Brain Finger Printing

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Abstract- Brain finger printing is a revolutionary technique through which the observer observes the person, that the person is a criminal or not. It is a type of technique in which sensors are worn on the head are used to measure the involuntary brain activity of someone in response to certain image or piece of evidence pertaining to a crime. It is a computer based test that is designed to discover document & provide evidence of guilty knowledge to recognize crime. This technique is more effective than a lie detector test.

I. INTRODUCTION

Brain finger printing was invented by Dr. B.S Farewell. The Chief Scientist and President of Human Brain Research Laboratory of USA. He had tested brain finger printing technology in over 170 cases. More than 80 of these were in real life situation and the rest were laboratory studies. Brain finger printing testing has not made a single error in all of these cases.

It is scientific technique to determine whether or not specific information is stored in an individual's brain.
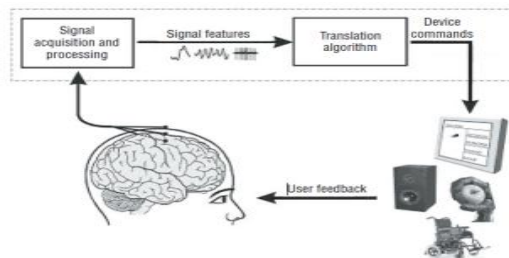
II. WORKING PRINCIPLE

Figure1: www.iosrjournals.org[1]

- The Brain Finger printing system is controlled by computer system.
- Presentation of the stimuli of testee is also including.
- Three types of stimuli is comparing by the mathematical data analysis algorithm.

- Produces a determination of "information present" or "information absent".
- A statistical confidence level for this determination.

III. EQUIPMENT

Figure.2
upload.wikimedia.org/Wikipedia/commons[2]

- It should use personal computer for all data analysis.
- A data acquisition board.
- A graphic card is used for driving two monitors from one PC.
- A four channel EEG amplifier system and read words from brain and converted into signal.
- Software for data acquisition.
- Some electrodes are used to measure electrical brain activity.

Figure.3
www.iosrjournals.org/iosr_jce/paper/ICAET-2014[3]
Devices used in brain finger printing.

IV.   TECHNOLOGY

A human brain wears a special EEG headband embedded with many sensor .These sensors helps in reading word, phrases from human brain and converts them into computer readable form.
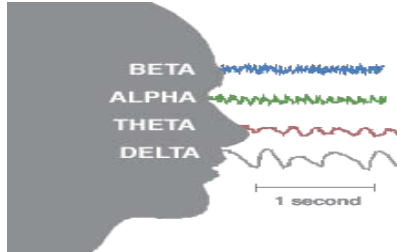

Figure.4 www.blogspot.com[4]

In this there are two technologies were used EEG and P300.

➔ **EEG**

It stands for Electron encephalography. It is used for recording or measuring of electrical activity along the scalp.EEG is embedded with electrodes.

EEG is used for mostly often used to diagnose sleep disorder, comma, and encephalopathy's and brain Deadth.EEG record rain spontaneous activity of brain into short period of 20-40m.

The brain's electrical charge is maintained by billions of neuron by MTP.

➔ **P300**

The p300 (p3) wave is an event related potential (ERP) component elicited in the process of decision making. It considered being endogenous potential, as its occurrence links not to the physical attribute of a stimulus for evaluation and categorization.

The p300 is not a unitary phenomenon it contains to distinguishable subcomponent novelty p3a or p3b.

The p3 is a positive-going scalp recorded brain potential displaying a maximum amplitude over frontal/central electrode sites, with a peak latency 240-270ms.This is specially associated with brain activity related to engagement of attention.

The p3 a positive going ERP amplitude (usually) relative to a reference behind the ear or the average of two such references. In this there is different type of signal generated these are alpha, beta, theta, and delta.

RED: It indicates that the information is suspected to know.

GREEN: It indicates that no information is expected to know to the criminal.

BLUE: It indicates that information is only known to the perpetrator or criminal.

NOT GUILTY:

In this blue and green lines closely correlate, means that the criminal does not have related knowledge of crime.

GUILTY:

In this the blue and red lines are closely related means that the criminal had knowledge of crime.

V.   APPLICATION

5.1) National Security:-

With the help of this technology the brain of the suspect can be scanned and any criminal plotting can be monitored and proper actions can be taken accordingly.

5.2) Medical Field:-

With help of this technique we can easily distinguish the person is suffering from Alzheimer. Alzheimer is a disease in which a person is suffering from depression and after checking we can give suitable treatment. this technique helps the psychiatrists to easily overcome patients from depression.

5.3) Help in Identifying False witnesses:-

With the help of this technique any manipulations done with the witnesses can be verified.

5.4) TO Test Application on the Falsification of an Application:-

This can be easily understood with the help of a simple real life example - in an interview many candidates call themselves suitable for the job or hard workers, but their actual potential cannot be determined. by scanning their brains we can actually conclude that the applicant is suited or not.

VI. BENEFITS

6.1) Stop Terrorists before They Attack:-

The brains of the suspects can be scanned and any terrorist activity or planning inside their brains can be detected and can be destroyed.

6.2) Identify Criminal Quickly and Scientifically:-

Identification of criminals is much easier and accurate with least possibility of error.

6.3) Reduces No Of False Accusations:-

The result and observations of this test are subjected to high accuracy, so minimum probability of false accusations.

6.4) Can Save Thousands Of Lives By Early Detection:

Brain fingerprint, a technique proven infallible in FBI test and US navy test and accepted as evidence in US courts, could accurately identify trained terrorist before they strike; had it been in place on September 11, it would have prevented all of the attackers from boarding the planes.

VII. COMPARISOIN WITH OTHER TECHNOLOGY

The novel interpretation in brain finger printing is to look for P300 as response to stimulus related to the crime in question. E.g. murder weapon or victims face.

It is based on the EEG signals; this system does not require testee to response to the verbal question on stimulus. Brain Finger Printing is different from other technologies .It does not work with the polygraph (lie detector) which measures emotions based physiological signals such as heart rate, sweating and blood pressure.

Also, unlike polygraph testing, it does not attempt to determine or not the subject is lying or testing the truth.

VIII. CONCLUSION

It is a revolutionary new scientific technology for solving crimes, identifying perpetrators, and exonerating innocent suspects, with a record of 100% accuracy in research with US government agencies, actual criminal cases, and other applications.

The technology fulfils an urgent need for governments, law enforcement agencies, corporation, investigators, crime victims, and falsely accused, innocent suspects.

ACKNOWLEGDEMENT

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