Project Title: Visualizing and Predicting Heart Diseases with an Interactive Dashboard

Project Design Phase-I - Solution Fit

Team ID: PNT2022TMID23310

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS

Individual users include doctors, medical experts, patients, and those who wish to know if they are at risk for heart disease.

6. CUSTOMER CONSTRAINTS CC

Internet issues, Database errors, Understanding the interactive dashboard

5. AVAILABLE SOLUTIONS AS

Heart disease prediction using exploratory data analysis,data mining techniques etc.

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS J&P

Data quality should be precise and trustworthy. Naturally, the result will purely depend on the information we use to make the prediction. The prediction that is based on the data will also be biassed if the data is skewed.

9. PROBLEM ROOT CAUSE RC

High blood pressure, high LDL cholesterol, diabetes, smoking, secondhand smoke exposure, obesity, a poor diet, and inactivity are the main causes of heart diseases

7. BEHAVIOUR BE

To give a complete and organised data collection, including age, gender, chest discomfort, blood pressure, cholesterol level, and other factors, in order to make an accurate predictions

Focus on J&P, tap into BE, understand RC

Identify strong TR & EM

3. TRIGGERS TR

As a preventative strategy, dread of heart illnesses, abrupt chest pain, and easily understood prediction with an interactive dashboard

4. EMOTIONS: EM

BEFORE

There is no reliable technique to detect cardiovascular disease in its early stages.

AFTER

An interactive dashboard that displays the severity and stages of heart disease along with appropriate advice and suggestions

10. YOUR SOLUTION SL

The concept behind the encountered solution is to suggest an interactive dashboard for visualizing and forecasting cardiac problems, where the user may observe the analysis of people's medical reports and the anticipated outcome. IBM Cognos will be used to visualize thereby showcasing in a dashboard. The dataset will first be examined and prepped. Several machine learning techniques can be used to predict cardiac disease. To achieve greater accuracy than is feasible, our system combines all of these algorithms with the ideas of neural networks. The average forecast from the aforementioned algorithms will be our final outcome. We anticipate achieving an accuracy of >90% as we mix multiple algorithms.

8. CHANNELS of BEHAVIOUR CH

8.1 ONLINE

The user will provide their data using an interactive dashboard to get precise predictions.

8.2 OFFLINE

The user can decide whether or not to consult a doctor based on the prediction they receive.

Identify strong TR & EM