

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

TeamID	PNT2022TMID05510
ProjectName	Project – Visualizing and predicting heart diseases with an interactive dashboard.
MaximumMarks	4 Marks

**Technical Architecture:**

The Deliverables shall include the architectural diagrams below and the information as per the table 1 & table 2

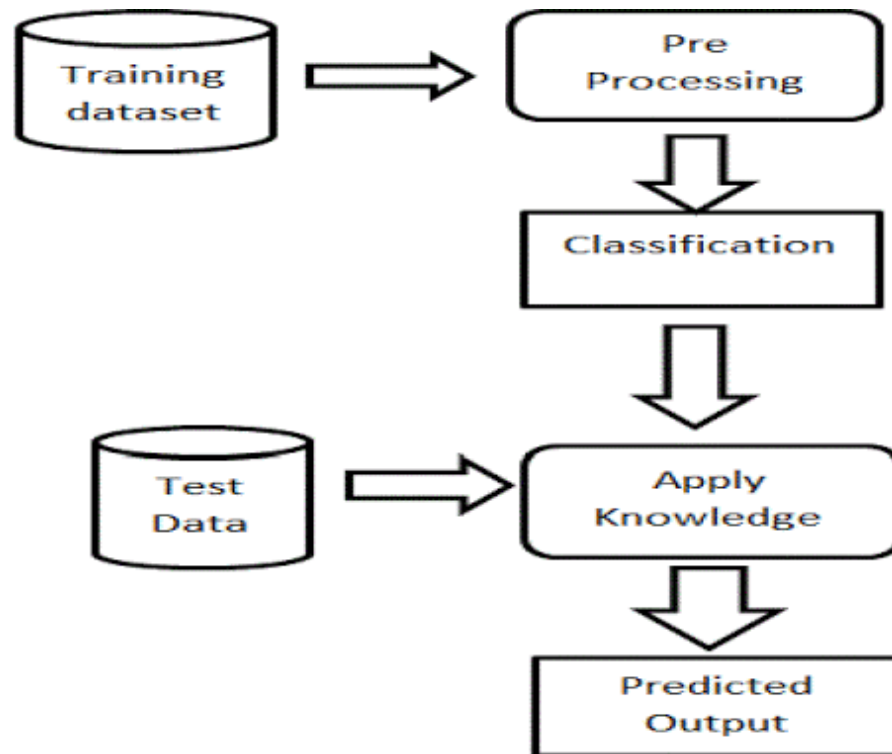


Table-1: Components& Technologies:

S.No	Component	Description	Technology
1.	Importingdata	DataImport letsyouuploaddatafromexternalsourcesandcombi neit withdatayoucollect viaAnalytics	Python,numpy,pandas.
2.	DataCleaning	Datacleaningisaprocessbywhichinaccurat e,poorlyformatted, or otherwise messy data isorganizedandcorrected	Python,numpy,pandas
3.	DataPreprocessing	Data preprocessing, a component of data preparation,describesanytypeofprocessingperfor medonrawdatatoprepareitforanotherdata processingprocedure	Python,numpy,scipy,pandas
4.	Trainingdata	Trainingdataisthesubsetoforiginaldatathatisused totrain themachinelearningmodel,	Numpy,scipy, pandas
5.	Testingdata	Testdataisdatawhichhasbeenspecificallyidentifiedfo rusein tests,typically of acomputerprogram.	Numpy,scipy, pandas
6.	Machinelearningmodel	Amachinelearning modelisaflethathasbeen trainedto recognize certain types of patterns. You train a modelover a set of data, providing it an algorithm that it can usetoreason over andlearnfromthosedata	Numpy,scipy, pandas,sklearn
7.	Improvemodelperformance	Accuracyisonemetricforevaluatingclassificationm odels. Informally, accuracy is the fraction ofpredictionsour modelgotright.	sklearn

8.	Checkingaccuracy	A data accuracy check, sometimes called a data sanitycheck,isasetofqualityvalidationsthatakeplac eforeusingdata.	Sklearn
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Table-2:ApplicationCharacteristics:

S.No	Characteristics	Description	Technology
1.	Collectionofdata	Datacollection istheprocessofgathering,measuring,anda nalyzingaccuratedatafrom avariety of relevant sources to find answers toresearch problems, answer questions, evaluateoutcomes,andforecasttrendsand probabilities	IBMCognos,Python.
2.	EDAAalysis	Exploratory Data Analysis (EDA) is an approach toanalyze the data using visual techniques. It is used todiscover trends, patterns, or to check assumptions withthe help of statistical summary and graphicalrepresentations	Python, EDAtools
3.	Train& Testsplit ofdata	Thetrain- testsplitisusedtoestimatetheperformance of machine learning algorithms thatare applicable for prediction- basedAlgorithms/Applications.Thismethodisa fast andeasy procedure to perform such that we cancompare our own machine learning model resultstomachine results.	IBMCloud,Python.
4.	Modelprediction	Predictive modelling is a commonly usedstatisticaltechniquetopredictfuturebe haviour.	CreationofDashboardusingIBMCognos.

