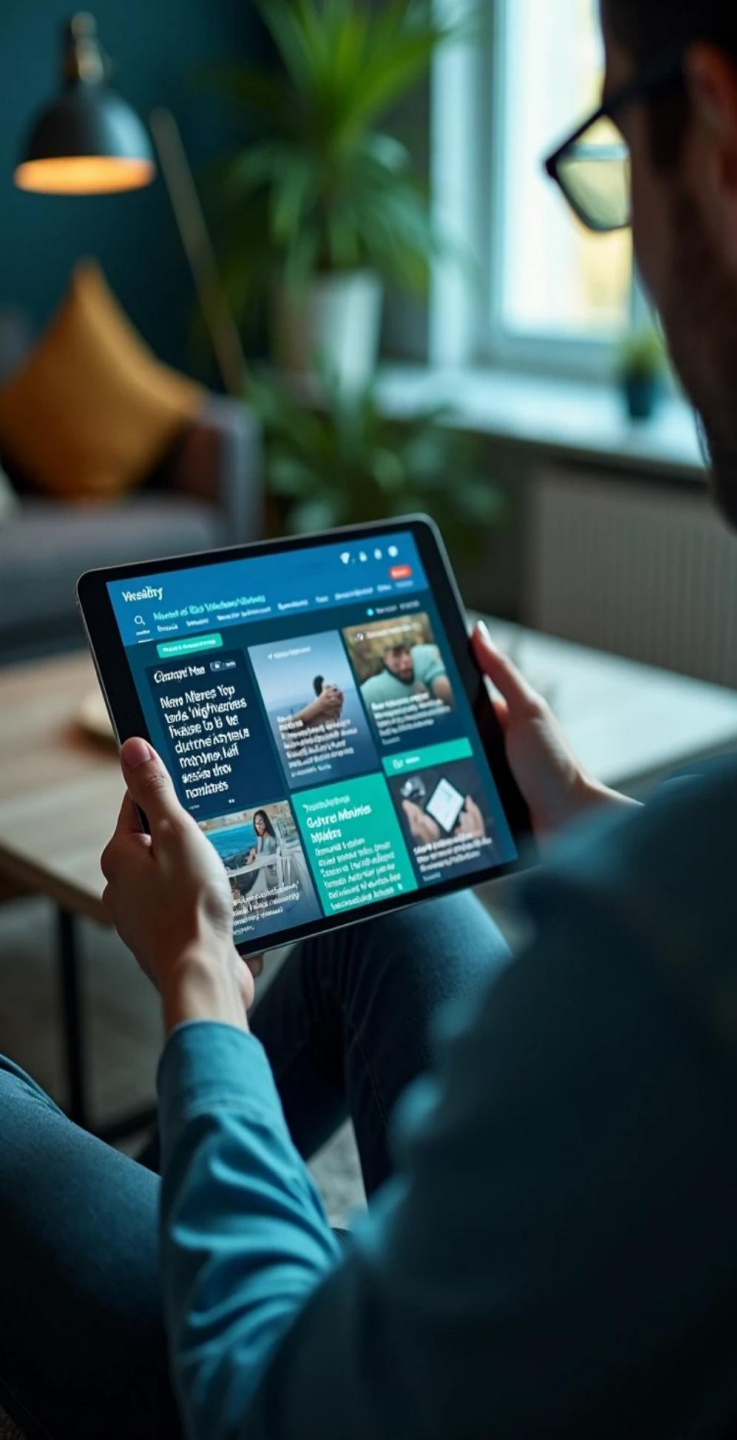


NEWSLYTIC: Smart News Aggregator

NEWSLYTIC is an innovative news aggregation platform designed to provide real-time updates and personalized news content. By leveraging advanced AI and machine learning technologies, it effectively corrects news from diverse sources, ensuring that users remain well-informed about the latest global events and developments.

PRESENTED BY:-
AYUSH GUPTA
SATYAM SINGH
ABHISEKH KUMAR PASWAN
PRASHANT JHA

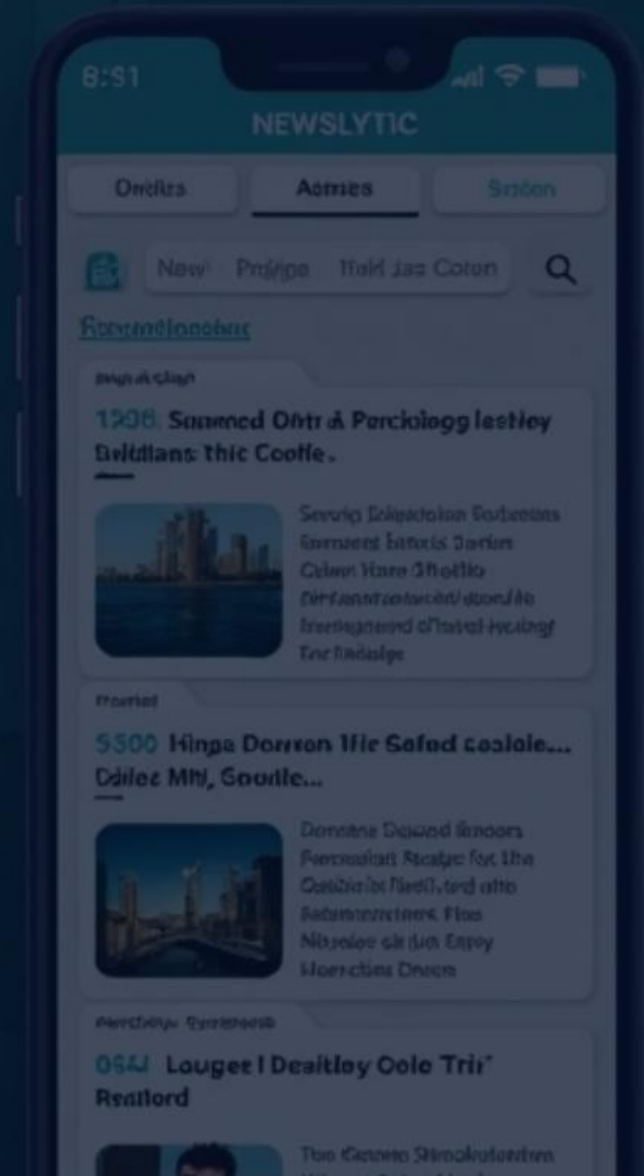


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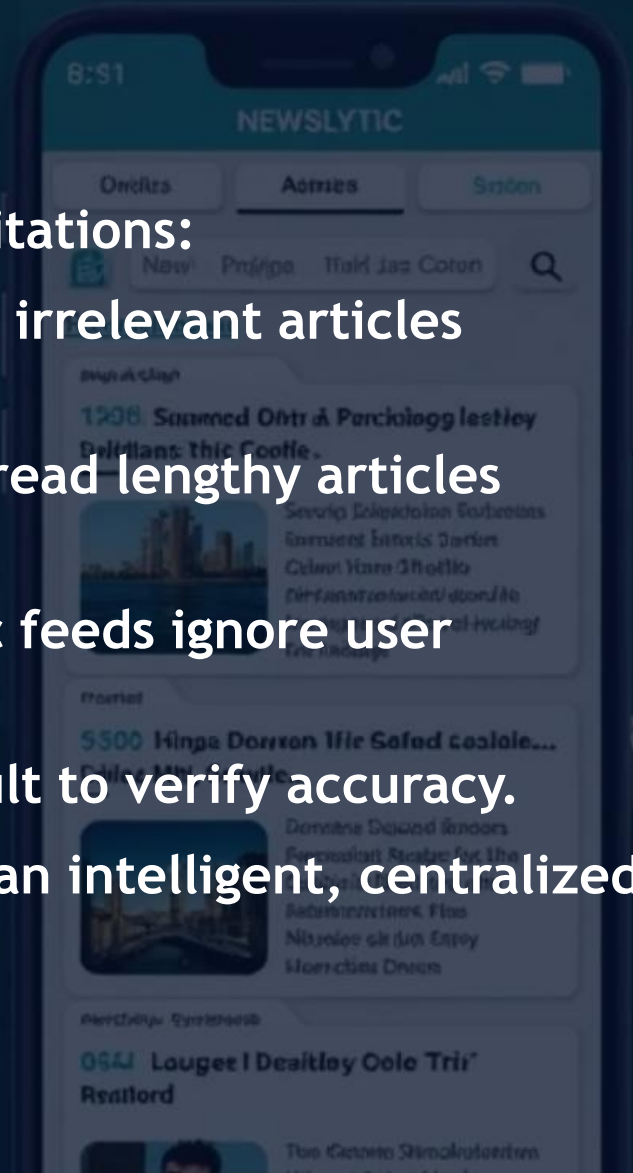
Introduction

- ▶ In today's world, thousands of news articles are published every minute across diverse sources. This abundance of information often leads to:
- ▶ - Overwhelming data streams
- ▶ - Difficulty filtering credible news
- ▶ - Time-consuming manual browsing.
- ▶ Newslytic solves these by aggregating news in real-time, filtering them into categories, and summarizing them with AI/NLP to deliver concise, relevant content. It also adapts to user preferences and works seamlessly on multiple devices.



