

Project Report Format

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Project: An Android Application for Keeping Up with the Latest Headlines

Team ID: 590884

Team Members: **Gautam M Hiremath**
 Archita Sharma
 E. Hareeth Balajie
 Vaishnavi Adhav

1. Introduction

1.1 Project Overview:

The project aims to develop an Android Application for Keeping Up with the Latest Headlines. It is a mobile application designed to provide users with a convenient and efficient way to stay informed about current events and breaking news. The application will aggregate news content from various sources and present it to users in an organized and user-friendly manner. It will offer features such as personalized news curation, bookmarking, and the ability to explore trending topics. The project's primary goal is to create a reliable and feature-rich news application that addresses the challenges of information overload, news source credibility, and data privacy.

1.2 Purpose:

The purpose of this project is to address several key issues related to news consumption in the digital age:

- **Information Overload:** In a world inundated with news and information, users often find it challenging to filter through the noise and access the most relevant and important news.
- **Credibility of News Sources:** Ensuring that users have access to news content from trustworthy and reliable sources is critical for informed decision-making.

- **Data Privacy:** Many users are concerned about their data privacy when accessing news content through applications. Protecting user data is a top priority.
- **User Experience:** Creating a user-friendly and intuitive application that offers a pleasant and personalized news consumption experience is central to the project's purpose.

By developing this Android application, the project aims to provide a solution that not only keeps users updated with the latest headlines but also promotes media literacy, fosters discussions, and empowers users to make informed decisions. The commitment to privacy and user satisfaction ensures a positive social impact and high customer satisfaction. Additionally, the project seeks to implement a diversified revenue model to sustain the application's development and growth.

2. Literature Survey

2.1 Existing Problem:

One of the existing problems related to news consumption, which this project aims to address, is the challenge of staying informed amidst the overwhelming amount of information available. In the digital age, people have access to an abundance of news sources, websites, and social media platforms. This leads to information overload, making it difficult for individuals to discern credible news from sensationalism, and to stay updated with the latest and most relevant headlines. Additionally, privacy concerns arise when users access news content through various apps, which may collect their data without transparency.

2.2 Problem Statement Definition:

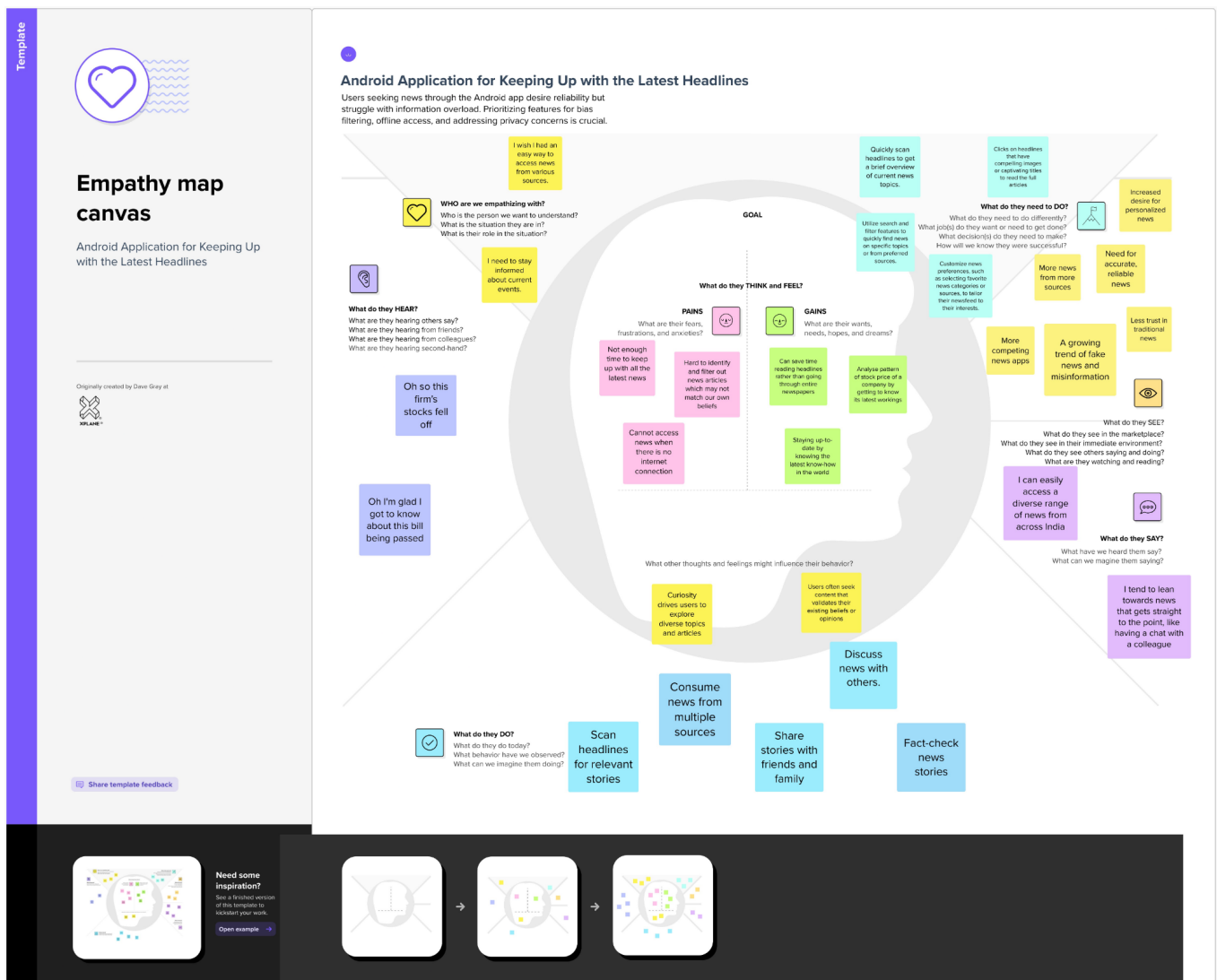
The problem statement for this project is:

"In an era saturated with data, keeping oneself well-informed poses various obstacles for individuals. Dealing with an overwhelming amount of information, questioning the reliability of news sources, and worrying about data privacy when accessing news content are substantial issues. Our aim is to develop

an Android app that functions as a user-friendly solution for staying current with the latest news while addressing and reducing these difficulties."

3. Ideation and Proposed Solution

3.1 Empathy Map Canvas:




Link: [Click here to view our empathy map](#)

3.2 Brainstorming:

Link: [Click here to view our brainstorming](#)

Step-1: Team Gathering, Collaboration and Select the Problem Statement

Template



Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

- 🕒 10 minutes to prepare
- 🕒 1 hour to collaborate
- 👥 2-8 people recommended

➔

Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

🕒 10 minutes

A

Team gathering
Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.

B

Set the goal
Think about the problem you'll be focusing on solving in the brainstorming session.

C

Learn how to use the facilitation tools
Use the Facilitation Superpowers to run a happy and productive session.

Open article ➔

1


Define your problem statement

Develop an Android application that simplifies the process of accessing the latest news while eliminating the challenges of information overload and privacy concerns, providing a seamless and reliable user experience.

🕒 5 minutes

PROBLEM

How might we (your problem statement)?



Key rules of brainstorming

To run an smooth and productive session

- 🗣️ Stay in topic.
- 💡 Encourage wild ideas.
- ⏸️ Defer judgment.
- 👂 Listen to others.
- 🗣️ Go for volume.
- 👁️ If possible, be visual.

Step-2: Brainstorm, Idea Listing and Grouping

2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

🕒 10 minutes

TIP

You can select a sticky note and hit the pencil (switch to sketch) icon to start drawing!

Gautam

Enable dark mode for nighttime readers

Generate news from trustworthy sources

Enable users to create profiles and save their favorites and preferences

Archita

Premium, ad-free subscription option while maintaining a free version with ads.

Optimize the app for speed & data efficiency.

Cross-Platform Integration- seamless transition between the app and a web platform.

Vaishnavi

Let users save articles for later

Encourage user conversations through comments

Share articles with friends effortlessly

Hareeth

Create a user-friendly and intuitive interface for easy navigation and news consumption.

Implement an algorithm to detect potential bias in news articles.

Implement gamification elements like badges, rewards, or quizzes to engage users

3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

🕒 20 minutes

TIP

Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

Enable dark mode for nighttime readers

Let users save articles for later

Encourage user conversations through comments

Create a user-friendly and intuitive interface for easy navigation and news consumption.

UI and Features

Enable users to create profiles and save their favorites and preferences

Share articles with friends effortlessly

Implement gamification elements like badges, rewards, or quizzes to engage users

Personalization and Engagement

Generate news from trustworthy sources

Implement an algorithm to detect potential bias in news articles.

Content Quality

Optimize the app for speed & data efficiency.

Cross-Platform Integration- seamless transition between the app and a web platform.

