Virtual Reality (VR)

An introduction to VR interfaces
with a perspective on cross-media

Linnéuniversitetet

© Nico Reski
4ME306-VT18
Cross-Media Design and Production

Today

- Virtual Reality (VR)
- VR technologies
- Interaction in VR
- VR and Cross-Media
- VRxAR Labs

virtual |ˈvəːtʃʊ(ə)l, ˈvəːtjʊəl|

almost or nearly as described, but not completely or according to strict definition

Computing not physically existing as such but made by software to appear to do so

via en.oxforddictionaries.com/definition/virtual

virtual reality

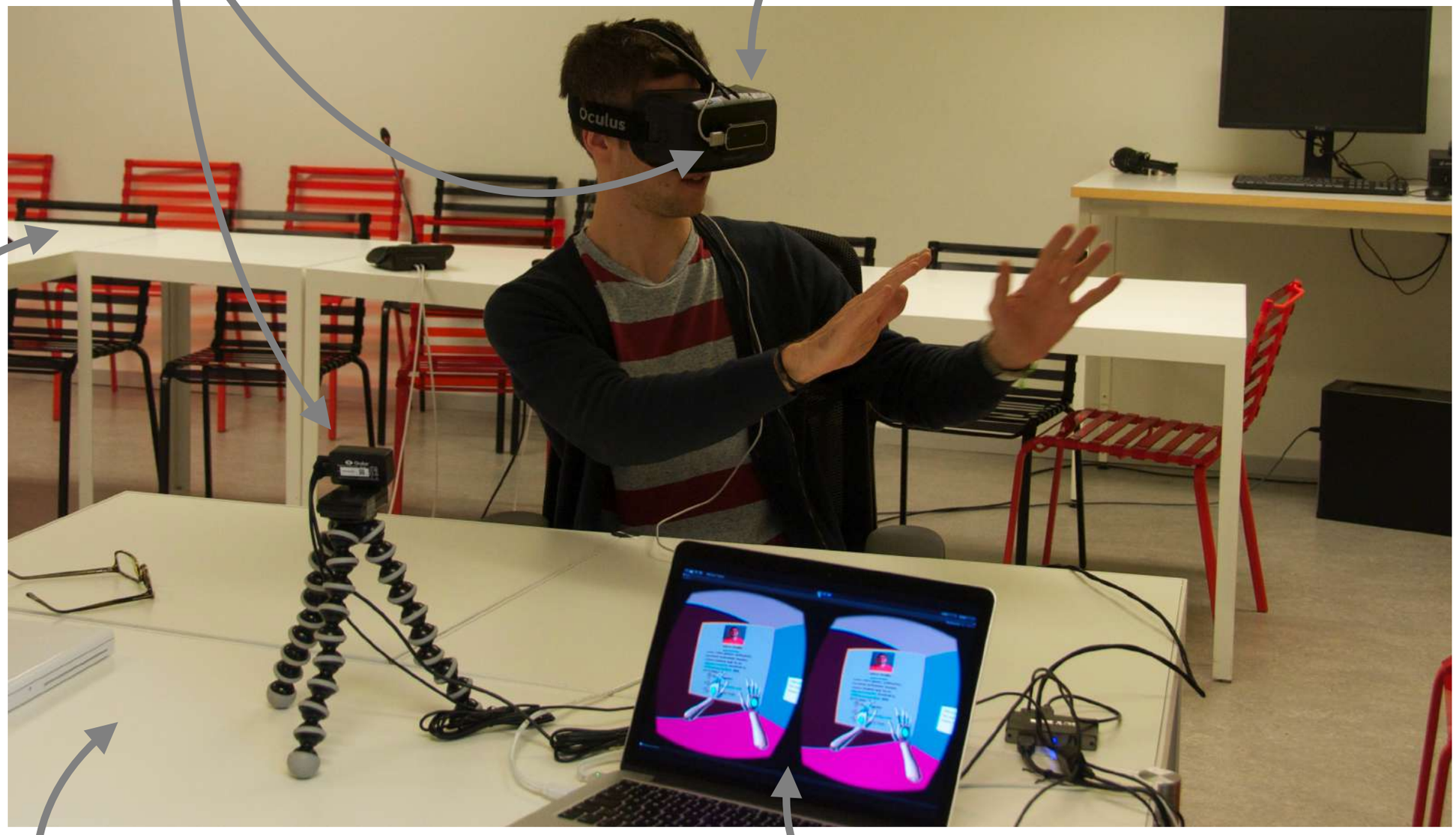
noun *[mass noun]*

the computer-generated simulation of a three-dimensional image or environment that can be interacted with in a seemingly real or physical way by a person using special electronic equipment, such as a helmet with a screen inside or gloves fitted with sensors.

via en.oxforddictionaries.com/definition/virtual_reality

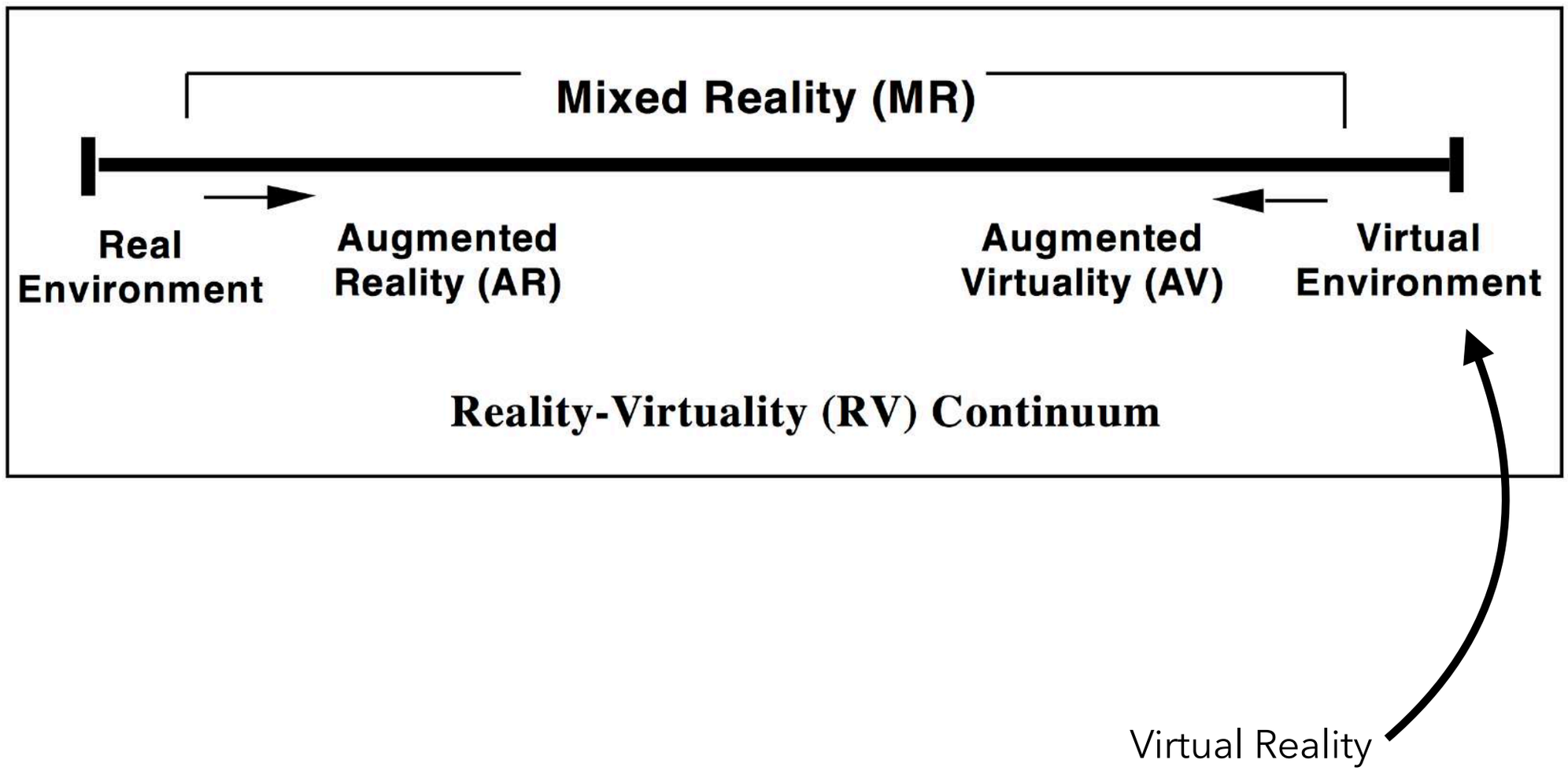
tracking sensors

head-mounted display
("VR headset")



physical real-world environment

computer-generated content;
virtual three-dimensional environment



via etclab.mie.utoronto.ca/publication/1994/Milgram_Takemura_SPIE1994.pdf

Immersion
"Immersion refers to the objective level of sensory fidelity a VR system provides."

Presence
"Presence refers to a user's subjective psychological response to a VR system."
User feels like being **in** the virtual world.

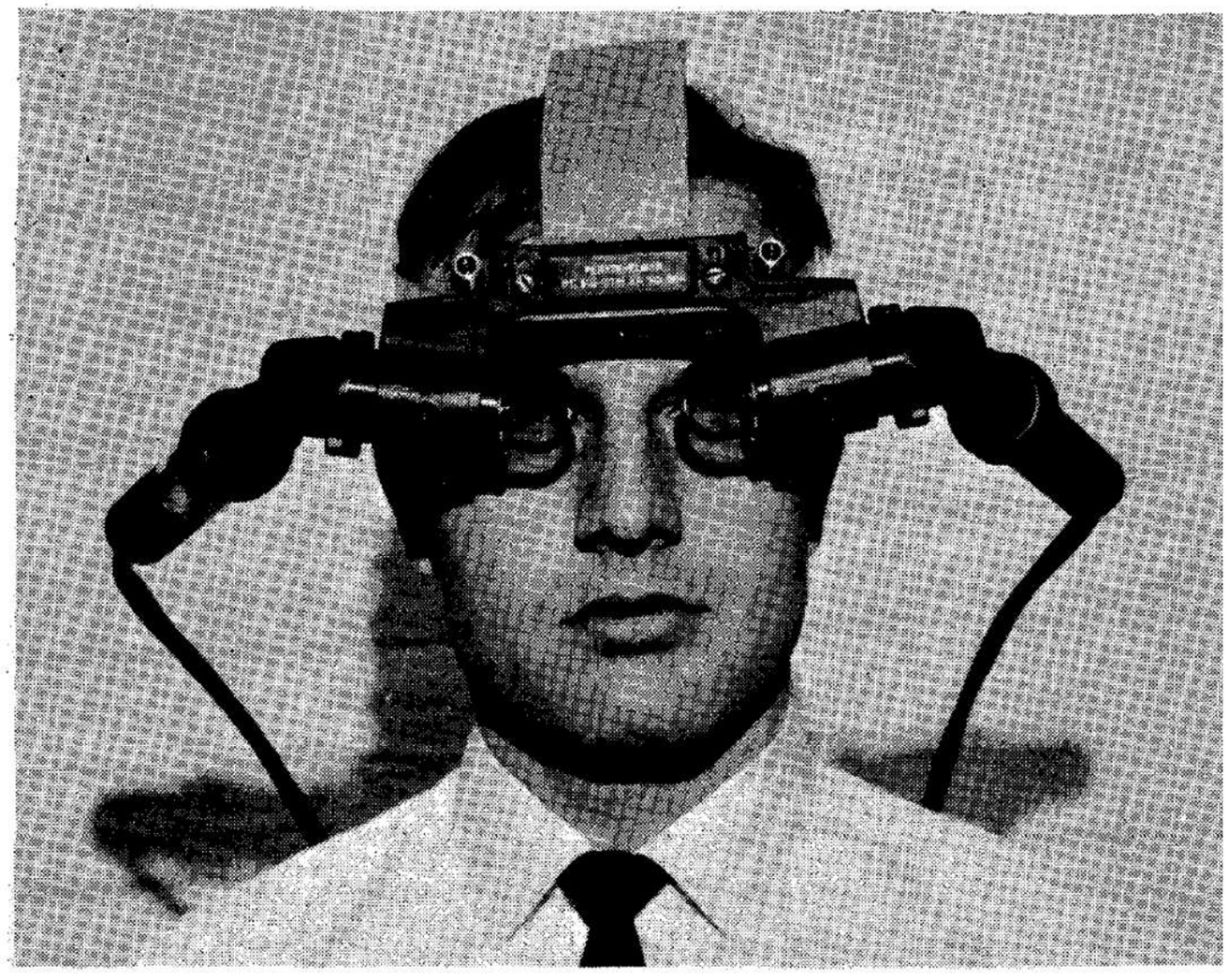
via bit.ly/VR-Bowman07

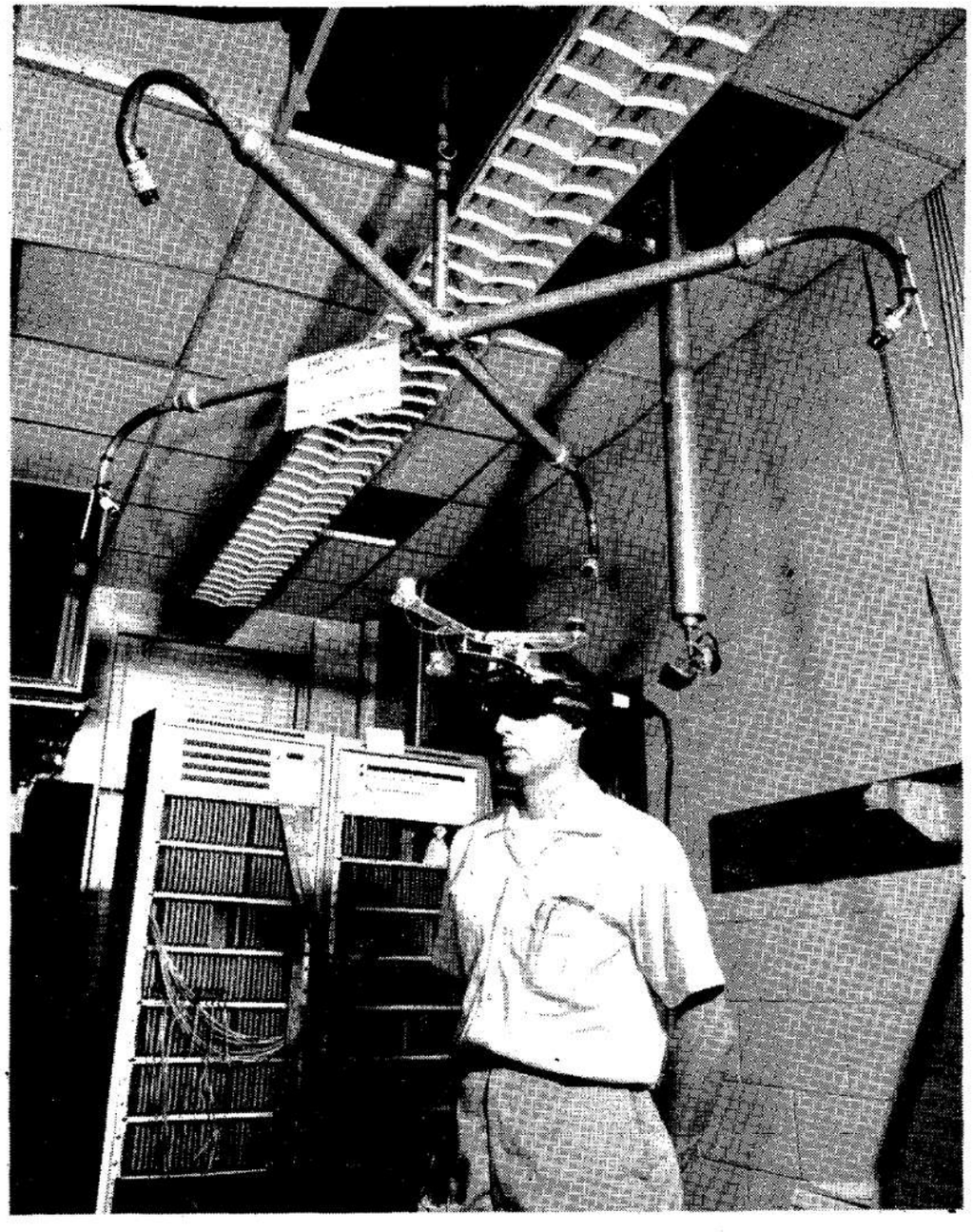
CAVE

Cave **A**utomatic **V**irtual **E**nvironment

via bit.ly/IMG-Wiki-CAVE

via bit.ly/IMG-Wiki-HMD





