

# Virtual Reality



Topic Number 11

Group 16

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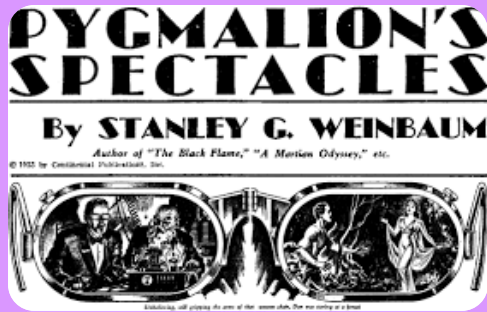
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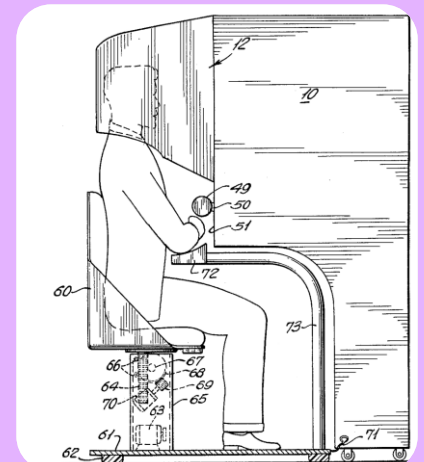
An abstract graphic featuring several concentric, semi-transparent rings in shades of blue and green. The rings are arranged in a circular pattern, with the word "History" centered in the middle. The background is a light, neutral color.

History

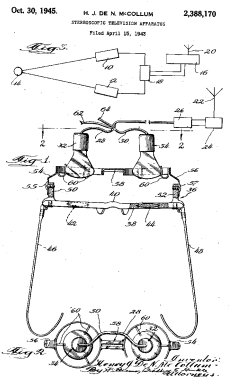
1930s - Stanley G. Weinbaum  
First proposed the idea of VR



1955 – Morton Heilig  
Envisioned multi-sensory theatre

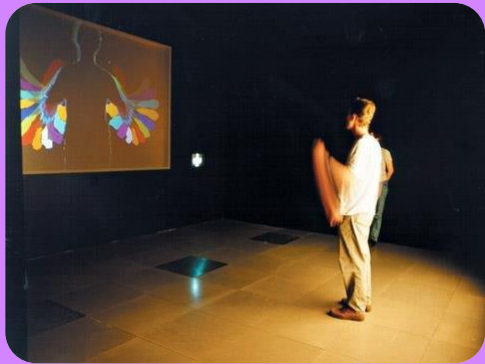


1960 – Morton Heilig  
Patented design for first  
head mounted display





1962 – Morton Heilig  
Created Sensorama



1970s – Myron  
Krueger  
Created VideoPlace



1965 – Ivan Sutherland  
The Ultimate display



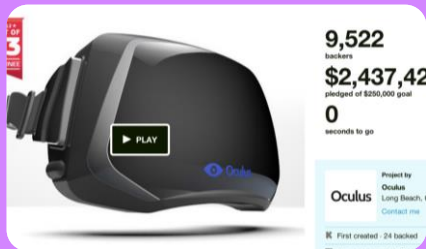
1991 – Virtual Group  
Vr arcade games



1995 – Nintendo Visual Boy  
Head mounted display



1999 – The Matrix  
Inspired many to invest in VR



2012 - Oculus

The background features a large, abstract graphic composed of several concentric, semi-transparent rings. The rings on the left are primarily blue, while the rings on the right transition into shades of green. The overall effect is a sense of depth and movement, framing the central text.

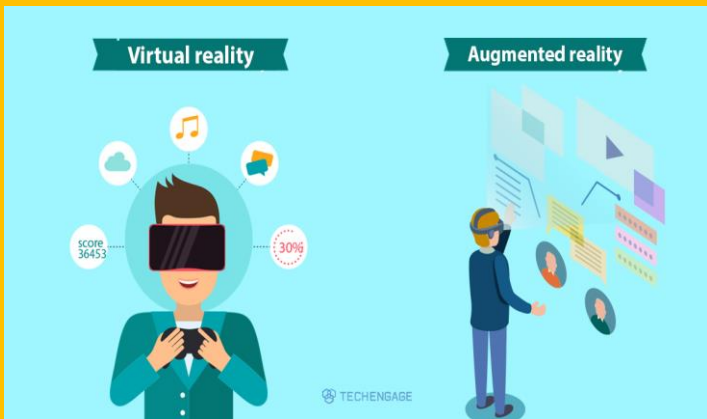
What is Virtual Reality?



