

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

Date	14 October 2022
Team ID	PNT2022TMID17830
Project Name	Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy
Maximum Marks	4 Marks

Technical Architecture:

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

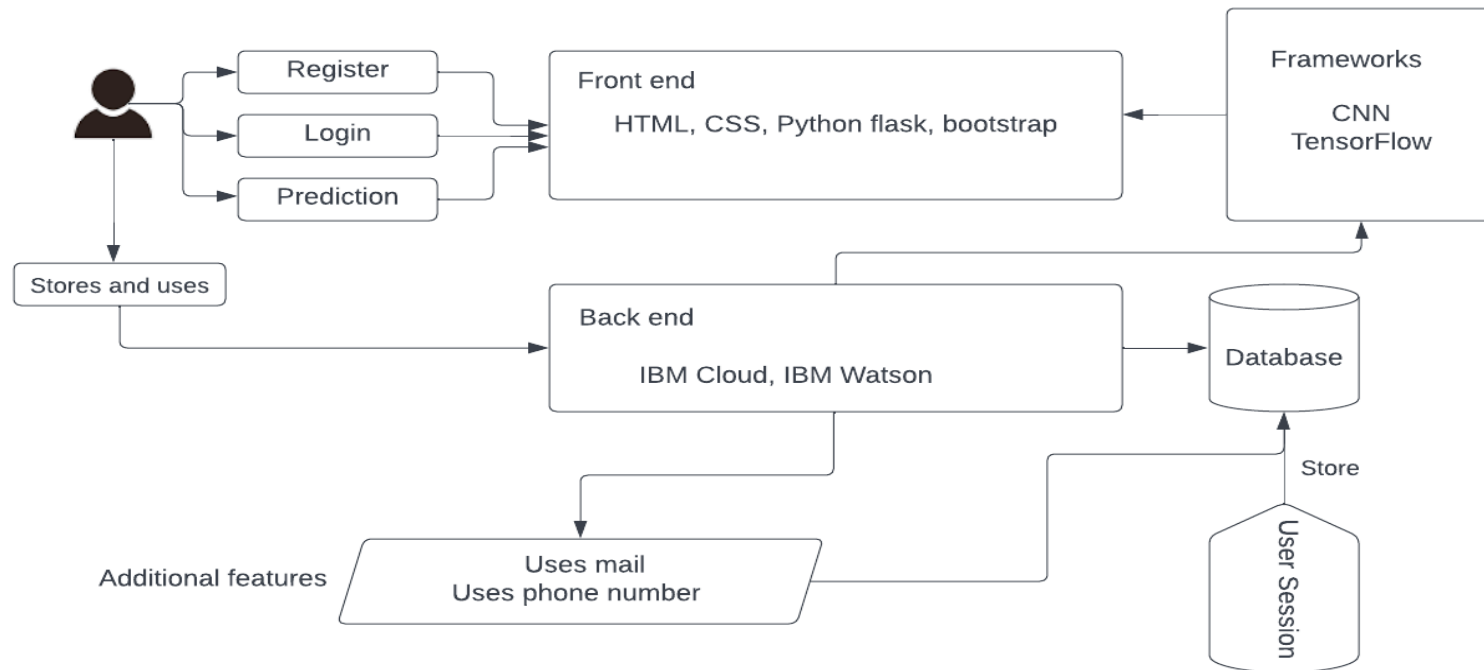


Table-1 : Components & Technologies:

This module concerns about the functional requirements and the important technology that has been used during the development of the app.

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI is the main portal of the system	HTML, CSS, Python flask and bootstrap
2.	Register	New user registration is provided	Front end as python flask and back end involves cloud
3.	Login	User logs in to the application by their e-mail id and password	IBM Cloudant DB
4.	Prediction	Gives the prediction part page that uses the deep learning	IBM Watson Assistant
5.	Database	Data Type, Configurations	MySQL
6.	Cloud Database	Database Service on Cloud	IBM Cloudant DB from IBM catalog services
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	Email Verification	Registered user email verification is required	Email verifier
9.	Phone number	Registered phone number is confirmed by sending a test message	Phone number message sending.
10.	Image Classification	Analyzing input images	CNN and TensorFlow
11.	Infrastructure (Server / Cloud)	Cloud Server Configuration :	IBM

Table-2: Application Characteristics:

This module concerns about the non-requirement features of the application

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Front end apps
2.	Security Implementations	Email constraint and database	Mail notifications, IBM free trial cloud instance service
3.	Scalable Architecture	scalability of architecture (3 – tier, Micro-services) is extensible since it is a web oriented with database application	Cloudant DB, front-end apps
4.	Availability	Availability of application (e.g. use of load balancers, distributed servers etc.)	Open source platforms provide great service
5.	Performance	Session management	User sessions from automatic controller provided by python