Problem-Solution fit canvas 2.0

Purpose / Vision : Deep learning fundus image Analysis for Early Detection of Diabetic Retinopathy

Define CS, fit into

1. CUSTOMER SEGMENT(S) `CS`

-> Diabetic Retinopathy patients.
-> Diabetic Retinopathy can lead to other serious issues like blindness.
-> Distorted vision will cause inflammation in the eye.

6. CUSTOMER `CC`

-> Treatment might be expensive in later stages.
-> Poor diet, lack of physical activities and poor self-monitoring of glucose levels are some of the most common obstacles faced by Diabetic patients.

5. AVAILABLE SOLUTIONS `AS`

-> The manual diagnosis process of DR retina fundus images obtained by ophthalmologists is a time consuming, cumbersome, costly process and is prone to misdiagnosis unlike computer-aided diagnosis systems which are quick, cheap and simple to use.

Explore AS,

Focus on J&P, tap into BE, understand

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

-> Make more discussions with a patient who has already tested and determine the severity.
-> Accuracy and timely results are the problems.
-> To determine if surgery or laser treatment is required.
-> More research on specifications and reliability of the test.

9. PROBLEM ROOT CAUSE `RC`

-> In all cases sugar builds up in the bloodstream, the exact cause of most types of diabetes is not unknown.
->This is because the pancreas doesn't produce enough insulin.
-> Both type 1 and type 2 diabetes may be caused by a combination of genetic or environmental factors.

7. BEHAVIOUR `BE`

-> **Directly related:** Visit specialist, get treatment.
-> **Indirectly associated**: Empowered technology, environmental threats affect their life difficulty in society.

Focus on J&P, tap into BE, understand

Identify strong TR & EM

3. TRIGGERS `TR`

-> Patients are anxious and in need of instant results.
-> They often google the symptoms and treatment, and can misjudge the situation.

4.EMOTIONS: BEFORE/AFTER `EM`

BEFORE :
Insecure, stressed, dependent.
AFTER :
Secured, Confidence, Independent.

10. YOUR SOLUTION `SL`

-> Multi-layer neural networks like deep NN.
-> Due to the fact that data's structure is Image, the best type of neural network satisfying our goal is **Convolutional Neural Networks.**
-> Pre-processing data, Normalization, Creating Deep Neural Network and final model.

8. CHANNELS of BEHAVIOUR `CH`

CH8.1 ONLINE
-> Giving them specialized equipment to supplement educational programs would help them become more mentally and emotionally healthy.
8.2 OFFLINE
-> Their lives are mostly impacted by entering our direct society, which includes schools, colleges and workplaces.

Extract online & offline CH of BE