Somaiya Vidyavihar University

DailyInsight News App

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(A Constituent College of Somaiya Vidyavihar University)

Certificate

This is to certify that the report entitled **DailyInsight News App** is bonafide record of Mini-Project work done by **Asmi Moghe, Adwait Patankar, Keyur Patel, Tirth Patel** in the Sem VI, year 2023 under the guidance of **Prof. Era Johri** of Department of Information Technology in partial fulfilment of requirement for the completion of Mini-Project.

_____   _____

Guide   Head of the Department

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Certificate of Approval of Examiners

We certify that this report entitled **DailyInsight News App** is bonafide record of Mini-Project work done by **Asmi Moghe, Adwait Patankar, Keyur Patel, Tirth Patel.** This project is approved for the award of credits for completing Mini-Project course.

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DECLARATION

We declare that this written report submission represents the work done based on our and / or others' ideas with adequately cited and referenced the original source. We also declare that we have adhered to all principles of intellectual property, academic honesty and integrity as we have not misinterpreted or fabricated or falsified any idea/data/fact/source/original work/ matter in our submission. We understand that any violation of the above will be cause for disciplinary action by the college and may evoke the penal action from the sources which have not been properly cited or from whom proper permission is not sought.

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_____ **Signature of Student** **Roll No:**	_____ **Signature of Student** **Roll No:**

Date:

Place: K.J. Somaiya College of Engineering, Mumbai-77

Abstract

This report abstract discusses the features of a News App designed to provide personalized,concise news and insightful news feed. This app includes news category section and filter news source to help users to read concise news.

The News category section of the app provides user with Selection of news category such as General news, Entertainment news, Health news ,Sports news, Business News and Technology News fetched from news API.

The Filter News Source Dropdown in Home Screen provides users option to select their favourite news source such as BBC News, The-Hindu, Business-Insider , Reuters , CNN-News, Al-Jazeera. Users can select any news source and browse horizontal carousal at top of home screen.

The Admin panel section of the app provides user with uploading profile photo, changing app theme, feedback, selecting category for user preference and frequently asked questions.

The News Home Screen displays general news for any news source and for particular news source at top to users.

The News Detail Screen provides user with news image, news description, news source ,news date, concise news content. User can also comment in discussion forum about particular news with other readers and like news.

Overall, the News app is a comprehensive tool for readers to stay informed about current affairs with concise and organized news covering all the important aspect of news.

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CHAPTER 1 – INTRODUCTION

1.1 Problem Definition

The problem faced is that traditional news outlet and less attention span of users bombard them with a flood of articles, leading to information overload and decision fatigue.

Moreover, the rise of clickbait headlines and sensationalized content further diminishes the quality of news consumption, making it challenging for users to distinguish between credible information and misinformation.

DailyInsight, aims to revolutionize the way users consume news by offering a personalized, concise, and insightful news feed tailored to individual preferences and interests.

1.2 Motivation

The motivation for creating news application that meets the need of concise and personalized content for readers is based on filtering out the noise and presents users with the most relevant and important news, saving them time and mental energy to avoid them with overwhelming information.

The primary need of developing the app is the the streamlined nature of a concise news that helps readers manage stress and anxiety associated with the constant influx of information. They can consume news in a manner that feels manageable and less overwhelming. The app makes staying informed accessible to a wider audience, including those with busy schedules or limited time for traditional news consumption. Whether commuting, waiting in line, or taking a quick break, readers can easily catch up on the latest headlines.

The creation of such a mobile application can also help to encourage readers to engage critically with the news, questioning assumptions, evaluating sources, and considering multiple perspectives. This fosters a culture of informed misbelief and helps combat the spread of misinformation.

1.3 Scope of Project

The scope of the DailyInsights mobile application project includes the development of a comprehensive mobile application that meets the daily needs of curated content. The news application will provide various features such as news filtering options, different categories and admin panel to achieve their tasks easily.

The key features and functionalities that will be included in the news application are:

1. User Authentication and preference: The users will have to login to get curated and personalised content. They can either sign up by providing credentials or Google Sign-In.

2. User Interface: Design a clean, intuitive, and user-friendly interface that prioritizes ease of navigation and readability. Implement features such as customizable preferences for font size, dark mode, and personalized news feeds.

3. Categories and Topics: The News app will contain organized news articles into categories and topics to facilitate browsing and discovery. Included a diverse range of categories such as world news, politics, business, technology, science, health, sports, and entertainment.

4. Concise Summaries: Provided concise summaries for each news article to convey the key information efficiently. The summaries should be clear, informative, and engaging, enabling users to grasp the essence of the story at a glance.

In summary, the scope of the news mobile application project is to develop a comprehensive mobile application that meets the needs of readers and enhances their overall user experience.

1.4 Functional and Non-Functional Requirements

Functional Requirements

The functional requirements of the DailyInsight mobile application project are as follows:

1. User Authentication and preference: The users will have to login to get curated and personalized content. They can either sign up by providing credentials or Google Sign-In. User Authentication must display error handling messages strong password, incorrect email and verification.

2. Categories and Topics: The News app will contain organized news articles into categories and topics to facilitate browsing and discovery. Included a diverse range of categories such as world news, politics, business, technology, science, health, sports, and entertainment.

3. User Friendly Interface: The news app must have a clean design, intuitive, and user-friendly interface that prioritizes ease of navigation and readability. Implement features such as customizable preferences for font size, dark mode, and personalized news feeds.

4. Feedback: The news application must take user feedback to implement new features, remove bugs and improve user experience.

5. Filter and Sorting Options: The mobile application must have a feature that allows filtering news sources such as BBC news, Reuters,Google-News etc.

6. Discussion Forum: The news app must have a discussion forum for particular news to encourage user engagement with other readers.

7. Personalized User Profile: The mobile application must have Admin Panel to to upload their photo, dark mode, feedback and have frequently asked questions.

8. Sharing Options: Users can share news with other users for more engagement.

9. Sensitive Curated Content: The news app must provide warning to users for sensitive content.

10. Sentiment Analysis: Users can give reaction to news using emojis if they like it or not.

11. Accessibility: The mobile application must be accessible to all users.

In summary, the functional requirements of the news mobile application project includes user authentication, Filter options, Category Section, discussion forum, Sentiment analysis and friendly user interface.

