**Project Design Phase-I**

**Proposed Solution Template**

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| Date | 15 October 2022 |
| Team ID | PNT2022TMID09848 |
| Project Name | Classification of Arrythmia by using deep learning with 2 D ECG spectral image representation |
| Maximum Marks | 2 Marks |

**Proposed Solution Template:**

Project team shall fill the following information in proposed solution template.

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| **S.No.** | **Parameter** | **Description** |
|  | Problem Statement (Problem to be solved) | In order to reach the objective, set out for this paper, Section II provides a detailed problem description, which includes an overview of approaches. This paper introduces the main concepts of establishing a smart railway station under the context of smart city. |
|  | Idea / Solution description | Two-dimensional ECG spectral image technique is solution for classification of Arrythmia to detect cardiovascular disease by seeing it’s pattern of heart rhyme. We propose two-dimensional convolution neural network (CNN) model for classification of ECG signals. |
|  | Novelty / Uniqueness | Health Sector  It’s deep learning model with convolution neural network for autonomously detecting arrhythmia illness from ECG signals. This technique can identify eight types of Arrythmia. |
|  | Social Impact / Customer Satisfaction | Nowadays people are suffering from cardiovascular diseases and are unable to find easily that where and what problem they have. By using this technique people can easily identify types of Arrythmia and it takes less time as well as lest cost. It is more efficient way to detect heart problem. |
|  | Business Model (Revenue Model) | This technique helps in health sector for a common and widely varies disease called cardiovascular disease. In this we can capture a rhythm of heartbeat. We can apply this technique once in all cardio hospital which can easily help patient to use this technique for identifying Arrythmia. |
|  | Scalability of the Solution | Due to Covid-19 people are facing irregular heartbeat which promotes heart attack rate. Our proposed methodology is evaluated on publicly available MIT-BIT arrhythmia. The performance is significant in order indices as well including sensitivity and specify, which indicates the success of the proposed method. |