

virtual reality



**SEMINAR
PRESENTATION
ON**

**VIRTUAL
REALITY**

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OVERVIEW

- **What is Virtual Reality?**
- **History of Virtual Reality**
- **Types of Virtual Reality**
- **Devices used in Virtual Reality**
- **Applications of Virtual Reality**
- **Conclusion**

WHAT IS VIRTUAL REALITY?

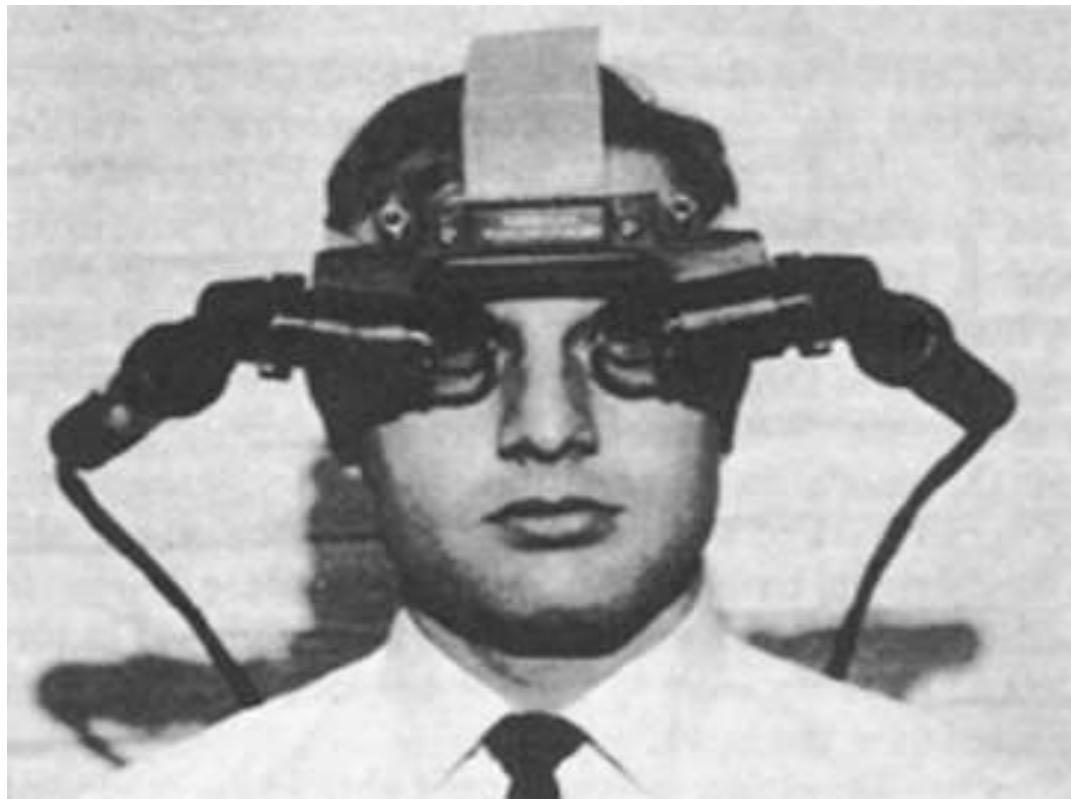
- ❑ **Virtual Reality** refers to a high-end user interface that involves real-time simulation and interactions through multiple sensorial channels.
- ❑ **Virtual Reality** means feeling an imaginary (virtual) world, rather than the real one. The imaginary world is a simulation running in a computer. The sense data is fed by some system to our brain.
- ❑ **Virtual Reality** allows a user to interact a with simulated environment, be it a real or imagined computer-one.

HISTORY OF VIRTUAL REALITY

- 1950's visionary cinematographer Morton Heilig built a single user console called **Sensorama**. This enabled the user watch television in three dimensional ways.



□ In 1961, Philco Corporation engineers developed the first HMD known as the **Headsight**.



- It was in 1965 IVAN SUTHERLAND envisioned what he called the “**Ultimate Display.**”
- In 1988, commercial development of VR began.
- In 1991, first commercial entertainment VR system "Virtuality" was released.



TYPES OF VIRTUAL REALITY

VR Systems can be divided into three groups

- **Non-immersive** systems (like workstations)
See information about the real world, presented via computer - location based services, GIS .
- **Augmented reality** systems (like HMD)
Stay in real world, but see simulated objects.
- **Immersive** systems (like CAVE)
See simulated world and "be" in that simulated world.

DEVICES USED IN VIRTUAL REALITY

❖ HEAD MOUNTED DISPLAY (HMD)



❖ CAVE AUTOMATIC VIRTUAL ENVIRONMENT (CAVE)



❖ DATA GLOVES



❖ DATA SUIT



APPLICATIONS OF VIRTUAL REALITY

Business:

- Virtual reality is being used in a number of ways by the business community which include:
- Virtual tours of a business environment.
- Training of new employees.
- A 360 view of a product.



