

Project Planning Phase

Technology Stack (Architecture & Stack)

Date	27 October 2023
Team ID	Team-590960
Project Name	Chatconnect - A Real-Time Chat And Communication App
Maximum Marks	4 Marks

Technical Architecture:

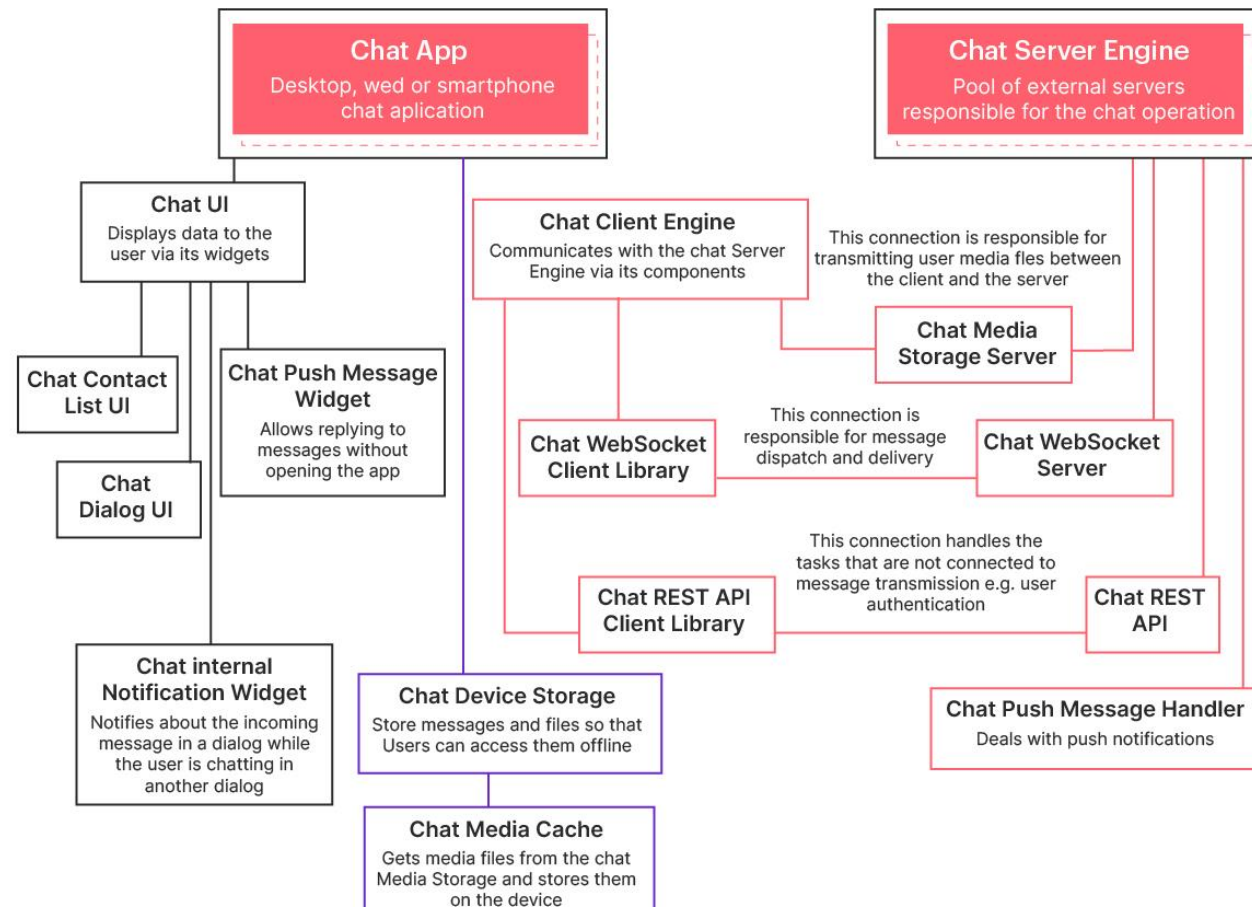


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The graphical and interactive elements that enable users to interact with the chat application. This includes the design and layout of the app for web, mobile, or chatbot interfaces.	Kotlin, Android SDK, Compose for Android, XML
2.	Application Logic-1	The core logic responsible for managing the chat functionality within the application. This includes message handling, user interactions, and chat-related features.	Kotlin, Coroutines, Koin for dependency injection, Retrofit for API calls
3.	Application Logic-2	Additional logic that supports real-time messaging and synchronization in the chat application, as well as handling push notifications.	Kotlin, Firebase Realtime Database or Firestore for message storage and synchronization, Firebase Cloud Messaging for push notifications
4.	Database	The data structure and configuration for storing chat messages and related data.	Firebase Realtime Database
5.	Cloud Database	A cloud-based database service used to store chat-related information and ensure data availability and scalability.	Firebase Realtime Database
6.	File Storage	Requirements and configurations for storing files, such as multimedia attachments within chat messages.	Firebase Cloud Storage
7.	External API-1	Integration of external APIs to support user authentication	Google Sign-In, Facebook Login, and Auth0
8.	External API-2	Integration of external APIs for additional functionalities, such as language translation and text analysis, which can enhance the chat app's features.	Google Translate, Amazon Comprehend
9.	External API-3	Utilization of external APIs to provide geolocation services and communication features to enhance the chat application.	Google Maps Geolocation, Vonage
10.	Infrastructure (Server / Cloud)	Details regarding the deployment of the chat application on cloud infrastructure.	Google Cloud Platform/ Amazon Web Services

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Kotlin, Compose for Android, Firebase Realtime Database or Firestore, Firebase Cloud Messaging, Ably, Agora, OpenAI	Kotlin,XML, Firebase Realtime Database or Firestore, Firebase Cloud Messaging, Ably, Agora, OpenAI
2.	Security Implementations	Use of firewalls, IAM Controls, OWASP, encryption, authentication, authorization	Firewalls, IAM Controls, OWASP, encryption, authentication, authorization
3.	Scalable Architecture	3-tier architecture with Kotlin, Coroutines, Koin for dependency injection, Retrofit for API calls, Firebase Realtime Database or Firestore for message storage and synchronization, Firebase Cloud Messaging for push notifications	Kotlin, Coroutines, Koin, Retrofit, Firebase Realtime Database or Firestore, Firebase Cloud Messaging
4.	Availability	Load balancers, distributed servers, Google Cloud Platform	Load balancers, distributed servers, Google Cloud Platform
5.	Performance	Use of Cache, use of CDN's, Kotlin Coroutines	Kotlin Coroutines, Cache, CDN