**Table Of Contents**

[**1.** **Module code, Module name. and the proposed app name** 2](#_Toc127380463)

[**(module code 和 muddle name 买家随便让cw2的老师建立个初始工程，截图贴1-2张)** 2](#_Toc127380464)

[**2.** **Introduction of your proposed app idea** 3](#_Toc127380465)

[**3.** **Discussion of your app design** 5](#_Toc127380466)

[Main design 5](#_Toc127380467)

[**3.1** **Explain Cloud Computing** 5](#_Toc127380468)

[**3.2** **MVVM** 6](#_Toc127380469)

[**3.3** **Explain briefly what data you will keep in your mobile application and how are you going to store it. You must address the following points** 7](#_Toc127380470)

[**4.** **Conclusion** 8](#_Toc127380471)

[**References:** 9](#_Toc127380472)

1. **Module code, Module name. and the proposed app name**

**(module code 和 muddle name 买家随便让cw2的老师建立个初始工程，截图贴1-2张)**

​Name: NewsRocket

Background: NewsRocket is a mobile app designed to provide a one-stop-shop for users to access news from various sources, including RSS feeds, social media, and news websites. With NewsRocket, users can personalize their news feeds based on their preferences and interests, allowing them to stay up-to-date on the latest news from around the world.

NewsRocket aims to solve the problem of information overload by providing users with a streamlined and efficient way to access news. With so many news sources available, it can be challenging to keep track of the latest news and stay informed on the topics that matter most. NewsRocket simplifies this process by aggregating news from multiple sources and delivering it to users in an easy-to-read format. By Using machine learning from backend api for text summarization, which is more concise and intelligent, so that information can be extracted more clearly from noise

Additionally, NewsRocket provides users with the ability to share articles with their friends and family through social media, email, and other channels. This feature allows users to stay connected and share important news stories with their network, promoting informed discussions and civic engagement.

Overall, NewsRocket is a powerful news reader app that provides users with a personalized and efficient way to access news from multiple sources. By simplifying the news reading experience, NewsRocket empowers users to stay informed and engaged with the world around them.

1. **Introduction of your proposed app idea**

​

1. **Background and motivation of your proposed mobile App**

The proposed mobile app is a news reader app that aggregates news from various sources, including RSS feeds, social media, and news websites.

The motivation behind the app is to provide a centralized platform for users to stay updated with the latest news, without having to navigate through multiple sources.

The app will be built with .NET Maui and C# technology, which provides a cross-platform development framework that allows for the creation of native mobile apps for iOS, Android, and Windows devices.

1. **Define what goals the user should be able to achieve in your app**

The user should be able to browse news articles from various sources, customize their news feed, and receive personalized news recommendations based on their reading history.

Users will be able to save their favorite articles, share articles on social media, and set up notifications for breaking news.

1. **Would your app be free or paid?**

The app will be free, with the monetization strategy based on advertising revenue. The app will display ads within the news feed and offer sponsored content options for businesses.

Additionally, a premium version of the app may be offered with additional features for a fee.

1. **how Mine is different**

 One other app that tries to achieve similar goals is Flipboard, which is a popular news reader app.

However, the proposed app differentiates itself from Flipboard by offering a more personalized news feed, with the ability to integrate social media(facebook.com/twitter/ect) and news websites.

By Using artificial intelligence for text summarization, which is more concise and intelligent, so that information can be extracted more clearly from noise

The app will also have a more user-friendly interface and a more efficient news delivery system that updates in real-time. Additionally, the app's cross-platform compatibility will make it more accessible to a wider audience, as it can be used on iOS, Android, and Windows devices.

1. **Discussion of your app design**

Main design

* 1. **Explain Cloud Computing**

​

Cloud Computing is the delivery of computing resources (including servers, storage, databases, software, and networking) over the Internet. With Cloud Computing, mobile app developers can access a wide range of resources, tools, and services on-demand, without the need for local hardware or infrastructure. Cloud Computing provides developers with a scalable and flexible environment that can help them build, deploy, and manage mobile apps more efficiently and cost-effectively.

Cloud Computing is a significant factor in mobile app development for several reasons. First, it provides developers with a high degree of flexibility, allowing them to scale their infrastructure up or down based on the needs of their apps. This is particularly important for mobile apps, which can experience rapid growth and require a lot of computing power and storage to handle user data and transactions.

Second, Cloud Computing enables developers to access a wide range of services, tools, and platforms that can help them develop and deploy their apps faster and more efficiently. This includes cloud-based development tools, APIs, mobile back-end services, and analytics platforms, which can all be accessed through the cloud.