Virtual Reality (VR) is a synthetic, 3D technology that has a 3D sense of sight and sound



VR is seen through a headset and controlled through wheels, joysticks, hand controls, etc.



*“In augmented reality (AR) environments, users experience the physical environment and other users directly along with mediated virtual objects embedded in the environment. In immersive virtual reality (VR), users experience of a visual environment (and sometimes other senses) is completely mediated.”*

-People About Virtual Places: A Qualitative Perspective



# VR Hardware Available



The Valve Index



The HTC VIVE

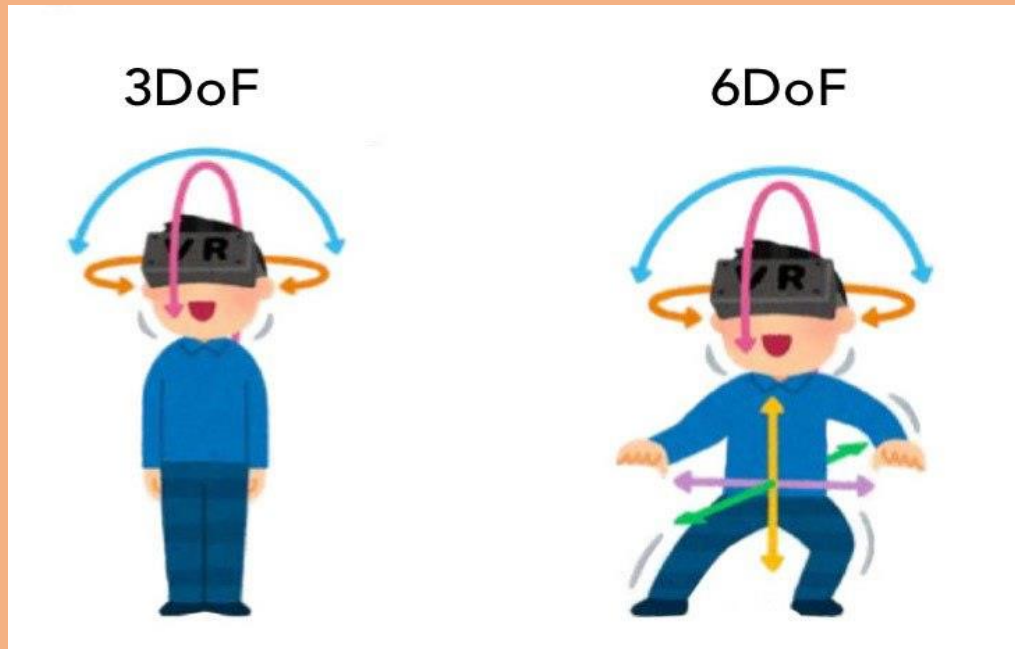


The PlayStation VR



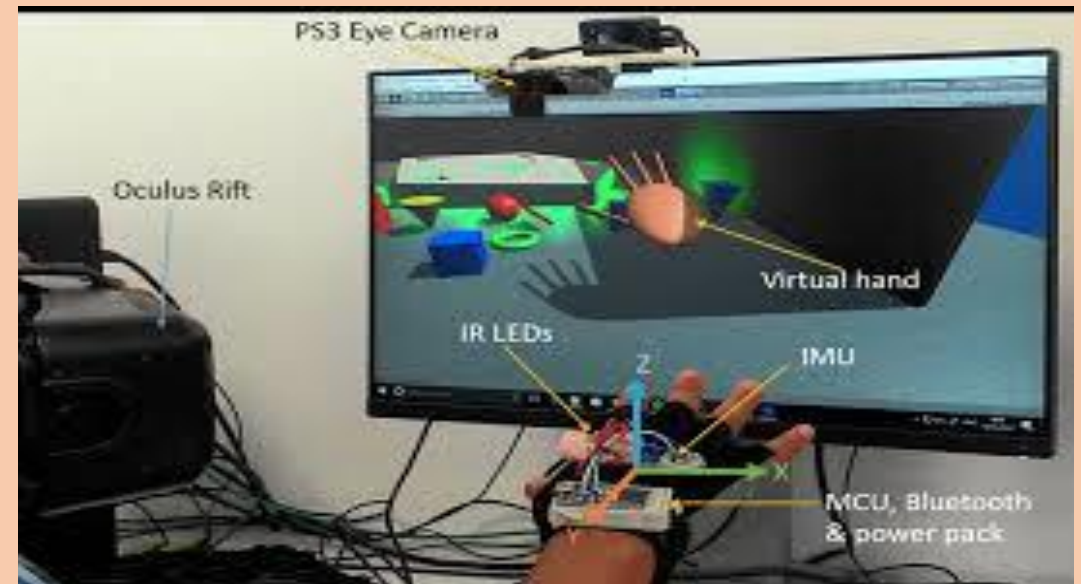
The background features a large, stylized circular graphic composed of multiple concentric rings. The rings on the left are primarily blue, while the rings on the right transition into green and light blue. The overall effect is a soft, abstract frame around the central text.

How does VR work?



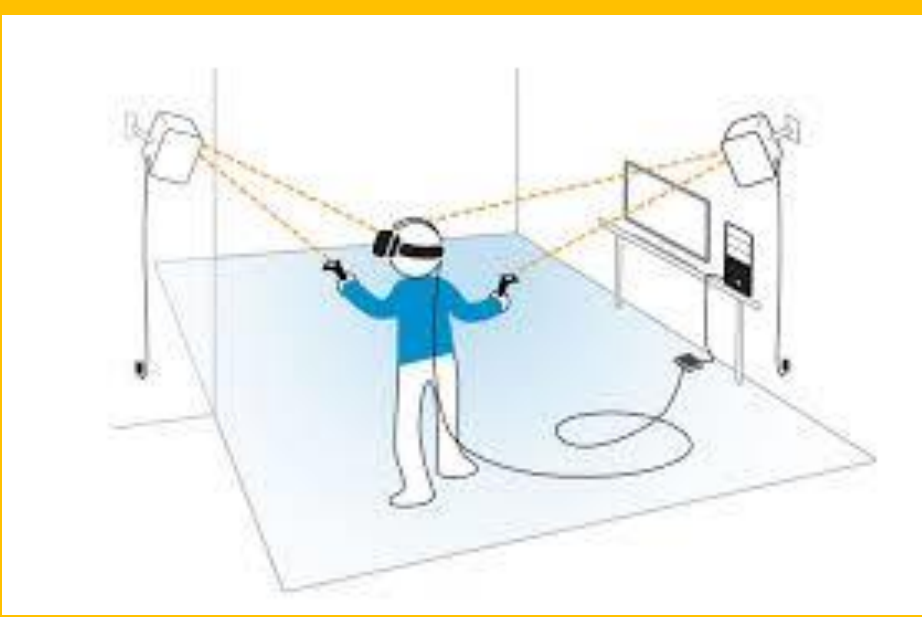
Most modern VR systems allow 6 degrees of freedom enhancing immersion and truly making the experience feel real. Immersion is the most important element.

The most commonly used way to track for VR is optical devices that use lasers and cameras to position and orientate the user in the virtual world.



The background features a large, stylized circular graphic composed of multiple concentric rings. The rings on the left are in shades of blue, while the rings on the right transition into shades of green. The center of the graphic is a solid light gray, providing a backdrop for the text.

How to use VR



VR is relatively easy to set up needing some small dedicated space for movement and mobility.

Having controllers and headset isn't enough needs to be plugged to a console, PC or mobile device.



An abstract graphic featuring several concentric, semi-transparent rings in shades of blue and green. The rings are arranged in a circular pattern, with the innermost ring being a light blue and the outermost ring being a darker blue. The rings overlap, creating a sense of depth and movement. The word "Controls" is centered within the white space of the rings.

Controls



Virtual reality controls depends on it's purpose, a flight sim would have controls similar to an actual cockpit.