Training

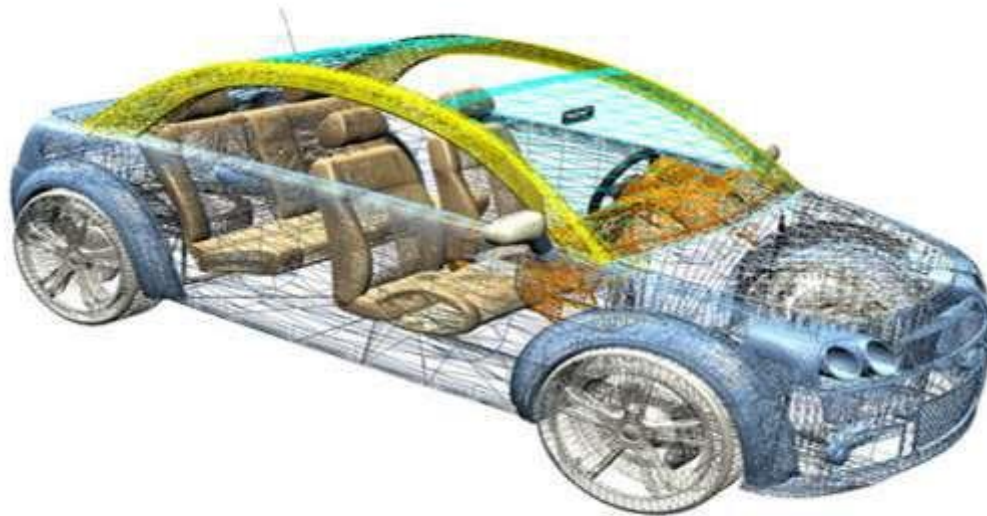
- Virtual reality environments have been used for training simulators.
- Examples include flight simulators, battlefield simulators for soldiers, paratrooping.



Engineering and Design:

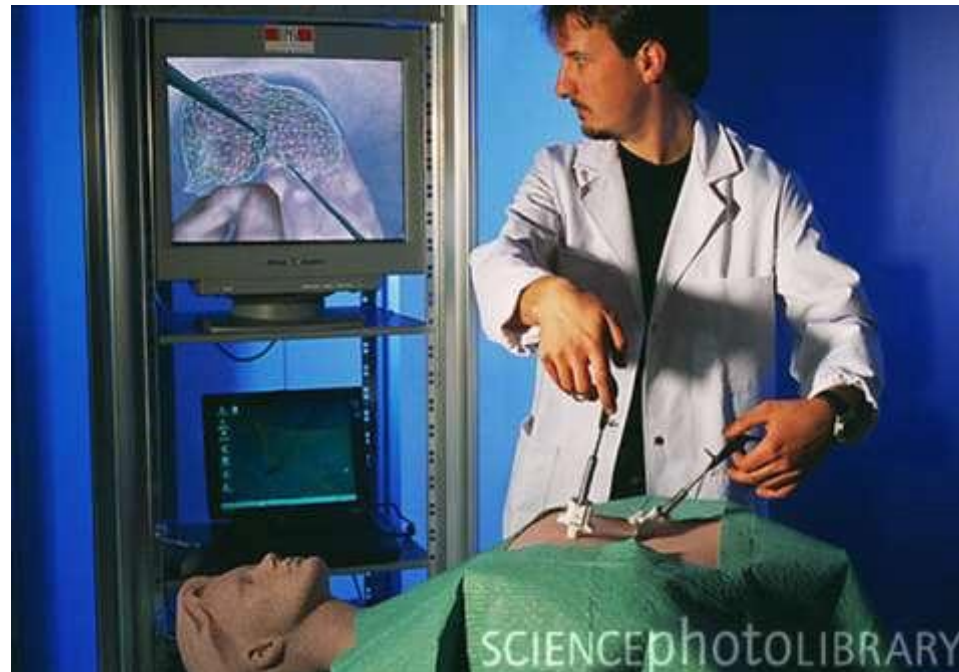
- VR is widely used in engineering and designing process.
- It gives better understanding of the design and facilitates changes wherever necessary
- It helps to reduce the time and cost factor.

Examples: Building construction, car designing.



Medical

- Healthcare is one of the biggest adopters of virtual reality which encompasses surgery simulation, phobia treatment, robotic surgery and skills training.
- VR finds its application in nursing, dentistry, health issues for the disabled.



Entertainment

t:

- The entertainment industry is one of the most enthusiastic advocates of virtual reality, most noticeably in games and virtual worlds.
- Virtual Museum, e.g. interactive exhibitions
- Gaming
- Virtual theme parks



CONCLUSION

1999	10% of the world's computing power was non-human
2029	99% of the world's computing capacity will be non-human

- Virtual Reality is a growing industry.
- PC and specialized hardware are getting better, faster and cheaper because of development in VR.
- In the past, computing power has doubled approximately every 18 months. If this is the case then we should have a computer powerful enough to run immersive VR programs in our own homes by the year 2037.

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