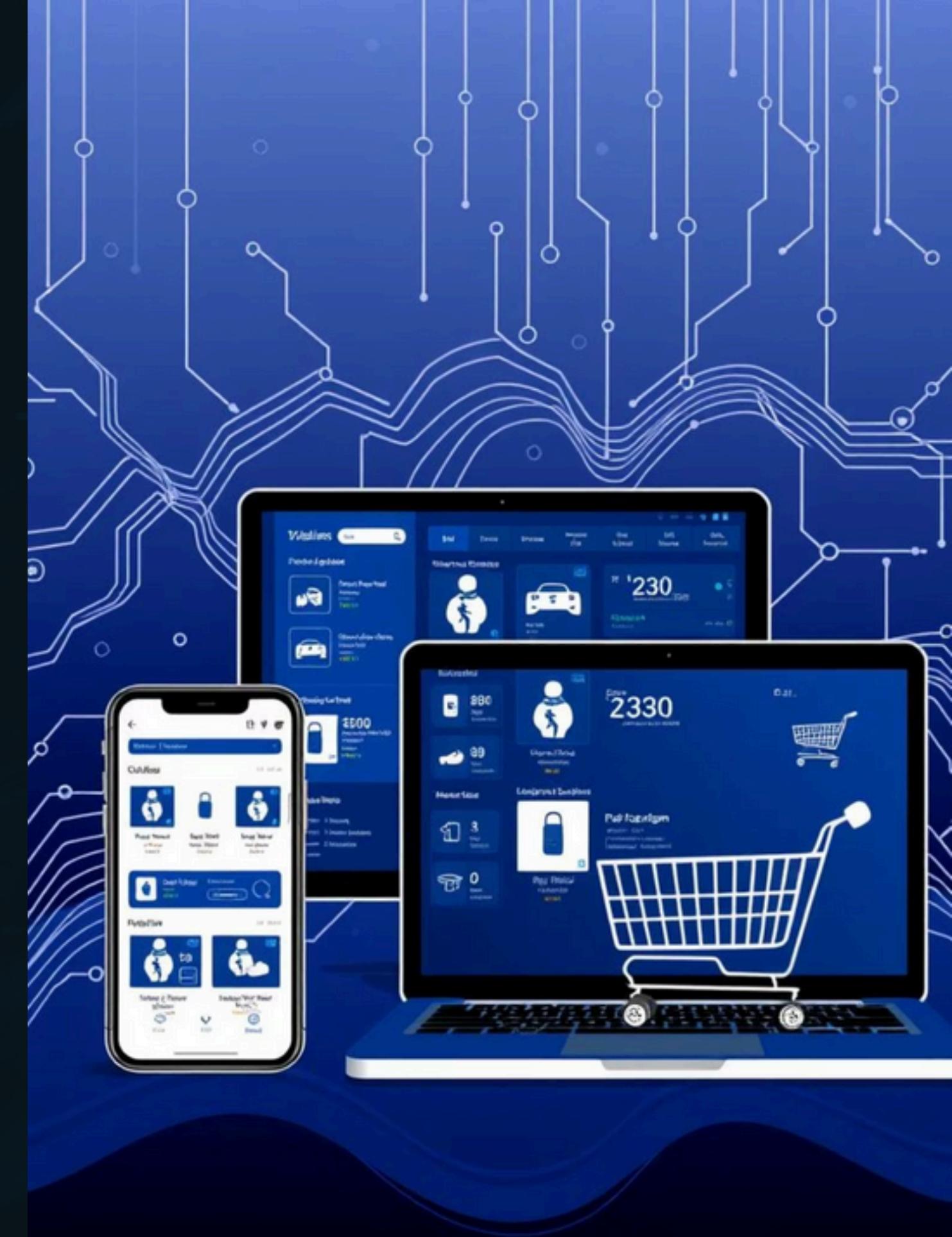


Software Architecture Use in Daraz App

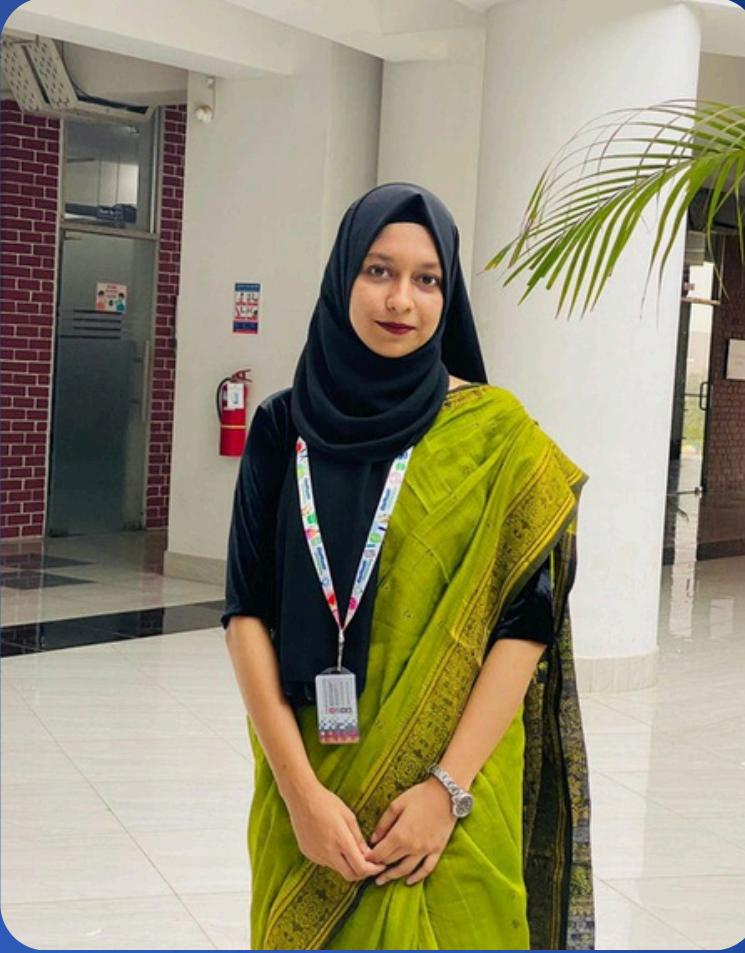




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