Performance

Step-3: Idea Prioritization

4

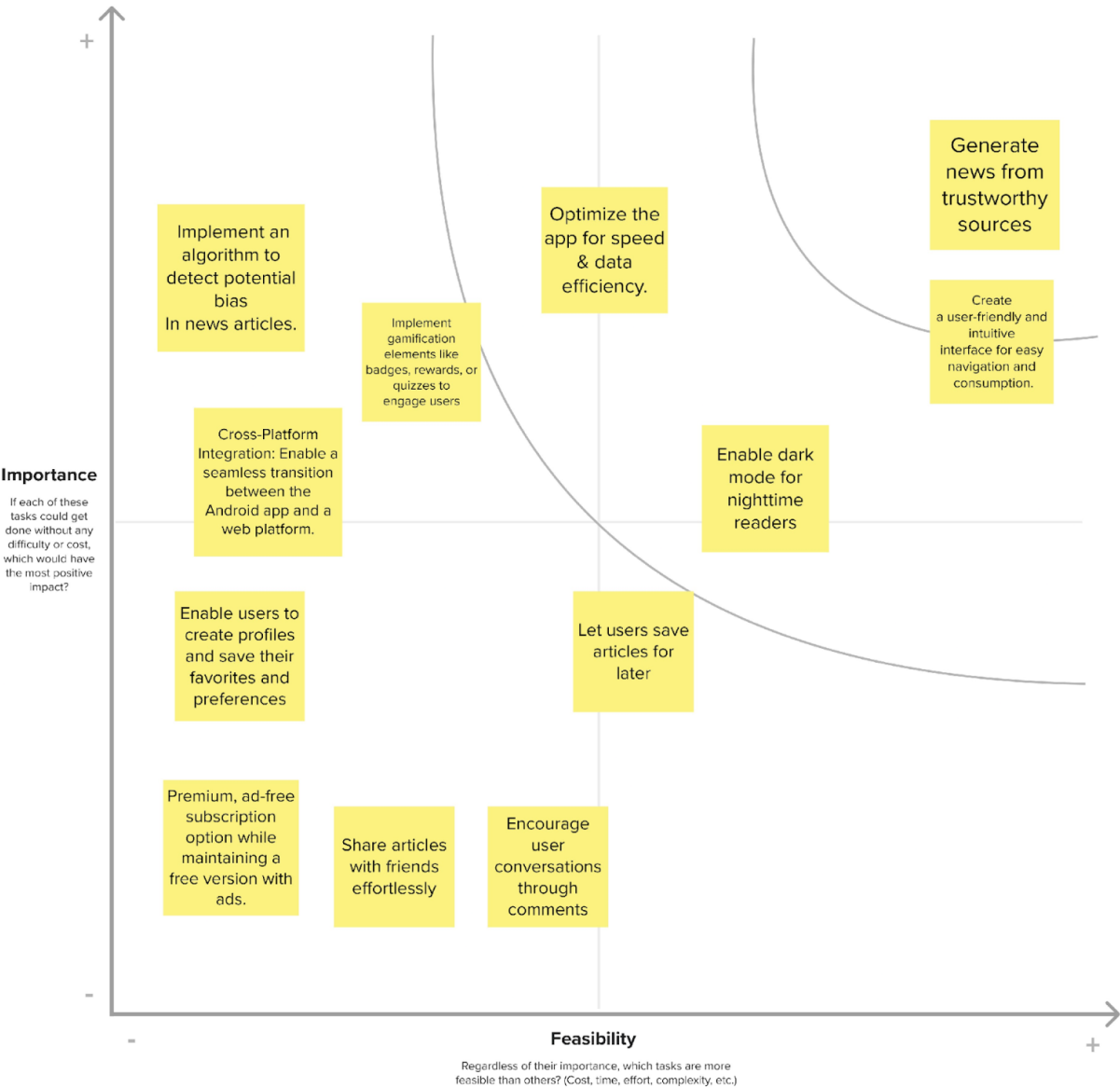
Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

🕒 20 minutes

TIP

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H** key on the keyboard.



4. Requirement Analysis

4.1 Functional Requirements:

- Registration
Users should be able to create an account by providing necessary information, such as a valid email address and password. Registration may also include optional user profile details.
- Login
Registered users should be able to log in to their accounts using their credentials (email and password) or other authentication methods, such as social media login.
- Browsing and Reading News Articles
Users should be able to browse through a feed of news articles, organized by categories or topics. They should have the ability to click on an article to read the full content.
- Searching for Specific Topics
Users should have a search functionality to look for specific news articles or topics. The search results should be relevant and displayed in an organized manner.
- Saving and Managing Bookmarks
Users should be able to save articles to their personal bookmarks for later reference. They should also have the capability to organize and manage their bookmarks.
- Handling User Support Requests
Users should be able to submit support requests or contact customer support for assistance with issues, questions, or concerns related to the application.
- Monitoring User Feedback and Reviews
The application should enable users to provide feedback and reviews, which should be monitored by administrators. This feedback could pertain to articles, features, or overall user experience.
- Collaborating with Technical Support
The support team should have a platform for responding to user support requests, assisting users, and resolving issues effectively.
- Managing News Sources
Administrators should be able to manage and curate news sources, ensuring that the content provided is reliable and credible. This may involve adding, updating, or removing sources.
- Applying Software Updates and Security Patches
The development team should have a process for releasing and applying software updates and security patches to address vulnerabilities, improve performance, and add new features.

4.2 Non-Functional Requirements:

- Performance

The application should load news content and render the user interface swiftly, even on slower network connections, to ensure a responsive user experience.

- Scalability

The system should be designed to handle a growing user base and increasing news content without requiring significant architectural changes.

- Security

User data should be stored securely, and the app should protect against common security threats, such as data breaches, SQL injection, and cross-site scripting (XSS).

- Data Privacy

The app should respect user privacy preferences and comply with data protection regulations such as GDPR or CCPA.

- Reliability

The application should have high availability with minimal downtime for maintenance or updates.

- User Experience

The app should provide a seamless and intuitive user experience with smooth navigation and minimal user effort.

- Cross-Platform Compatibility

The app should be compatible with a range of Android devices, screen sizes, and versions, and should offer a responsive web version for users on different platforms.

- Accessibility

The app should adhere to accessibility standards to ensure it is usable by individuals with disabilities.

- Compliance

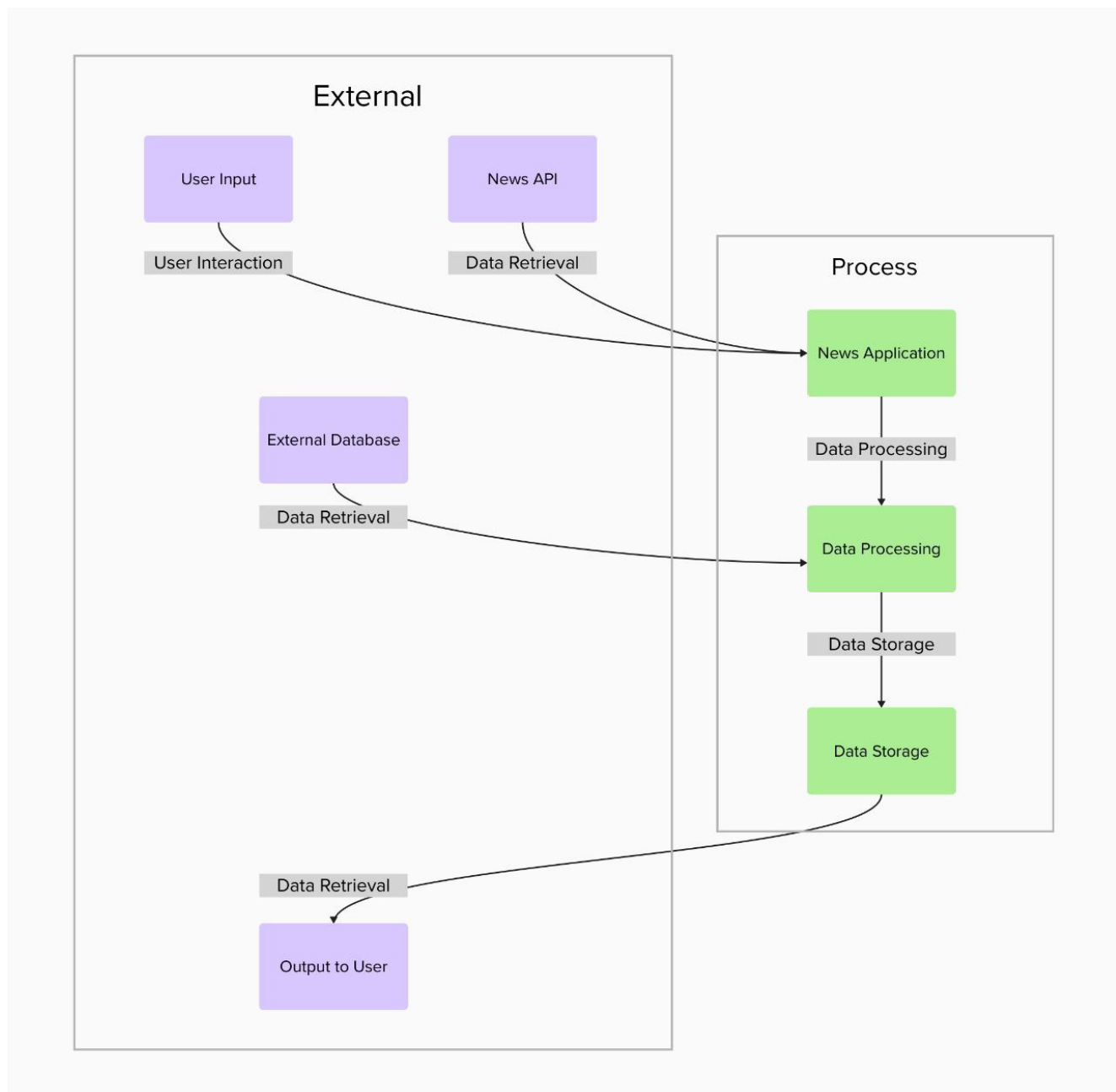
The project should adhere to legal and regulatory requirements relevant to the news industry, including copyright and fair use.

- Documentation

Comprehensive documentation should be provided for developers, administrators, and end-users to ensure effective use and maintenance.

