

Six Sense Technology

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Abstract: Sixth Sense Technology is a gestural interface device that builds up the physical world around us with the digital information and enables the users use natural hand gestures to connect with that such information. It is a pendant like device that consist two main components; a data projector and a camera. The device works on the principles of gestural recognition and image processing. The name Sixth Sense was given to this technology in light of a wearable device and the digital information could act in augmentation to the five traditional senses (vision, touch, smell, hearing and taste).

Keyword: Gesture, computing, Sixth, sense Technology, Wearable, Gestural, interface, Perceptual, Computing, middleman image, grabbing by using sixth sense technology

1. Introduction

The 21st century depends entirely on technology. The importance of technology is everywhere such as in health, finance, education, corporate world etc. The technology which we use is constantly evolving due to which innovations takes place very frequently in today's world. Thus the size of computer devices are getting smaller day by day. One such innovation is Sixth Sense Technology. As shown in fig.1:

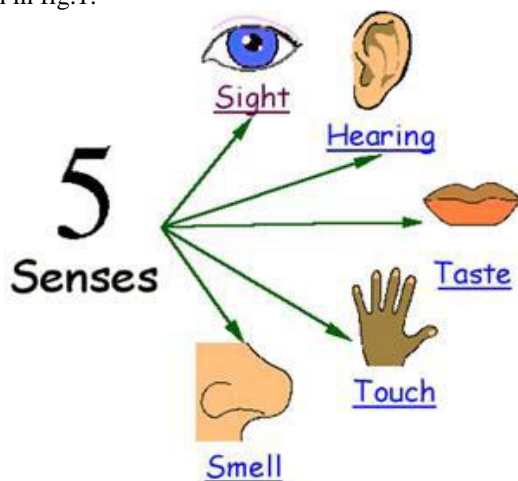


Figure 1

Steve Mann, is regarded as the brain behind this technology, who made the neck worn computers in 1997. Later on this work was continued by Pranav Mistry, a PhD student at the MIT Media Lab, who is now Vice President of Research at Samsung. The information around humans regarding touch, vision, taste, smell, hearing is perceived by using the five senses. But the most important information, i.e. data, which is available online through internet, is not naturally recognized by human senses, with six sense technology such information will be readily available to the users as the gap between the digital world and the physical world is eradicated. The Sixth Sense technology will revolutionize the world in all aspects, the tasks which take few minutes today will be performed in few milliseconds due to sixth sense technology.

2. Literature Survey

2.1 Manab Kumar Saha, Sirshendu Hore said that, This paper is a brief survey in the field of Sixth Sense Technology. Sixth Sense is an interface of wearable motions which redesign the physical world around us with advanced data and give us a chance to utilize the common signals to communicate with that data. The advent of technology over the last decade has established a new dimension in the field of Human computer Interaction (HCI). The aim of this paper is to review various gestures, components used, methodology adopted in sixth sense technology and its application.

2.2 Mr. GadakhPrashant J, KadnarSnehal S. ,Deshmukh Hemangi K, BhosaleBhagyashri they said that, In image grabbing by using six sense technologies we convert the real world into digital world. The Gesture Computing is a best innovation that permits hand development and outward appearances as info controls. Numerous gadgets are utilized now-a-days for catching pictures and putting away in their mass stockpiling gadgets gave inside of them like computerized cam with memory cards or fundamental memory, cell telephones with inbuilt memory and memory cards, and so forth.

2.3 Chandana K R, Manjunatha V G, Jai Prakash Prasad they said that, Miniaturization of computing devices helps us to be in continuous touch with the digital world. Sixth sense technology is the emerging trend. Many applications can be developed using sixth sense technology which helps to overcome the dependency on traditional hardware input devices like keyboard, mouse, etc. Restriction of information on traditional platforms like hardware input devices will be reduced considerably. This paper proposes the design and development of the input device keyboard and paint application using hand air gestures. From hand air gestures we can control any application which leads a path way to human computer interaction.

3. Practical Approaches

Checking the notice boards: Whenever the user makes the symbol of "N" through their hands the camera will

recognize it and understands that the points of interest of notification board are to be specified. It passes the information to the processor as signs and the processor checks the related database and gathers the data. At long last the data can be anticipated with the assistance of the projector onto the screen to which it is centered. The whole process takes place as shown in Fig2.

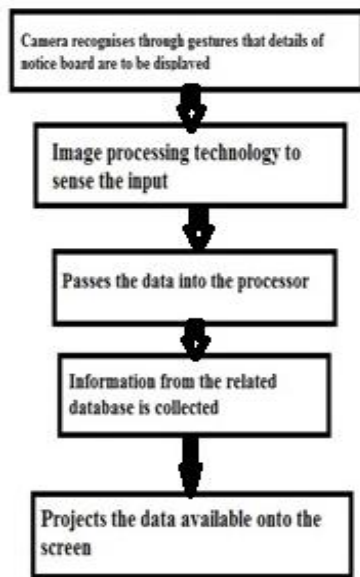


Figure 2: Block diagram to implement notice board

Library: The camera captures the image of the book and sends it as information to the processor. Taking into account the data the processor performs the capacity of checking the related database and after that the relating information is anticipated on to the book with the assistance of the projector. Understudies or Faculty can compose an audit for the book they alluded to. So when another understudy checks for that book, he can likewise read the audits of other people.

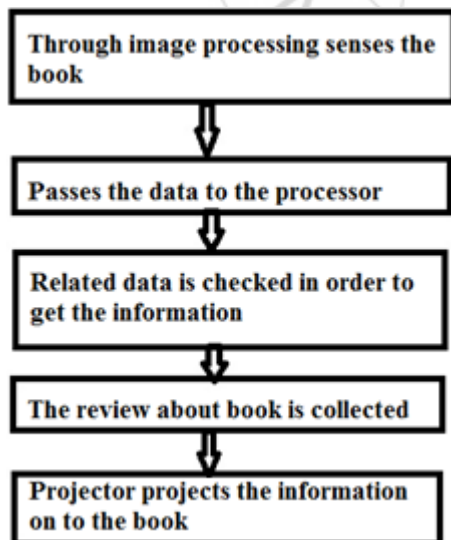


Figure 3: Block Diagram for Library

4. Components

The main components of Sixth Sense Technology are as follows:
 Camera, Projector, Laptop ect..

Remark

4.1 Advantages

The digital information and its objects are integrated into the physical world by using the Sixth sense interface, thereby making the entire world as our own computer. Sixth Sense makes machines like computers to adapt.

4.1.1 To human needs and not the other way round. Hand gestures are used to communicate with digital.

4.1.2 Information, multi-touch and multi-user interaction are also supported. Data from machine is directly accessed into real time.

4.1.3 It is open source and it is cost effective and map idea can be minded anywhere. Our relevant information is provided by the gesture controlled.

4.1.4 Wearable computing device that manipulates any surface into a display. It is portable

4.1.5 Comparatively easy to carry as can be worn in our

4.1.6 Neck even a naïve man with little or no knowledge of

4.1.7 Mouse and computer can use this device. Need to carry a camera no longer persist.

4.1.8 The cost that arose for the making of the sixth sense

4.1.9 Technology proto type is exceptionally low. A basic sixth sense device sums up to \$300.

4.2 Disadvantages

Excessive use of a technology can cause addiction and
 4.2.1 Can hamper social life as well. It will in-turn diminish humanness. Exposure of rays on surfaces like human arms can

4.2.2 Lead to health problems. This technology will affect the hardware market and

4.2.3 Will result in less revenue being generated and lower the cash inflow. It can affect the vision of the user because of its

4.2.4 Peculiar and better use at night time and in dark areas as compared to mornings and bright places.

5. Future Enhancements

As this technology will radiate may be new gadgets and new innovations taking into account it will likewise come up. Intuition contraption is absolutely special in connection to the PCs as it engages one to enlist and output on any surface that we can find around. The principal thing is to beat all the security dangers talked about in past segment; the same number of new innovations came and passed on because of security issues and dangers. In this universe of PDAs where

advanced cell as accessible at less expensive costs with more highlights Pranav ought to attempt to decrease its real cost from \$350. Ultimately, and the most fundamental which can be advantage for the general public likewise to bode well fill in as fifth sense for incapacitated individuals.

6. Conclusion

Use of gesture movement and speech integrated circuits has made sixth sense technology an emerging innovative idea. It provides us a smooth access to information that may help us to make crucial decisions. The ultimate power of Sixth Sense lies within the potential it holds to connect Internet with the real world and superimposing the data on the world itself. Although upcoming technologies like 5 pen PC technology allow us to carry computers alongside with us in our pockets, a link between the digital devices we can carry and its interactions with real world, also our speech, has not yet been found. The masterstroke here is that Sixth Sense identifies the objects around oneself, let us access the information in the way we want and displays that information as well, all this in the most simplest of the ways. Felicitous awareness of this technology will point to even further development and use of this technology, which in-turn will aid in obtaining information and operating any type of function practically at any time. And this can be achieved simply by using gestures and commands.

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