Project Title: Classification of arrhythmia by using deep learning with 2-d ECG spectral image representation

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

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Define CS, fit into CC

Explore AS, differentiate

1. CUSTOMER SEGMENT(S) — CS

A parent who have heart problems but he don't have time to go hospital

6. CUSTOMER CONSTRAINTS

A Case of Sudden Onset Unrelenting Chest Pain.
Several contributory risk factors such as diabetes, high blood pressure, high cholesterol, abnormal pulse rate.

5. AVAILABLE SOLUTIONS — AS

Healthy lifestyle habits such as eating a low-fat, low-salt diet, getting regular exercise and good sleep, and not smoking
PROS: Cost effective, Noninvasive Moderate success rate
CONS: Less effective over time, Blood thinners

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

2. JOBS-TO-BE-DONE / PROBLEMS

Finding the heart problem and cure the diseases

9. PROBLEM ROOT CAUSE — RC

Poor diet, High blood pressure lack of exercise, obesity and smoking.

7. BEHAVIOUR — BE

Asthma, joint pain, and a number of other chronic diseases and conditions

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

3. TRIGGERS   TR

   Symptoms may include chest
pain, nausea, shortness of breath, sweating,
dizziness, palpitations.

4. EMOTIONS: BEFORE / AFTER   EM

Before :   Symptoms may include Anxiety, Fatigue,
dizziness, Sweating.

After : Temporary feelings of sadness and a
depressed mood are common for the first few
weeks.

10. YOUR SOLUTION   SL

   The electrocardiogram (ECG) recordings are
widely used for diagnosing and predicting
cardiac arrhythmia for diagnosing heart diseases.
For ECG signals, a 2-D transformation has to be
applied to make the time series suitable for deep
learning methods that require 2-D images as
input.

8. CHANNELS of BEHAVIOUR   CH

8.1 ONLINE
Customer will Find their heart disease by online web
Application

8.2 OFFLINE
 Customer will collect their ECG spectral image
by going hospital