BLUE BRAIN TECHNOLOGY

Ms.T.Valli, Ms.V.Bhuvaneswari
Assistant Professor, Department of Computer Science,
Rajeswari College of Arts and Science for Women, Bommayapalayam
LAVANYA. V - MSC (CS)
Rajeswari College of Arts and Science for Women, Bommayapalayam

ABSTRACT:

IBM has researched to create a virtual brain, called “Blue Brain”. The main aim of this research is to upload human brain into machine. This Project is the first made comprehensive attempt to reverse-engineer the brain of mammalian, so that throughdetailed simulationsthe function of brain can be understood and itcan take decision without any effort. After the death of the body, the virtual brain will act as the man. So, even after the death of a person we will not lose the knowledge, intelligence, personalities, feelings and memories of that man that can be used for the development of the human society. In this paper, we present the complete research work which explains the concept, procedures to build the blue brain and goals with conclusion.

KEYWORDS: Blue Brain; Knowledge Sharing; Artificial Brain; Neurons Sensory System

INTRODUCTION:

No one has ever understood the complexity of human brain. It is complex than any other circuits in the world. When man does not have a device called computer, it was a big question for all if it is really possible to design a computer. But today it is possible due to the technology. This Blue Brain System is an attempt to reverse engineer the human brain and recreate it at the cellular level inside a computer simulation.

The project was founded in May 2005 by Henry Markram at the EPFL (EcolePolytechniqueFederale De Lausanne) in Lausanne, Switzerland. Goals of the project are to gain a complete understanding of the brain and to enable better and faster development of brain disease treatments. The research involves studying slices of living brain tissue using microscopes and patch clamp electrodes. Data is collected about all the many different neuron types. This data is used to build biologically realistic models of neurons and networks of neuronsin the cerebral cortex. The simulations are carried out on a Blue Gene supercomputer built by IBM, hence the name "Blue Brain".

WHAT IS VIRTUAL BRAIN?

Virtual Brain is the name of the super computer or bluel brain developed by IBM. If possible, it would be the world's first artificial brain. Within 30 years we would be able to upload our intelligence and brain into the super computer. The intelligence we can use this knowledge for the development of next generation of human even after the death of the man .It can take decisions absence the of person on the past experiences of the person and apply it to the similar situation occurring in the present. The help of artificial brain we can scan our brain into a computer. This interface the data stored in the natural brain can be up loaded into the super computer. Different process and structure of our central nervous system can also be studied.

NEED OF VIRTUAL BRAIN:

Today we are developed because of our intelligence. Intelligence is the inborn quality that cannot be created .Some people have this quality, so that they can think up to such an extent where other cannot reach .Human society is always need of such intelligence and such an intelligent brain to have with. But the intelligence is lost along with the body after the death. The virtual brain is a solution to it. The brain and intelligence will alive even after the death.

UPLOADING HUMAN BRAIN:

First, it is helpful to describe the basic manners in which a person may be uploaded into a computer. Raymond Kurzweil recently provided an interesting paper on this topic. In it, he describes both invasive and noninvasive techniques. The most promising is theuse of very small robots, or nanobots. These robots will be small enough to travel throughout our circulatory systems.

Traveling into the spine and brain, they will be able to monitor the activity and structure of our central nervous system. They will be able to provide an interface with computers that is as close as our mind can be while we still reside in our biological form. Nanobots could also carefully scan the structure of our brain, providing a complete readout of the connections between each neuron. They would also record the current state of the brain. This information, when entered into a computer, could then continue to function as us. Really this concept appears to be very difficult and complex to us.

For this we have to first know how the human brain actually work

How the natural brain works?

Sensory input:

When our eyes see something or our hands touch a warm surface, the sensory cells, also known as Neurons, send a message straight to your brain. This action of getting information from your surrounding environment is called sensory input because we are putting things in your brain by way of your senses.

Integration:

Integration is best known as the interpretation of things we have felt, tasted, and touched with our sensory cells, also known as neurons, into responses that the body recognizes. This process is all accomplished in the brain where many, many neurons work together to understand the environment.

Motor Output:

Once our brain has interpreted all that we have learned, either by touching, tasting, or using any other sense, then our brain sends a message through neurons to effecter cells, muscle or gland cells, which actually work to perform our requests and act upon our environment. The word motor output is easily remembered if one should think that

our putting something out into the environment through the use of a motor, like a muscle which does the work for our body.

ADVANTAGES AND DISADVANTAGES:

Advantages:

1. We can remember things without any effort.
2. Decision can be made without the presence of a person.
3. Even after the death of a man his intelligence can be used.
4. The activity of different animals can be understood. That means by interpretation of the electric impulses from the brain of the animals, their thinking can be understood easily.
5. It would allow the deaf to hear via direct nerve stimulation, and also be helpful for many psychological diseases. By down loading the contents of the brain that was uploaded into the computer, the man can get rid from the mad ness.

Disadvantages:

1. We become dependent upon the computer systems.
2. Others may use technical knowledge against us.
3. Computer viruses will pose an increasingly critical threat.
4. The real threat, however, is the fear that people will have of new technologies. That fear may culminate in a large resistance. Clear evidence of this type of fear is found today with respect to human cloning.

CONCLUSION:

In conclusion, we will be able to transfer ourselves into computers at some point. Most arguments against this outcome are seemingly easy to circumvent. They are either simple minded, or simply require further time for technology to increase. The only serious threats raised are also overcome as we note the combination of biological and digital technologies.

REFERENCES:

https://www.researchgate.net/publication/281064331
_Blue_Brain

https://www.researchgate.net/publication/314232758