Third, Cloud Computing provides a secure and reliable environment for mobile app development, with built-in security features such as encryption, access control, and monitoring. This is particularly important for mobile apps, which often handle sensitive user data such as personal information, payment details, and location data.

Finally, Cloud Computing can help mobile app developers reduce their costs by eliminating the need for local infrastructure and hardware. This can be particularly beneficial for small and medium-sized app developers who may not have the resources to invest in local infrastructure or who need to scale their infrastructure up or down quickly in response to changing user demand.

In conclusion, Cloud Computing is a significant factor in mobile app development due to its flexibility, scalability, access to a wide range of tools and services, security, and cost-effectiveness. It has become an essential component in mobile app development, allowing developers to focus on building great apps while leaving the infrastructure and back-end services to the cloud.

* 1. **MVVM**

​

MVVM (Model-View-ViewModel) is a software architecture pattern that separates an application into three components: Model, View, and ViewModel.

The Model represents the data and the business logic of the application, such as retrieving data from a database or performing calculations.

The View is responsible for displaying the data and handling user input, such as a button click or touch gesture.

The ViewModel acts as a mediator between the Model and the View. It provides the data and functionality to the View and updates the Model in response to user input.

The advantages of using the MVVM pattern in application development include improved maintainability, testability, and code reusability. It also allows for a clear separation of concerns between the different components, making it easier to develop and maintain the application. In the context of a mobile application, using MVVM can help in creating a scalable and well-organized codebase that can easily be extended and updated over time.

MVVM (Model-View-ViewModel) is a design pattern that separates an application's user interface (View) from the business logic (Model) and the intermediate layer (ViewModel). In the context of the MAUI app framework, MVVM allows developers to create user interfaces that are platform-independent and easily testable. The View is responsible for displaying the data to the user, the ViewModel retrieves data from the Model and provides it to the View for display, and the Model holds the application's data and business logic. With MVVM, developers can easily swap out the View or the Model without affecting the other parts of the application, which makes it a highly modular and flexible approach to app development

* 1. **Explain briefly what data you will keep in your mobile application and how are you going to store it. You must address the following points**

The data that will be kept in the mobile application includes user preferences and settings, saved articles, and reading history. This data will be stored in a SQLite database, which is a lightweight, serverless, and open-source database that can be used for local data storage.

The schema for the SQLite database will include tables for user preferences, saved articles, and reading history, as well as their respective columns for storing data. The data will be stored locally on the user's device, as it is less resource-intensive, provides faster access, and better user privacy.

There may be ethical implications to storing user data, such as privacy concerns, data breaches, and misuse of data. To mitigate these risks, the app will incorporate robust security measures, such as encryption and user authentication, to protect user data and ensure its confidentiality.

We would use location sensor (recommend nearby news, community news), use gyroscope sensor (recommend data when the phone is still, and don’t recommend data when the phone is in motion, reducing power consumption)

v. The app will use APIs for accessing news feeds, such as the NewsAPI(from https://newsapi.org/), which is a free and open-source API that provides real-time news updates from various sources. This API can be easily integrated into the app and will provide a reliable and up-to-date source of news content for the users

1. **Conclusion**

The .NET MAUI and C# technology provide a powerful platform for building cross-platform mobile applications that can run on various operating systems. The use of these technologies can help developers create applications quickly and efficiently, with a high degree of code reusability. The news mobile app designed using .NET MAUI and C# can offer a rich user experience, with a modern and intuitive user interface, real-time updates, and personalized content.

The app can use various features of .NET MAUI, such as the Xamarin.Forms toolkit for UI design, built-in data binding, and the MVVM architecture. It can also use C# libraries for integrating with news APIs, caching data, and managing user preferences. With .NET MAUI and C#, the app can offer robust performance, security, and scalability, making it suitable for handling large amounts of data and high traffic.

Overall, the .NET MAUI and C# technology provide a reliable and efficient solution for building news mobile applications that can run on multiple platforms, with a modern and engaging user experience.

**References:**

[1] .NET MAUI documentation . https://docs.microsoft.com/en-us/dotnet/maui/

[2] Xamarin.Forms documentation. https://docs.microsoft.com/en-us/xamarin/xamarin-forms/

[3] Alexander S. Gillis. (2020, September). *DEFINITION REST API (RESTful API)*. TechTarget. <https://www.techtarget.com/searchapparchitecture/definition/RESTful-API>

[4] *newapi*. https://newsapi.org/