

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

Date	22-10-2022
Team ID	PNT2022TMID31767
Project Name	Deep Learning Fundus Image Analysis for early detection of Diabetic Retinopathy
Maximum Marks	4 Marks

Architecture:

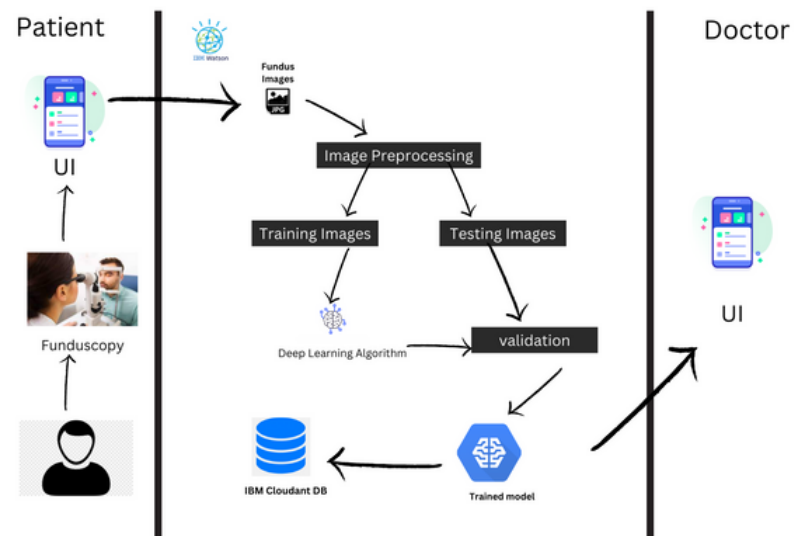


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1	User Interface	How the user interacts with the application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript, Bootstrap
2	Application Logic-1(Back-end)	Logic for a process in the application and the UI	Flask -Python
3	Application Logic-2	Logic for a process in the application and cloud	IBM Watson STT service
4	Cloud Database	Database Service on Cloud	IBM-Cloud.
5	File Storage	File storage requirements	IBM-Block Storage
6	Machine Learning Model	Purpose of Machine Learning Model	Deep Learning, Convolutional Neural Network.
7	Infrastructure (Server / Cloud)	Application Deployment in Cloud	IBM Cloud.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	List the open-source frameworks used	Tensorflow, Scikit-learn.
2	Security Implementations	Email constraint and database	Mail notifications, IBM free trial cloud, instant services.
3	Scalable Architecture	Scalability of architecture (3 – tier, Micro-services) is extensible as it is web-oriented with database application	3-tier, Cloud DB.
4	Availability	Availability of application (e.g. use of load balancers, distributed servers etc.)	Load balancer
5	Performance	Session management & Model Accuracy	User sessions from the Python-based automatic controller. It depends upon the input images.