

SmartNews AI: Real-Time News and Personalized Chat Experience using NLP

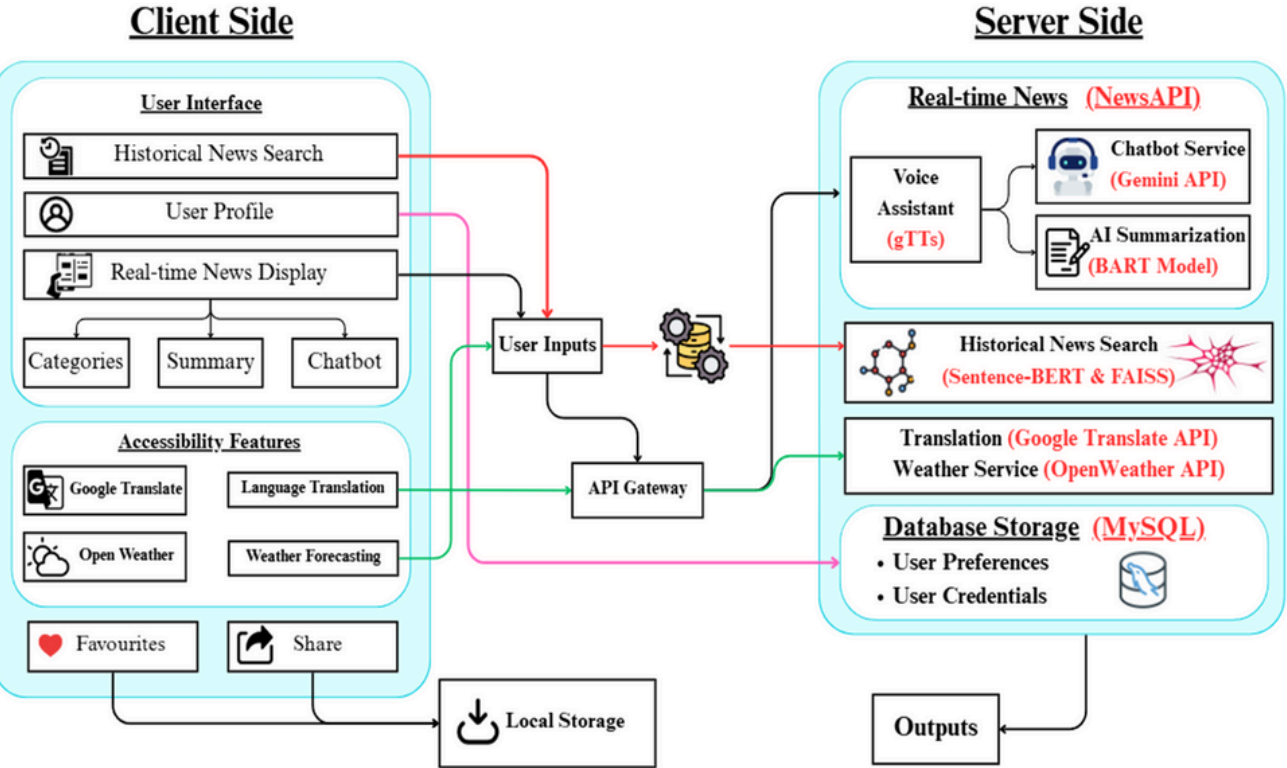
Problem Statement

Most of the existing news platforms lack AI-powered summarization, interactive Q&A, and multilingual support, making it difficult for users to quickly understand and engage with news content efficiently.