Non-functional Requirements:

The non-functional requirements of the DailyInsights application project are as follows:

1. Performance: The news application must should load news articles quickly, with minimal latency, even under heavy user load. Response times for user interactions such as scrolling, searching, and filtering should be swift and seamless.

2. Reliability: The app should provide trusted articles, with minimal downtime or service interruptions from fetching through news API.

3. Usability: The mobile application must be easy to use and intuitive, even for users who are not tech-savvy. The application must have a simple and user-friendly interface that allows readers to navigate the application easily.

4. Maintainability: The news mobile application should be built using modular, well-documented, and maintainable codebase to facilitate future updates and enhancements.

5. Availability: The news application must be available 24/7 to ensure that readers can access information fetching from API whenever needed.

6. Scalability: The news application must have backend infrastructure firebase that should be scalable to accommodate spikes in traffic during peak usage periods.

1.5 Organization of the Report

This report consists of a detailed presentation of our work on this project and significant results. The report consists of five chapters.

The first chapter includes introduction that gives a clear insight of our project, followed by our motivation for this project and scope of the project. Further we have discussed the functional and non-functional requirements of the project.

The second chapter highlights our work in the initial stages, it gives a detailed view of the research work and background work that was carried out before starting the implementation. This chapter also gives an overview of the thorough literature survey carried out for this project. All information related to the study of existing systems as well as the learning of new tools is mentioned in this chapter.

With the third chapter we move on to actual implementation. This chapter starts off with the detailed information about the technology stack used to develop this application. This chapter mentions the software development process followed while developing this project, along with implementation schedule of the project over the course of this semester. Further comes the design overview, this sectioned gives detailed information about the design principles taken into consideration while designing the user interface and wireframes of the application's design. The design overview section is followed by workflow of the news application important key points and questions that need to be addressed while developing the application, followed by detailed procedure. This chapter also includes a detailed view of the how we went about with the implementation of the project.

The fourth chapter contains the snapshots of the entire application following the procedural workflow demonstrating the working of the application. This chapter includes discussions and results inferred.

With the fifth chapter we conclude this report along with the conclusion, learning from this project and the future scope of the project. The report ends with the references that were useful in research and implementation of this project.

CHAPTER 2 – BACKGROUND WORK

2.1 Literature Survey

Following research papers were referred:

2.1.1 L. Ghandi, C. Silva, D. Martinez and T. Gualotuña, "Mobile application development process: A practical experience," 2017 12th Iberian Conference on Information Systems and Technologies (CISTI), Lisbon, Portugal, 2017, pp. 1-6, doi: 10.23919/CISTI.2017.7975825.

Introduction

The paper "Mobile application development process: A practical experience" by L. Ghandi, C. Silva, D. Martinez, and T. Gualotuña presents a case study of the development process of a mobile application for a university. The authors describe the methodology they used to develop the application, which was based on agile principles and included user involvement throughout the development process.

The paper outlines the stages of the development process, which included requirement analysis, design, implementation, and testing. The authors describe the tools and technologies they used to develop the application, such as the Android Studio development environment, Java programming language, and the Git version control system.

The paper also discusses the challenges faced during the development process, such as time constraints, limited resources, and the need to balance functionality with usability. The authors also highlight the importance of user feedback and testing in ensuring the success of the application.

Overall, the paper provides a practical example of the mobile application development process, highlighting the importance of agile methodologies, user involvement, and iterative development. The case study presented in the paper can serve as a useful reference for developers and organizations looking to develop mobile applications.

Paper Outcome

The main outcome of the paper is to provide insight into the mobile application development process and best practices that can be used by organizations and developers to successfully create mobile applications.

The paper discusses the challenges and constraints faced during the development process, such as time and resource constraints, and highlights the importance of agile methodologies, user involvement, and iterative development to ensure the success of the application. The authors describe the stages of the development process, including requirement analysis, design, implementation, and testing, and the tools and technologies used in the development process, such as the Android Studio development environment, Java programming language, and the Git version control system.

The paper emphasizes the importance of user feedback and testing in the development process, and

how the feedback can be used to improve the application in each iteration. The case study presented in the paper provides a practical example of the mobile application development process, highlighting the importance of user involvement and iterative development. Overall, the paper serves as a useful reference for developers and organizations looking to develop mobile applications.

2.1.2 S. A. Gadhiya, K. H. Wandra and V. B. Vaghela, "Role of mobile augmentation in mobile application development," 2012 IEEE International Conference on Engineering Education: Innovative Practices and Future Trends (AICERA), Kottayam, India, 2012, pp. 1-5, doi: 10.1109/AICERA.2012.6306700

Introduction

The paper "Role of mobile augmentation in mobile application development" by S. A. Gadhiya, K. H. Wandra, and V. B. Vaghela discusses the concept of mobile augmentation and its role in the development of mobile applications. The authors define mobile augmentation as the process of enhancing the capabilities of a mobile device using external resources, such as cloud computing or web services.

The paper explores the various advantages of mobile augmentation in the development of mobile applications, including increased processing power, storage capacity, and network connectivity. The authors also discuss the challenges associated with mobile augmentation, such as security and privacy concerns.

The paper presents a case study of the development of a mobile application for a hospital using mobile augmentation. The authors describe the methodology used to develop the application, which included the use of cloud computing and web services to enhance the functionality of the application.

Overall, the paper highlights the importance of mobile augmentation in the development of mobile applications and provides a useful reference for developers looking to leverage external resources to enhance the capabilities of mobile devices.

Paper Outcome

The paper provides an overview of mobile augmentation techniques, including augmented reality, speech recognition, and gesture recognition. The authors also discuss the potential benefits of using these techniques in mobile application development, such as enhanced user experience and improved accessibility.

Additionally, the paper presents a case study of the development of a mobile application for the Indian Railways. The authors describe how mobile augmentation techniques were used to improve the user experience of the application, such as using augmented reality to provide real-time train information and using speech recognition to enable voice-based navigation.

