Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID15559
Project Name	A Gesture-based Tool for Sterile Browsing of Radiology Images
Maximum Marks	2 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	"Hand Gesture Recognition Using Camera" is based on concept of Image processing. In recent year there is lot of research on gesture recognition using kinect sensor on using HD camera but camera and kinect sensors are more costly. This project is mainly focused on to reduce cost and improve robustness of the proposed system using simple web camera.
2.	Idea / Solution description	Most gesture recognition methods usually contain three major stages. The first stage is the object detection. The target of this stage is to detect hand objects in the digital images or videos. Many environment and image problems are needed to solve at this stage to ensure that the hand contours or regions can be extracted precisely to enhance the recognition accuracy. Common image problems contain unstable brightness, noise, poor resolution and contrast. The better environment and camera devices can effectively improve these problems.

		However, it is hard to control when the gesture recognition system is working in the real environment or is become a product. Hence, the image processing method is a better solution to solve these image problems to construct an adaptive and robust gesture recognition system. The second stage is object recognition. The detected hand objects are recognized to identify the gestures. At this stage, differentiated features and effective classifiers selection are a major issue in most researches. The third stage is to analyze sequential gestures to identify users' instructs or behaviours.
3.	Novelty / Uniqueness	In this project, we mainly focus on using pointing behavior for a natural interface, Hand gesture recognition based human-machine interface is being developed vigorously in recent years. Due to the effect of lightning and complex background, most visual hand gesture recognition systems work only under restricted environment. To classify the dynamic hand gestures, we developed a simple and fast motion history image based method. In recent years, the gesture control technique has become a new developmental trend for many human-based electronics products. This technique let people can control these products more naturally, intuitively and conveniently. In this paper, a fast gesture recognition scheme is proposed to be an interaction (HMI) of systems. Our project mainly presents some low-complexity algorithms and gestures to reduce the gesture recognition

		complexity and be more suitable for controlling real-time computer systems.
4.	Social Impact / Customer Satisfaction	Gesture technology comes as a boon to society, providing contact-less, safe, and inclusive experiences and they are easier representation, makes the presentation attractive, Quick expressing of message. A study shows that when the speaker uses gestures, the probability of the audience remembering the point is double than a normal speech.
5.	Business Model (Revenue Model)	Hand gesture recognition is a process of understanding and classifying meaningful movements by the human hands. Nowadays vehicles launched from the industry offers an increasing number of infotainment systems as well as comfort functions that can be controlled by the driver. Though they are feature rich which demands more attention of the driver and degrade the driving performance and thereby reducing the safety. The gestural interaction is a promising means to cover the full range of driver's operational needs while minimizing the visual workload thereby enhancing the drivers safety.
6.	Scalability of the Solution	Human hand is very smaller with very complex articulations comparing with the entire human body and therefore errors can be easily affected. Hand gesture recognition is of great importance for human computer interaction (HCI) because of its extensive applications in virtual reality and sign language recognition**.**