5. Project Design

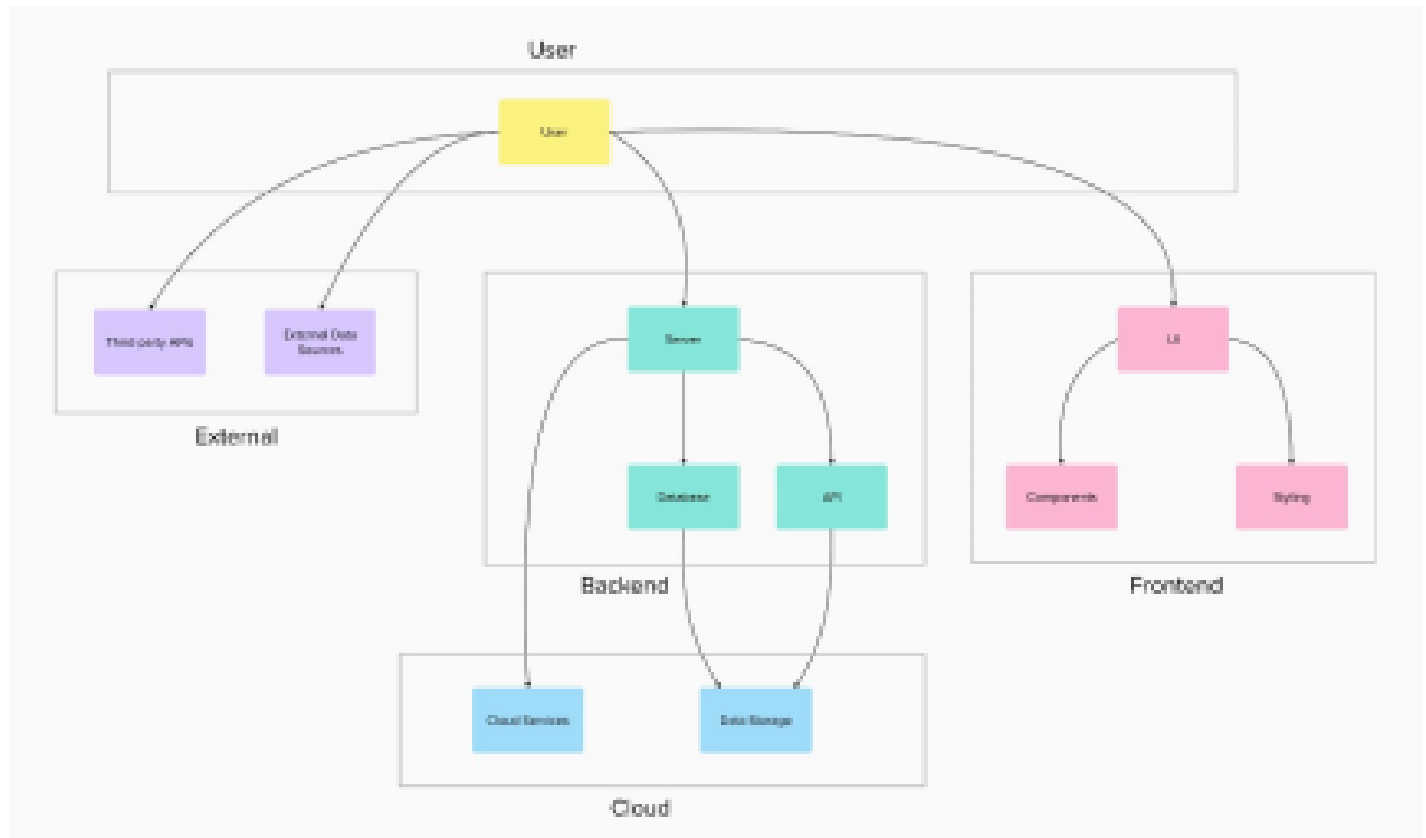
5.1 Data Flow Diagrams & User Stories:



User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail		Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password		High	Sprint-1
Customer (Web user)	Browsing and Reading News Articles	USN-6	As a web user, I want to be able to browse the latest news articles and read them in a user-friendly format.	The homepage displays a list of the latest news headlines and featured articles	High	Sprint 1
	Searching for Specific Topics	USN-7	As a web user, I want to search for specific news topics or articles, so I can quickly find information on subjects of interest.	The application provides a search bar for entering keywords or topics.	Medium	Sprint 2
	Saving and	USN-8	As a web user, I want to save articles for	When reading an article, I	High	Sprint 3

