Ideation Phase
Define the Problem Statements

Date	19 September 2022
Team ID	PNT2022TMID17973
Project Name	Project - **A Gesture-based T**
Maximum Marks	2 Marks

Problem Statement:

We use gestures in this project to browse images acquired through radiology. Gestures are hand motions used in nonverbal communication. The primary means of interaction between humans and computers nowadays are keyboards and pointing devices like mouse. However, doctors and nurses in intensive care units (ICUs) frequently transfer infections through the use of computer keyboards and mice. Humans are adept at deciphering both body and sign language. This is conceivable because of how vision and synaptic contacts developed throughout the course of brain development.

During a surgical procedure, it is necessary to examine patient-specific image data obtained from computed tomography and magnetic resonance imaging scans using doctor-computer interface that allows medical imaging manipulation while allowing doctors' hands to stay sterile. Traditional approaches to human-computer interaction, however, fall short of offering a productive way to manipulate medical images while supporting users' attention. Gesture-based interaction is a new style of communication made possible by the development of artificial intelligence. Gesture-Based interaction provides an efficient, intuitive, and accurate. Without compromising the quality of the work, gesture-based interaction offers an effective, intuitive, accurate, and safe mode of interaction. It has been suggested that surgeons can communicate with medical image viewers while performing surgery using a vision-based hand

gesture recognition system. This system analyses the hand motions of the real-time user and converts them into the proper commands that are subsequently used to manipulate radiological images. The suggested model is first trained using pictures of various hand gestures, such as hands holding the numerals 1, 2, 3, and 4. A built-in web camera is used to record real-time photos, which are then matched with training images of hand movements and the corresponding activities. According to the hand gesture directions, it is permitted to resize, blur, and flip the radiological photographs. In order to maintain sterility and ensure patient safety in the operating room, the vision-based hand gesture system does away with direct physical touch between the surgeon and the computer interfaces.

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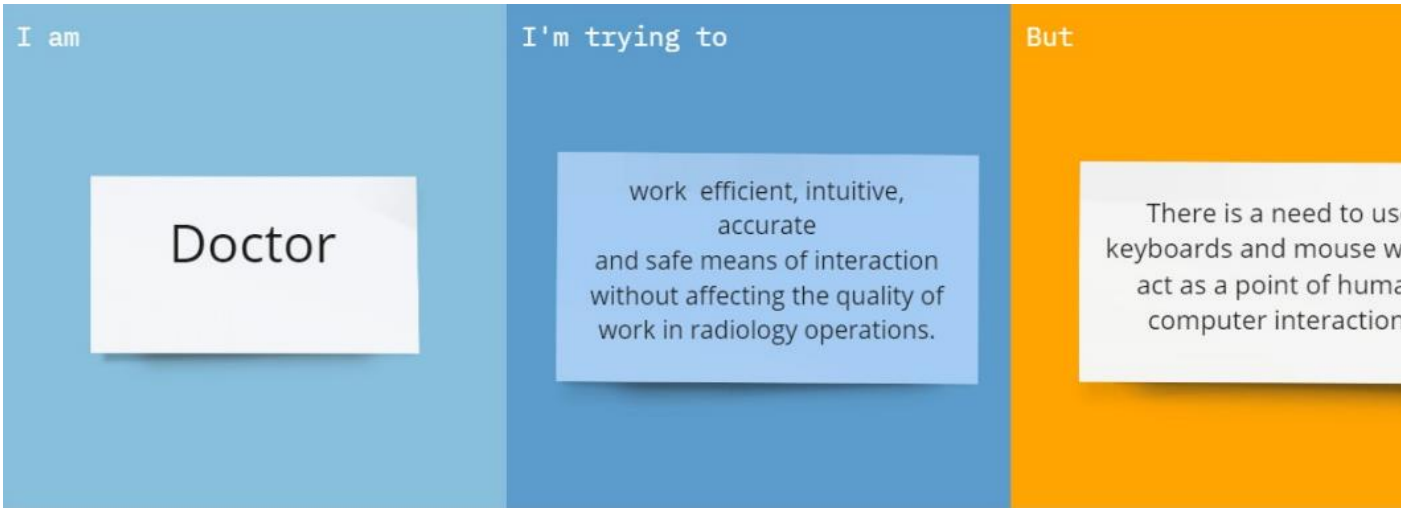
Example:



Problem Statement (PS)	I am (Customer)	I'm trying to	But
PS-1	Doctor	Work Efficient, intuitive, accurate and safe means of interaction without affecting the quality of work in radiology operations.	There is a need to use keyboards and mouse which act as a point of human computer interaction.