

## ONLINE NEWS PORTAL

Dadapeer<sup>1</sup>, N Vinutha<sup>2</sup>, L Shruthi<sup>3</sup>, M Bhavyasree<sup>4</sup>, K S Rokhiya<sup>5</sup>

*1 Assistant Professor, Department of CSE, Ballari Institute of Technology & Management, Ballari  
2,3,4,5 Final Year Students, Department of CSE, Ballari Institute of Technology & Management, Ballari*

\*\*\*

**Abstract** - The implementation and development of a News Web Application that offers a modern interface with advanced features to make the process of reading news easy and interesting. The application caters to users who read the newspaper daily, providing them with the ability to read and listen to news articles. The homepage of each user is dynamically generated based on their past searches to suggest relevant articles. A comment section has been implemented to allow users to interact with articles in real-time, providing a platform for discussions and feedback. The application also includes an admin-user portal, which allows the admin to perform CRUD operations and manage users. The application has been developed using HTML, CSS, JavaScript, and React, making it fully responsive and accessible from any device, including mobile, laptop, and tablet. The application's backend is powered by a scalable and robust architecture utilizing Node.js, Express.js, and MongoDB to handle user authentication, data storage, and retrieval. The application's performance has been evaluated through extensive testing and benchmarking, demonstrating its ability to handle a large number of users and deliver content with minimal latency. The application's security features, including encryption, authentication, and access control, have been implemented to ensure user data privacy and protection against cyber-attacks. The paper concludes by highlighting the potential of the application and discussing possible future directions for development and research.

**Key Words:** Node.js, Express.js, React.js, MangoDB, CRUD operation.

### 1. INTRODUCTION

Nowadays, technology plays a vital role in our lives, and we cannot imagine a single moment without it. The era of computer technology has revolutionized the world, and most of our daily tasks depend on web applications. Websites have become a primary source of information for people, and they can access them anytime, anywhere, at low cost. In this information age, information is a valuable resource, and we are developing our project to raise awareness among people.

This project is an online news portal that aims to overcome the challenges faced by the traditional manual system. The main intention of this project is to develop a portal for managing web-based news, providing a convenient and easy-to-use display for people worldwide to learn and gain knowledge about current events. The portal has two user

types: users who can view and add comments, and administrators who manage and control the website.

Users can view relevant information based on various categories provided by the administrator. They can also search and add comments, but their comments will require approval from the administrator after providing their name and email. The website includes basic pages that provide relevant information, and users can view them accordingly.

Administrators are responsible for managing all the relevant actions that ensure the website's proper functioning, allowing users to view information and generate reports. This project's ultimate goal is to create a user-friendly news portal that serves as a reliable source of information for people worldwide.

### 2. LITERATURE REVIEW

This paper presents a new method for efficiently accessing relevant webpage content by using data on user browsing behavior to generate a personalized and updated webpage that matches the user's interests and knowledge. This approach allows users to quickly find the content they want without extensive browsing or searching. The study emphasizes how this approach can improve user satisfaction and engagement with web-based content [1].

A unique approach for an online news portal to prioritize preferred news topics for registered users. The method involves a detailed analysis of users' profiles using domain ontology and semantic techniques to deliver personalized news content that matches users' interests and preferences. This approach has the potential to improve user engagement and satisfaction, as well as make the news portal's content more relevant and valuable [2].

This paper described an approach towards visually impaired persons with unique function, i.e., news summarization [3].

This article presents a solution for improving the performance of web applications using Node.js, a server-side JavaScript runtime environment. By adopting a non-blocking approach, Node.js can handle multiple requests simultaneously, resulting in a more efficient and responsive working process. Additionally, the paper highlights the benefits of using React.js for front-end development, such as faster response times and improved search engine optimization (SEO) capabilities. By combining these

technologies, developers can create high-quality web applications that are both fast and user-friendly [4].

Proposes a web-based platform for innovative product design, which employs user-oriented design principles and prioritizes user-friendliness to enhance the information management systems of firms [5].

### 3. PROBLEM STATEMENT

The present study analyses the sights and procedures To design and develop a user-friendly web-based system of online news portal, in which the user can access the information about news categories like sports, entertainment, business, science, health, etc.

### 4. EXISTING SYSTEM

There are various news applications and websites available, including popular platforms like Google News, Apple News, and Flipboard, among others.

These existing systems also offer users the ability to read news articles, but they may not provide personalized suggestions based on past searches or have an interactive comment section for user engagement.