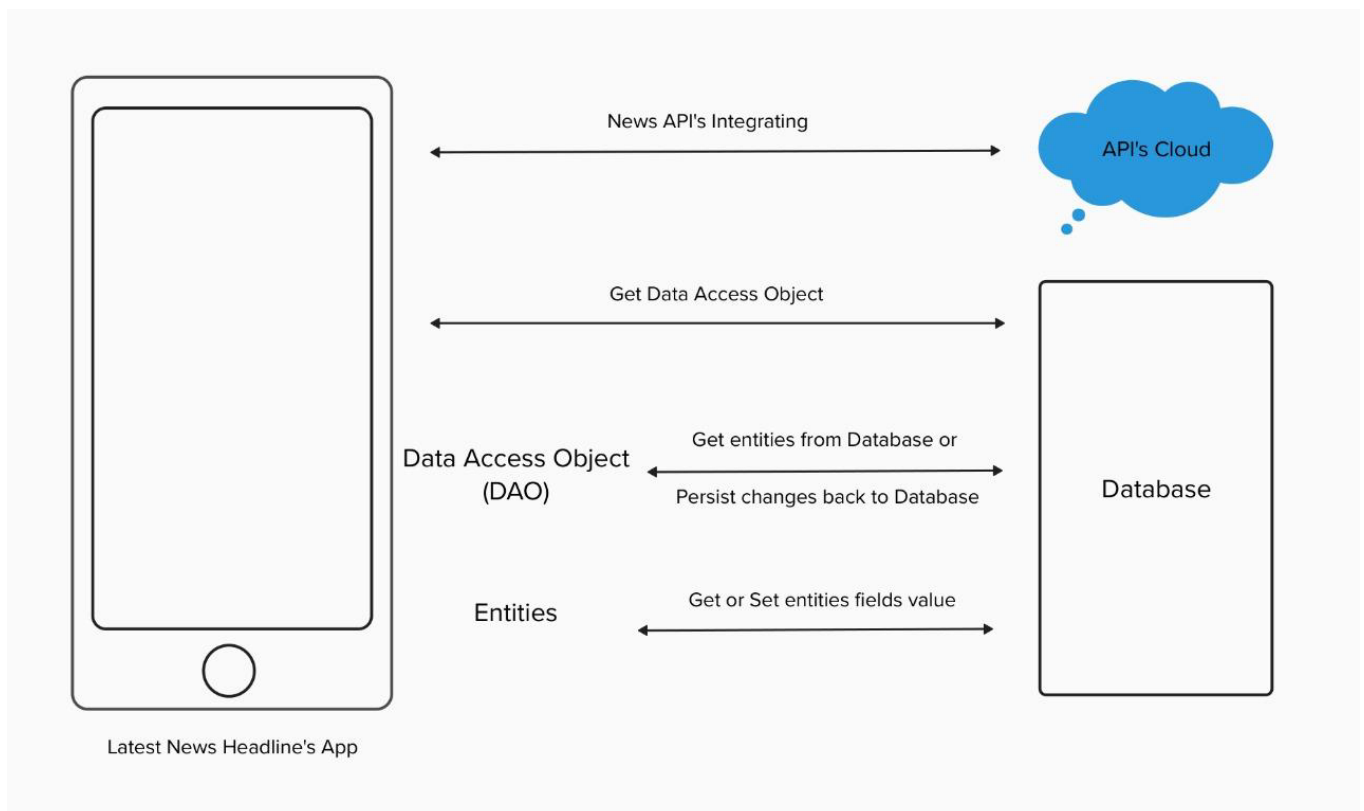
	Managing Bookmarks		future reference, so I can easily revisit and organize content.	can save it to my bookmarked articles.		
Customer Care Executive	Handling User Support Requests	USN-9	As a Customer Care executive, I want to efficiently handle user support requests, so I can assist users in resolving their issues.	I have access to a Customer Care dashboard.	Low	Sprint 1
	Monitoring User Feedback and Reviews	USN-10	As a Customer Care executive, I want to monitor user feedback and reviews to identify common issues and areas for improvement.	I can see user ratings, reviews, and feedback comments.	High	Sprint 2
	Collaborating with Technical Support	USN-11	As a Customer Care executive, I want to collaborate with technical support and development teams to resolve complex user issues.	I can escalate complex technical issues to the technical support team.	Low	Sprint 2
Administrator	Managing News Sources	USN-12	As an Administrator, I want to manage the application's news sources, so I can ensure the credibility and quality of the content.	I can add new reputable news sources to the application.	Medium	Sprint 1
	Applying Software Updates and Security Patches	USN-13	As an Administrator, I want to apply software updates and security patches, so I can maintain the application's security and performance.	I receive notifications of available software updates and security patches.	Low	Sprint 2

5.2 Solution Architecture:



6. Project Planning and Scheduling

6.1 Technical Architecture:



6.2 Sprint Planning & Estimation :

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	2	High	Archita
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	Archita

Sprint-3		USN-3	As a user, I can register for the application through Facebook	2	Low	Gautam
Sprint-3		USN-4	As a user, I can register for the application through Gmail	2	Medium	Gautam
Sprint-1	Login	USN-5	As a user, I can log into the application by entering email & password	1	High	Vaishnavi
Sprint 1	Browsing and Reading News Articles	USN-6	As a web user, I want to be able to browse the latest news articles and read them in a user-friendly format.	2	High	Hareeth
Sprint 2	Searching for Specific Topics	USN-7	As a web user, I want to search for specific news topics or articles, so I can quickly find information on subjects of interest.	1	Medium	Hareeth
Sprint 2	Saving and Managing Bookmarks	USN-8	As a web user, I want to save articles for future reference, so I can easily revisit and organize content.	2	High	Archita
Sprint 4	Handling User Support Requests	USN-9	As a Customer Care executive, I want to efficiently handle user support requests, so I can assist users in resolving their issues.	1	Low	Vaishnavi

Sprint 4	Monitoring User Feedback and Reviews	USN-10	As a Customer Care executive, I want to monitor user feedback and reviews to identify common issues and areas for improvement.	1	High	Gautam
Sprint 4	Collaborating with Technical Support	USN-11	As a Customer Care executive, I want to collaborate with technical support and development teams to resolve complex user issues.	1	Low	Hareeth
Sprint 3	Managing News Sources	USN-12	As an Administrator, I want to manage the application's news sources, so I can ensure the credibility and quality of the content.	2	Medium	Vaishnavi
Sprint 3	Applying Software Updates and Security Patches	USN-13	As an Administrator, I want to apply software updates and security patches, so I can maintain the application's security and performance.	1	Low	Gautam

6.3 Sprint Delivery Schedule:

Project Tracker, Velocity & Burndown Chart: (4 Marks)

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	6	6 Days	24 Oct 2023	29 Oct 2023	6	29 Oct 2023
Sprint-2	3	6 Days	31 Oct 2023	05 Nov 2023	3	05 Nov 2023
Sprint-3	7	6 Days	07 Nov 2023	12 Nov 2023	7	12 Nov 2023
Sprint-4	2	6 Days	14 Nov 2023	19 Nov 2023	2	19 Nov 2023