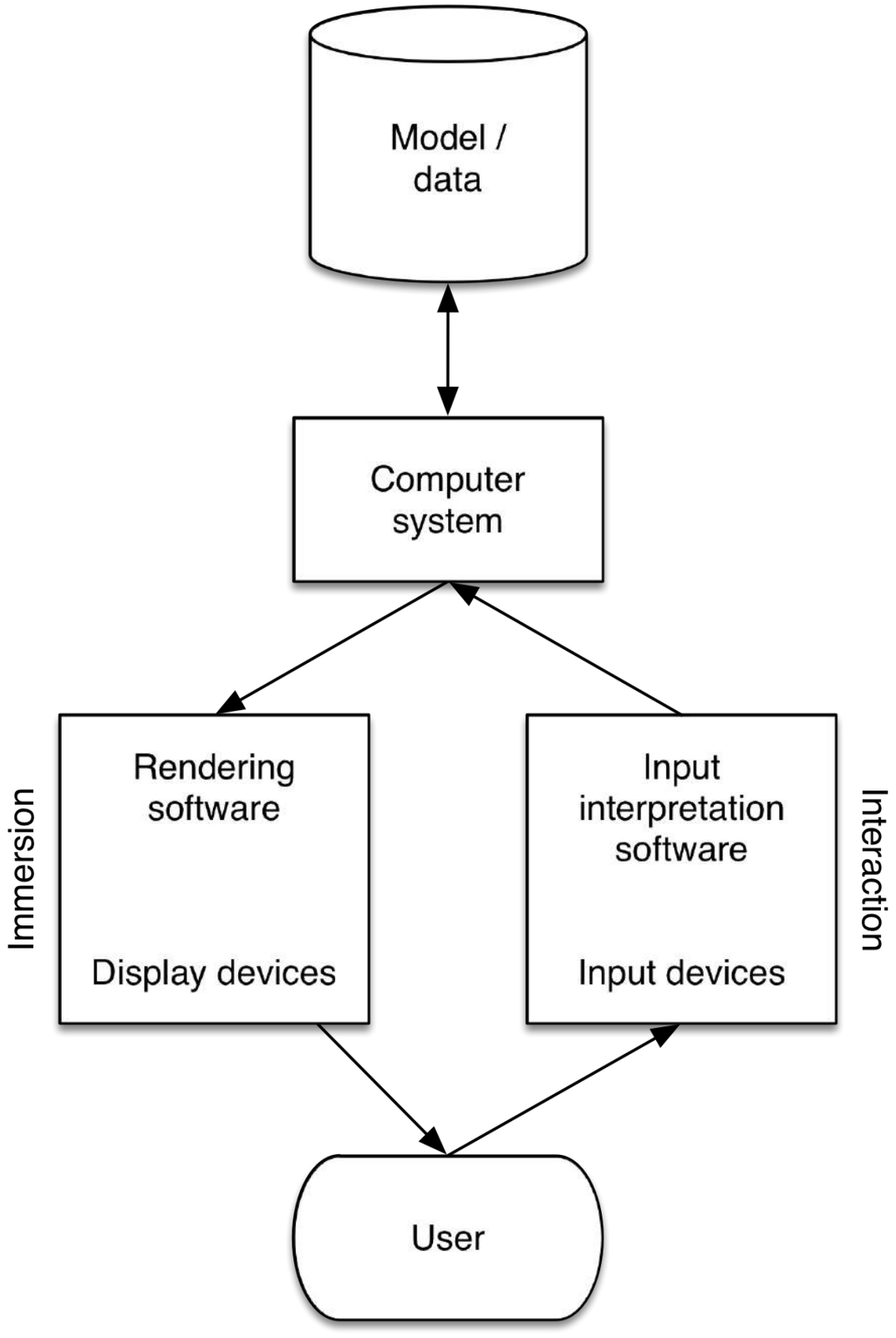
via bit.ly/HMD-Sutherland68 and bit.ly/HMD-Sutherland-VideoDemo

via bit.ly/VR-Oculus

via bit.ly/Vive-DevFuture

via bit.ly/PS-VR

via bit.ly/VR-GoogleCardboard



Human-Virtual Environment Interaction Loop

Doug A. Bowman and Ryan P. McMahan.

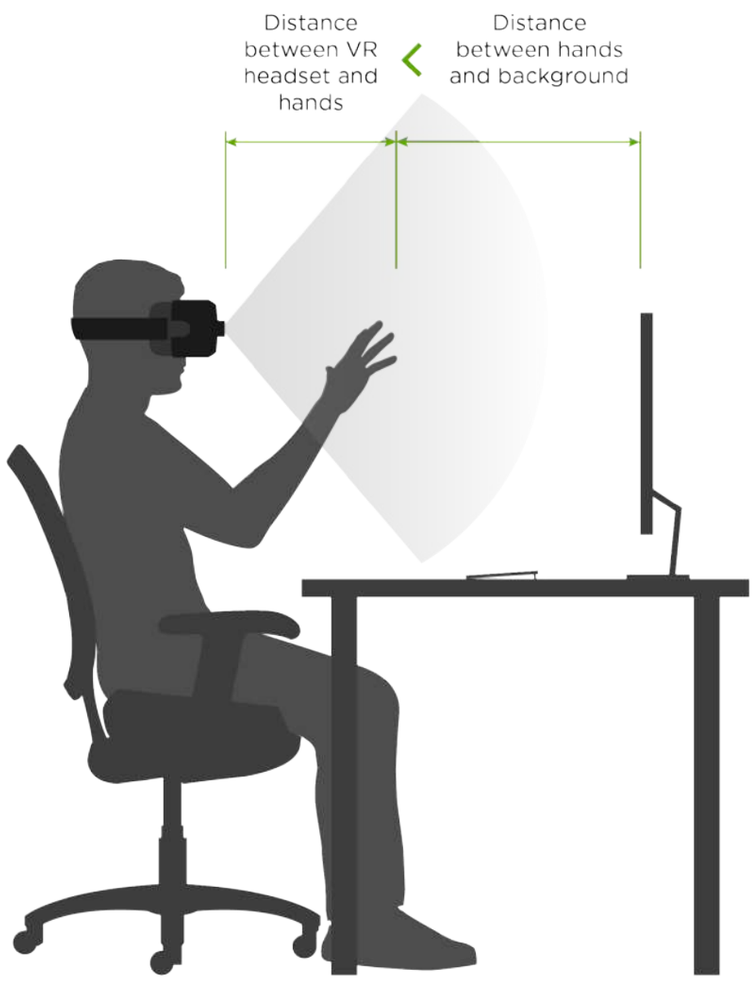
Virtual Reality: How Much Immersion Is Enough?

