Ideation phase

Literature survey

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Team ID	PNT2002TMID51374
Project Name	A Gesture Based Tool For Sterile Browsing Of Radiology Images

1. The use of doctor-computer interaction devices in the operation room. It requires new modalities that support medical imaging manipulation while allowing doctor's hands. This paper presents “Gestix”, a vision-based hand gesture. It capture and recognition system that interprets in real- time the user's gestures for navigation and manipulation of images in EMR database

2. “Gestix” was tested during a brain biopsy procedure. Navigation and other gestures and translated to commands based on their temporal trajectories, through video capture. Data from two usability tests provide insights and implications regarding human-computer interaction based on nonverbal conversational modalities.

3. Computer information technology is increasingly penetrating into the hospital domain .The major challenge involved in this process is to provide doctors with efficient, intuitive, accurate and safe. It means interaction without affecting the quality of their work. Keyboards and pointing devices, such as mouse are today's principal method of human-computer interaction

4. In this work we refer to gestures as a basic form of non-verbal communication made with the hands. Psychological studies showed that young children use gestures to communicate before they learn to talk. Naturalness of expression, non-encumbered interaction, intuitiveness and high sterility are all good reasons to replace the current interface technology. For example keyboard, mouse and joystick. It is a video-based hand gesture capture and recognition system. It used to manipulate magnetic resonance images (MRI) within a graphical user interface. For example moving the hand left represents a “turn left “command

5. The operation of the gesture interface was tested at the Washington Hospital centre in Washington ,DC .Two operations were observed in the hospital's neurosurgery department .To our knowledge this is the first time that a hand gesture recognition system was successfully implemented in an “in vivo “neurosurgical biopsy. A sterile human-machine interface is of supreme importance.

6. The surgeon controls medical information avoiding contamination of the patient, the OR and the surgeon. The way for computers to understand human body language. ,thus building a richer bridge between machines and humans than primitive text user interfaces or even GUI .Which still limit the majority of input to keyboard and mouse. Gesture recognition enables humans to interface with the machine and interact naturally without any mechanical devices .Gesture recognition can be conducted with techniques from computer vision and image processing.

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