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How we look at the World Forever by Sixth Sense Technology

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Abstract :- In this time we have seen lots of technology devices which is mind blowing inventions for humans .As a latest technology called six sense technology. six sense technology is a kind of device which do not need to carry any heavy technology device such as camera , watch & computers etc. Here if we have to take picture of any beautiful things or any things then we do not need a camera.If we want to talk to our friend from cell phone than we do not need to cell phone, similarly if we want to see the time then we do not need to watch etc. the main reason is everything we can do with our six sense technology. six sense technology is a new & interesting type of technology ,which is easiest using for all type of people. This technology is all about interacting to the digital world in most efficient & direct way. It is similar to Telepointer . six sense technology is a wearable gestural interface device ,whose researcher was steve man in 1990 & his work to proceed by younger master mind researcher pranav mistry . six sense technology uses mirror, camera, pocket projector, smart phone & color markers to sensing or any recognize any object or view.

Keywords : six sense technology, Hand gestures, pranav mistry, digital world

1. INTRODUCTION

As we know that a human being using five sense there are eye, ear, nose, tongue, mind & body to perceive information & perform actions. But today a new technology six sense technology helps perform this type of action easily. six sense technology is interact the physical world around as with digital information. six sense technology tries to combine the real & the digital world which today exist as two seperate but equally important entities. It uses simple devices such as mirrors, projector, camera & etc. It works as the wearable devices that is hanged around the neck of a person & thus the projection starts by the mean of micro projector attached to device. It is based on the concept of augmented reality & has well implement the perception of it. six sense technology bridge the gap by bringing intangible digital information out into the tangible word & allowing us to interaction with this information via natural based gestures. Through a six sense technology we can get information on any thing from anywhere within a few minutes.

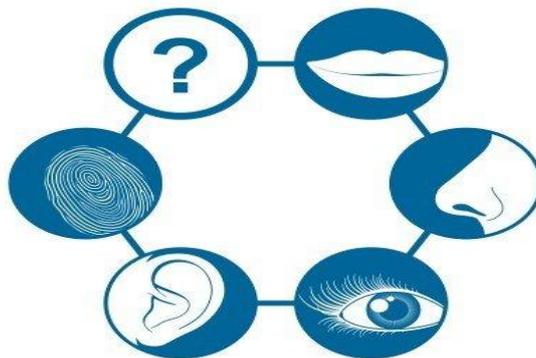


Fig1: six sense

2. WHAT IS SIX SENSE TECHNOLOGY

Sixth sense technology is a technology that can be used to take the real world object into digital world with a minimum effort & a higher accuracy. six sense technology is a mini projector which is built with camera & a cell phone which act as the computer & connect to the cloud ,here all the information stored on the web. This six sense technology can also obey hand gestures in the infamous minority report. This is a magic each & everywhere we want, it's a gateway between digital & real world.

To the help of six sense technology we can access or manipulate the information using fingers. 1)If need to make a call then we are extend our hand on front of the projector & number will appear for to click. 2) If need to know the time then draw a circle on wrist & a watch will appear .3) If want to take a photo then just make a square with fingers & highlighting what want to frame & the system will make the photo.[2 3]



Fig 2 : Make a call



fig 3 : clock



fig 4 : draw photo

3. WHY BUILT SIX SENSE TECHNOLOGY

Basically humans take decisions after acquiring inputs from the senses. But the information have not sufficient in humans than its effect to the right decisions. But in this time with the help of Internet we collect a huge number of information which making a good decision on a few minutes. This six sense technology provides us with the freedom of interacting with digital world with hand gestures .This technology has a wide application in the field of Artificial Intelligence . This methodology can aid in synthesis of bots that will be able to interact with humans.[1]

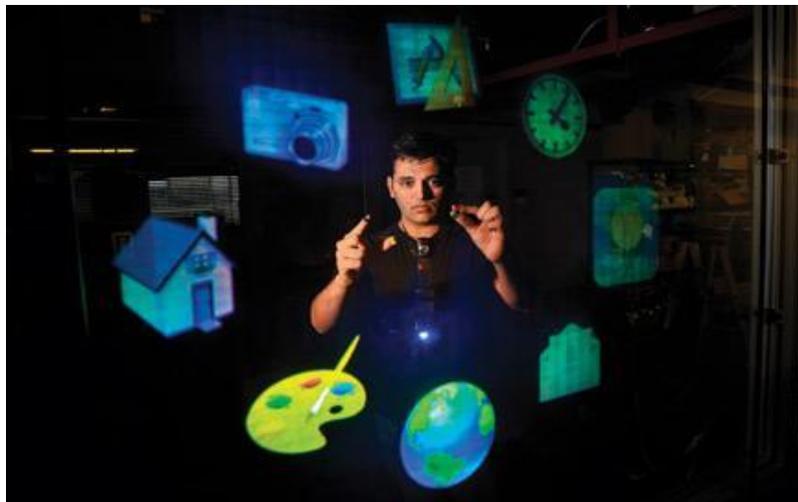


Fig 5 : Internet access huge number of information

4. HISTORICAL BACKGROUND

The history of six sense technology goes back into 1990s when steve mann first attempt to propose a neck worn projector & a camera combination . The idea of implementing computer technologies to daily task as six sense was further developed by pranav mistry who also appears to be an MIT lab Phd student as well as steve mann. Pranav Mistry is an Indian computer scientist . At present he is the head of Think Tank team & Director & researcher of Samsung. He is best known for his work on six sense technology .[10]

