



The Metaverse

Who Are We ?



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Docent MCT

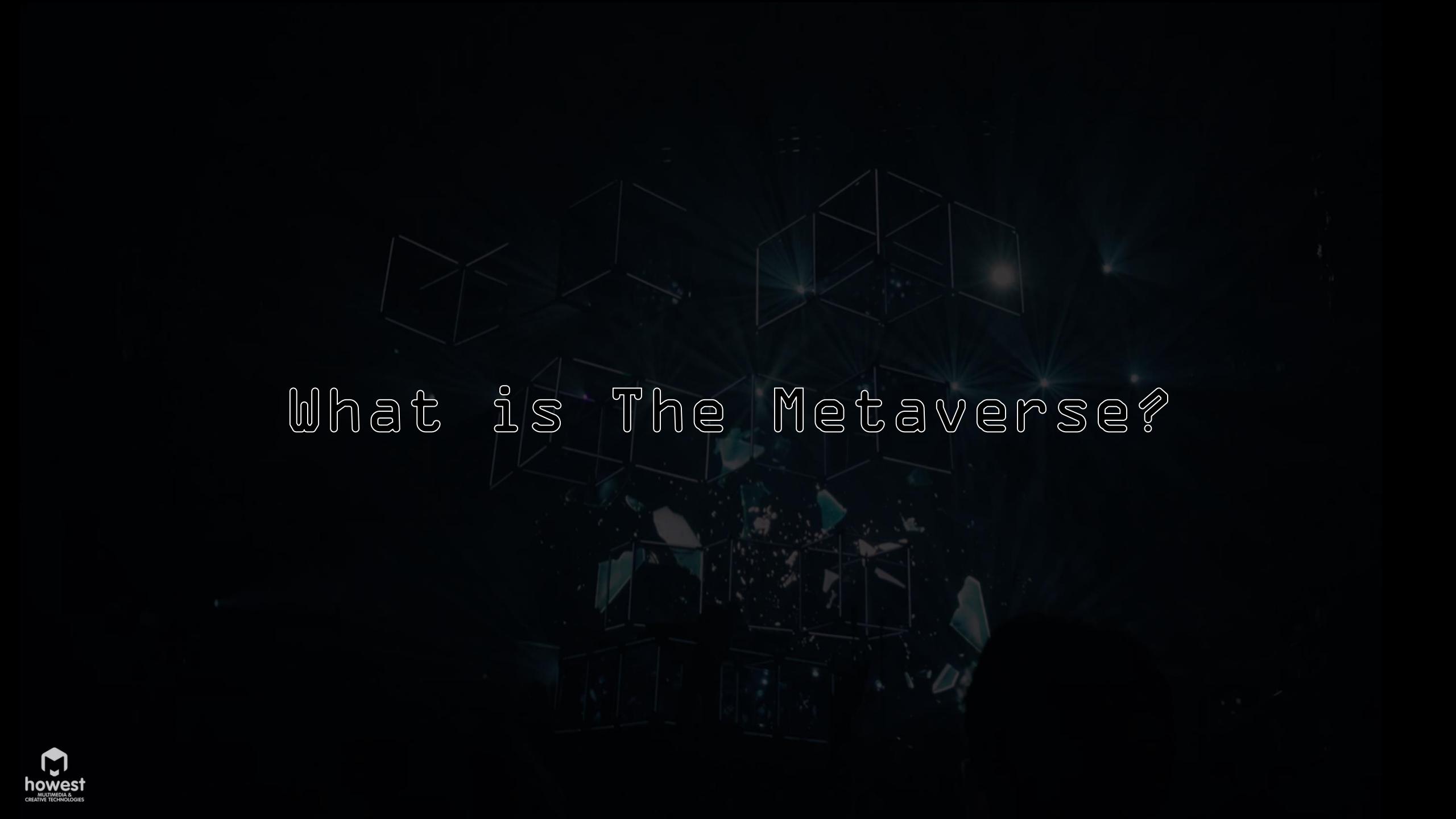


Wim
Vandamme

Gastdocent MCT
Granstudio

Agenda

- What is the Metaverse ?
- Early implementations of the Metaverse.
- Is the Metaverse Good or Bad ?
- What technologies are being used to build the Metaverse ?
 - Blockchain / NFT
 - Game Engines
 - XR / VR / MR / XR
- Howest MCT - Smart XR Developer track



What is The Metaverse?

We are humans !

We teach, We learn, We entertain, We like, ...



information



information

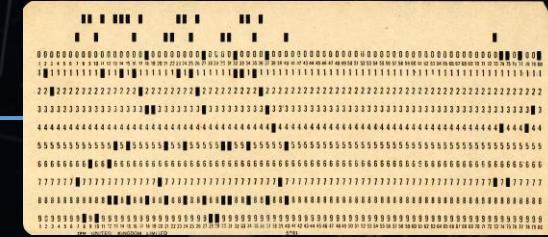


We are Digital humans!

We teach, We learn, We entertain, We like, ...



information



information



We are Connected humans!

We teach, We learn, We entertain, We like, ...



information



internet



information



We are online humans!

We teach, We learn, We entertain, We like, ...



information



internet



information



We are humans with avatars?

We teach, We learn, We entertain, We like, ...



Digital
identity



Physical
identity

Hiding
Physical
identity
on the
internet



Digital
identity



Physical
identity



We are humans with connected avatars?

We teach, We learn, We entertain, We like, ...



Digital
identity



Digital
identity



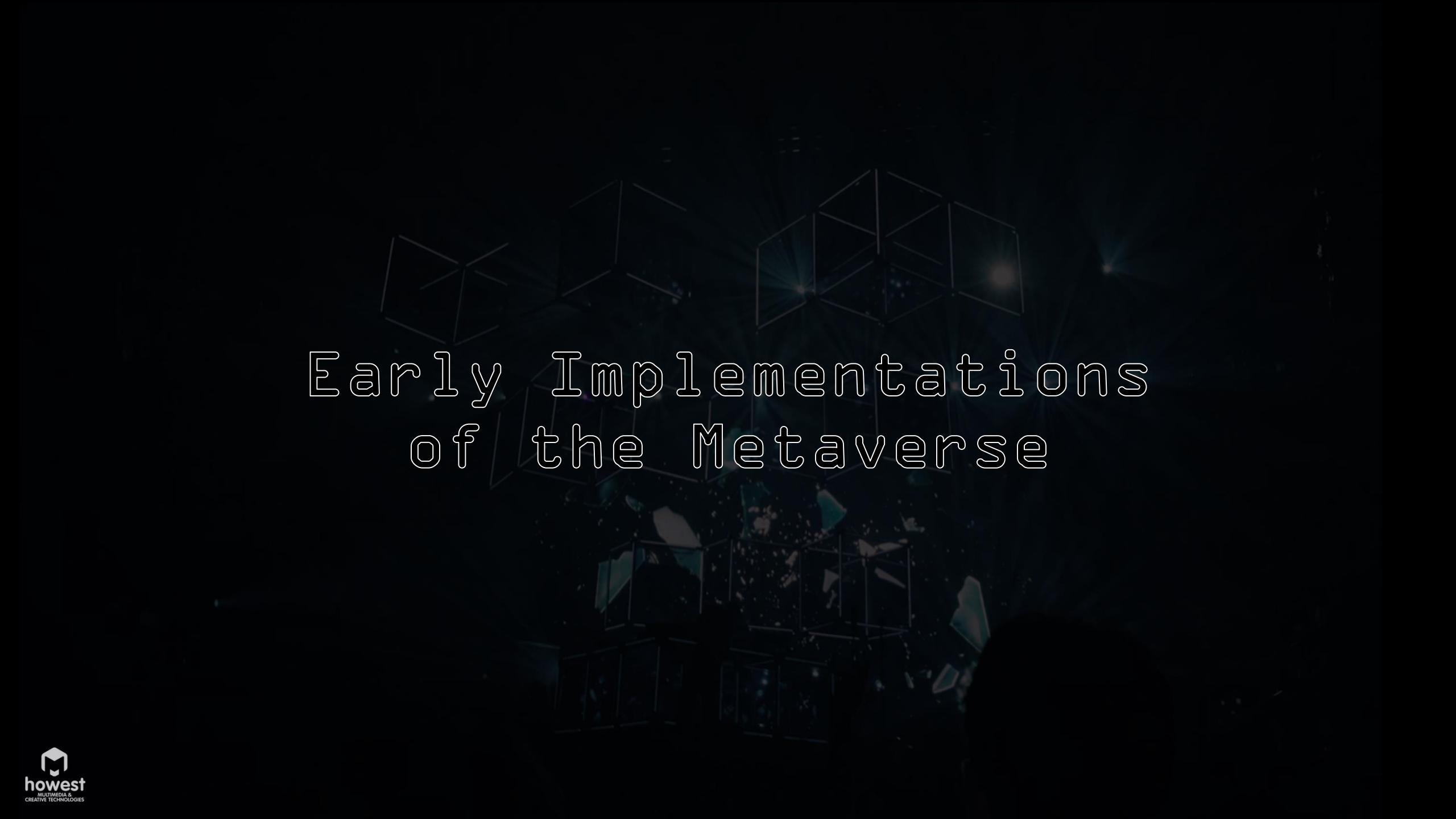
Physical
identity



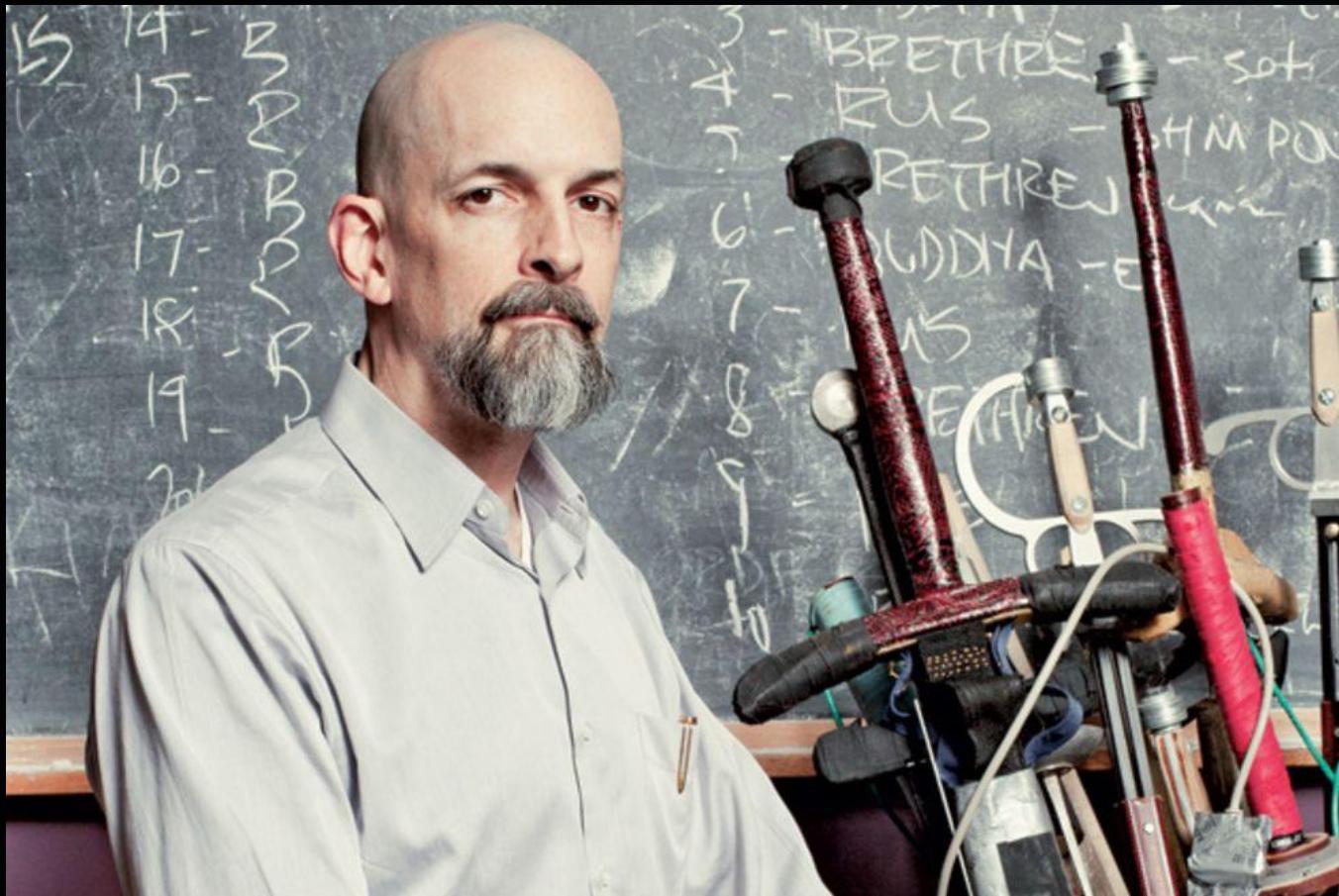
internet

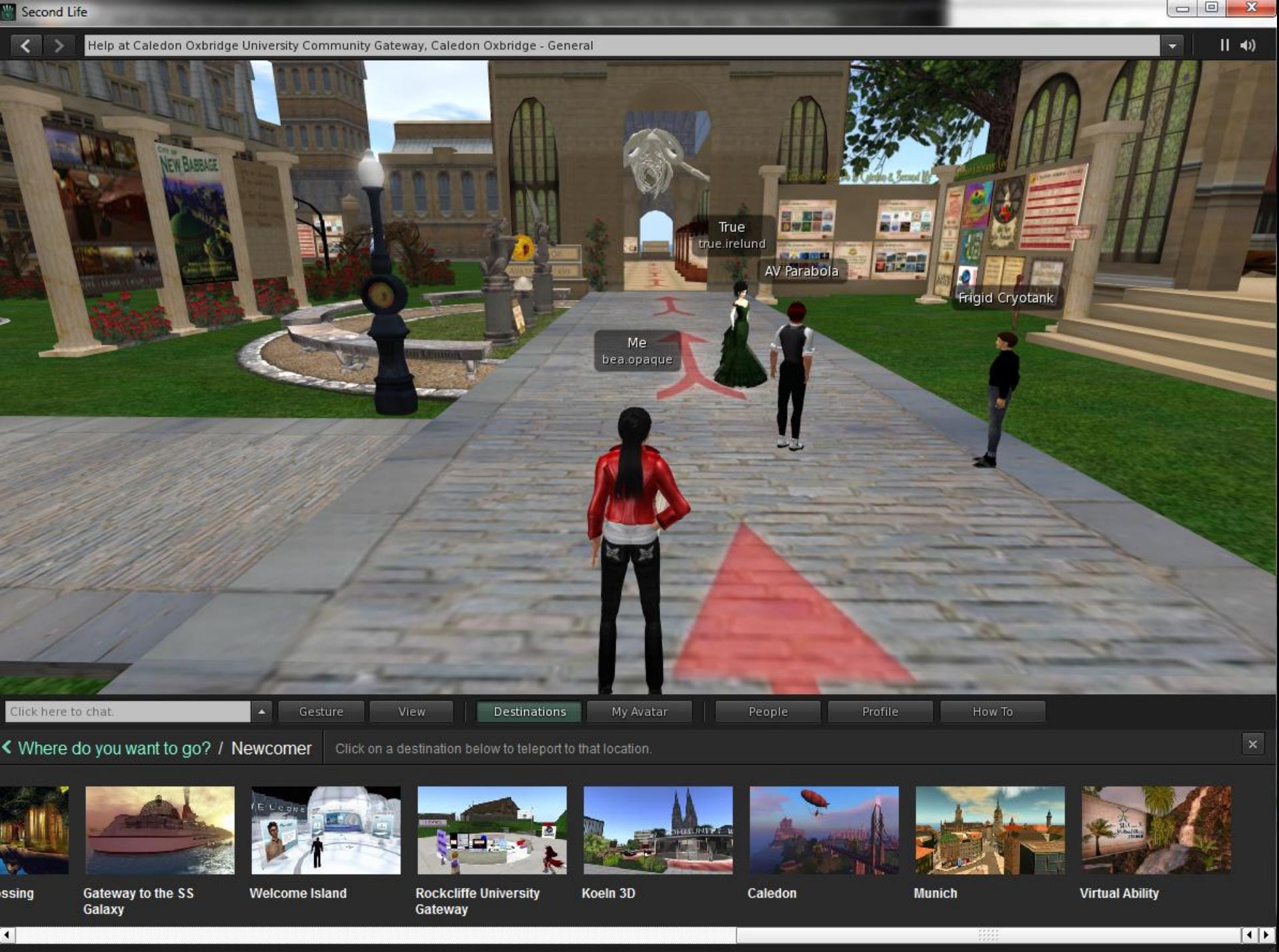
Physical
identity



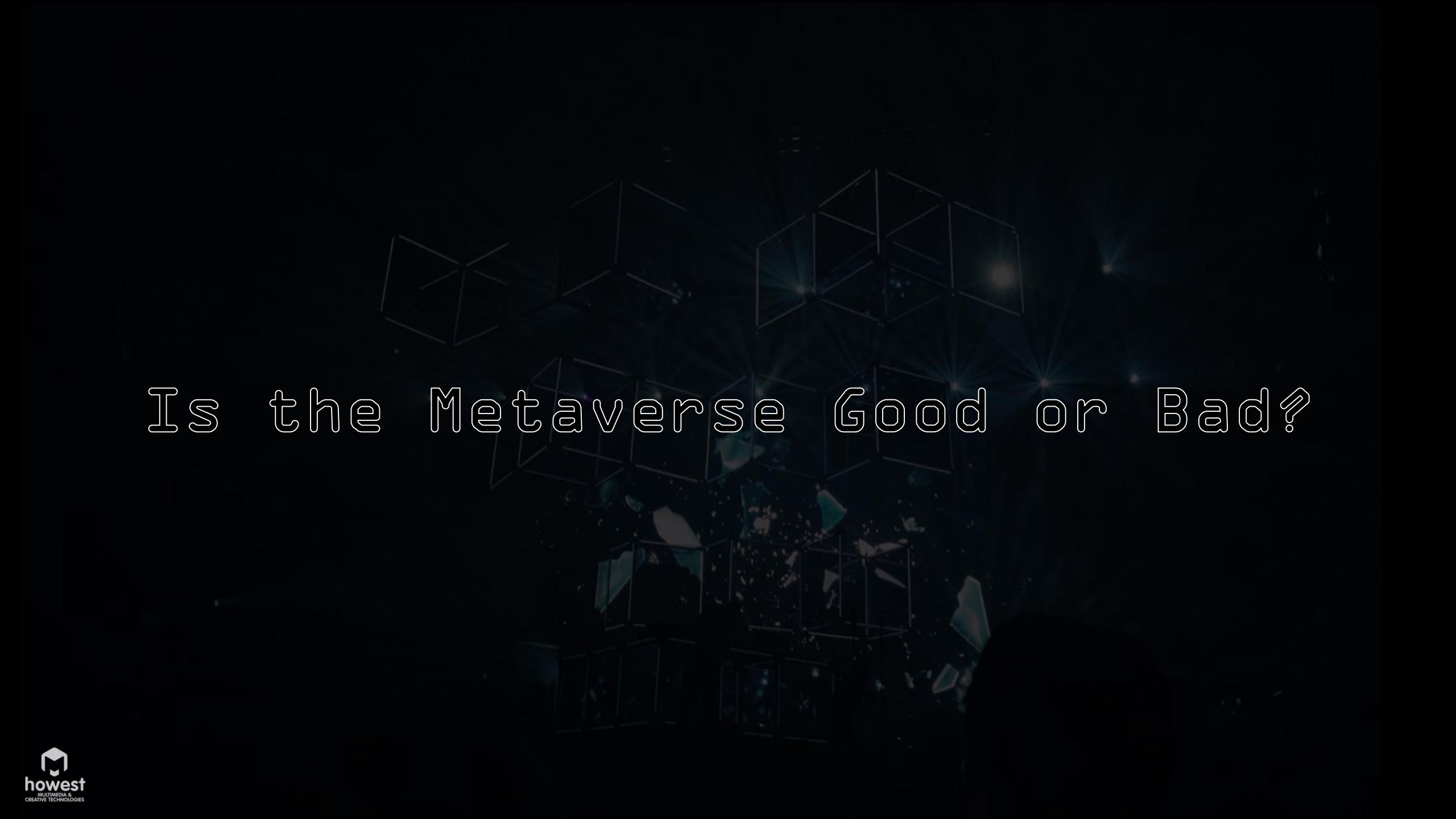
The background of the slide features a dark, futuristic scene. In the center, several translucent, glowing cubes are arranged in a grid-like pattern, emitting bright light rays. Smaller, similar glowing cubes are scattered throughout the dark space, some with lens flare effects. The overall atmosphere is mysterious and technological.

Early Implementations of the Metaverse







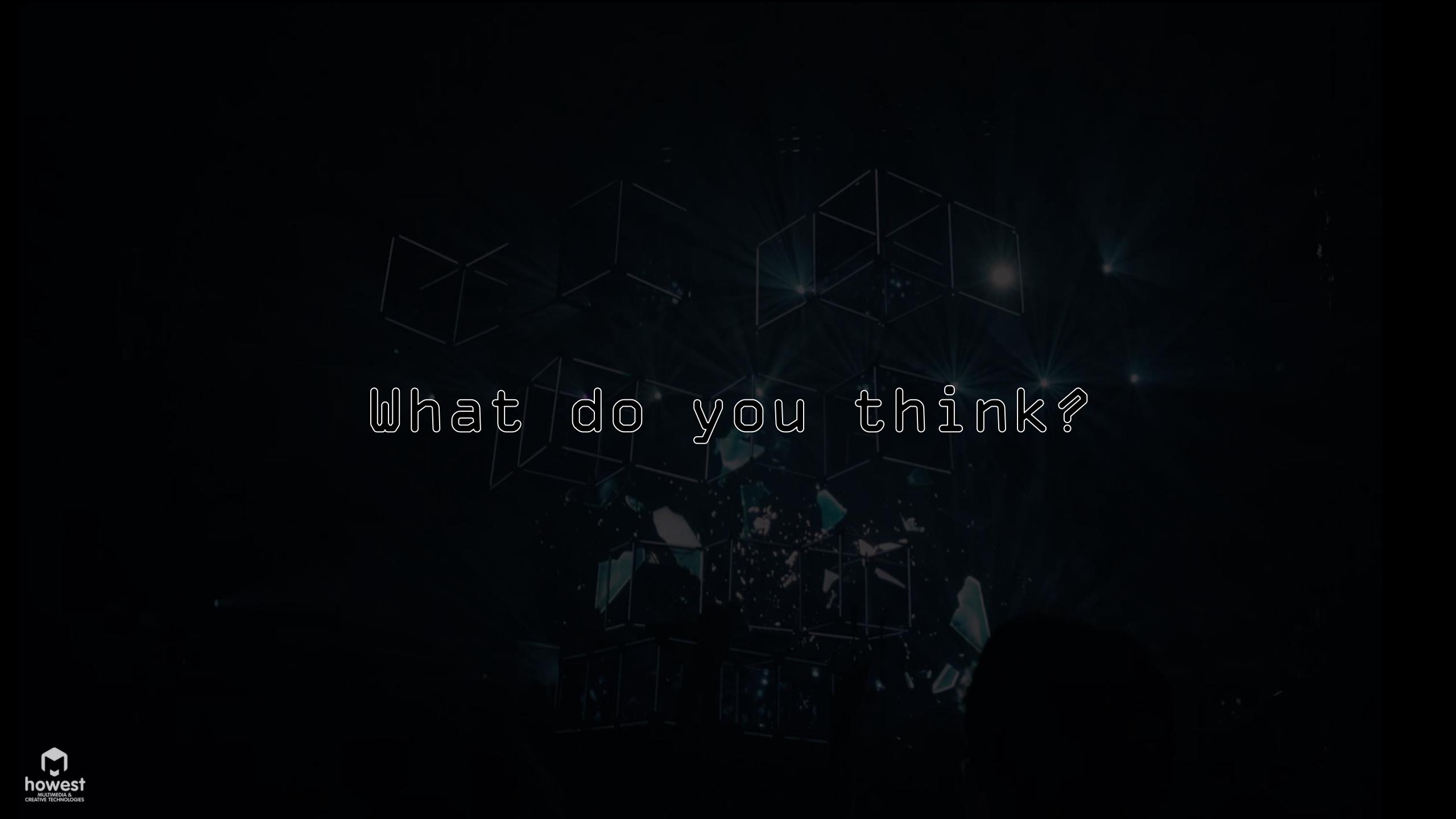


Is the Metaverse Good or Bad?

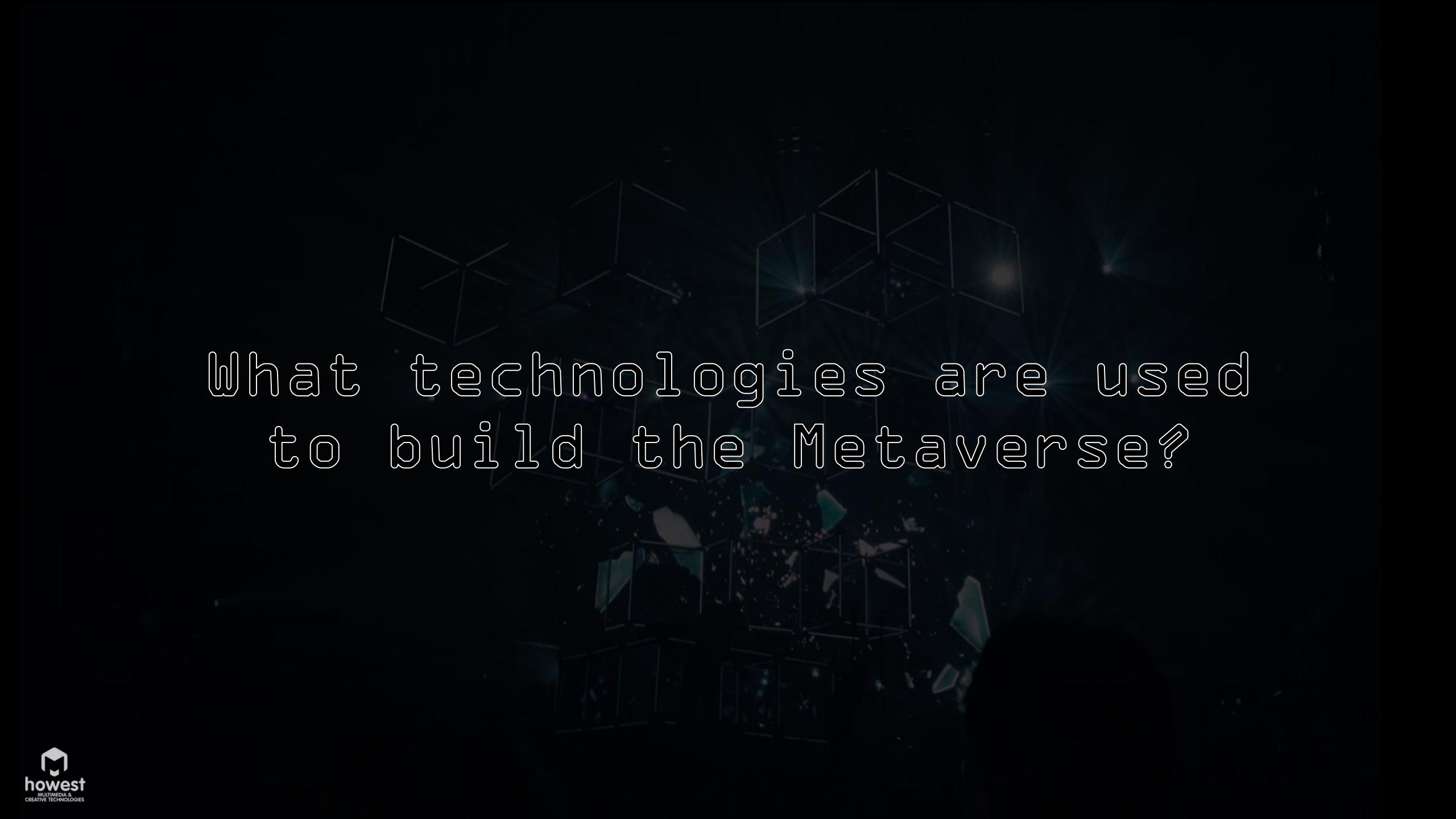


Is the Metaverse Good or Bad?

- Privacy: Is it a medicine or a poison?
- Physical - Virtual separation
 - Can we do -everything- in a virtual world?
 - Can a virtual identity die?
 - Can we humans mentally handle multiple identities?
- What about \$\$\$?
 - From physical to virtual (and back)
 - What about virtual taxes?