Objectives

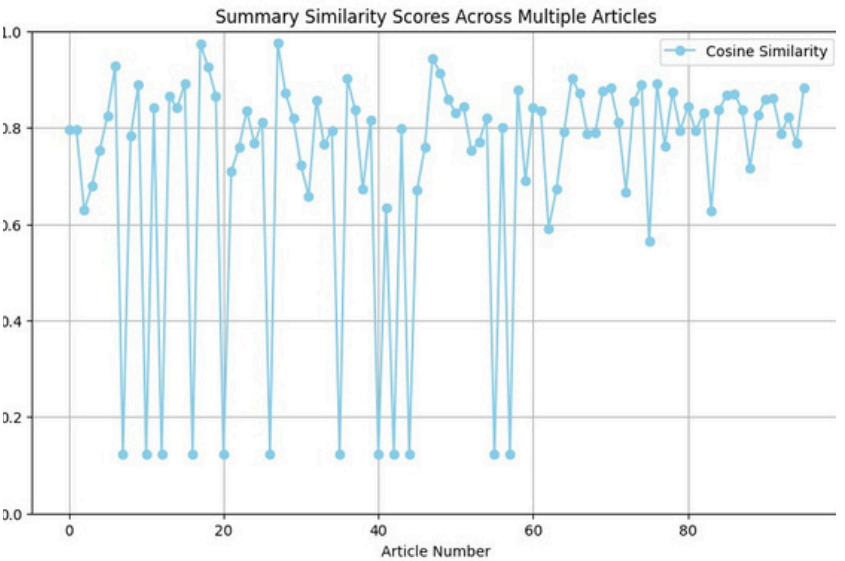
- To provide concise and accurate news summaries, utilizing the BART model.
- To enable Q&A and voice responses, leveraging Gemini API and Google Text-to-Speech.
- To ensure fast historical news search, integrating Sentence-BERT (all-MiniLM-L6-v2) and FAISS.
- To deliver real-time news, using News API with multilingual translation (GTranslate API) and weather updates(OpenWeather API).

System Architecture

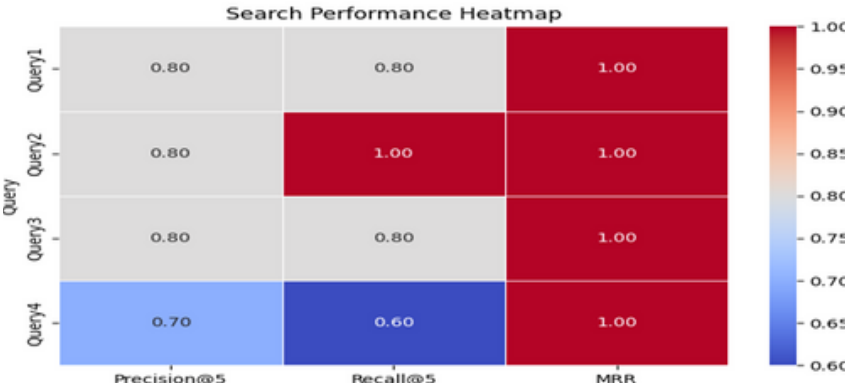


Results

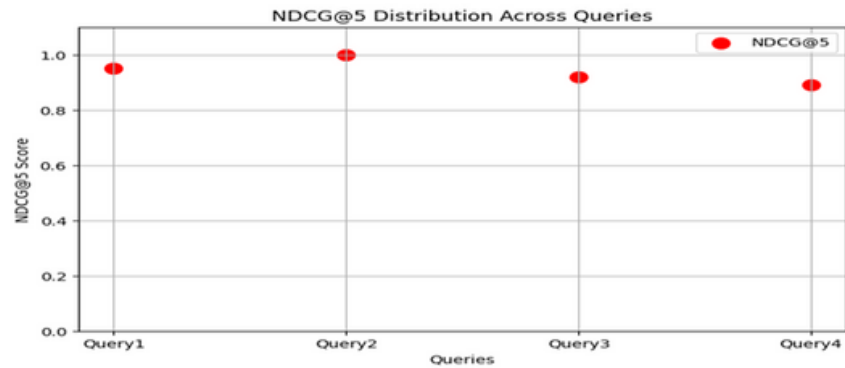
Summary similarity score across multiple articles



