PROJECT DESIGN PHASE-1

PROPOSED SOLUTION

DATE	31st OCTOBER 2022
TEAM ID	PNT2022TMID49153
PROJECT NAME	Visualizing And Predicting Heart Diseases With An Interactive Dash Board
MAXIMUM MARKS	2 MARKS

PROBLEM STATEMENT : (Problems To Be Solved)

- The leading cause of death is heart disease.Heart disease refers to several types of abnormalities in heart conditions.
- It is inconvenient for a common man to take ECG test periodically.
- Also,lack of proper diagonistic tools and accurate results affect the treatment of cardiac patients Thus based on a parential medical history.
- The goal is to come up with a reliable prediction model so that the hospitals can use this information to treat the patients at the starting state of the diseases.

IDEAS OR SOLUTION DESCRIPTION :

- The solution is to provides an interactive dashboard for visualizing and predicting cardiac problems. IBM Cognos platform is used to visualize the given data.
- Machine learning techniques like support vector machine,decision tree,navie bayes,random forest,k-nearest neighbour and neutral networks are used to predict cardiac disease.
- To achieve greater accuracy,fusion of these algorithms is done. EDA is a method to analyse data using advanced techniques to expose hidden structure,enhance the insight into a given dataset.
- To identifies the abnormalies and built parsimonious models to test the underlying assumptions.

NOVELTY AND UNIQUENESS :

- The prime novelty of the solution is the fusion of highly efficient algorithms,that eliminates the disadvantages of every algorithm when employed individually and also provides a higher level of accuracy in prediction.
- Another innovation is employed in the dashboard by providing diet and fitness related suggestions to the user based on his/her medical reports and history.
- In addition to it, the patient is given a list of hospitals closer to the patient’s locality and serverity of the disease to be occurs on.

SOCIAL IMPACT AND CUSTOMER SATISFACTION :

- It helps with disease prediction at an early stage and alerts the users about his/her current health status.
- Heart disease can be cured by a mix of medication, lifestyle modifications, and occasionally surgery.
- The system helps the user as well as the doctor to make better decisions.
- Complex questions related to heart diseases can be answered by extracting hidden knowledge.
  (i.e.,patterns and relationships from the heart disease databases.

BUSINESS MODEL (REVENUE MODEL) :

- This interactive dashboard for heart disease prediction can be installed in hospitals and health care facilities.
- Predicted outcomes can be utilized to avoid expensive surgeries.
- It can be used in educational institutions, industries and all types of work places to monitor the employees health conditions and thereby helping them lead a healthier life.

SCALABILITY OF THE SOLUTION :

- The proposed solution works efficiently in both smaller and larger datasets.
- This predictive model can be used to detect diseases in other internal organs too.