

Neural News Application using API

Kshitija Kamble¹, Janhavi Gavhale², Anushka Kadam³, Aniruddha Kamble⁴, Navin Kumar Trivedi⁵

^{1,2,3,4}Student, Department of Computer Engineering, Mahatma Gandhi Missions's College of Engineering and Technology, Navi Mumbai

⁵Professor, Department of Computer Engineering, Mahatma Gandhi Missions's College of Engineering and Technology, Navi Mumbai

Abstract - Due to rapid growth in the field of technology, establishing connection with other people has become faster and easier. Over the past few years, mobile news applications have become a crucial thing for mobile users around the world. "Neural News App" is a cross-platform and innovative mobile application designed for a superior user experience. The application provides users with the latest news articles from various sources and categories, allowing them to stay updated on current events. The main objective of this app is to bring news articles from all around the world on a single platform. The News App, developed with advanced algorithm and user-centric design, offers a dynamic platform for users to access news as per their interests and preferences. The development process, including the integration of the News API, user Interface design, and key features of the app, are discussed in detail.

Keywords: News API, Cross-platform, Mobile App, UserInterface, User-centric

1. INTRODUCTION

Keeping up with current events is increasingly crucial in today's rapidly changing world. However, with the huge amount of information available on the internet, users often find it difficult to navigate through the clutter and find relevant and reliable news. In response to this challenge, developing a News application using Flutter and API offers a groundbreaking solution. Flutter is a versatile open-source UI software development toolkit created by Google to enable developers to build dynamic and visually appealing mobile, web and desktop applications [8]. Dart programming language is used in flutter, which allows for the creation of responsive and efficient user interfaces with customizable designs. API (Application Programming Interface) which is an intermediate interface between different applications enables developers to retrieve data from another application or service without requiring in-depth knowledge of its internal workings. By integrating APIs from respectable news providers, developers can curate up-to-date news pieces, guaranteeing users access to a thorough overview of events spanning multiple fields. This also helps in enhancing the overall user experience. Overall, News

Application technology provides several advantages over traditional newspapers in terms of real-time updates, accessibility, personalization, multimedia content, interactivity, etc. These factors contribute to making news apps a preferred choice for many modern users.

2. PROBLEM STATEMENT

Many users utilize various news-sharing apps and frequently receive an overwhelming number of notifications. Furthermore, the prevalence of misinformation necessitates a news-sharing application that helps users easily access daily news that is both relevant and verified, sourced from trustworthy outlets.

3. LITERATURE REVIEW

This research paper named Android News App (2018) created by Brijesh Joshi and Nehal Patel presents a recent systematic review of Android News App in predicting news from all over the countries. The News app is an Android mobile application where users have access to latest news from 120+ newspapers from 50+ countries. The main focus of the application is to connect news articles from all around the world and deliver it to user as fast as possible in best visualize way. Additionally, the author provides concrete recommendations on the potential future research and development of the Android News App [1].

"News Android Application", published in 2022.

In this research the author states that native news apps are expensive and difficult to maintain. Native Publishers like BBC News or NY Times uses their own writers to manage articles and manage it. Many native newspapers are divided because of this which causes in lack of resources from one side. Android structure provides great capability with frameworks, libraries and APIs with the help of this better user experience can be provided and sources can be combined while maintaining the Integrity of its owner. In the app, API is used for better experience. Guardian provides a playground where one can explore the API's 10 requests and results. There is also easy-to-follow

documentation and supportive community to help one make the most of the API [2].

“News Feed Application for Android”, published in 2018. The author intends to develop a mobile news application that can connect the whole world with just a tap on the smartphone and make people’s lives easy by keeping them updated with news updates. The application consists of real time news updates with the help of API and also the updated news report. The application has basically two parts, one the request and the other the receiver. So, they will be sending and receiving the messages of which the data will be controlled by the API Client technology, The location would be detected and the news reports of the place would be updated, similarly with the news as well. The system will also focus on the future enhancement of the application by making the news application a multipurpose one by binding the people in an application where they can find their common interest and meet other people and also for business purposes and ease of access to the files and presentations the screen sharing will also be introduced [3].

