**DEVELOPMENT OF A WEB-BASED NEWS FEED SYSTEM**

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**1.1 Background of the Study**

In recent years, Spider Radio, a prominent radio station within our institution, has garnered significant popularity among students from diverse departments. The increasing demand for Spider Radio's broadcasts highlights the necessity for a contemporary approach to news dissemination. While traditional broadcasting methods have been the standard, the digital age has ushered in new expectations, with students favoring web-based news delivery for its accessibility and convenience. As the hunger for instantaneous access to news continues to grow, our institution recognizes the urgency of adapting to web-based platforms for optimized news distribution. This transition to a digital-first strategy aligns with the evolving media landscape and presents an opportunity to create a more engaging and user-friendly platform, ensuring that students can easily stay informed about current affairs. The News Feed Application System, the focus of this project, aims to bridge the divide between Spider Radio's traditional broadcasting and the dynamic expectations of students in this digital era. Chhabria et al. (2022).

In today's rapidly changing world, the consumption of news has been significantly reshaped, with digital platforms serving as central conduits for accessing and disseminating information. This transformation is particularly evident within our institution, where students have embraced Spider Radio as a valuable source of on-air broadcasts. Nevertheless, in the era of smartphones and instant connectivity, there is a growing need to modernize the delivery of news content to accommodate the preferences and expectations of our student body. The News Feed Application System, the core of this project, represents a contemporary and adaptable solution designed to bring Spider Radio's news broadcasts closer to students. It is structured to provide a user-friendly, hassle-free means for students to access news through images and headlines, recognizing the busy lives they lead and their desire for prompt access to current affairs. By embracing this digital transition, we aim to enrich the student experience by making news more accessible, interactive, and engaging. Rugveda et al. (2018)

This project is a journey into the development of a web-based news feed application, ensuring that Spider Radio's news remains at the forefront of information dissemination within the institution. As students navigate their daily routines, this application empowers them to stay updated with the latest news developments with just a simple click. Through this endeavor, we aim to bridge the gap between traditional radio broadcasting and the ever-evolving expectations of our student community, ultimately enriching the educational experience and fostering a more informed student body. Rugveda et al. (2018)

**1.2 Statement of the Problem**

In recent years, Spider Radio News has gained immense popularity among students from various departments at the institution. As this trend continues to grow, there is a pressing need to develop a cutting-edge and versatile News Feed Application System tailored to facilitate students' access to news content conveniently. The problem at hand is to develop an efficient News Feed Application System that optimizes students' engagement with Spider Radio news, enhancing accessibility, interactivity, and overall user experience within the institution.

**1.3 Aim and Objectives**

**This project aims to develop a web-based news feed system for Kadpoly Spider Radio** by providing a user-friendly platform for accessing news through images and headlines. **The objectives are as follows:**

1. To design a web-based news feed system.
2. To reveal the related literature on web-based news feed systems.
3. To implement the system and evaluate his efficiency in terms of system information needs / output.

**2.1 LITERATURE REVIEW**

Article Title: OpenJ – The News Application

Authors: Chhabria, S., Dekate, C., Thakre, D., Waghaye, G., Bondade, S., & Narwade, S. (2022).

**Summary of the work**

This work underscores the integral role of journalism in the interconnected web of global information. It emphasizes how journalism is not merely a mode or type but a comprehensive system that harnesses the power of collective information sharing. Open journalism leverages the capacity for anyone to publish and collaborate, offering a richer understanding of the world. The study also highlights how technology and mobile platforms play a pivotal role in disseminating news and engaging a wider audience.

**Methodology**

The methodology of this study primarily centers on the utilization of specific tools for the development of a News App aimed at providing 100% verified news content. The choice of tools includes the Flutter framework, known for its prowess in mobile application development, powered by the Dart programming language, which seamlessly integrates with Flutter. Additionally, Google Firebase serves as the core backend infrastructure, functioning as a Backend-as-a-Service (BaaS) platform. These tools collectively ensure the efficient and reliable operation of the News App.

**Recommendation**

In light of the successful development of OpenJ – The News Application, which has initially focused on Android users, a key recommendation is to expand the application's accessibility to users on various platforms. It is recommended to investigate and implement a cross-platform solution to maximize the reach and impact of the news application, ultimately creating a more universally accessible news source.

