**Project Title: Classification of Arrhythmia by using deep learning with 2 D ECG spectral image representation**

**Project Design Phase-I** - **Solution Fit Template**

**Focus on J&P, tap into BE, understand RC**

**Team ID:** PNT2022TMID09848

**Explore AS, differentiate**

**Deﬁne CS, ﬁt into CC**

Which solutions are available to the customers when they face the problem

or need to get the job done? What have they tried in the past? What pros & cons do these solutions have?

ECG is available to the customer when they face the problem.

Pros and cons of this solution are:

It is more sensitive.

Some cardiovascular disorders at risk of sudden death are not associated with ECG changes.

**AS**

**7. AVAILABLE SOLUTIONS**

What constraints prevent your customers from taking action or limit their choices

of solutions?

Constraints that prevent our customer from choosing this technique are

Their poor economic condition.

Lack of proper knowledge about this technique.

Unavailability of this technique everywhere.

**CC**

**5. CUSTOMER CONSTRAINTS**

**CS**

**1. CUSTOMER SEGMENT(S)**

Who is your customer?

Person having cardio vascular disease is my customer.

**Explore AS, differentiate**

**Define CS, fit into CC**

**BE**

**8. BEHAVIOUR**

What does your customer do to address the problem and get the job done?

Customer use to consult with doctor and use this technique with the help of specialist professor.

**RC**

**6. PROBLEM ROOT CAUSE**

What is the real reason that this problem exists? What is the back story behind the need to do this job?

The real reason that this problem exist is nowadays many people die due to Cardio vascular disease and many people suffer from heart problem.

It is needed because we can see the types of irregular heartbeat which can be easy to find the problem in heart and treat that problem. We use this technique to see the actual motion of our heart structure.

**J&P**

**2. JOBS-TO-BE-DONE / PROBLEMS**

Which jobs-to-be-done (or problems) do you address for your customers?

Irregular heart beat

**Focus on J&P, tap into BE, understand RC**

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| --- | --- | --- | --- | --- |
| **Identify strong TR & EM** | **3. TRIGGERS TR**  What triggers customers to act?  Their pain and fear of heart attack triggers customers to act. | **9. YOUR SOLUTION**  In this project we use 2 D spectrogram and Convolution Neural Network for classification of Arrhythmia. Here we can easily detect cardiovascular diseases. We use Artificial Intelligence with high end diagnostic tools. | **10.CHANNELS of BEHAVIOUR CH**   * 1. **ONLINE**   Customers can learn properly from online and can book appointment to use this.   * 1. **OFFLINE**   What kind of actions do customers take ofﬂine?  For offline customer can go and consult with doctor as well as get a result properly. |  |
| **4. EMOTIONS: BEFORE / AFTER EM**  How do customers feel when they face a problem or a job and afterwards?  They feel losing their life and can’t treat their problem when they face a problem.  Afterwards they feel relief and getting their life back again. |