

# VR INTERFACES

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### **Definition of virtual reality:**

"an artificial environment which is experienced through sensory stimuli (such as sights and sounds) provided by a computer and in which one's actions partially determine what happens in the environment" – (Webster, 1927)

#### **VR Interface:**

Software or hardware that enables interaction between the user and the VR world generated by the computer.

### • Immersive

- Various possibilities in usage (Education, Rehabilitation, etc)
- Safe testing and training environments
- Ease of use and accessibility

# **STRENGTHS**

### • Cost

- Hardware (wires, headgear, etc)
- Technology still not yet there to better interface with the virtual world
- Physical and mental side effects

# WEAKNESSES



### Samsung VR Gear



### Samsung VR Gear UI



### HTC Vive



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### Playstation VR



### IBM SAO VR TEST https://www.youtube.com/watch?v=Zi X582BweOk

# • Use cases that require a simulated environment

- Transportation training (Driving, Aircraft, Spacecraft or Seacraft simulations)
- Weapons training (Shooting and bomb disarming)
- Space environment simulations

# Suitability

# WEB INTERFACES

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Web Browsers

Receive and transmit data from one location to another

**BEFORE:** 

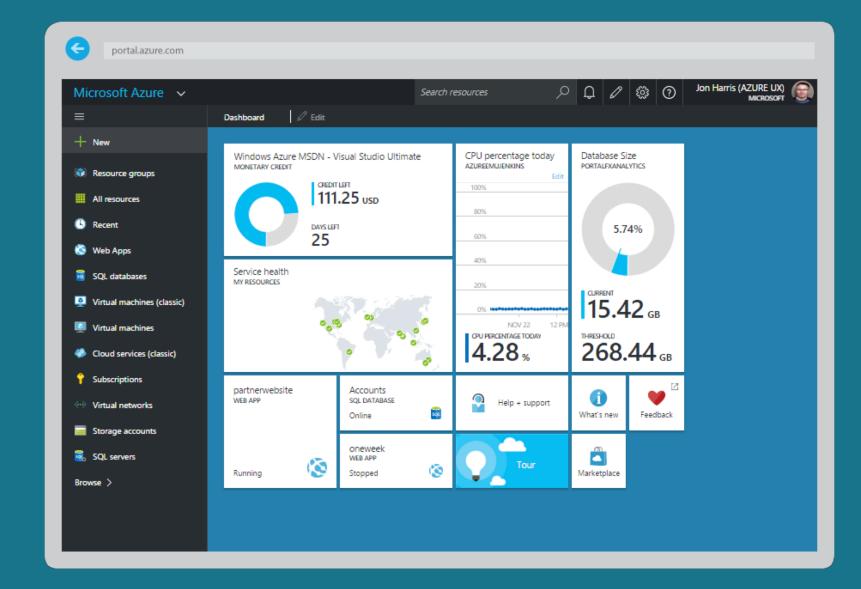
View content and information E.g. text, video images Hyperlinks

NOW:

shopping, banking, cloud computing, browser based apps, data storage

amazon.in	All - ipad		Q 20 <sup>×</sup> offor more Beauty Bounty
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### Amazon: Online Shopping



### Microsoft Azure: Cloud Computing

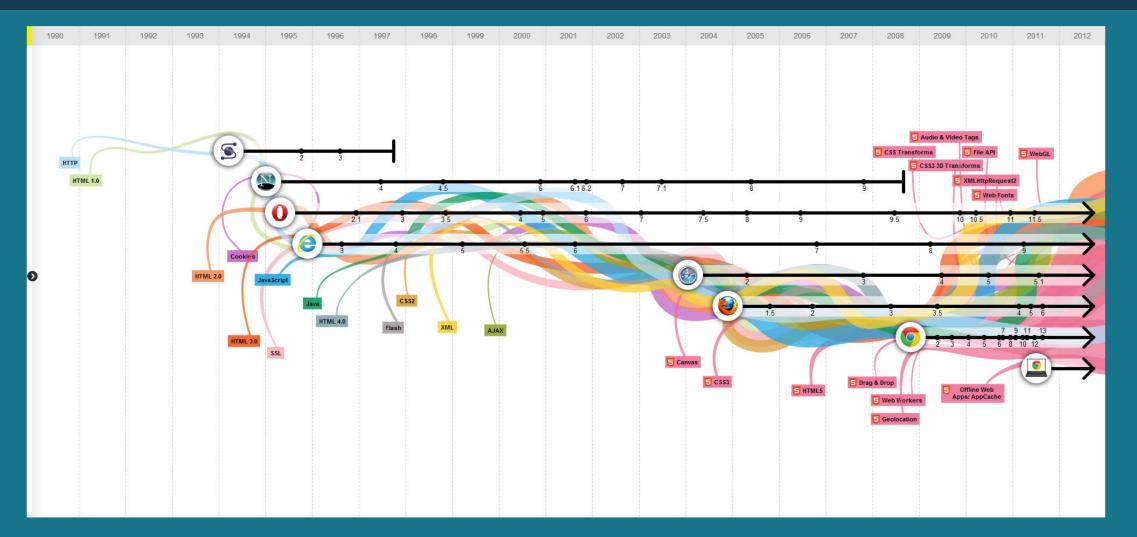
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### Online Banking

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Projec system acrony &ldqur use the often n <u>GNU/L</u>	me to the GNU Project web server, <b>www.gnu.org</b> . The <u>GNU</u> twas launched in 1984 to develop a complete UNIX style operating which is <u>free software</u> : the GNU system. (GNU is a recursive m for "GNU's Not UNIX"; it is pronounced o;guh-noo.") Variants of the GNU operating system, which e kernel Linux, are now widely used; though these systems are eferred to as "Linux," they are more accurately called <u>inux systems</u> .	This is a new version of the NextStep WorldWideWeb application with the libWWW library. Bug reports to timbl@info.cern.ch, quoting the version information above. Check the list of known bugs in the web too. This was the original prototype for the World-Wide Web. Many browers for other platforms now exist (Read the web for details). After many years lying fallow, this application has now sprouted images and nested HTML elements and things. If you have an Internet connection, then using "Help" under the Info menu will tell you all about this application. If you don't have an internet connection get	
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### WorldWideWeb-First Browser

### **EVOLUTION OF THE WEB**



http://www.evolutionoftheweb.com/#/evolution/day





### INTERACTIVITY

### • Portable

### • Flexible

- Data stored remotely
- Ease of use and accessibility



- Limited scope and functionality
- Harder to be discovered
- Supporting multiple mobile browsers results in higher costs
- Requires reliable internet connections



Recommendations And References

### • Recommended Readings:

• VR

- Two-minute papers youtube channel:
- The Verge:
- Smashing magazine: https://www.smashingmagazine.com/2017/02/getting-started-with-vrinterface-design/
- Web
  - NCBI BLAST: a better web interface
  - http://www.evolutionoftheweb.com

Recommendations And References

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