The first prototype of the six sense technology was actually bigger then what it looks like today & it was not working properly to use in daily life. Pranav Mistry first tried out his idea on a simple computer mouse. First he put two rollers into one mouse & see if he could obtain data & guide the movements of the mouse. Then two rollers did not work properly so he decided to use four rollers & see if it could work better four rollers gave him the idea that he could use the same idea on fingers & that is what the next moved on to. [6]



Fig 6 : mouse

5. BASIC REQUIREMENTS

5.1 Software

The six sense technology software will be open sources, as for as this seems to be a little set of items there will not be user interfaces or much advances program for the users . There will be much harder & secured coding inside the device to make sure the security of the software. The prototype system runs on windows platform & majority of the code is written in C++ & C#. Uploading newer versions as it is being developed this will also include a mobile version.[4]

5.2 Hardware

In six sense technology uses following devices –

1.camera 2.mobile component 3.mirror component 4.projector 5.colored marker.

5.1.Camera :- It captures the image of the object in view & tracks the users hand gestures. It sends data to smart phone for further processing. Basically it act as a digital eye which connect to the world of digital information.

5.2.Mobile component :- Consist of a web enabled smart phone which process the data send by the camera.

5.3. Mirror component :- The uses of the mirror is significant as the projector, dangles pointing down wards from the neck.

5.4. Projector :- The projector is the key output device of the six sense system the projector visually augments surfaces walls & physical object the user is interacting with by projecting digital information & graphical user interface the projector itself contains a battery inside with three hours of battery life. Suggested product of projectors are LED or LASER.

5.5.Colored marker :- Color marker are used to marking the user's finger with color red, green, yellow & blue . Its placed at the tip of user's fingers here web cam to recognize the hand gestures.[11]

6. WORKING CONCEPT

The sixth sense technology uses different technologies like gesture recognition, image processing, etc. At present the commercial product isn't launched but the prototype is prepared. The sixth sense prototype is made using very common and easily available equipments like pocket projector, a mirror, mobile components, color markers and a camera.

1. The projector projects visual images on a surface. This surface can be wall, table, book or even your hand. Thus, the entire world is available on your screen now.
2. When user moves their hands to form different movements with colored markers on the finger tips, the camera captures these movements. Both the projector and the camera are connected to the mobile computing device in the user's pocket.
3. Recognition is made using computer vision technique. These markers act as visual tracking fiducials.
4. The software program processes this video stream data and interprets the movements into gestures. The gestures are different from one another and are assigned some commands.
5. These gestures can act as input to application which is projected by the projector.
6. The projector is aligned downwards for compactness; therefore images would be formed at the user's feet if mirror wasn't used. The mirror reflects the image formed by the projector to front.
7. The entire hardware is fabricated in the form of a pendent.
8. The entire product cost around \$ 350 and that also because of projector.
9. It works very similar like a touch screen phone with entire world as the screen.[1]

