# Tittle ; Xxx

## Nandhini A[1], Preethi L[2], Priya Sri R[3], Nivedhana Sm[4]

[12,3,4]student

**Abstract:** *The Blue Eyes technology aims in establishing the computational machines which has perceptual and sensory ability like human beings. The basic idea behind Blue Eyes Technology is that to give computer the human power. It operates on non-obtrusive sensing method and employs most modern video cameras and microphones which identifies the user's actions through the usage of imparted sensory ability. The machine comprehends the need of user, where he is looking at, and even realizes his physical or emotional states. The development of Blue Eyes Technology is to intend a complex solution for monitoring and recording the operator's conscious brain involvement as well as his/her physiological condition. It is a wearable device that allows the viewer to envision the confusion and interest levels of the wearer. The bigger part of this blue eyes systems are DAU: is to maintain the Bluetooth connections and CSU: is to maintain the other side of the Bluetooth connection. The main benefit is that prevention from dangerous incidents. In future, ordinary household devices-such as Televisions, Ovens may be capable to do their jobs when we look at them and speak with them.*

**Keywords:** *Bluetooth connection, Computational machine, CSU, DAU, Wearable device.*

## HEADINGS

1. Introduction
2. System Overview
2.1 Mobile Measuring Device Or Data Acquisition Unit (Dau) Of Blue Eyes Technology
2.2 Central System Unit (Csu) Of Blue Eyes Technology
3. Techniques Used
3.1 Emotion Mouse
3.2 Expression Glass
3.3 Magic Pointing
3.4 Speech Recognition
4. Applications
5. Advantages And Disadvantages
6. Conclusion

## I.     Introduction

Envision an user in current reality where people connect with PCs. The user is sitting before his PC that can tune in, talk, or even shout resoundingly. It can amass data about him and communicate with him through exceptional procedures like facial expression, speech recognition, and so forth. It can even comprehend his feelings at the touch of the mouse. It confirms his character, feels his presents, and begins cooperating. He requests the PC dial to his companion at his office. It understands the despair of the circumstance through the mouse, dials user's companion at his office, and builds up an association.

Human insight depends principally on the capacity to see, translate, and incorporate sound visuals and sensing data. Adding unprecedented perceptual capacities to PCs would empower PCs to cooperate with individuals as private accomplices. Analysts are endeavoring to add more capacities to PCs that will enable them to interface like people, discern human presents, talk, tune in, or even figure their sentiments.

The BLUE EYES technology aims in creating a computational machine that have intuitive and tangible capacity like those of people. It uses non-obtrusive detecting technique, utilizing most current camcorders and microphones to recognize the user activities using brainstorm tactile capacities [1]. The machine can grasp what a customer needs, where he is taking a gander at, and even understand his physical or passionate states.

## II.     System Overview

Blue eyes technology consist of,

1. Mobile measuring device or Data Acquisition Unit (DAU)
2. Central System Unit (CSU)

### 2.1 Mobile measuring device or Data Acquisition Unit (DAU) of Blue Eyes technology:

The DAU utilized as a part of the Blue Eyes Technology is the versatile segment of the frame work. The principle scope of DAU is to gather the physiological data from sensors and forward to the CSU from handling and check process.
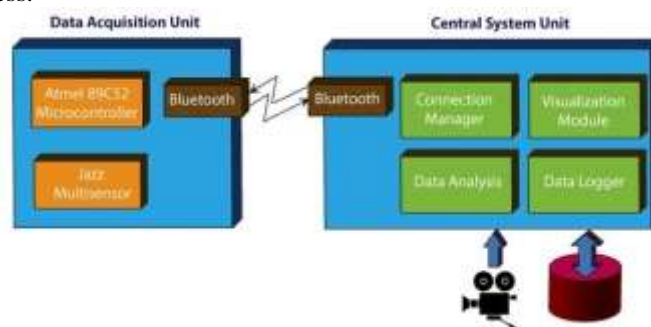


