Project Design Phase-I
Problem – Solution Fit

Date	19 September 2022
Team ID	PNT2022TMID13061
Project Name	A Gesture-based Tool for Sterile Browsing of Radiology Images
Maximum Marks	2 Marks

Problem – Solution Fit:

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS

Our customer are Doctors especially Surgeons.

6. CUSTOMER CONSTRAINTS CC

To use gestures in the right context, customers must remember many gestures. This camera is needed to accurately capture the gestures.

5. AVAILABLE SOLUTIONS AS

Doctors can use the device. But doing so could infect them. So due to this reason the surgeon will employ another person to change while he is performing procedure.

Explore AS, differentiate

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

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

In order to avoid customers from getting into contact with infection, the system enables the users to gesture based on the tools that are selected while browsing radiological images.

9. PROBLEM ROOT CAUSE RC

The real reason the problem exists because of the problem in the doctors there are no many numbers of technology experts in their domain.

7. BEHAVIOUR BE

Customers are given a well-equipped guidebook to help them with their questions and concerts. We also give them necessary training for them how to work with the app.

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

Identify strong TR & EM

3. TRIGGERS TR

Accurate predictions made by the system and valuable feedbacks got from the fellow surgeons, time-efficient and easy browsing triggers the customer to switch to this technology.

4. EMOTIONS: BEFORE / AFTER EM

Perplexed about the working of the system: Confidence level increases by seeing the working of the system.

10. YOUR SOLUTION SL

In this project Convolution Neural Network is used. First the model is pre-trained on the images of different hand gestures, such as a 0, 1, 2, 3, 4 & 5. This model uses the integrated webcam to capture the video frame. The image of the gesture captured in the video frame is compared with the pre-trained m model and the gesture is identified. If the gesture predicts it is 1, then the image is blurred; if it is 2, the image is resized. If it is 3, the image is rotated etc.

8. CHANNELS of BEHAVIOUR CH

8.1 ONLINE

The Webpage developed can be deployed on cloud to be accessed by the users. The images browsed can also be uploaded on the cloud for later use.

8.2 OFFLINE

The developed model can be installed on the local system and the customer can use it offline.

Identify strong TR & EM