Project Title: A Gesture Based Tool for Sterile Browsing of Radiology Images | Project Design Phase-I - Solution Fit Template | Team ID: PNT2022TMID06155

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS

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

Surgeons who want to browse radiology images while performing surgery.

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.

Many gesture based tools are available but majority of the tools are inaccurate.
Accurate recognition needs expensive camera.

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

Gesture based tool with artificial intelligence for recognizing the hand gesture.
We can use image recognition and object detection using CNN.

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.

Accurate gesture recognition and performing specific action on the radiology image
To provide friendly and simple user interface.

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.

While performing surgery browsing of radiology images with physical devices like mouse and keyboard can cause infection to the patient because of touching.
And also make the surgeon uncomfortable to displace from one place to another place.

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)

The surgeon tweaks the of the app a little bit to adopt his hand(with specific skin color and size)
And he can simply start using the app.

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 neighbour installing solar panels, reading about a more efficient solution in the news.

Hearing good feedback and suggestions from other surgeons that it can prevent infection.

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: Feeling uncomfortable and feeling unsafe because touching devices can spread infection.
After: Feeling comfortable and concious about their work.

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.

Capturing the hand gesture of surgeon using a camera and using image recognition find what the gesture is and perform specific action on the radiology images.
We can use the Flask framework for the web UI to python connectivity, openCV for capture gesture images and manipulate radiology images and Tensorflow CNN for image recognition.

8. CHANNELS of BEHAVIOUR — CH

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

The user can upload the radiology images to the cloud and access them according to the gesture.

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

The user can use the app locally without any problem
He can browse the radiology images on the local disk storage.

Extract online & offline CH of BE