Overall, the paper emphasizes the importance of mobile augmentation in mobile application development and highlights the potential benefits of using these techniques to enhance user experience and address the challenges associated with developing mobile applications. The case study presented in the paper provides a practical example of the application of mobile augmentation techniques in mobile application development.

2.1.3 A. Ebone, Y. Tan and X. Jia, "A Performance Evaluation of Cross-Platform Mobile Application Development Approaches," 2018 IEEE/ACM 5th International Conference on Mobile Software Engineering and Systems (MOBILESoft), Gothenburg, Sweden, 2018, pp. 92-93.

Introduction

The paper "A Performance Evaluation of Cross-Platform Mobile Application Development Approaches" by A. Ebone, Y. Tan, and X. Jia evaluates the performance of different cross-platform mobile application development approaches. The authors compare three popular frameworks for developing cross-platform mobile applications: Apache Cordova, React Native, and Xamarin.

The paper presents a series of experiments that measure the performance of each framework in terms of CPU usage, memory usage, and startup time. The authors also evaluate the impact of different hardware configurations on the performance of the applications developed using each framework.

Overall, the paper provides a comprehensive evaluation of different cross-platform mobile application development approaches and can serve as a useful reference for developers looking to choose the best framework for their project.

Paper Outcome

In their paper, "A Performance Evaluation of Cross-Platform Mobile Application Development Approaches," A. Ebone, Y. Tan, and X. Jia evaluate the performance of three cross-platform mobile application development approaches: Apache Cordova, React Native, and Xamarin.

The authors conducted experiments to compare the performance of these frameworks in terms of application startup time, memory usage, and battery consumption. They also analyzed the impact of different factors, such as the size of the application and the number of UI elements, on the performance of the frameworks.

The results of their experiments showed that Apache Cordova had the fastest application startup time and lowest memory usage, while Xamarin had the lowest battery consumption. React Native performed well in terms of application startup time and memory usage but had higher battery consumption compared to Apache Cordova.

The authors also discussed the advantages and disadvantages of each framework and provided recommendations for developers on choosing the appropriate framework based on their specific needs and requirements. The paper serves as a useful reference for developers interested in cross-platform mobile application development.

2.1.4 J. Lee, S. Yang, R. Y. Lee and B. Kang, "Implementation of Delivery Application Using a Development Method for Mobile Applications," 2015 3rd International Conference on Applied Computing and Information Technology/2nd International Conference on Computational Science and Intelligence, Okayama, Japan, 2015, pp. 132-136, doi: 10.1109/ACIT-CSI.2015.35.

Introduction

The paper "Implementation of Delivery Application Using a Development Method for Mobile Applications" by J. Lee, S. Yang, R. Y. Lee, and B. Kang discusses the development of a delivery application using a specific mobile application development method called Mobile Application Development Process (MADP). The paper describes the MADP process and how it was applied to develop the delivery application, which allows users to order and track deliveries.

The authors discuss the different stages of the MADP process, including requirements analysis,

design, implementation, and testing. They also describe the tools and technologies used to develop the application, such as the Android Studio development environment, Java programming language, and the Firebase real-time database.

The paper highlights the importance of user involvement and testing throughout the development process, as well as the need to consider user experience and interface design. The authors also discuss the challenges faced during the development process, such as ensuring data security and handling errors.

Overall, the paper provides a practical example of how the MADP process can be applied to develop mobile applications and highlights the importance of user involvement, testing, and interface design in ensuring the success of mobile applications. The case study presented in the paper can serve as a useful reference for developers and organizations looking to develop mobile applications using the MADP process.

Paper Outcome

The paper outlines the stages of the UDPMA, including requirements analysis, design, implementation, and testing, and describes the tools and technologies used, such as the Android Studio development environment, Java programming language, and MySQL database.

The authors discuss the challenges they faced during the development process, such as managing dependencies among modules, optimizing database performance, and integrating various services into the application. The paper also highlights the importance of user-centered design and iterative development in ensuring the success of the application.

Overall, the paper provides a practical example of using a mobile application development method to develop a delivery application and illustrates the importance of considering user needs and requirements throughout the development process. The case study presented in the paper can serve as a useful reference for developers and organizations looking to develop mobile applications using structured methodologies.

2.1.5   I. Qasim, F. Azam, M. W. Anwar, H. Tufail and T. Qasim, "Mobile User Interface Development Techniques: A Systematic Literature Review," 2018 IEEE 9th Annual Information Technology, Electronics and Mobile Communication Conference (IEMCON), Vancouver, BC, Canada, 2018, pp. 1029-1034, doi: 10.1109/IEMCON.2018.8614764.

Introduction
The paper "Mobile User Interface Development Techniques: A Systematic Literature Review" by I. Qasim, F. Azam, M. W. Anwar, H. Tufail, and T. Qasim presents a comprehensive review of the different techniques used in mobile user interface (UI) development. The authors conducted a systematic review of the literature on mobile UI development and analyzed various approaches and tools used in the process.

The paper outlines the different techniques and tools used in mobile UI development, such as model-driven development, rapid prototyping, and user-centered design. The authors also discuss the challenges and issues faced in mobile UI development, such as device fragmentation, usability, and adaptability.

The paper concludes with a discussion of the current trends and future directions in mobile UI development. The authors emphasize the importance of considering user needs and preferences in the development process and highlight the potential of emerging technologies, such as augmented

reality and virtual reality, in enhancing mobile UI design.

Overall, the paper provides a useful overview of the different techniques and tools used in mobile UI development, highlighting the importance of user-centered design and the need to address the challenges associated with device fragmentation and adaptability. The paper can serve as a useful reference for developers and researchers in the field of mobile UI design.

Paper Outcome

The paper presents a systematic literature review of the various techniques used for mobile user interface (UI) development. The authors conducted a comprehensive search of relevant studies published between 2007 and 2017 and identified 57 relevant studies for inclusion in the review.

The paper identifies and categorizes the various techniques used for mobile UI development, including traditional UI development approaches, model-based approaches, code-based approaches, and hybrid approaches. The authors also highlight the advantages and limitations of each technique, providing insights into the strengths and weaknesses of each approach.

