

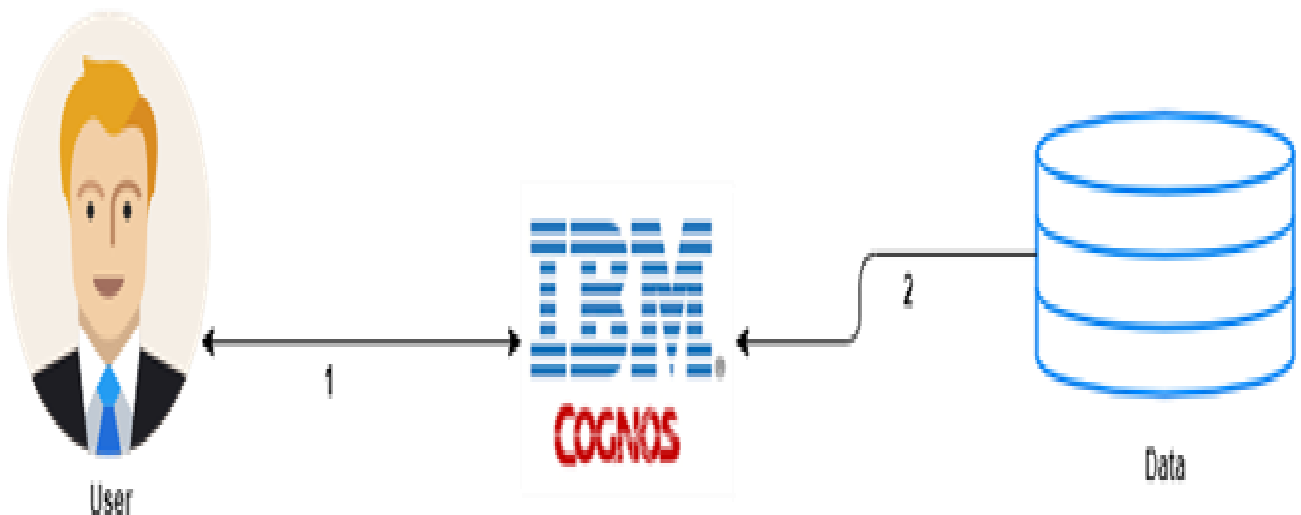
PROJECT OBJECTIVES

Team ID	PNT2022TMID28187
Project Name	Visualizing and Predicting Heart Diseases with an Interactive Dash Board.
Maximum Marks	4 Marks

Problem Statement:

The leading cause of death in the developed world is heart disease. Therefore, there needs to be work done to help prevent the risks of having a heart attack or stroke.

Technical Architecture:



Project Objectives:

The objective of this project is to check whether the patient is likely to be diagnosed with any cardiovascular heart diseases based on their medical attributes such as gender, age, chest pain, fasting sugar level, etc. A dataset is selected from the UCI repository with patient's medical history and attributes. By using this dataset, we predict whether the patient can have a heart disease or not. To predict this, we use 14 medical attributes of a patient and classify him if the patient is likely to have a heart disease.

1. Age: displays the age of the individual.

2. Sex: displays the gender of the individual using the following format : 1 = male 0 = female

3. Chest-pain type: displays the type of chest-pain experienced by the individual using the following format : 1 = typical angina 2 = atypical angina 3 = non — anginal pain 4 = asymptotic

4. Resting Blood Pressure: displays the resting blood pressure value of an individual in mmHg (unit)

5. Serum Cholestrol: displays the serum cholesterol in mg/dl (unit)

6. Fasting Blood Sugar: compares the fasting blood sugar value of an individual with 120mg/dl. If fasting blood sugar > 120mg/dl then : 1 (true) else : 0 (false)

7. Resting ECG : displays resting electrocardiographic results 0 = normal 1 = having ST-T wave abnormality 2 = left ventricular hyperthrophy

8. Max heart rate achieved : displays the max heart rate achieved by an individual.

9. Exercise induced angina : 1 = yes 0 = no

10.ST depression induced by exercise relative to rest: displays the value which is an integer or float.

11.Peak exercise ST segment : 1 = upsloping 2 = flat 3 = downsloping

12.Number of major vessels (0–3) colored by flourosopy : displays the value as integer or float.

13.Thal : displays the thalassemia : 3 = normal 6 = fixed defect 7 =reversible defect

14.Diagnosis of heart disease : Displays whether the individual is suffering from heart disease or not : 0 = absence 1, 2, 3, 4 = present.

These medical attributes are trained under three algorithms: Logistic regression, KNN and Random Forest Classifier. And, finally we classify patients that are at risk of getting a heart disease or not and also this method is totally cost efficient.

By the end of this Project, one will:

- Know fundamental concepts and can work on IBM Cognos Analytics
- Gain a broad understanding of plotting different visualizations to provide a suitable solution.
- Able to create meaningful Visualizations and Dashboard(s).