**Figure1. DAU and CSU components**

The blue tooth module which is consolidated with Data Acquisition Unit, is accountable for creating a wireless interface between the Central System Unit (CSU) and the client or administrator having the sensors. Pin codes and ID cards are doled out to the whole administrator's for verification purposes[2]. The gadget utilizes a five-key console, beeper and LCD show for the association with the administrators and if, any undesirable circumstance happens, the machine utilizes these gadgets to intimate the administrators. The 'voice' data from the client is exchanged with the assistance of a headset, which is linked with the Data Acquisition Unit utilizing a smaller than expected jack plug. Data Acquisition Unit amalgamates different equipment modules like framework center Bluetooth area, Atmel 89C52 microcontroller, EEPROM, Beeper, LCD show (HD44780), LED marker, voltage level screens and 6 AA batteries.

The DAU utilized as a part of the Blue Eyes Technology is the portable segment of the framework. The principle scope of DAU is to assemble the physiological data from sensors and forward to the CSU from preparing and confirmation process.
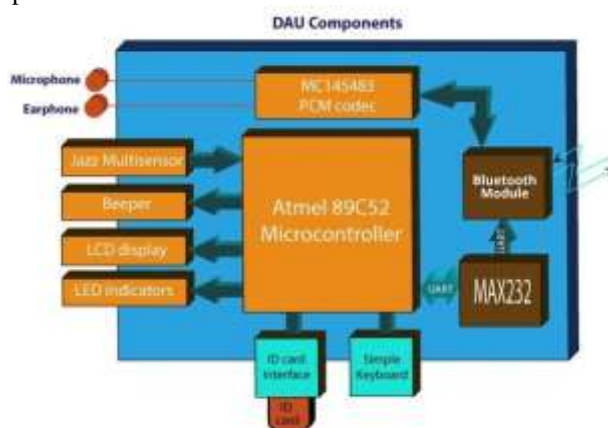


**Figure2. Data Acquisition Unit Components**

### 2.2 Central system Unit (CSU) of Blue Eyes technology:

Central System Unit is the next squint of remote system association in the Blue Eyes technology. The CSU primarily contains codec (Pulse Code Modulation(PCM) Codec normally utilized for voice data transmission) and a remote blue tooth module [3]. This Central System Unit segment is integrated to a PC utilizing USB, parallel and serial link. The mini-jack attachment is utilized for sound information gathering. The program containing the administrators individual ID is amalgamating to the PC through the serial and power ports. The microcontroller (Atmel-89C2051) inside the unit handles the I2C EEPROM-programming and Universal asynchronous receiver transmission(UART) .

**Central System Unit**
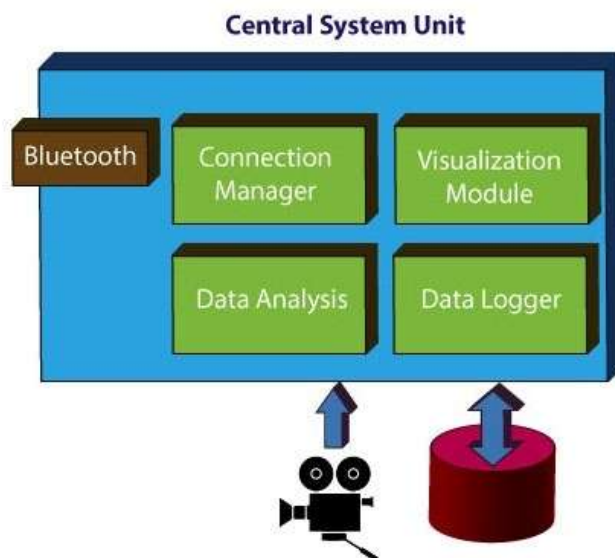


**Figure3. Central System Unit**

## III.    Techniques Used

**3.1  Emotion Mouse:**

A non-intrusive technique to gather data about a user is by touch. For the improvement of a shrewd PC, the PC expected to step up with regards to gather the data itself. The input device, mouse in this way picks up the data about the client (Figure 4). An emotion mouse is intended to gauge pulse, temperature, weight and Galvanic Skin Response (GSR) and is integrated with passionate states: joy, surprise, anger, fear, disgust and sadness. From the got physiological information the emotional states are resolved. These information are then identified with the undertaking that the client is presently utilizing [4]. After a timeframe, a model portrayal of the identity of the client is picked up. Hence this technology causes the PC to adjust to make a superior workplace to the user and making the user more beneficial
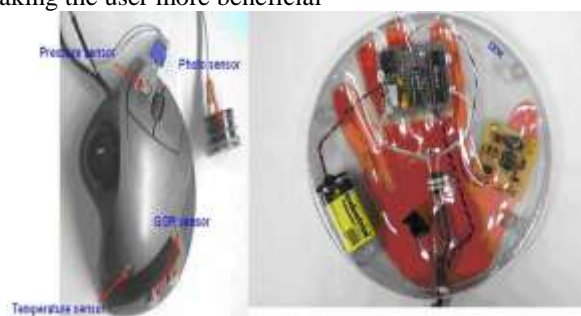


**Figure4. Emotion Mouse**

**3.2  Expression Glass:**

Expression Glass is an option for the generally accessible machine vision face or eye recognition strategies. By breaking down example acknowledgment strategies and facial muscle varieties, the glass faculties and remembers the articulations, for example, interest or confusion of the user [5]. The model utilized for this glass utilizes piezoelectric sensor, it is a device that uses the piezoelectric effect, to measure changes in pressure, acceleration, temperature, strain, or force by converting them to an electrical charge.

**Figure5. Expression Glass**

### 3.3 MAGIC Pointing:

The Eye gaze tracking techniques has other route for dealing with 'eye gaze' for interfacing with human computer. The gaze tracking has been considered as best pointing technique for giving inputs to PC's. To solve elective approach problems – named as MAGIC - Manual and Gaze Input Cascaded – is anticipated[6] . In this , eye gaze guiding shows up a manual employment, used for fine choice and control forms and also for lot of the cursor development is done by twisting the cursor to the eye gaze divide. The choice and pointing of the cursor is basically controlled by manual International Journal of Recent Trends in Engineering & Research (IJRTER). In addition guided by a look following system and is normally known as MAGIC Pointing. The fundamental point of MAGIC indicating 'gaze' to twist the past position to the region of the objective ,where the user was taking a gander in order to lessen the cursor movement in plenty required for target choice. when the cursor position is recognized, a little development is required by the user to tap on the objective by a manual information gadget that is to achieve Manual Acquisition with Gaze Initiated Cursor or Manual and Gaze Input Cascaded (MAGIC) pointing. Two MAGIC Pointing techniques –Traditionalist and liberal, regarding cursor position and target ID.

### 3.4 Speech Recognition:

The client addresses the PC through a microphone, which is, a straightforward framework it may contain at least three filters. The more the quantity of filters , the higher the precise recognition. Now, switched capacitor digital filters are utilized in light ,these can be custom worked in amalgamated circuit frame. These are less expensive than active filters using operational amplifiers. The filter output is then given to the ADC to make an interpretation of the analog signal into digital signal. Each sample represents different amplitude of the signal. Each value is then converted to a binary number proportional to the amplitude. CPU controls the i circuits that are bolstered by the ADCS. An extensive RAM stores all the esteems in a buffer space. The scope of 200 Hz to 7 kHz. Perceiving a phone call is more troublesome as it has data transmission of 300 Hz to3.3 kHz. As clarified before, the talked words are handled by the filters and ADCs. Once the storing process is finished, the framework can go to its dynamic mode and recognizing talked words. The PC begins looking at that point and contrasts the binary information design formats. There are constantly slight varieties in amplitude or loudness of the signal, pitch, frequency difference, time gap. Because of this, there is never an ideal match between the format and binary input word. The estimations of binary input words are subtracted from the comparing esteems in the formats. In the event that both the qualities are same, the distinction is zero. If not, the subtraction creates some distinction or blunder. The littler the blunder in the match. If when the best match happens, the word is recognized and utilized as a part in other way. An extensive RAM is required as a talked word may last a couple of hundred milliseconds, and it is converted into a huge number of digital words[7]. This procedure is named as dynamic time warping, that diverse speakers articulate an indistinguishable words at various paces from stretch distinctive parts of a similar word.

