LITERATURE SURVEY

TOPIC:

A GESTURE-BASED TOOL FOR STERILE BROWSING OF RADIOLOGY IMAGES

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S.No	Article	Authors	Published Year	Abstract
1	Literature Survey on Hand Gesture Recognition System.	Akshatha, Bhavani Patil, Harshitha, Sindhu shree	February 2020	For those who are deaf and dumb Sign language is an efficient alternative way for talking, where we can understand them by using the hand gestures. For humans hands are a part of human organs which is used to manipulate physical objects. For this very reason handsare used most frequently by human beings to communicate and interact with machines. In the recent generation, hand gesture recognition system is improving in such a way that the interaction between the human and machine is advancing by using the electronic gadgets such as mobile phones, computers etc. So, there will be advancement not only in representing the speaking skills, also writing skills too. The real-time continuous gesture recognition is based on posture, position, orientation, and motion or by using the embedded systems like microcontrollers or

				it can be color maker approach, glove-based approach, vision-based approach and depth-based approach. The technique used in this system is that the input to the system will be given from the hand. They detect the image of the hand and pre-process it. Later on, they are going to crop the image how much they require for the analysis. In later stages they are going to extract the feature of the hand and then they are going to classify it. At the last thegesture is converted into the speech. According them hand gesture recognition system providesHuman Computer Interaction. The two major applications they have used is Sign Language Recognition and gesture-based control.
2	Systematic literature review of hand gestures used in human computer interaction interfaces	ADEEN H.S, ATIA A, AMIN A, VICTOR A, ESSAM A, GHARIB E HUSSIEN	August 2015	There are three sub-types of iconic gestures: those that describe a shape (Pictographs), those that represent a spatial relation (Spatiographic), and those that describe action of an object (Kinematographs) (Rimé and Schiaratura, 1991). Metaphoric gestures "are iconic gestures which represent abstract content" (Wagner et al., 2014, McNeill, 1992), e.g. a cutting gesture toindicate a decision has been made (Casasanto and Lozano, 2007). They "sketch in space the logical track followed by the speaker's thinking" (Rimé and Schiaratura, 1991). Modalizing symbolic gestures primarily complement speech, but can also complement other means of communication.
3	HAND GESTURE RECOGNITION : A LITERATURE REVIEW	Rafiqul Zaman Khan Noor Adnan Ibraheem	July 2012	Hand gesture recognition system received great attention in the recent few years because of itsmanifoldness applications and the ability to interact with machine efficiently through humancomputer interaction. In this paper a survey of recent hand gesture recognition systems is presented. Key issues of hand gesture recognition system are presented with challenges of gesture system. Review methods of recent postures and gestures recognition

				system presented as well.
4	Real-Time Hand Gesture Interface for Browsing Medical Images	Juan Wachs, Helman Stern, Yae IEdan, Craig Feied, Mark Smith Jon	March 2007	A gesture interface is developed for users, such as doctors/surgeons, to browse medical images in a sterile medical environment. A vision-based gesture capture system interprets user's gestures in real-time to manipulate objects in an image visualization environment. A colordistribution model of the gamut of colors of the users hand or glove is built at the start of each session resulting in an independent system. The gesture system relies on real-time robust tracking of the user's hand based on a color-motion fusion model, in which the relative weight applied to the motion and color cues are adaptively determined according to the state of the system. Dynamic navigation gestures are translated to commands based on their relative positions on the screen. A state machine switches between other gestures such as zoom and rotate, as well as a sleep state. Performance evaluation included gesture recognition accuracy,task learning, and rotation accuracy. Fast task learning rates were found with convergence after ten trials. A beta test of a system prototype was conducted during a live brain biopsy operation, where neurosurgeons were able to browse through MRI images of the patient's brain using thesterile hand gesture interface. The surgeons indicated the system was easy to use and fast withhigh overall satisfaction.
5	Gesture-controlled image system positioning for minimally invasive interventions	Hatsche rB, Mewes A, Pannicke E, Kagebein U, Wacker F, Hansen C, Hensel.	December 2020	This work examines how a touchless interaction concept contributes to an efficient, direct, andsterile interaction workflow during CT-guided interventions. Twohand gesture sets were designed specifically under consideration of the clinical workflow and the hardware capabilities.These were used to change the position of an X-Ray tube and detector of a CT scanner without breakingsterility and are compared regarding usability and performance

| | | | | in a user study with 10 users. The user study revealed that it ispossible to change the angle of the gantry within 10 secondsaverage in an experimental setup. A straight hand gesture showed higher acceptance than a pistol motivated gesture. Furthermore, the sequences were not optimal and confused theusers. It turned out that it feels more natural to activate and confirm the system with the same gesture. |