

Project Design Phase-II
Technology Stack

Date	03 October 2022
Team ID	PNT2022TMID05694
Project Name	Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy
Maximum Marks	4 Marks

Technical Architecture:

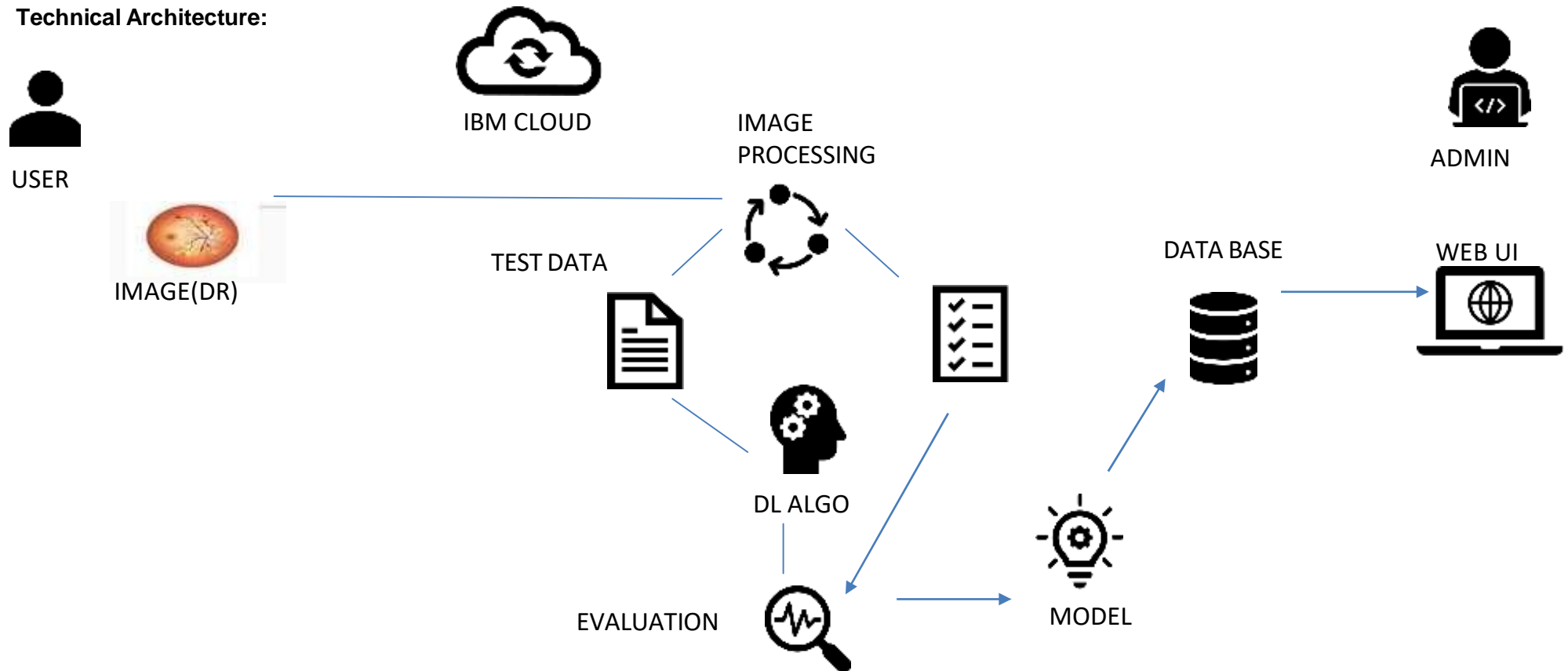


Table-1:Components & Technologies:

1.	User Interface	Web UI	HTML, CSS, Java,Python
2.	Application logic-1	Image Preprocessing	Keras,Tensorflow,Numpy
3.	Application logic-2	CNN Model	Keras,Tensorflow,Numpy
4.	Application logic-3	Web UI Application	Flask
5.	Database	DR Images (Jpeg,Png,Jpg,Etc.,)	Uploads Folder
6.	File storage	File Storage Requirements (Only If Necessary)	IBM Block Storage, Google Drive
7.	External Api	Keras	Image Processing API
8.	Deep Learning Model	Inception V3 Architecture	Pre-Trained Convolution Neural Network Model
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,Secure Flag For Cookies	Flask-WTF, Session Cookie Secure
3.	Scalable Architecture	Micro-Services	Micro Web Application Framework By Flask

4.	Availability	<ul style="list-style-type: none"> -Built In Development Server And Fast Debugger -Integrated Support For Unit Testing -RESTful Request Dispatching Jinja2 Templating Unicode Based 	Werkzeug,Jinja2,Sinatra Ruby Framework
5.	Performance	<ul style="list-style-type: none"> Orm-Agnostic, Web Framework,Wsgi 1.0 Compliant, Http Request Handling Functionality High Flexibility 	SQLAlchemy,Extensions, Werkzeug,Jinja2,Sinatra Ruby Framework