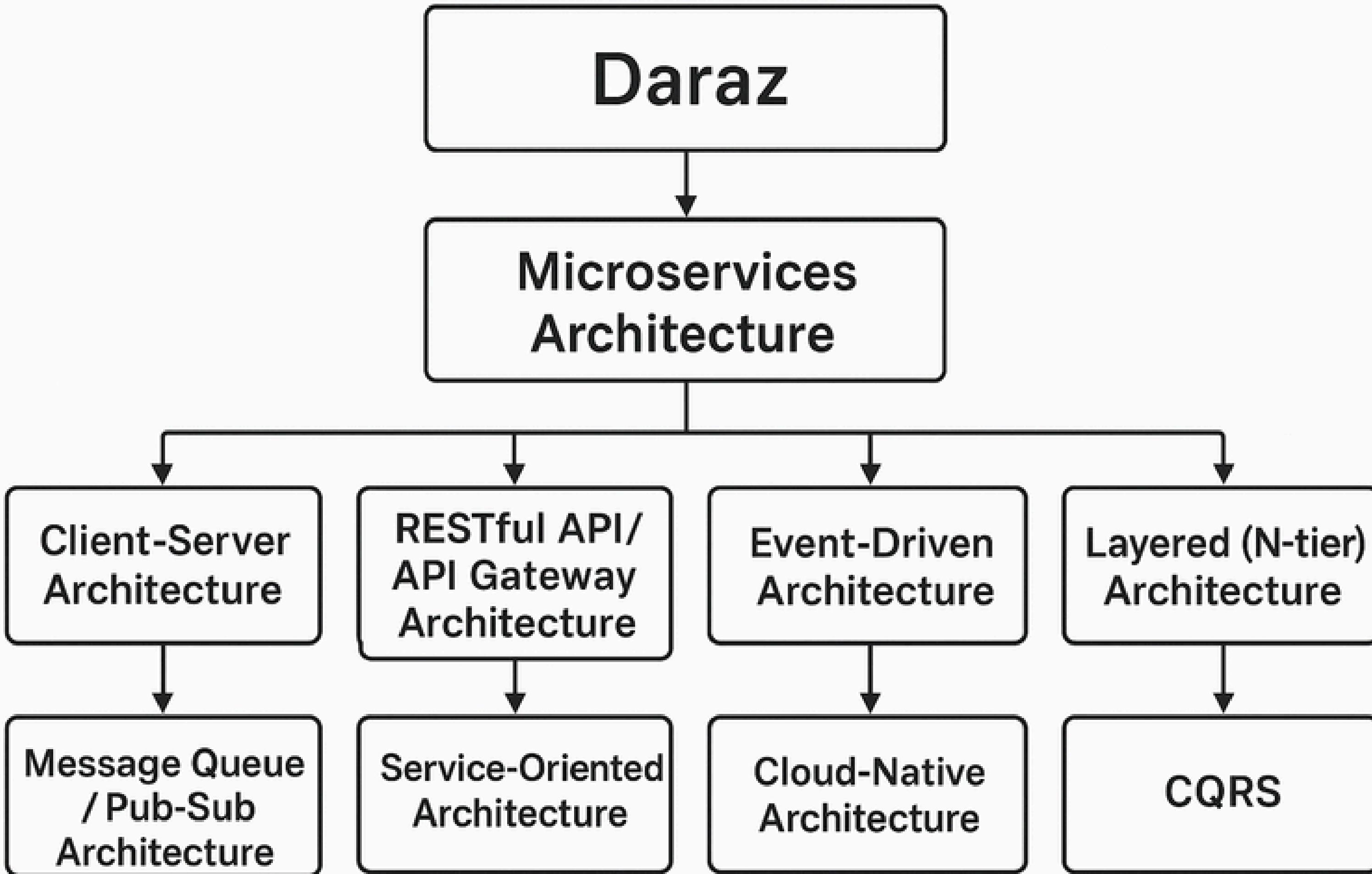
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Four Pillars of Daraz App Architecture

