

COGNIZANCE'16

SYNERGY '17



ISTE-VESIT

Where Imagination Is Power

An ISTE-VESIT PUBLICATION



Vivekananda Education Society's Institute of Technology

INDIAN SOCIETY OF TECHNICAL EDUCATION

ISTE-VESIT STUDENTS CHAPTER (MH-144)

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The ISTE-VESIT Student's Chapter caters to the technical and non-technical needs of its members, giving them a platform to showcase their talents. This is achieved by their active participation in multiple events that are conducted throughout the year.

Technical Events:

1. Techtrix:

Scientific and technical skills of the members were evaluated both in theoretic and practical aspects.

2. Technical paper presentation:

The members were provided an opportunity to showcase their technical knowledge, confidence and presentation skills.

Non-Technical Events:

1. Math and logic:

The mathematical and logical reasoning abilities were tested. This event was exclusively for the second year members.

2. Group discussion:

It was organized exclusively for the third year members. It provided a platform for the development of their interpersonal and speaking skills.

3. Notice the unnoticed-

Members developed their logical thinking by solving puzzles that were put up on the notice board and the ISTE mobile application for 6 days.

4. Prova:

Exclusively for the SE members where they had to design a product and advertise it. This tested and improved their marketing and creative skills.

5. Around The World:

One of the mega events that was conducted for all SE, TE and BE members of the society. A fun filled event where they explored different cities of the world.

6. Placement Week:

The TE members appeared for mock interviews and online aptitude tests where they experienced our campus placement procedure.

7. Article writing:

This event helped our members to improve their flair for writing and also enhanced their creativity. The theme for article writing this year was

Technical: Virtual Reality

Non-technical: Mysteries of Mind

8. Gangsta Blues:

This was one of the mega events for all the SE, TE, BE members where they experienced virtual horse racing and bidding.

9. Maximus:

In this event, the TE members had to set up marketing strategies for some miserably failed startups. This session not only developed their marketing skills but also their communication and creative skills.

10. Game Over ? :

This event was organized exclusively by S.E Coordinators wherein the gamers had to complete all the levels of different games to rescue themselves from the virtual world in which they were trapped.

11. Synergy:

Every year ISTE conducts its annual symposium felicitating the winners of all the events conducted throughout the year.

HAPTIC TECHNOLOGY IN AUGMENTED REALITY

The underlying idea of augmented reality is to combine real and virtual objects into one environment, blurring the line between the real and imaginary. Although this idea sounds exciting and all Tony Stark-esque, there is one small problem. The problem is, of incorporating a sense of “touch” in the environment. This is where Haptic Technology comes in. Haptic technology or haptics is tactile feedback technology which recreates the sense of touch by applying forces, vibrations or motions to the user. Haptic technology does for the sense of touch what graphics does for vision. The word haptics is derived from the Greek word, *haptesthai*, meaning ‘to touch’. Haptics permits users to sense (“feel”) and manipulate three-dimensional virtual objects with respect to such features as shape, weight, textures, etc, enabling direct physical contact between the users and the computer. A haptic device basically acts as an interface between the user and the virtual environment. By using haptic devices, the user can feed information to the computer as well as receive information from the computer in the form of a felt sensation on some part of the body.

This is referred to as a Haptic interface. Many mechanical properties of everyday objects are experienced through touch. To incorporate those in augmented reality, haptics becomes essential. Haptic technology has a potential to revolutionize the world of robotics and artificial intelligence due to its versatility and compatibility with augmented reality systems. Haptic technology finds many applications in conjunction with augmented reality like PHANToM, Cybergrasp and Touch Ware Gaming systems to name a few. PHANToM is a device which is used for 3D modeling of objects with a very high degree of realism. PHANToM, when used along with Oculus Rift, provides the ultimate solution to any designer’s problems. Augmented reality aided 3D modeling saves a lot of time and effort of the designer by allowing them a sense of touch, thus making the switch from designing of objects using clay or wood to digital designing that much easier. Another main advantage of PHANToM is that it allows errors by the user. The user holds the motor controlled joint arm and uses it as a stylus to render designs in an artificial environment. As it has a programmable sense of touch, when

the user moves his finger, he can actually feel the shape and size of the virtual 3D object that has been already programmed inside the computer. Cybergrasp is a body based exoskeletal haptic device. The principle of a

way to see the future of computer developments and devices for human interaction. The continued implementation of haptic and tactile devices along with virtual reality devices will continue to advance. As haptics

has revolutionized the already fast-growing field of robotics, it is proving to be an invention of real promising yields in the future. Development and refining of various kinds of haptic interfaces will continue, providing more and increasingly life-like interactions



