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

Date	10 May 2023
Team ID	PBL-NT-GP--7627-1681100533
Project Name	Estimation and Prediction of Hospitalization and Medical Care Costs
Maximum Marks	4 Marks

Technical Architecture:

ML Model trained using Jupyter Notebook and then is deployed using flask

Reference: hhttps://towardsdatascience.com/how-to-easily-deploy-machine-learning-models-using-flask-b95af8fe34d4

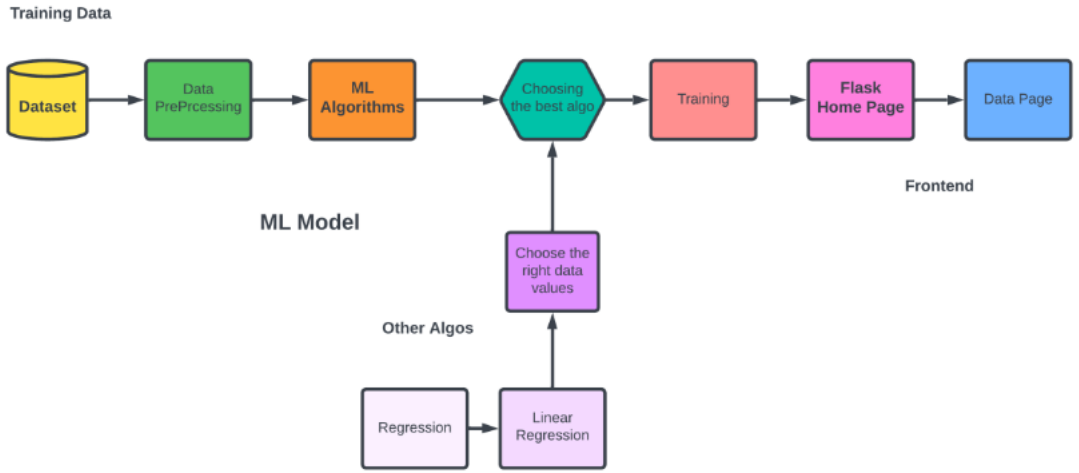

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript, Flask
2.	Application Logic-1	ML Model training	Python
3.	Application Logic-2	IBM Visualizations	IBM Cognos
4.	Application Logic-3	Logic for logging in	Mongo
5.	Database	Data Type, Configurations etc.	MongoDB Compass
6.	Cloud Database	Database Service on Cloud	MongoDB Atlas
7.	Machine Learning Model	Purpose of Machine Learning Model	Linear Regression
8.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, AWS

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Bootstrap, Flask-RESTful
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	Firewall
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Flask, Docker
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	AWS

S.No	Characteristics	Description	Technology
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	AWS

References:

https://towardsdatascience.com/how-to-easily-deploy-machine-learning-models-using-flask-b95af8fe34d4

https://flask.palletsprojects.com/en/2.3.x/

https://www.seldon.io/machine-learning-regression-explained

https://www.geeksforgeeks.org/deploy-machine-learning-model-using-flask/