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

Date	27 October 2023
Team ID	Team - 590879
Project Name	Owl: A Material Design App
Maximum Marks	4 Marks

Team Members:

Team Leader : Sania Anwar - 21BBS0251
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Technical Architecture:

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

Infrastructure Demarcation:

Local: Mobile App (Android)

Cloud: Authentication Server, Content Delivery Network (CDN), Database, Machine Learning (ML) Platform, Payment Gateway, Third-party APIs

Technical Architecture Diagram for Owl-M App

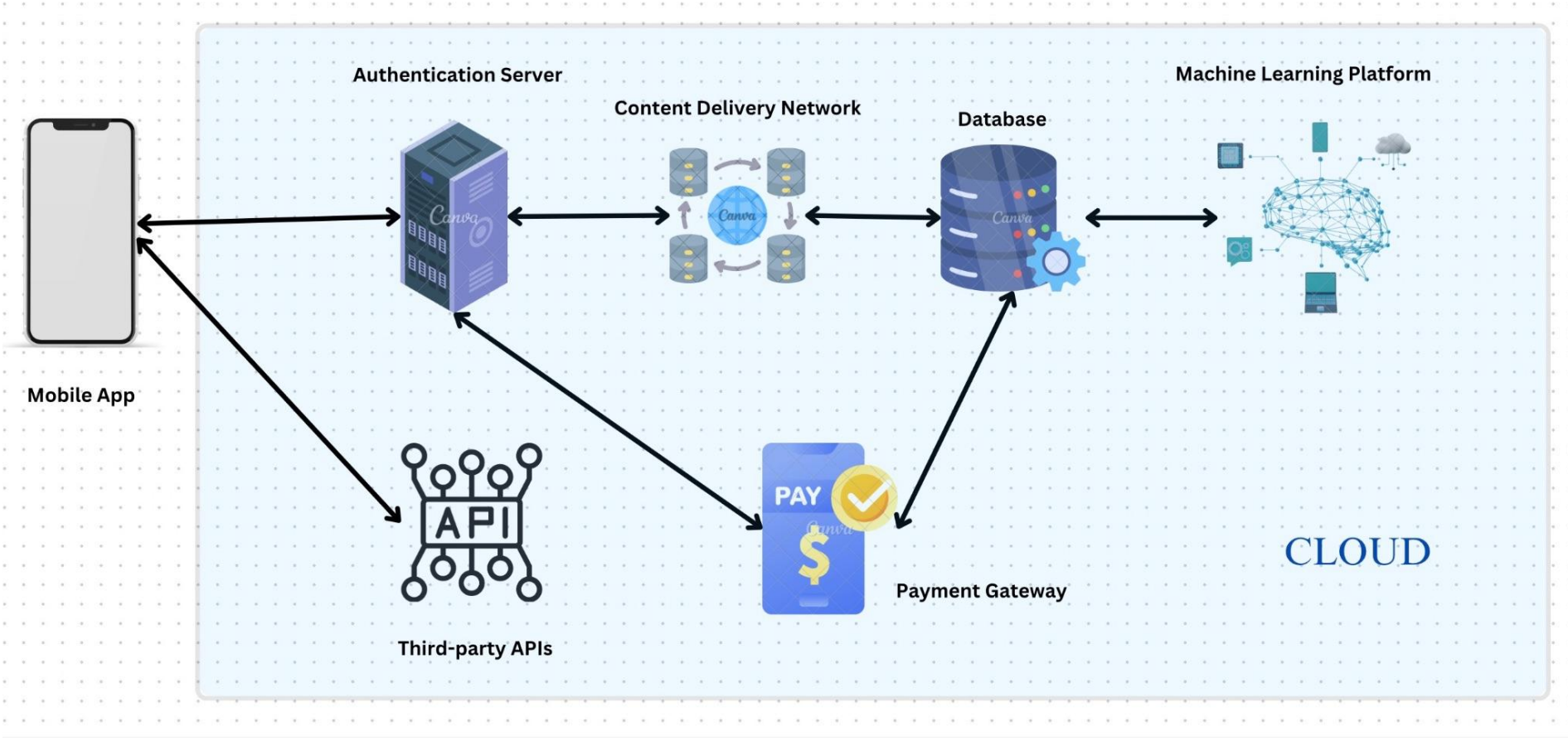

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Mobile App	A native Android app that provides users with access to the Owl-M platform.	Kotlin, Android SDK, Material Design
2.	Authentication Server	A server that authenticates users and generates JWT tokens.	Python, Flask, JWT
3.	Content Delivery Network (CDN)	A network of servers that delivers course content to users.	AWS CloudFront
4.	Database	A database that stores user data, course data, progress data, and assessment data.	MySQL
5.	Machine Learning Platform	A platform that hosts and runs the recommendation engine.	AWS SageMaker
6.	Payment Gateway	A gateway that processes payments for premium features.	Stripe
7.	Third-party APIs	APIs that provide additional functionality to the Mobile App, such as social media integration and analytics.	Various APIs, such as the Google Sign-In API and the Facebook Graph API

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Personalized learning	The app uses machine learning to recommend courses to users based on their interests and learning style.	AWS SageMaker
2.	Engaging and interactive content	The app features video streaming, audio streaming, document downloads, and interactive elements such as quizzes and assignments.	Kotlin, Android SDK, Material Design
3.	Accessible and inclusive design	The app is designed to be accessible to users with disabilities and from diverse backgrounds.	Android Accessibility APIs, Material Design
4.	Secure data handling	The app uses industry-standard security practices to protect user data.	HTTPS encryption, JWT authentication, data encryption at rest
5.	Sustainable business model	The app balances free and premium features to create a sustainable business model.	In-app purchases, subscription model

References:

https://developer.android.com/

https://docs.aws.amazon.com/

https://material.io/guidelines/

https://jwt.io/