What do you think?

The background of the slide features a dark, futuristic theme with glowing blue and white geometric shapes, including cubes and hexagons, set against a dark, textured background.

What technologies are used
to build the Metaverse?

Blockchain / NFT

THE VERGE TECH ▾ REVIEWS ▾ SCIENCE ▾ CREATORS ▾ ENTERTAINMENT ▾ VIDEO MORE ▾ f t r s u S

Disneyland PARIS ANNULEER OF WIJZIG JE VERBLIJF MOMENTEEL KOSTEOLOS* © DISNEY

ENTERTAINMENT \ TECH \ CULTURE

Nike just bought a virtual shoe company that makes NFTs and sneakers 'for the metaverse'

RTFKT makes shoes too, except these only exist digitally

By Richard Lawler | @jcc | Dec 13, 2021, 8:45pm EST
If you buy something from a Verge link, Vox Media may earn a commission. See our [ethics statement](#).

f t SHARE



RTFKT made these A16Z sneakers to celebrate a round of venture capital funding | Image: RTFKT

One comparison I've heard repeatedly over the last year is that buying NFTs to "flex" on people in the metaverse is just like collecting sneakers, and now Nike is apparently trying to make sure it's ready for the literal version of that possibility. The apparel giant [just announced the acquisition of RTFKT Studios](#), which it calls "a leading brand that leverages cutting edge innovation to deliver next generation collectibles that merge culture and gaming."

40

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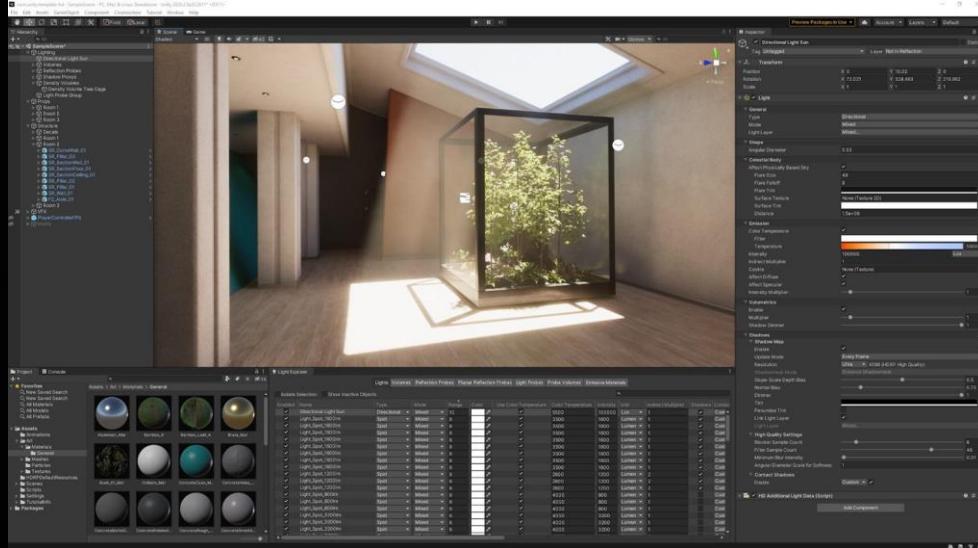
Blockchain / NFT

Ook Club Brugge biedt successen & collector's items digitaal aan als NFT



Club wil de markt van NFT's ontdekken.

Game Engines





The Sandbox



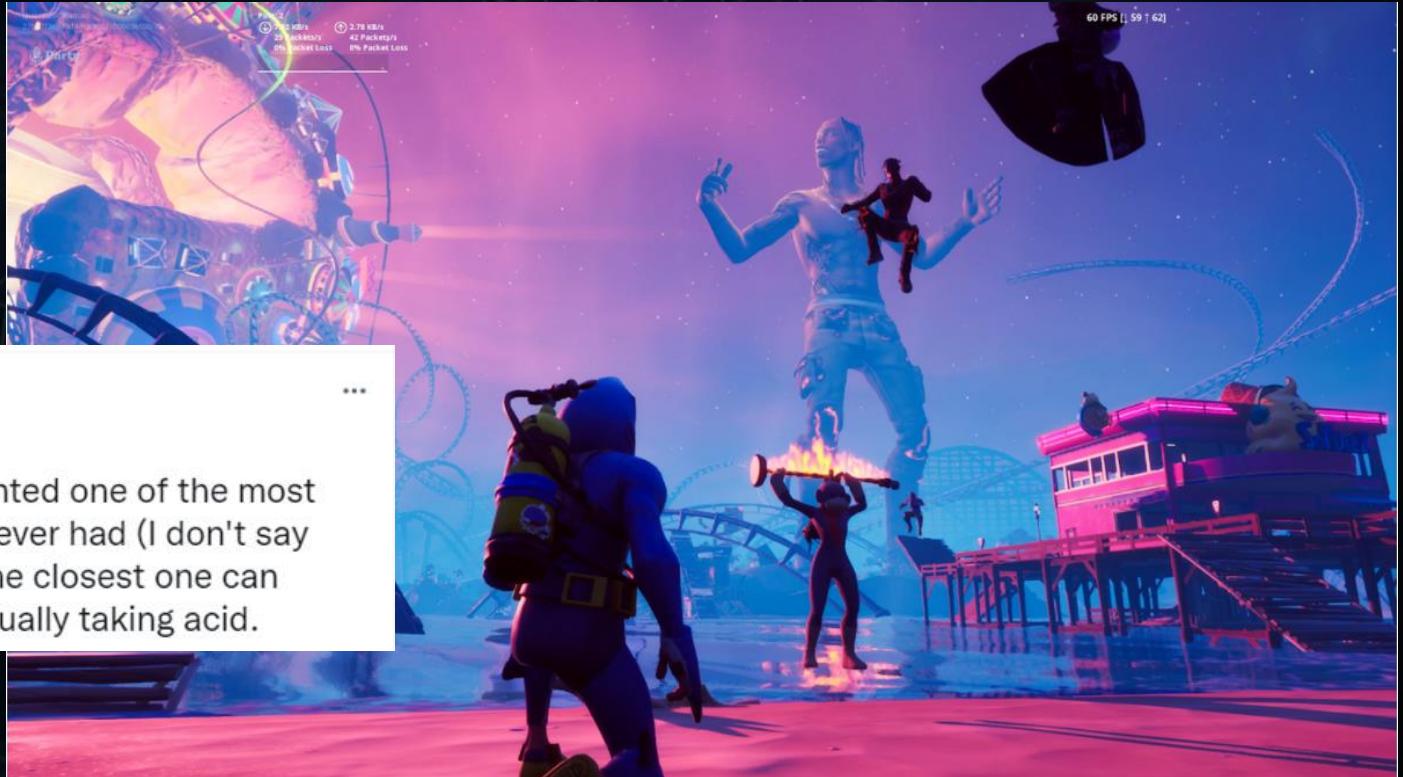


Fortnite



Travis Scott / Fortnite

12.3m players

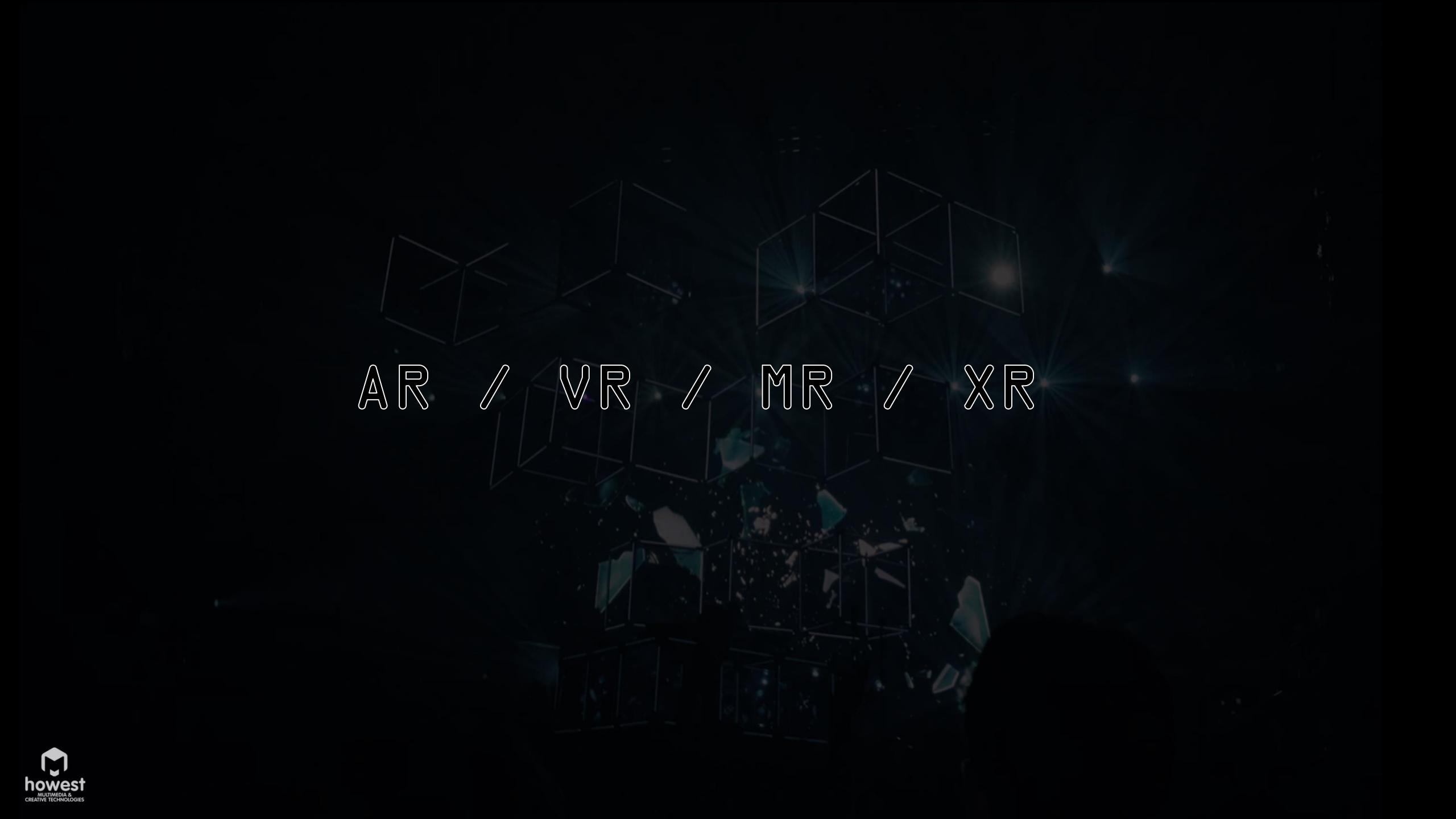


6/ The next 15 minutes represented one of the most intense digital experiences I've ever had (I don't say this lightly), and was arguably the closest one can come to taking acid without actually taking acid.



