

## Project Design Phase-I

### Solution Architecture

Date	19 September 2022
Team ID	Team - 591011
Project Name	Project - Snack Squad: A Customizable Snack Ordering and Delivery app
Maximum Marks	4 Marks

Designing a solution architecture for our project, "Snack Squad: A Customizable Snack Ordering and Delivery App," involves several components and layers. Here's a simplified architecture overview:

**1. Presentation Layer:**

Mobile App (for customers): Allows users to browse snacks, customize orders, make payments, and track deliveries. Web App (for snack providers): Enables snack providers to manage their offerings and orders.

**2. Application Layer:**

Backend Server: Handles business logic, user authentication, order processing, and communication with the database. Payment Gateway Integration: Facilitates secure transactions. GPS Integration: Provides real-time location tracking for deliveries.

**3. Data Layer:**

Database: Stores user profiles, order history, snack provider information, and transaction records.

**4. Order Management Layer:**

Order Management System: Manages incoming orders, dispatches deliveries, and communicates with delivery personnel. Delivery Personnel App: Allows delivery personnel to accept and manage deliveries.

**5. External Services:**

Third-Party APIs (for map services, payment processing, and user authentication).

**6. Cloud Infrastructure:**

Host the application, databases, and storage in a cloud environment for scalability and reliability.

**7. Security Layer:**

Implement security measures like encryption, authentication, and authorization to protect user data and payment information.

## 8. Notification System:

Send real-time updates and notifications to customers and delivery personnel. This architecture provides a foundation for the core functionalities of "Snack Squad" – order processing, customization, delivery management, and user interaction. Depending on your project's complexity and scalability requirements, you can further refine and expand this architecture to meet the specific needs of your app. Additionally, consider using microservices, load balancing, and caching to enhance performance and scalability.

### Solution Architecture Diagram:

