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

Project Name	Project - Visualizing and Predicting Heart Diseases with an Interactive Dash Board

Technical Architecture:

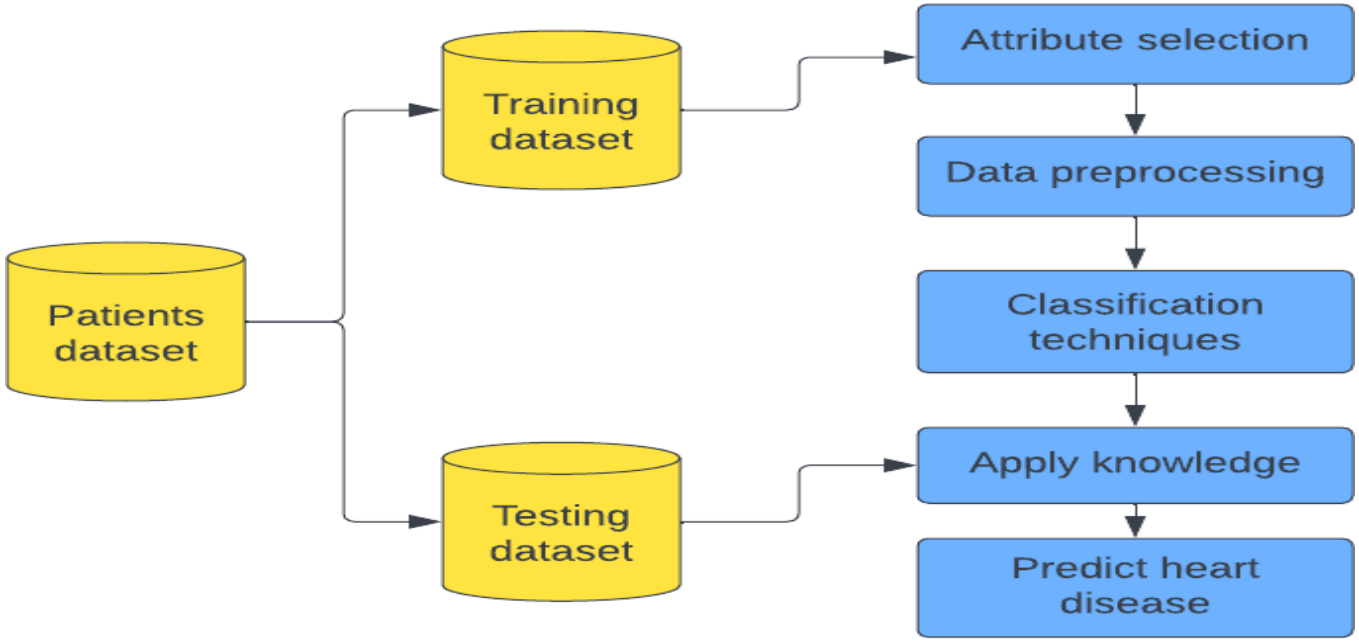

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Importing data	Data Import lets you upload data from external sources and combine it with data you collect via Analytics	Python , numpy ,pandas
2.	Data Cleaning	Data cleaning is a process by which inaccurate, poorly formatted, or otherwise messy data is organized and corrected	Python
3.	Data Pre-processing	Data pre-processing, a component of data preparation, describes any type of processing performed on raw data to prepare it for another data processing procedure	Python
4.	Training data	Training data is the subset of original data that is used to train the machine learning model,	Python
5.	Testing data	Test data is data which has been specifically identified for use in tests, typically of a computer program.	Python
6.	Machine learning model	A machine learning model is a 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.	Improve model performance	Accuracy is one metric for evaluating classification models. Informally, accuracy is the fraction of predictions our model got right.	Python
8.	Cheeking accuracy	A data accuracy check is a set of quality validations that take place before using data.	Python

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Frameworks are about more than just creating a development environment. They help to define a set of	Django

S.No	Characteristics	Description	Technology
		standards that programmers can follow when working collectively. When programmers choose a certain framework, they adopt the specific tools and methodologies associated with that framework. This also means they must be mindful of your choice, as they may end up with processes that don't fit the needs of their project or the developers involved.	
2.	Security Implementations	SHA-1 or Secure Hash Algorithm 1 is a cryptographic hash function which takes an input and produces a 160-bit (20-byte) hash value. This hash value is known as a message digest. This message digest is usually then rendered as a hexadecimal number which is 40 digits long.	SHA-256, Encryptions, IAM Controls, OWASP
3.	Scalable Architecture	Microservices architecture is an application structure that divides services into separate modules which are loosely coupled together, communicating with each other through light-weight mechanisms, often an HTTP resource API, WebSockets, or AMQP.	Microservices 'Smart Endpoints and Dumb Pipes', AWS Lambda, API Gateway
4.	Availability	A load balancer can be deployed as the front end to a cluster of servers, routing each incoming client request to a member of the cluster, and relaying the response back to the client. To ensure high availability and optimal service, the load balancer performs continual health checks of each server in the cluster, using probes to determine its eligibility for requests.	Server Load Balancers/ Global Service Load Balancing
5.	Performance	The data in a cache is generally stored in fast access hardware such as RAM (Random-access memory) and may also be used in correlation with a software component. A cache's primary purpose is to increase data retrieval performance by reducing the need to access the underlying slower storage layer	Caching