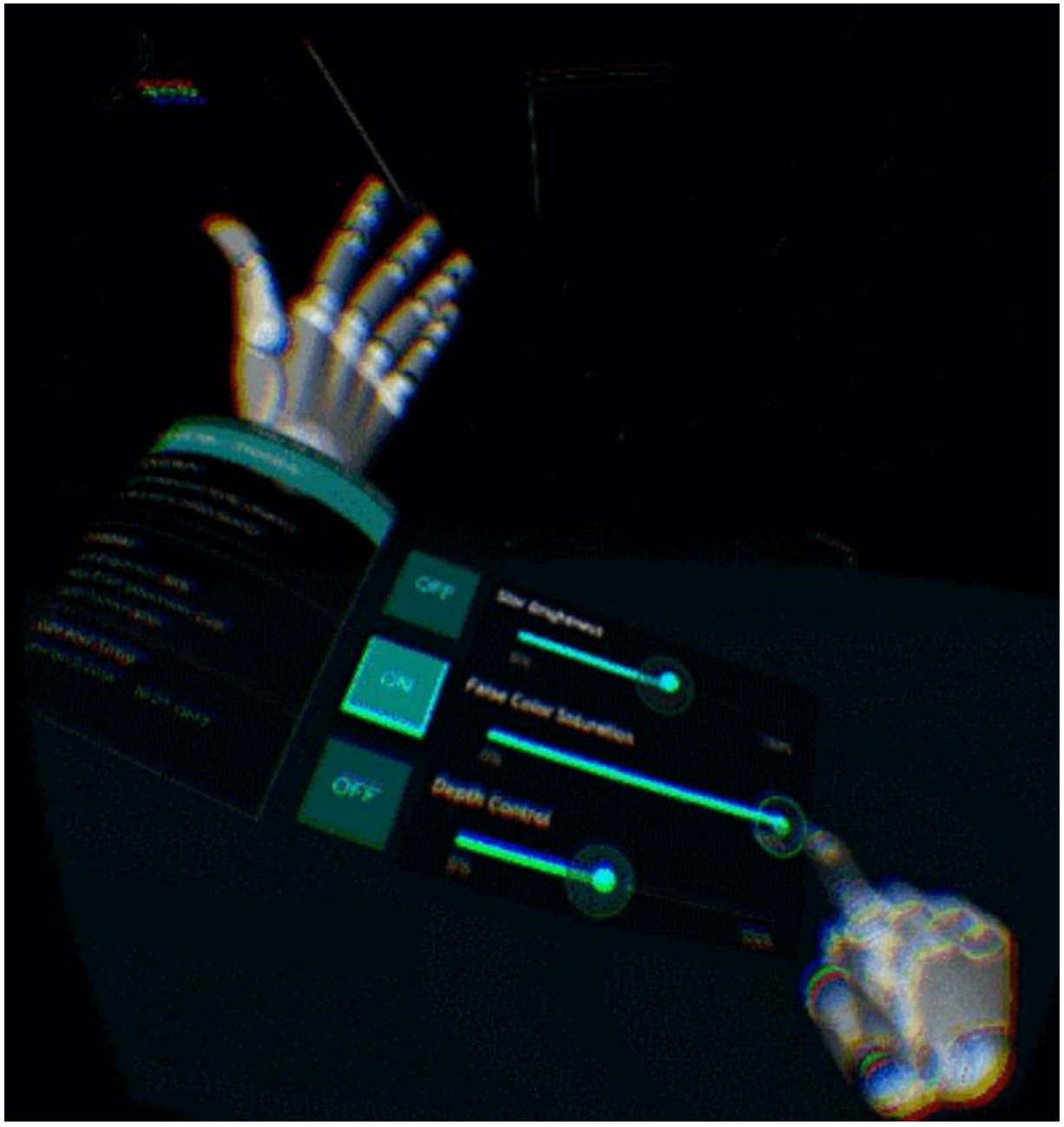
Computer, 40(7):36–43, July 2007.

via play.google.com

via roadtovr.com

via oculus.com





via blog.leapmotion.com

via tomshardware.com

via vive.com

The other kind of “virtual”
IKEA warehouse’s 2nd floor

via www.ikea.com

Entertainment/Games

Star Wars Battlefront - Rogue One: X-Wing VR Mission

Virtual Reality (VR)

via starwars.ea.com

via youtube.com

via bit.ly/KRZ-Entertainment

via bit.ly/VR-TitansOfSpace

Experimental / Artistic

OccultUs by Simon de Diesbach – Designing for alternate reality

Virtual Reality (VR)

via bit.ly/CA-OccultUs

Science / Artistic

In the Eyes of the Animal

Virtual Reality (VR)