7. Coding & Solutioning

7.1 Feature 1- Adding required dependencies and giving permissions:

1. Adding room dependencies

```
implementation 'androidx.room:room-common:2.6.0'  
implementation 'androidx.room:room-ktx:2.6.0'
```

2. Adding Retrofit dependencies

```
implementation 'com.squareup.retrofit2:retrofit:2.9.0'  
implementation "com.squareup.okhttp3:okhttp:5.0.0-alpha.2"  
implementation 'com.squareup.retrofit2:converter-gson:2.9.0'
```

3. Adding Coil dependencies

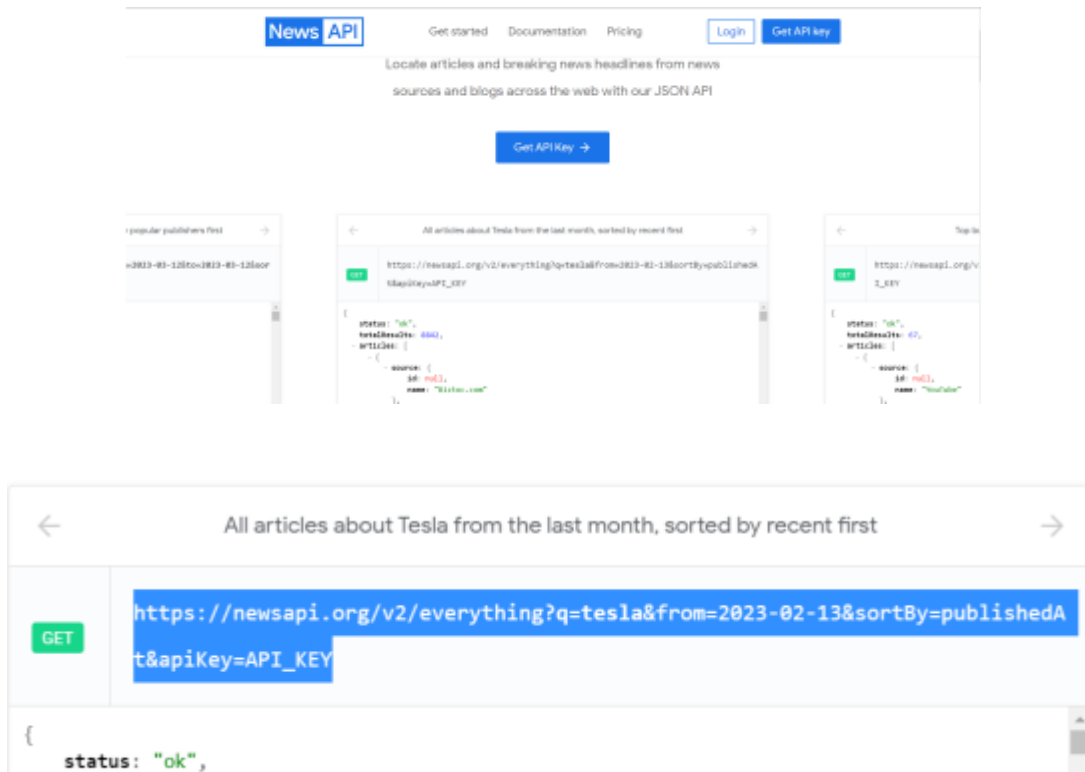
```
implementation("io.coil-kt:coil-compose:2.4.0")
```

4. Add permission to access wifi and internet

```
<uses-permission  
android:name="android.permission.INTERNET"/>  
<uses-permission  
android:name="android.permission.ACCESS_WIFI_STATE"/>
```

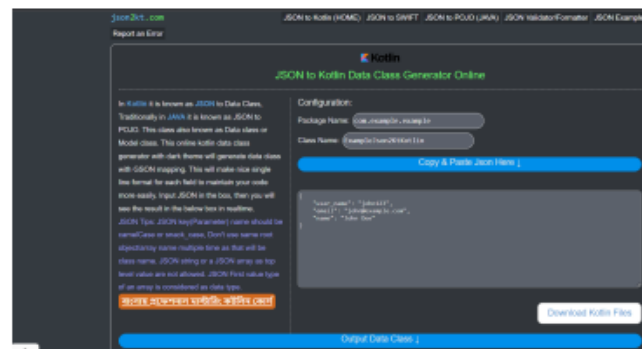
7.2 Feature 2- Creating API Service:

1. Create a API key for the required API on newsapi.org



Enter the API key at API_KEY to get the complete json file.

