Project Design Phase-II
Technology Stack (Architecture Stack)

Date	12 November 2022
TeamID	PNT2022TMID41310
Projectname	Deep Learning Fundus Image Analysis For Early Detection Of Diabetic Retinopathy.
Maximum marks	4 Marks

Technical Architecture:

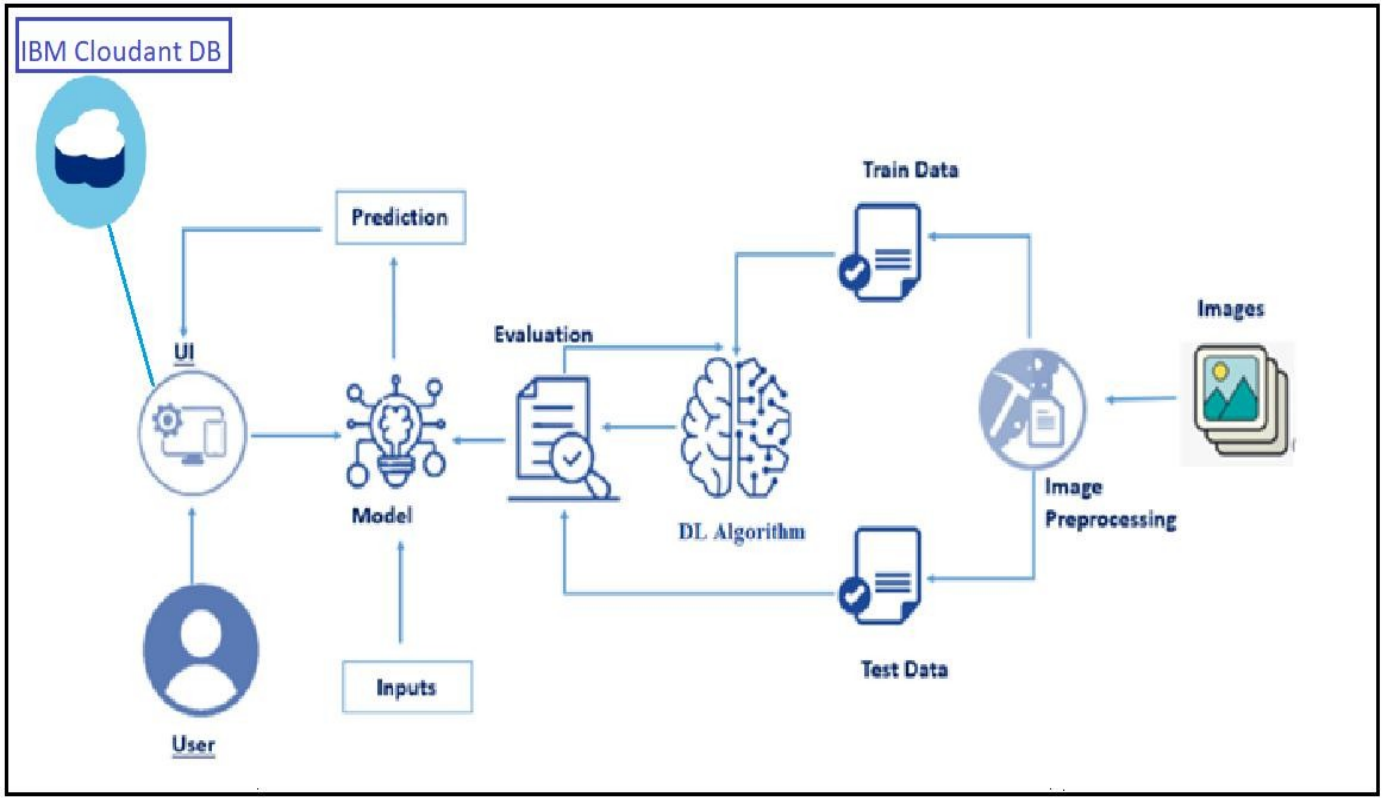

Table-1:Components & Technologies:

1.	User Interface	Web UI	HTML, CSS, JavaScript, 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

S.No	Characteristics	Description	Technology
4.	Availability	-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	Orm-Agnostic, Web Framework,Wsgi 1.0 Compliant, Http Request Handling Functionality High Flexibility	SQLAlchemy,Extensions, Werkzeug,Jinja2,Sinatra Ruby Framework