Design Phase-1

Problem Solution

DATE	19 September 2022
TEAM ID	PNT2022TMID15268
Project Name	Classification of Arrhythmia Detection Using Deep Learning With 2d spectrum image Representation
Maximum Marks	2 Marks

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) `CS`

Who is your customer?
i.e. working parents of 0-5 y.o. kids

1. People who are suffering from arrhythmia
2. Medical professionals
3. Elderly
4. People with severe heart problems

6. CUSTOMER CONSTRAINTS `CC`

What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices.

1. Budget constrains
2. Doubt on accuracy
3. Fear on getting started with technology
4. Malfunction of device

5. AVAILABLE SOLUTIONS `AS`

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? i.e. pen and paper is an alternative to digital notetaking

1. Direct diagnosis with doctor and waiting for results for much longer time
2. ECG/Holter monitor- portable ECG device
3. Echocardiogram
4. Implantable loop recorder - used in cases of infrequent conditions

Explore AS, differentiate

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

2. JOBS-TO-BE-DONE / PROBLEMS `J&P`

Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.

1. Difficulty in visiting the hospital often
2. Unable to monitor heart asynchronous heart rhythm
3. Inability to know the heart rate

9. PROBLEM ROOT CAUSE `RC`

What is the real reason that this problem exists?
What is the back story behind the need to do this job?
i.e. customers have to do it because of the change in regulations.

Users are not available at all the time to visit the doctors due to personal commitments, health issues, longer distance between their place and hospitals and unavailability of medical appointments

7. BEHAVIOUR `BE`

What does your customer do to address the problem and get the job done?
i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace)

1. Users expect heart pulse to be perfectly analyzed
2. Accurate prediction of the condition
3. Expectation of accurate results
4. Ease of informing immediate relatives and medical professionals during arrhythmic attacks

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

3. TRIGGERS   TR

What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.

1. Easy access to know the condition
2. Immediate results

4. EMOTIONS: BEFORE / AFTER   EM

How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure > confident, in control - use it in your communication strategy & design.

1. During arrhythmic attacks they feel helpless
2. Search for early alert during such conditons
3. Easy medical access

10. YOUR SOLUTION   SL

If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality.
If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.

An application which can predict the presence of arrythmia by just feeding in the ECG tests or by measuring heart rate. The user feeds in the test and the application predicts an accurate output and produce the test results

8. CHANNELS of BEHAVIOUR   CH

8.1 ONLINE
What kind of actions do customers take online? Extract online channels from #7

8.2 OFFLINE
What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.

Offline:
> Customers can introduce this technology and share their experience to people with similar conditions and medical professionals
Online:
> Customers can access this through browsers or apps