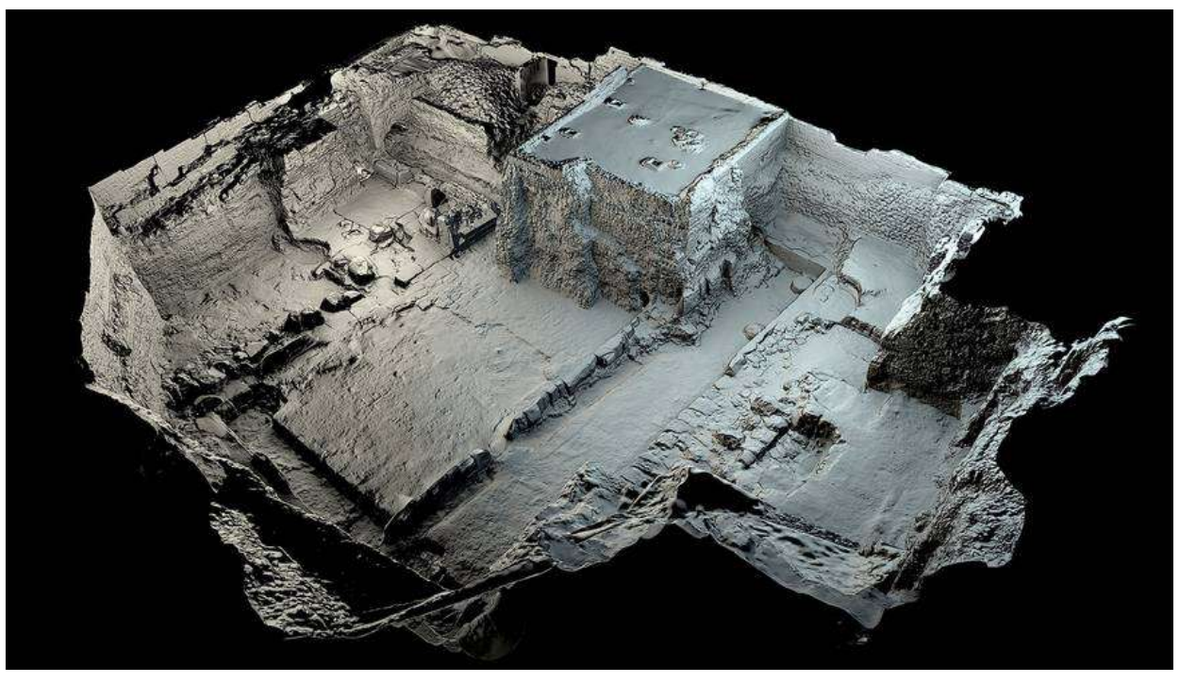
via bit.ly/CC-EyesOfAnimal

via bit.ly/OVR-StoryStudio-Henry and bit.ly/OVR-StoryStudio-Intro

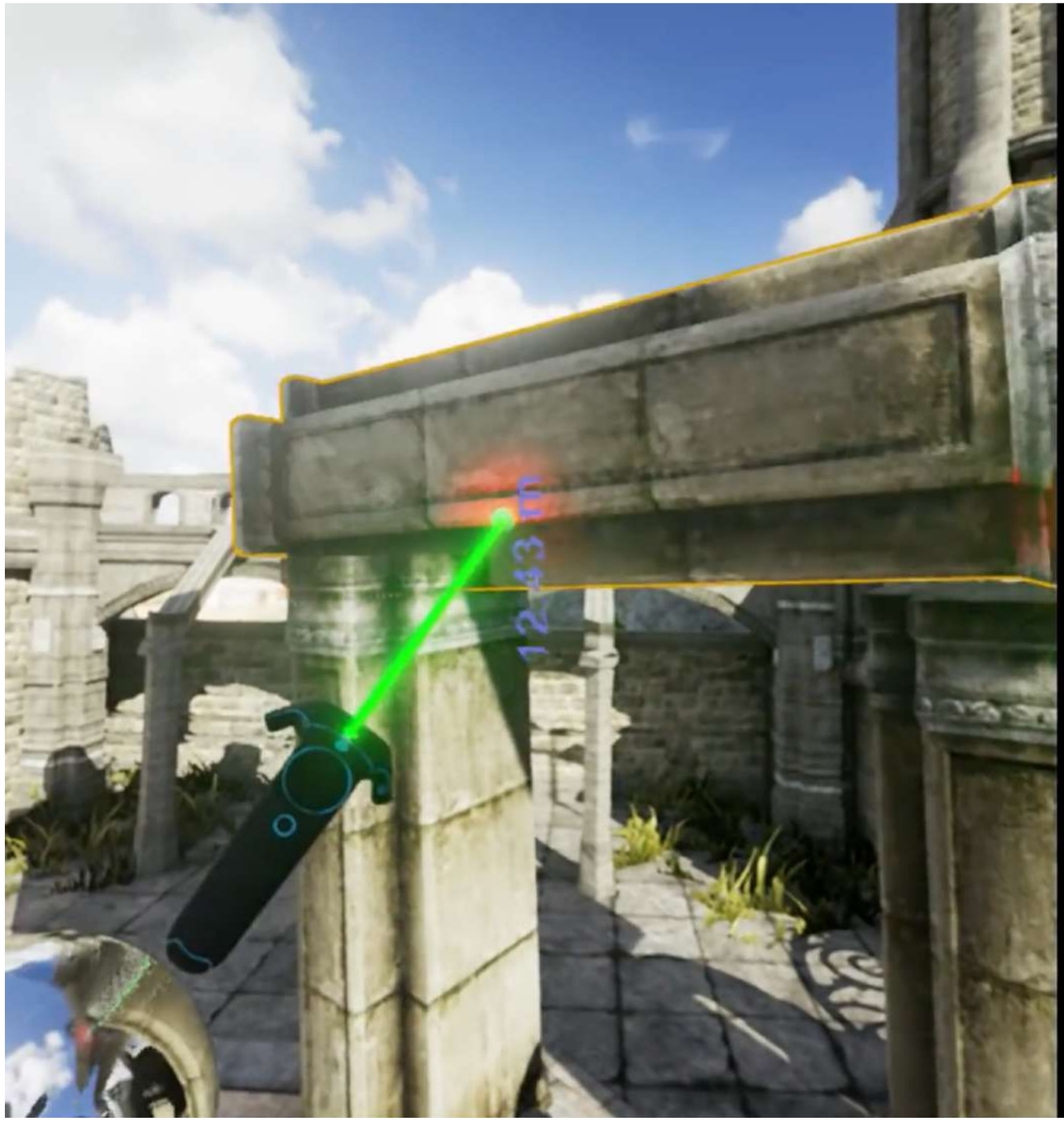
Science / VR as a tool

Virtual Archaeology @ HTW Berlin

Virtual Reality (VR)



via gamedesign.htw-berlin.de/forschung/virtual-archaeology/



via bit.ly/Vive-UE4-Editor-Preview

Games / e-Sports
DOTA 2 VR Hub (spectator mode)

Virtual Reality (VR)

via [engadget.com]

Current activities at VRxAR Labs

Open Data Exploration in VR

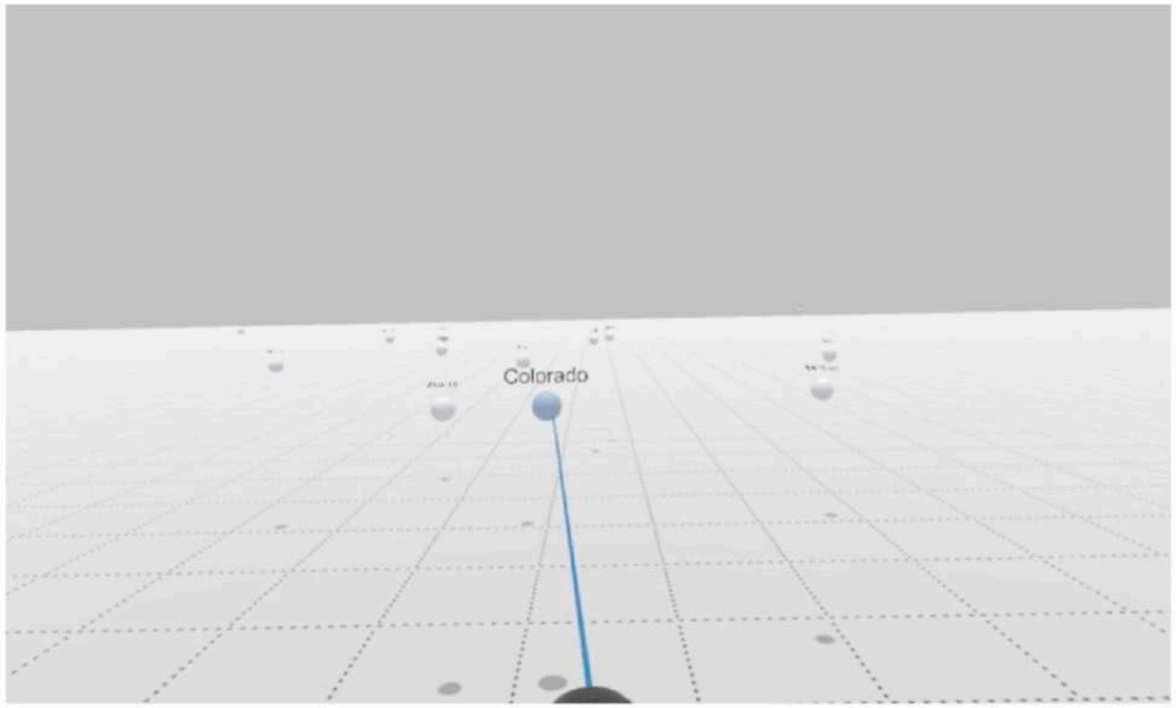
Virtual Reality (VR)