## IV.    Applications

1. The blue eyes technology can be utilized as a part of vehicle enterprises. The driver can be resolved through the PC input gadget.
2. The speech recognition system can be utilized as a part of making airline and lodging reservations.
3. Human control is required in different control system, human may get worn out, so to evade this circumstance, blue eye technology, where cameras kept for surveillance can be utilized to recognize the individual's emotional condition. Blue eye technology can be utilized as a part of different control systems like banks, planes, trains etc., [8].
4. Pilots are opposed to utilizing their hands can offer orders to the PC through microphones.

5. Household gadgets like TVs, fridges, stoves can carry out their jobs.

## 5. Advantages
1. This blue eyes technology is used to prevent from dangerous incidents.
2. It is used to monitor Physiological condition.
3. The reconstruction of the course of operator's work and reduces manual work.

## Disadvantages
1. It doesn't predict with operator's thoughts.
2. We cannot force the operator to work directly in the blue eyes technology.
3. System is bulky and it needs to be minimized.
4. It is expensive.

## V.    Conclusion

The BLUE EYES technology has guarantees a helpful method for the life by giving more delicate and user friendly facilities in computing devices. The method is proven and the next step is to improve the hardware[10]. In future we can able to expect more because it is more important and useful for this generation people. It may reach hand held mobile device. The Blue Eyes system is developed because of the need for a real-time monitoring system for a human operator[9]. Blue Eyes emphasizes that the Bluetooth technology and the movements of the eyes.

## References
[1]. Chandani Suryawanshi, T. Raju, "Blue Eyes Technology", IJSRD - International Journal for Scientific Research & Development| Vol. 2, Issue 01, page- 639, 2014.
[2]. Hardik Anil Patil, Shripad Amol Laddha, Nachiket Milind Patwardhan, "A Study on Blue Eyes Technology", International Journal of Innovative Research in Computer and Communication Engineering Vol. 5, Issue 3,page-5596, march 2017.
[3]. Priti Kumari, Loveleen Kumar, "A Review On Blue Eyes Technology", International Journal of Advanced Engineering Research and Science Vol-2, Issue-2, page-49, Feb 2015.
[4]. R.Jothi1 , A.Kasthuri2 , K. Jasmine, "Blue Eyes Technology", International Journal of science technology and management vol-05, Issue-01, page-411, Jan 2016.
[5]. Swati, "Blue Eyes Technology", International Journal of Advance Research In Science And Engineering IJARSE Vol-4, Special Issue (01), page-(234-235) April 2015.
[6]. Ms. Kiran Tripathi, Prof. Pooja Kadam, "Blue Eyes Technology" International Research Journal of Engineering and Technology (IRJET) vol-04, Issue-04, page-2397, April 2017.
[7]. Santosh K.Gaikwad, Bharti W.Gawali, Pravin Yannawar, "A Review on Speech Recognition Technique" International Journal Of Computer Applications vol-10, Issue-3, page-22, Nov 2010.
[8]. Hardik Anil Patil, Shripad Amol Laddha, Nachiket Milind Patwardhan, "A Study on Blue Eyes Technology", International Journal of Innovative Research in Computer and Communication Engineering vol-5, Issue-3,page5601,March 2017.
[9]. Reshma P , Rincy M Rafi, "A Survey On Blue Eyes Technology", International Journal on Applications. Information and Communication Engineering vol-2, Issue-6, page-16, March 2016.
[10]. S.Saranya, C. Dhivya, V. Priya , D. Ponniselvi, "BLUE EYES SENSOR TECHNOLOGY", International Journal of Research In Computer Applications And Robotics vol-4, Issue-1, page-61, Jan 2016.