Modern VR systems include a head-mounted-headset and hand controls with buttons and triggers that have can



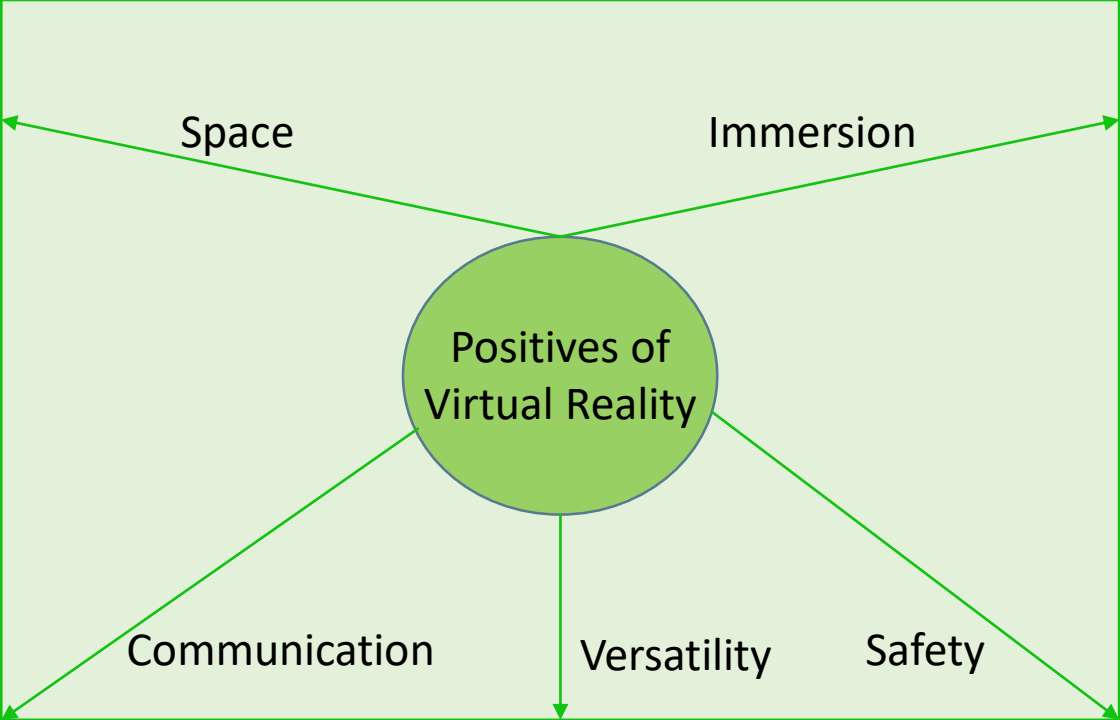


# Pros of Virtual Reality





Compact, room-sized



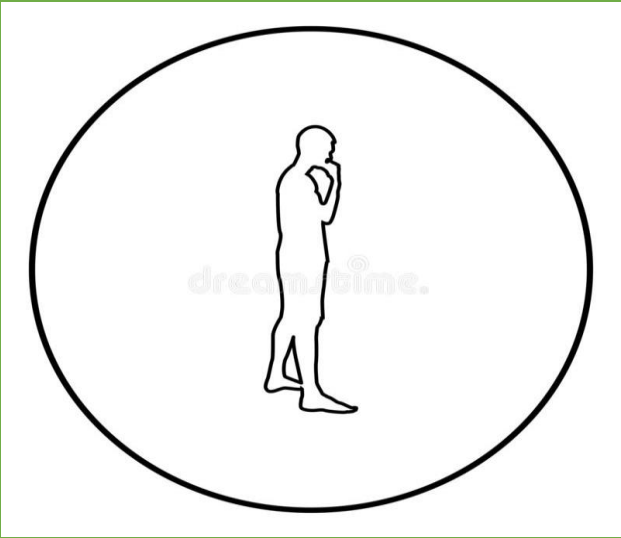
Captivating, Engaging



Meetings, Presentations,  
Interviews



Video Games, Medicine, Military training,  
Firefighter training, Education, etc.



