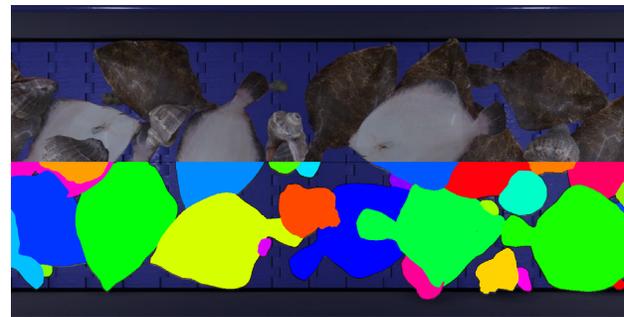
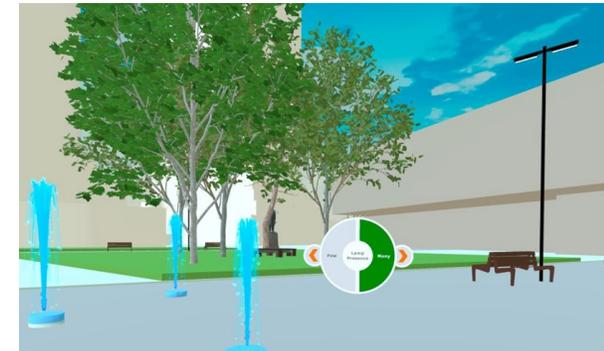
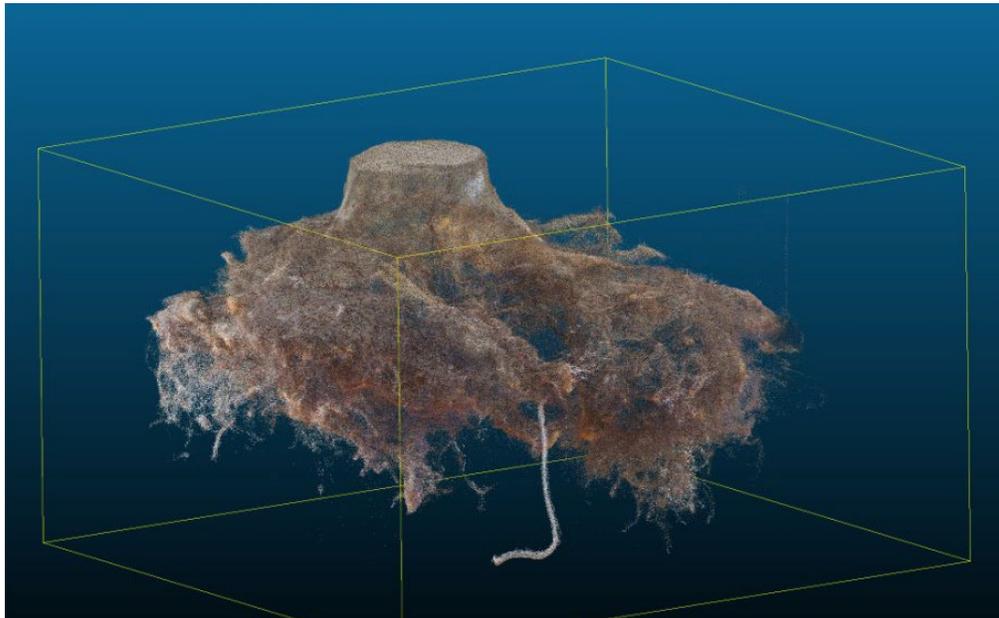
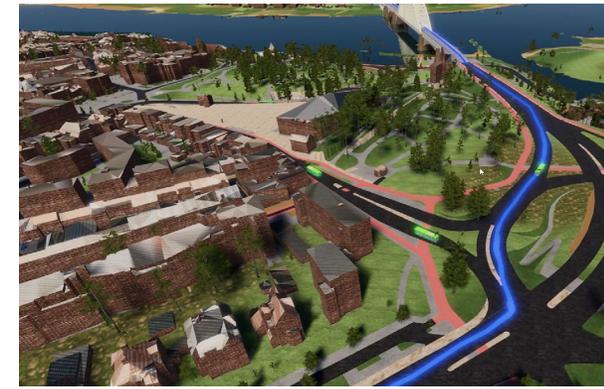
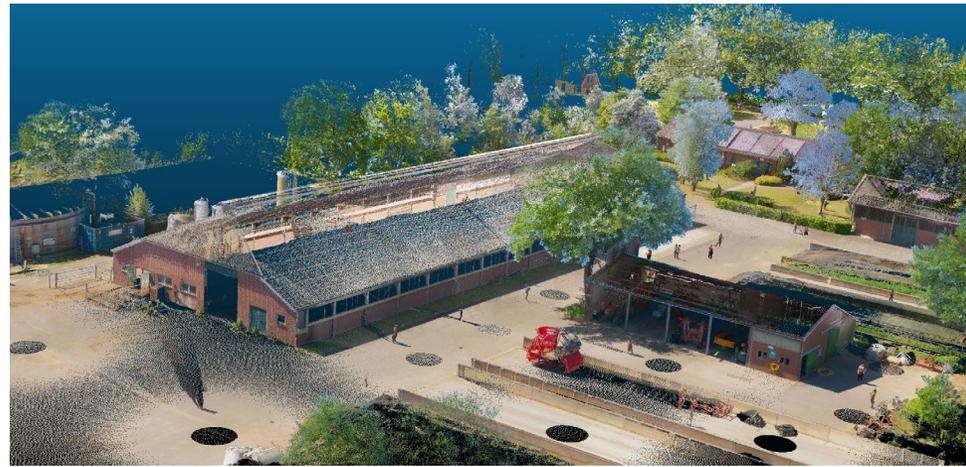


