Project Design Phase-I
Solution Architecture

Date	15.10.2022
Team ID	PNT2022TMID09902
Project Name	A Gesture-Based Tool For Sterile Browsing Of Radiology Images
Maximum Marks	4 Marks

Solution Architecture:

- A hand gesture system for MRI manipulation in an EMR image database called "Gestix" was tested during a brain biopsy surgery. This system is **a** real-time hand-tracking recognition technique based on color and motion fusion.

- Humans are able to recognize body and sign language easily. This is possible due to the combination of vision and synaptic interactions that were formed along brain development . In order to replicate this skill in computers,
- some problems need to be solved: how to separate objects of interest in images and which image capture technology and classification technique are more appropriate, among others.
- In this project Gesture based Desktop automation ,First the model is trained pre trained on the images of different hand gestures, such as a showing numbers with fingers as 1 ,2,3,4 . This model uses the integrated webcam to capture the video frame
- . The image of the gesture captured in the video frame is compared with the Pre-trained model and the gesture is identified. If the gesture predictes is 1 then images is blurred;2, image is resized;3,image is rotated etc.
- Pulsed radars transmit an impulse-like signal which has a wide frequency spectrum. The transmission and reception systems based on pulsed signal are usually termed the Ultra-Wideband (UWB) communication systems. These systems have a wider frequency spectrum and usually have a lower Power Spectral Density (PSD) than noise signal PSD. A modern UWB transmitter–receiver pair comprises nearly "all-digital" components and has minimal radio frequency (RF) or microwave components. Consequently, radars based on UWB technology will have a smaller size and can provide a compact portable radar hardware.

Example - Solution Architecture Diagram: