PROJECT DESIGN PHASE- II
Technology Stack(Architecture and Stack)

Team ID:	PNT2022TMID14141
Project name:	Visualizing and Predicting Heart Diseases with an Interative DashBoard
Maximum marks:	4 marks

Technical Architecture:

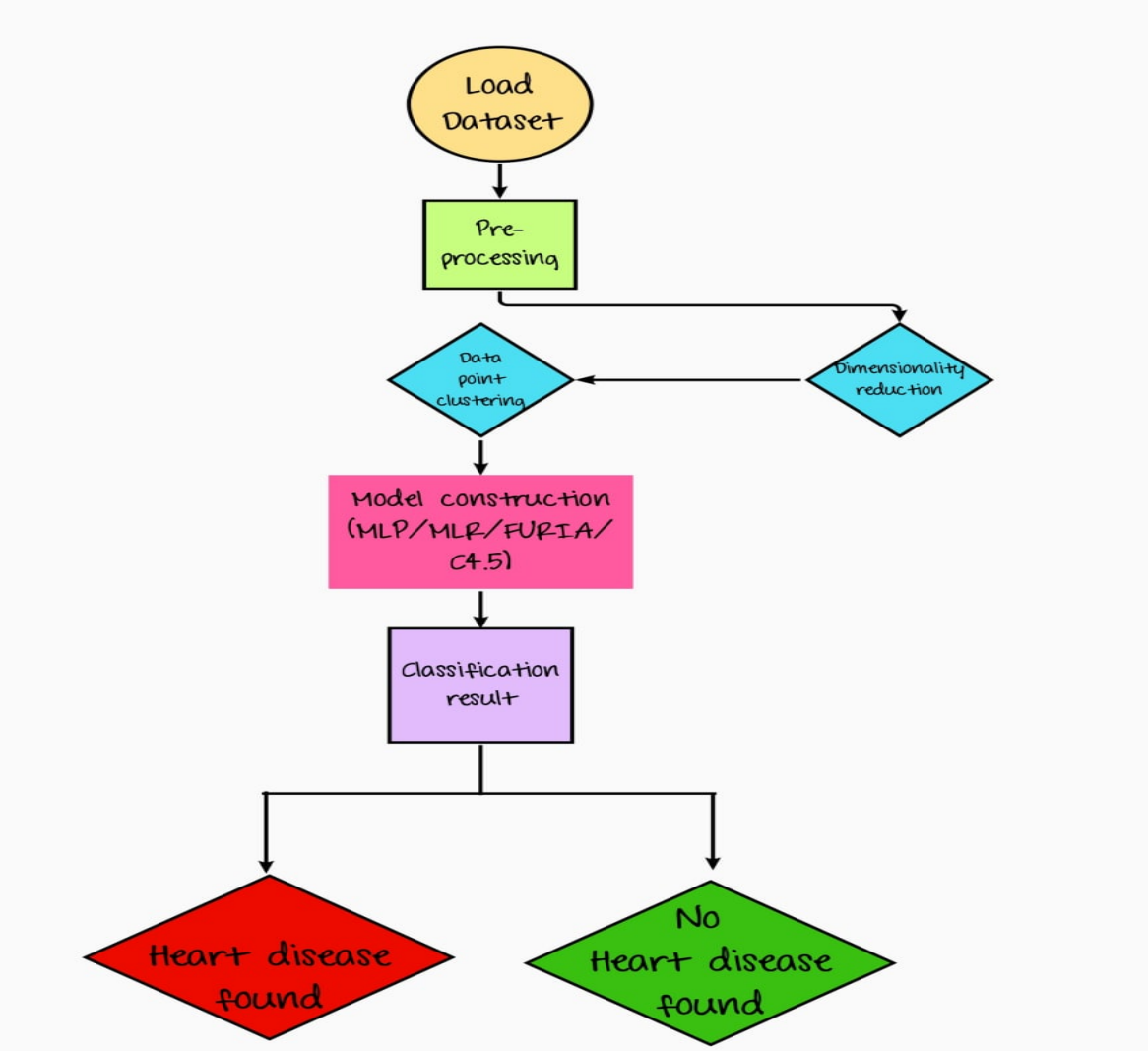

Table-1 : Components & Technologies:

S.No	Components	Description	Technology
1.	Fetching data	Import Data infers the data type of each column based on the values it contains, and loads the data into your designer pipeline. The output of Import Data is a dataset that can be used with any designer pipeline.	Python, numpy, pandas
2.	Data cleaning	Data cleaning is the process of preparing data for analysis by removing or modifying data that is incorrect, incomplete, irrelevant, duplicated, or improperly formatted.	Python
3.	Data Pre-processing	Required tasks for cleaning the data and making it suitable for a machine learning model which also increases the accuracy and efficiency of a machine learning model.	Python
4.	Training data	Training data is an extremely large dataset that is used to teach a machine learning model. Training data is used to teach prediction models that use machine learning algorithms how to extract features that are relevant to specific business goals.	Python
5.	Testing data	Data Analytics testing ensures validation of all structured and unstructured data with focus on achieving superior data quality to enable meaningful analytics. The key objective of analytics testing is to	Python

		optimize and enhance user experience.	
6.	Machine learning model	Machine learning is the science of designing algorithms that learn on their own from data and adapt without human correction. File that has been trained to recognize certain types of patterns. You train a model over a set of data, providing it an algorithm that it can use to reason over and learn from those data.	Python
7.	Checking accuracy	Data accuracy is, whether or not given values are correct and consistent. The two most important characteristics of this are form and content, and a data set must be correct in both fields to be accurate.	Python

Table-2 : Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	An open source framework is a template for software development that is designed by a social network of software developers. These frameworks are free for public use and provide the foundation for building a software application.	Django

2.	Security Implementations	Security analytics combines data from the various sources and looks for correlations and anomalies within the data. A security analytics tool may use different methods for analyzing the data. These include traditional rules-based methods, as well as statistical analysis and machine learning.	SHA-256, Encryptions, IAM Controls, OWASP, etc,.
3.	Scalable Architecture	A scalable, performant microservice is one that is driven by efficiency, one that can not only handle a large number of tasks or requests at the same time, but can handle them efficiently and is prepared for tasks or requests to increase in the future. Microservices architecture is an application structure that divides services into separate modules which are loosely coupled together.	Microservices 'Smart Edpoints and Dump pipes' , AWS Lambda, API Gateway
4.	Availability	Load Balancer acts as the enterprise's single point-of-presence on the Internet, even if the enterprise uses multiple back end servers because of high demand or a large amount of content. Availability is achieved through load balancing multiple content hosts and failover support.	Server Load Balancers

5.	Performance	The data in a cache is generally stored in fast access hardware such as RAM and a cache is a high-speed data storage layer which stores a subset of data, typically transient in nature, so that future requests for that data are served up faster than is possible by accessing the data's primary storage location. Caching allows you to efficiently reuse previously retrieved or computed data.	Caching