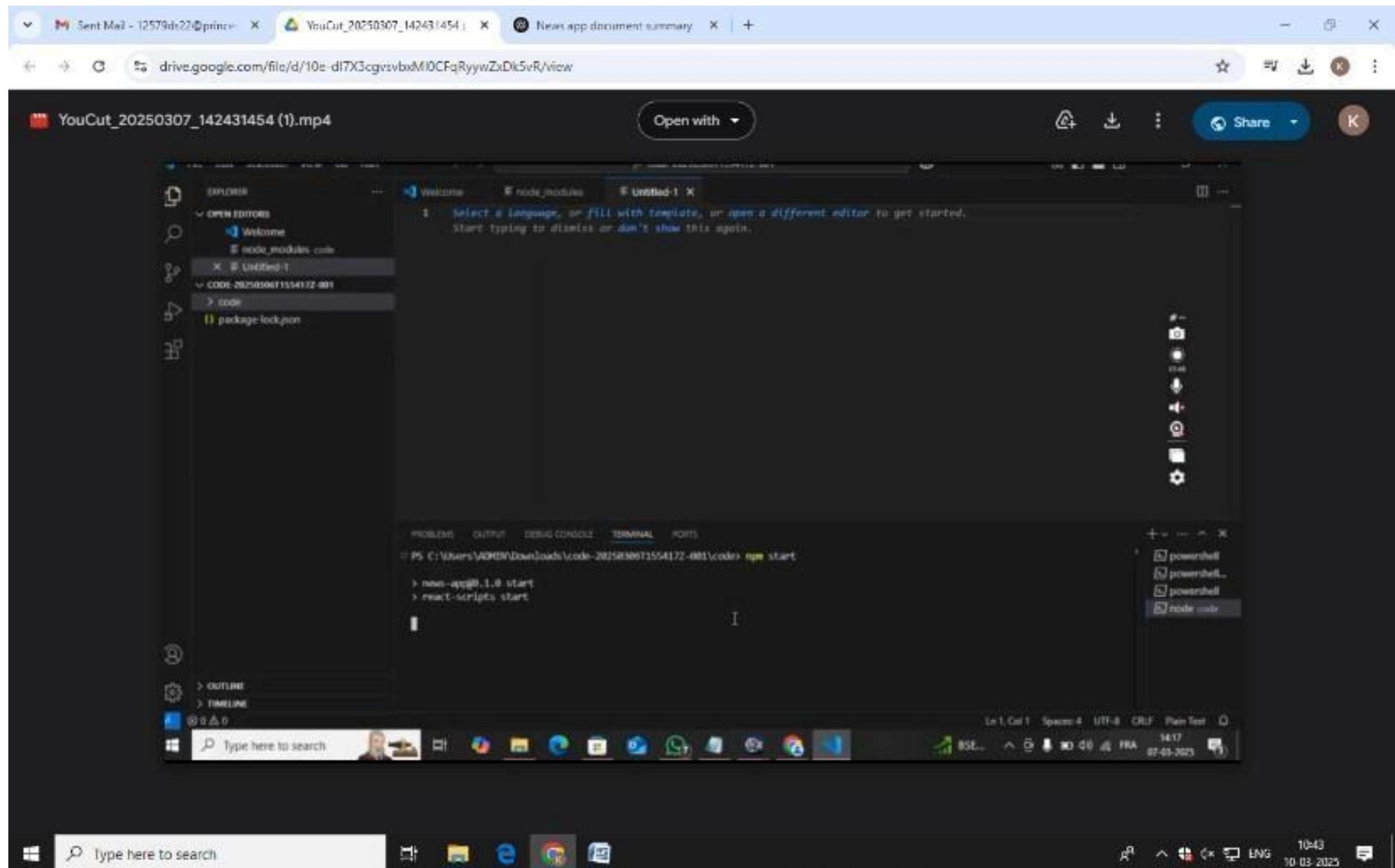
STEP 3:



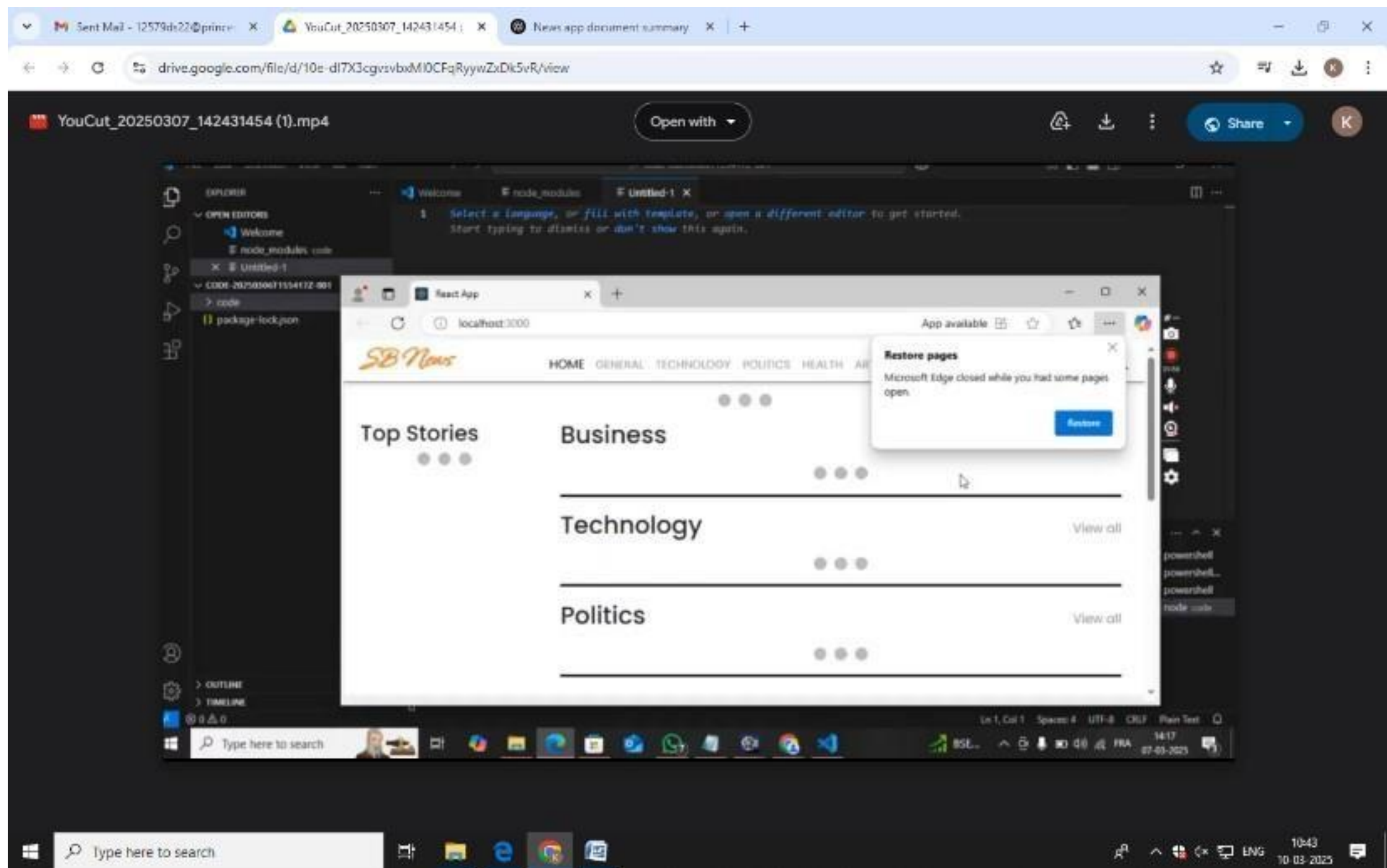
STEP 3:



STEP 4:



STEP 5:



Conclusion

InsightStream is a next-generation news platform that provides a seamless, user-friendly, and dynamic news consumption experience. With ongoing enhancements, it aims to be the go-to application for staying informed in real-time.