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

Date	03 Nov 2023
Team ID	NM2023TMID02798
Project Name	How to Create a Reel Design Using Canva

Technical Architecture:
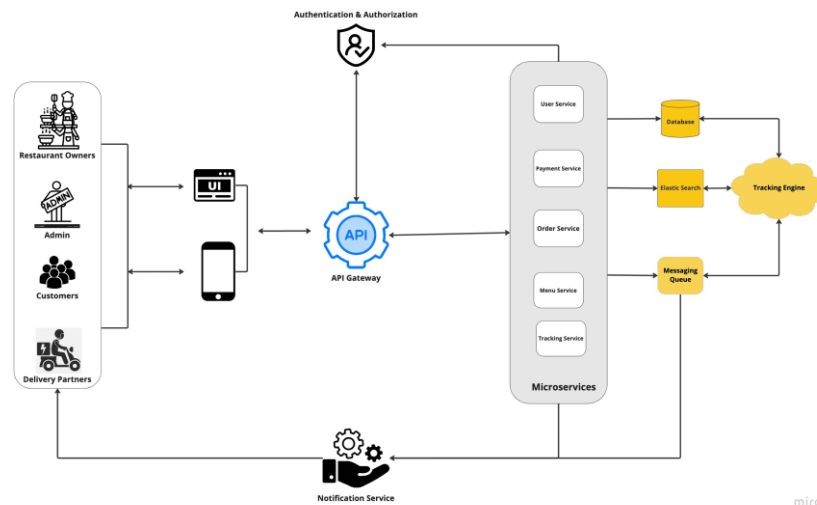
Guidelines:

Programming Languages: Use HTML, CSS, and JavaScript as the core languages for the front   -end.

Web Framework: Consider using a modern web framework like React, Angular, or Vue.js for building the user interface. These frameworks are well-suited for creating interactive and responsive web applications.

Mobile App Development: If you plan to offer a mobile app, you can use technologies like React Native or Flutter for cross-platform development. Alternatively, you can develop native apps for iOS and Android using Swift (for iOS) and Kotlin (for Android).

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Front-End	User interface and client-side components	HTML, CSS, JavaScript

2.	Back-End	Server-side application, business logic, and APIs	Node.js, Express.js (JavaScript) - Python (Django or Flask)
3.	Database	Data storage and management	PostgreSQL, MySQL - MongoDB (for unstructured data)
4.	Authentication & Security	User authentication, access control, and data security	OAuth 2.0, OpenID Connect - Digital Rights Management (DRM) for content
5.	Content Delivery Network	Efficient content delivery to users	CDN services (e.g., Amazon CloudFront, Akamai)
6.	Streaming & Playback	Audio and media streaming	HTTP Live Streaming (HLS), DASH - FFmpeg for media processing
7.	Recommendation Engine	Personalized music recommendations	Machine learning libraries (e.g., TensorFlow, scikit-learn)
8.	Mobile App Development	Development of mobile apps for iOS and Android	React Native or Flutter - Swift (iOS) and Kotlin (Android)
9.	DevOps & Deployment	Continuous integration, deployment, and containerization	Jenkins, Travis CI, GitLab CI - Docker for containerization - Kubernetes for container orchestration
10.	Monitoring & Analytics	Real-time monitoring and user behavior analysis	Prometheus, Grafana, New Relic - Google Analytics, Mixpanel
11.	Infrastructure	Server infrastructure and cloud services	AWS, Google Cloud, Azure - Serverless computing for specific tasks

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	React, Node.j, Express.j, Django Flask, Ruby, Spring Boot PostgreSQL

S.No	Characteristics	Description	Technology
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	Secure APIs, Data Encryption
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Web Tier, Application Tier, Data Tier
S.No	**Characteristics**	**Description**	**Technology**
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Compliance and Service Level Agreements (SLAs)
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Content Delivery Network (CDN), API Rate Limiting