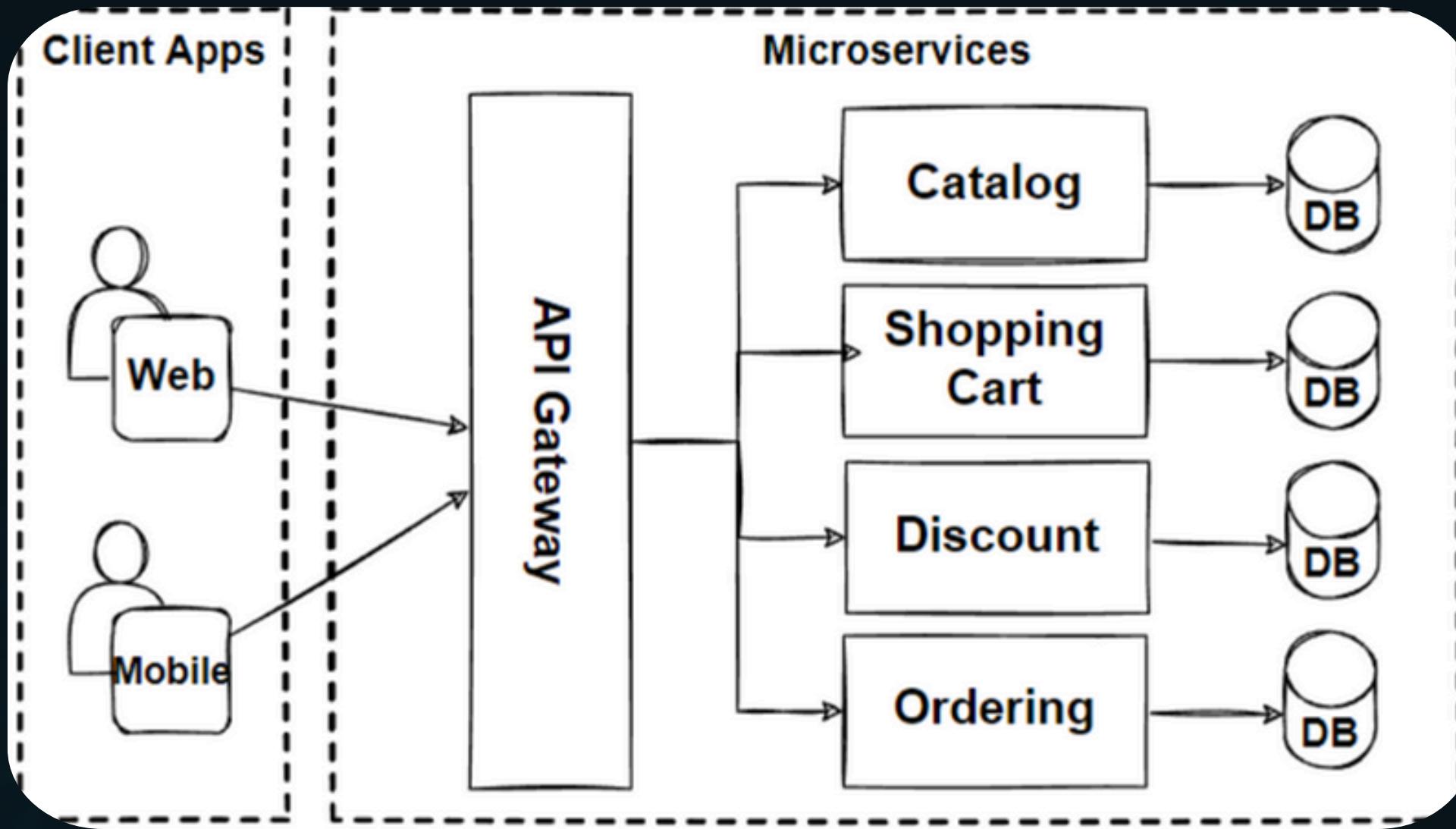
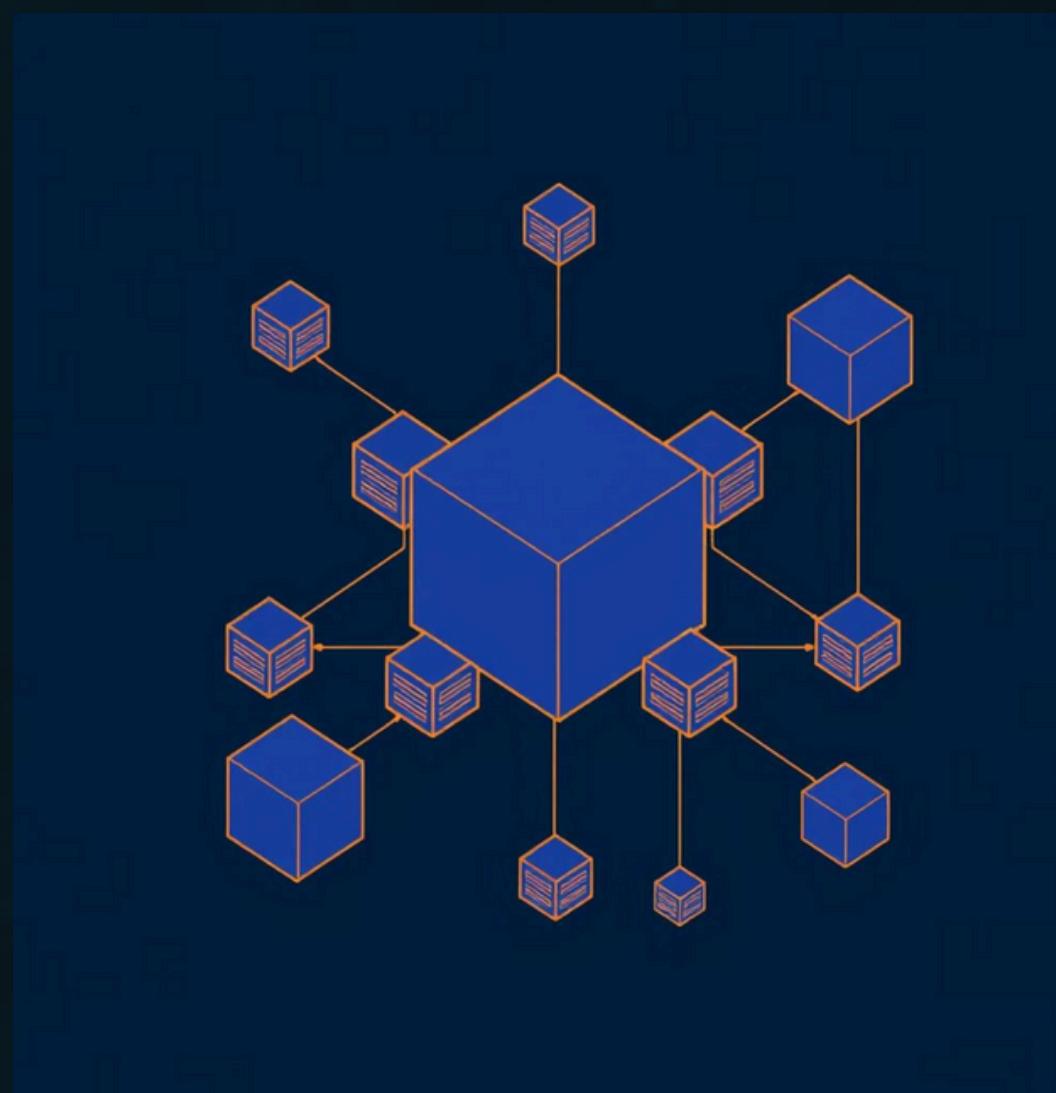