**Research Gap**

One notable research gap lies in the scope of platform accessibility. There is an opportunity to develop a more inclusive approach by creating a news application that caters to users across various platforms. By extending the reach to iOS, web-based, and other platform users, the application can offer a more comprehensive and versatile news delivery service.

Article Title: A Location and Diversity-Aware Optimized News Feed System for Android Users.

Authors: Shabnammakandar & Snehal P. (2018).

**Summary of the work**

This paper introduces D-MobiFeed, a novel Location-Aware News Feed (LANF) system designed to cater to mobile users' spatial and non-spatial preferences. Unlike traditional LANF systems that primarily send geo-tagged messages, D-MobiFeed prioritizes diversity within news feeds to help users explore new places and activities. To achieve this, the system employs the Maximum Likelihood Algorithm to predict the user's future location and retrieves the most relevant messages using semantic ontology. This innovative approach promises to enhance the user experience by delivering more diverse and contextually relevant news feeds.

**Methodology**

The methodology in this study involves the use of specific tools and technologies, such as the Maximum Likelihood Algorithm, Android Studio 2.1.2 for application development, Java 1.7 for coding, the Xampp Control Panel v3.2.2 for database management, and the Apache Tomcat Server for web hosting. These components collectively enable data analysis, prediction, and the creation of an Android-based application, ensuring compatibility across different platforms and optimizing system performance.

**Recommendation**

The development of D-MobiFeed, a location-aware news feed framework that combines relevance and diversity in scheduling news feeds for mobile users, is a commendable step toward enhancing the user experience. To further enhance this framework, it is recommended to consider the implementation of user sharing features, allowing users to share posts and information with others, thereby fostering community engagement and information dissemination.

**Research Gap**

A notable research gap lies in the exploration of user-sharing features within D-MobiFeed, which could significantly enrich the framework's functionality by promoting content sharing and collaboration among users. This aspect presents an opportunity for future research and development. Furthermore, there is room for research into enhancing the framework's cross-platform compatibility, as the paper alludes to the potential for D-MobiFeed to support operating systems beyond Android.

Article Title: Online News Feed Data Mining and Prediction.

Authors: Arpit, G., & Poornalatha G. (2022)

**Summary of the work**

This paper revolves around the significance of data mining and prediction systems, particularly in the context of enhancing performance and revenue generation for IT companies. The focus is on the development of an Online News Feed Prediction System that analyzes and compares various prediction techniques through different methods of implementation. Utilizing a dataset from the UCI repository, which includes news topics, sentiment analysis, publication dates, and popularity scores on social media platforms, the study employs Python, R, and Weka for data preprocessing, visualization, and prediction techniques such as Random Forest, Decision Tree, and SVM. Additionally, the paper explores the analysis of social media platform scores at regular intervals, offering insights into audience reach. This research not only serves as a valuable resource for improving news agencies' profitability and visibility but also strives to uncover effective methodologies for achieving these results.

**Methodology**

In this study, the methodology involves the utilization of Python, specifically employing functions like OneHotEncoder and qcut from the preprocessing and pandas libraries, to process the News final dataset. To gain a comprehensive understanding of the data and transform it into meaningful information, a combination of Weka, R, and Python is used to create various graphical representations, including q-q plots and box plots. These visualizations serve to enhance data analysis and provide valuable insights into the research objectives.

**Recommendation**

This study's recommends the importance of selecting the right algorithms, such as Support Vector Machine, for accurate predictions in news feed topics. It also emphasizes the platform-specific influence on popularity scores and suggests that news agencies should consider this when publishing articles. The sentiment analysis results offer valuable insights for content engagement, and news agencies can use this information to improve their reach and impact. In the future, research can explore additional attributes like publishing time and use feedback datasets to enhance prediction models further.

**Research Gap**

A potential area for future research lies in the inclusion of attributes such as publication time to improve prediction accuracy. Additionally, exploring the use of feedback datasets for grouping attributes and identifying common patterns offers opportunities for refining predictive models and gaining a deeper understanding of article engagement. Investigating these aspects can contribute to more precise predictions and better-informed publishing strategies.

Article Title: News Feed Application for Android.

