

## EXTRA SENSORY PERCEPTION

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### Abstract

The Extra Sensory Perception (ESP) famously known as Six Sense Technology lets you have access to a bulk of information that aids you with taking decision with the help of camera, web enabled mobile, projector, mirror, speech IC and colored markers.

The markers work as reference point of the gestures, camera captures the gestures, that is manipulated and converted into decision with the help of information which is provided by the web enabled mobile, the mirror reflects the decision image that is projected by the projector. This technology has wide range of applications, not only in the technology sector but also in the social scenario. In this paper we discuss about the vast area of the sixth sense that needs to be explored like motion sensing, artificial intelligence, gaming to make it more user-friendly technology.

**Keywords:** Six Sense, RFID, Speech IC

### I. Introduction to the Extra Sensory Perception

“We each have a sixth sense that is attuned to the oneness dimension in life, providing a means for us to guide our lives in accord with our ideas.” these lines by Henry Reed are no more a metaphysical concept in fact the Extra Sensory Perception or the Sixth Sense Technology is the representational answer to this intuitive power. ESP is the elevation of the natural sensing capabilities with the help of wired framework. Conventional means of acquiring knowledge to reach the fixity of the purpose by the natural five senses i.e Eyes, Ears, Nose, Tongue and Skin but Extra Sensing Perception (ESP) is meant to present you with such reality about your surroundings which is superficial but not discernible. This revolutionary technology is a wearable interface which takes input from the real world and converts it into the digital

information via gestures or speech i.e. with minimum effort and higher accuracy. But the precision of the output depends on the position of all the components, of which locus of the camera is a major concern, as the exactness of an action depends highly on the images captured. It is also important because our daily life gestures are transmuted into the commands and passed as input to the Speech IC. These commands are saved as a database in the Integrated Circuits so the similar action is carried out whenever the speech is perceived.

Every component of the six sense technology has its momentousness. Validity of a decision depends on the sufficiency of the information. The same goes with the Six Sense Technology or the ESP; it makes use of the internet which is get-at-able from the web-enabled mobile phone to make the necessary counsel available for the right decision to be taken.

### II. Literature Review

Monika Arora states that [1] The Six Sense Technology is an unaccustomed term and a matter of curiosity for not only for the people in general but also the hackers. Pertaining to its capability of understanding our routine gestures it was coined as “Wear Ur World”

According to S. Sadhna Rao: [2] This sophisticated technology harmoniously integrates the analog information with the physical world. It provides serenity to the daily life operations that we perform.

Lenin Ravindranath. Venkata N. Padmanabhan, Piyush Aggarwal enlightened the idea of [3] The Radio Frequency Identification's (RFID) domain that has been enlarged by envisaging the Six Sense Technology. The RFID's

commitment of affordable connectivity has led to the inventiveness of “Internet of Things.”

Ms Uttama Suryavanshi illustrated [4] that this Sixth sense has many effortless applications. It is not only able to recognize gestures but also deal with many objects that we encounter in our routine. This technology has a bright future and a very vast scope, it will surely change the way we see the world.

### III. HISTORY & EVOLUTION

The history of the six sense technology can be traced back to 1990s when Steve Mann created a neck-worn camera and projector, the strategy was to implement the computer technology to our daily life task as sixth sense. The idea was further developed by Pranav Mistry. His first prototype was much bigger in size, he first tried to implement the idea on a simple computer mouse, he put two rollers into a single mouse to see if they could obtain the data and guide the movement of the cursor, but it did not work. Next he tried to implement the same idea with four rollers, and from there on he got the idea of using fingers.

### IV. Software and Hardware requirement for the Extra Sensory Perception:

1. Software: As the final product is not launched, the softwares will be open sources with harder and secure coding, in order to develop a secure system. Major coding will be done in C++ & C#.
2. Hardware: Moreover ESP aims at eliminating the need of excessive hardware but still minimum hardware requirement needs to be met to make the device workable.

a) Colored Marker: These are used for marking user's fingers with red, green, yellow and blue color. These are placed at the user's tip to recognize the gestures.

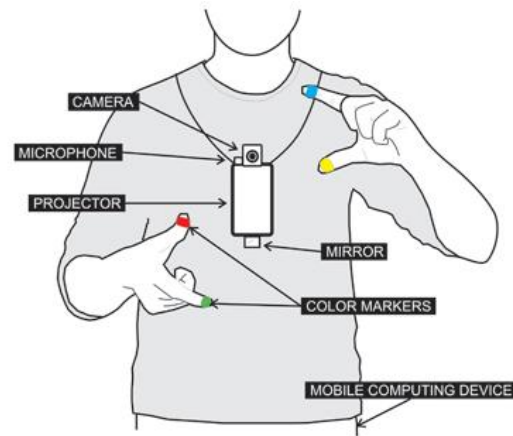
b) Camera: The camera captures the images in view and tracks user's gestures and then sends them to mobile component. It can also be termed as “Digital Eye”.

c) Mobile Component: It serves as an interface between the information captured and the internet, In order to collect sufficient information to make a decision.

d) Microphone: It is an optional device, it is used when user used paper as an intermutual. It captures the sound created by touching the paper.