“Predicting the Popularity of Online News based on Multivariate Analysis”, published in 2017. This paper presents a near method for efficiently accessing relevant webpage content by using data on user browsing behavior to generate a personalized and updated. Webpages that match the user interest and knowledge. This approach allows users to quickly find the content they want without extensive browsing or searching [4].

“Design and Implementation of Interest-oriented News Management System”, published in 2021. 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 more relevant and valuable [5].

4. EXISTING SYSTEM

Creating and maintaining native news apps proves costly and complex. Several Established publishers rely on in-house writers for article management. This self-reliance often leads to resource constraints within native newspapers, disintegrating their efforts. Newspapers require lots of trees to be cut every day. The newspaper’s workflow is lengthy, requiring a full day for news gathering, printing, and publication. Traditional news sources often require physical access, such as purchasing newspapers or being in front of a television. One drawback of newspapers compared to news applications is their lack of real-time updates. News in traditional formats often experiences delays in reporting.

5. PROPOSED SYSTEM

Mobile is the future of software development. Usage of mobile has increased in the past years. India stands second in the world, in a number of active mobile phones. The Android operating system, primarily developed for smartphones and tablets, is a Linux-based platform that operates on an open-source model. To overcome the drawbacks of the existing system, the proposed project introduces an engaging approach to consuming published media, offering users an interactive experience. Utilizing an Android device and a stable internet connection, users can delve into a variety of multimedia content, including videos and interactive graphics.

A. Features of proposed system:

- 1) Global Support:** Different types of news articles will be available from all around the world, with this user will be able to access news from different parts of the world.
- 2) Short News:** News will be displayed in short format with title, image and little description which will help user to access top news faster.
- 3) Live News:** Users will have access to the live news from all around the world.
- 4) Personalized Feeds:** User will be able to sort the news by categories like country, news portals, etc. according to their preferences.
- 5) Fetching news from API:** Since the news articles are being fetched using API, users are provided with real time updated content.
- 6) Sharing:** Users can share particular news articles of their preference with other users via social media

6. SYSTEM ARCHITECTURE

The system architecture of the news application defines and pictures the whole system and the work flow of it. The system architecture thus gives a detailed representation of the project and how the hardware and the software will work and what way the approach would be taken.

Google developed Flutter, an open-source UI software development kit enabling developers to build natively compiled applications for mobile, web, and desktop using a unified codebase [8]. Similarly, the News API offers a straightforward HTTP REST interface for scouring and fetching real-time articles from various online sources [7]. By integrating the News API with Flutter, developers can easily create a news application that fetches and displays news articles in a user-friendly interface.

The news app is developed using the Flutter framework, which provides a rich set of widgets and tools for building natively compiled applications. Dart is the primary programming language used in Flutter. Dart is used to create and manipulate Flutter widgets, which are the building blocks of the user interface in Flutter applications. The architecture of the app is divided into the following modules:

•**User Interface:** The app's user interface is designed using Flutter widgets, providing a responsive and intuitive user experience. The users interface enables user to select news from different categories, countries and news channels.

•**API:** The app uses the News API to fetch news articles, which are then displayed in the app's user interface [9]. On sending request it will give response in JSON format which contains source id, title, description, image URL, article URL, etc. We must process and convert this JSON into the desired string format [12].

•**Business Logic:** The app's business logic handles the logic for fetching and displaying news articles, as well as managing user interactions. It coordinates the communication between the user interface and the API, ensuring that the correct news articles are fetched and displayed based on user preferences The

business logic also includes error handling, caching of news articles for offline viewing, and other application-specific logic.

The news application's system architecture leverages Flutter's capabilities to create a dynamic and user-friendly interface, news articles to users.

The given figure 1 represents how user can access the application. As soon as the user opens the app, the launch screen will be displayed. After this, the app takes the user to the main feed in which top headlines will be displayed. After clicking on the headlines, user will be able to see the expanded news. According to the convenience of the user, they can select their preferred news by categories such as country, domain and channel.