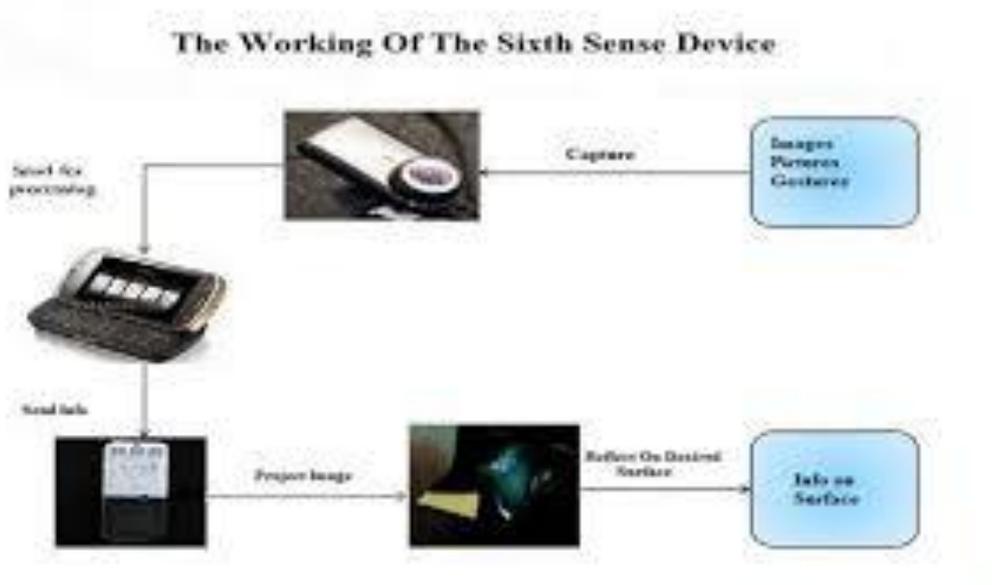


Fig 7 : six sense device

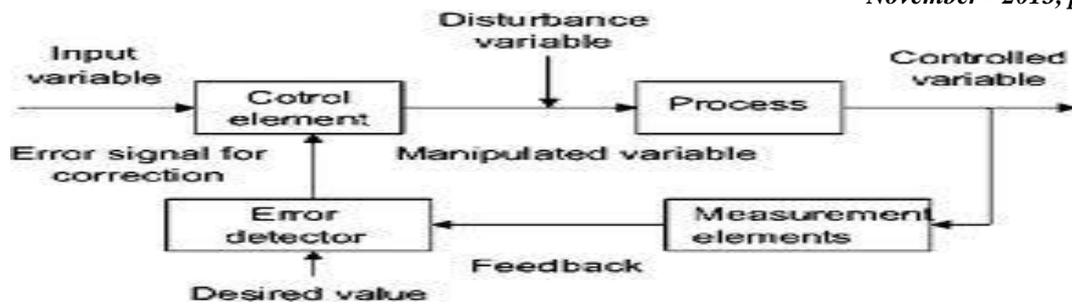


Fig. 8 :Block diagram of six sense device

7. APPLICATIONS

The greatest benefit of the device is the availability of wide variety of application in it they are –

1. Make a call
2. Call up a map
3. Check the time
4. create multimedia reading experience
5. Drawing application
6. Zooming features
7. Get product information
8. Get book information
9. Get flight updates
10. Feed information people
11. Take pictures
12. Check the email.

8. ADVANTAGE

1. six sense technology is a user friendly device.
2. six sense technology is so light ,easy to use & easy to implement
3. six sense technology is not heavy to carry around
4. six sense technology is not that expensive (cost about \$350 or 17000 /-)
5. six sense technology is a gadget that could be work as jewelry & can do various things like take pictures, given direction (like GPS) Browse the web etc.
6. six sense technology connects human being to the entire world without being connected to Internet.
7. six sense technology does not change to human habits but ,computer & other machine to adapt to human needs.
8. six sense technology is an open source.[7]

9. LIMITATION

1. There is no easy way to fix if six sense device is break.
2. six sense device can not be used for long period of time
3. Privacy is a major issue ,if we open up the gadget on a busy street then everyone would be able to see what we are doing
4. This device is not projecting a hard surface.
5. This technology is not attach to all the time with human body parts, because high waves radiation emitted may cause some disease
6. Projection is better in the night time & dark areas rather than mornings & bright areas.
7. Software does support the ability to use real time video streams in order to produce augmented reality
8. Hardware limitation of the devices that we currently carry around with us for example many phones will not allow the external camera feed to be manipulated in real time
9. Post processing can occur however[7]

10. 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.[8]

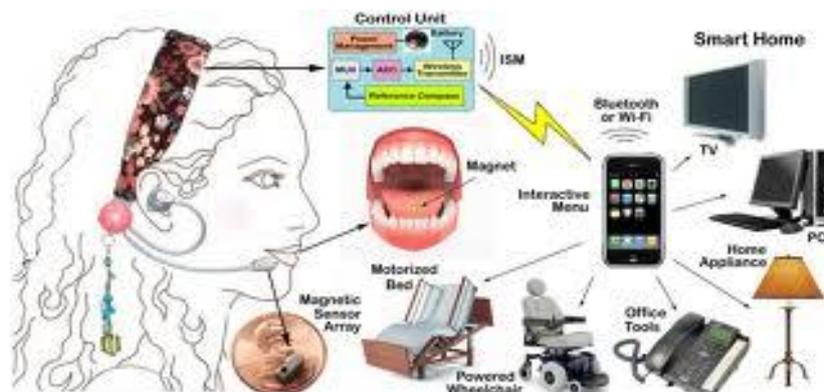


Fig 9 : future use of six sense device

11. CONCLUSION

Six sense technology has seamless applications. Six sense recognizes wide varieties of gestures ,it can easily interact with different everyday objects .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 . It can also connect the real world with the Internet which is certainly a novel application & can thus be a great source of information for the world itself . Therefore it can always be claimed that this device has a long way to go in the near future.

It will remove the tedious task of carrying our laptop 's our any other devices which are very heavy all we have to do is just wear the device like pendant. Its light & easy to carry & easy access to any information .[9]

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