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

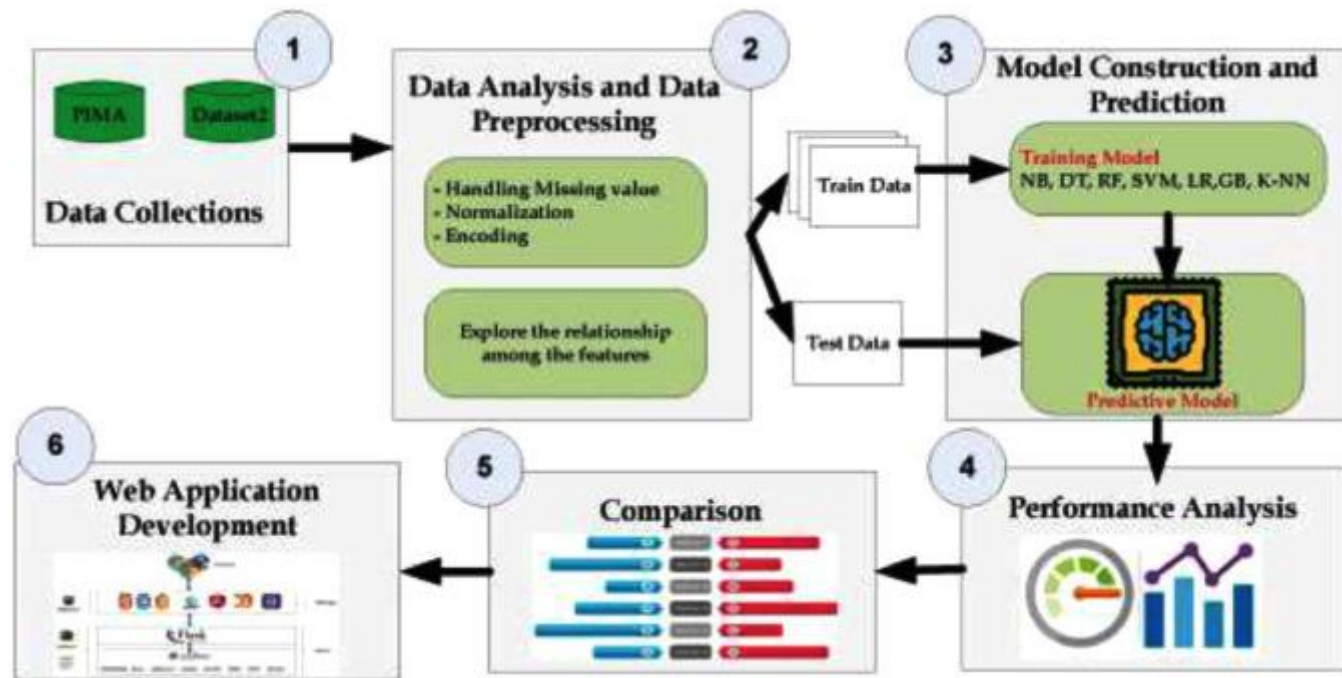**TEAM:**
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Diabetics using machine learning**:**

Guidelines:

Step 1: The user interface provides input to the application.

Step 2: The program verifies the user's input and formats it so the machine learning model can use it.

Step 3: The application uses the machine learning model to make predictions by sending the user's preprocessed input.

Step 4: The machine learning model sends the prediction to the application.

Step 5: The prediction is post-processed by the application so that it can be shown to the user.

Step 6: The user is presented with the prediction by the application on the user interface.

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Users can sort and filter their test results by column using the application's user interface.	Python, Flask
2.	Application Logic-1	To make sure Logic-1 satisfies all of its functional requirements, we tested it unit.	Python
3.	Application Logic-2	To make sure Logic-2 satisfies all of its functional requirements, we tested it unit.	Decision trees, Logistic regression
4.	Application Logic-3	To make sure Logic-3 satisfies all of its functional requirements, we tested it in units.	Random forest classification and SVM
5.	Database	patient medical records related to diabetes	Kaggle
6.	Cloud Database	Relational database management system (RDBMS) housed on a cloud platform that holds data about patients with diabetes	Github
7.	File Storage	The specifications for a computer system's performance and capacity when storing files	Github
8.	External API-1	Using a RESTful protocol, the application sends requests to an external API.	Flask
9.	External API-2	Using a RESTful protocol, the application sends requests to an external API.	Python
10.	Machine Learning Model	a statistical model that can identify patterns and forecast outcomes after being trained on a sizable dataset of data.	Random forest classification

S.No	Characteristics	Description	Technology
11.	Infrastructure (Server / Cloud)	The process of setting up and supplying the hardware needed to execute an application on a cloud server or local system	Deployed using Flask

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	list the open-source frameworks that are utilized to implement the features of the application.	NumPy,Pandas,Flask
2.	Availability	Examine the suggested architecture's scalability features (microservices or 3-tier architecture) and back up your conclusions with data.	Technology used 2-Tire
3.	Performance	Examine the application's availability needs and create an architecture that satisfies them.	Flask is used to implement a REST API that allows users to submit their data to the machine learning model.

References:

https://www.javatpoint.com/diabetes-prediction-using-machine-learning

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