

**Project Design Phase-II**  
**Solution Requirements (Functional & Non-functional)**

Date	03October 2022
Team ID	PNT2022TMID25369
Project Name	A Gesture-based Tool for Sterile Browsing of Radiology Image
Maximum Marks	4 Marks

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Hand detection	Filtering of hand from video capturing device
FR-2	Filtered object detection	Reads and filters by recognizing clusters of skin coloured objects
FR-3	Gesture control	Hand gestures recognition for commands
FR-4	Hand calibration	Perform according to the adjustment of user's dominant hand
FR-5	Model rendering	When the user uploads/gives the gestures, the algorithm should start processing its task.
FR-6	Launching the model	Launch the application either from cloud where it is deployed or by installation but with a stable internet connectivity

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	Usability is easy for all users. It is understandable for non technical users with minimal instructions
NFR-2	<b>Security</b>	Accessible only in secure networks with administrative permissions, so there is less chance of security breach
NFR-3	<b>Reliability</b>	It is operable under all conditions, regardless of user's operating environment
NFR-4	<b>Performance</b>	Minimize the number of calculation to perform hand gesture and to improve image resolution quality

NFR-5	<b>Availability</b>	When the gesture is available then only the application works. This application is only available in surgery rooms
NFR-6	<b>Scalability</b>	Model is scaled by CNN with help of data augmentation and gesture recognition using OpenCV, Tensorflow, Keras