Roblox





AR / VR / MR / XR

EXTENDED REALITY



Real Life

Physical
Environment
Around Us



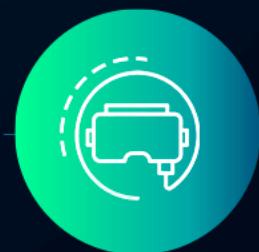
AR

Real-world
environment with
superimposed digital
objects



MR

Real-world
environment with
superimposed
interactive digital
objects



VR

Completely
digital
environment

Pokémon
GO

prime gaming







UA4795 UNITED

ORD ROA
Chicago Roanoke

14 mi away

DL2282 DELTA

FLL MSP
Fort Lauderdale Minneapolis

AIRCRAFT 7 mi away
Boeing 737-932(ER)

© James Bruno

Chicago Jacksonville

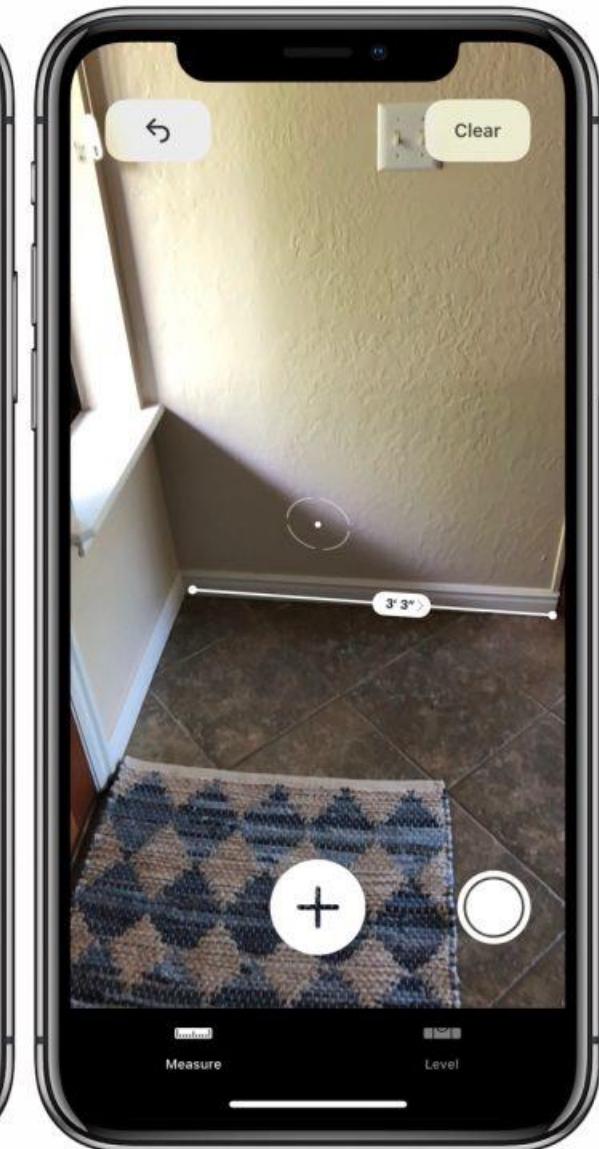
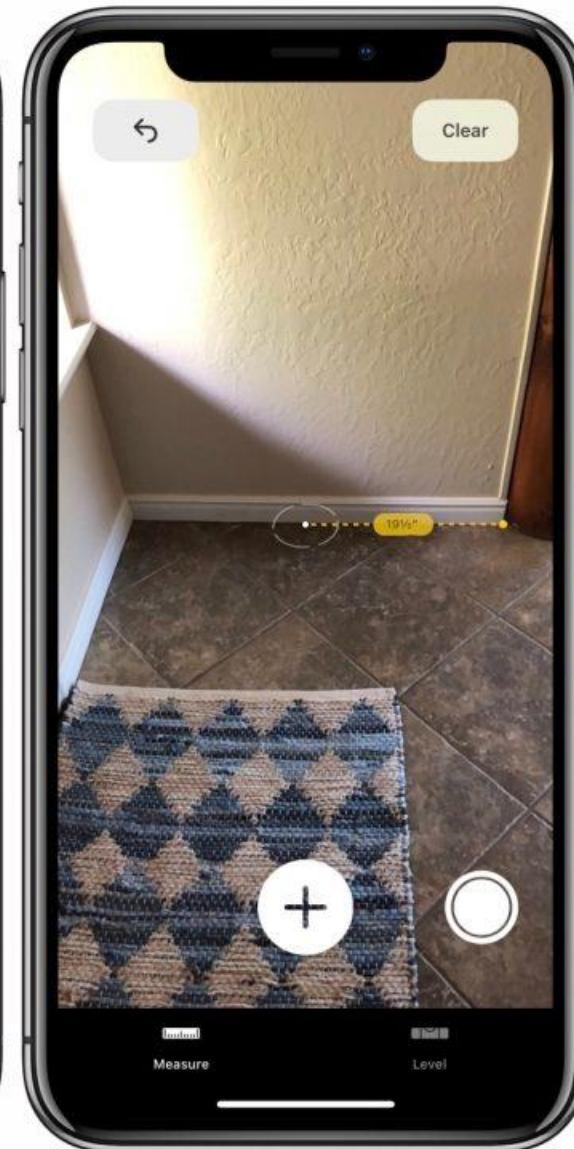
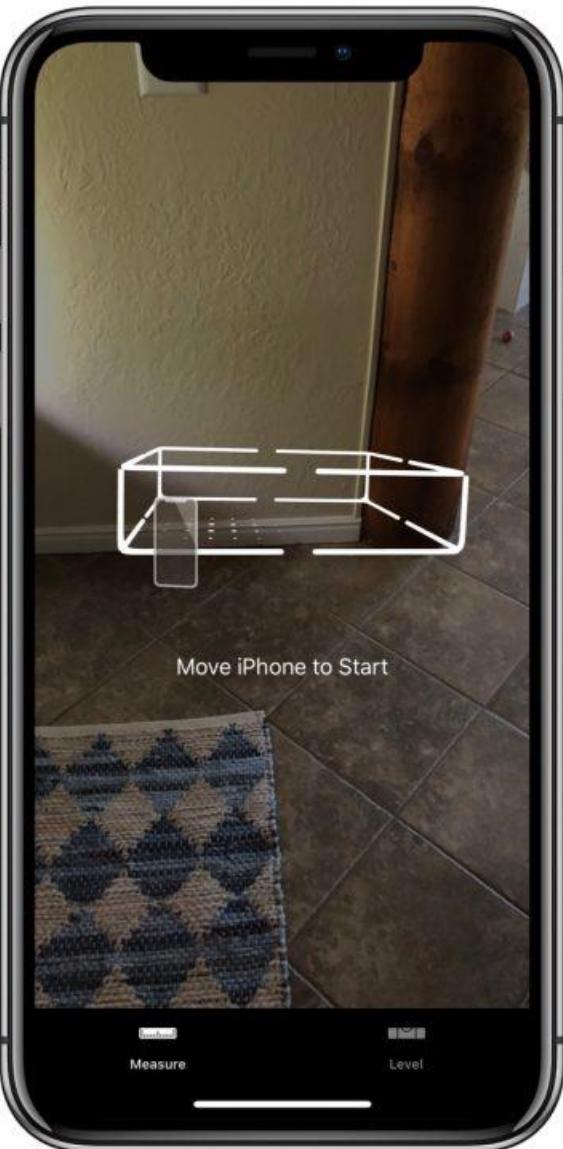
AIRCRAFT 15 mi away
Airbus A319-131

LJ60 N/A AA601

GAJ830 DPA
ORD Chicago

29 m







OFFICIALLY
AMAZING



10 Greece #GRE









DIAMETERS, FASTENERS AND ANY OTHER INFORMATION
DISPLAYED EASILY AND CLEARLY GIVING UNPRECEDENTED
GAINS IN EFFICIENCY AND REDUCTION IN ERROR

FASTENER 8164

FASTENER T16C

APPLY SEALANT





FIELD TRIP TO MARS



GAME TECHNOLOGY







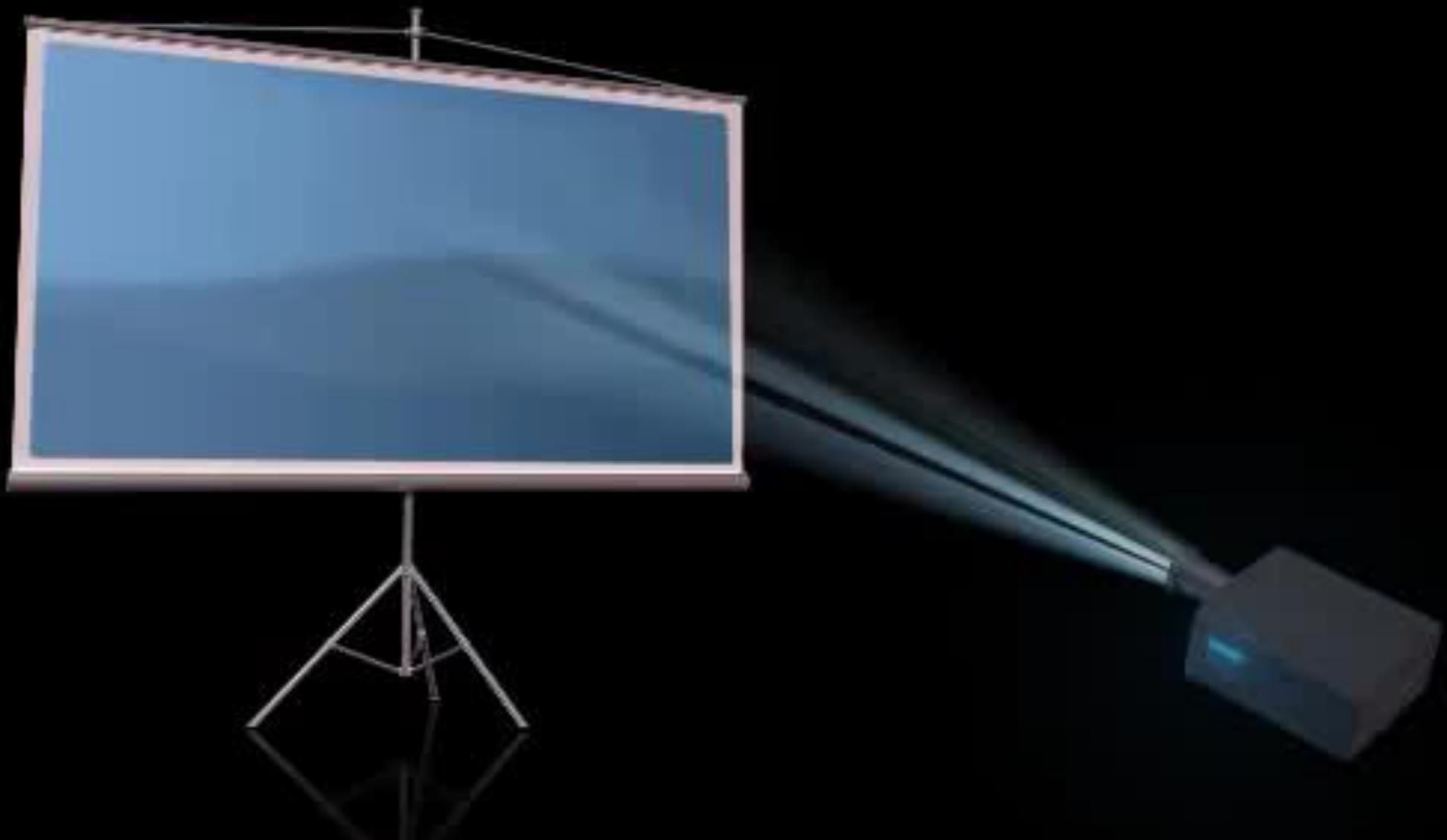
UCLA

Newsroom

A man in a white suit stands on a stage with his arms outstretched wide. He is positioned in front of a large, brightly lit structure that looks like a bridge or a series of arches. The background is dark, making the bright lights stand out. The overall atmosphere is dramatic and celebratory.

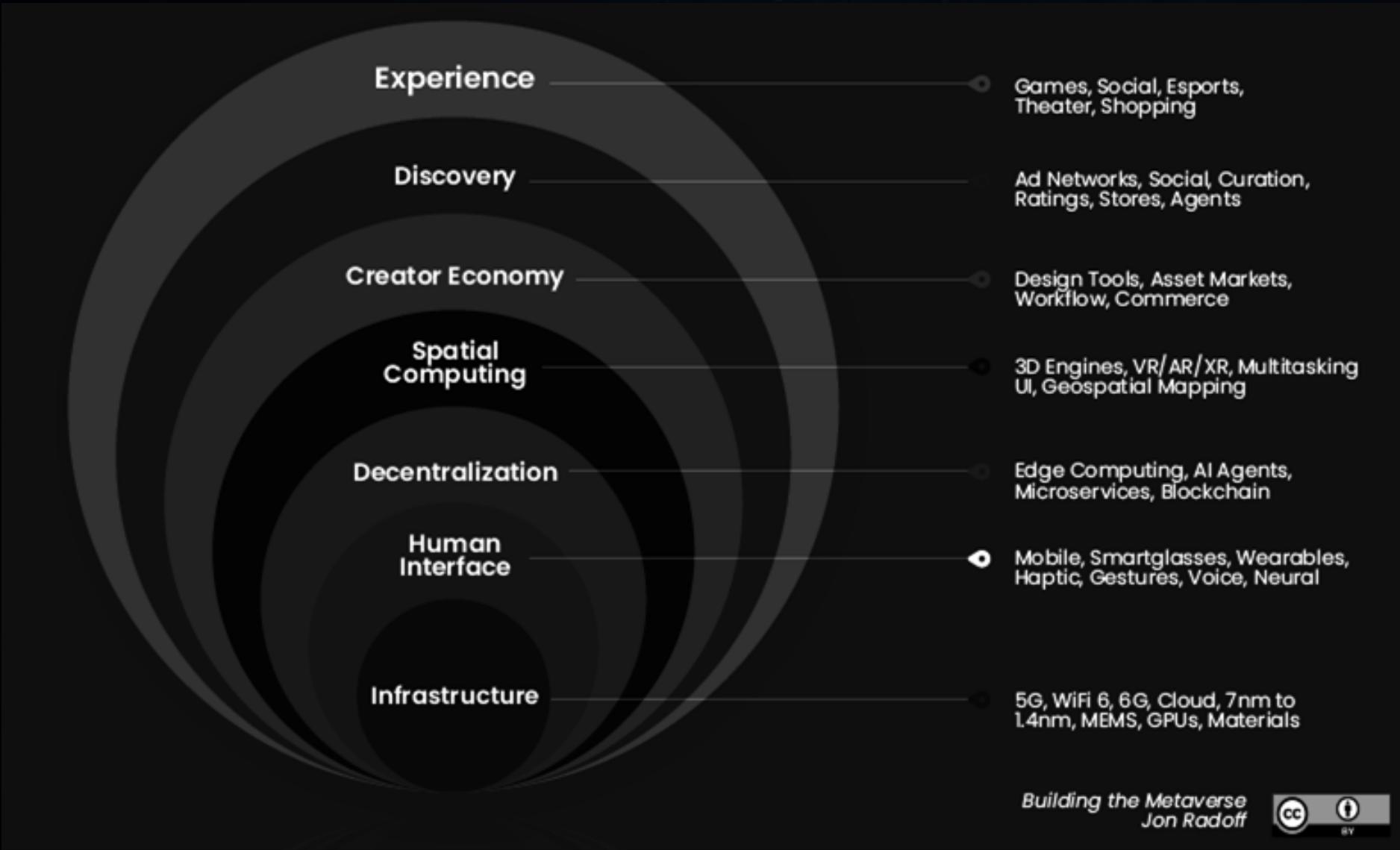
therereplay1995







7 Pillars of the Metaverse



XR = Extended Reality

Smart XR
Developer

AR

MR

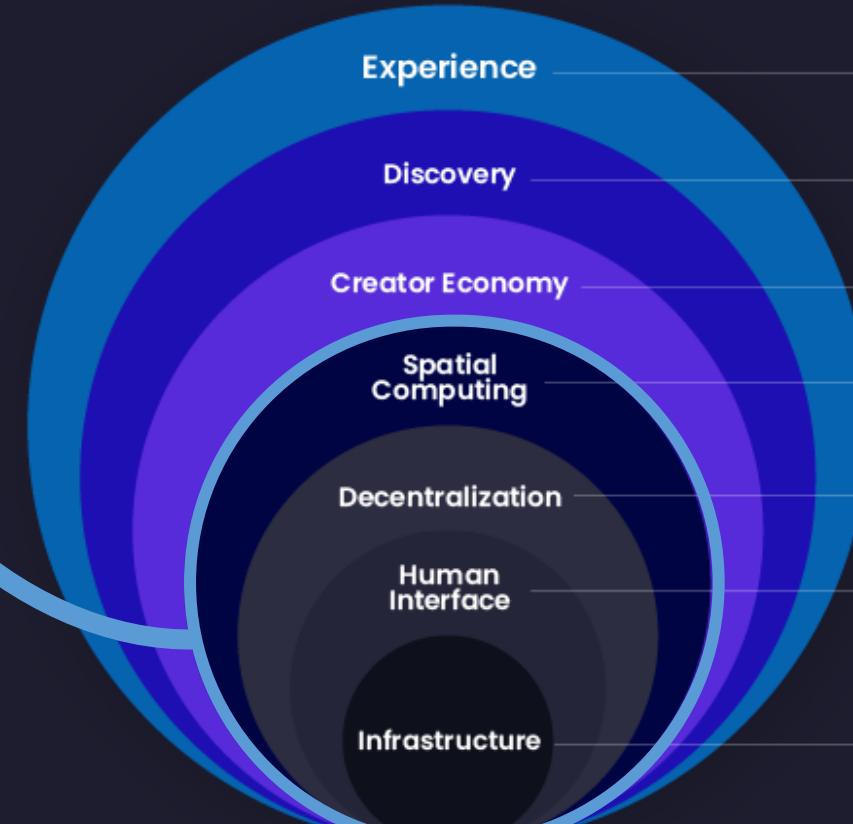
VR

Augmented

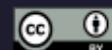
Mixed

Virtual

The Seven Layers of the Metaverse



Building the Metaverse
Jon Radoff



7 Pillars to the Metaverse

Semester 4

Semester 5

Unity (DAE: Platform Development 2)

