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

Date	6th November 2023
Team ID	Team-592335
Project Name	**"Deep Learning Model for Eye Disease Prediction"**
Maximum Marks	4 Marks

Technical Architecture:

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

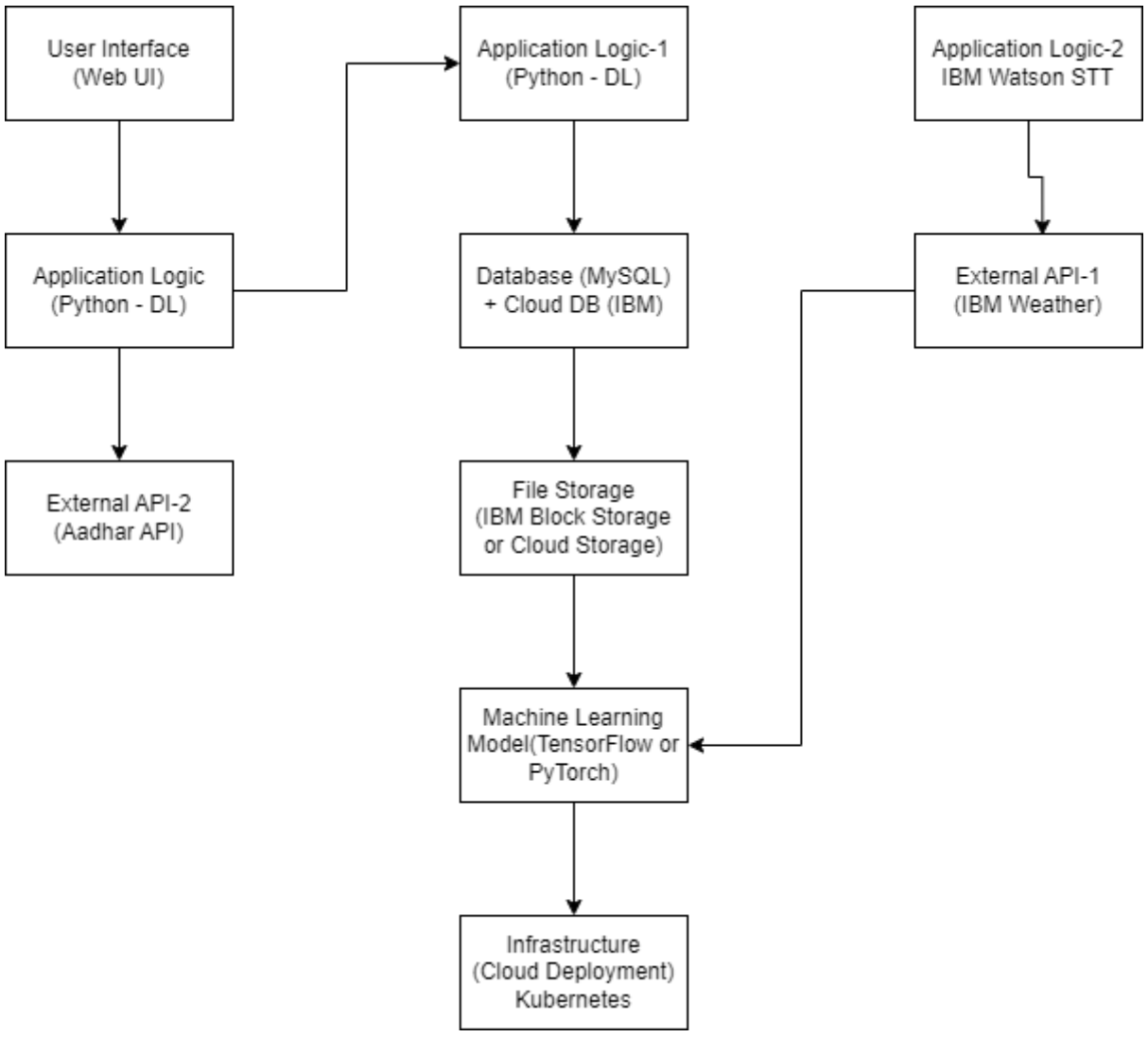

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI for user interaction	HTML, CSS, JavaScript / React Js
2.	Application Logic-1	Logic for image preprocessing and model training	Python
3.	Application Logic-2	Speech-to-Text service for audio inputs	IBM Watson Speech-to-Text (STT)
4.	Application Logic-3	Conversational interface for user interaction	IBM Watson Assistant
5.	Database	Storage for metadata and application data	MySQL
6.	Cloud Database	Cloud-based database service	IBM DB2, IBM Cloudant
7.	File Storage	Storage for image data	IBM Block Storage or Cloud Storage
8.	External API-1	Weather information for contextual data	IBM Weather API
9.	External API-2	Aadhar verification for user authentication	Aadhar API
10.	Machine Learning Model	Deep Learning model for eye disease prediction	TensorFlow or PyTorch
11.	Infrastructure	Deployment on Cloud	Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	TensorFlow and PyTorch for deep learning	TensorFlow, PyTorch
2.	Security Implementations	Encryption for data at rest and in transit	SSL/TLS, Data Encryption
		Access controls and identity management	IAM controls
3.	Scalable Architecture	Microservices architecture for scalability	Kubernetes, Docker
4.	Availability	Load balancing for distributing requests	Load balancers, Distributed servers

S.No	Characteristics	Description	Technology
5.	Performance	Caching mechanisms and use of CDN for faster response	Cache, CDN

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d

This template outlines the key components, technologies, and characteristics of your Deep Learning Model for Eye Disease Prediction application, taking into account user interface, application logic, databases, external APIs, machine learning models, and the overall architecture.