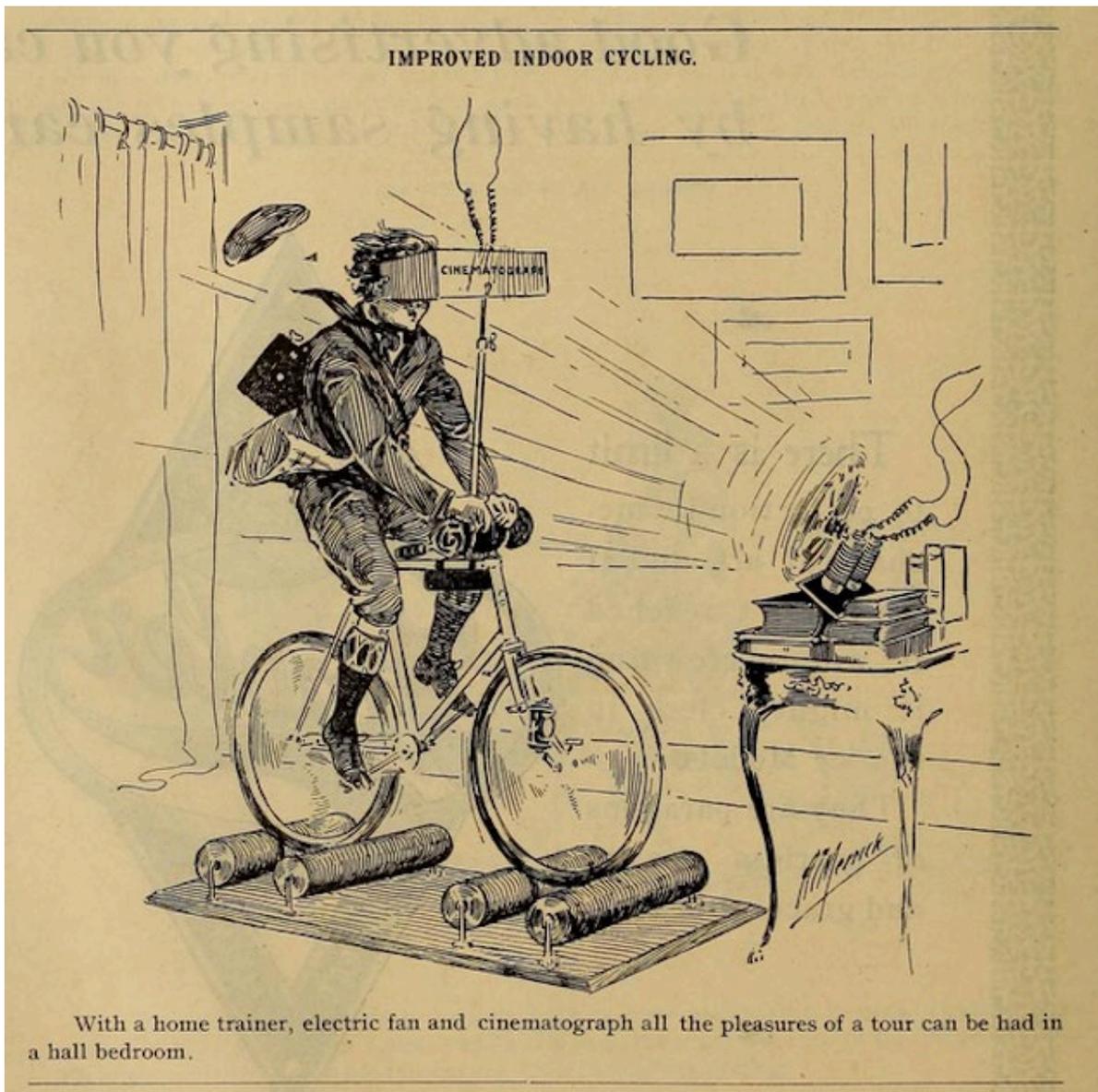
WANDER

XR Experience Lab

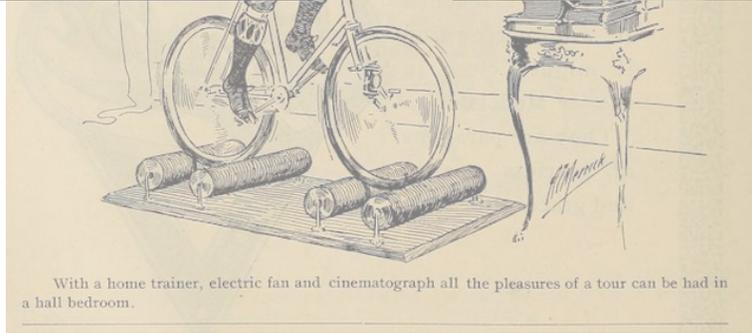


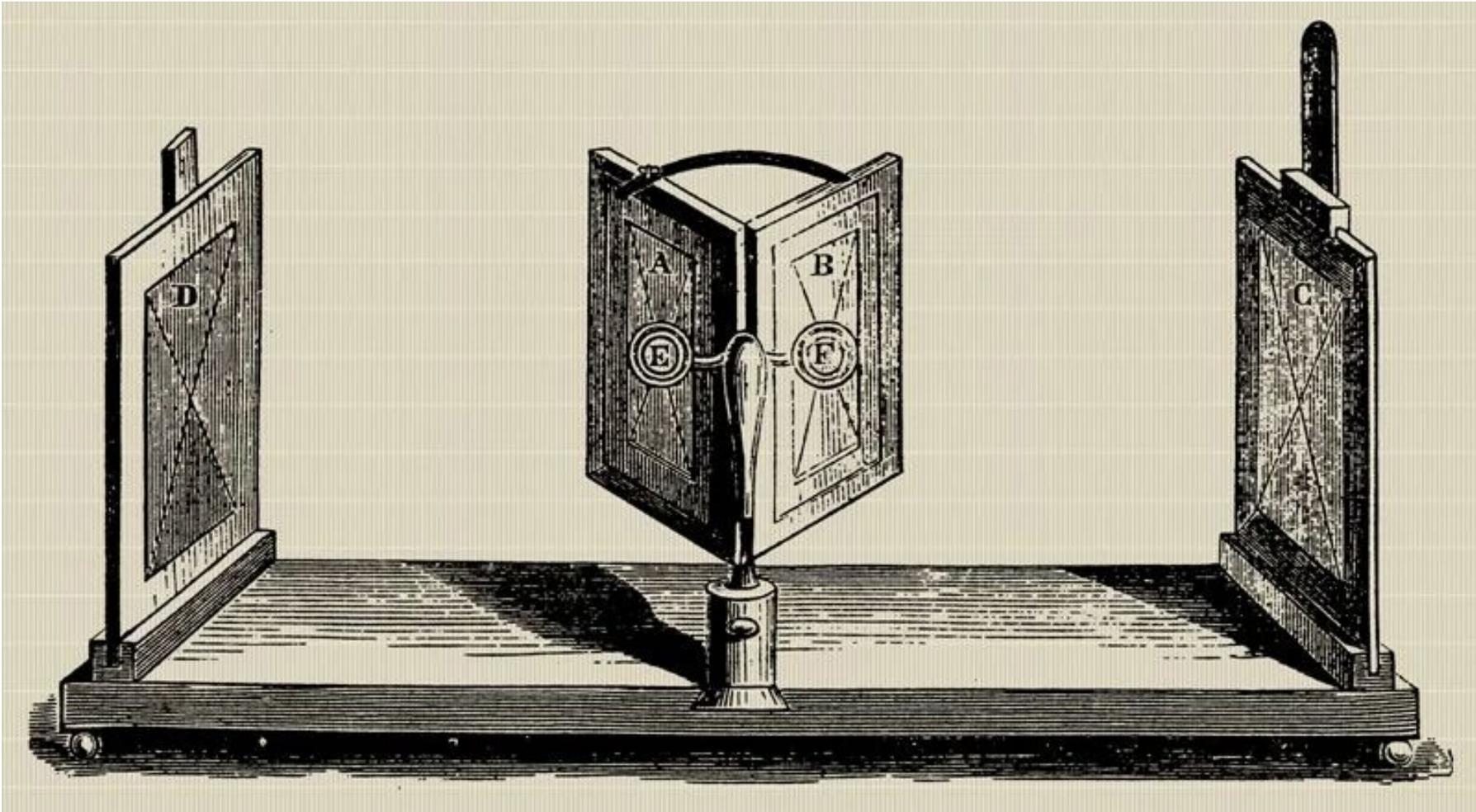
XR = Extended Reality
(AR/MR/VR)

IMPROVED INDOOR CYCLING.