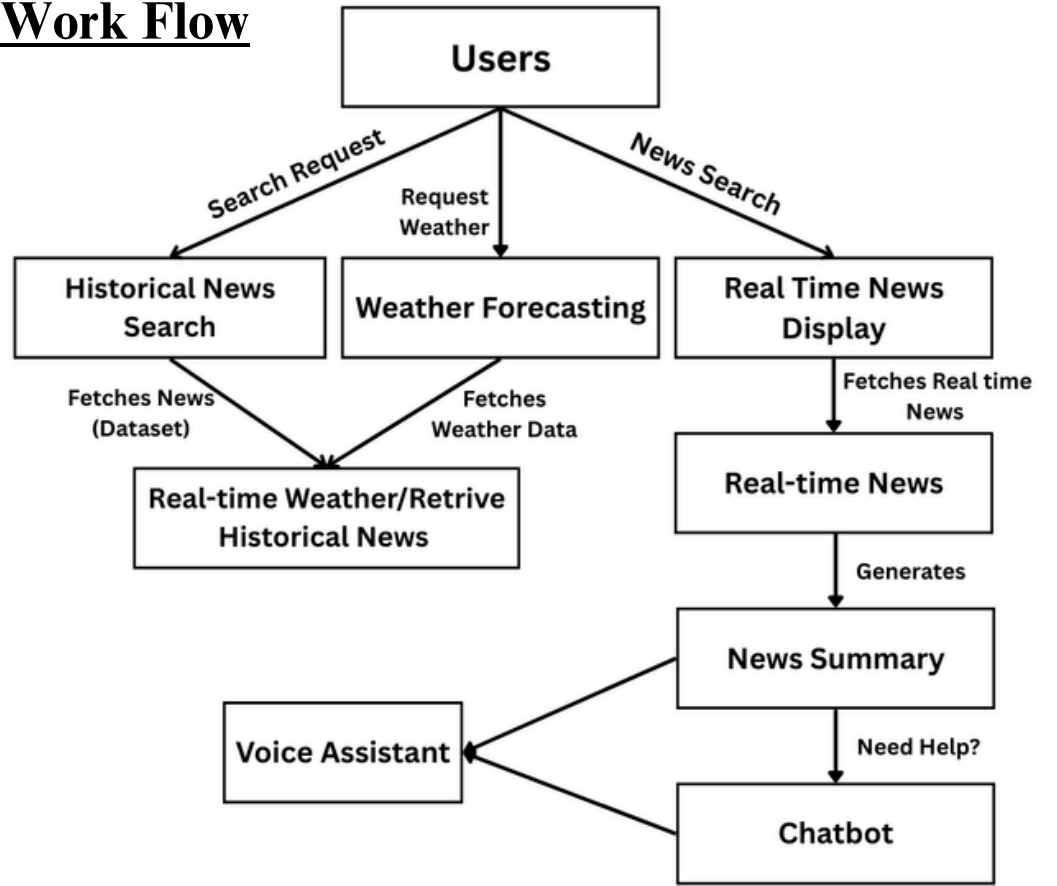
Search performance heat map



NDCG@5 Distribution Across queries



Work Flow



Key References

[1] V. Alwis, "Intelligent E-news Summarization" 2018 18th International Conference on Advances in ICT for Emerging Regions, (ICTer) Colombo, Sri Lanka, 2018. [<https://ieeexplore.ieee.org/document/8615590>].

[2] G. Bharti, A. Ranjan, A. Bharat, and S. Yadav, "Design and Development of an Efficient and Intelligent Weather Forecasting App" (IOS Press) Punjab, India, 2023. [https://www.researchgate.net/publication/367071091_Design_and_Development_of_an_Efficient_and_Intelligent_Weather_Forecasting_App]

[3] P. Sethi, S. Sonawane, S. Khanwalker, and R. B. Keskar, "Automatic Text Summarization of News Articles," 2017 International Conference on Big Data, IoT and Data Science (BIG-IOT), Pune, India, 2017. [<https://ieeexplore.ieee.org/document/8336568>].

Conclusion

Smart News revolutionizes news with AI summaries, Q&A, historical search, and real-time updates with multilingual support and weather forecasts, it ensures a seamless, personalized experience..