Secure, safe, controlled  
environment

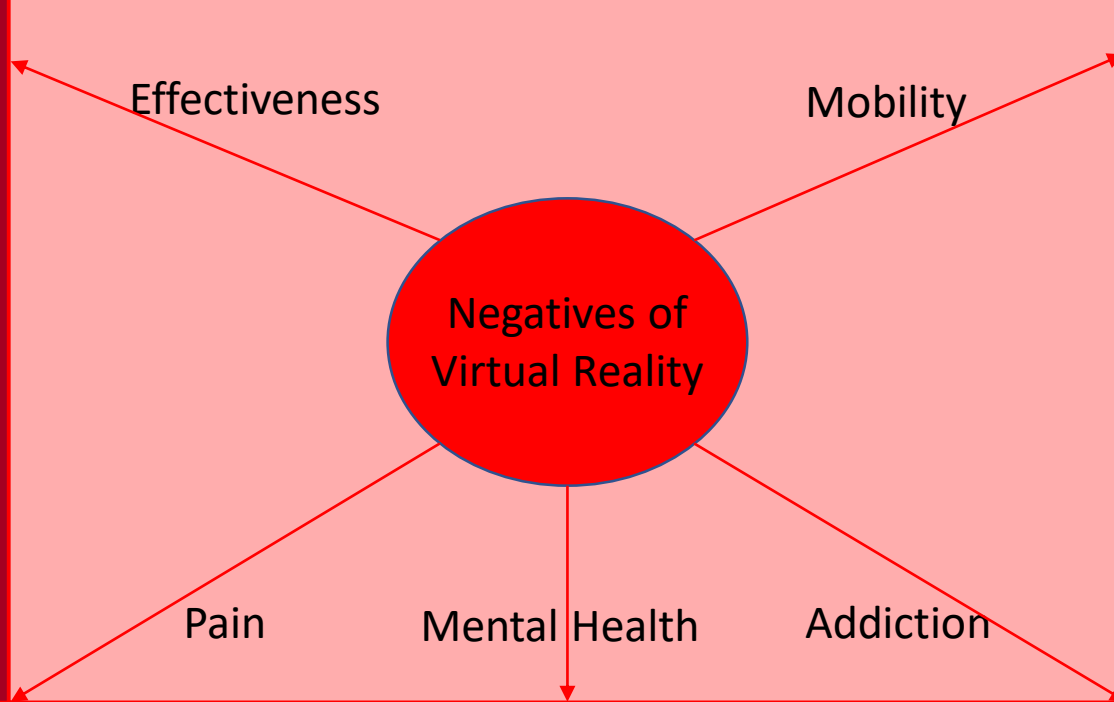


# Cons of Virtual Reality





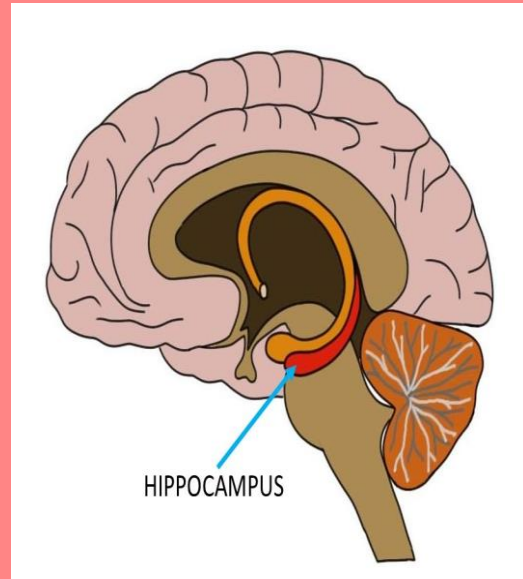
Not the truest experience,  
Unrealistic



Leg movement underdeveloped,  
Requires complex rigs to achieve



Headband cause pain,  
Uncomfortable for long periods



Causes nausea, dizziness and motion sickness  
VR affected Lab rat's Hippocampus



Dangerously addictive,  
Detached from reality



Future



## Pimax 8k Headset

Provides a more captivating experience, but requires a very powerful processor.



## Development in 5G

VR could potentially receive images in real time



## KAT VR

Complete control over lower body



Vr Gluv  
Haptic gloves



Tesla Suit  
Full body haptic suit, not easily available to the public yet



Future VR headset  
It is hoped that VR headsets will be light and easy to ignore when wearing them.



# Images Sources history/future

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# Image Sources (What is VR)

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# Image sources (Pros and Cons)

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