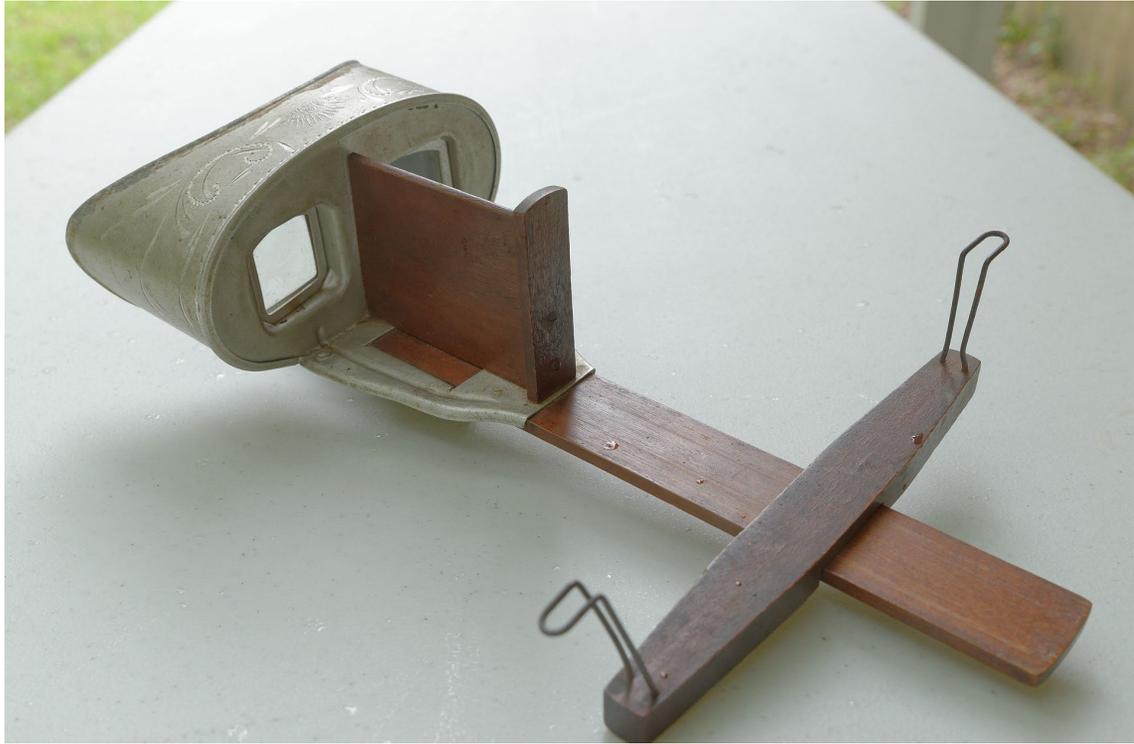


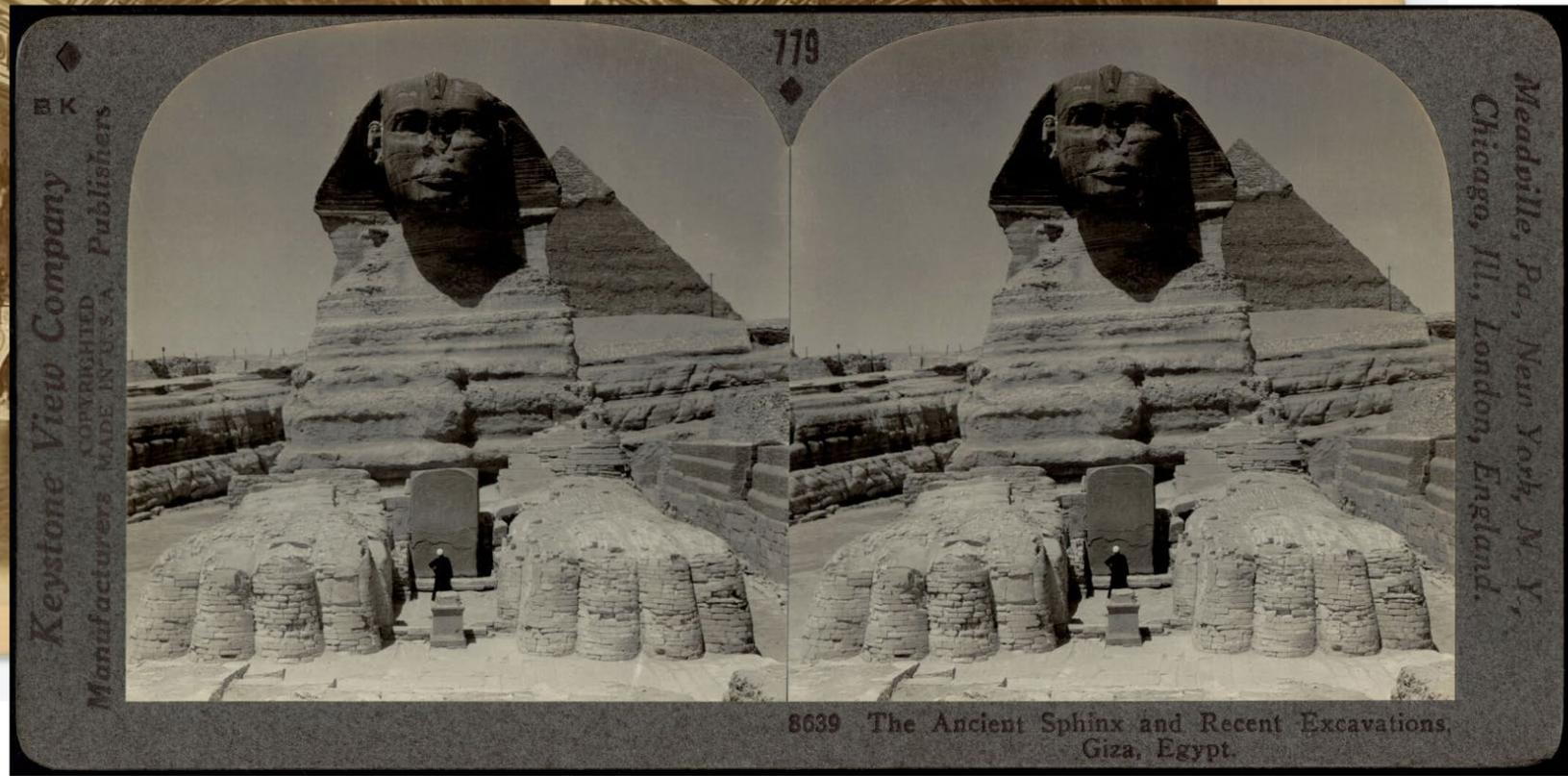
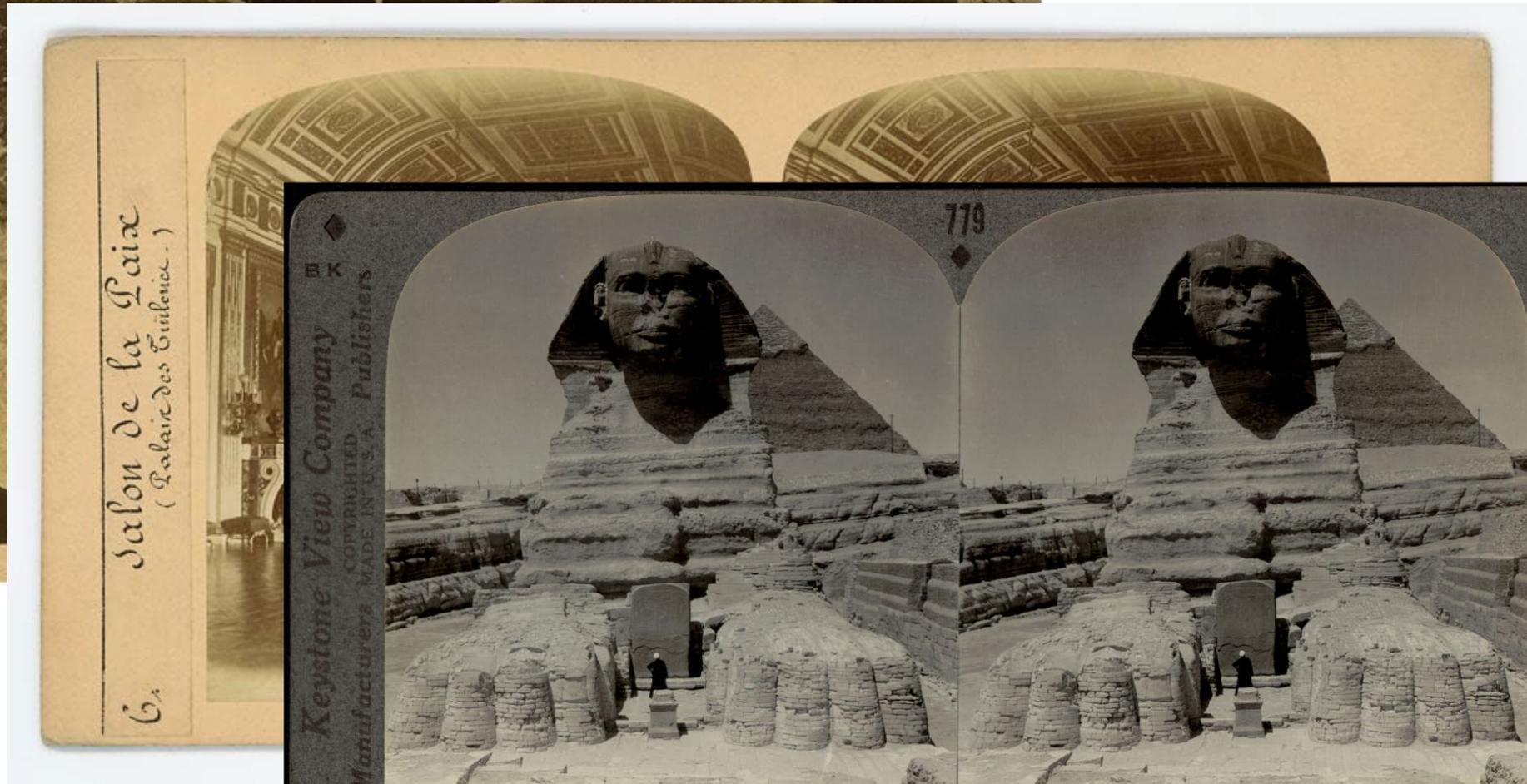
With a home trainer, electric fan and cinematograph all the pleasures of a tour can be had in a hall bedroom.





