PROJECT PHASE I
PROPOSED SOLUTION

Date	19 September 2022
Team ID	PNT2022TMID03100
Project Name	Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral ImageRepresentation
Maximum Marks	4 Marks

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	A Deep Learning Model for analyzing 2-D ECG Spectral Images to classify various types of arrhythmia.
2.	Idea / Solution description	The ECG signals are preprocessed by removing electromyographic noise using wavelet-based thresholding. An ECG signal is then transformed into a 2-D representation using a 2D CNN model. Various architectures are analyzed in order to implement an efficient CNN model. This CNN model is intended to classify different types of arrhythmias.
3.	Novelty / Uniqueness	Our goal is to create an API that will be capable of handling inputs and producing the appropriate Arrhythmia class. Using this API, you will be able to simulate a seamless user experience that is interactive.
4.	Social Impact / Customer Satisfaction	Senior citizens represent the largest stakeholder group in this project. Customer's can benefit greatly from early diagnosis of heart ailments by learning about irregularities in ECG signals.
5.	Business Model (Revenue Model)	The market does not contain any applications that detect arrhythmia. The integration of our novel product with a smart wearable device will enable us to launch a new line of smart devices that track one's health.
6.	Scalability of the Solution	We can make our idea a reality by pitching it to Angel Investors and Venture Capitalists and launching a full-fledged startup to market it.