Microservice Architecture: Building Blocks of Daraz

Daraz splits core functions (user authentication, product catalog, and payments) into independent microservices. Each microservice owns its data and can be developed, deployed, and scaled independently.

- Faster updates and continuous delivery
- Fault isolation: Prevents cascading failures
- Technology flexibility: Use best tools for each service



Client - server Architecture

A client–server architecture is the design model used in computer networks where tasks and resources are divided between two main parts:client and server.

1

How It Works?

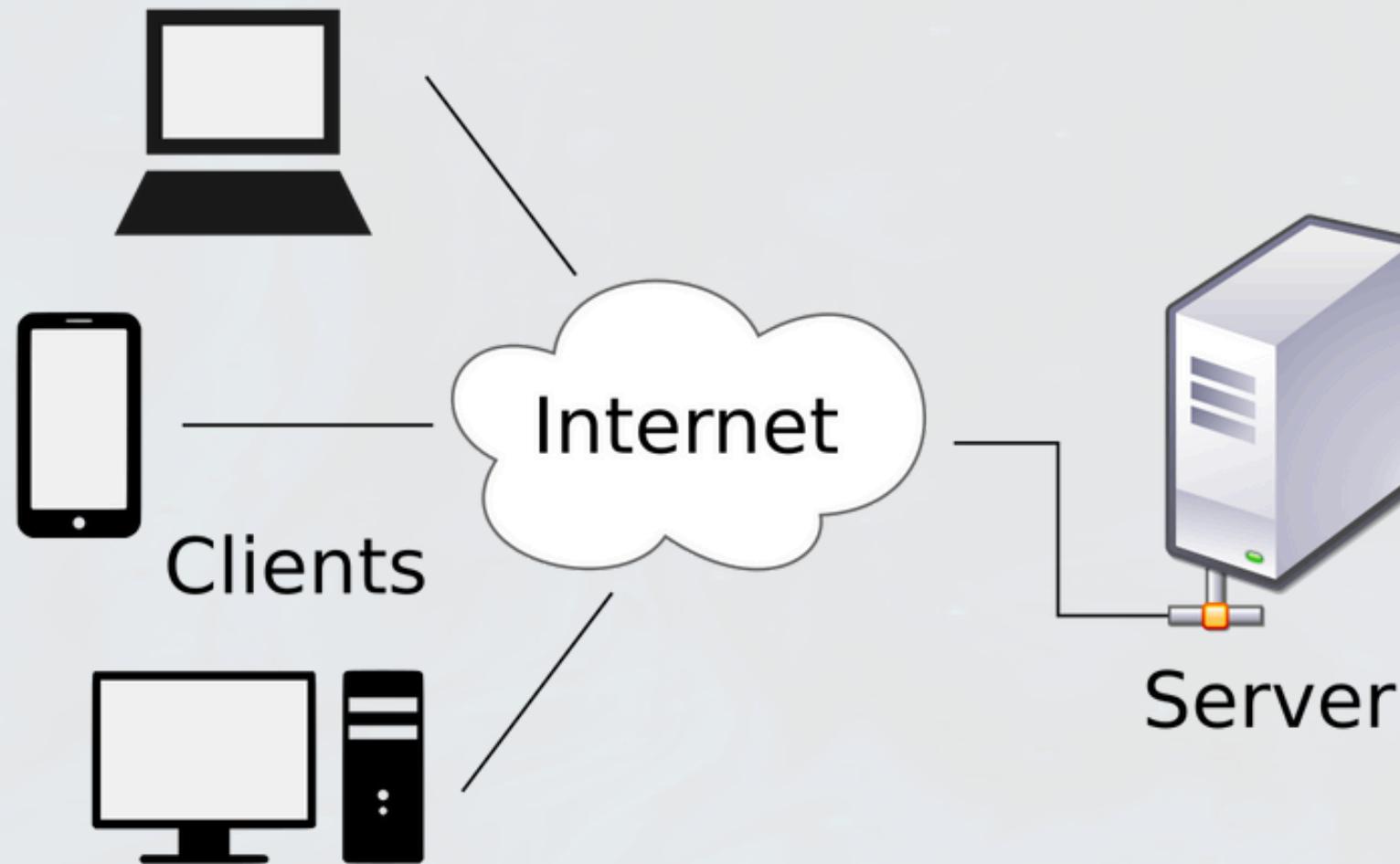
Client: Sends a request

Server: Receives the request, processes it and sends back the result.

Client: Displays the result to the user.



