

**Project Design Phase-I**  
**Proposed Solution Template**

Date	21 September 2022
Team ID	PNT2022TMID35954
Project Name	Project - Visualizing And Predicting Heart Diseases With An Interactive Dashboard
Maximum Marks	2 Marks

**Proposed Solution Template:**

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

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	<ul style="list-style-type: none"> <li>• Users create multiple analytical graphs/charts/Visualizations.</li> <li>• Using the Analytical Visualizations, build required Dashboard(s).</li> <li>• Saving and visualizing the final dashboard in the IBM Cognos Analytics.</li> </ul>
2.	Idea / Solution description	Building the following visualizations and drawing appropriate conclusions: <ul style="list-style-type: none"> <li>• Average Age for different Chest Pain Types</li> <li>• Average Max heart beat achieved during Chest Pain</li> <li>• Resting Blood Pressure variation with Age</li> <li>• Effect of Existing Heart Diseases on Average Max Hearbeats Achieved</li> <li>• Average age for Chest pain type wrt existing heart disease</li> <li>• Serum Cholesterol levels vs Age plot</li> <li>• Effect of Existing heart disease on Fasting Blood Sugar</li> </ul>
3.	Novelty / Uniqueness	<ul style="list-style-type: none"> <li>• Performing Exploratory Data Analysis on the chosen dataset, scaling and encoding features.</li> <li>• Using various linear classifiers such as SVM, Logistic Regression, and tree models such as Decision Tree, Random Forest, Gradient Boosting - to compare their performances and improve existing accuracy.</li> </ul>
4.	Social Impact / Customer Satisfaction	The leading cause of death in the developed world is heart disease. Therefore, there needs to be work done to help prevent the risks of having a heart attack or stroke.

5.	Business Model (Revenue Model)	<p>Key Partners: 3rd Party Applications, foundations, Govt. Agencies</p> <p>Cost Structure: Tech, Investment (fixed)</p> <p>Revenue Streams: public and private contracts</p> <p>Customer segments: Middle aged people, older adults, patients already diagnosed with heart diseases or related illnesses</p> <p>Customer Relationship: Customer support, exclusive channels</p> <p>Customer channels: website, chatbot</p> <p>Value proposition: User friendly detection tool to detect heart diseases at the comfort of one's home</p> <p>Key Activities: Attracting new customers, retaining old ones, providing support, updating and maintaining data, platform development and maintenance</p> <p>Key Resources: Digital platform, loyal customer base, dedicated team</p>
6.	Scalability of the Solution	<p>There are 2 different ways to accomplish scaling for the proposed solution - Horizontal &amp; Vertical scaling.</p> <p>This solution can be vertically scaled with increasing the capacity of existing dataset with no change in the code.</p> <p>In terms of horizontal scalability, the proposed model can be scaled wider to deal with the traffic. This can be done by increasing the GPUs (Graphical Processing Units) &amp; TPUs (Tensor Processing Units) and working together as a single logical unit for faster access.</p>