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

Date	03 October 2022
Team ID	PNT2022TMID17913
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	**ECG image upload**	Patient is able to upload the ECG via the Flask app. Doctor is able to upload the ECG via the Flask app.
FR-2	**Noise reduction**	Convert the ECG into grayscale. Reduce the noise in the image using AutoEncoder
FR-3	**CVD prediction**	CVD prediction can be done at a local machine. CVD prediction can be done at IBM cloud.
FR-4	**Result presentation**	CVD prediction must be presented to the end users. CVD prediction must be presented in detail to the doctor.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	It should be convenient to use by anybody. It must be user friendly.
NFR-2	**Security**	The analysed results should be kept confidential. Leakage of results of the patient will be dangerous and a crime.
NFR-3	**Reliability**	It should be reliable and should not cause any faults or failure after a certain period of time.
NFR-4	**Performance**	The analyses of the ECGs should have a good accuracy level compared to expert surgeons who analyse.
NFR-5	**Availability**	It should be available 24/7. As there can be an emergency situation for a patient.
NFR-6	**Scalability**	There can be one patient also there can be many patients and many ECGs to be analysed. It should be scalable.