SixthSense Technology

SixthSense is a wearable gestural interface device developed by Pranav Mistry (born on 1981 in Palanpur, Gujarat, India), a PhD student in the Fluid Interfaces Group at the MIT Media Lab. SixthSense has recently attracted global attention. Among some of his previous work, Pranav has invented Mouseless - an invisible computer mouse; intelligent sticky notes that can be searched, located and can send reminders and messages; a pen that can draw in 3D; and a public map that can act as Google of physical world.

The SixthSense prototype is comprised of a pocket projector, a mirror and a camera. 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 user’s pocket.

The projector projects visual information enabling surfaces, walls and physical objects around us to be used as interfaces; while the camera recognizes and tracks user's hand gestures and physical objects using computer-vision based techniques. The software program processes the video stream data captured by the camera and tracks the locations of the colored markers (visual tracking fiducials) at the tip of the user’s fingers using simple computer-vision techniques.

The movements and arrangements of these fiducials (an object used in the field) are interpreted into gestures that act as interaction instructions for the projected application interfaces. The maximum number of tracked fingers is only constrained by the number of unique fiducials, thus SixthSense also supports multi-touch and multi-user interaction.

Camera

Captures an object in view and tracks the user’s hand gestures and it sends the data to smart phone. It acts as a digital eye, connecting you to the world of digital information

Projector

The projector projects visual information enabling surfaces and physical objects to be used as interfaces. The project itself contains a battery inside, with 3 hours of battery life. A tiny LED projector displays data sent from the smart phone on any surface in view–object, wall, or person.

Color Markers

It is at the tip of the user’s fingers . Marking the user’s fingers with red, yellow, green, and blue tape helps the webcam recognize gestures. The movements and arrangements of these makers are interpreted into gestures that act as interaction instructions for the projected application interfaces.
Make a call - You can use the Sixth Sense to project a keypad onto your hand, and then use that virtual keypad to make a call.

Call up a map - With the map application we can call up the map of our choice and then use thumbs and index fingers to navigate the map.

Check the time - Draw a circle on your wrist to get a virtual watch that gives you the correct time.

Create multimedia reading experiences - Sixth Sense can be programmed to project related videos onto newspaper articles you are reading.

Drawing application - The drawing application lets the user draw on any surface by tracking the fingertip movements of the user’s index finger.
**Zooming features** - The user can zoom in or zoom out using intuitive hand movements.

**Get product information** - Sixth Sense uses image recognition or marker technology to recognize products we pick up, then feeds us information on those products.

**Get book information** - The system can project Amazon ratings on that book, as well as reviews and other relevant information.

**Get flight updates** - The system will recognize your boarding pass and let you know whether your flight is on time and if the gate has changed.

**Feed information on people** - The system will project relevant information about a person such as what they do, where they work, and so on.

**Take pictures** - If you fashion your index fingers and thumbs into a square ("framing" gesture), the system will snap a photo. After taking the desired number of photos, we can project them onto a surface, and use gestures to sort through the photos, and organize and resize them.

The **advantages** of SixthSense technology are Portable, Supports multi-touch and multi-user interaction, Connectedness between world and information, Cost effective, Data access directly from machine in **real time**, Mind map the idea anywhere and Any surface can be use as display screen.

**If you need more information about SixthSense watch the visual effects:**

[http://www.youtube.com/watch?v=mzKmGTVmqJs](http://www.youtube.com/watch?v=mzKmGTVmqJs)

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