ISSN(Online): 2320-9801
ISSN (Print): 2320-9798

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Vol. 3, Issue 10, October 2015

Semantic Search with Mind Reader Device

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ABSTRACTS: A variety of sensors for observing brain activity exist, and could in principle provide the beginning for a BCI. These include besides electroencephalography (EEG) and more invasive electrophysiological procedures such as electrocorticography (ECoG) and records from individual neurons within the brain, magnetoencephalography (MEG) Positron Emission Tomography (PET) Functional Magnetic Resonance Imaging (fMRI) and optical imaging Functional Near Infrared (fNIR) which are being used in medical. The existing system capture the brain signals. This paper presents how the brain activities are captured by brain reader device and stored as voice and signals. This voice using can be used by the search engines to search the information in the web.

KEYWORDS: Working flow of Neuro communicators, Challenges, Future enhancement, Brain Reader Device

I. INTRODUCTION

In this paper present how brain reader device capture the brain activities. This device capture the human thoughts and store data as voice and words, using this the voice are sent to the search engines based on this voice, the search engines fetch the correct information. Semantic search engines matching the human thoughts and related information's in the server, and retrieve the exact information based on the thoughts. Neurocommunicator technology used to handle the waves, this technology capture the brain activities. The signals are sent to waves, this waves are converted as voice using neurocommunicator. This voices sent to the search engines, it retrieve the exact information.

II. WORKING FLOW OF NEUROCUMMUNICATORS

Communicating via brain waves by simply thinking may appear like a notion out of the World of science fiction but it would be a dream come true for people who are physically unable to express themselves. Helping to bring mental telepathy one step closer to reality is the neurocommunicator a system developed by the national institute of advanced IndustrialScience and Technology(AIST) in ibaraki prefecture. The device inputs an individual's excellently nuanced brain waves into a computer graphics application geared towardInterpreting thoughts. When people lose speaking and writing motilitiy their quality of lifeextremely failures whose team exposed the neurocommunicator. ALS patients may have losttheir ability to move or speak but their brain functions their ability to think and understandMay remain together and able to send signals that the neurocommunicator can receive and interpret.

(Brain reader device)

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People produce small brain wave signals concluded various activities including thinking, Blinking and recognizing. The neurocommunicator takes advantage of what is called ERP or(Event Related Potential) the emotional responses to stimuli that can be observed in brainWaves. There are various changes in electrical potential observed from the brain activitiesaround the scalp. It quite well known that alpha waves are used to see how people relax (butthe neurocommunicator) looks at changes over short time. The device components includeHeadgear equipped with amplifiers and a compact brain wave gauge capable of monitoring themost minuet actions. The gauge wirelessly sends eight channels of real time information aboutBrain activity around the scalp that is showed on a computer screen. Another screen used byThe patient shows eight panels displaying physical activity choices elimination of bodily wastePhlegm clearing, drinking, being physically turned over, having a TV air conditioner or lightTurned on or having teeth brushed.

(User view panel)

Each panel randomly flashed in a period of seconds. To communicate the patient is told to Stare at a certain panel and focus on recognizing when it flashes which can then be read by the device. When the selected panel flashes the patients produce strong brain waves (that are not reflected in the other panels). We use this mechanism to guess which panel the patients have chosen. This strong wave is the ERP (event related potential) waveform has been identified the communication process becomes pretty simple. The patient just appearances at the panels and makes a selection by recognizing when it flashes. Staring at the Tv panel and Identifying when it flashes would signal that one wants the television turned on the neurocommunicator compares the ERP (event related potential) patterns in the panels with the individuals ERP(event related potential) taken in advance to determine the patients variety in a matter of seconds. Research has sure the device has an accuracy rate of over 90 percent. The neurocommunicator currently uses three different panel sets which in combination can allow for as many as different types of messages. It also has virtual avatars that can be used to express them. Although the neurocommunicator has the potential to be a beneficial communication tool.

III. BRAIN READER DEVICE

There are several limits on mind reading directly from the brain, Gallant said. You need good mathematical models of brain function and high-speed computing. But the biggest challenge right now is measuring brain activity. Scientists can measure electrical activity with EEG (electroencephalography) and changes in blood oxygen use with fMRI (Functional Magnetic Resonance Imaging). But these are really simple measurements of what's happening inside the brain. EEG is a two-dimensional limited signal from the brain. And fMRI is like calculating the total electricity usage in your office at specific times to figure out what's going on at everyone's desk, Gallant said. That wouldn't tell you what any particular person is working on it's just a rough overall report of changes. The most optimistic estimates are that you can recover one. One-million of the information that's available in the brain at any given point in time, Gallant said. It's probably smaller than that. So, where we are today is just measuring a soft shadow of what you could possibly measure, if you had a better measurement technology. Meanwhile, lab explores the brain with a completely different technique, making use of electrodes implanted in the brains of patients with severe epilepsy to do direct neural stored at

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the brain's surface. His group requests to know the specific roles of different brain areas so when surgeons cut out parts responsible for seizures, they know what to avoid. This method, however, has so far not removed the actual content of thoughts and memories, and may not be generalizable to non-epileptic patients.This device stored the brain signals using Neurocommunicator. This voices are send to the search engines with the help of voice recognizer. Then the search engines search the result based on the human thoughts.

IV. CHALLENGES

Going top-down into the practical challenges of translational and clinical research towards useful brain machine interfaces, we can observe affected developments along with difficult problems. As more and more groups are involved in this scientific effort, the future looks difficult and promising at the same time.

DATA ACQUISITION AND INTERPRETATION

To better listen to the brain, we need good ears and better systems that know how to listen. The grand challenges for BMI (Brain to Machine Interface) research are closely linked to these challenges in brain science in general. The most important aspect of BMIs, especially neuroprosthetics, is its aspiration to realize better clinical applications. While many clinical treatments have been used even before the system is fully understood, it is automatically clear that once we fully understand how the device works, it becomes easier to fix it. We take our car or TV to be fixed by experts rather than try to move around wires and see if it works. This is why the experts at the garage or electronics shop must know the mechanism of the devices and use good tools in order to detect problems and fix them.The major scientific challenge may sound naive and obvious and yet, it is still in debate. At present there are views like using the brain we cannot understand the brain, or the brain is too complex to understand. In fact, the brain's complexity may exist in only in our thinking. We have lots of data about the brain, but no single person knows it all. We have different ideas and theories in our brain. This device capture this all information.

V. FUTURE ENHANCEMENT

Future BCIs for direct brain communication should rely on approaches requiring no or minimal cognitive-attentional effort and use mostly implicit learning. Locked-in, and advanced Alzheimer patients should be qualified to products reflexive or automatic brain answers to questions or cues which can then be used as positive answers or rejections. Joining of electrodes epidurals will growth signal to noise ratio and help the patient to regulate his/her Electrocardiogram Classical conditioning of brain potentials and oscillations using visibly differentiable conditioned and unconditioned auditory or somatosensory stimuli may overcome the problem of voluntary effortful conscious processing that is not possible in these patient groups. In chronic stroke spinal cord injury and extra forms of motor paralysis, a recent demonstration in reversibly paralyzed monkeys by Moritz. Should be translated into human application. Here, the monkey was trained to produce spike orders with operant conditioning from a few cells in the motor cortex to activate Functional Electric Stimulation (FES) electrodes fixed to the paralyzed fingers. This poses engineering tests that may look sometime trivial yet important like for example, reduction of power supply to the some electronic components that must be implanted. These developments will be used not only for motor prosthesis but also other treatments like closed loop deep brain stimulation. This must be better to include recording of brain activity, which would allow for dynamic adaptive stimulation that will condition the brain activity to repair normal activity when it goes astray

VI. CONCLUSION

This systemreduces the typing work and efficient, and it will help for the physically disabled persons. They can easily search the data's with the help of brain reader devices. The user information are converted to the waves using neurocommunicator. It stored the voices that sent to the search engines and it will search result. It save the time.

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BIOGRAPHY

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