VISUALIZING AND PREDICTING HEART DISEASE WITH AN INTERACTIVE DASHBOARD

TEAM ID:PNT2022TMID29954

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PROJECT CONTENTS:

- Introduction
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- Working Demo Of The Project
- Performance Metrices(results)
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INTRODUCTION:

Heart disease (HD) is a major cause of mortality in modern society. Medical diagnosis is an extremely important but complicated task that should be performed accurately and efficiently. Cardiovascular disease is difficult to detect due to several risk factors, including high blood pressure, cholesterol, and an abnormal pulse rate . Based on the analytics we can analyze which patients are most likely to suffer from heart disease in the near future and based on the patient details we will take decisions to cure them.

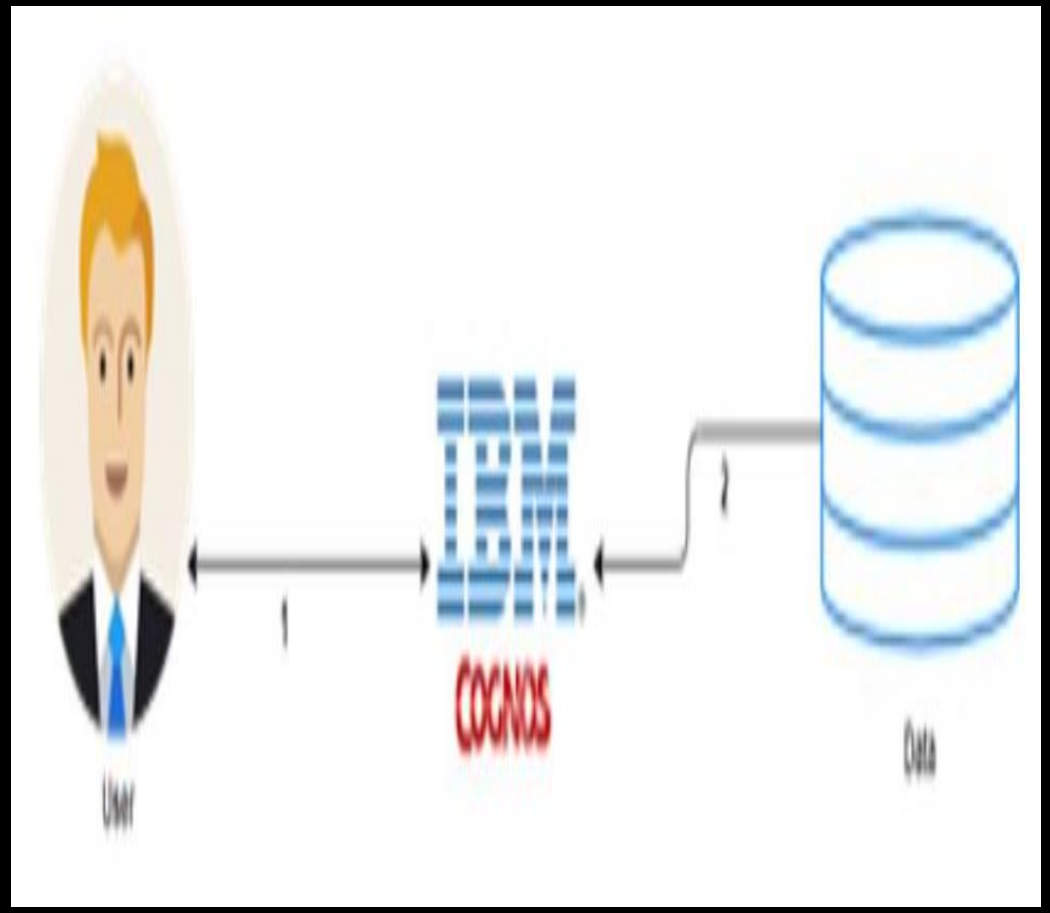
Problem Statement

According to WHO ,heart disease is the leading cause of death globally representing 31% of all deaths occurred in low income countries and middle income countries. Therefore, there needs to be work done to prevent the risks of having a heart attack or stroke and to predict which patients are most likely to suffer from a heart disease in the future using the features given. The huge volume of data is used to make decision which is more accurate than intuition. Machine learning techniques may aid analysis in the prediction of the disease. Moreover, this prediction is one of the most central problems in medical, as it is one of the leading diseases related to unhealthy lifestyle. So, an early prediction of this disease will be useful for a cure . We experiment with the heart disease dataset to explore the machine learning algorithms and build an optimum model to predict the disease.