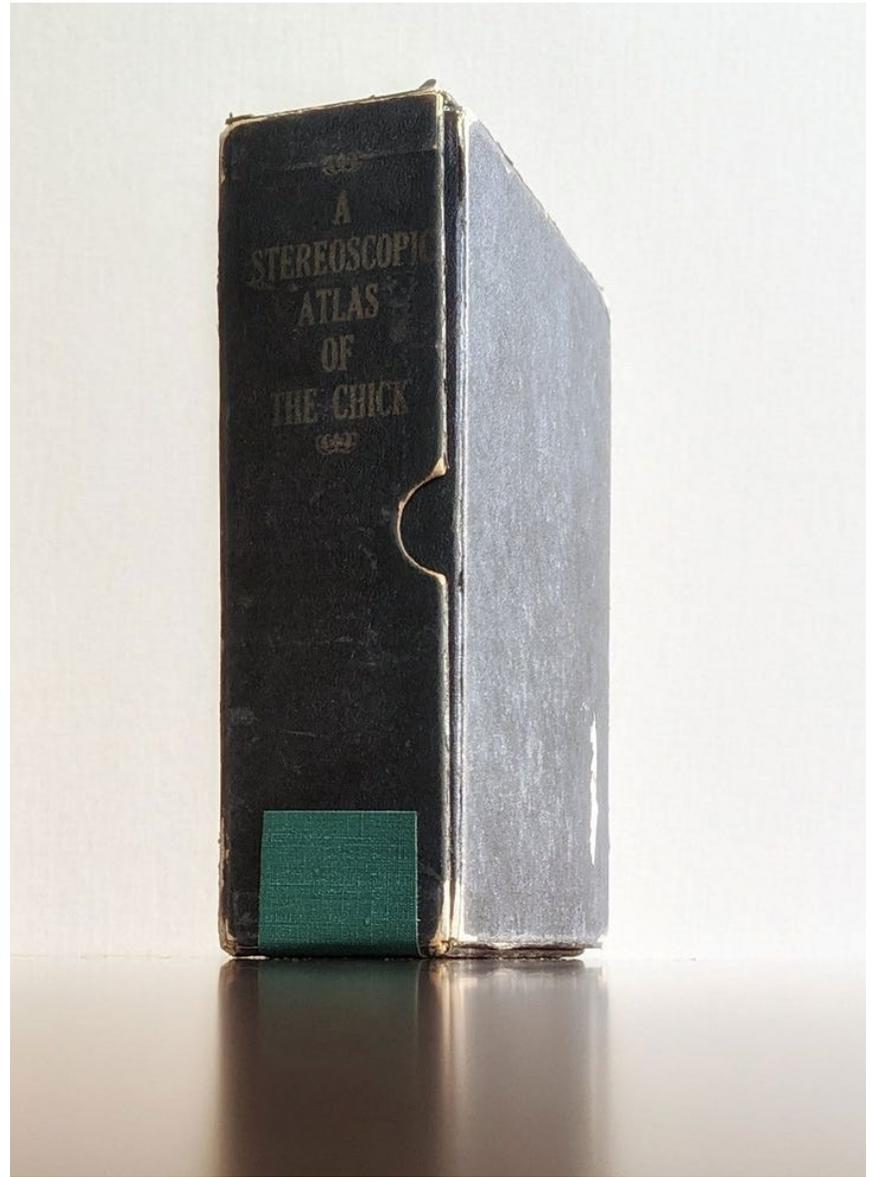






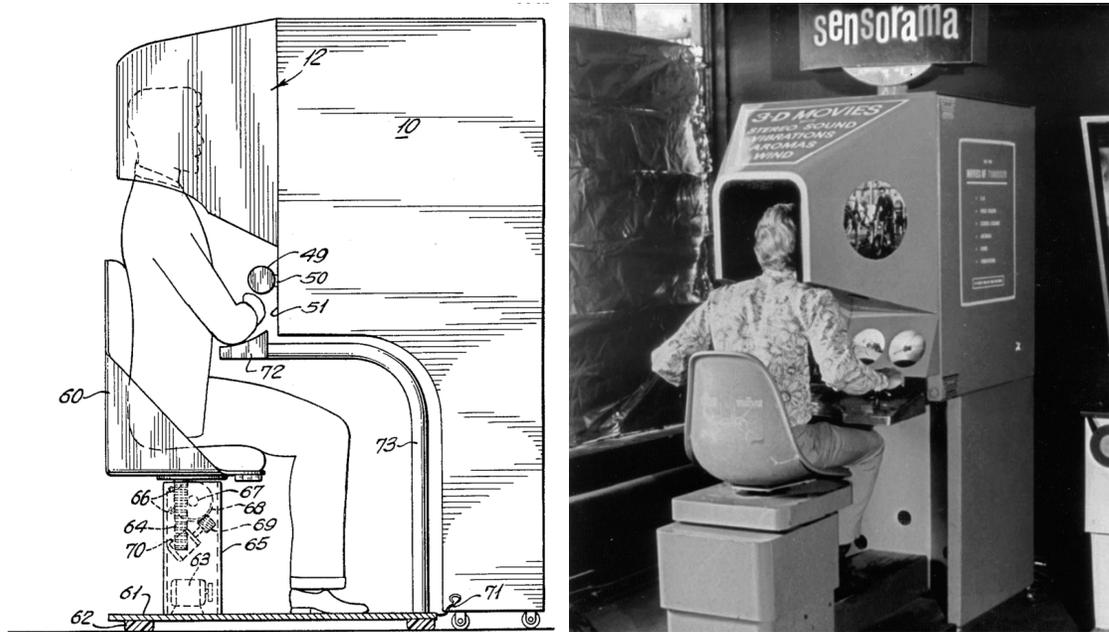








1962



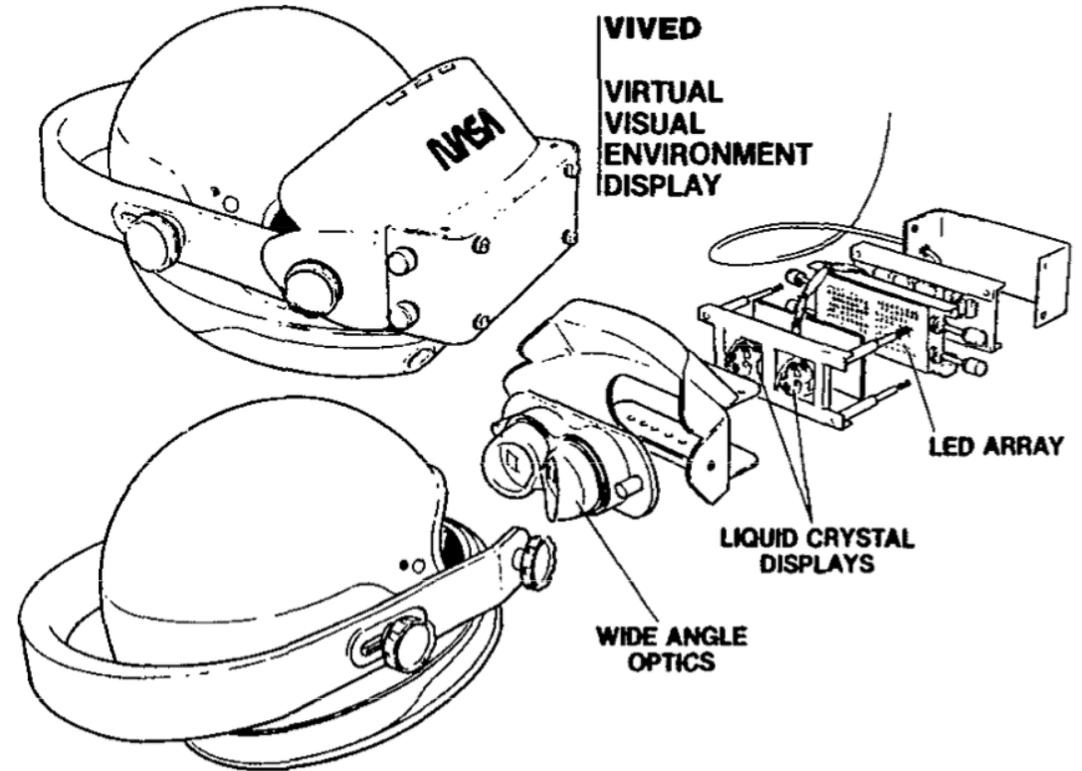
Sensorama

1968



The Sword of Damocles

1989





1995



2012



2014



2013



2016





Metaverse Market Map

Experience Discovery Creator Economy Spatial Computing Decentralize Human Interface Infrastructure

The market map is organized into seven columns, each representing a different sector of the metaverse ecosystem. The 'Experience' column is the most densely populated, featuring major gaming and entertainment brands like Fortnite, Meta, and Nintendo. The 'Discovery' column includes social media and search engines such as Facebook, Discord, and Google. The 'Creator Economy' column lists game engines and development tools like Unity, Unreal Engine, and Roblox. The 'Spatial Computing' column features AR/VR hardware and software providers such as Apple, Microsoft, and Oculus. The 'Decentralize' column is filled with blockchain and Web3-related logos including Ethereum, Bitcoin, and various NFT marketplaces. The 'Human Interface' column shows VR headsets and input devices from companies like Meta, PlayStation, and HTC. The 'Infrastructure' column lists cloud providers, hardware manufacturers, and network service providers like AWS, Google Cloud, and Intel.

V7.0 – August 2022 - Building the Metaverse
Jon Radoff





XR ERA



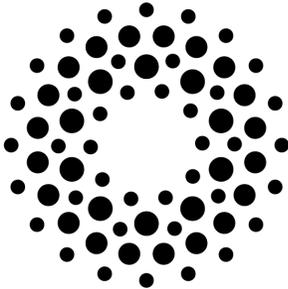
Special Interest
Group Virtuality



SMART



CI/C

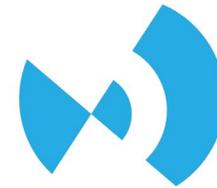


Npuls





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ZonMw

A systematic review of Virtual Reality in education

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Abstract. Virtual reality has existed in the realm of education for over half a century. However, its widespread adoption is still yet to occur. This is a result of a myriad of limitations to both the technologies themselves, and the costs and logistics required to deploy them. In order to gain a better understanding of what these issues are, and what it is that educators hope to gain by using these technologies in the first place, we have performed both a systematic review of the use of virtual reality in education, as well as two distinct thematic analyses. The first analysis investigated the applications and reported motivations provided by educators in academic literature on virtual reality educational systems, while the second investigated the factors associated with doing so. These analyses indicate that the majority of virtual reality implementations aim to increase the intrinsic motivation of students, and refer to factors such as constructivist pedagogy, collaboration, and gamification of their experiences. Similarly, a small number of educational areas across the majority of educational virtual reality implementations identified in our review were introduced and compared a multitude of recent virtual reality

The Effect of Stereoscopic Augmented Reality Visualization on Learning Anatomy and the Modifying Effect of Visual-Spatial Abilities: A Double-Center Randomized Controlled Trial

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Monoscopically projected three-dimensional (3D) visualization technology may have significant disadvantages for students with lower visual-spatial abilities despite its overall effectiveness in teaching anatomy. Previous research suggests that stereopsis may facilitate a better comprehension of anatomical knowledge. This study evaluated the educational effectiveness of stereoscopic augmented reality (AR) visualization and the modifying effect of visual-spatial abilities on learning. In a double-center randomized controlled trial, first- and second-year (bio)medical undergraduates studied lower limb anatomy with stereoscopic 3D AR model ($n = 20$), monoscopic 3D desktop model ($n = 20$), or two-dimensional (2D) ana-

Enhancing Agricultural Education through Virtual Reality: Facilitation, Application, Reflection, and Measurement in the Classroom

J. Greig¹, B. Colclasure², S. Rampold³, T. Ruth⁴, T. Granberry⁵

Abstract

This agricultural development methods paper presents the Virtual Reality Facilitation, Application, Reflection, and Measurement (VRFARM) framework, an approach for integrating and evaluating Virtual Reality (VR) in agricultural education to enhance agricultural literacy. The VRFARM framework is adapted from Biggs' three key components—presage, process, and product. It draws upon the principles of student learning, teaching environments, instructional design, and measurement-based evaluations. The mixed-methods approach for evaluation, using quantitative data from teachers and students in the classroom. VR, when appropriately integrated into the classroom, is designed to improve students' engagement and awareness. Major development programs for educators on VR

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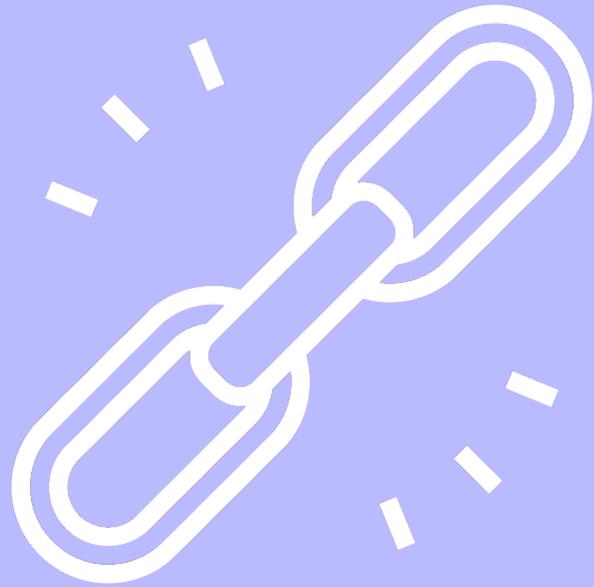
Published: January 31, 2024

Keywords

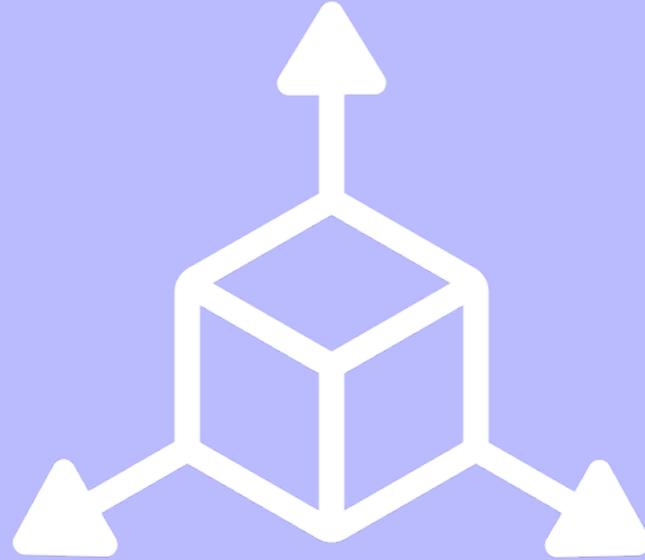
virtual reality integration; agricultural literacy enhancement; VRFARM model



Wat kan XR voor het onderwijs betekenen?



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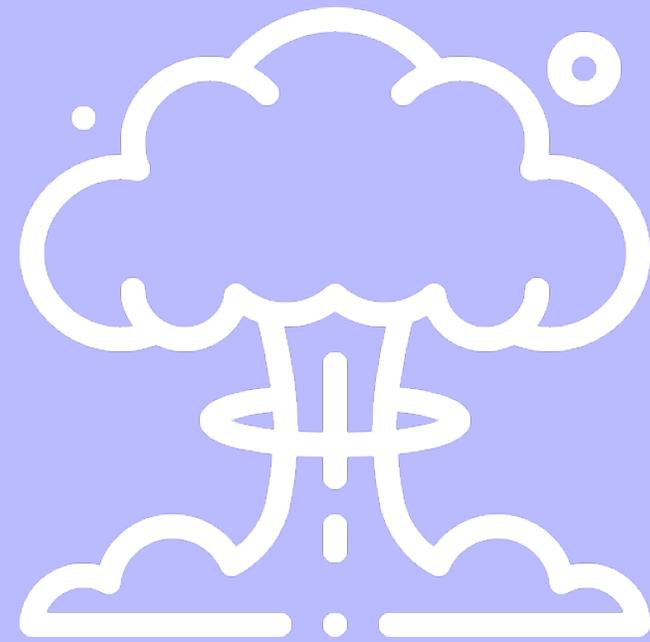
Ruimtelijk
voorstellingsvermogen



Toename leereffectiviteit
en rendement



Affectief
leren



Gevaarlijke of
onbereikbare situaties



Herhaalbare, multi-
user leerervaring