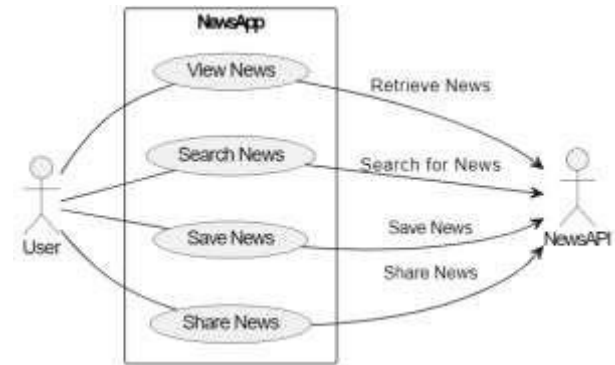


Fig 2: Use Case Diagram

Figure 2 represents the functioning of API in the system. User can view, search, save and share the news articles. These news articles are retrieved by the help of API from different sources. The API will respond to the users requests by providing the user with relevant news articles and information, all in a neat little package.

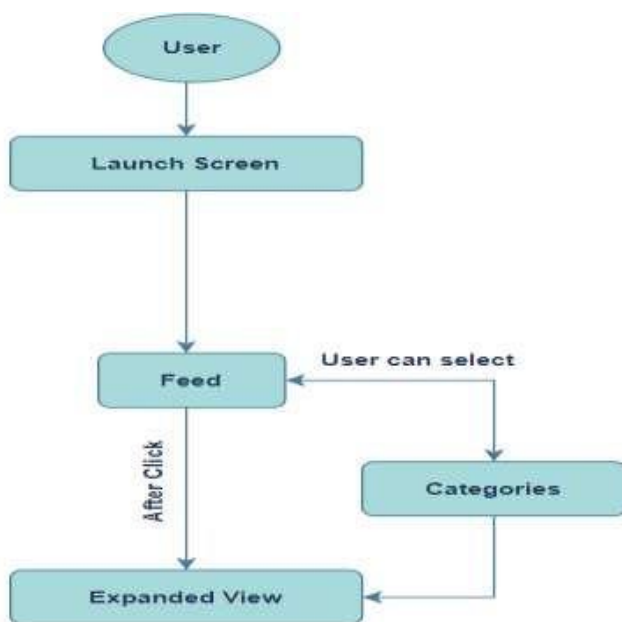


Fig 1: System Architecture

7. RESULTS

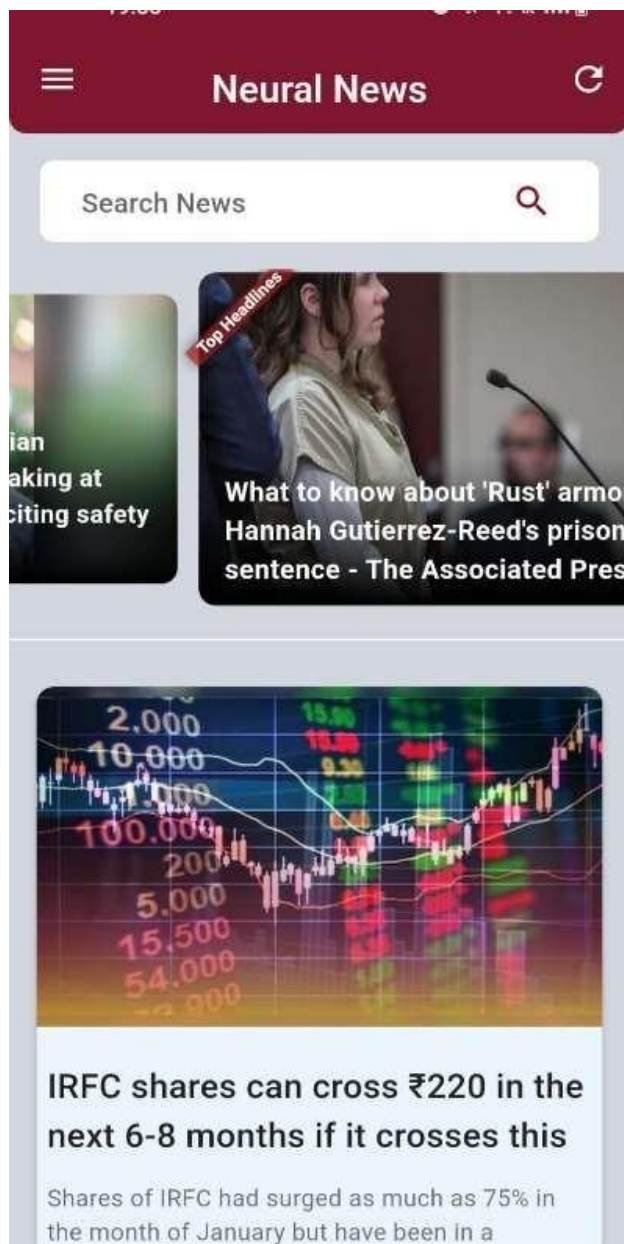


Fig 3: Dashboard

Dashboard displays key information and features in a user-friendly format. It includes widgets or tiles for quick access to important functions. The design focuses on simplicity and efficiency, providing users with a clear overview of the app's functionality.

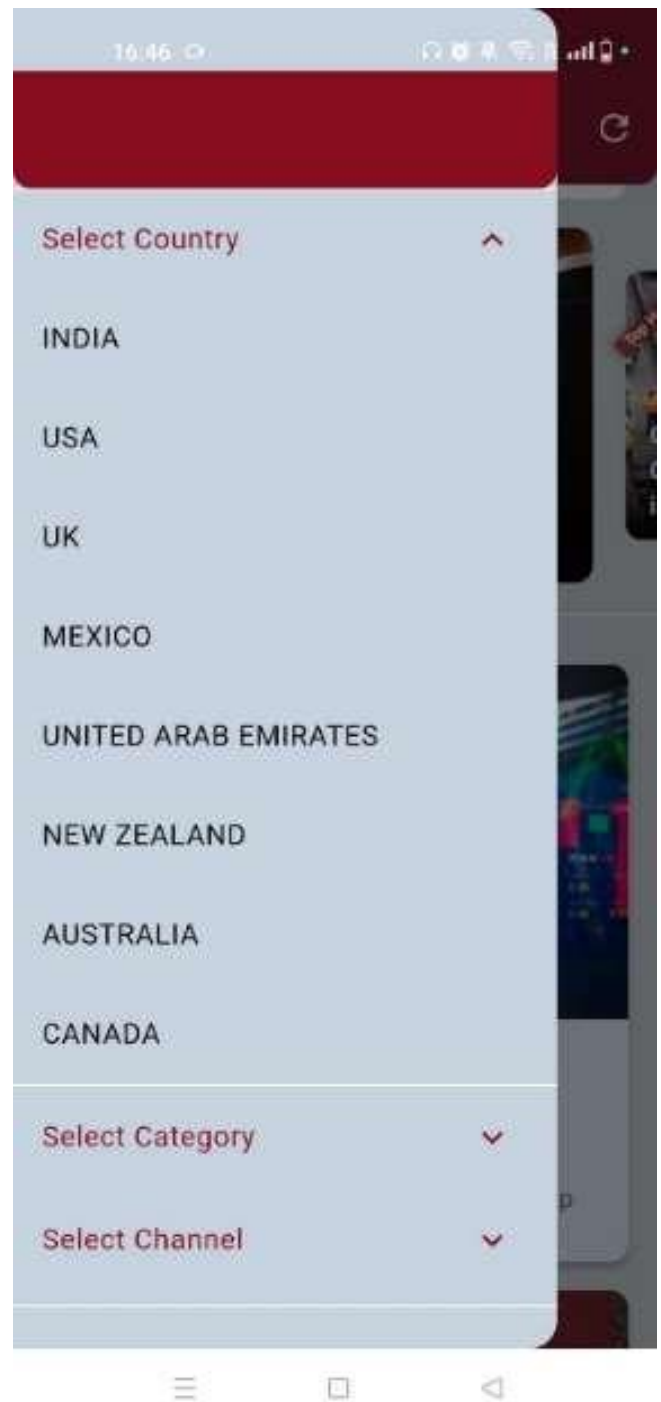


Fig 4: Selection of Country

This image shows application's feature of getting news based on country user has chosen. Also, it shows category and channel selection feature. Users will get to access the news of selected country.