Cybergrasp is simple. It consists of opposing the movement of the hand in the same way that an object squeezed between the fingers resists the movement of the latter. The glove must therefore be capable, in the absence of a real object, of recreating the forces applied by the object on the human hand with the same intensity and the same direction. Cybergrasp takes input in the form of movement of the user’s finger and exerts torque on it. This gives the user a feeling of holding an object in their hand. In Cybergrasp, man is considered as a displacement generator while the glove is considered as a force generator. Haptic technology is revolutionizing the gaming industry. Haptic technology is nothing new in the gaming field. It’s been used since the 1990’s in console games where vibrations alert you or help you “feel” the forces exerted on your character in the game. Haptic technology and Oculus Rift pair up to give the user a rich and immersive feel of the game being played, adding new and untold depths to console and computer gaming. It has immense application in medical field too, by serving as a proper training ground for learning doctors by allowing them to “feel” the medical procedures, without endangering patient

with virtual objects and environments in augmented reality systems. Very soon haptic technology aided augmented reality systems will be a part of our daily lives.



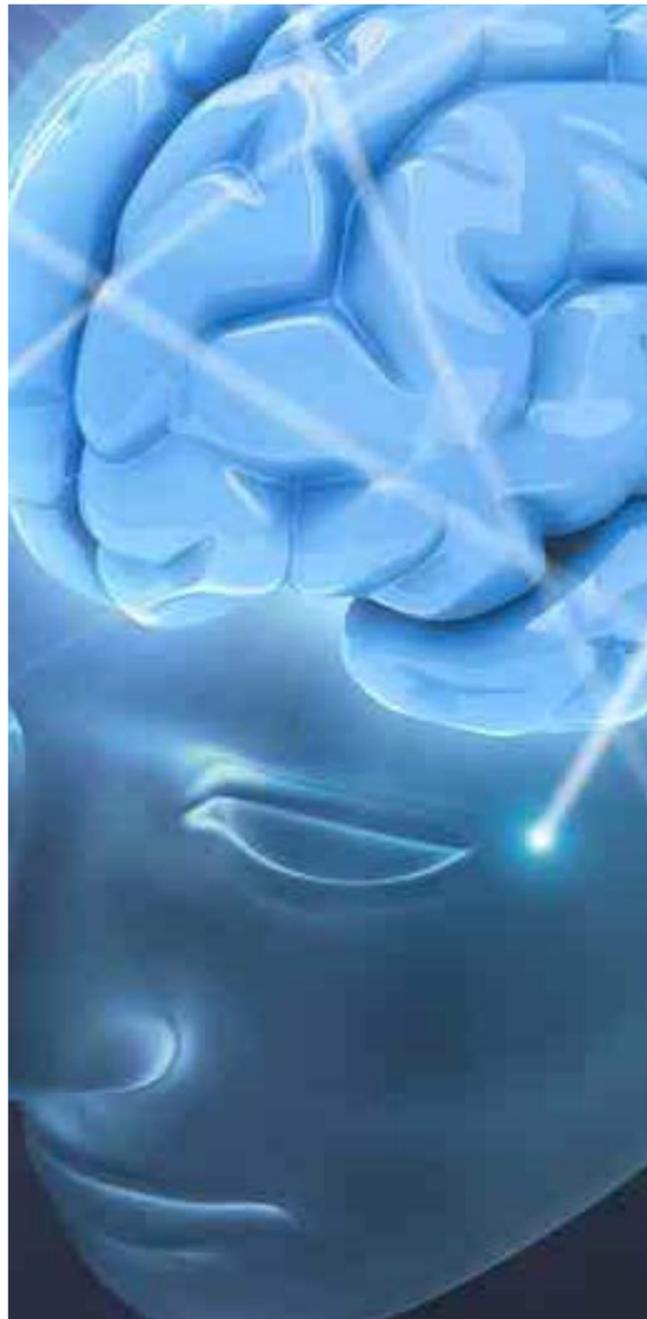
Ajit Krishnamoorthy
D14A

science fiction is by any measure the perfect

THE MYSTICAL MIND

“We all remember the verdict of the British court which allowed the body of a fourteen year old girl have her body preserved after her death (after being detected with cancer) in the hope that one day a cure for cancer would bring her back to life.

KUSHAL BHOSALE (D11A)



“Biology gives you a brain, life turns it into a mind.”

-Jeffrey Eugenides

What is this mind? Why has it been fascinating psychologists, mentalists and other professionals like subconscious therapists? What enigmatic organ is this that we possess?

Firstly, let me clear that mind, is no organ. Mind is the element which helps you experience; something that makes you think and reason; something that makes you ethical, sane, audacious and everything that YOU want!

Let me take you to another concept which is the guru mantra of many successful people: ‘Law of Attraction’. According to LOA, by focusing on positive and negative feelings, a person attracts similar energy towards himself/herself. LOA is much more; if you want something and if you think about it all the time, you will get positive results. John Dubrova was driving with his dad, when his dad felt sudden pain and numbness in his right arm. John had two options; panic, drive rash or stay calm and believe. He started making stories in his mind with his father playing with his grandchildren and in ten seconds heard from his dad, “I feel much better.”

Who is the pioneer to this directional thinking? Yes, the answer is ‘mind’. If you can think, you can turn it into reality.

The complexity of mind remains unanswered in many aspects. Why do we perceive the rising sun, fresh air and birds chirping in the morning? Why do we age? Why does one person like a joke while someone else doesn’t? What makes us form good and bad memories, and why we retain some of these while we forget the rest? Do our surroundings determine who we grow up to be? What happens when we are asleep? Are dreams a recollection of the day or a fabrication of our feelings?

We all remember the verdict of the British court which allowed the body of a fourteen year old girl have her body preserved after her death (after being detected with cancer) in the hope that one day a cure for cancer would bring her back to life. Cryonics, which deals with the same, asks the same question, can mind be reborn after a hundred years?

In the hypothalamus resides a biological clock which takes care of a rhythmic schedule everyday. Melatonin, a crucial hormone can cheat this biological clock, bending things to assist the proper functioning of the body. Interestingly enough, melatonin dozes off when we need it to tackle jet lag. Why so?

People with missing limbs can still feel sensations in the area where the limbs were supposed to be. The explanation to this being that brain keeps sending signals through the spinal cord to the limbs as if it were actually present in its place. Why does the brain do so, even after knowing that the limb is absent?

The aforementioned ten phenomena have been discussed in depth in “The mysteries of the mind” by Wilder Penfield. For mentalists, these mysteries don’t matter, because they have conquered their minds and are reaping unprecedented success through it. Sigmund Freud, a renowned psychologist says, “The

mind is like an iceberg, it floats with one-seventh of its bulk above water. It is through this one-seventh portion that we master the rest six-seventh and gain holistic growth.”

We have all enjoyed Joseph Murphy’s ‘The Power of Subconscious Mind’ and seen the wonders our brain can perform and how can we channel the train of thoughts to benefit from this immensely powerful mechanism. Subconscious therapy poses a classic example of how deeply can our mind affect our health.

The bottomline is, mind is a sea to explore and continues to haunt scientists all around the globe. On the other hand, it continues to fascinate and pave new roads to success. For some it is an enigma, for some a blessing, for others an uncharted territory. Some use it to dig gold while others, unknowingly dig pitfalls for themselves (LOA works for both positive and negative thoughts).

“To enjoy good health, to bring true happiness to one’s family, to bring peace to all, one must first discipline and control one’s own mind. If a man can control his mind he can find the way to Enlightenment, and all wisdom and virtue will naturally come to him” - Buddha



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(From L to R)

Top: Ranjeet, Murlidhar, Sumeet, Manohar, Neel, Rahul, Sagar, Shubham

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Sudipta, Sharayu, Shaswin, Gurmeet, Satish

MIDDLE (Second Row): Gaurav, Hashmeet, Mohnish, Anjali, Anu, Danish, Akshay, Jeetksha, Yash, Nikhil
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