6 SP

Experimental XR

6 SP

3D1 (DAE)

6 SP

Mixed Reality

6 SP

Advanced Programming & Maths

6 SP

IoT Devices & Robotics

6 SP

Applied AI

6 SP

The Collective

6 SP

Industry Project

6 SP

Research Project

6 SP

Games, Social, Esports,
Gaming, Shopping

Cloud Networks, Social, Curation,
Gaming, Stores, Agents

Cloud Tools, Asset Markets,
Blockchain, Law, Commerce

Cloud Engines, VR/AR/XR, Multitasking
Cloud, Cross-Spatial Mapping

Cloud Computing, AI Agents,
Cloud Services, Blockchain

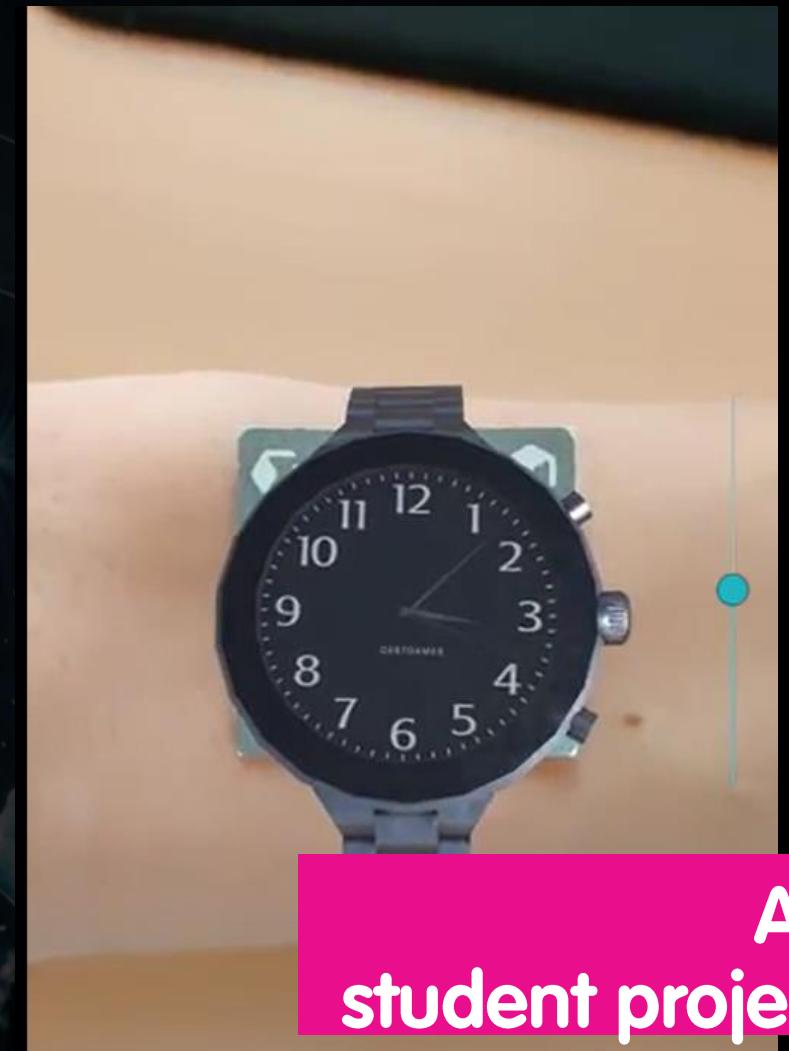
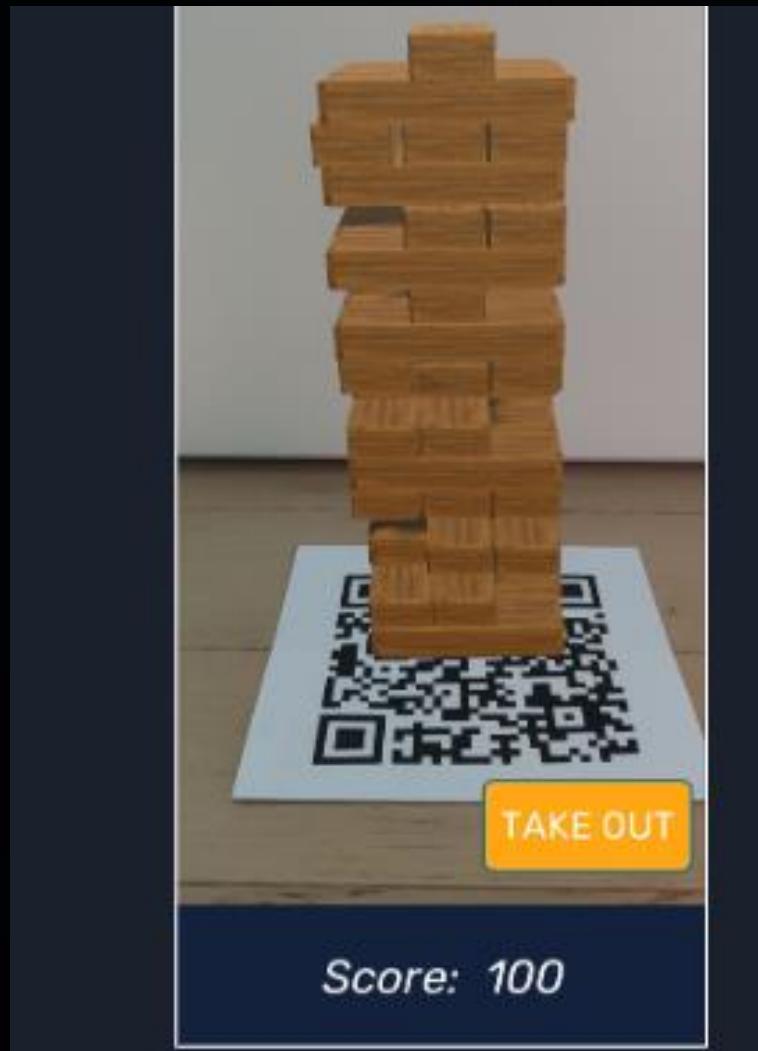
Cloud Computing, Smartglasses, Wearables,
Cloud Computing, Gestures, Voice, Neural

Cloud Computing, WiFi 6, 6G, Cloud, 7nm to
Cloud Computing, MEMS, GPUs, Materials

Cloud Computing, Metaverse
Designing the Metaverse
Jon Radoff



Augmented Reality student projects



324

333

342

351

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9

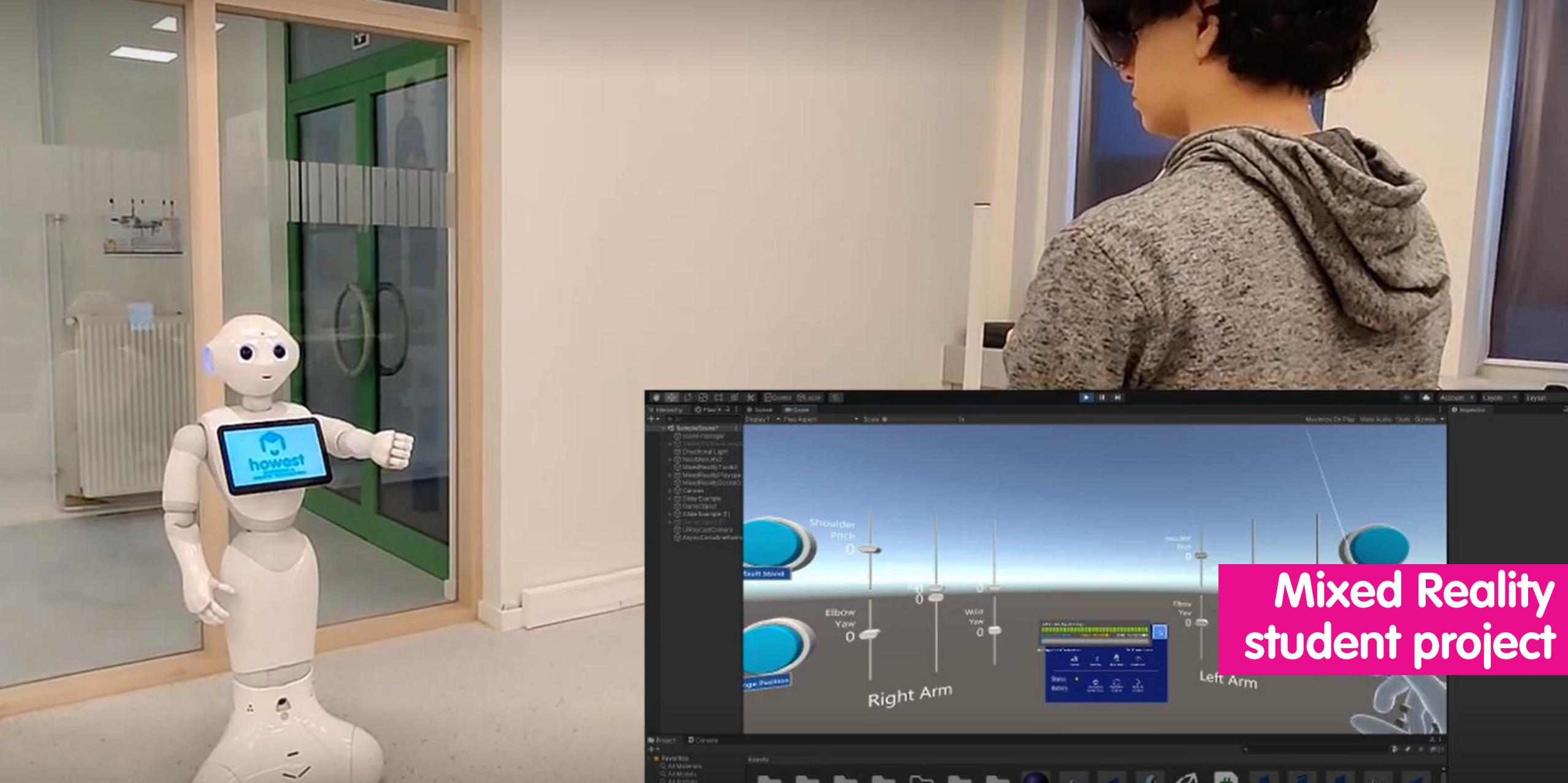
PALLIETER

Hopper Dredger, IMO 9279123

- Course: 258.60°
- Speed: 6.50 kn
- Status: Restricted



Mixed Reality
student project





Virtual Reality
student project

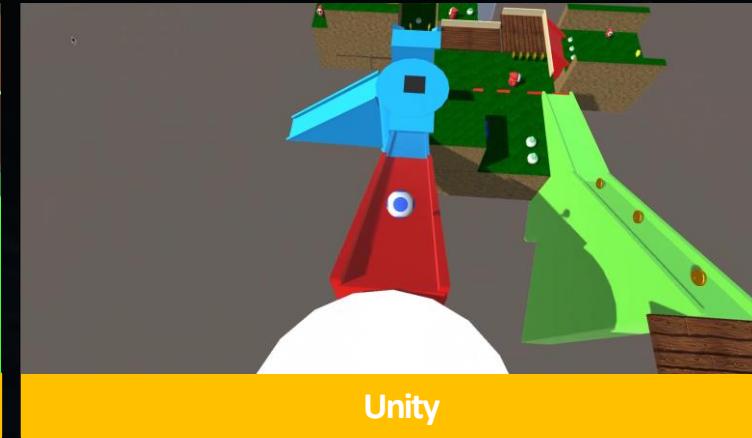
2MCT projecten Unity in samenwerking met DAE



Unity

Super Mario 64

Cy-Jay Somers



Unity

Captain Toad Treasure
Tracker

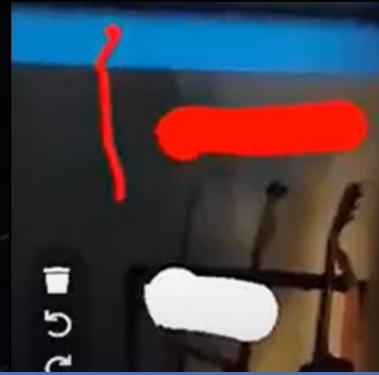
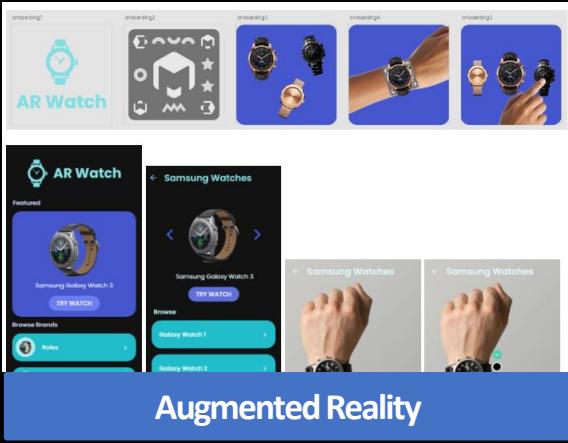
Guillaume Tibergyn



Unity

Ratchet and Clank

Sam Verdoort



ARWatch

Test horloges op je arm in 3D alvorens ze te kopen!

SketchArt

Teken in de 3D-omgeving met behulp van je smartphone!

cARD

Virtuele menukaarten, rechtstreeks op je bord!

LegoAR

Een handleiding over je Lego set, in AR, op je tafel!



PlanetARium

Op zoek naar info over planeten? Nu rechtstreeks in je handpalm!

JengAR

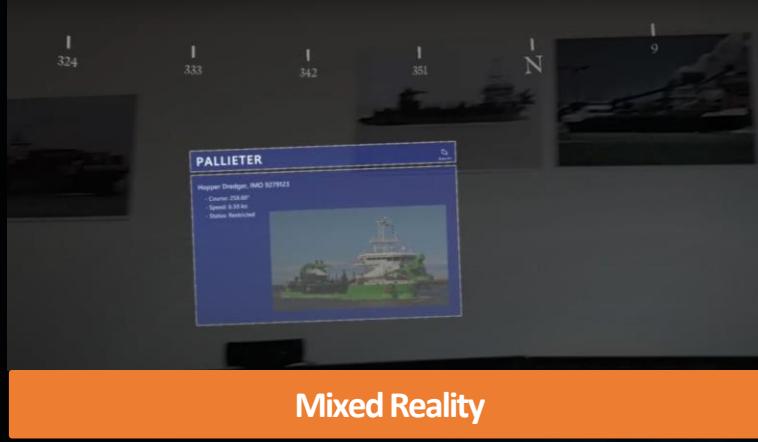
Een klassiek spelletje Jenga, in AR!

Virtual Guidance

De weg kwijt? Vind de weg via VR!

VR Firefighter Simulator

Brandweerman en bang van vuur? Oefen nu je skills!



MR Boat Recognition

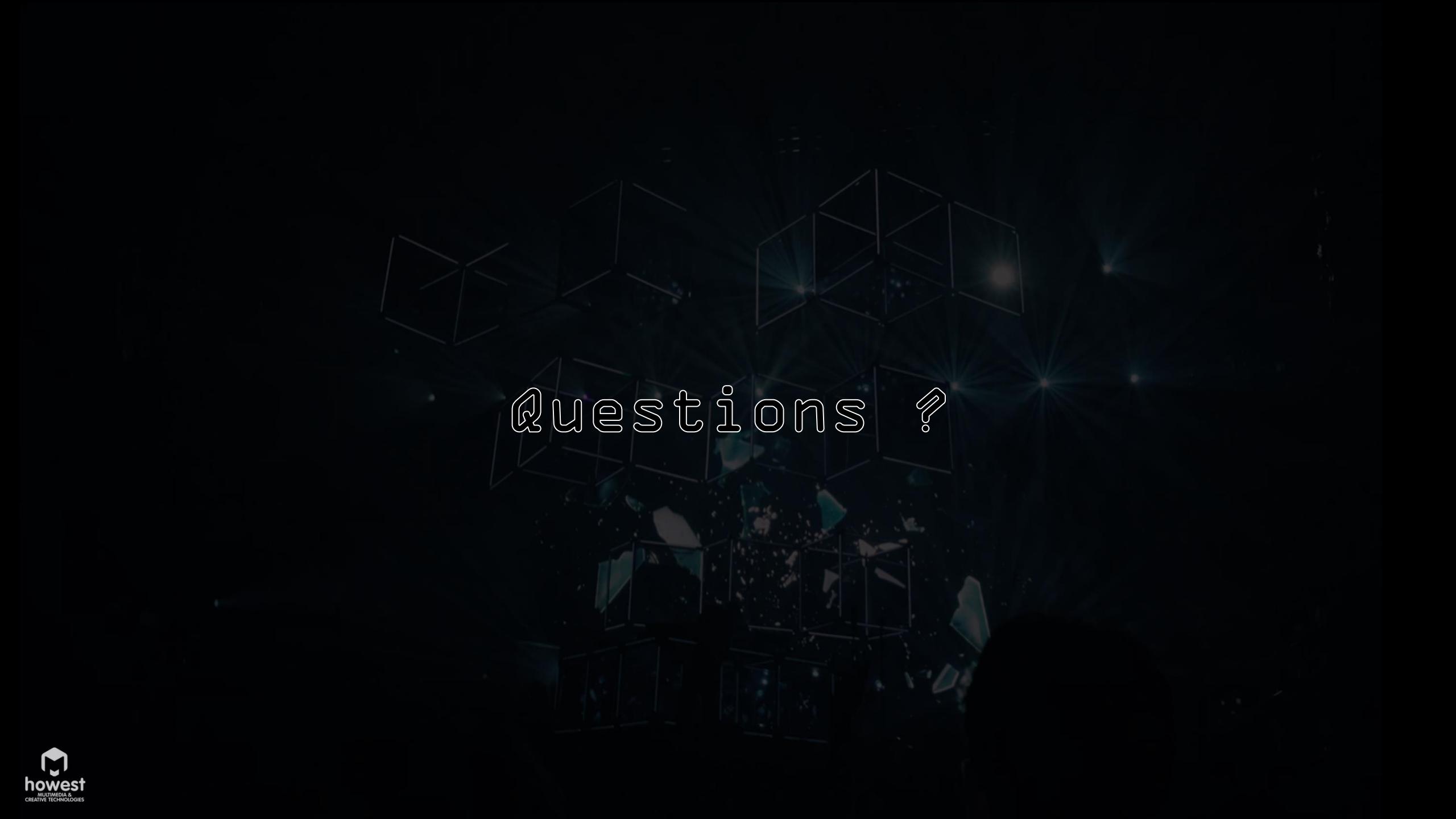
[Demo Webview](#)

Een project voor de Belgische zeemacht om boten te detecteren en herkennen via een Hololens



Virtuele robotbesturing

Een project voor de Belgische zeemacht om boten te detecteren en herkennen via een Hololens



Questions ?