Client-Server Architecture: The User's Gateway

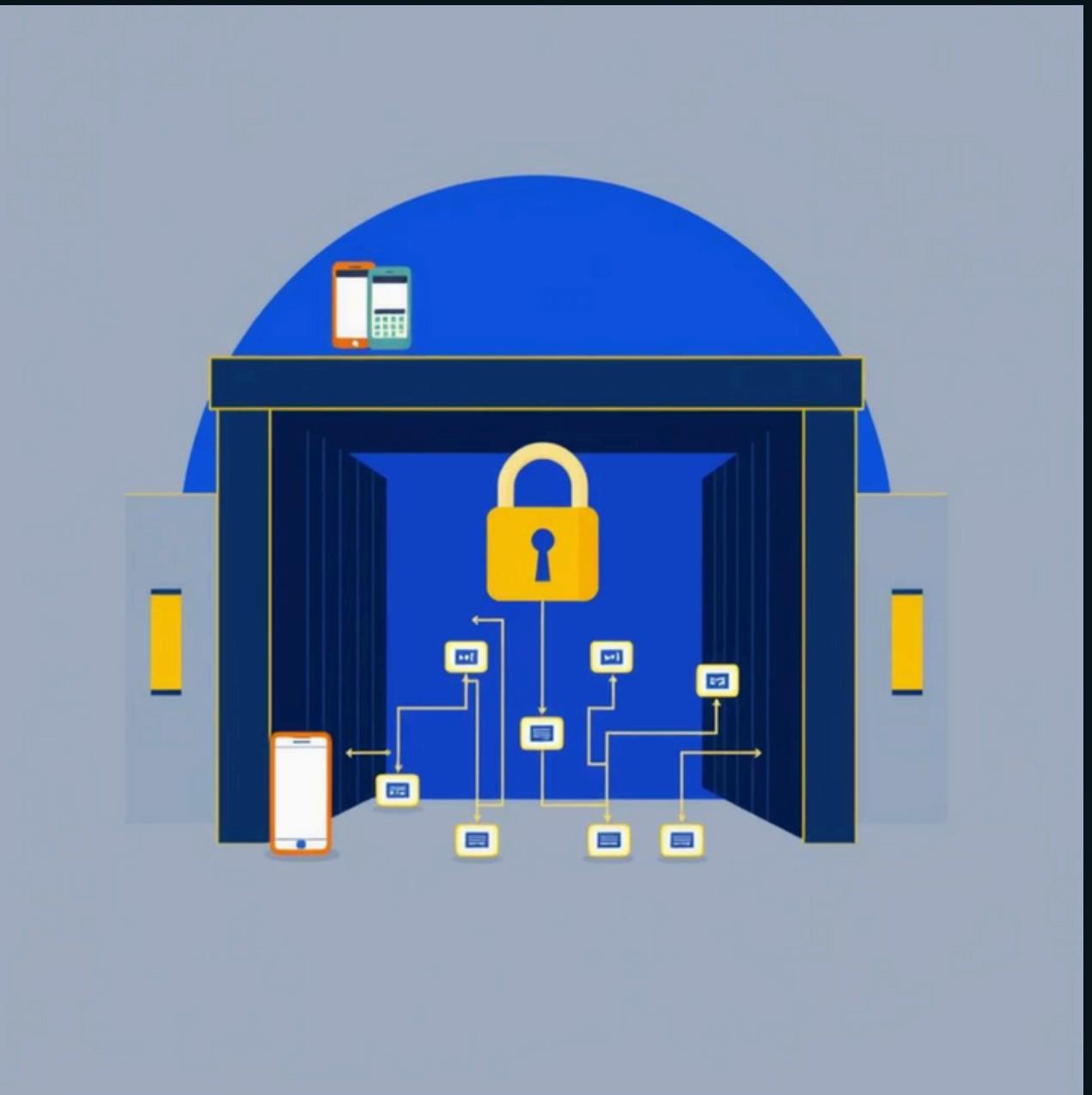


- The Daraz app's client (mobile or web) sends requests to backend servers for data and actions.
- Servers process these requests, access necessary microservices, and return responses to the client.
- This architecture enables a responsive user interface and real-time user interactions, crucial for a dynamic e-commerce platform.
- Benefit: This architecture makes the app responsive, interactive, and capable of handling many users at once—crucial for a dynamic e-commerce platform.

