Project Design Phase-I - Solution Fit Template

Project Title: A Gesture-Based Tool for Sterile Browsing of Radiology Images   **Team ID:** PNT2022TMID42641

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1. CUSTOMER SEGMENT(S) `CS`

Who is your customer?

Our customers are medical professionals like Doctors, Nurses, Lab Technicians who wants optimized manipulation of the radiology images of the patients while performing surgeries.

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6. CUSTOMER CONST `CC`

What constraints prevent your customers from taking action or limit their choices of solutions?

The tool may perform badly in poor lightings. The system is costly to setup as it requires expensive cameras and other supporting devices.

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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?

'Gesture' a vision-based Hand Gesture recognition system that interprets in real-time the user's gestures for navigation and manipulation hand of images database is available in the market. The Gesture system uses advanced sensors that allow you to access your imagery through simple gestures. The system is fast in making accurate predictions and it is easy to use. This system access the data in 2-D only.

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Define CS, fit into CC   *Explore AS, differentiate*

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

Which jobs-to-be-done (or problems) do you address for your customers?

A touchless interface system which is highly helpful for the medical professionals to browse through the radiology images of the patient while performing surgery. This can be achieved with the help of Deep learning.

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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?

In Hospitals, while performing surgeries, the use of computer keyboards and mouses to browse the reports of the patients by doctors and nurses is difficult and also increase the risk of spreading infections. Even though voice recognition system also provides sterility, the noise level in the operating room (OR) deems it problematic.

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7. BEHAVIOUR `BE`

What does your customer do to address the problem and get the job done?
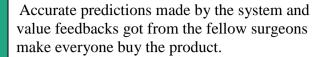
Directly related:
    Find the right platforms to install the developed model to measure the efficiency of the developed product in terms of usability, security, spreading infections. Even though voice control also robustness and other factors.

Indirectly related:
    Customers spend their free time on researching about the usage and working of the

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

3. TRIGGERS

TR

What triggers customers to act?

Accurate predictions made by the system and value feedbacks got from the fellow surgeons make everyone buy the product.

4. E MOTIONS: BEFORE / AFTER

EM

How do customers feel when they face a problem or a job and afterwards?

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

10. YOUR SOLUTION

SL

In this project, We are using depth camera to detect the hand gestures and later the inputs are analyzed and the data are processed using Deep learning. After that, the model provide the output for the hand sign. Further improving this data in 3-D gives a clear cut view.

8.CHANNELS of BEHAVIOUR

CH

8.1 ONLINE
The webpage developed can be deployed on cloud to be accessed by the users. The images also can 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.