



VR

# 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.

Introducing . . .

## sensorama

The Revolutionary Motion Picture System that takes you into another world with

- 3-D
- WIDE VISION
- MOTION
- COLOR
- STEREO-SOUND
- AROMAS
- WIND
- VIBRATIONS

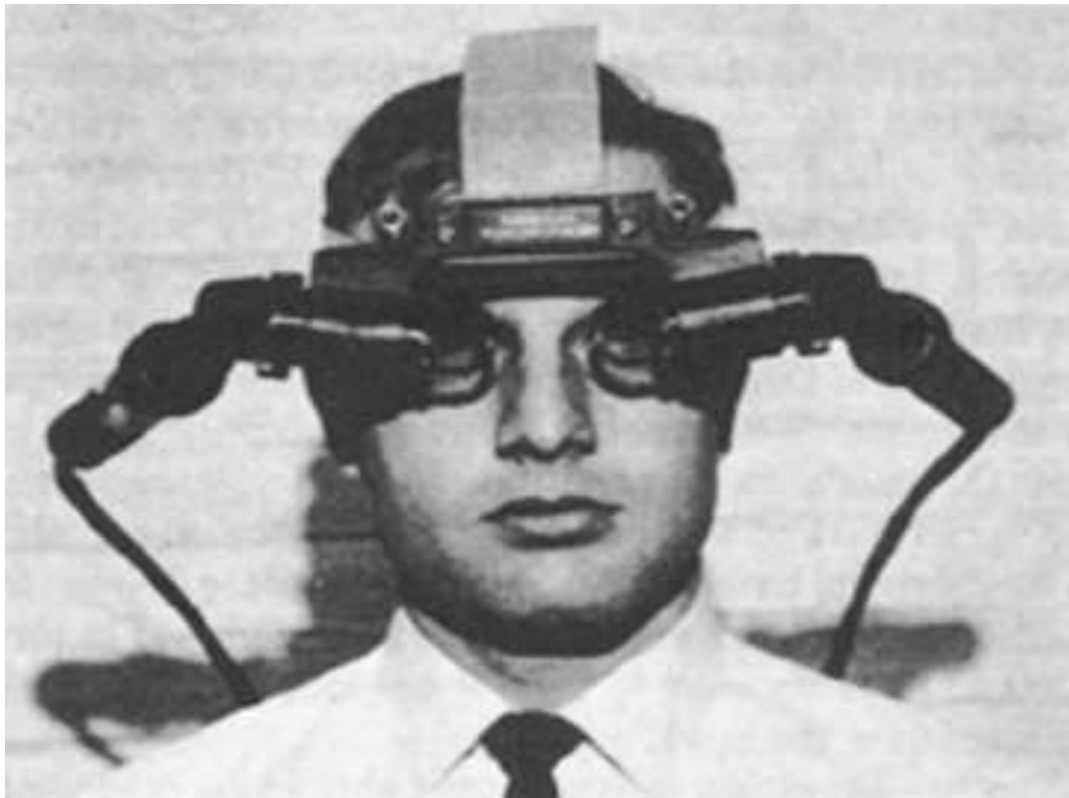


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TEL. (213) 459-2162



- 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.

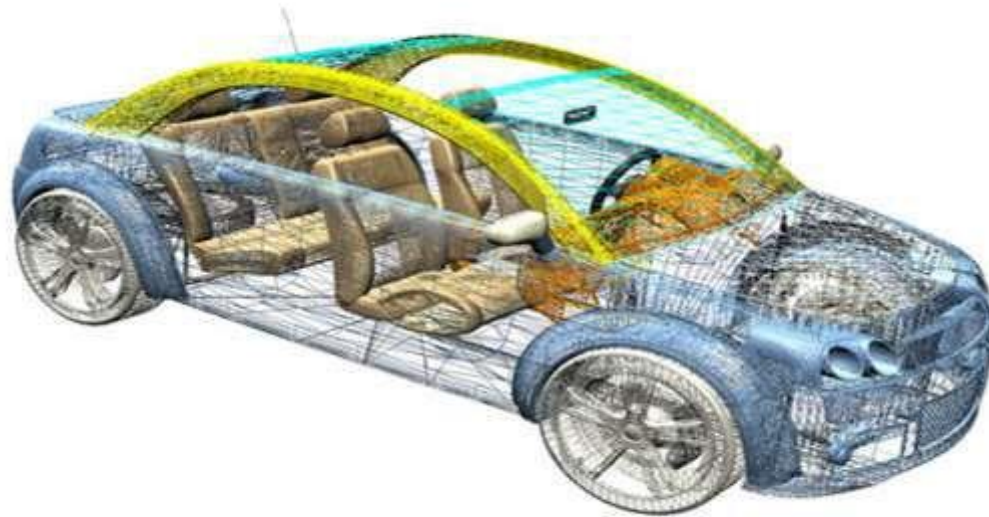


# Engineering and

## 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

- 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.