Furthermore, the paper discusses the challenges and opportunities in mobile UI development, such as the need for cross-platform compatibility, the importance of user experience design, and the role of emerging technologies such as augmented reality and wearable devices.

Overall, the paper provides a comprehensive overview of the techniques used for mobile UI development and highlights the importance of considering the unique characteristics of mobile devices and their users in the development process. The findings of the study can be useful for developers and researchers interested in mobile UI development.

2.1.6 I. Baldini et al., "Cloud-Native, Event-Based Programming for Mobile Applications," 2016 IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft), Austin, TX, USA, 2016, pp. 287-288.

Introduction

The paper "Cloud-Native, Event-Based Programming for Mobile Applications" by I. Baldini et al. presents a novel approach to developing mobile applications using cloud-native, event-based programming. The paper focuses on the challenges faced by developers in creating mobile applications that are scalable, reliable, and responsive to user needs.

The authors propose a cloud-native, event-based programming model that leverages the scalability and flexibility of cloud computing to build mobile applications that can handle high traffic and dynamic workloads. The proposed model involves using a set of services and tools to enable event-driven architectures, which can adapt to changing user needs and provide real-time feedback.

The paper presents a case study of a real-world mobile application developed using the proposed approach. The application is an event-based game that allows users to participate in scavenger hunts in real-time. The authors demonstrate how the event-driven architecture enables real-time updates and interaction between users, while also ensuring high availability and scalability.

Paper Outcome

The paper concludes by discussing the benefits and challenges of cloud-native, event-based programming for mobile applications. The authors argue that this approach can help developers create more responsive and scalable mobile applications, while also reducing the complexity and cost of development. However, they also highlight the need for specialized skills and tools to

implement this approach effectively.

Overall, the paper presents a novel and promising approach to developing mobile applications that can handle dynamic workloads and provide real-time feedback to users. The proposed approach has the potential to revolutionize the mobile application development landscape and enable developers to create more scalable and responsive mobile applications.

2.1.7 X. Zhou, W. Hu and G. -P. Liu, "React-Native Based Mobile App for Online Experimentation," 2020 39th Chinese Control Conference (CCC), Shenyang, China, 2020, pp. 4400-4405, doi: 10.23919/CCC50068.2020.9189636.

Introduction

The paper "React-Native Based Mobile App for Online Experimentation" by X. Zhou, W. Hu, and G.-P. Liu presents a mobile application designed for conducting online experiments. The paper discusses the challenges of conducting online experiments, which require a platform that can provide a reliable and flexible environment for data collection and analysis.

The authors propose a mobile application based on the React-Native framework, which allows for the development of cross-platform mobile applications. The application is designed to provide a flexible and scalable environment for conducting online experiments, enabling researchers to collect data from a large number of participants in a controlled and efficient manner.

The paper presents a case study of a real-world experiment conducted using the proposed mobile application. The experiment involves collecting data from participants using a custom-designed survey, which is administered through the mobile application. The authors demonstrate how the React-Native framework allows for the development of a user-friendly interface that is accessible to participants from a variety of devices and operating systems.

Paper Outcome

The paper concludes by discussing the benefits and limitations of the proposed mobile application for conducting online experiments. The authors argue that the application provides a flexible and scalable environment for data collection and analysis, which can help researchers to conduct experiments more efficiently and effectively. However, they also acknowledge the need for further development and refinement of the application to address potential limitations and challenges.

Overall, the paper presents an innovative approach to using mobile applications for online experimentation, which has the potential to revolutionize the way that researchers collect and analyze data. The proposed mobile application based on the React-Native framework provides a flexible and scalable platform for conducting experiments, which can benefit researchers across a variety of fields and disciplines.

2.2 Proposed System

KJSCE Mobile application workflow:

Workflow of the App:

- The user first visits the home page of the app where they can see all the information pertaining to the college

- On the home page the user can see all the information such as the upcoming/ past events, the academic programs available and information of the facilities offered by the college and the university

- The discover page has the information about the college councils and teams as well as other facilities offered by the college such as sport activities, events conducted, etc. It also has the facilities offered by the university such as running track, swimming pool, etc

- There is a login page that will be developed in the further stages which will help student to login using their credentials to view their details

- There is a view more option that takes the user to an expanded view of that activity such as the event page or the academic programs page

- On clicking on any of the tiles the detailed view page open which gives information about that tile as well as a corresponding picture.

