

Study of Sixth Sense Technology

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ABSTRACT

'Sixth Sense' is a wearable gestural interface that augments the physical world around us with digital Information and lets us use natural hand gestures to interact with that information. All of us are aware of the five basic senses - seeing, feeling, smelling, tasting and hearing. But there is also another sense called the sixth sense. Sixth Sense Technology is a mini-projector coupled with a camera and cell phone -which act as a computer and connected to the cloud, all the information stored on the web. Sixth Sense will allow u to interact with our world like never before. We can get information on anything we want from anywhere within a few moments! We will not only be able to interact with things on a whole new level but also with people! One great part of the device is its ability to scan objects or even people and project out information regarding what you are looking at.

Keywords:

sixth sense , Wireless sensor network, Colour Markers, task mapping, smart parking, Event detection, Bluetooth.

II. INTRODUCTION

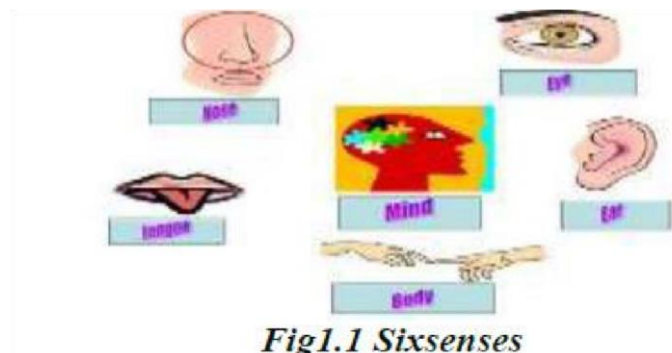
We've evolved over millions of years to sense the world around us. When we encounter something, someone or some place, we use our five natural senses to perceive information about it; that information helps us make decisions and t chose the right actions to take. But arguably the most useful information the can help us make the right decision is not naturally perceivable with our five senses, namely the data, information and knowledge that mankind has accumulated about everything and which is increasingly all available online.

The sixth sense technology was developed by Pranav Mistry, a PhD student in the Fluid Interfaces Group at the MIT Media Lab.

According to him the sixth sense technology has a Web 4.0 view of human and machine interactions. By making available information needed for decision-making beyond what we have access to with our five senses, it effectively gives users a sixth sense.

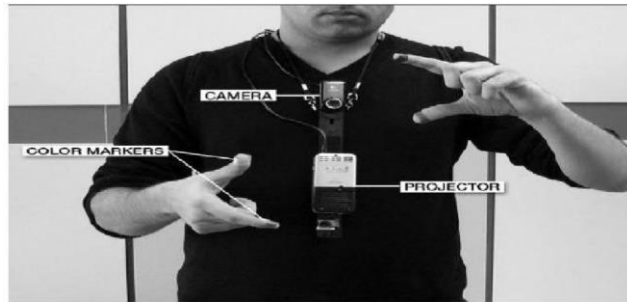
Basic Aim:-

To create a Sixth Sense device which works of the principles of gesture recognition and image processing to capture, zoom(in and out) and toggle pictures with ease just by the help of collared caps worn on the fingertips of the user.

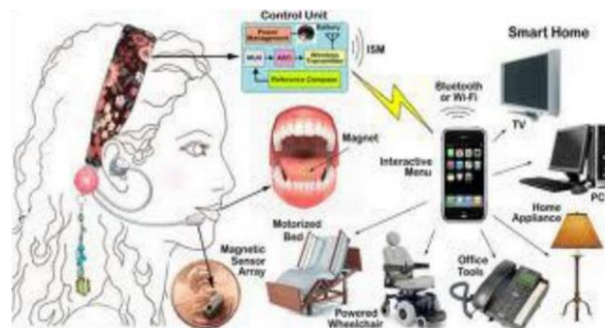


What is sixth sense ?

Sixth Sense aims to more seamlessly integrate online information and technology everyday life. By making available information needed for decision-making beyond what we have access to with our five senses, it effectively gives users a sixth sense. Sixth Sense is a mini-projector coupled with a camera and a cell phone which acts as the computer and our connection to the Cloud, all the information stored on the web. The hardware components are coupled in a pendant like mobile wearable Device. Both the projector and the camera are connected to the mobile computing device in the use pocket.



FUTURE OF SIX SENSE TECHNOLOGY:-



1. Interactive advertisements
2. True 3D print media
3. 3D Visualization
4. Solar batteries via small solar panel
5. Camera can act as a eye for the blind person.

Working of sixth sense technology:-

Components related to Sixth Sense technology:-

- Hardware component:
 - Camera
 - Projector
 - Colour Markers

Mirror

Smart Phone

Camera:-

The camera is the key input device of the Sixth Sense system. The camera acts as a digital eye of the system. It basically captures the scene the user is looking at.

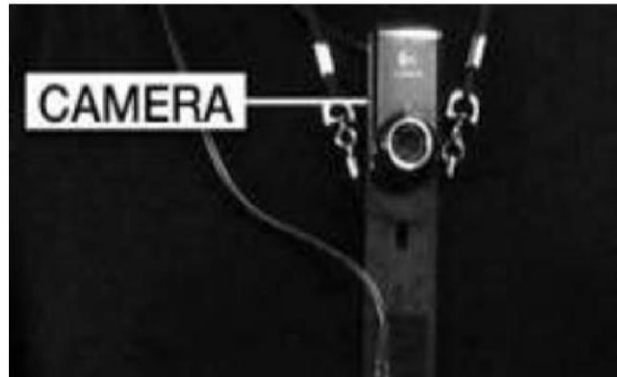


Fig: Camera

Projector :-

The projector is the key output device of the SixthSense system. The projector visually augments surfaces, walls and physical objects the user is interacting with by projecting digital information and graphical user interfaces



Fig: Projector

Color Markers :-

The color markers also called as fiducials are placed at the tip of user's finger. There are four different types of colored markers like red, yellow green and blue. These different color tapes help the webcam to recognize the hand gestures. The movements and arrangements of color markers are translated into gestures



Fig: Color Marker

Mirror :-

The use of mirror is important as the projector dangles pointing downwards from the neck. The mirror reflects the image on to a desire surface. Thus the digital image is freed from its restriction and placed in the physical world.



Fig: Mirror

Smart Phone :-

The web enabled smart phone processes the data send by the camera. With help of the colored markers placed at the finger tips, the smart phone searches the web and interprets the hand gestures.



Fig: Smart Phone

Application:-

There are number of applications of SixthSense technology that shows the usefulness viability and flexibility of the system. Let's see one by one.

1. Call Up a Map:-

The map application allow the user to navigate a map that displayed on a nearby surface by using our hand gestures, which is similar to the gestures supported by Multi-Touch based systems, permitting the user to zoom in, zoom out or pan using intuitive hand movements.



2. Create Multimedia Reading Experiences:-

The Sixth Sense system also links the physical objects that the user is communicating with by displaying more information about these objects projected on them. For example, a newspaper shows live video news on a regular piece of paper.



Fig: Video in News Paper

3. Feed Information on People:-

The system will display information about a person on another person's body such as what they do, where they work, and so on.



Fig: Information on People

III. CONCLUSION

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. It can always be expected that this technology has a bright future because it might bring about a change in the way we look at the world .It can really create a magic.

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