#### *Google News:*

Google News is a service developed by Google that collects news articles from thousands of publishers and magazines. It uses computer algorithms to choose articles based on things like search history and location. Users can customize their news feed by choosing topics and news sources they like. Google News has a feature called Full Coverage that gives a complete picture of a story using different perspectives, videos, and tweets. But there's no way for users to leave comments on articles.

#### *Apple News:*

Apple News is a news aggregator app for iOS, macOS, and watch OS devices. It offers personalized news feeds based on user interests and reading history, with the ability to follow specific topics, publications, and channels. Apple News also curates news stories with a human editorial team, providing a mix of top stories, trending news, and personalized recommendations. However, Apple News does not have an interactive comment section for user engagement.

#### *Flipboard:*

Flipboard is a news aggregator app available on iOS, Android, and web platforms. It presents news articles and stories in a magazine-style format, with the ability to curate articles from different sources into a personalized magazine. Flipboard offers a feature called Smart Magazines, which uses machine learning to suggest articles based on user interests and

behaviour. Flipboard also allows users to follow specific topics, publications, and users, and it has a commenting feature that allows users to engage with articles and each other. However, the commenting feature is not real-time, and there is no guarantee that users will receive responses to their comments.

### 5. PROPOSED SYSTEM

The proposed system is a new News Web Application that aims to provide a modern interface and advanced features to enhance the user experience when reading news articles. One of the key features of the application is its ability to offer personalized suggestions for articles based on a user's past searches. This is done by analyzing a user's reading history and interests to provide them with relevant and engaging content. Additionally, the proposed system includes a comment section that enables real-time discussions and feedback among users. This interactive feature allows users to engage with articles and each other, providing a platform for discussion and debate.

The application also includes an admin-user portal that allows the admin to manage users and perform CRUD (create, read, update, and delete) operations. This provides the admin with the ability to manage user accounts, access control, and user-generated content.

The proposed system has been developed using HTML, CSS, JavaScript, and React, which makes it fully responsive and accessible from any device, including mobile, laptop, and tablet. The backend of the application is powered by Node.js, Express.js, and MongoDB, which provides a scalable and robust architecture for user authentication, data storage, and retrieval.

The proposed system's performance has been evaluated through extensive testing and benchmarking, demonstrating its ability to handle a large number of users and deliver content with minimal latency. The application's security features, including encryption, authentication, and access control, have also been implemented to ensure user data privacy and protection against cyber-attacks.

Overall, the proposed system is designed to provide users with a more personalized and engaging experience when reading news articles compared to existing systems.

### 6. OBJECTIVES

- To provide an option for reader to listen NEWS.
- To manage the details of NEWS category and users profile.
- To dynamically recommend related NEWS topics.
- To provide an option for reader to review and comment on the topic.

- To offer information and related image to the users about sports, health, political, etc

### 7. METHODOLOGY

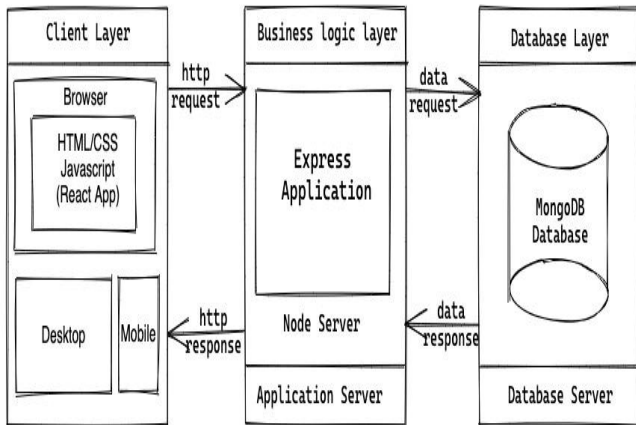


Fig. 1: System Architecture

The methodology for the development and implementation of the News Web Application presented is as follows:

**Requirements Gathering:** This phase involved identifying the requirements and features of the application by analyzing the needs of the target audience and the market.

**Design:** This phase involved creating the application's architecture and designing its user interface (UI) using HTML, CSS, and JavaScript. The UI was designed to be responsive, accessible, and user-friendly.

**Development:** In this phase, we developed the application using React for the front-end and Node.js, Express.js, and MongoDB for the backend. We utilized algorithms to suggest relevant articles based on user past searches and implemented a comment section to allow users to interact with articles in real-time.

**Testing:** The application was subjected to extensive testing and benchmarking to ensure that it met performance and security requirements. The testing phase also involved identifying and resolving any bugs or issues.

**Deployment:** In this phase, the application was deployed to a production environment where it was made available to end-users.

**Evaluation:** The application's performance was evaluated based on its ability to handle a large number of users, deliver content with minimal latency, and protect user data privacy and security.