Problem Statement

- ▶ Existing news platforms face major limitations:
- ▶ 1. ****Information Overload**** - Too many irrelevant articles scattered across platforms.
- ▶ 2. ****Time Constraints**** - Users cannot read lengthy articles quickly.
- ▶ 3. ****Lack of Personalization**** - Generic feeds ignore user interests.
- ▶ 4. ****Source Credibility Issues**** - Difficult to verify accuracy.
- ▶ These problems highlight the need for an intelligent, centralized solution.



Proposed Solution

- ▶ Newslytic addresses the above challenges by:
- ▶ - Integrating with multiple trusted news APIs for real-time updates.
- ▶ - Categorizing content into topics like Politics, Tech, Sports.
- ▶ - Using AI/NLP for short, accurate summaries.
- ▶ - Allowing search by keyword, category, and date.
- ▶ - Enabling bookmarking and offline access.
- ▶ This ensures users get only relevant, credible news in less time.

Objectives

- ▶ Primary goals of Newslytic:
- ▶ 1. ****Real-Time Updates**** - Fetch news instantly from multiple APIs.
- ▶ 2. ****AI Summarization**** - Condense articles while retaining key facts.
- ▶ 3. ****Personalization**** - Customize feeds based on user-selected topics.
- ▶ 4. ****Multi-Device Access**** - Responsive design for web and mobile.
- ▶ 5. ****User Engagement**** - Features like bookmarking, sharing, and article management.
- ▶ Overall aim: simplify news consumption while maintaining accuracy and relevance.

Scope - Functional

- ▶ Functional capabilities:
- ▶ - User registration/login with secure authentication.
- ▶ - Real-time aggregation of news from APIs.
- ▶ - Filtering by category and keywords.
- ▶ - AI-powered summarization.
- ▶ - Bookmark & save articles.
- ▶ - Fully responsive UI for all devices.

Scope - Technological

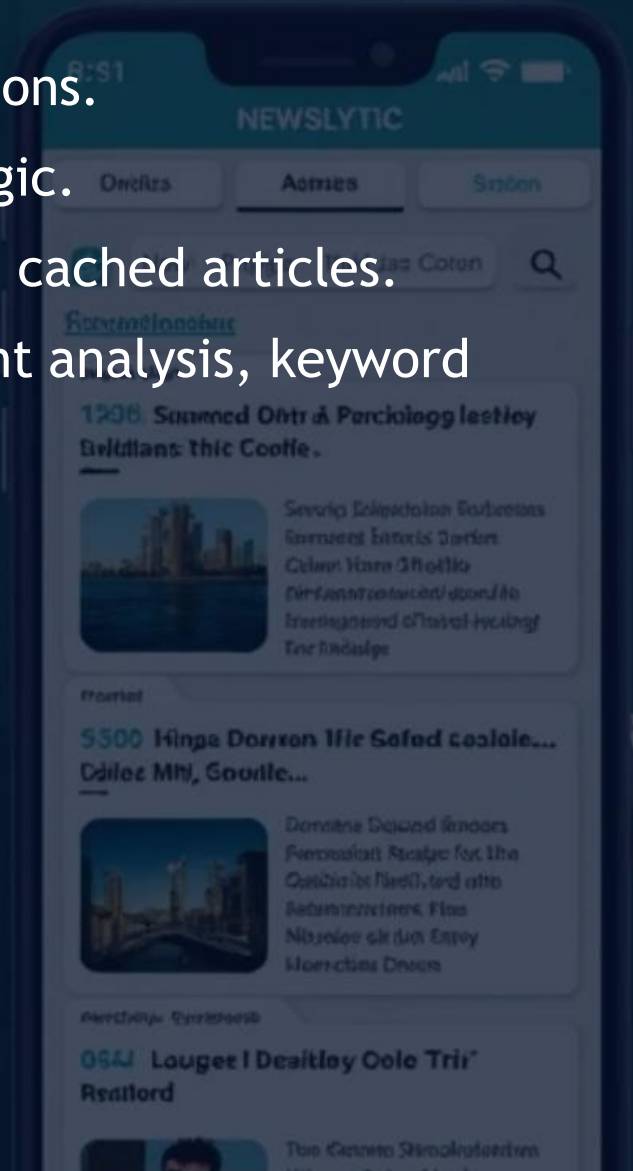
- ▶ Technology stack:
- ▶ - **Frontend**: Next.js for fast rendering & SEO.
- ▶ - **Backend**: Node.js + Express for scalable APIs.
- ▶ - **Database**: MongoDB Atlas for cloud storage.
- ▶ - **APIs**: NewsAPI & other public news sources.
- ▶ - **AI/NLP**: Hugging Face transformers for summarization.

Workflow

- ▶ Steps:
- ▶ 1. User login/authentication.
- ▶ 2. API request for latest news.
- ▶ 3. Backend retrieves & stores data.
- ▶ 4. AI summarizes and categorizes.
- ▶ 5. Recommendations sent to frontend.
- ▶ 6. User interacts, bookmarks, and shares.

System Architecture

- ▶ - **Frontend**: User interface & interactions.
- ▶ - **Backend**: API handling & business logic.
- ▶ - **Database**: User profiles, bookmarks, cached articles.
- ▶ - **AI Module**: Summarization, sentiment analysis, keyword extraction.



