

Project Design Phase-I
Proposed Solution
Project - A Gesture-based Tool for Sterile Browsing of Radiology

S.No.	Parameter	Description
1.	Problem Statement	The surgeon needs to have access to the radiological images in the system in the operating room. It is possible for an infection to spread through their hands if they use the mouse or any other objects to zoom in or scroll through the photographs. In the Corona Era, touching an object can transmit an infection from one person to another.
2.	Idea / Solution description	To develop a CNN based classifier model, which would be trained on our training data.
3.	Novelty / Uniqueness	We train a CNN based model to recognize the hand gesture. The training data include images that captures the hand gestures of 1,2,3,4,5 and 0. The image is resized without much loss of information and used for training a CNN based model. We use Python Flask to provide an interactive platform for out model.
4.	Social Impact / Customer Satisfaction	<p>The requirement that the touch-screen monitor's plastic adhesive cover be changed every time a patient has surgery in order to maintain its sterility.</p> <p>The delay brought on by the surgeon's repeated trips to the main control wall and back to the patient's side.</p> <p>The surgeon picked hand gesture control because it relies on hand-based engagement, which he or she is most adept at. This project will be:</p> <p>Simple to use and Rapid response</p> <p>Unrestricted interface: The suggested system does not call for the surgeon to employ foot pedals, a microphone, or head-mounted sensors.</p> <p>Control over distance: The hand gesture is operable from up to five meters away from the camera.</p>

5.	Business Model (Revenue Model)	It can be sold as an open-source service to all the hospitals as a non-profitable work.
6.	Scalability of the Solution	This gesture-based method of device control can be applied to any device, not just radiography pictures.