

**Project Design Phase-II**  
**Solution Requirements (Functional & Non-functional)**

Date	17 October 2022
Team ID	PNT2022TMID18098
Project Name	Project - Visualizing and Predicting Heart Diseases with an Interactive Dashboard
Maximum Marks	4 Marks

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	<b>User Registration</b>	Enables users to make registration through a Google account, phone number, and online application forms.
FR-2	<b>User Confirmation</b>	Confirmation mail or message is sent to the user immediately after registration.
FR-3	<b>User's present status updation</b>	Gets the user's important medical conditions like heart beat rate, blood pressure, blood sugar level and cholesterol level.
FR-4	<b>Data Visualization</b>	The present medical status of the patient is visualized for better interpretation using IBM Cognos Analytics.
FR-5	<b>Disease Prediction</b>	Uses advanced machine learning techniques to predict the presence or absence of a heart disease and also its type if the disease is present.

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	<ul style="list-style-type: none"><li>• Easier navigation boosts the entire product's usability, helping users enjoy all the features offered.</li><li>• Our solution has better characteristics in navigation such as a hamburger menu.</li><li>• The application has a simple and userfriendly graphical interface.</li><li>• Any action can be performed with just a few clicks.</li><li>• Gives a tour regarding the features of the dashboard for first-time users.</li></ul>
NFR-2	<b>Security</b>	<ul style="list-style-type: none"><li>• The website does not require additional cookies to offer services.</li><li>• It stores the data of the patients in a protected database.</li></ul>

		<ul style="list-style-type: none"> <li>• It confirms the user's identity before any prediction is disclosed.</li> <li>• It does not allow another app or site to access data unless we intend to send data from the database to a different app or site that we don't own.</li> <li>• It provides data to the intended recipients as customized by each user personally.</li> </ul>
NFR-3	<b>Reliability</b>	<ul style="list-style-type: none"> <li>• The dashboard is accessible 24 x 7</li> <li>• It responds within the time frame needed.</li> <li>• It is regularly updated as per the user requirements.</li> <li>• The proposed solution provides a high degree of accuracy in the prediction of diseases.</li> </ul>
NFR-4	<b>Performance</b>	<ul style="list-style-type: none"> <li>• The dashboard provides real-time notifications about the user condition to the intended users.</li> <li>• The proposed solution offers services such as disease prediction, prevention, and treatment.</li> <li>• Due to the employment of lightweight algorithms, the speed of performance of the prediction modal is high.</li> </ul>
NFR-5	<b>Availability</b>	<ul style="list-style-type: none"> <li>• The application is available 24 x 7 for users without any interruption.</li> <li>• The user can access the application anytime, anywhere.</li> <li>• The data is spread across clusters so that if one storage node fails the entire data is not lost.</li> </ul>
NFR-6	<b>Scalability</b>	<ul style="list-style-type: none"> <li>• Any number of users can use the prediction model accurately without any delay at the same time using this application.</li> <li>• It can be integrated with smartwatches and apps for further advancements.</li> </ul>