

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

Date	15 October 2022
Team ID	PNT2022TMID53645
Project Name	Project - Visualizing and Predicting Heart Diseases with an Interactive Dash Board
Maximum Marks	4 Marks

Technical Architecture:

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

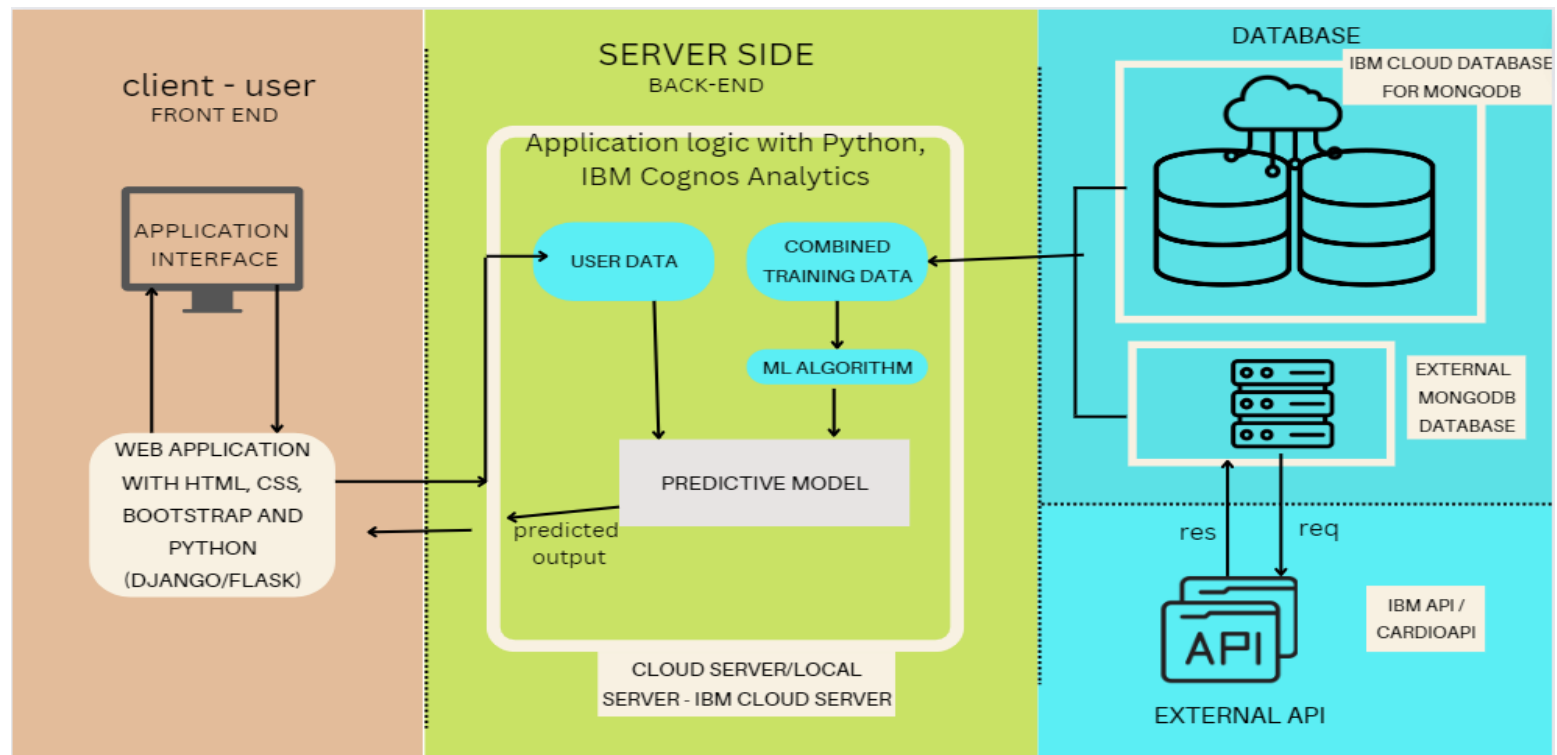


Table-1 : Components & Technologies:

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, Bootstrap
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Cognos Analytics
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	NoSQL - Mongo DB.
6.	Cloud Database	Database Service on Cloud	IBM Cloud Databases for MongoDB.
7.	File Storage	File storage requirements	Use Professional Records Storage, IBM Block Storage or Other Storage Services.
8.	External API-1	Purpose of External API used in the application	IBM Heart Disease API, etc.
9.	External API-2	Purpose of External API used in the application	CardioAPI etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Supervised Learning Python, numpy, pandas, sklearn, Scipy
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: localhost:3000	Local Server, IBM Cloud Server

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Technology of Opensource framework- – Django or Flask in Python, Bootstrap for CSS frontend
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. Privacy - Encryptions, IBM Security Manager etc
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used - IaaS, PaaS, SaaS (IBM Cloud)
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	The availability of the application depends on the IBM Cognos analytics and the IBM Cloud.
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	The response of the system should be fast and also accurate. This application can be made in IBM cloud thereby providing a good quality healthcare.

References:

<https://c4model.com/>

<https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/>

<https://www.ibm.com/cloud/architecture>

<https://aws.amazon.com/architecture>

<https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d>