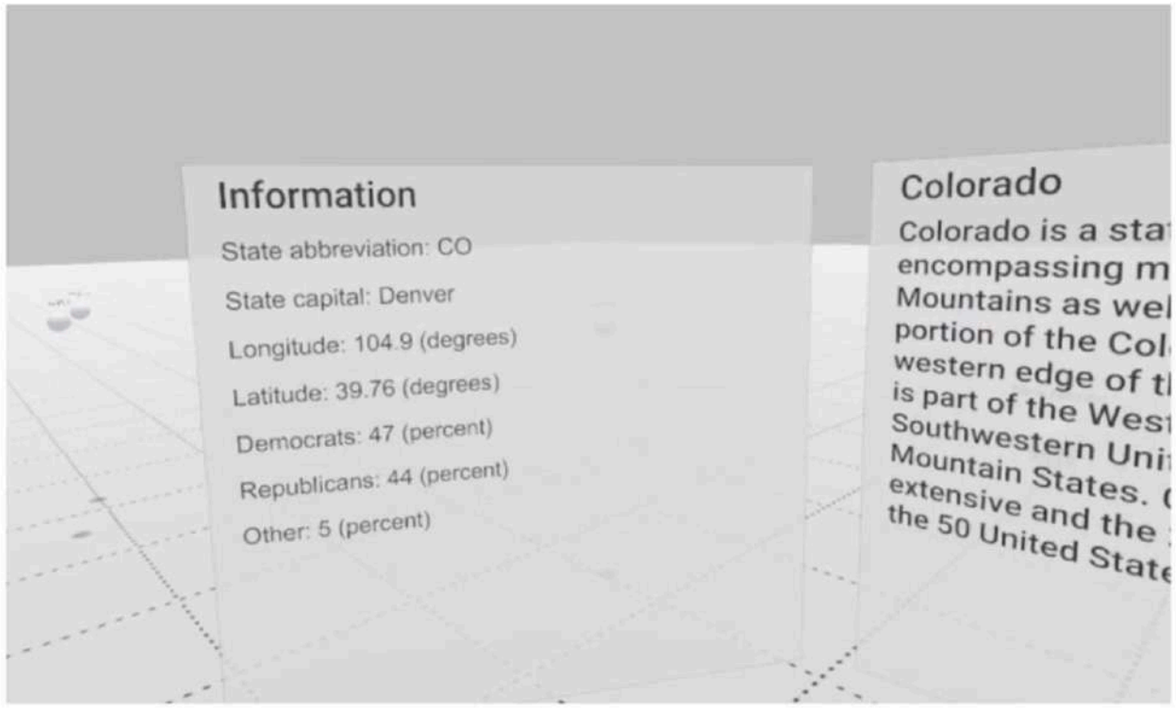
via vimeo.com/vrxar/odxvr-demo

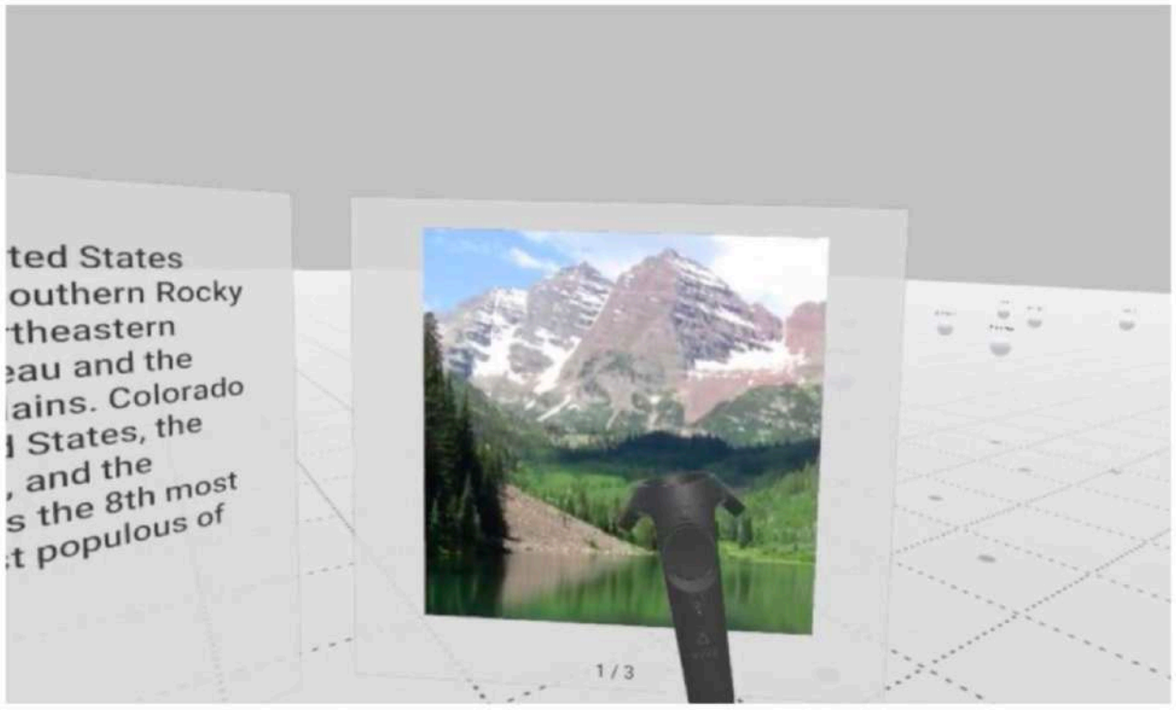
Current activities at VRxAR Labs

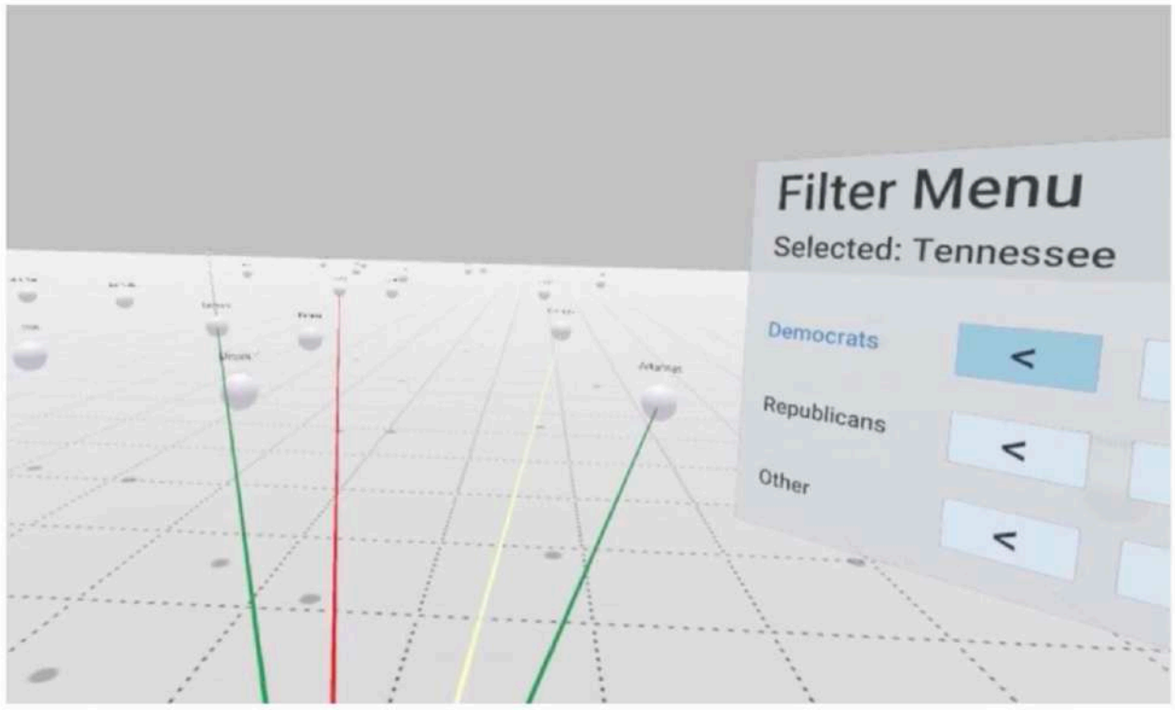
Open Data Exploration in VR

Virtual Reality (VR)

