SEMINOR
ON

"BLUE EYES TECHNOLOGY"

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M.Sc.-(computer Science)

Semester-II Examination

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2020-2021

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Blue Eyes Technology

The term blue eyes is coined because:

- BLUE:- Bluetooth
- EYES:- The eye movement
- TECHNOLOGY:- Technique

What is blue eyes technology?

Blue eyes is the technology to make computer to sense and understand human behavior and feelings and respond in the proper way.

- Aims at creating computational machines that have perceptual and sensory ability.
- Use camera and microphone to identity user actions and emotions.

Objectives of blue eye technology

•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.

Needs of blue eyes technology

• To built a machine that can understand your emotions.
• A pc that can listen, talk or scream.
•To avoid and reduce human limitations such as:
• Tiredness
•Oversight
•Mental illness

- **Features :-**

Technologies Used

- Emotion Mouse
- Manual and Gaze Input Cascaded (MAGIC)
- Artificial Intelligent Speech Recognition
- Simple User Interest Tracker (SUITOR)
- The eye movement Sensor

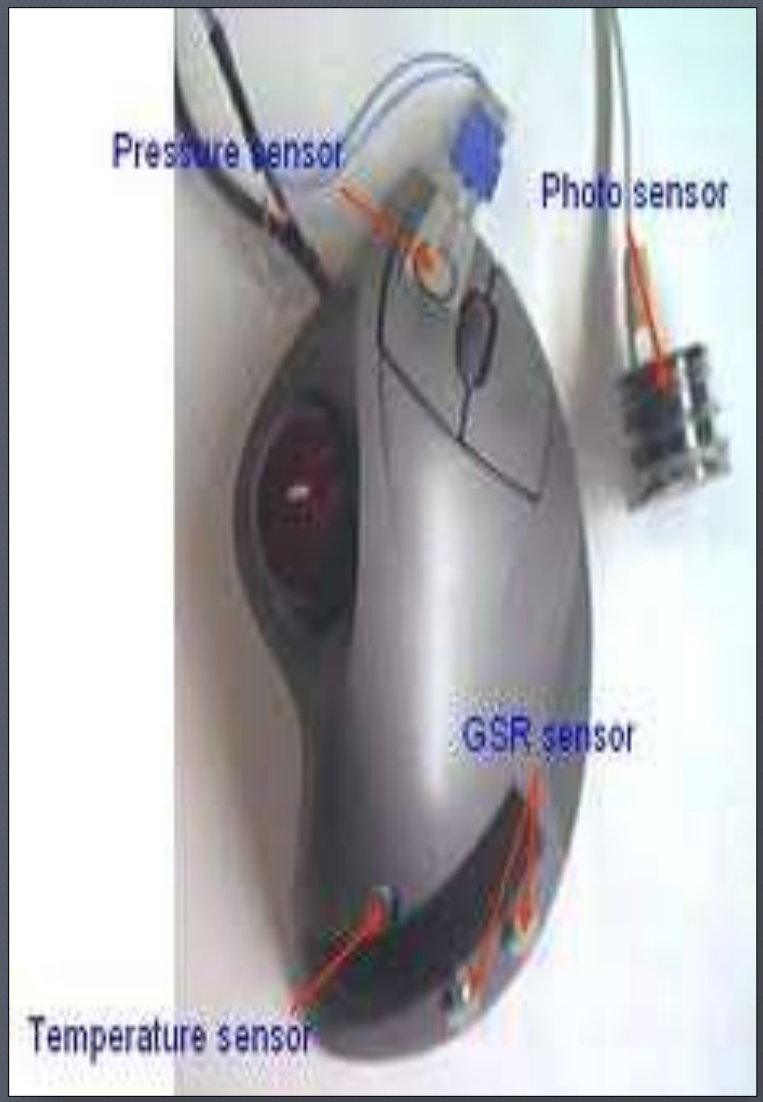
Emotion Mouse

• Emotion mouse sense the mood by analyzing pressure, temperature and heartbeat of the user.

• analyzing these parameters five types of mood can be sensed by computer.

How it works?

➢ Like humans have five sense organs, emotion mouse is designed with five sensors to sense the different moods of user.



Sentic mouse

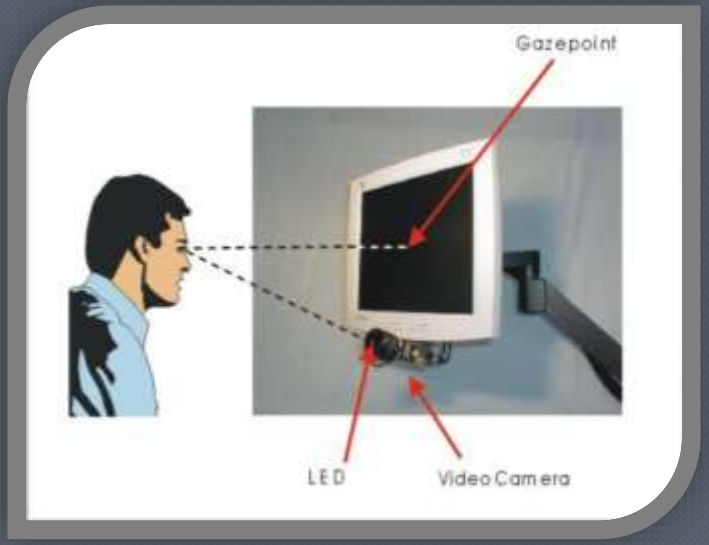
Manual and Gaze Input Cascaded (Magic Pointing)

•Web cam is used to quickly determine the glints and pupils of the user under variable and realistic lightning conditions.

• Magic pointing is the technique of tracking eye movement of the user and perform the desire operation.