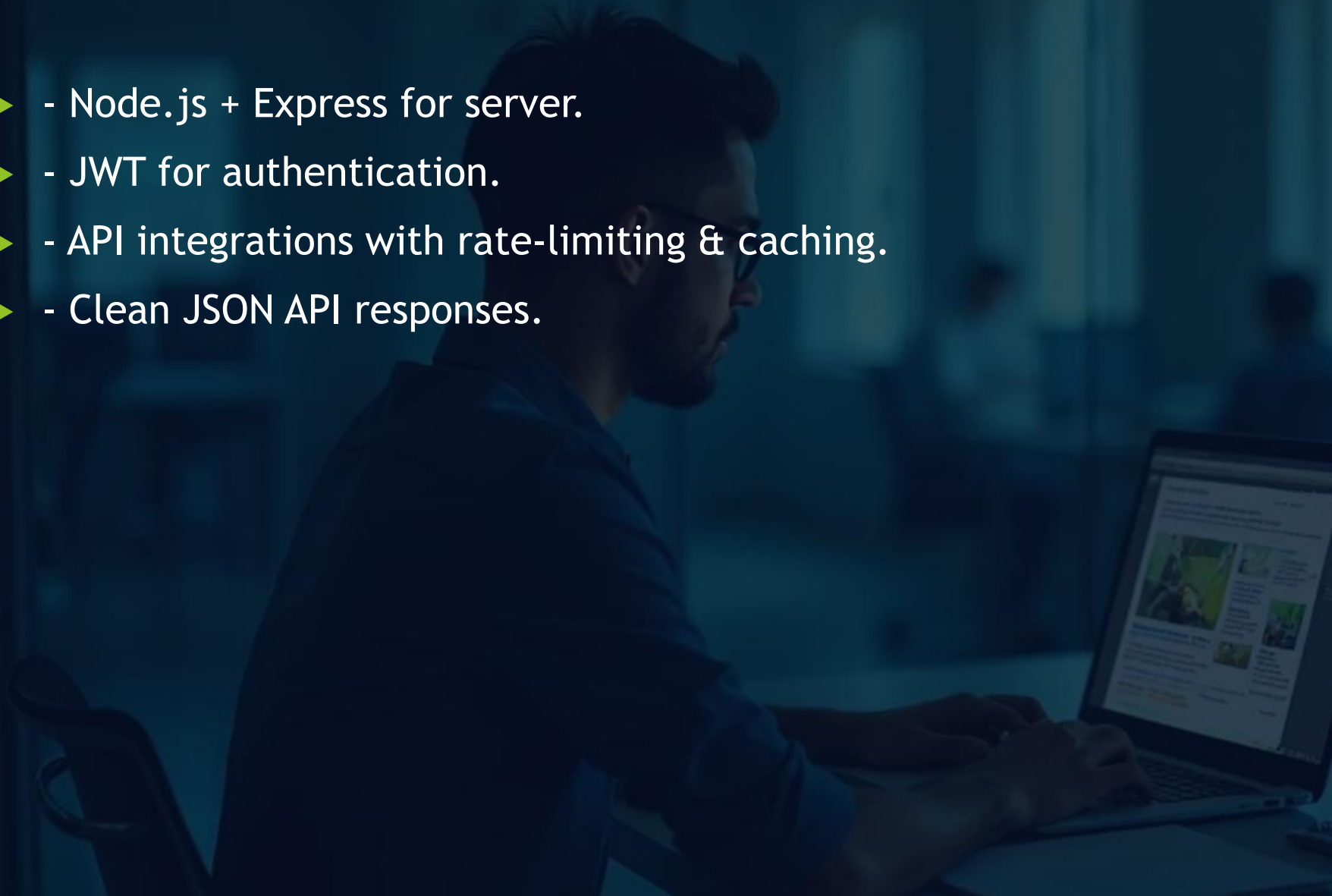
Implementation - Frontend

- ▶ - Built using Next.js + Tailwind CSS.
- ▶ - Components: Homepage, Search, Bookmarks, Account page.
- ▶ - Dark/Light mode for accessibility.
- ▶ - Responsive layout for desktop & mobile.



Implementation - Backend

- ▶ - Node.js + Express for server.
- ▶ - JWT for authentication.
- ▶ - API integrations with rate-limiting & caching.
- ▶ - Clean JSON API responses.





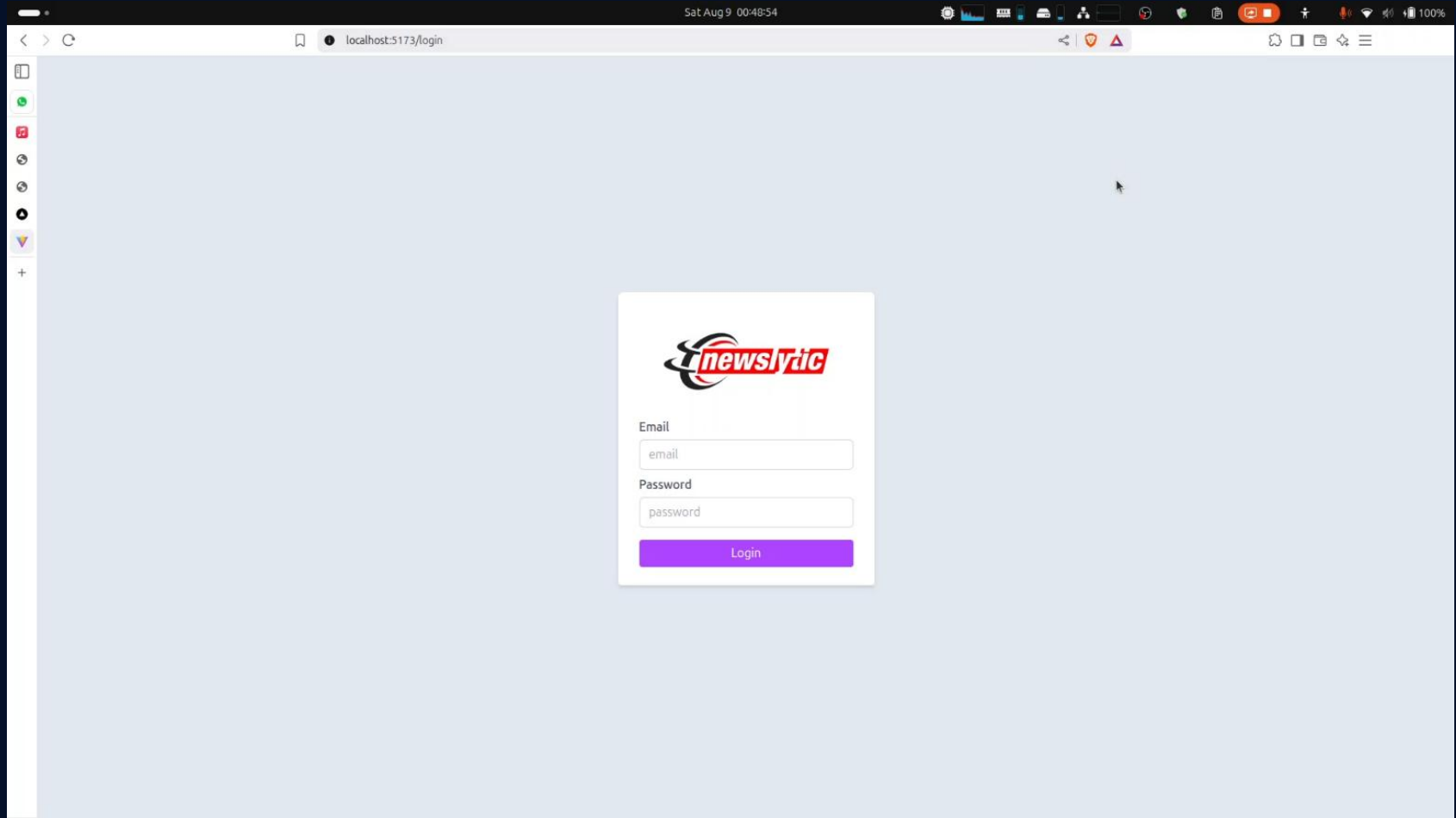
Implementation - Database & AI

- ▶ - MongoDB Atlas for cloud database.
- ▶ - AI/NLP for summarization & sentiment analysis.
- ▶ - Keyword extraction for search optimization.

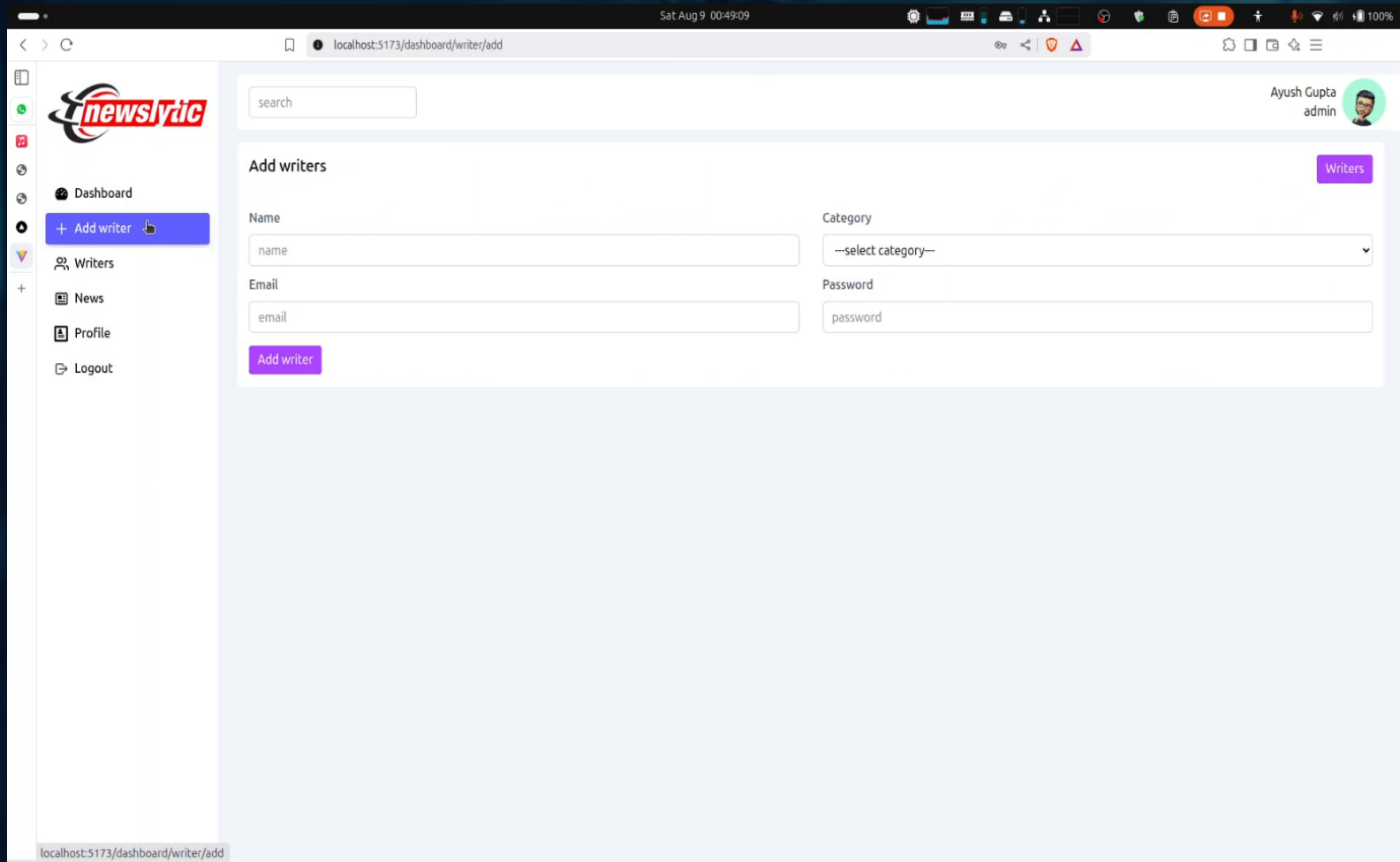
UI Snapshots

❖ FRONTEND : -

1) Login Page:



2. Add Writer Page:



The screenshot shows a web browser window displaying the 'Add Writer' page of the Newslytic dashboard. The browser's address bar shows the URL 'localhost:5173/dashboard/writer/add'. The top of the page features a search bar and the user's profile 'Ayush Gupta admin'. The left sidebar contains navigation links: 'Dashboard', '+ Add writer' (highlighted), 'Writers', 'News', 'Profile', and 'Logout'. The main content area is titled 'Add writers' and includes a purple 'Writers' button in the top right corner. The form contains four input fields: 'Name' (with placeholder 'name'), 'Category' (a dropdown menu with '---select category---'), 'Email' (with placeholder 'email'), and 'Password' (with placeholder 'password'). A purple 'Add writer' button is located at the bottom left of the form.

localhost:5173/dashboard/writer/add

search

Ayush Gupta
admin

Writers

Add writers

Name
name

Category
---select category---

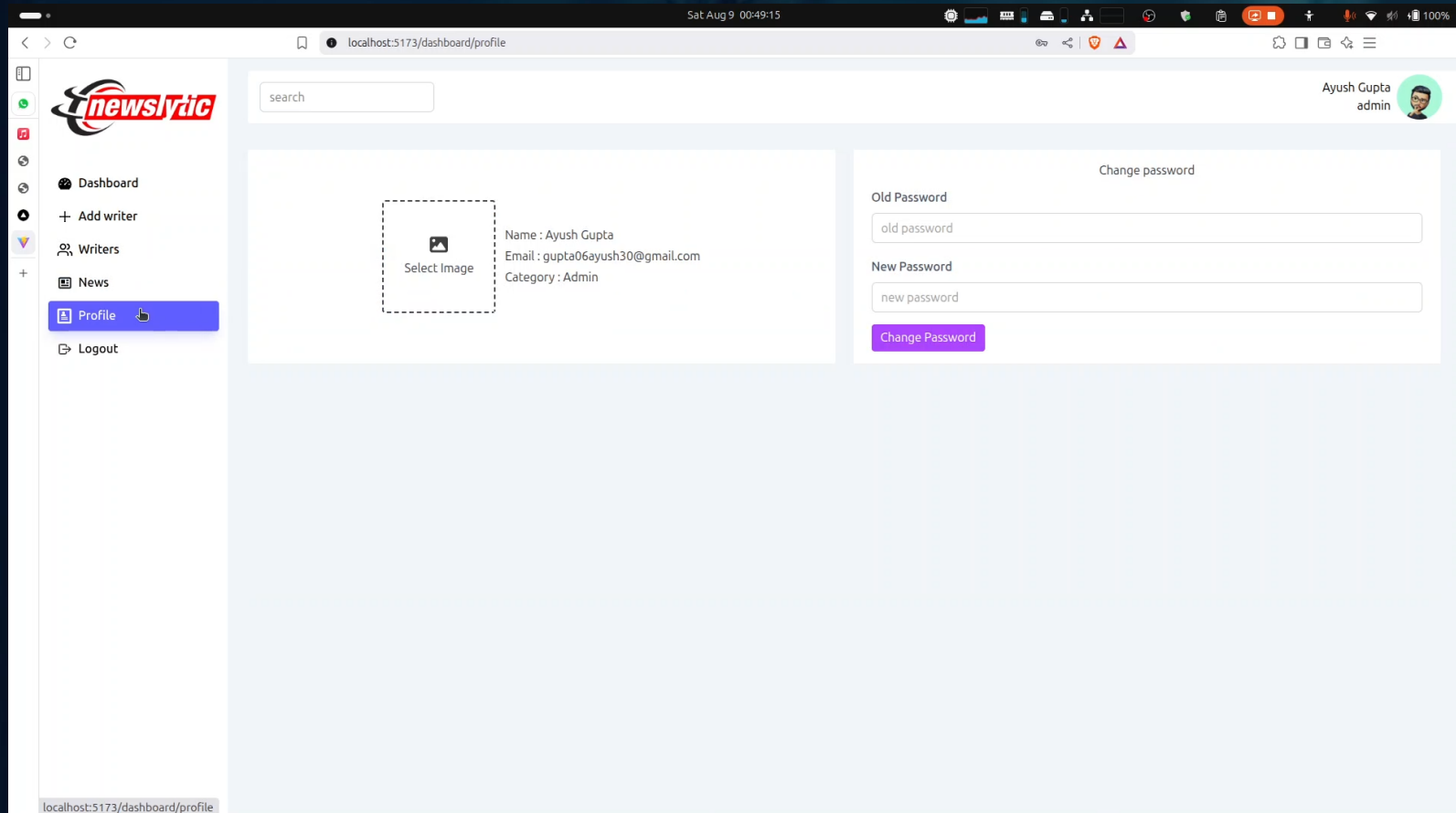
Email
email

Password
password

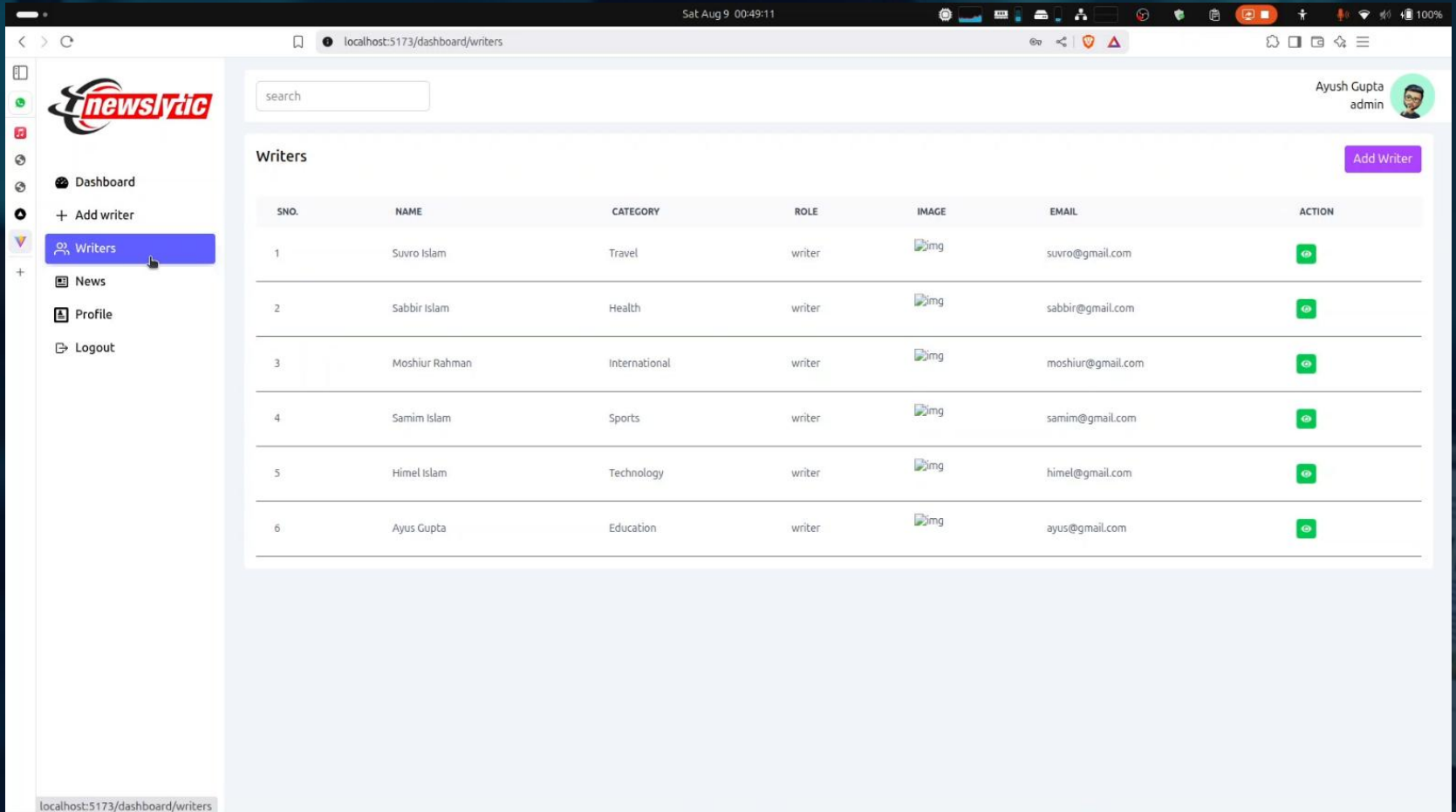
Add writer

localhost:5173/dashboard/writer/add

3. Profile Page:



4. Writers Page:



The screenshot shows a web application interface for managing writers. The browser address bar indicates the URL is `localhost:5173/dashboard/writers`. The top right corner shows the user is logged in as 'Ayush Gupta admin'. The left sidebar contains navigation links: Dashboard, Add writer, Writers (highlighted), News, Profile, and Logout. The main content area is titled 'Writers' and features a search bar and an 'Add Writer' button. Below this is a table listing six writers.

SNO.	NAME	CATEGORY	ROLE	IMAGE	EMAIL	ACTION
1	Suvro Islam	Travel	writer		suvro@gmail.com	
2	Sabbir Islam	Health	writer		sabbir@gmail.com	
3	Moshiur Rahman	International	writer		moshiur@gmail.com	
4	Samim Islam	Sports	writer		samim@gmail.com	
5	Himel Islam	Technology	writer		himel@gmail.com	
6	Ayus Gupta	Education	writer		ayus@gmail.com	

5. News Page:

The screenshot displays a web application interface for 'newslyric'. The browser's address bar shows 'localhost:5173/dashboard/news'. The top right corner identifies the user as 'Ayush Gupta admin' with a profile picture. A search bar is located at the top left of the main content area. The left sidebar contains navigation links: 'Dashboard', '+ Add writer', 'Writers', 'News' (highlighted), 'Profile', and 'Logout'. The main content area is titled 'News' and features a dropdown menu for 'select type' and a 'search news' input field. Below this is a table with 5 rows of news items. The table columns are SNO., TITLE, IMAGE, CATEGORY, DESCRIPTION, DATE, STATUS, and ACTION. The first row shows a news item with SNO. 1, titled 'Kusal Mendis, S...', categorized under 'Sports', with a description 'Sparkling centu...', dated 'January 5, 2024', and status 'pending'. The other four rows show news items categorized under 'Travel' with various titles and descriptions, all dated 'October 10, 2023'. The statuses for these items are 'deactive', 'active', 'deactive', and 'active' respectively. Each row has an 'ACTION' column with a green eye icon. At the bottom right, there is a pagination control showing 'News per page' set to 5, and '1/22 - of 5' with navigation arrows.

SNO.	TITLE	IMAGE	CATEGORY	DESCRIPTION	DATE	STATUS	ACTION
1	Kusal Mendis, S...		Sports	Sparkling centu...	January 5, 2024	pending	
2	India gets its ...		Travel	You all must ha...	October 10, 2023	deactive	
3	UNESCO recognis...		Travel	UNESCO has reco...	October 10, 2023	active	
4	Uttarakhand No ...		Travel	It is reported ...	October 10, 2023	deactive	
5	5 beautiful for...		Travel	Bangladesh is h...	October 10, 2023	active	

6. Add News:

The screenshot shows the 'Add News' form in the Newslytic dashboard. The form includes a search bar at the top right, a sidebar with navigation links (Dashboard, Add News, News, Profile, Logout), and a main content area with the following fields:

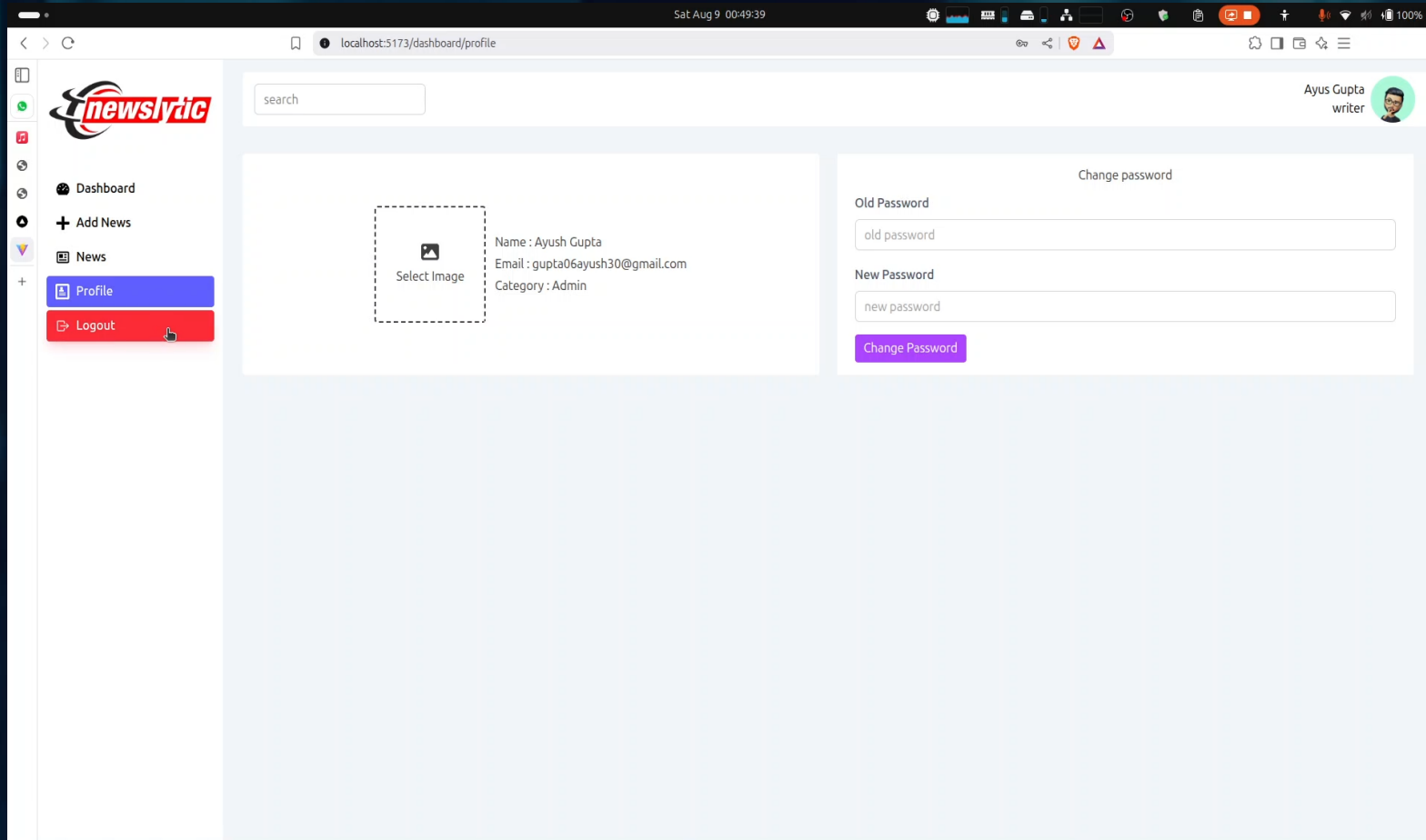
- Title:** A text input field containing 'news title'.
- Image:** A large dashed box with a 'Select image' icon and text in the center.
- Description:** A rich text editor with a toolbar and a text area containing 'Start writing...'. The bottom right of the editor shows 'CHARS: 0 WORDS: 0 POWERED BY JODIT'.

At the bottom left of the form is a purple 'Add News' button.

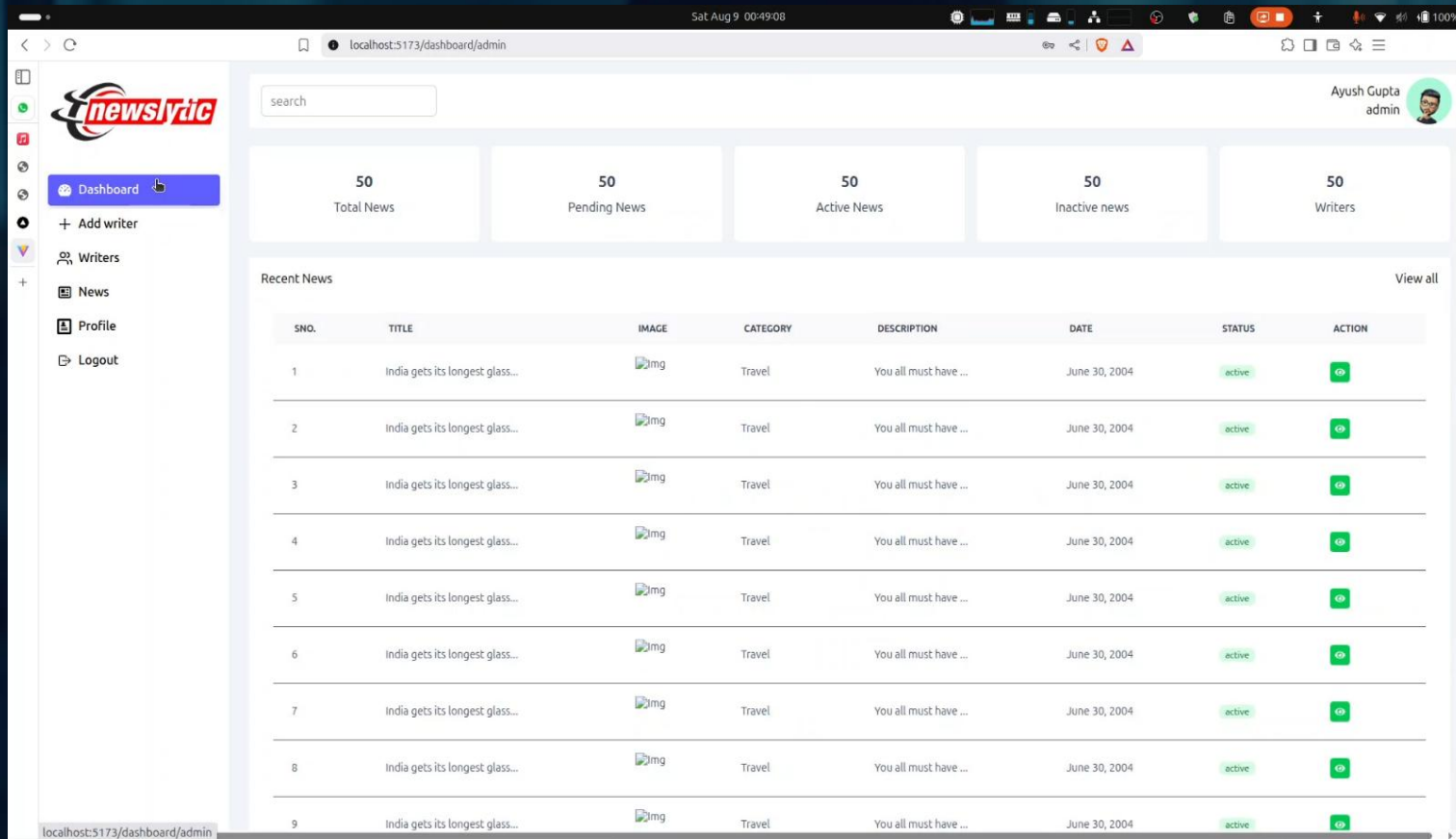
The screenshot shows the 'News' list view in the Newslytic dashboard. It features a search bar, a sidebar with navigation links, and a table of news items. The table has columns for SNO., TITLE, IMAGE, CATEGORY, DESCRIPTION, DATE, STATUS, and ACTION. There are 5 news items listed, all with a status of 'active'. At the bottom right, there is a 'News per page' dropdown set to 5 and a '1/5 - of 1' pagination indicator.

SNO.	TITLE	IMAGE	CATEGORY	DESCRIPTION	DATE	STATUS	ACTION
1	Avalanche educa...		Education	Sierra Avalanch...	October 10, 2023	active	
2	New record of i...		Education	The number of i...	October 10, 2023	active	
3	How the metaver...		Education	The concept of ...	October 10, 2023	active	
4	ABET accreditat...		Education	OCTOBER 6, 2023...	October 6, 2023	active	
5	Education Leade...		Education	ASTANA – The No...	October 6, 2023	active	

7. Logout Button:



8. Admin Dashboard:



The screenshot displays the Newslyric Admin Dashboard. The interface includes a sidebar with navigation links: Dashboard (selected), Add writer, Writers, News, Profile, and Logout. The main content area features a search bar, a user profile for Ayush Gupta (admin), and five summary cards showing counts for Total News (50), Pending News (50), Active News (50), Inactive news (50), and Writers (50). Below these is a 'Recent News' section with a table listing 9 news items. Each item has columns for SNO., TITLE, IMAGE, CATEGORY, DESCRIPTION, DATE, STATUS, and ACTION. The status for all items is 'active', and each has a green edit icon in the action column.

Search

Ayush Gupta
admin

50
Total News

50
Pending News

50
Active News

50
Inactive news

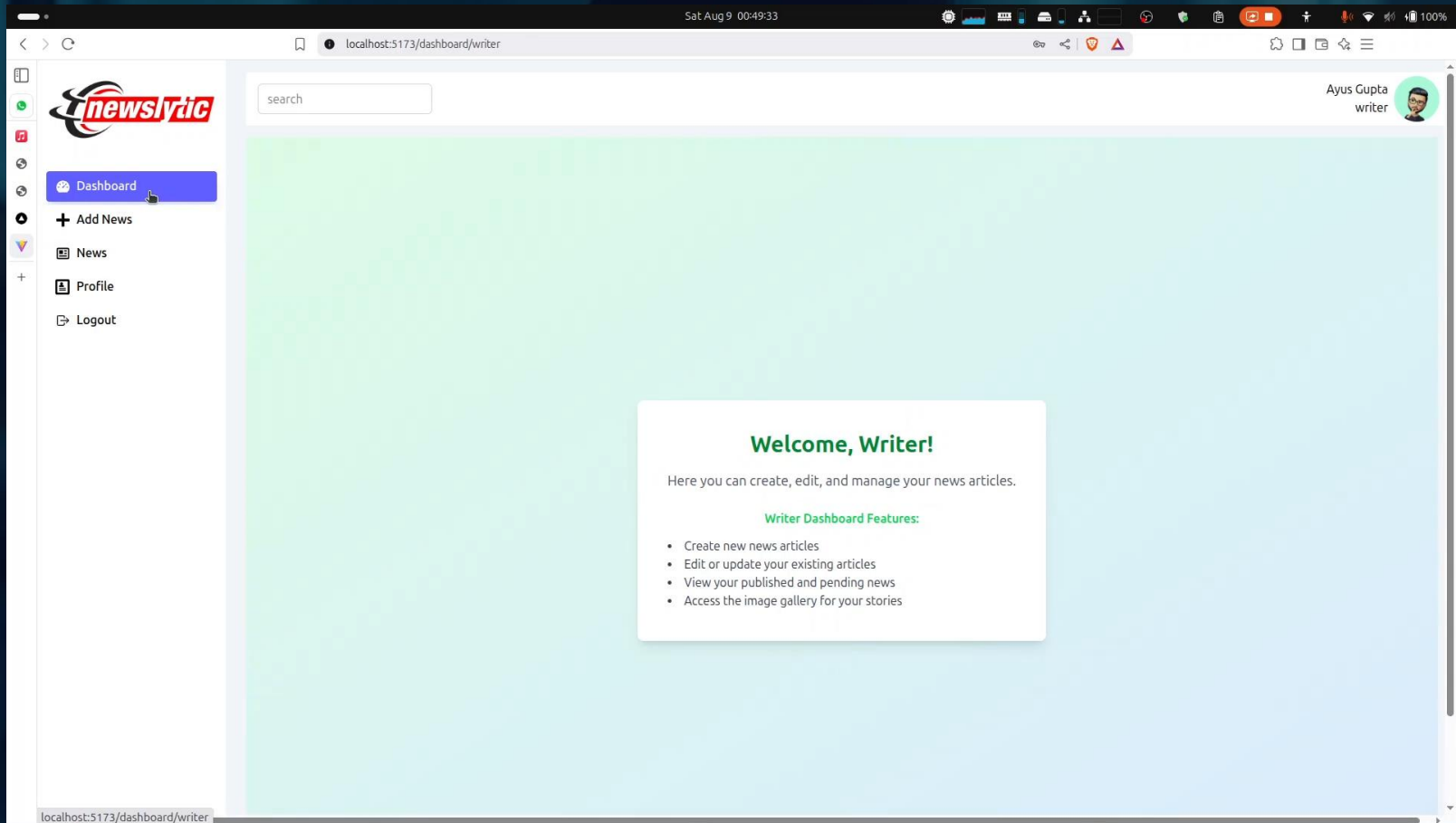
50
Writers

Recent News [View all](#)

