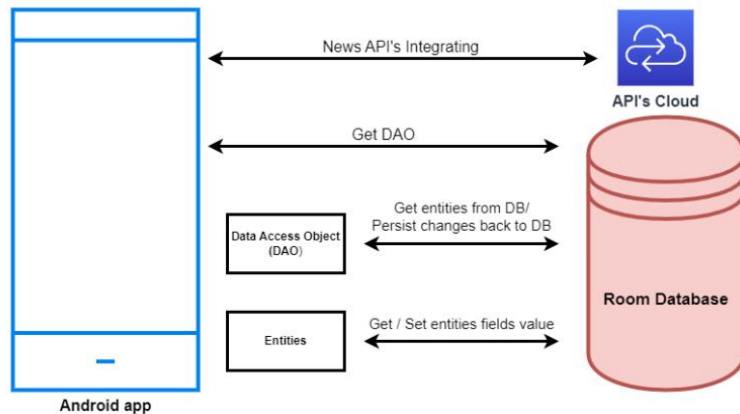


## Project Design Phase-II Technology Stack (Architecture & Stack)

Date	27 October 2023
Team ID	Team-591110 (Kallol Dutta, Abhiman Singh)
Project Name	An Android Application for Keeping Up with the Latest Headlines
Maximum Marks	4 Marks

### Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2



### Guidelines:

Include all the processes (As an application logic / Technology Block)  
Provide infrastructural demarcation (Local / Cloud)  
Indicate external interfaces (third party API's etc.)  
Indicate Data Storage components / services  
Indicate interface to machine learning models (if applicable)

**Table-1 : Components & Technologies:**

S.No	Component	Description	Technology
1.	User Interface	Mobile App	Android UI Toolkit (Jetpack Compose)
2.	Application Logic-1	Logic for the Android app	Kotlin
3.	Application Logic-2	Logic for making network requests	Retrofit (for API communication)
4.	Database	Local data storage	MySQL, NoSQL, etc.
5.	Cloud Database	Database Service on Cloud	SQLite (for local caching)
6.	File Storage	Local file storage	Local Filesystem
7.	External API-1	External API for fetching news articles	News API (e.g., Retrofit for network communication)
8.	Machine Learning Model	N/A (not used for this app)	N/A
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: N/A (not used for this app) Cloud Server Configuration: N/A (not used for this app)	N/A

**Table-2: Application Characteristics:**

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source frameworks used in the app	<ul style="list-style-type: none"><li>- Jetpack Compose (for the UI)</li><li>- Retrofit (for API requests)</li><li>- SQLite (for local database)</li></ul>
2.	Security Implementations	Security measures implemented in the app	<ul style="list-style-type: none"><li>- SSL/TLS for secure data transfer.</li><li>- User authentication for login.</li><li>- Secure storage of sensitive data.</li></ul>
3.	Scalable Architecture	Justification for the scalability of the architecture	<ul style="list-style-type: none"><li>- The app is designed for horizontal scalability, allowing easy addition of new features and modules.</li><li>- The Jetpack Compose architecture and Retrofit support modular development.</li></ul>
4.	Availability	Ensuring the availability of the application	<ul style="list-style-type: none"><li>- Use of cloud-based infrastructure ensures high availability.</li><li>- Data redundancy and failover mechanisms are in place.</li></ul>
5.	Performance	Design considerations for application performance	<ul style="list-style-type: none"><li>- Use of local data caching to reduce network requests.</li><li>- Use of CDNs for optimized content delivery.</li></ul>

