Project Design Phase-1
Proposed Solution

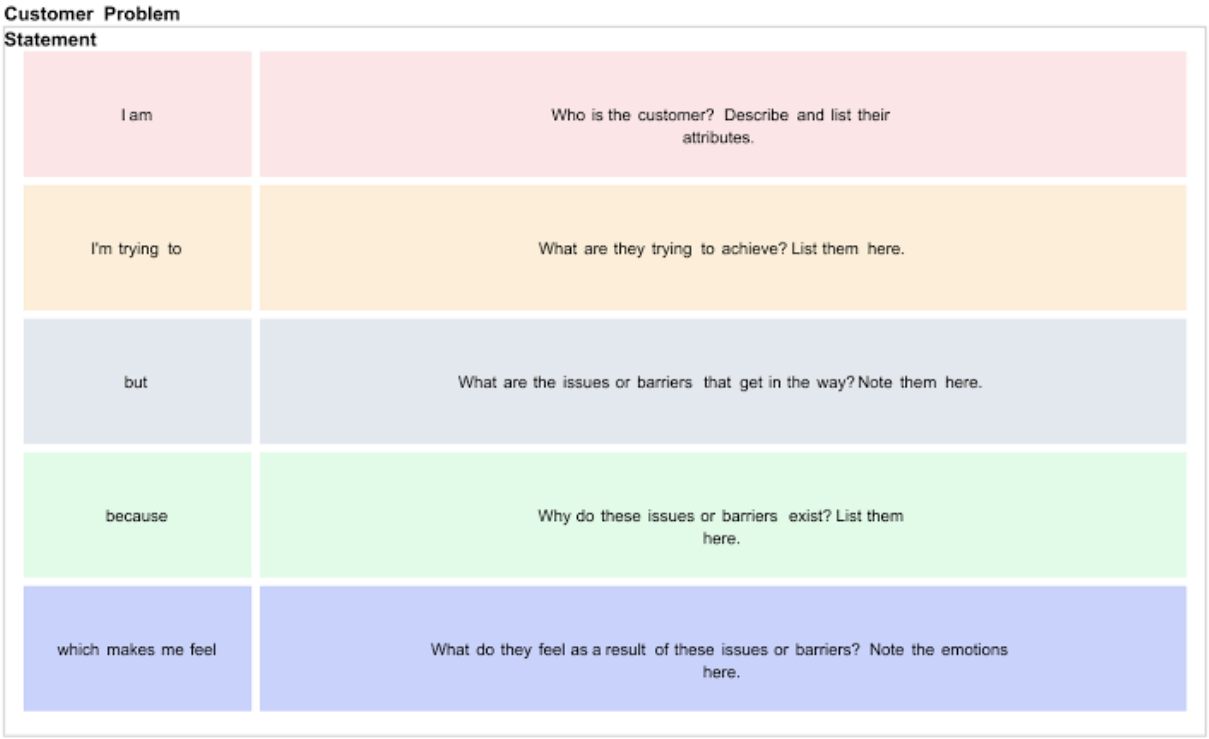
Date	27 September 2022
Team ID	PNT2022TMID22755
Project Name	Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy
Maximum Marks	2 Marks

Problem Statement:

Detecting the stage of Diabetic retinopathy using Fundus photograph images with help of transfer learned approach of EfficientNet-B5 model. The main objective of the project is to detect diabetic retinopathy to stop blindness before it is too late. we detect by classifying the images of retina of patient into five labels numbered from 0 to 4 where each label named as Normal, Mild DR, Moderate DR, Severe DR, Prolific DR respectively represents the Complication of the disease using Deep transfer learning and classification techniques. From these 5 stages one stages is observed as an output label for the given input fundus image

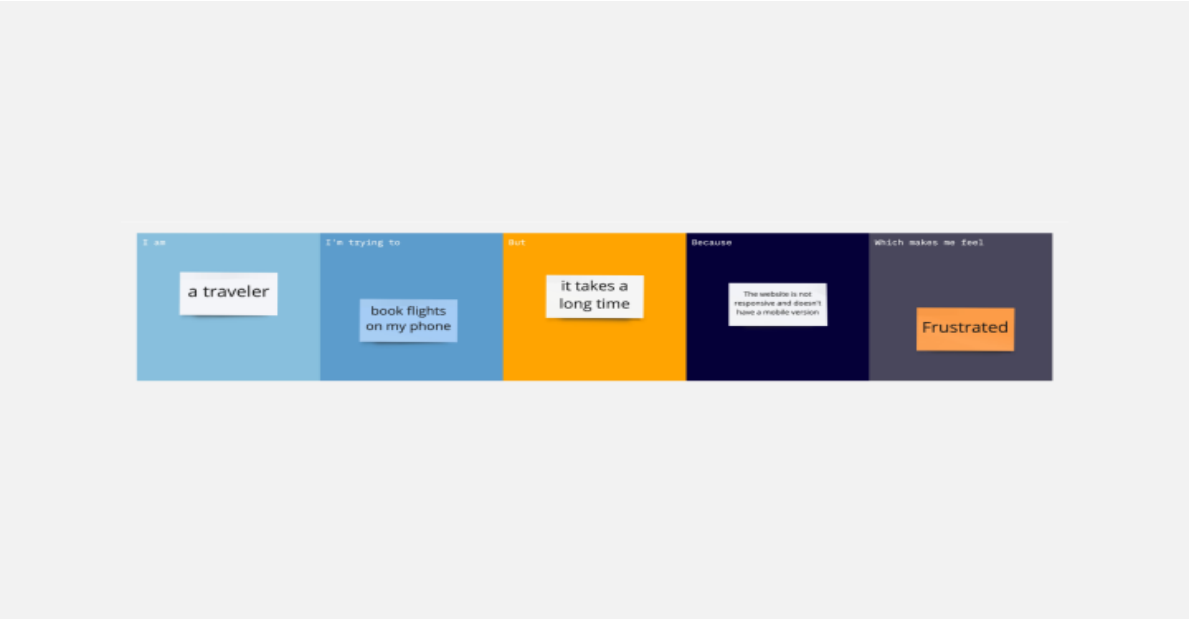
Customer Problem Statement Template:

Example:



Reference:https://creately.com/diagram/example/FOFD8XkcGc1/customer-problem-statement-template

Example:



Reference: https://miro.com/templates/customer-problem-statement/

Problem statement (PS)	I am a (customer)	I'm trying to	But	Because	Which makes me feel
PS-1	Child	To pre-check all the test that related to eye	It takes long time	This is one of the best Invention	Frustrated
PS-2	Adult	Identifying the reason for vision blindness	Complicate to identify the problem	This is one of the best Invention	Satisfied
PS-3	Aged persons	Identifying the reason of vision or the eye problem	Identification of problem are complicated	To find Alternative way	Satisfied

Proposed solution:

The proposed method is a fast and robust one to extract exudates in color eye fundus image which is based on mathematical morphology where Blood vessels extraction is carried out which is followed by extraction of the hard exudates and optic disc and finally detection of the optic disc which is used for distinguishing it from exudates.