API Gateway Architecture

Daraz uses an API Gateway as a central routing point for all client requests. This gateway intelligently directs requests to the appropriate backend microservices.

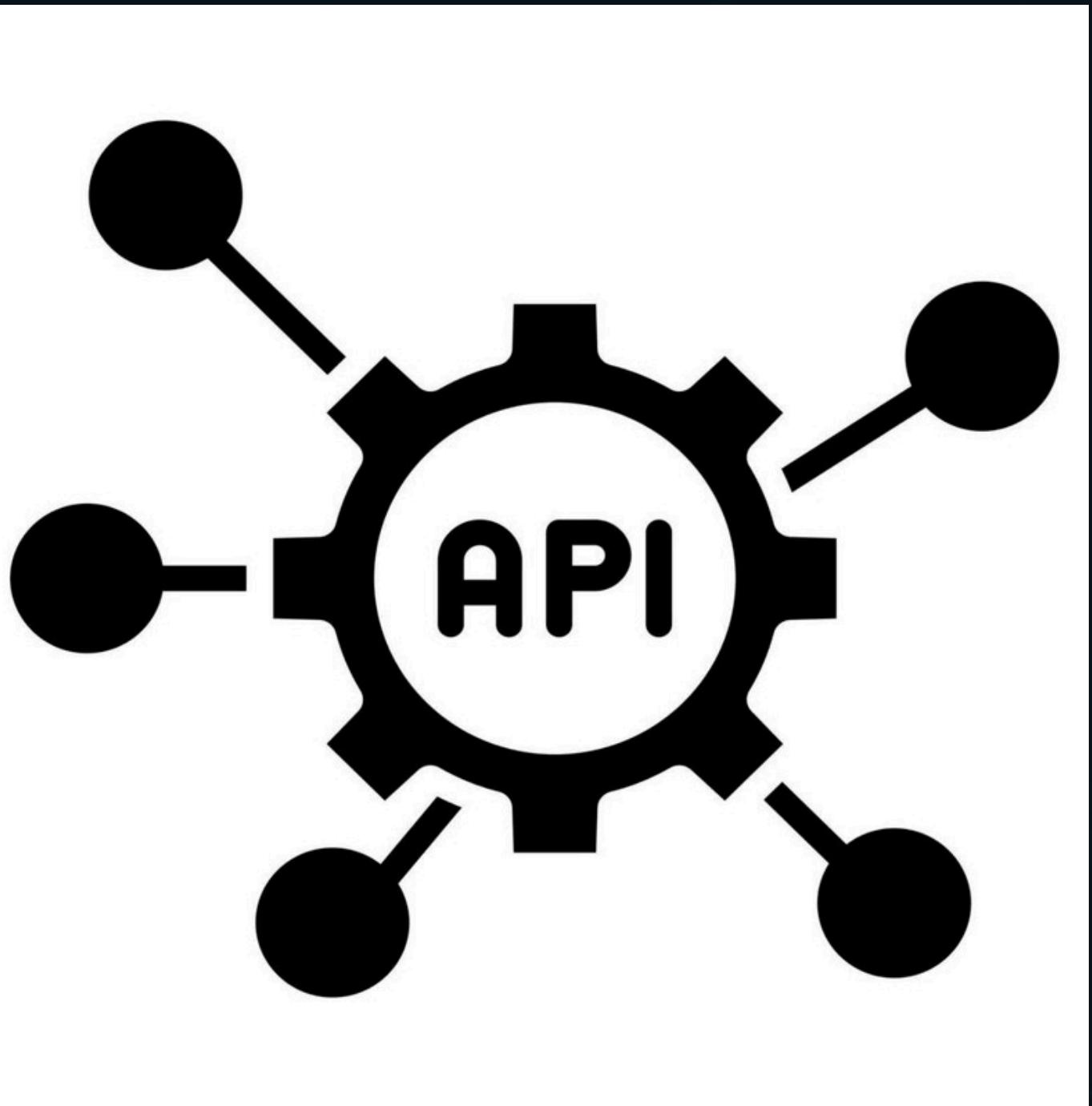
- **Request Routing:** Directs traffic to the correct service.
- **Protocol Translation:** Adapts communication for different services.
- **Authentication & Authorization:** Secures access to backend resources.
- **Rate Limiting:** Protects against abuse and traffic spikes.



