

Blue Eyes Technology

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Abstract - The technology known as Blue Eyes Technology is growing day by day with something new innovations in order to make something new and useful every day which would give a helping hand to the human beings. The new inventions coming up have now reached to the technology which can sense the emotions and feelings as well in order to make work easy for human beings. The main reason for making this technology successful is to make computers sense the emotions of humans. Blue Eyes technology basically uses different types of sensors to identify physical as well as psychological actions and to extract key information. Then, it is used to calculate the psychological, emotional, physical or any informational state of user.

Key Words: DAU (Data Acquisition Unit), CSU (Central System Unit), MAGIC (Manual and Gaze Input Cascaded), Emotion Mouse, Simple User Interest Tracker (SUITOR).

1. INTRODUCTION

Blue eyes is known because in this term 'Blue' is for Bluetooth, which is known for wireless communication and the 'Eyes' term is used for the eye movement used to identify the information. The devices are fixed with Bluetooth processors which provide wireless communication between sensors and the central unit.

Although, your personal monitor that can perform any actions. It can understand our emotions even when you touch the mouse. It does the verification of your identity, also feels your presence, and starts interaction with the user. For example, you have asked the computer to dial to your home urgently. It then realize that the situation is very urgent and with the help of mouse, dials at home, and make a connection.

2. OBJECTIVES OF BLUE EYES

The main objective of blue eyes is to design and develop smarter devices also, by creating devices with help of emotional intelligence. To make this possible it uses various sensing devices in order to evaluate the results. Eventually, creating computational devices with perceptual sensing abilities that could sense human's behavior and can provide physiological information.

3. LITERATURE OVERVIEW

Blue eyes are one of the most studied topics in computer literature due to devices that can sense human activity. The main motto behind blue eyes is to make emotional computers. The process of making computers with emotions so it can sense the behavior is known to be as Affective Computing. The devices have to detect even the smallest variations of our moods and actions. For example, user may click a mouse swiftly or fast either in the happy mood or in the angry mood.

Artificial intelligent speech recognition and Simple user interest tracker are basically used to; understand the speech of the user as well as the interest of the user. Now, the computers have to react in accordance with the person's emotional states. This is done with the help of technical input devices like Emotion Mouse (to track emotions of user) through which the inputs are taken accordingly. Some of the following various techniques which are considered for the implementation of the Affective Computing are given below.

3.1 Emotion Mouse

In Blue Eyes Technology, the devices have the strength to uniquely identify, even the smallest variations in the moods of human beings. Say a person may strike the keyboard harshly or softly depending on the mood of the person whether he is happy or in angry mood.

The Blue Eyes technology identifies this emotional behavior of humans just by moving the mouse or touching the mouse or keyboard and the device started to react with the users. This is done with the help of intelligent devices like Emotion Mouse.

Basically this Emotion Mouse can detect emotions with just touching the mouse. The Emotion Mouse is designed to analyze and identify the user's emotions such as sad, happy, anger, eager etc. when the person is interacting with computer. The figure [Fig -1] shows the emotion mouse implemented on a real mouse. The mouse consist a set of sensors which includes the different infrared detectors and temperature sensitive chips.

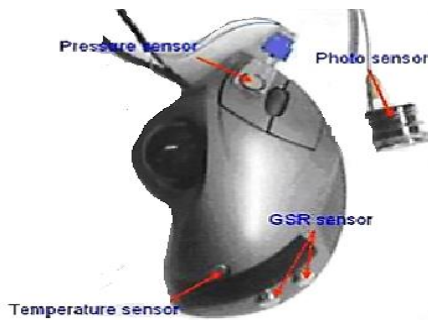


Fig -1: Emotion Mouse

3.2 Manual and Gaze Input Cascaded (MAGIC) Pointing

The Eye gaze tracking methods is a new way technique for handling the ‘eye gaze’ for man machine interface. The gaze tracking has been an excellent pointing method for providing a better input to computers. But there are also some drawbacks exist with eye tracking methods. To overcome these barriers an alternative approach termed as MAGIC - Manual and Gaze Input Cascaded is taken into consideration.

The selection and pointing of the cursor is basically controlled by manual means but also followed by a gaze tracking mechanism and is usually known as MAGIC Pointing. The use of MAGIC pointing is to warp the previous home position of the cursor to the location of the target through the ‘eye gaze’, in order to reduce the motion of the cursor which is required for target selection.

3.3 Artificial Intelligence Speech Recognition

Artificial intelligence Speech Recognition system in Blue Eyes technology plays an important role in the very near future and it will be life lead by blue eyes technology. The user’s grammar, noise type, speech, noise level and the position of the microphone are some important features of speech recognition system.

Basically, an Artificial intelligence is done by the humans. This makes devices less expensive and also come up with more power full, useful, and smarter devices. The data or words are scanned and finds whether there is same match or not. And after knowing the key words, accordingly actions are done by the machine. In this way, Blue Eyes technology enables the users to communicate with the machines with their own languages.

3.4 Simple User Interest Tracker (SUITOR)

The Simple User Interest Tracker is an approach towards the design of machine which has the ability to maintain relationship between the humans and the computers. The SUITOR continuously analyze the users actions and behavior,

that where his eye focus on the personal computer screen. The SUITOR has the power to decide what is the topic of user is and also can be able to send the data to the particular device. SUITOR fills a scrolling ticker which is displayed on a personal computer screen with information related to the user's current task.

4. SYSTEM OVERVIEW

Blue Eyes system consists of a mobile measuring device and a central processing system. The mobile device is build up with Bluetooth module which provides wireless medium between the sensors which worn by the operator and the central unit. The system consists of DAU and CSU.

4.1 Data Acquisition Unit (DAU)

The DAU is the mobile component of the system used in the Blue Eyes technology. The main use of DAU is to collect the physiological information from sensors and forward to the CSU for processing and also verification purposes.

The Bluetooth module provides a wireless interface between the Central System Unit (CSU) and operator consisting of the sensors. PIN and ID are assigned to the operator’s for the authentication purposes. The device uses a keyboard, beeper and LCD display for the communication between the devices. The information from the user is transferred using a mini jack plug.

4.2 Central System Unit (CSU)

For wireless network connection, CSU is the next main important thing in the Blue Eyes technology. The CSU mostly consists of voice information transmission and a wireless Bluetooth device. This CSU is connected to a computer using USB wire, parallel and serial cable wire. The socket named mini jack is used for accessing the audio data. The program that contains the operators personal ID is communicating to the personal computer through the serial and power ports.

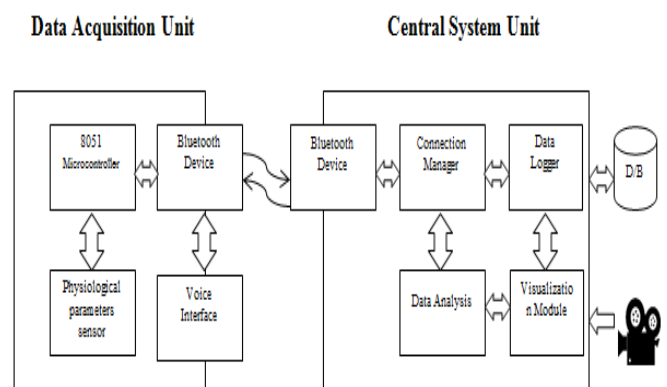


Fig -2: DAU and CSU

5. FUTURE APPLICATIONS

Blue Eyes technology is an innovative approach and can be used in schools and colleges or can also be used in the field of education to take sessions, in order to check and observe students physical state and psychological state. Future applications of Blue Eyes technology will be way ahead of other technologies. The fields of advertisement and entertainment will be mostly benefited with this as they have an important role in our day to day life.

5.1 Entertainment

With the help of blue eyes technology a person can rule and control the world of entertainment through the eyes. One of the examples is video games. There are many different techniques used for the implementation which helps us to move our eyes from one side of the screen to another and then the game character will look and make the same movements the same way as we suggest to them in result to capture the eye moments of the user.

5.1.1 Techniques Used

The world of Entertainment uses eye tracking technology through Manual and Gaze Input Cascaded Pointing which makes movements. The MAGIC pointing is far better and advanced then the old traditional system. The screen automatically captures around whatever user is looking at also, it gives a good control over the game, and you overall start feeling so inside the game that you will never want to use something else for video games. So, this will be a very best option for the game players.

5.1.2 Outcome

By using such techniques user can achieve a lot more in the world of entertainment. The outcome involves that all the future applications will be using blue eyes technology in order to make our day to day life simpler and easier. In the world of entertainment it would be much more fun to play the games with the use of such technology which only need your emotions to play.

5.2 Advertisement

In advertisement, it is not very far enough when blue eyes technology will make the ability to use eye tracking as a powerful technology in our near future which can even check the consumer's attention as well as responses to marketing messages. Basically, to know what people actually look at and which can help advertisers to know that the ad presented is seen by the consumer or not. In this way it is beneficial in the Advertisement world where the things will be easier and simpler.

5.2.1 Techniques Used

Eye trackers uses eye gaze tool to identify what input is coming by knowing the input it uses a camera that is small in size that gives infrared light off a user's eyes and the reflections of the light are followed in order to pinpoint where their eyes are looking. Manual and Gaze Input Cascaded Pointing collects unique visual information of user's behavior. They also can tell whether user is reading the ad or whether a user is searching for something else in the page. The eye gaze usually maps user's visualizations and tracks them accordingly.

5.2.2 Outcome

In the world of advertisement, blue eyes technology will play an important with its techniques and devices. The field of advertisement will be benefitted by using this technology as it can sense the consumer's attention towards the advertisement as well as user can know for what consumer is more interested in and what he is looking for in the advertisement.

Besides this, a user can also operate the switch button for multiple devices such as for TV, fan, and music playing system, and etc. this can be done by calling them with different instructions which can be voice, audio or actions in order to on or off simply by looking at them.

6. CONCLUSIONS

Today the world is growing very faster as it mainly consists of all the real time systems. The Blue Eyes technology provides a best useful way to the user's by giving more strong and user friendly facilities in the world of computing devices. Wireless communication is provided by Bluetooth whereas the eye movements give us important information also tell us about interesting things.

As the technology is reaching heights the day is very near when everyone will be familiar with this technology and will be using in their daily household chores. It may even reach our hand held mobile phones. Any way this is only a technological forecast. Unlimited Future devices of blue eye technology would boom the market.

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