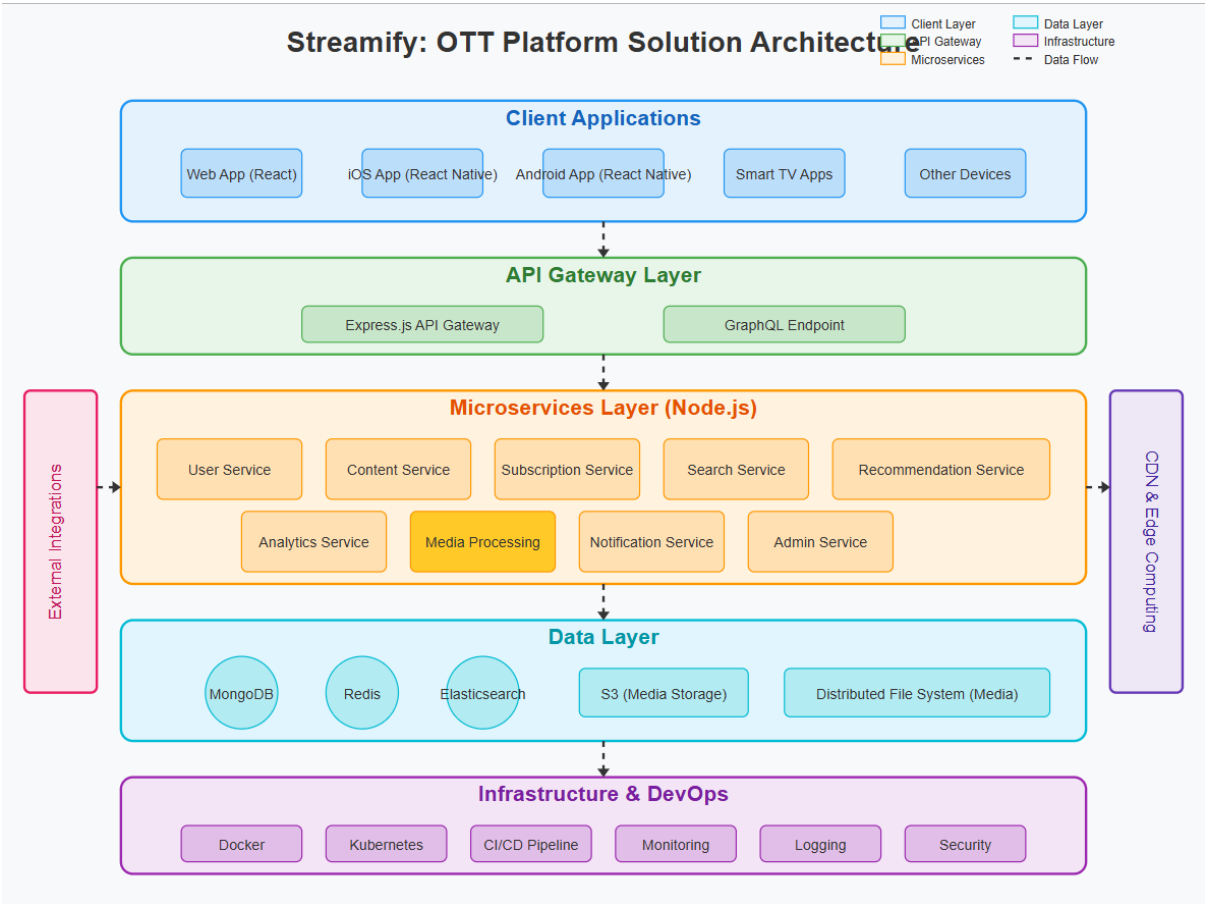


Project Design Phase

Solution Architecture

Date	22 March 2025
Team ID	SWTID1743612504
Project Name	Streamify: Your Ultimate OTT Platform
Maximum Marks	4 Marks

Solution Architecture Diagram:



The diagram illustrates the key components and their interactions across different layers:

- Client Layer (Top)** - Shows the various client applications users will interact with, including web apps, mobile apps, and smart TV interfaces, all built with React technologies.

2. **API Gateway Layer** - Depicts the Express.js API Gateway and GraphQL endpoint that serve as the entry point for all client requests, handling routing, authentication, and request validation.
3. **Microservices Layer (Core)** - Illustrates the Node.js-based microservices that power the platform:
 - User Service
 - Content Service
 - Subscription Service
 - Search Service
 - Recommendation Service
 - Analytics Service
 - Media Processing Service
 - Notification Service
 - Admin Service
4. **Data Layer** - Shows the various data stores:
 - MongoDB for primary data storage
 - Redis for caching
 - Elasticsearch for search and recommendations
 - S3/distributed file systems for media storage
5. **Infrastructure & DevOps Layer** - Represents the underlying infrastructure components including containerization (Docker), orchestration (Kubernetes), CI/CD pipelines, monitoring, logging, and security.

The diagram also shows external integrations on the left side and the CDN/edge computing infrastructure on the right side, which are crucial for content delivery in an OTT platform.

Solution Architecture:

The architecture addresses:

- Business goals and requirements
- High-level architectural overview
- Detailed component architecture (frontend, backend, data)
- Content management and delivery strategy
- Infrastructure and security considerations
- Implementation roadmap