Project Design Phase-I
Proposed Solution Template

Date	09 September 2022
Team ID	PNT2022TMID34108
Project Name	Project - Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral Image Representation
Maximum Marks	2 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Arrhythmia is a condition in which the heart beat with an irregular or abnormal rhythm. There are several types of arrhythmias including atrial fibrillation, premature contraction, ventricular fibrillation, and tachycardia. While most arrhythmias are harmless, some can be serious and life threatening.
2.	Idea / Solution description	Create a 2D CNN (Convolutional Neural Network) based classification model for automatic classification of arrhythmias using ECG signals Training the model using more dataset to classify the waveforms and produce the result accurately Providing accurate results to detect and prevent cardio vascular diseases
3.	Novelty / Uniqueness	Providing flexibility in terms of data augmentations 2D CNN model can learn data variations and augmentations helping in increasing the amount of data available for training Automatic classification of arrhythmias using ECG signal
4.	Social Impact / Customer Satisfaction	Ease of accessibility Can be done anywhere and at any time Have high accuracy thus provide accurate results

		Since the model has already been trained with several datasets it can classify the type of arrhythmias Can be easily viewed with the help of applications or browsers
5.	Business Model (Revenue Model)	It can be easily integrated to devices like smart watches and mobile It could also be integrated with medical electronic devices like Electrocardiogram, Echocardiogram, Holter monitor and Pacemaker The main motive of this project is not profit oriented but user satisfaction. This should be priced in a range affordable by all common people
6.	Scalability of the Solution	The web application will be made scalable and will be made to work with any amount of data provided It will be designed in a way to incorporate existing models and new models