**Future Development:** Finally, concluded the project by highlighting the application's potential and discussing possible future directions for development and research.

Identified areas for improvement and expansion, such as incorporating machine learning algorithms to improve article recommendations and enhancing the application's social media integration.

### 8. EXPERIMENTAL RESULTS

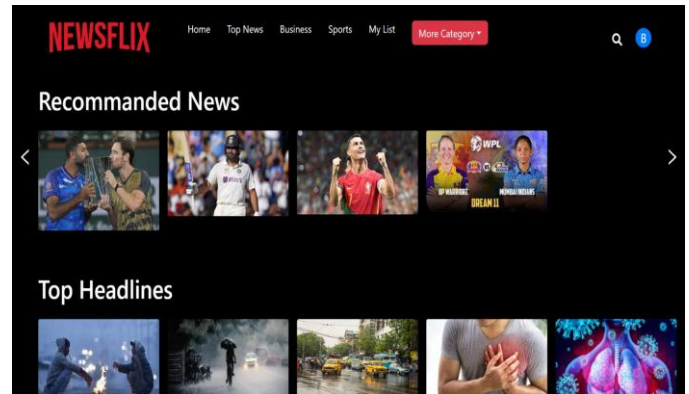


Fig. 2: Home page with recommendations



Fig. 3: news article

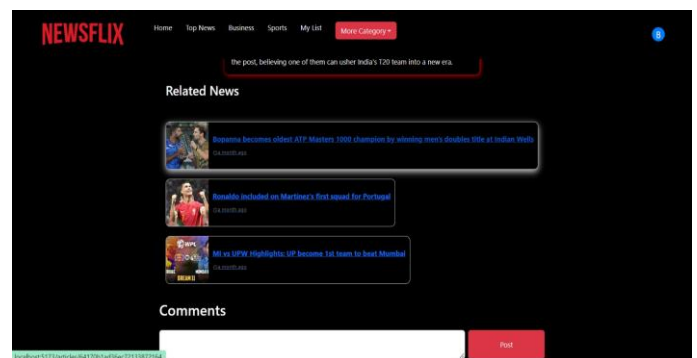


Fig. 4: Related news and the news article

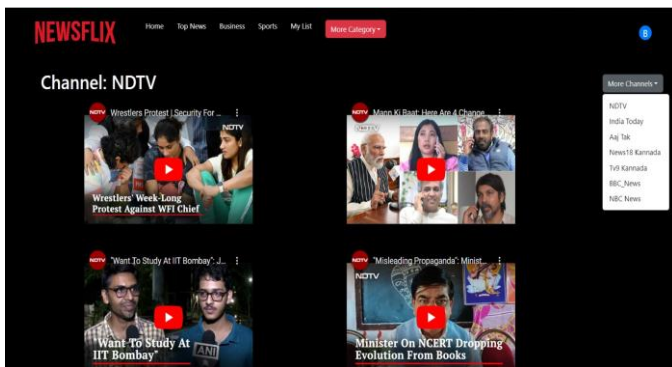


Fig. 5: Watch videos

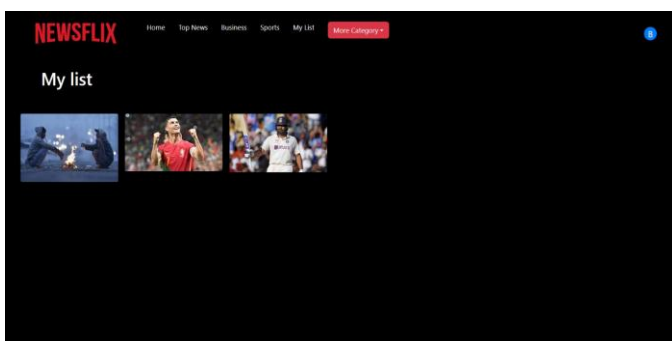


Fig 6: My list

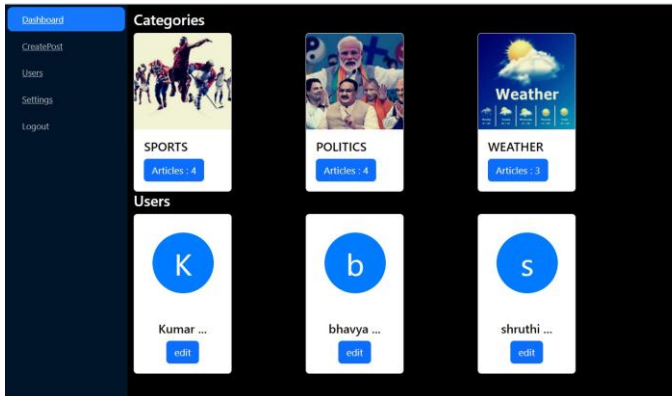


Fig 7: Dashbord

## 9. CONCLUSIONS

The conclusion of the given abstract is not explicitly stated. However, based on the information provided, the project aims to develop a News Web Application that provides a modern and user-friendly interface with advanced features for reading news articles. The application includes a personalized homepage, comment section, and admin-user portal for managing users and content. The frontend is developed using HTML, CSS, JavaScript, and React, while the backend is powered by Node.js, Express.js, and MongoDB. The application's performance, security features, and scalability have been evaluated through extensive testing. The project has the potential to overcome the challenges of

traditional news systems and become a leading news platform in the digital age.

## REFERENCES

- [1] C. Liu, W. Wang, Y. Zhang, Y. Dong, F. He and C. Wu, "Predicting the Popularity of Online News Based on Multivariate Analysis," 2017 IEEE International Conference on Computer and Information Technology (CIT), Helsinki, Finland, 2017, pp. 9-15, doi: 10.1109/CIT.2017.36.
- [2] J. Dong, "Design and Implementation of Internet-oriented News Management System," 2021 International Conference on Big Data Analysis and Computer Science (BDACS), Kunming, China, 2021, pp. 233-236, doi: 10.1109/BDACS53596.2021.00058.
- [3] M. Ye, P. Li and Q. Li, "VIP Reader: A Light News Reader for the Visually Impaired Person," 2014 IEEE/WIC/ACM International Joint Conferences on Web Intelligence (WI) and Intelligent Agent Technologies (IAT), Warsaw, Poland, 2014, pp. 282-287, doi: 10.1109/WI-IAT.2014.109.