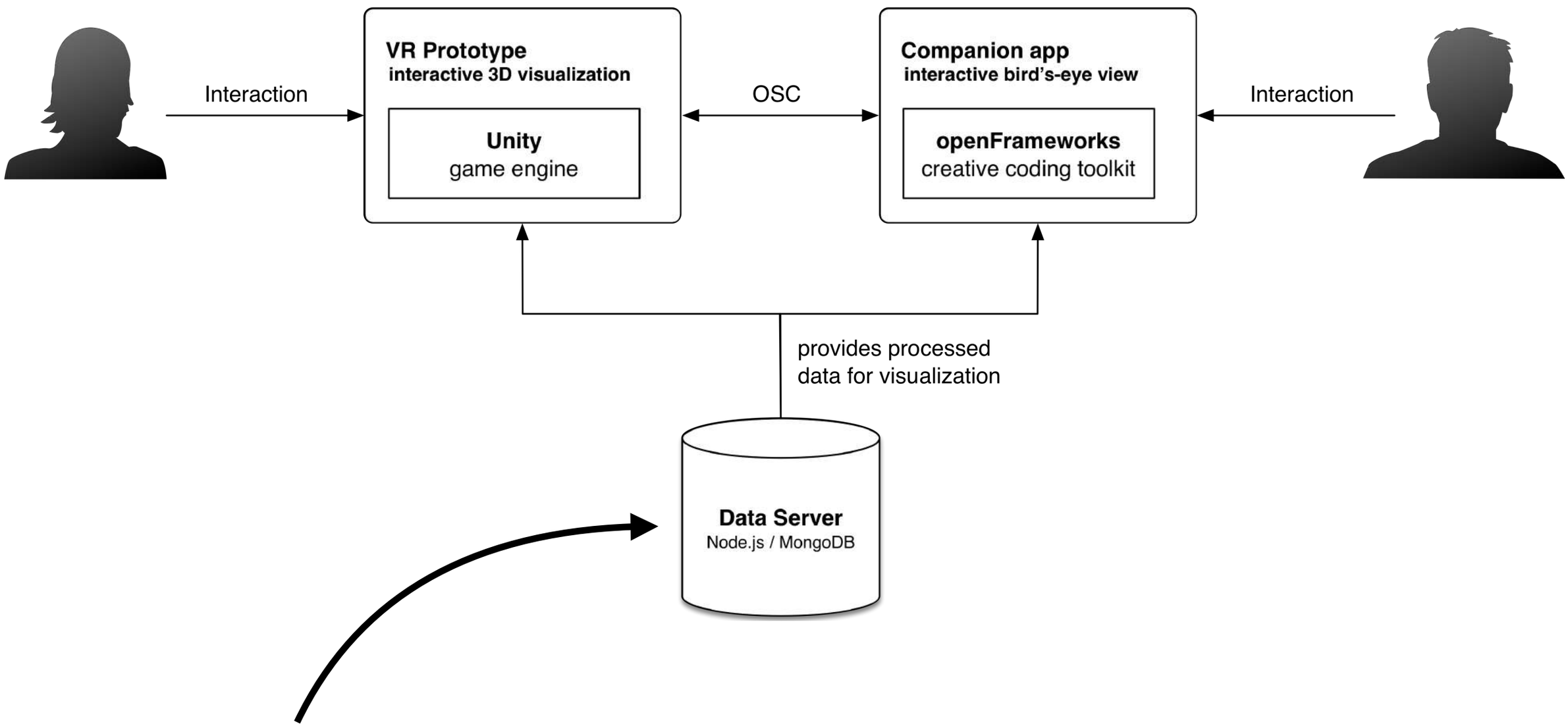








via vimeo.com/vrxar/odxvr-demo

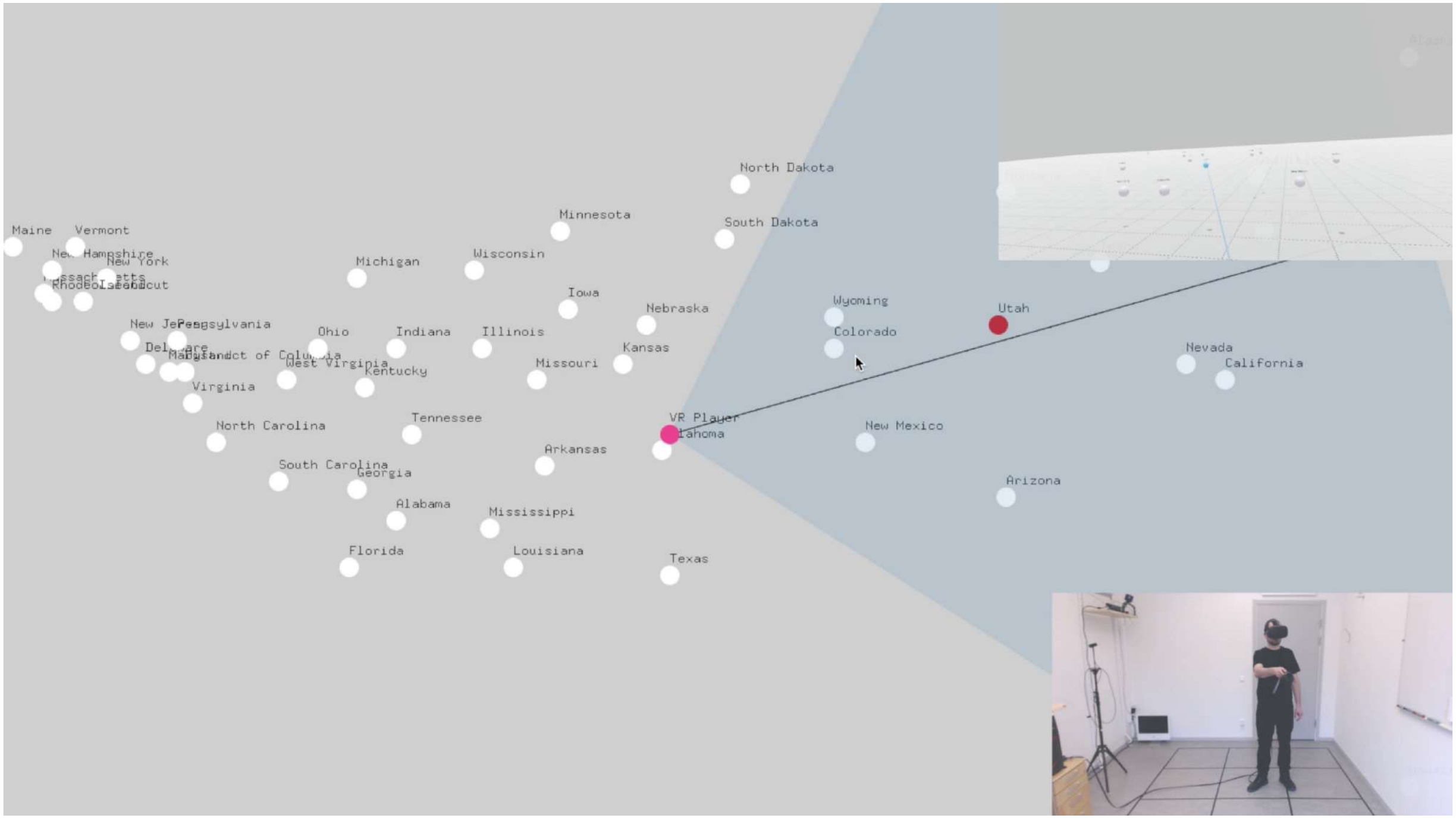


(open) data content from different sources, in different (media) formats

Current activities at VRxAR Labs

Open Data Exploration in VR

Virtual Reality (VR)

