Problem-Solution fit canvas 2.0

Detecting Parkinson's disease using Machine Learning

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) `CS`

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

- Customers who are affected by Parkinson's disease.
- Customers who feel/doubt that they have Parkinson's disease.

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.

- So far in the traditional detection method, without doctor's consultation detection of the Parkinson's disease may not be possible.

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

- The existing solutions does not provide the exact percentage affected in an individual even though they have used ML-approaches.
- Using the existing solutions, early detection was possible using different types of classifiers.

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.

- Our project helps the customers to detect Parkinson's disease in the early stage and the exact percentage affected by the disease can be viewed.
- Our goal for the customers is to quantify the visual appearance of the spiral and wave datasets using machine learning approaches.

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.

- No proper knowledge or awareness about the seriousness of the disease.
- There isn't any proper clinically proven methods to diagnose the disease at an early stage.
- Helps in early detection of the disease using ML approaches.
- Creates awareness regarding the disease by providing tips.

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)

- Start using the detector for accurate results.
- Making sure they do not have any of the symptoms listed in the ML web application.
- Enter their symptoms so as to find whether they have the disease or not.

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

Identify strong TR & EM

3. TRIGGERS `TR`

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

- They will be able to understand themselves and about the disease using the ML web application.

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.

- Before, the individual will be in a dilemma on whether they have Parkinson's disease or not.
- After using the ML web application, they will be able to know whether they have the disease or not.

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.

- Develop a ML-based detector that uses predict log probability function by random forest classifier.
- A detector that will accurately give the percentage affected in the individual using the datasets provided.

8. CHANNELS of BEHAVIOUR `CH`

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

- They will use the existing detectors that will only say whether they have Parkinson's disease or not but not the exact percentage affected.

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

- They visit clinics to check whether they have the disease or not.

Extract online & offline CH of BE