2. Create the classes by pasting the json file in json2kt.com

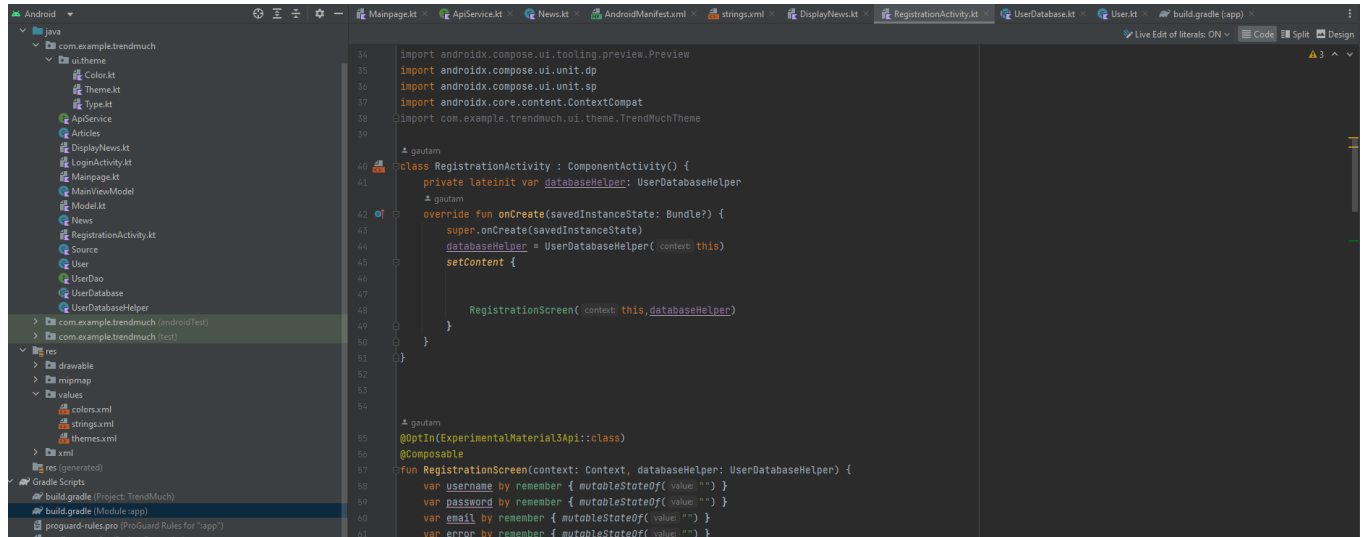


Click on Output Data class



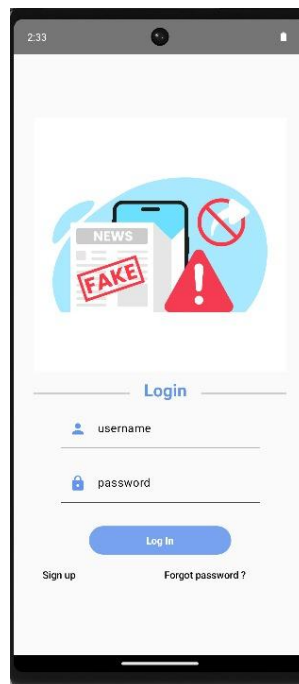
Now use this classes in android studio

7.3 Feature 3- Connecting Database with the registration page:

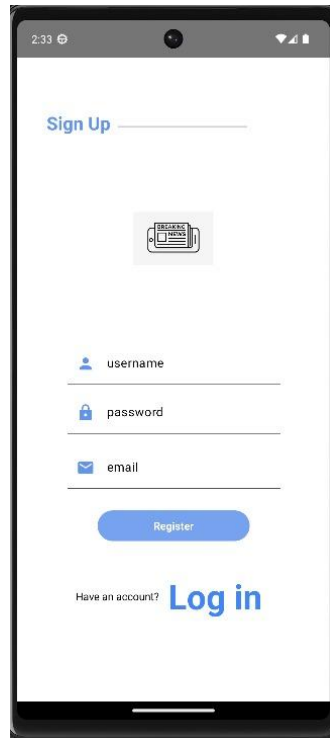


8. Results

8.1 Login Page:

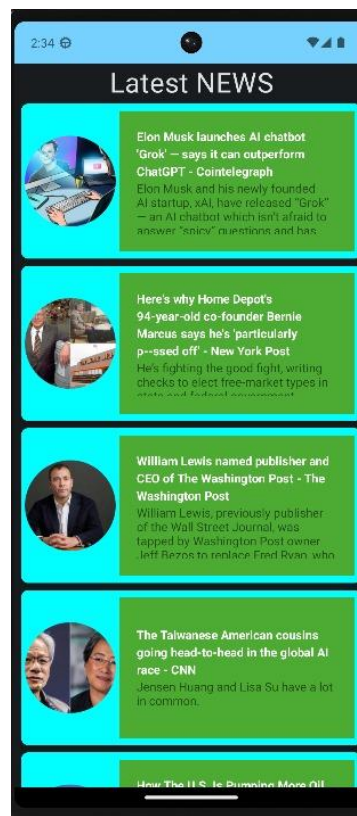


8.2 Registration Page:



A mobile app registration page with a white background. At the top, the status bar shows the time 2:33 and signal icons. Below the status bar, the text "Sign Up" is followed by a horizontal line. In the center, there is a small icon of a document with a checkmark. Below the icon, there are three input fields: "username" with a person icon, "password" with a lock icon, and "email" with an envelope icon. Below these fields is a blue "Register" button. At the bottom, there is a link "Have an account? Log in" where "Log in" is in blue.

8.3 List of News articles page:



8.4 News Articles Page:

