Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	14 October 2022
Team ID	PNT2022TMID29187
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 Registration**	✓ Registration through Form ✓ Registration through Gmail ✓ Registration through LinkedIN
FR-2	**User Confirmation**	✓ Confirmation via Email ✓ Confirmation via OTP
FR-3	**User interface**	Check your profile and choose your file
FR-4	**User input**	Upload image as jpeg/png format
FR-5	**Data processing**	Evaluating the model using test data training Dl algorithm for a accuracy result trained CNN model using Keras,Tensorflow
FR-6	**Image prediction**	Image will be predicted at the accuracy rate of 90.4%
FR-7	**Report generation**	Image will be shown as output

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	✓ Arrhythmia is an irregular heart rhythm from normal rhythm. ✓ Classification of arrhythmia with the help of deep learning. ✓ However,there was no studies dealing with usability of this sensor in this field testing.
NFR-2	**Security**	Users data cannot be accessed by unauthorized people.
NFR-3	**Reliability**	System performs their functions without failure.
NFR-4	**Performance**	✓ ECG signals augumenting training data manually could degrade the performance. ✓ Detect irregular heart beats ✓ Accuracy rate
NFR-5	**Availability**	Availability describes how likely the system is accessible to a user at a given point in time and the periodically of the solutions.
NFR-6	**Scalability**	Performance does not be affected.