

Project Design Phase-I
Proposed Solution

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| Date | 22 September 2022 |
| Team ID | PNT2022TMID01556 |
| Project Name | Visualizing and Predicting Heart Diseases with an Interactive dashboard |
| Maximum Marks | 2 Marks |

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

| S.No. | Parameter | Description |
|-------|---|--|
| 1. | Problem Statement (Problem to be solved) | <p><u>Visualizing and Predicting Heart Diseases with an Interactive Dashboard</u></p> <p>Heart disease is the leading cause of death for men, women, and people of most racial and ethnic groups in the World. Lack of proper diagnostic tools and accurate results affect the treatment of cardiac patients, the diagnosis and treatment processes are currently quite difficult. Based on a patient's medical history, an expert's symptom analysis report, and physical laboratory results, invasive procedures are used to identify cardiac problems. The goal is to accurately create a data set about Heart patients so that the hospital can use this information to easily visualize and predict the patient details. Furthermore, because of human intervention, delays result in inaccurate diagnoses. Based on a variety of symptoms, including age, gender, pulse rate, physical examination, symptoms, signs of the patient, etc., heart disease can be anticipated.</p> |
| 2. | Idea / Solution description | <p>The main idea of our project is to use classification and regression techniques in IBM Cognos Analytics Application. The parameters in the data set help hospitals identify the patient heart condition and health condition. An informative and creative dashboard can be created to present the data and utilize it for future use.</p> |
| 3. | Novelty / Uniqueness | <p>The proposed system gets inputs directly from the user for parameters such as age, BP level, cholesterol level, smoker history, heart rate, etc. IBM Cognos Analytics is used for learning relationships among input parameters, answering complex queries, with better accuracy, and providing the optimal solution.</p> |
| 4. | Social Impact / Customer Satisfaction | <p>The provision of high-quality services at reasonable prices is a significant problem for healthcare institutions, including hospitals and medical facilities. The provision of high-quality</p> |

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| | | <p>care necessitates accurate patient diagnosis and efficient treatment delivery. Both numerical and categorical data are present in the heart disease database that is accessible. These entries are cleaned and filtered to remove any extraneous data from the database before being subjected to further processing. Complex questions for heart disease diagnosis can be answered by extracting hidden knowledge, i.e., patterns and relationships related to heart illness, from a historical heart disease database. As a result, it may aid medical professionals in making wise clinical judgments</p> |
| 5. | Business Model (Revenue Model) | <pre> graph TD A([Medical Data]) --> B[Data Preprocessing] B --> C[/Handle Missing Value/] C --> D[Random Shuffling] D --> E[Train Set] D --> F[Test Set] E --> G[Learn Parameters] F --> H[Heart Disease Prediction] </pre> |
| 6. | Scalability of the Solution | <p>Easy prediction of the patient details with heart disease. Maintains the best user experience.</p> <ul style="list-style-type: none"> • Reduced Cost. • Reduce time management complexity of doctors Faster and more accurate prediction virtually . • Mortality rate. • Reduce the risk of critical factors. • Analyze in-depth focus on anticipated risks. |