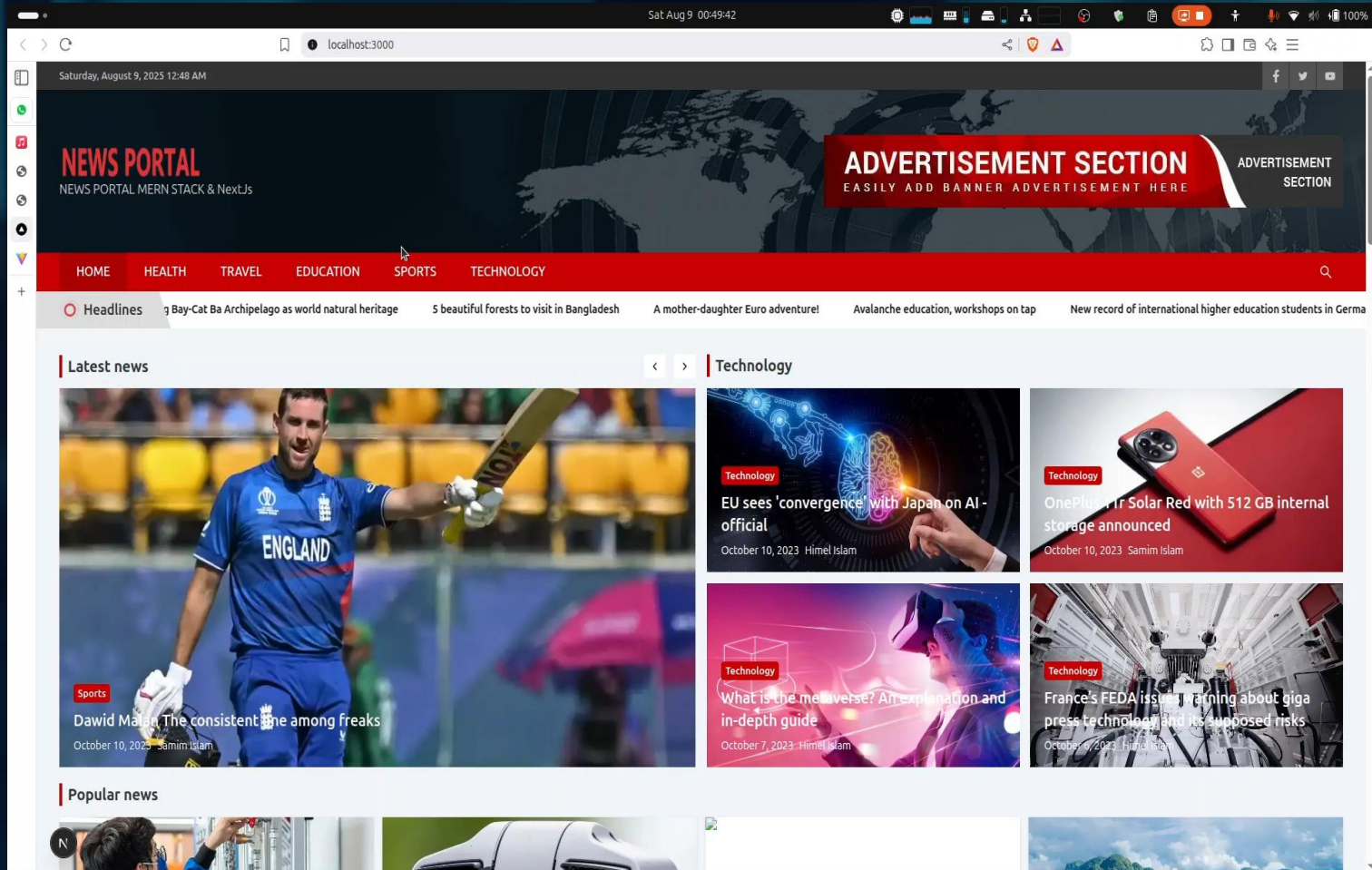
SNO.	TITLE	IMAGE	CATEGORY	DESCRIPTION	DATE	STATUS	ACTION
1	India gets its longest glass...		Travel	You all must have ...	June 30, 2004	active	
2	India gets its longest glass...		Travel	You all must have ...	June 30, 2004	active	
3	India gets its longest glass...		Travel	You all must have ...	June 30, 2004	active	
4	India gets its longest glass...		Travel	You all must have ...	June 30, 2004	active	
5	India gets its longest glass...		Travel	You all must have ...	June 30, 2004	active	
6	India gets its longest glass...		Travel	You all must have ...	June 30, 2004	active	
7	India gets its longest glass...		Travel	You all must have ...	June 30, 2004	active	
8	India gets its longest glass...		Travel	You all must have ...	June 30, 2004	active	
9	India gets its longest glass...		Travel	You all must have ...	June 30, 2004	active	

localhost:5173/dashboard/admin

9. Welcome Page :



10. Home Page :



11. Search Page :

Sat Aug 9 00:51:08

localhost:3000/search/news?value=announced

Saturday, August 9, 2025 12:48 AM

NEWS PORTAL
NEWS PORTAL MERN STACK & Next.js


ADVERTISEMENT SECTION
EASILY ADD BANNER ADVERTISEMENT HERE

ADVERTISEMENT SECTION

HOME HEALTH TRAVEL EDUCATION SPORTS TECHNOLOGY


Home > search > announced

Search Results for "announced"




AI facial recognition: Campaigners and MPs call for ban
October 6, 2023 Himel Islam

Police and private companies should "immediately stop" the use of facial recognition surveillance, says a group of politicians and privacy campaigners. They have raised concerns around human right




OnePlus 11r Solar Red with 512 GB internal storage announced
October 10, 2023 Samim Islam

OnePlus has officially unveiled a new variant of its popular smartphone OnePlus 11r. Besides the new Solar Red colour, this is also the company's first smartphone in the country to offer a whopping 51




ABET accreditation reaffirms UTSA's excellence in engineering education
October 6, 2023 Anamul Islam

OCTOBER 6, 2023 — UTSA announced today that its undergraduate engineering programs in biomedical, civil, computer, electrical and mechanical engineering have been re-accredited by the Accreditation B



N



12. Search Page :

Sat Aug 9 00:51:08

localhost:3000/search/news?value=announced

Saturday, August 9, 2025 12:48 AM

NEWS PORTAL
NEWS PORTAL MERN STACK & Next.js


ADVERTISEMENT SECTION
EASILY ADD BANNER ADVERTISEMENT HERE

ADVERTISEMENT SECTION

HOME HEALTH TRAVEL EDUCATION SPORTS TECHNOLOGY


Home > search > announced

Search Results for "announced"