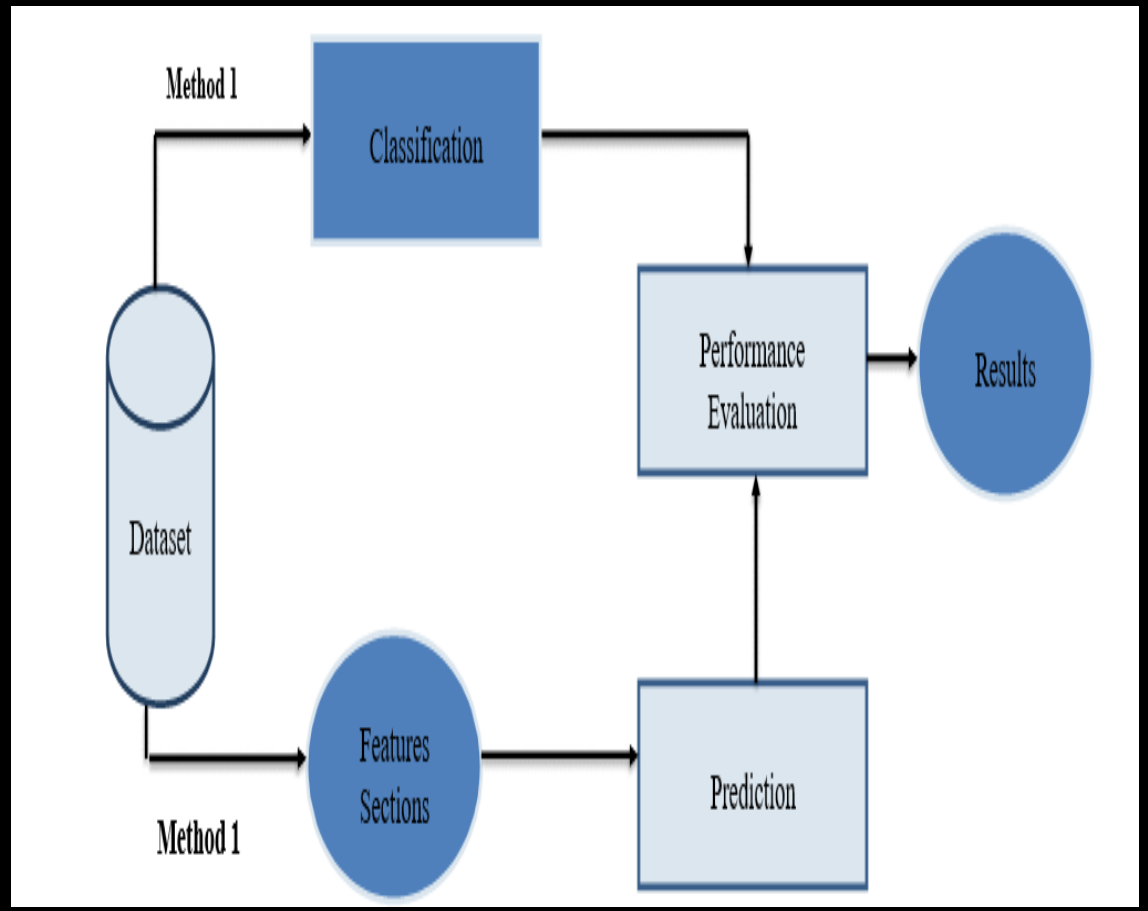
Proposed Solution:

With the help of IBM Cognos analytics we can analyse which patients are most likely to suffer from heart disease in near future and based on the patient details we can take decision to cure them. The dataset holds 209 records with 8 attributes such as age, chest pain type, blood pressure, blood glucose level, ECG in rest, heart rate and four types of chest pain. To predict the heart disease data analytics and visualization tool are used. In the result section, the visualized data shows that the prediction is accurate. Heart disease is easier to treat when it is detected in the early stages.

TECHNICAL ARCHITECTURE



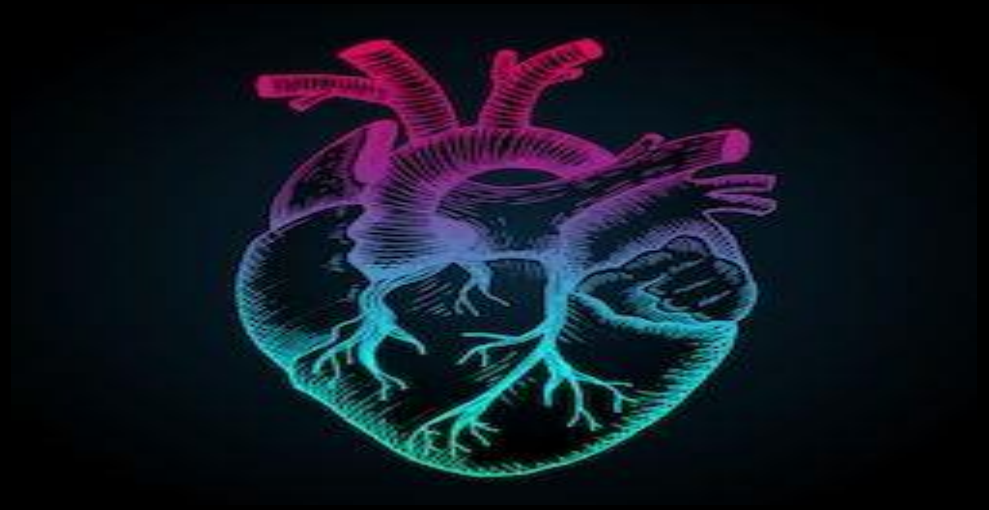
SOLUTION ARCHITECTURE



Working Demo Of The Project:

PERFORMANCE METRICS

Si.No.	Parameter	Screenshot / Values
1.	Dashboard design	Dashboard consist of 7 graph in 2 different tabs
2.	Data Responsiveness	Data was responsive for creating dashboard, story and report
3.	Amount Data to Rendered (DB2 Metrics)	Heart Disease Prediction dataset which consist of 938 data's in it.
4.	Utilization of Data Filters	Data filters were used to find the top most of the data in form of visualization.
5.	Effective User Story	Story consist of 8 scenes and 7 graphs
6.	Descriptive Reports	Created 1 report with 2 graphs



SCALABILITY

Using this approach, we show that up to 98% accuracy is achieved. With the help of IBM Cognos Analytics our project performs the former by a significant.

FUTURE SCOPE

Based on the analytics we can analyze which patients are most likely to suffer from heart disease in the near future and based on the patient details we will take decisions to cure them.


Thank
you