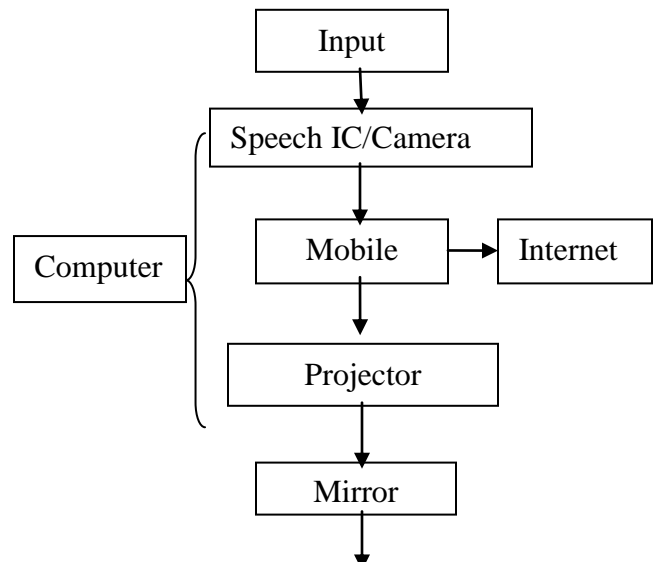
e) Mirror: It is an important component because it helps place the output at the correct place. The image from the projector is reflected by the mirror.

f) Projector: It is the main output component. It carries out the visual intensification of the physical world that the user is interacting with. LED & Laser are preferred products as Projectors.



### V. Explanation of the general design of Extra Sensory Perception:

The general design of the Six Sense Technology prototype could be:



Output

Fig1:-General Design of ESP Prototype

The input to the six sense prototype is in the form of gestures or speech. When the user moves his hands for various gesticulations with colored markers on their finger tips. The camera captures these movements.

1. The colored markers serve as a point of reference or measure for the image or motion to be processed by the camera.
2. The Speech IC & camera along with Mobile and projector collectively work as a computer system.
3. The indications are interpreted and are assigned commands.
4. The mobile is a web enabled phone that collects the predominant information from the internet to furnish enough knowledge for the decision to be taken based on the movements made.
5. The projector that not only collects the input but also exhibits the output is aligned downwards for the compactness purpose. But the problem with this alignment is that the image will always be formed at the user's feet.
6. To avoid this and ensure the proper stationing of the output the "mirror" is used which reflects the output and forms the image at the front.

#### VI. ADVANTGES of ESP

1. The device is user friendly because its portable, easy to use as it does not tend to change our propensity.
2. Being open-source it is easy to implement.
3. Not only physical waves but this technology is capable of scanning a book that we wish to read, present its detailed reviews, ratings and sometimes even summaries of the book.

4. It can serve as an effective substitute for laptop or computer, we can check e-mails, browse the internet.
5. Using Six Sense technology, if you scan a picture from the newspaper, the device picks up the video of the same news online and plays for you whenever you want to see it.

#### VII. DISADVANTAGES of ESP

1. If the device suffers abrasion then there is no easy way to fix it.
2. Position of the camera in the device is another problem, as if the camera is not properly placed it end-up having a wrong interpretation of the motion and hence undesirable result.
3. Privacy is another big issue because of the projection technology, as if we use the device in a public area, then everybody could see what are we doing.
4. If the device is continuously in contact with body then it might result in some kind of disease because of emission of radiation.
5. As this technology aims at eliminating the much needed hardware, it will have negative impact on the hardware industry which has had huge turnovers over the years.

#### VIII. APPLICATIONS of ESP

1. Motion Imaging: One can now click the pictures anywhere and at any place. Simply place the colored markers on your fingers and make a rectangle using thumb and index fingers of both hands.
2. 3-D Drawing: The technology enables drawing of 3-D images using fingers, not only this, the hands can be used as painting brush to color the picture.
3. Object Tracking: This technology with help of (Radio Frequency Identification) RFID can be used to track the objects.
4. Mind Mapping: Wherever the user is, if he wants a map, the six sense makes it available there and then, the necessary

information will be provided by the internet itself.

5. Gaming: The six sense technology has a vast scope in the gaming sector for creating a physical gaming world, for eg: providing a virtual steering wheel in car racing game

#### IX.ESP- A Sensible Technology

It can be called a sensible technology because of it converts subjective feelings to viable results. It melds information, knowledge and context in such a way that it resonates with us in a meaningful way. Suppose we are standing at a supermarket and wondering which soap, shampoo, bread, rice etc. would be good for your health, the six sense technology will tell you there and then what to eat, use or drink along with valid reasons.

Going to board your flight, just hold your boarding pass in your hands and six sense technology will tell you, is your flight on time, or is it delayed or cancelled. Isn't that a valuable information?

Most importantly, it lets you access internet anywhere, as it analyzes the information around and lets you know the important things.

Imagine you are having a lifeless newspaper in your hand, but six sense presents you with the latest video related to the news, that means it helps you to be updated at all times, no matter whatever it is.

It carries all the qualities of being a sensible technology, although it also carries a baggage of disadvantages with it, but considering the fact that it is still in its development phase so there is a room for improvement of this technology.

#### X. CONCLUSION

We presented the idea of Extra Sensory Perception with the view to discuss its areas of applications, and its effect on the daily life of the humans. It is indeed a very helpful technology as far as augmented knowledge gained by it is concerned. But at the same time we cannot ignore where this technology poses a danger not only to the Hardware industry but also to human health. We are sure that these areas will be looked upon and improved to make it a useful friend of the human beings.

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