- There is also a navigation option in the discover page that is integrated with the google maps which helps the user to reach the main entrance of university or the college buildings.
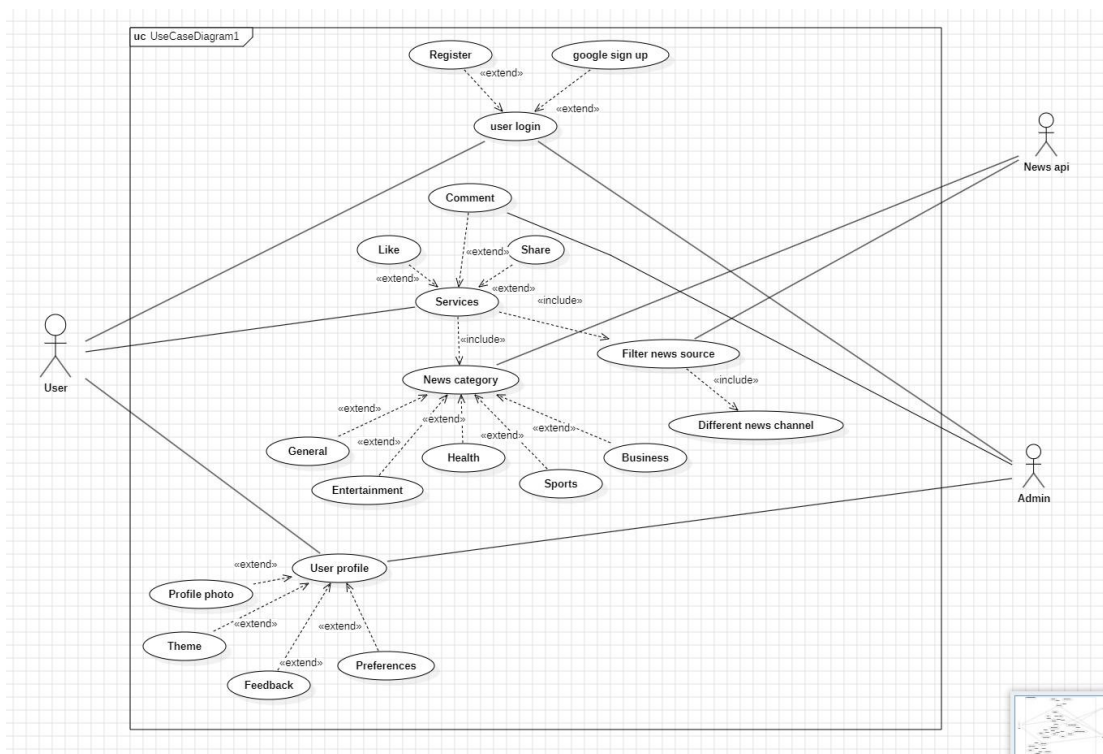
2.3 Workflow Diagram: User
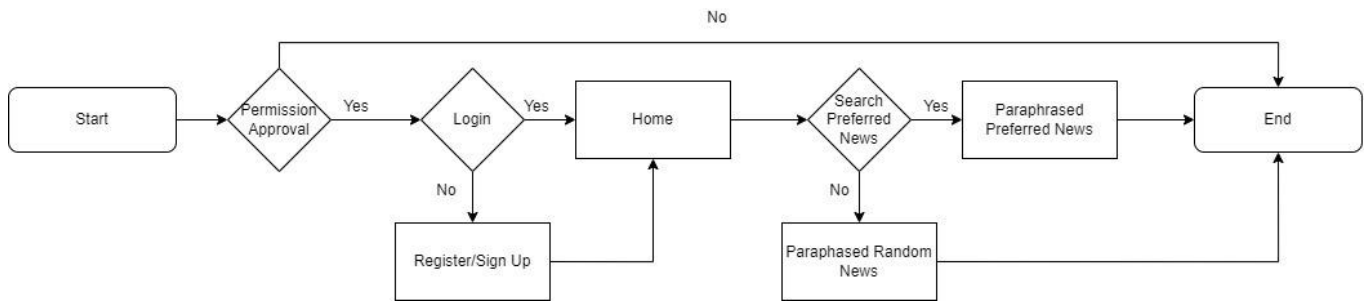
Fig-2.1 Workflow diagram for user

The above diagram depicts the workflow of our news app which shows the different functionalities that can be used by the user in the mobile app. The user have to login first which will then be redirected to home screen. The user can also filter news source and navigate category section.

2.4 Use Case Diagram

Fig-2.1 Use case Diagram

The above diagram depicts the use case diagram where user, news api and admin are actors.The user have to authenticate either using register or google sign-in and then they can browse services and update user profile. The admin manages the backend for comment, like, feedback, login and profile photo. The news category and filter news source access endpoints from news API.

CHAPTER 3 – IMPLEMENTATION

3.1 Technologies Used

3.1.1 Software:

1. **Flutter v3.7.3:** Flutter required for writing source code having modules authentication module, models, news model ,news screen and screen model.

2. **Firebase v12.5.1:** Firebase required for storing user information, discussion forum chat, sentiment analysis and feedback.

3. **News Api:** Fetching News article from newsapi.org website for our news application having various endpoints.

4. **VS Code 1.78:** Visual Studio Code is a source-code editor that can be used with a variety of programming languages, including Java, JavaScript, Go, Node.js, Python and C++. Visual Studio Code also ships with IntelliSense for JavaScript, TypeScript, JSON, CSS.

5. **GitHub 3.8.3:** GitHub is a Git repository hosting service. GitHub also facilitates with many of its features, such as access control and collaboration. It provides a Web-based graphical interface.

3.1.2   Hardware:

1. **RAM:** 4GB(Min)
2. **ROM:** 2GB(Min)
3. **Android version:** Android 6 Marshmallow

3.2 Methodology

Algorithm for Workflow:

The workflow of the DailyInsight mobile application is designed to provide users or readers with easy readability to concise news and discussion forum for user engagement.

The app workflow can be broken down into several key stages:

1. Information Architecture: The app is designed in a clear and intuitive information architecture that organizes news content in a logical and structured manner. Define categories, topics, and navigation paths to help users easily discover and access relevant news articles.

2. Reading Experience: The app is designed for a seamless reading experience that prioritizes readability, accessibility, and engagement. Optimize typography, layout, and multimedia elements to enhance comprehension and retention of news content.

3. Interactivity and Engagement: The app incorporates interactive features such as comments, likes, and sharing options to encourage user engagement and social interaction. The app provides opportunities for users to participate in discussions, share their opinions, and contribute user-generated content.

4. Continuous Iteration and Improvement : Gather user feedback through analytics, surveys, and user testing to identify areas for improvement and optimization. Continuously iterate on the app's design, features, and workflows to address user needs and enhance the overall user experience.

Overall, the workflow of the DailyInsight mobile application is designed to provide readers with a comprehensive tool to manage their time and organize news efficiently.
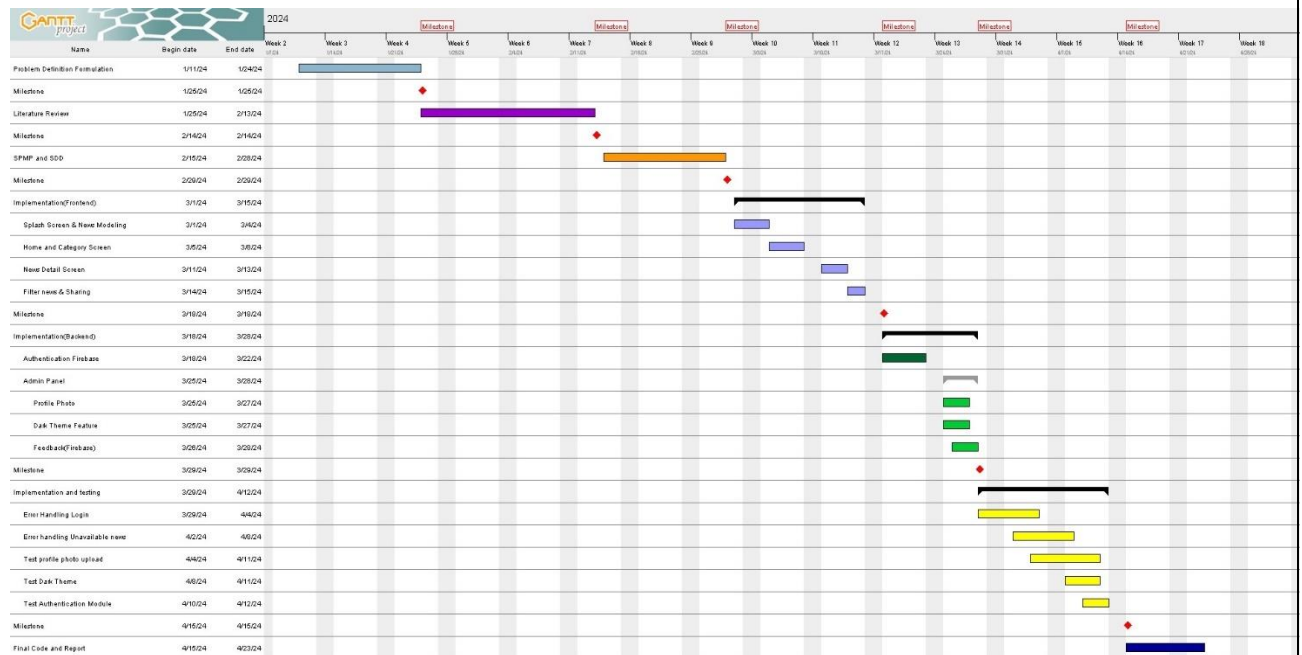
3.3 Design Overview

The design of the DailyInsight mobile application is based on a user-centric approach and is focused on providing readers with a seamless and intuitive user experience. The app design can be broken down into several key components:

1. User Interface (UI): The app is designed for clean and intuitive user interface that is easy to navigate and visually appealing. The app uses a minimalist design approach with clear typography, concise icons, and intuitive gestures to enhance usability.

2. Navigation: Implement a simple and hierarchical navigation structure to help users find their way around the app. Include navigation elements such as icons, menus, and navigation drawers for easy access to different sections of the app.

3. Home Screen: The app is designed for dynamic home screen that provides users with a curated selection of top news stories, trending topics, and personalized recommendations. The app includes visual elements such as images, headlines, and teaser text to capture users' attention and encourage exploration.

4. Article Presentation: The app is designed as an immersive reading experience for news articles with a focus on readability and engagement.

5. Brand Identity and Theming: Maintain consistency with your brand identity through the use of colors, fonts, and visual elements that reflect your brand personality. Implement theming options that allow users to customize the app's appearance based on their preferences, such as dark mode or light mode.

Overall, the design of the DailyInsight mobile application is focused on providing users with a seamless and intuitive user experience. The app's clean and simple design, comprehensive functionality, and customizable features make it a valuable tool for concise and organized news in DailyInsight.

3.4 Implementation Schedule

Name	Begin date	End date
Problem Definition Formulation	1/11/24	1/24/24
Milestone	1/25/24	1/25/24
Literature Review	1/25/24	2/13/24
Milestone	2/14/24	2/14/24
SPMP and SDD	2/15/24	2/28/24
Milestone	2/29/24	2/29/24
Implementation(Frontend)	3/1/24	3/15/24
Splash Screen & News Modeling	3/1/24	3/4/24
Home and Category Screen	3/5/24	3/8/24
News Detail Screen	3/11/24	3/13/24
Filter news & Sharing	3/14/24	3/15/24
Milestone	3/18/24	3/18/24
Implementation(Backend)	3/18/24	3/28/24
Authentication Firebase	3/18/24	3/22/24
Admin Panel	3/25/24	3/28/24
Profile Photo	3/25/24	3/27/24
Dark Theme Feature	3/25/24	3/27/24
Feedback(Firebase)	3/28/24	3/29/24
Milestone	3/29/24	3/29/24
Implementation and testing	3/29/24	4/12/24
Error Handling Login	3/29/24	4/4/24
Error handling Unavailable news	4/2/24	4/9/24
Test profile photo upload	4/4/24	4/11/24
Test Dark Theme	4/8/24	4/11/24
Test Authentication Module	4/10/24	4/12/24
Milestone	4/15/24	4/15/24
Final Code and Report	4/15/24	4/23/24

3.5 Test Cases

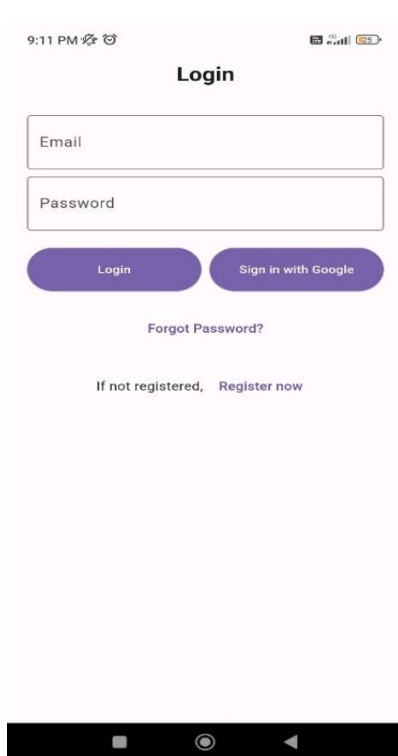| Test Id	Test Case	Description	Input	Expected Output	Actual Output	Interpretation	Status
1	Fetch News Articles	Verify that the app loads news articles from the News API successfully.	User opens the app.	News articles are displayed on the screen.	News articles are displayed on the screen.	Articles are displayed on the screen. The test case passed as the expected output matches the actual output.	Passed
2	Login Functionality	Test if user can login successfully	Valid username and password	User is logged in successfully	User is logged in successfully	The login functionality is working as expected.	Passed
3	News Feed Loading	Test if news feed loads properly	Open the app	News feed is displayed with articles	News feed is displayed with articles	The news feed loads as expected.	Passed
4	News Item Click	Test if tapping on a news item opens it	Tap on a news item	Corresponding news article opens	Corresponding news article opens	Tapping on a news item opens the article as expected.	Passed
5	Filter News by Category	Test if filtering news by category works	Select a category from the carousal slider.	News feed displays only selected category	News feed displays only selected category	Filtering news by category works correctly.	Passed
6	Filter News by News Source	Test if filtering news by news source works	Select a News Source from the dropdown menu	News feed displays only particular News Source in Home Screen	News feed displays only particular News Source in Home Screen	Filtering news by source works correctly.	Passed
7	Screen Navigation	Test if navigating various screen through icons works	Tapping icon for navigation	Screen Navigating smoothly	Screen Navigating smoothly	Navigation of news works as expected.	Passed
8	Profile photo Upload	Test if Profile picture is uploaded for a particular user account	Tapping on Display area to select photo	No same profile photo for different account	No same profile photo for different account	Profile upload of users works as expected.	Passed
9	Sensitive Content News	Testing for news article having sensitive keywords	Tapping on news article having keywords killed,abuse etc.	Displaying Sensitive content warning overlay to users	Displaying Sensitive content warning overlay to users	Sensitive news warning works as expected.	Passed
10	Error Handling for unavailable news	Testing for removed news articles.	Tapping on news article	Displaying message to users for removed articles	Displaying message to users for removed articles	Error handling for unavailable news works as expected.	Passed

CHAPTER 4 – RESULTS AND DISCUSSIONS

4.1 Results:

Figure 4.1: Building APK for news app
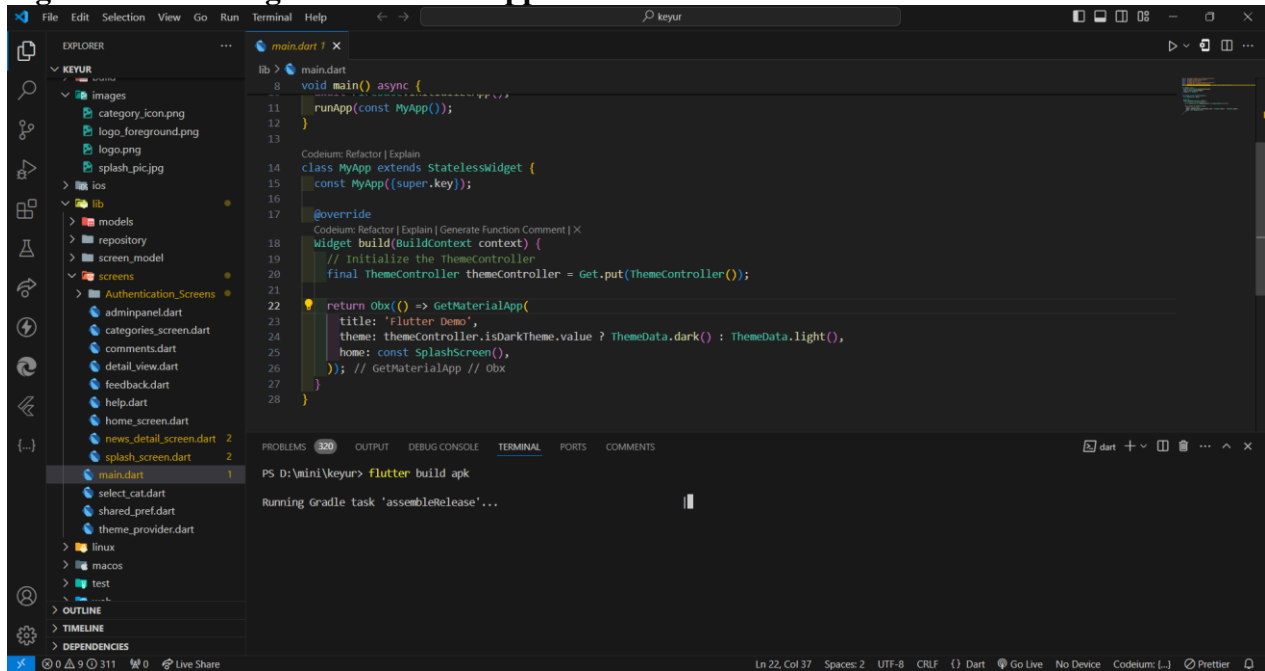
Figure 4.2: Login Screen   **Figure 4.3: Home Screen**
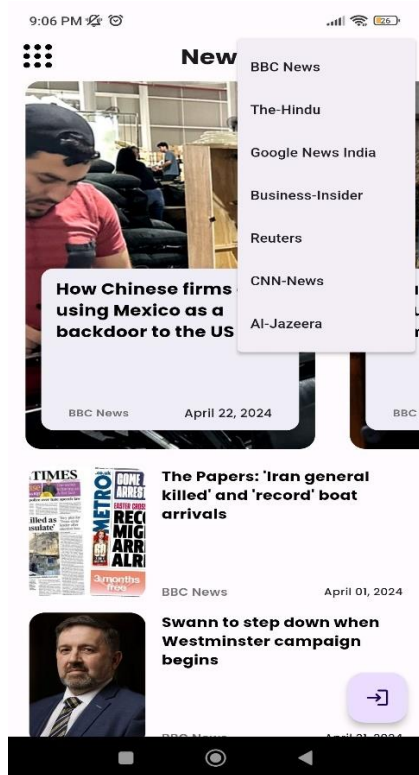
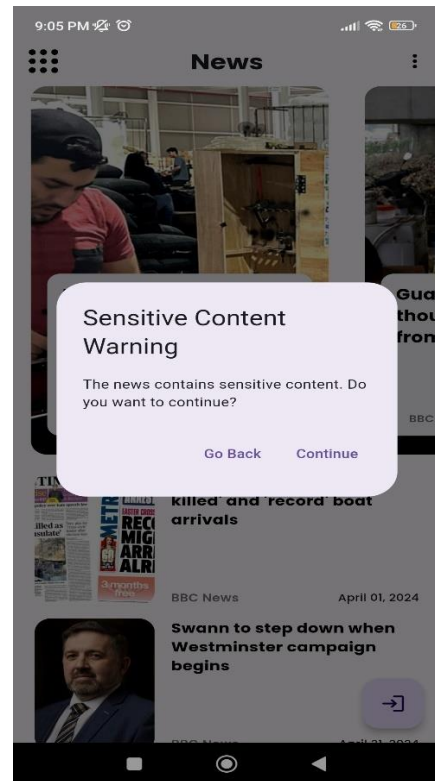**Figure 4.4: News Source(Home Page)**
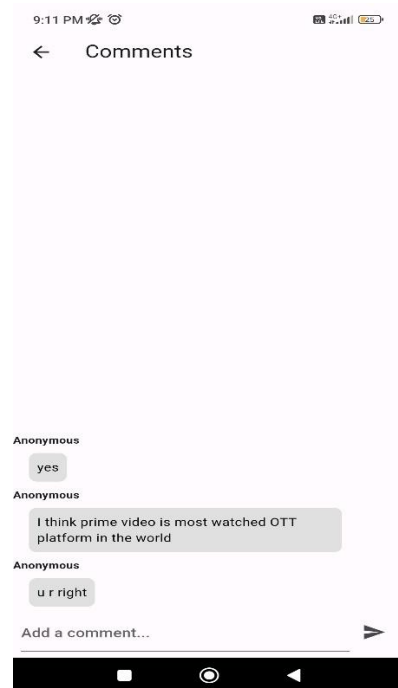

