

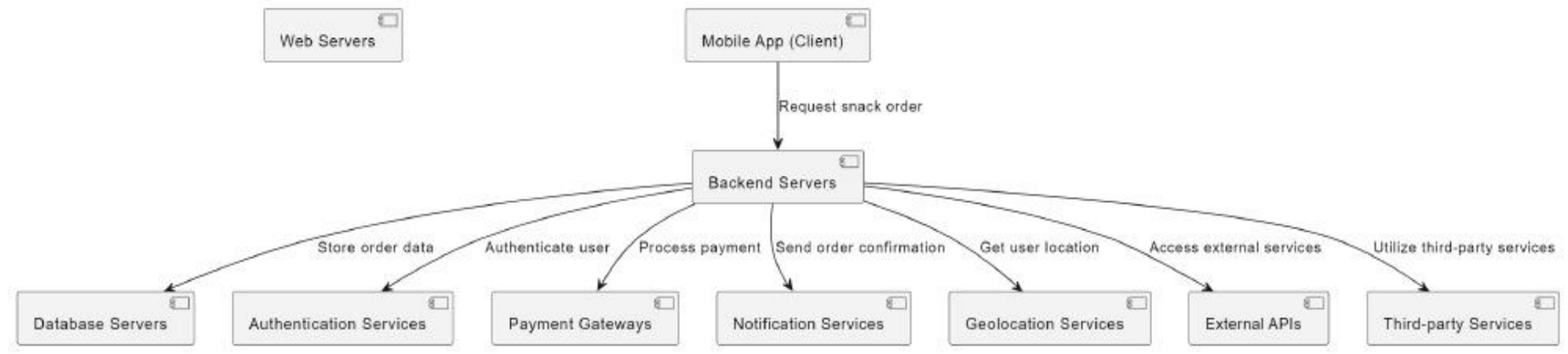
Project Design Phase-II Technology Stack (Architecture & Stack)

Date	26-10-2023
Team ID	Team-590962
Project Name	Project – Snacks Squad
Maximum Marks	4 Marks

Technical Architecture:

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

Reference:



Guidelines:

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

Table-1: Components & Technologies:

S.No	Characteristics	Description	Technology
1	User Interface	The front - end of the application for user interaction.	Jetpack Compose, Kotlin, Android Studio
2	Backend Services	Handles business logic, user authentication, and more.	Kotlin, Firebase, Google Cloud
3	Authentication Service	Manages user login and authentication.	Firebase Authentication, Kotlin
4	Payment Gateway	Enables secure payment transactions.	Stripe API, PayPal API
5	Order Processing System	Manages incoming orders and facilitates processing.	Kotlin, Retrofit, Firebase
6	Inventory Management	Tracks available snacks and manages stock levels.	Room Persistence Library
7	Recommendation Engine	Suggests snacks based on user preferences and history.	Kotlin, TensorFlow, Flask
8	Cloud Infrastructure	Hosts the application and its services.	Google Cloud, Firebase
9	Database	Stores user data, orders, and snack information.	Firebase Realtime Database
10	External Snack Data API	Retrieves external snack information for the app.	Retrofit, JSON
11	Analytics Service	Gathers and analyses user data for insights and improvements.	Firebase Analytics, Google Analytics

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	List the open-source frameworks used	Jetpack Compose
2	Scalability	The ability of the application to handle increased load.	Kotlin, Firebase, Google Cloud
3	Security	Ensuring data and transaction security.	Firebase Authentication, Stripe API
4	Real-time Functionality	Capability to provide real-time updates and information.	Firebase Realtime Database, Room Persistence Library
5	Personalization	Tailoring the user experience based on preferences.	Kotlin, TensorFlow, Flask
6	Reliability	Consistent and dependable performance.	Retrofit, Firebase Realtime Database
7	User-Friendly Interface	Easy to use and intuitive interface design.	Jetpack Compose, Android Studio
8	Speed	Swift response and fast loading times.	Kotlin, Retrofit, Firebase Analytics

References:

<https://c4model.com/>

<https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/>

<https://www.ibm.com/cloud/architecture>

<https://aws.amazon.com/architecture>

<https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d>