

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

Date	12 October 2022
Team ID	PNT2022TMID44944
Project Name	Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral Image Representation
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	User Upload	Interacts with User interface to upload image
FR-2	User Selection	Knowledge about ECG imagesSelect the image to be classified
FR-3	User Input	No input ( For Training ) images need to be given..(All normal and the other six being different types of arrhythmia ECG images are already fed )
FR-4	User Output	Cited class will be displayed on the webpage (UI)
FR-5	User Storage	Cloud Storage Services via Google Drive.

**Non-functional Requirements:**

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

FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	An user friendly and simple UI web application. Easy drag and drop uploading options. No input, can select between pre-defined images made available in the UI web application by just selecting the type of image.
NFR-2	<b>Security</b>	Only user uploaded images / images selected by user are cited and classified by the model and displayed.No third party web and UI is used for prediction of data.Details about user interaction with the webapplication are protected by Advanced Security system.
NFR-3	<b>Reliability</b>	Defect free.Higher accuracy rate.Performs correctly in every scenario.The website's load time is not more than one second for users.
NFR-4	<b>Performance</b>	Fast and quick classification of the required class is done as the GPU used for the model is 10% more fast in analysing and uploading the user uploaded images !

NFR-5	<b>Availability</b>	Anytime anywhere available web application almost can found in all popular search engines like Google, etc.. Were user are requested to have good internet connection.
NFR-6	<b>Scalability</b>	More than one type of classification can be done as multiple images can be uploaded..Reduced traffic in case of multiple user interaction.