

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

Date	19 October 2022
Team ID	PNT2022TMID01033
Project Name	Project – 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 Registration	Registration through Form Registration through Gmail Registration through LinkedIn
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	App Installation	<ul style="list-style-type: none"> • Installation through link • Installation through play store
FR-4	User Interface	It should be user friendly and also should have some virtual memory by default to store recent information
FR-5	Dataset	<ul style="list-style-type: none"> • Collecting it personally • Through online websites like Kaggle • Through google forms
FR-6	Dash Board	Python related environments like Jupyter notebook ,Google colab etc for creating the application
FR-7	Database	<ul style="list-style-type: none"> • Stored in cloud for seamless connectivity • The result been classified is stored in cloud so it could be accessed later if required
FR-8	Server	It stores, sends and receives data. It is mainly required for connecting the application with the user in the backend
FR-9	API	It is used for enabling two software components to communicate with each other
FR-10	User Requirements	User should be able to provide or pass their 2D ECG image to the system without any difficulties
FR-11	React JS	<p>We are using</p> <ul style="list-style-type: none"> • react as the front-end for creating interactive user interface and • Node JS as our backend for server side programming and for back-end API services

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	<ul style="list-style-type: none">• The application should be supported by all Operating system .• It should be able to access even through Mobile phone• It should be user friendly to the customers
NFR-2	Security	The Application should be very much secure . There should not be any vulnerabilities or Application layer security problems such as Hacking etc . so to ensure security cryptographic techniques for username and password could be used
NFR-3	Reliability	The application should be reliable by means of <ul style="list-style-type: none">• Accuracy• Easy to use• Flexibility• Can be accessed multiple number of times
NFR-4	Performance	The performance of the application should be enhanced by <ul style="list-style-type: none">• using advanced API's• Effective memory utilisation• Easy accessibility of previous records improvising• Accuracy of the system Thereby resulting in the effectiveness of the system
NFR-5	Availability	The application is compatible for both mobile and desktop users and should be available to the user 24/7 and can be accessed anytime
NFR-6	Scalability	The application must be scalable enough to support more than 20,000 users at the same time ,while maintaining its efficiency and optimal performance