Project Title: Deep Learning Fundus Image Analysis

for Early Detection of Diabetic Retinopathy

Project Design Phase-I - Solution Fit

1. CUSTOMER SEGMENT(S) — CS

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

Patients having Diabetes who are most likely to be affected by DiabeticRetinopathy.

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.

Fear of being a victim of the disease or self assumption of misconstruing the disease for one or the other or taking self-medication hoping it will cure the condition.

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

Diabetic patients can take manual test to check if they are affected by Diabetic Retinopathy by professionals and proper diagnosis can be done accordingly.

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.

Diabetic patients should have the image of their eyes with clear clarity so that accurate results can be obtained.

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.

Patients have to undergo this test and get early diagnosis because if untreated for too long they might end up losing their eyesight permanently and that condition can not be reversed thereafter.

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)

Patients should upload a clear image of their eyes onto the website to obtain accurate results.

Identify strong TR & EM

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.

Seeing other diabetic patients pre detecting Diabetic Retinopathy and witnessing their clear vision after early treatment.

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.

Diabetic Retinopathy can be effectively detected by using CNN algorithm in Machine Learning and transfer learning techniques.

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.

1. Patients should upload the image of their eye onto the website.
2. First, they have to capture a clear snap of their eye with clear clarity.

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.

Initially when detected they feel vulnerable and confused. But later after once diagnosis is being done they feel relieved and reassured with a happy life.

Identify strong TR & EM