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

Date	16 October 2022
Team ID	PNT2022TMID13274
Project Name	Deep Learning Fundus Image Analysis for Early Detection Of Diabetic Retinopathy
Maximum Marks	4 Marks

Technical Architecture:

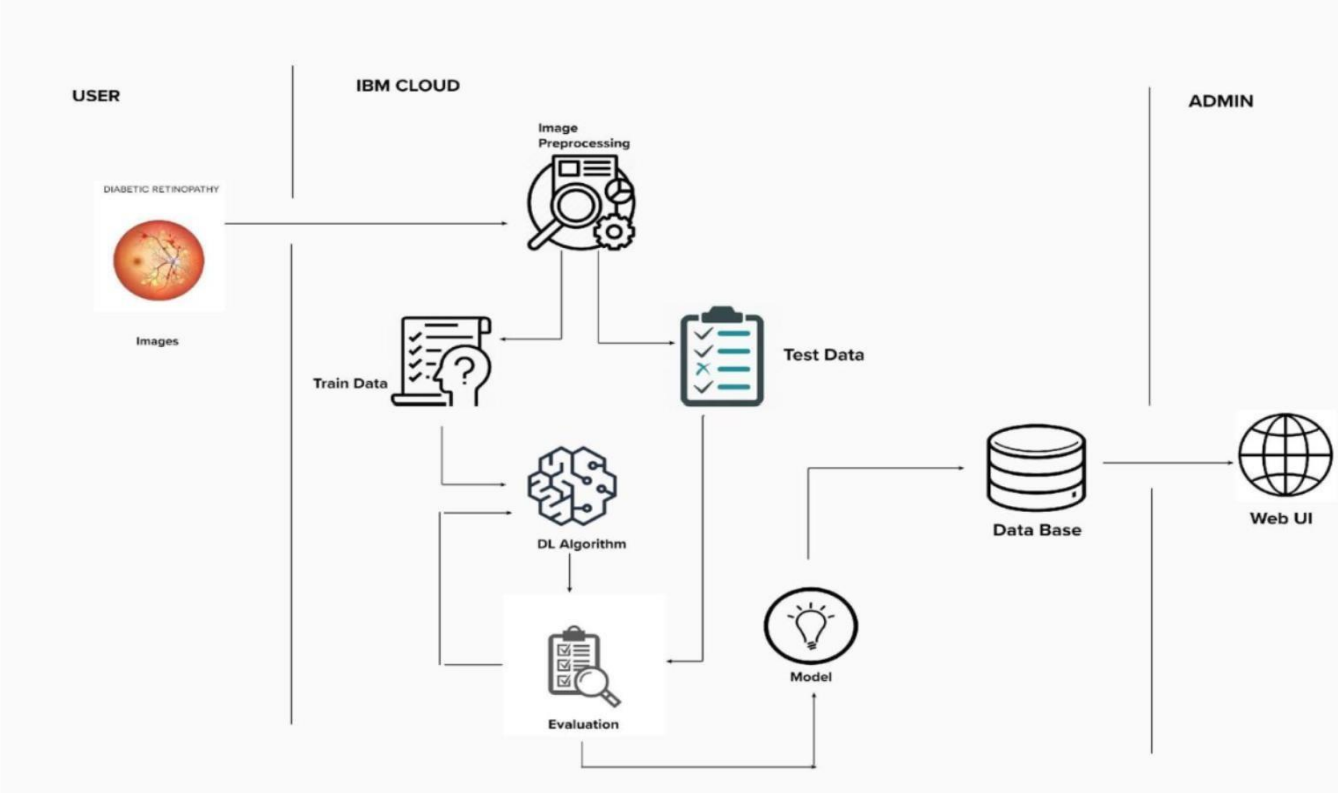

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI	HTML, CSS, Java, Python
2.	Application Logic-1	Image processing	Keras, TensorFlow, Numpy
3.	Application Logic-2	CNN Model	Keras, TensorFlow, Numpy
4.	Application Logic-3	Web UI Application	Flask
5.	Database	DR images	Uploads Folder
6.	File Storage	File storage requirements	IBM Block Storage or Google drive
7.	External API-1	Keras	Image Processing API
8.	Machine Learning Model	Inception V3 Architecture	Pretrained CNN
9.	Infrastructure (Server)	Application Deployment on web server	Flask-A Python WSGI HTTP Server

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-source frameworks	Flask	Flask frameworks
2.	Security Implementations	CSRF Protection	Flask-WTF, Session Cookie secure
3.	Scalable Architecture	Micro-services	Micro Web application framework by Flask
4.	Availability	Built-in development server and Fast debugger Integrated support for unit testing RESTful request dispatching jinjia2 Templating Unicode based	Sinatra Ruby framework**,** Jinja2
5.	Performance	Web framework, Http request handling functionality, Flexible	Sinatra ruby framework, SQLAlchemy, Jinja2