Project Design Phase-I
Proposed Solution Template

Date	23 September 2022
Team ID	PPNT2022TMID40507
Project Name	Project - Visualizing and Predicting Heart Diseases with an Interactive Dash Board
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)	Angina is the discomfort caused when the muscles of heart is not supplied with sufficient oxygen rich blood. High blood pressure is one of the major causes of heart disease as it damages arteries. Blood pressure combined with diabetes can increase the risk even more. Heart rate with high blood pressure increases the risk of heart diseases. Heart beat rate is directly proportional to the risk of coronary disease. The symptom of heart disease includes feeling gripping and tight usually on the chest but spread to shoulders up to the stomach. The types of angina are atypical angina, typical angina, asymptomatic and non-anginal pain
2.	Idea / Solution description	The use of analytics in healthcare improves care by facilitating preventive care and EDA is a vital step while analysing data. The use of data analytics and virtualization tool to find the risk factors that causes heart disease is considered and predicted using K-means algorithm and the analysis is carried out using a publicly available data for heart disease.
3.	Novelty / Uniqueness	if three-dimensional (3D) imaging of congenital heart disease (CHD) could be more useful than two-dimensional (2D) visualisation for clarifying CHD anatomy and raising awareness. Stakeholders including the government and health insurance providers could gain from disease prediction. Patients who are at risk for certain illnesses or disorders can be identified.
4.	Social Impact / Customer Satisfaction	Patient satisfaction is also determined by exploring the particularity between the expected and perceived health services.

5.	Business Model (Revenue Model)	The Successful Business Strategies to Prevent Heart Disease and Stroke Toolkit provides information, materials, and tools that state programs can reference and distribute to businesses, primarily through employer and professional organizations. The Toolkit also assists state programs in addressing these CVH priority areas: • Providing health care coverage for employees and their families that includes primary and secondary prevention services addressing heart disease and stroke, as well as rehabilitation services for heart attack and stroke survivors. • Assuring detection and follow-up services with employees at the worksite to control high blood pressure and cholesterol. • Promoting adequate cost coverage or reimbursement for prescription drugs required
6.	Scalability of the Solution	Using this approach, we show that up to 98% accuracy is achieved. We also present a comparison against Naïve-Bayes classifier, where we show the random forest approach outperforms the former by a significant.