Authors: Rugveda, I., M., Harshavardhan, K., Arun, R., B., & Sathish., K. (2018).

**Summary of the work**

The "News Feed Application for Android" project addresses the growing demand for mobile news applications, providing a cutting-edge and versatile solution for users worldwide. This Android-based news application offers an easy and hassle-free means of staying connected with the world through images and headlines. The user-friendly interface makes it simple to use, and it can be easily downloaded. In the fast-paced, modern lifestyle, users can access essential current affairs with just a click, making it a valuable tool for staying informed about daily society events and news.

**Methodology**

The methodology involves API integration, particularly RESTful services, and the use of Google's new API. The project employs a dual database system, combining MySQL Server and MongoDB for enhanced data retrieval. MySQL Server stores user information, news feeds, and keywords. The Android application with the database is hosted on separate servers, offering various user interfaces for web, Android OS, iOS, and Windows Mobile. This approach adds flexibility and shifts some functionalities to the client side, where HTML5 and JavaScript are used for development, with frameworks facilitating application creation for iOS and Android using HTML5. This approach maximizes versatility and accessibility.

**Recommendation**

As the project leverages HTML5 and JavaScript for client-side development, it would be beneficial to continually evaluate and incorporate the latest web technologies and frameworks to stay at the forefront of mobile application development.

**Research Gap**

One notable research gap is the need for in-depth exploration of the performance and scalability of the dual database system, particularly in large-scale applications. This gap offers an opportunity for future research to assess the system's efficiency and reliability as the volume of data and users increases.

Article Title: Effects of Online News Applications for Android–A Critical Analysis.

Authors: Dhiman, B. (2019).

**Summary of the work**

This research paper delves into the realm of mobile news applications, commonly known as news apps, designed for smartphones, tablets, and iPads, with a primary focus on Android devices. These apps, readily available on Google Play Store, offer users access to a wide range of news genres, from breaking news to entertainment updates. The study aims to assess the utility of these Android news applications, particularly those available for free, by conducting in-depth interviews with 50 research scholars. The research seeks to ascertain whether these apps genuinely serve as valuable resources for users seeking current updates and breaking news, raising questions about their overall impact and usefulness for mobile users.

**Methodology**

The research methodology adopts a focus group approach involving 50 Research Scholars who regularly use Android news applications. This cohort comprises 25 MPhil scholars and 25 PhD scholars from various departments. The predominant choice among these scholars is UC News, which is available in English and Hindi, tailored for the Indian audience. Out of the 50 users, 40 favor the Hindi version, with 30 being PhD scholars and 10 MPhil scholars, while the remaining 10 opt for the English language version. This methodology seeks to gather insights into user preferences and experiences regarding news applications and language choices.

**Recommendation**

The study suggests developers should prioritize providing current updates and entertainment news, considering the strong user demand for these content types. It's important to maintain the perception of these apps as free of cost while exploring sustainable revenue models. Developers can also address health issues and negative impacts by promoting responsible usage. Ensuring content authenticity and reliability is crucial to enhance the user experience.

**Research Gap**

Further research is needed to explore specific health issues and negative impacts related to news app usage, enabling the development of targeted solutions. Additionally, investigating strategies for enhancing content authenticity within news apps can provide valuable insights into improving user trust and overall usability.

**3.1 METHODOLOGY**

The research approach is a rigorous investigation like this to uncover new facts or information about the existing system. This study’s research employed the primary and secondary source of data collection.

**Primary Source of Information**

This comprises information that is collected directly or indirectly from target users without any alterations or ideas from other authors. The information from this primary source is deemed more accurate and reliable. Hence, the aim is to assimilate the information gathered from this source into the project in order to meet requirements. The chosen fact-finding techniques for the primary source data gathering are: interview and observation

**Secondary Source of Information**

This basically comprises the totality of information someone is able to obtain from existing sources such as books, the internet, case study, articles, newsletter, and other valuable publications. The resources gathered from the internet specifically have been very relevant, various search engines especially Google made information finding very easy.

**3.4 CHOICE OF PROGRAMMING LANGUAGE**

This research work will be a mobile-based application and will be implemented on a relational database system (SQLite). HTML, CSS, and JavaScript will be employed in the front end while Django (python) will be employed for the backend programming. The above are the modern languages used in implementing this system.

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