- [4] H. -l. Xia and Y. -s. Zhang, "Design and implementation of a web news extraction system," 2011 Eighth International Conference on Fuzzy Systems and Knowledge Discovery (FSKD), Shanghai, China, 2011, pp. 1793-1797, doi: 10.1109/FSKD.2011.6019812.
- [5] communications Research Laboratory, 3-5 Hikaridai, Seika-cho, Soraku-gun, Kyoto, 619-0289, Japan ttDepartment of Social Informatics, Graduate School of Informatics, Kyoto University Yoshida-Honmachi, Sakyo-ku, Kyoto, 606-83 17, Japan
- [6] K. Salehin, M. K. Alam, M. A. Nabi, F. Ahmed and F. B. Ashraf, "A Comparative Study of Different Text Classification Approaches for Bangla News Classification," 2021 24th International Conference on Computer and Information Technology (ICCIT), Dhaka, Bangladesh, 2021, pp. 1-6, doi: 10.1109/ICCIT54785.2021.9689843.
- [7] B. Walek and P. Müller, "An approach for recommending relevant articles in news portal based on Doc2Vec," 2022 IEEE Fifth International Conference on Artificial Intelligence and Knowledge Engineering (AIKE), Laguna Hills, CA, USA, 2022, pp. 26-31, doi: 10.1109/AIKE55402.2022.00010.
- [8] J. Xu, Y. Wang, J. Ma and Q. Jin, "An effective model-free Gaussian Process based online social media recommendation," 2022 IEEE International Conferences on Internet of Things (iThings) and IEEE Green Computing & Communications (GreenCom) and IEEE Cyber, Physical & Social Computing (CPSCom) and IEEE Smart Data (SmartData) and IEEE Congress on Cybermatics (Cybermatics), Espoo, Finland, 2022, pp. 374-378, doi: 10.1109/iThings-GreenCom-CPSCom-SmartData-Cybermatics55523.2022.00085.

[9] Shan Jiang and Wenxing Hong, "A vertical news recommendation system: CCNS—An example from Chinese campus news reading system," 2014 9th International Conference on Computer Science & Education, Vancouver, BC, 2014, pp. 1105-1114, doi: 10.1109/ICCSE.2014.6926634.

[10] M. U. Bokhari, M. K. Adhami and R. Ali, "Machine Learning Approach to Evaluate News Search Engines," 2019 International Conference on Electrical, Electronics and Computer Engineering (UPCON), Aligarh, India, 2019, pp. 1-6, doi: 10.1109/UPCON47278.2019.8980002.

[11] S. Al-khateeb and N. Agarwal, "The rise & fall of #NoBackDoor on Twitter: The apple vs. FBI case," 2016 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), San Francisco, CA, USA, 2016, pp. 833-836, doi: 10.1109/ASONAM.2016.7752334