Project Design Phase-I
Solution Architecture

Date	31 october 2022
Team ID	PNT2022TMID16827
Project Name	Project - Visualizing And Predicting Heart Diseases With An Interactive Dash Board
Maximum Marks	4 Marks

Solution Architecture:

Solution architecture is a practice to provide ground for software development projects by tailoring IT solutions to specific business needs and defining their functional requirements and stages of implementation.

It is comprised of many subprocesses that draw guidance from various enterprise architecture viewpoints.

How strong are our hearts? Can we use data to help prevent heart disease that could lead to heart attacks or strokes? It turns out a simple tool like Data Visualization combined with our Machine Learning plugin might be the keys to the solution.

Heart Disease (including Coronary Heart Disease, Hypertension, and Stroke) accounts for about 1 of every 3 deaths in the US, or nearly 801,000 deaths in one year, according to the American Heart Association, Cardiovascular disease is the leading global cause of death, accounting for more than 17.3 million deaths per year in 2013, a number that is expected to grow to more than 23.6 million by 2030.

A healthy lifestyle—including good nutrition, exercise, and avoiding smoking—can decrease the chances of developing heart disease. But what if we could see data based on specific markers that could spot trouble ahead and the likelihood of cardiovascular disease? Data Visualization and machine learning algorithms are applied on patient health data to predict the prospect of heart disease. Multi-classification Machine Learning technique can also be used.

- Get data of patients known to have heart disease. The dataset can contains information related to heart diseases like blood sugar, cholesterol and other medical information about the individual
- Create a multi-classification neural net model using that data
- Use that model to predict the heart disease likelihood in other individuals for whom we know their medical history or medical information

Solution Architecture Diagram:

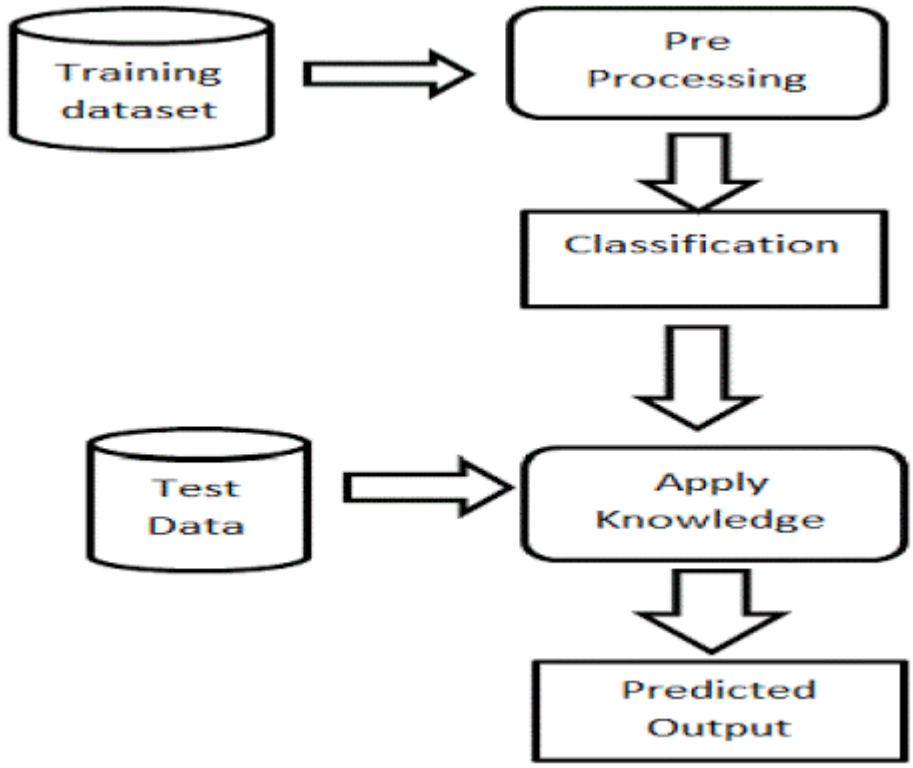

Figure 1: Architecture and data flow of the Heart Disease Prediction on Physical and Mental Parameters