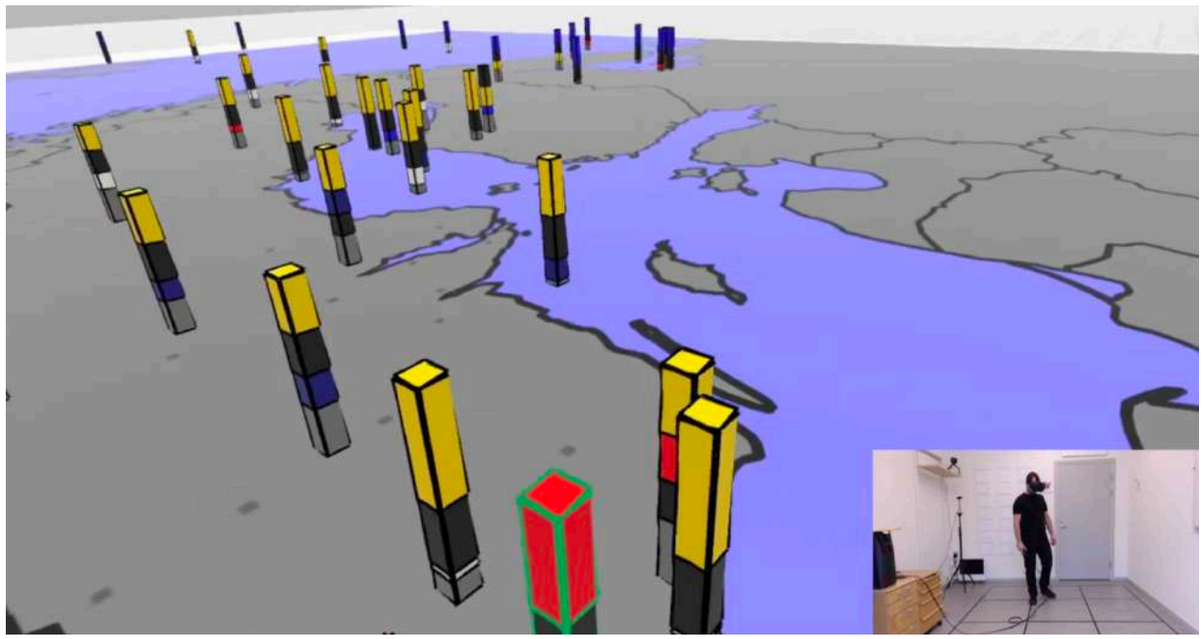


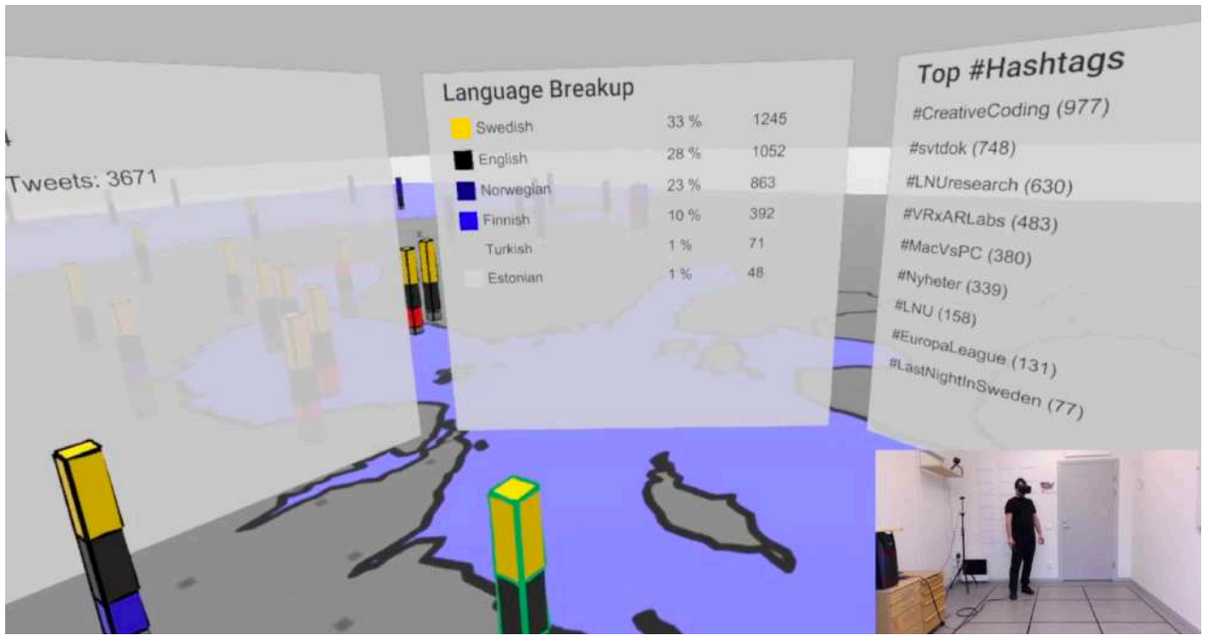
via vimeo.com/vrxar/odxvr-demo

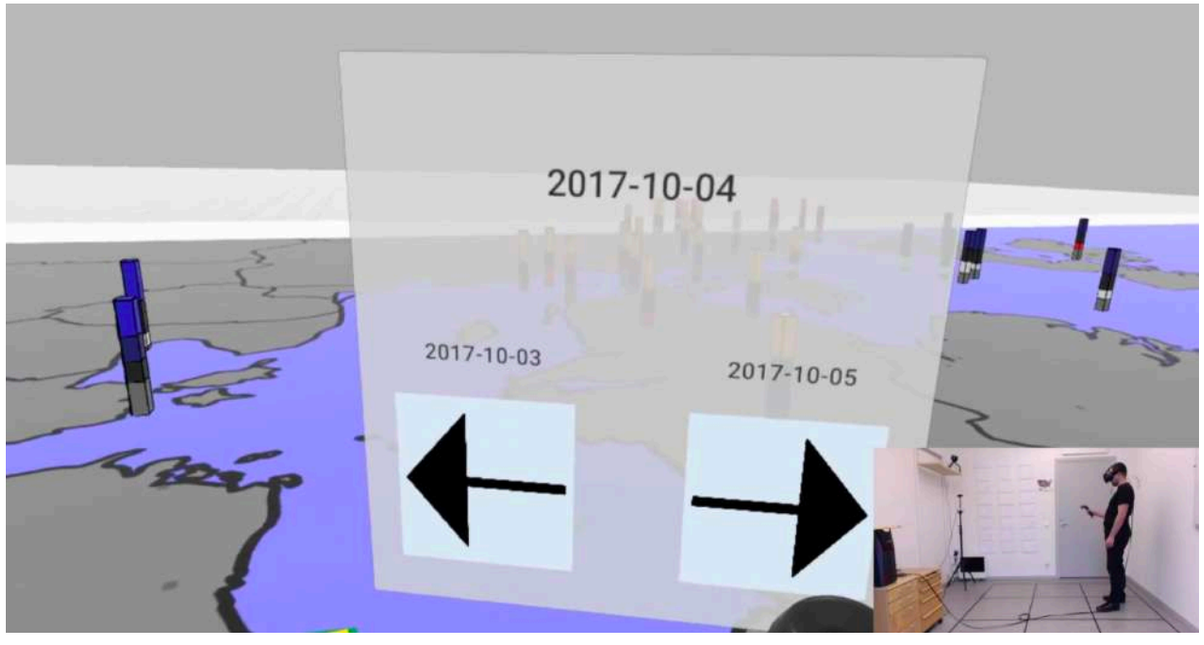
Current activities at VRxAR Labs

Exploring Twitter data of the Nordic Tweet Stream (NTS) in VR

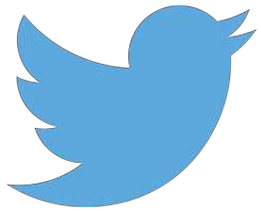
Virtual Reality (VR)

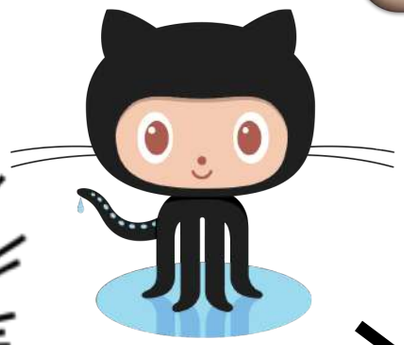






via vimeo.com/vrxar/odxvr-x-nts-wip2017



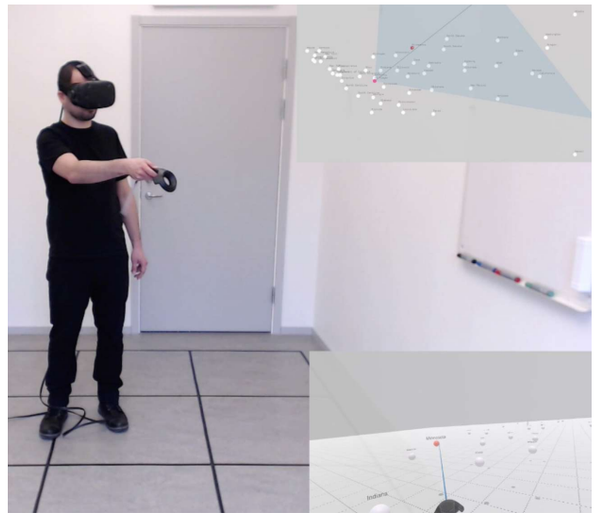


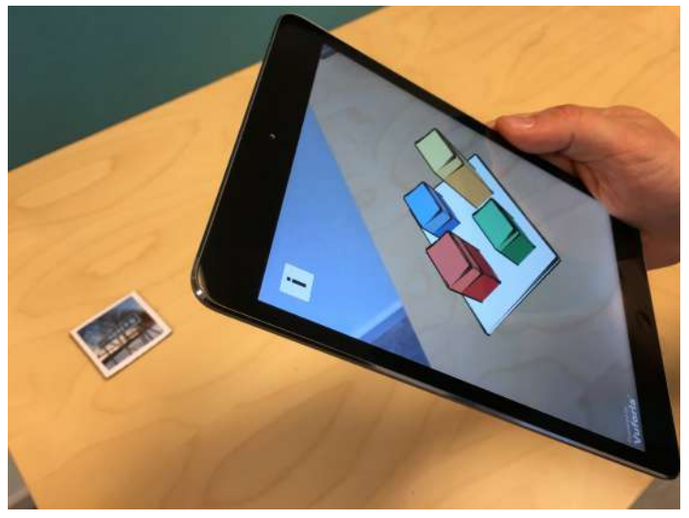
OPEN KNOWLEDGE

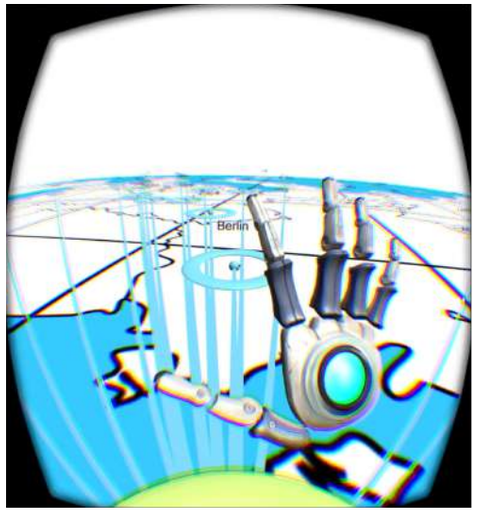
Aggregation

Visualization

Interaction







- Building Virtual Reality

  by Jody Medich and Daniel Plemmons
- VRCH - Virtual Reality Architecture

  by Daniel Voshart
- Immersive Design: Learning to let go of the screen

  by Matt Sundstrom
- VIRTUAL REALITY

  by Steven M. LaValle

Contact

Nico Reski

reski.nicoversity.com

@nicoversity

nico.reski@lnu.se

(PGP Key ID: B061D75B,
PGP Fingerprint: E826 C9FF 1701 0BAC
CA98 308C 6772 4499 B061 D75B)

Office: HUS D 2269 A

VRxAR Labs

Faculty of Technology
Linnaeus University, Växjö

Additional references

Portal icons in the presentation available via
bit.ly/portaliconpack