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❖ Backend :-

1. User and Admin data:

The screenshot shows the MongoDB Compass interface. On the left, the 'CONNECTIONS' panel lists 'localhost:27017' with a tree view showing databases like 'admin', 'config', 'local', 'news', and 'test'. The 'news' database is selected, and the 'authors' collection is highlighted. The main panel shows the 'authors' collection with 7 documents. The 'Documents' tab is active, displaying three document entries. Each entry is a JSON object with fields: _id (ObjectId), name, email, password, image (URL), role, and category. The first document is an 'admin' role, and the next two are 'writer' roles.

```
{
  "_id": "ObjectId('651f05dc968c6e500553ce80')",
  "name": "Ayush Gupta",
  "email": "gupta06ayush30@gmail.com",
  "password": "$2a$12$.gyhN3Sq1K9JvIIRa/9xN.9qTL66yHkGYoyKvfVTHIT7Fr//VPtFu0",
  "image": "https://res.cloudinary.com/dp14vsqbo/image/upload/v1696585286/unnamed_...",
  "role": "admin",
  "category": "all"
}
```

```
{
  "_id": "ObjectId('65209025550949f47afac78e')",
  "name": "Ayus Gupta",
  "email": "ayus@gmail.com",
  "password": "$2a$12$.gyhN3Sq1K9JvIIRa/9xN.9qTL66yHkGYoyKvfVTHIT7Fr//VPtFu0",
  "image": "http://res.cloudinary.com/dp14vsqbo/image/upload/v1698330164/news/q9bg...",
  "role": "writer",
  "category": "Education",
  "createdAt": "2023-10-06T22:54:29.262+00:00",
  "updatedAt": "2023-10-27T03:22:48.632+00:00",
  "__v": 0
}
```

```
{
  "_id": "ObjectId('65209087550949f47afac791')",
  "name": "Himel Islam",
  "email": "himel@gmail.com",
  "password": "$2b$10$2T3EjvZ4oevyEhOmscNqle6r5IR0HDIPwAhd3vg.gC07G6yFEgxK",
  "image": "",
  "role": "writer",
  "category": "Technology"
}
```


2. Image Data :

Thu Aug 14 02:05:58

MongoDB Compass - localhost:27017/news.images

Connections Edit View Collection Help

Compass

{ } My Queries

CONNECTIONS (1)

Search connections

localhost:27017

- admin
- config
- local
- news
 - authors
 - images
 - news
- test

localhost:27017 > news > images

Documents 10 Aggregations Schema Indexes 1 Validation

Type a query: { field: 'value' } or [Generate query](#)

Explain Reset Find </> Options

ADD DATA EXPORT DATA UPDATE DELETE

25 1 - 10 of 10

```
{ "_id": ObjectId('6525ece89e29740c6d445742'),  
  "writerId": ObjectId('65219a74eda1b0d696ec938b'),  
  "url": "http://res.cloudinary.com/dp14vsqbo/image/upload/v1696937503/news/av4w...",  
  "createdAt": 2023-10-11T00:31:36.273+00:00,  
  "updatedAt": 2023-10-11T00:31:36.273+00:00,  
  "__v": 0 }
```

```
{ "_id": ObjectId('6525f323a3806bc849d8c131'),  
  "writerId": ObjectId('65209087550949f47afac791'),  
  "url": "http://res.cloudinary.com/dp14vsqbo/image/upload/v1696939098/news/lglq...",  
  "createdAt": 2023-10-11T00:58:11.816+00:00,  
  "updatedAt": 2023-10-11T00:58:11.816+00:00,  
  "__v": 0 }
```

```
{ "_id": ObjectId('652622e3106ada5d97a1dd80'),  
  "writerId": ObjectId('6526030a09d999bda49daa3'),  
  "url": "http://res.cloudinary.com/dp14vsqbo/image/upload/v1696951322/news/gnmz...",  
  "createdAt": 2023-10-11T04:21:55.478+00:00,  
  "updatedAt": 2023-10-11T04:21:55.478+00:00,  
  "__v": 0 }
```

```
{ "_id": ObjectId('652623fa106ada5d97a1dd9d'),  
  "writerId": ObjectId('6526030a09d999bda49daa3'),  
  "url": "http://res.cloudinary.com/dp14vsqbo/image/upload/v1696951601/news/a1we...",  
  "createdAt": 2023-10-11T04:25:34.464+00:00,  
  "updatedAt": 2023-10-11T04:25:34.464+00:00,  
  "__v": 0 }
```

3. News Data :

Thu Aug 14 02:06:11

MongoDB Compass - localhost:27017/news.news

Connections Edit View Collection Help

Compass

{ } My Queries

CONNECTIONS (1)

Search connections

localhost:27017

- admin
- config
- local
- news
 - authors
 - images
 - news
- test

news

localhost:27017 > news > news

Documents 22 Aggregations Schema Indexes 2 Validation

Type a query: { field: 'value' } or [Generate query](#)

Explain Reset Find </> Options

ADD DATA EXPORT DATA UPDATE DELETE

25 1 - 22 of 22

```
{
  "_id": ObjectId('65209d722a3c96078fd8fd43'),
  "writerId": ObjectId('65209087550949f47afac791'),
  "title": "AI facial recognition: Campaigners and MPs call for ban",
  "slug": "AI-facial-recognition:-Campaigners-and-MPs-call-for-ban",
  "category": "Technology",
  "description": "<p><strong>Police and private companies should \"immediately stop\" the ...",
  "date": "October 6, 2023",
  "createdAt": 2023-10-06T23:51:14.406+00:00,
  "updatedAt": 2024-01-06T03:44:09.627+00:00,
  "__v": 0,
  "image": "https://res.cloudinary.com/dpj4vsqbo/image/upload/v1696589483/news/iwp...",
  "writerName": "Himel Islam",
  "status": "active",
  "count": 20
}
```

```
{
  "_id": ObjectId('6520e59029f11c8c918e8f2b'),
  "writerId": ObjectId('65209087550949f47afac791'),
  "title": "France's FEDA issues warning about giga press technology and its suppo...",
  "slug": "France's-FEDA-issues-warning-about-giga-press-technology-and-its-suppo...",
  "image": "https://res.cloudinary.com/dpj4vsqbo/image/upload/v1696609488/news/aas...",
  "category": "Technology",
  "description": "<p>The French Automobile Distribution Federation (FEDA) recently issue...",
  "date": "October 6, 2023",
  "status": "active",
  "createdAt": 2023-10-07T04:58:56.919+00:00,
  "updatedAt": 2023-10-11T04:58:29.505+00:00,
  "__v": 0
}
```

Conclusion

- ▶ The Newslytic platform successfully integrates real-time news aggregation, AI-powered summarization, and personalized user experiences into a single, accessible application.
- ▶ Key achievements include:
 - ▶ • Fast news delivery with minimal latency.
 - ▶ • Accurate and concise AI/NLP-based summaries.
 - ▶ • Secure user authentication and personalization.
 - ▶ • A modern, responsive UI with dark/light themes.
- ▶ This project demonstrates how combining Next.js, Node.js, MongoDB, and AI/NLP can produce a robust and user-friendly solution for information overload in the digital era.

Future Work

- ▶ To enhance the application's value and expand its reach, the following improvements are proposed:
- ▶ **Multi-Language Support**
 - ▶ Integrate translation APIs to offer summaries and headlines in regional and international languages.
- ▶ **Advanced Personalization**
 - ▶ Use machine learning recommendation models to tailor news feeds based on reading history and preferences.
- ▶ **Push Notifications & Alerts**
 - ▶ Provide breaking news alerts and personalized topic updates on web and mobile.
- ▶ **Offline Mode**
 - ▶ Enable article caching for reading without an internet connection.
- ▶ **Expanded Data Sources**
 - ▶ Incorporate additional APIs, RSS feeds, and verified social media channels for richer content diversity.

REFERENCES & BIBLIOGRAPHY

- ▶ Below is the list of resources, tools, and APIs that were used during the design and development of *Newslytic*:
- ▶ 1 Web Development Frameworks & Libraries
- ▶ Next.js Official Documentation - <https://nextjs.org/docs>
- ▶ React Official Documentation - <https://react.dev/>
- ▶ Node.js Official Documentation - <https://nodejs.org/en/docs>
- ▶ Express.js Official Documentation - <https://expressjs.com/>
- ▶ 2 Database & APIs
- ▶ MongoDB Documentation - <https://www.mongodb.com/docs/>
- ▶ NewsAPI - <https://newsapi.org/>
- ▶ Other Public News Sources & RSS Feeds
- ▶ 3 AI & NLP Resources
- ▶ OpenAI API Documentation - <https://platform.openai.com/docs>
- ▶ Hugging Face Transformers - <https://huggingface.co/docs>
- ▶ Stanford NLP Group - <https://nlp.stanford.edu/>
- ▶ 4 UI/UX & Styling
- ▶ Tailwind CSS Documentation - <https://tailwindcss.com/docs>
- ▶ ShadCN UI Components - <https://ui.shadcn.com/>
- ▶ 5 Tutorials & Learning Resources
- ▶ FreeCodeCamp - <https://www.freecodecamp.org/>
- ▶ Traversy Media YouTube Channel - <https://www.youtube.com/c/TraversyMedia>
- ▶ Fireship YouTube Channel - <https://www.youtube.com/c/Fireship>