•Two magic pointing technique.

1. Liberal
2. Conservative



Artificial Intelligent Speech Recognition

• Input words are scanned and matched against internally stored words
•Identification causes some action to be taken, user speaks to the computer through microphone.
•Pattern matching is designed to look for the best fit because of variations in loudness, pitch, frequency difference, etc.
•User speaks to the computer through microphone.

Simple User Interest Tracker (SUITOR)

• Help by fetching more information at desktop

• Notice where the user's eyes focus on the screen.

•Fills a scrolling ticker on a computer screen with information related to user's task.

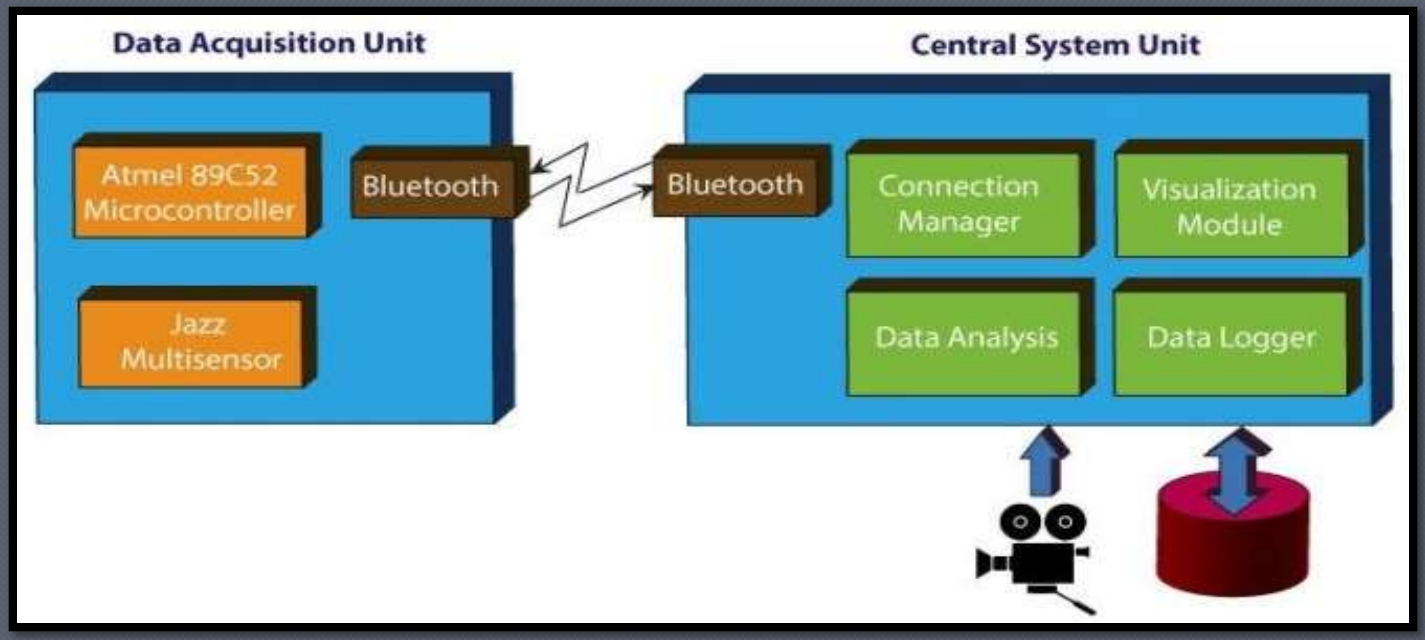
• Ex. If reading headline, pops up the story in the browser window.

The eye movement Sensor

- A personal area network for linking all the operators and the supervising system

•Two major units

- DAU (data acquisition unit)
- CSU (central system unit)



Working:-

DAU

(Data acquisition unit)

The DAU consist of the following components:

- BLUE TOOTH MODULE –supports synchronous voice
- data transmission
- central system sound feedback
- ALPHAUNUMERIC LCD display
- LED indicators
- ID CARD interface

DAU FEATURES

- Lightweight
- Runs on batteries- low power consumption
- Easy to use- does not disturb the operator working.
- ID cards for operator authorization.
- Voice transmission using hardware PCM codec.

CSU- COMPONENTS

• **CONNECTION MANAGER-** main task to perform low-level Bluetooth communication.

• **DATA ANALYSIS MODULE-** performs the analysis of the raw sensor data.

• DATA LOGGER MODULE – provides support for storing the monitored data.

• **VISULAIZATION MODULE** – provides user interface for the supervisors

CSU FEATURES

- Connecting management
- Data processing
- Data recording
- Access verification
- System maintenance

DATA SECURITY

- Only registered mobile devices can connect to the system.
- Bluetooth connection authentication.
- Bluetooth connection encryption.
- Access rights restrictions.
- Personal and physiological data encryption.

Applications

The following are the applications of the Blue Eyes System.

1. In smart cameras , lie detector and emotional speech processing retailing record and interpret customer movement.
2. In automobile industry.
3. In video games.
4. Military.
5. To create “Face Responsive Display” and “Perceptive Environment” Generic control rooms.
6. At power station
7. At Flight Control Centers
8. Operating theatres

Advantages

- Reduce manual work.
- Physiological condition monitoring
- Visual attention monitoring.
- High accuracy level
- Fast in speed
- Naturalness as compared to the old traditional pointing
- Less physical effort and stress as compared to manual pointing

Disadvantages

- Not 100% accurate.
- Expensive
- System is bulky, need some minimization

CONCLUSION

- Provide more delicate and user friendly facilities in computer devices.
- Gap between the electronic and physical world is reduced.
- The computers can be run using implicit command instead of the explicit commands.

Future Scope

- 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.

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Thank You