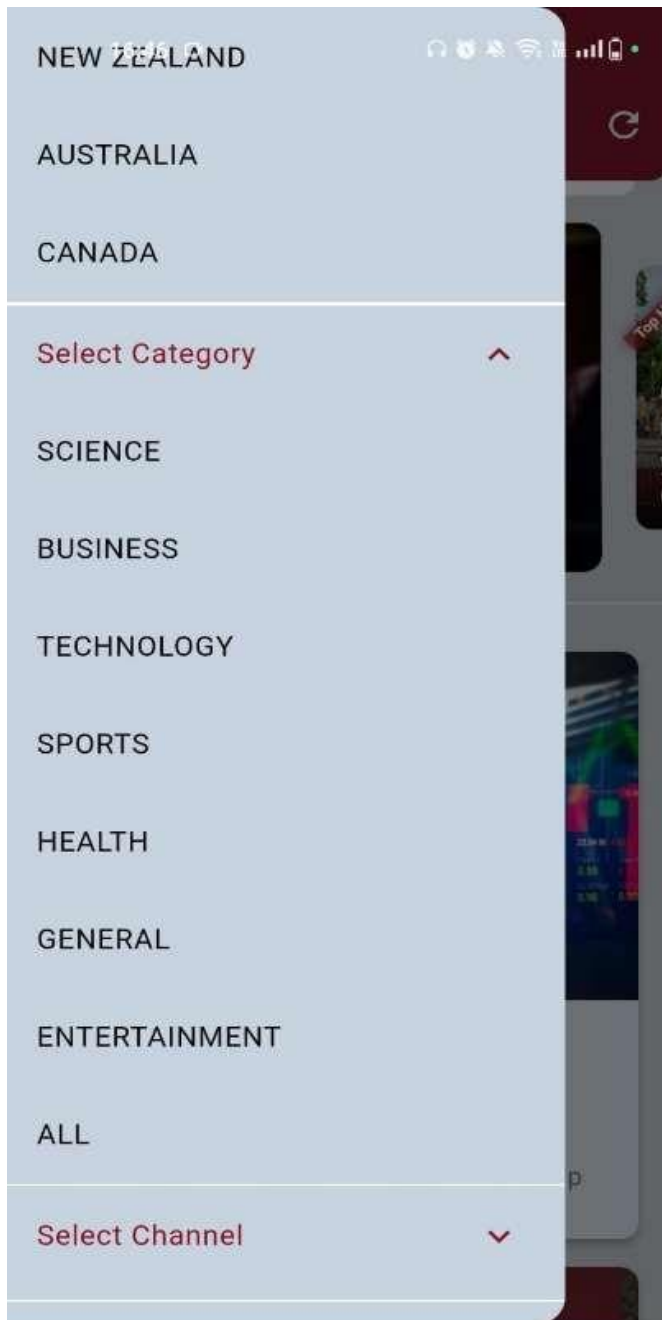


Fig 5: Selection of Category

This image shows the various categories that user can pick from to get the specific topic related news the user wants to read. News related to a particular category will be displayed after selecting the from the given options.



Fig 6: Selection of Channel

This image shows the list of various channels user can select and read news only from that channel. Various popular channels from around the world are available in this category.

Michaela School: Muslim student loses prayer ban challenge

19 hours ago

By Branwen Jeffreys & Jess Warren,
Education editor

Share



Facebook

X

LinkedIn

Email

Copy

Fig 7. Sharing Options

This image shows the feature of the application that allows user to share the news article to various social media platforms.

8. CONCLUSIONS

The need for managing various news-sharing platforms and addressing spam notifications while tackling the dissemination of false information emphasizes the necessity for a solution that offers users dependable and pertinent news sources. The primary aim of the news-sharing application is to simplify the process of discovering news and guarantee that users can conveniently access noteworthy and trustworthy news regularly. Through the explicit verification of news source authenticity, the app strives to minimize the circulation

of fake news and encourage users to make informed choices.

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