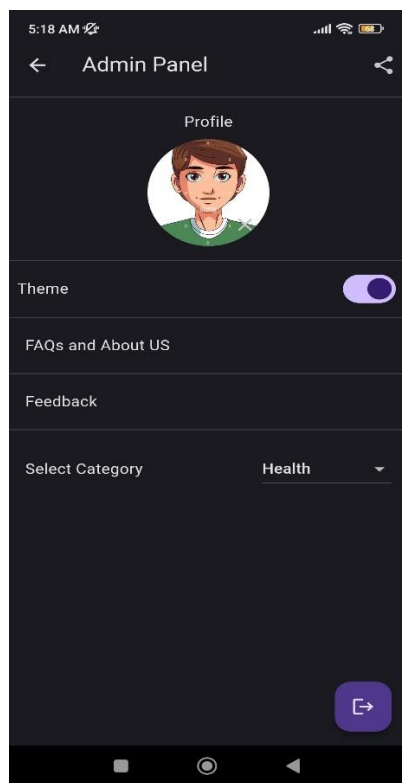**Figure 4.5: Sensitive news warning**

Figure 4.6: News Detail Screen

Figure 4.7: Discussion forum

Figure 4.8: User Profile(Admin Panel)   **Figure 4.9: Feedback (Admin panel)**

Figure 4.10: News Category section

CHAPTER 5 - CONCLUSIONS AND LEARNINGS

5.1 Conclusion

The DailyInsights mobile application project was an ambitious undertaking that aimed to provide readers with a user-friendly and comprehensive tool to concise and personalized news. The development team employed a user-centric design approach, leveraging cutting-edge technologies such as Flutter, firebase and News API to create an intuitive and responsive application.

In conclusion, the development of a concise news application represents not just a technological endeavor, but a commitment to empowering users with efficient, relevant, and accessible news consumption experiences. By curating and presenting news content in a clear and concise format, the app serves as a valuable tool for navigating the information landscape in today's fast-paced world. Through features such as concise summaries, personalized news feeds, and seamless accessibility across devices, the app aims to streamline the news consumption process and foster informed citizenship. Furthermore, by adhering to principles of reliability, security, and user-centered design, the app strives to deliver a high-quality user experience that meets the evolving needs and expectations of its users. Ultimately, the concise news app stands as a testament to the transformative potential of technology in shaping the way we engage with information and participate in society.

5.2 Scope for future Works

The DailyInsight mobile application is a dynamic project that has the potential for further development and improvement. Some of the areas for future work that can enhance the functionality and user experience of the application include:

1. Web View: The application can be implemented for ful news article where user can read complete news article of original source without exiting the app.

2. Implementation of Trending category: The application can be implemented with trending news section where user will get trending news category for each country.

3. Implementation of localization: The application can be implemented with language settings option depending on location.

4. Implementation of fact checking: The application can be implemented with fact checking for credibility of news.

Overall, the future work for the DailyInsight news mobile application can focus on enhancing its functionality and user experience, which can benefit Users.

5.3 Learnings

The DailyInsight news application project has provided several valuable learnings. Some of the significant learnings include:

1. User-centric design: The success of any mobile application depends on how well it meets the needs and expectations of its users. The DailyInsights news application project emphasized user-centric design principles, ensuring that the application provided readers with the concise news and functionality they needed in a user-friendly way.

2. Agile methodology: The project was implemented using agile methodology, which allowed for frequent iterations and feedback. This approach enabled the development team to quickly identify and address issues, resulting in a more refined and robust product.

3. Technology stack selection: The choice of technology stack, including Flutter,Firebase and News API, was crucial in the development of the application. These technologies allowed for the creation of a high-quality, reliable, and scalable application.

4. Collaboration and communication: The project involved collaboration between different teams, including the development team, stakeholders, and end-users. Effective communication and collaboration were essential for the success of the project.

5. Continuous improvement: The DailyInsight news application project highlighted the importance of continuous improvement. The application was developed with a view to future enhancements and improvements to ensure that it meets the changing needs and expectations of the users.

Overall, the DailyInsights news application project provided valuable insights into the development of mobile applications for educational institutions. The learnings from this project can be applied to other similar projects, providing valuable guidance for developers, stakeholders, and end-users alike.

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