API Gateway Architecture

Here's what it means in this context:

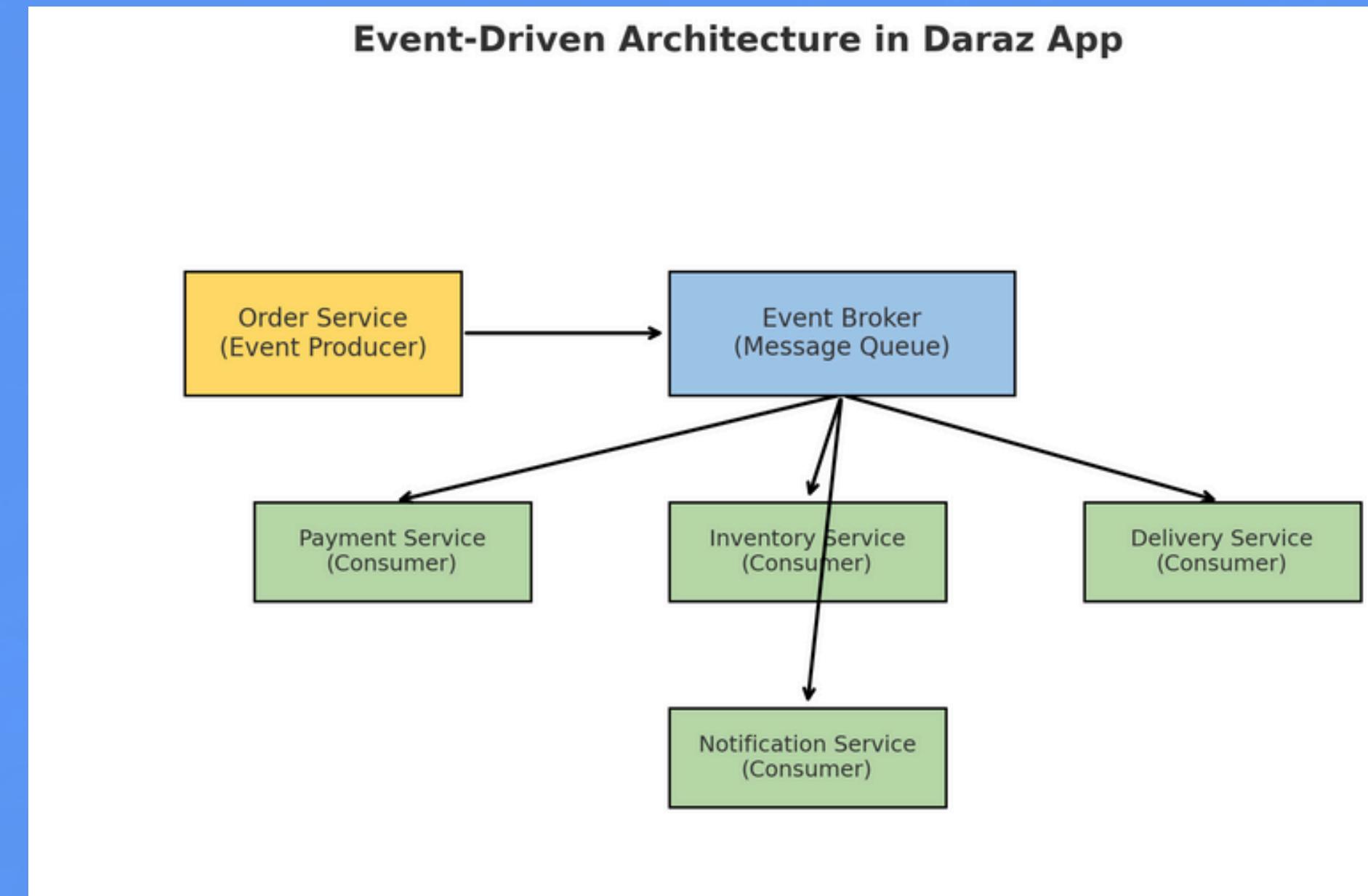
- **Unified Access Point:** Instead of clients (Daraz users) directly calling multiple backend services .
- **Security:** The API Gateway handles authentication, authorization, encryption (SSL/TLS), and protects backend services from direct exposure.
- **Traffic Control:** It manages rate limiting, load balancing.
- **Response Aggregation:** If a request needs multiple services (e.g., order details = product info + delivery status + payment info), the API Gateway collects and merges them into one response.



Event-Driven Architecture

Real-World Impact: Event-Driven Architecture in Action

- Customer places an order. (Event produced)
- The “Order Service” publishes an OrderPlaced event.
- Event Broker distributes this event.
- Multiple consumers react:
- Payment Service → charges the customer.
- Inventory Service → updates stock.
- Delivery Service → schedules shipment.
- Notification Service → sends confirmation.



Event-Driven Architecture: Reacting in Real-Time

Real-time responsiveness

Customers see updates instantly (e.g., order confirmed, stock updated).

Scalability

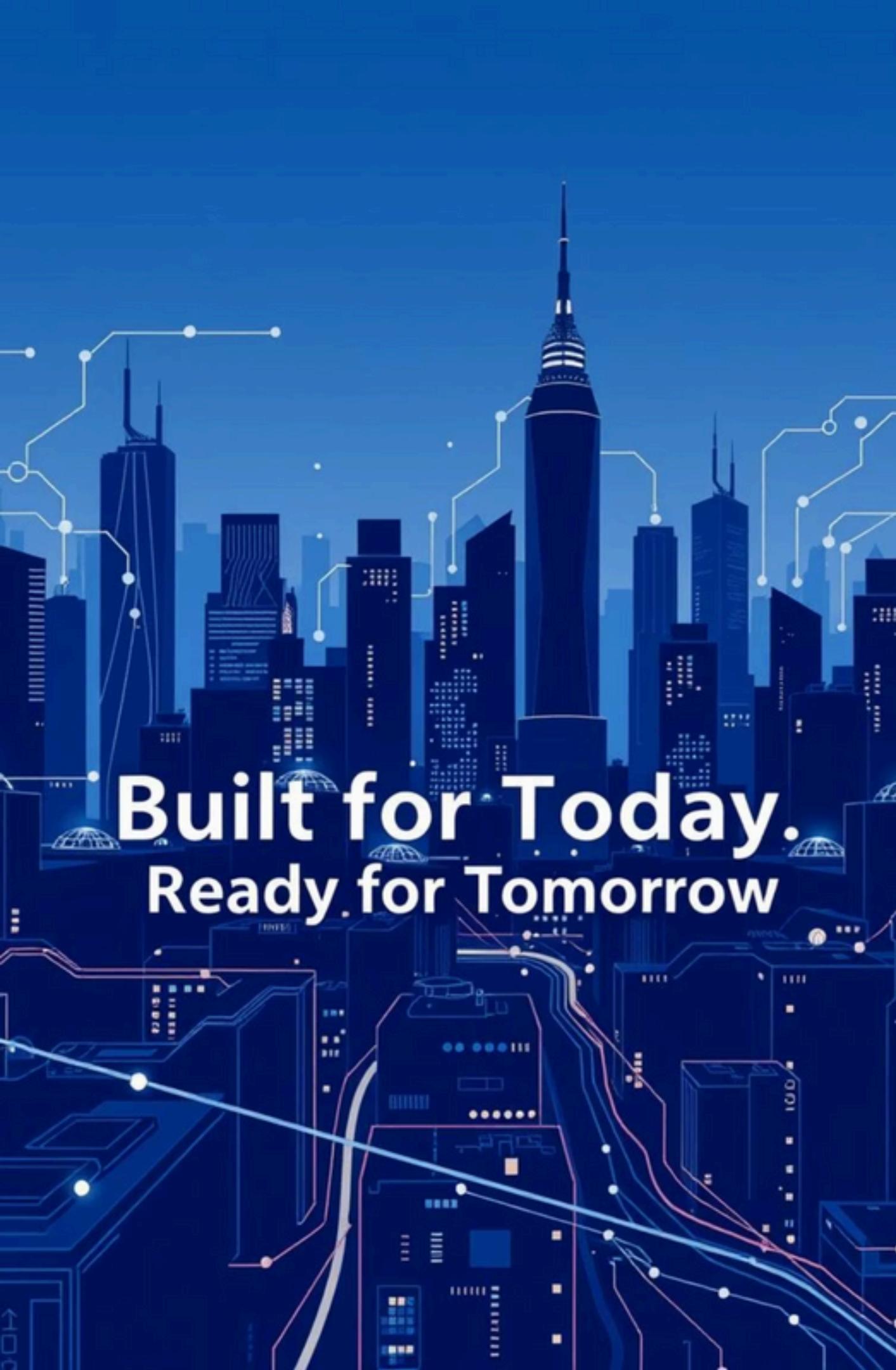
Handles huge events (Daraz 11.11 campaign → millions of orders).

Flexibility

New features (like a “loyalty points service”) can be added easily by subscribing to existing events.

Loose coupling

Services don’t depend on each other. If one fails, others still work.

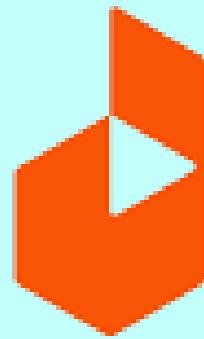


Conclusion: Daraz's Architecture Enables Growth & Innovation

Daraz's modular, scalable, and resilient design supports its evolving business needs, combining proven architectural patterns for optimal performance. This foundation is set for future technologies like AI-driven personalization and real-time analytics.

Reference:

1. <https://www.daraz.com.bd/mobile-apps/>
2. <https://www.geeksforgeeks.org/software-engineering/fundamentals-of-software-architecture/>
3. <https://readdy.ai/home>
4. <https://gamma.app/>
5. <https://chatgpt.com/>
6. <https://www.w3schools.com/>



Daraz

Do You Have Any
Question?

A large red question mark icon is positioned at the top center. A cyan line extends from its bottom right corner to a cyan rectangular contact form. The contact form contains the following information:

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THANK YOU

