

 @NicoleLazzaro

UX for Holograms

GDC Future Realities Summit 2022

San Francisco, March 21, 2022



XEODesign®

Form Function & Emotion





2020 - 2040

Merges the Digital and Physical Worlds

Also Known as The Internet or Web 3



People

Metaverse's Most Important Tech



**Fill Worlds
w/ Content &
Experiences**

**Create,
Store,
Exchange
Value**

M

**Immerse
Player in
Interactive
3D Worlds**

**Map 3D
Content &
Features to
Real World**

Web 3 Challenges to Build the Planet Scale Metaverse

UGCETT

**Crypto
Blockchain DAO
DeFi NFT Tokens
Phygital
Distributed
Ledgers**

M

**3D Display
AR VR XR**

**AI World & Body
Understanding**

Web 3 Technology Changes Computing & UX



48
Years



WIMPS

No **WIMPS** In The Metaverse
Rethink Traditional Approaches to UX



XEODesign

Windows

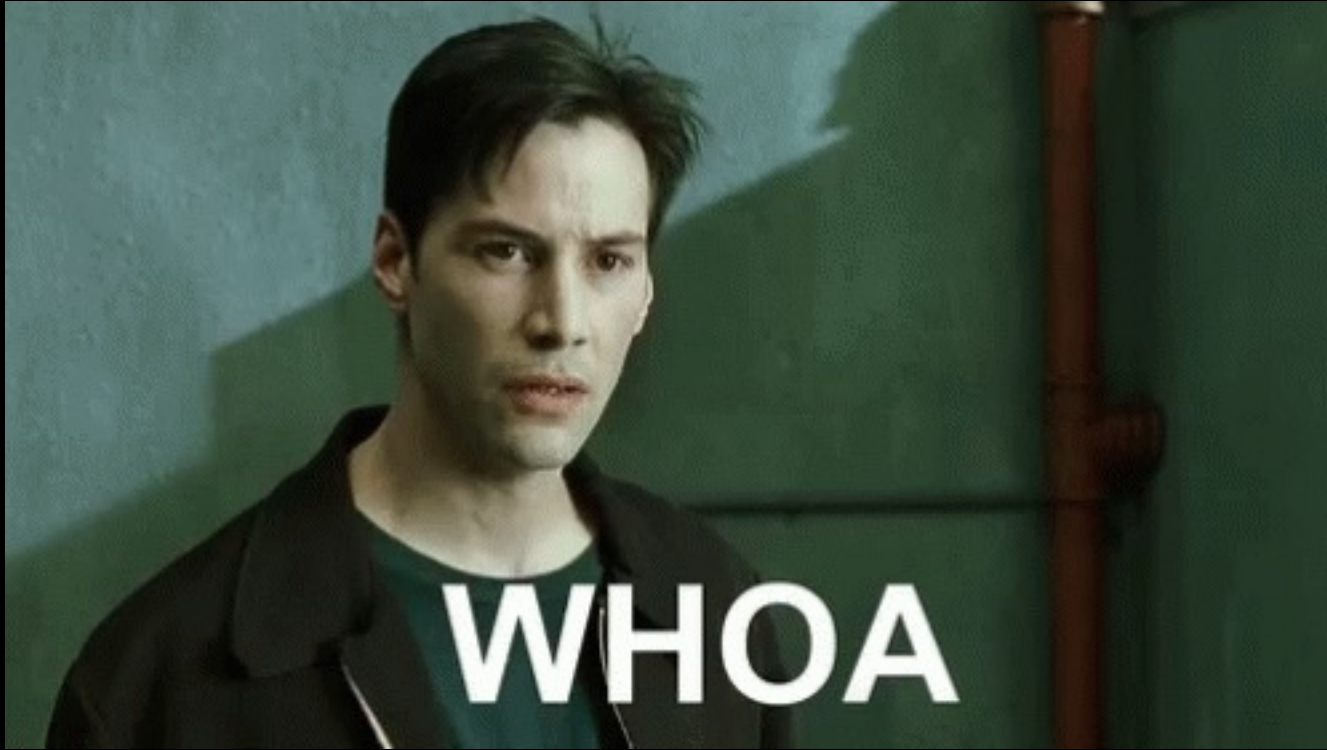
Icons

Mouse

Pointer

Solo





Windows

Icons

Mouse

Pointer

Solo

W I M P S



XEODesign

What Changes for Web 3

Windows

Icons

Mouse

Pointer

Solo

W H O A S

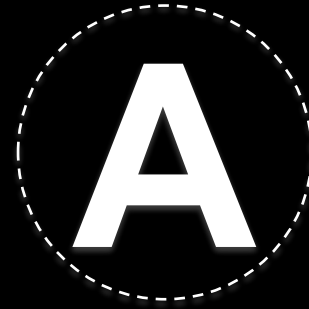
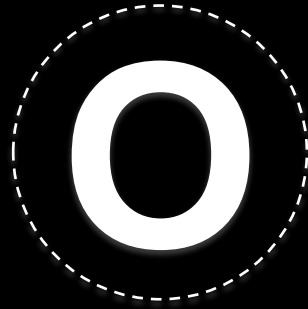
Windows

Icons

Mouse

Pointer

Solo &
Siloed



World

Hands

Objects

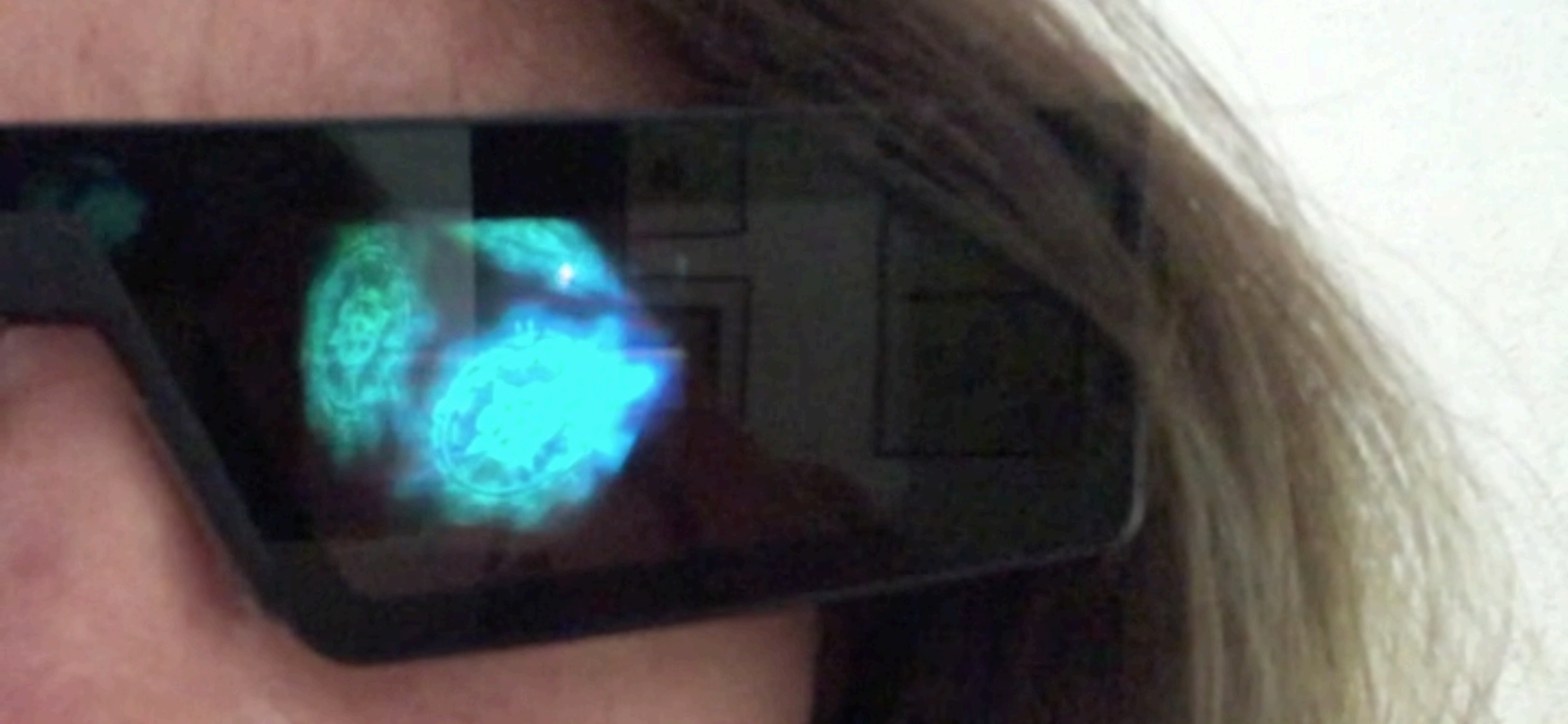
Avatars

Social
Collaboration



Find the WIMPS!

Where do they work? Where would WHOAS be better?
Time to leave the flatscreen centralized game behind.



UX for Holograms

Follow the White Rabbit



1. Explore Build & Understand Worlds



Gameplay Not Galleries

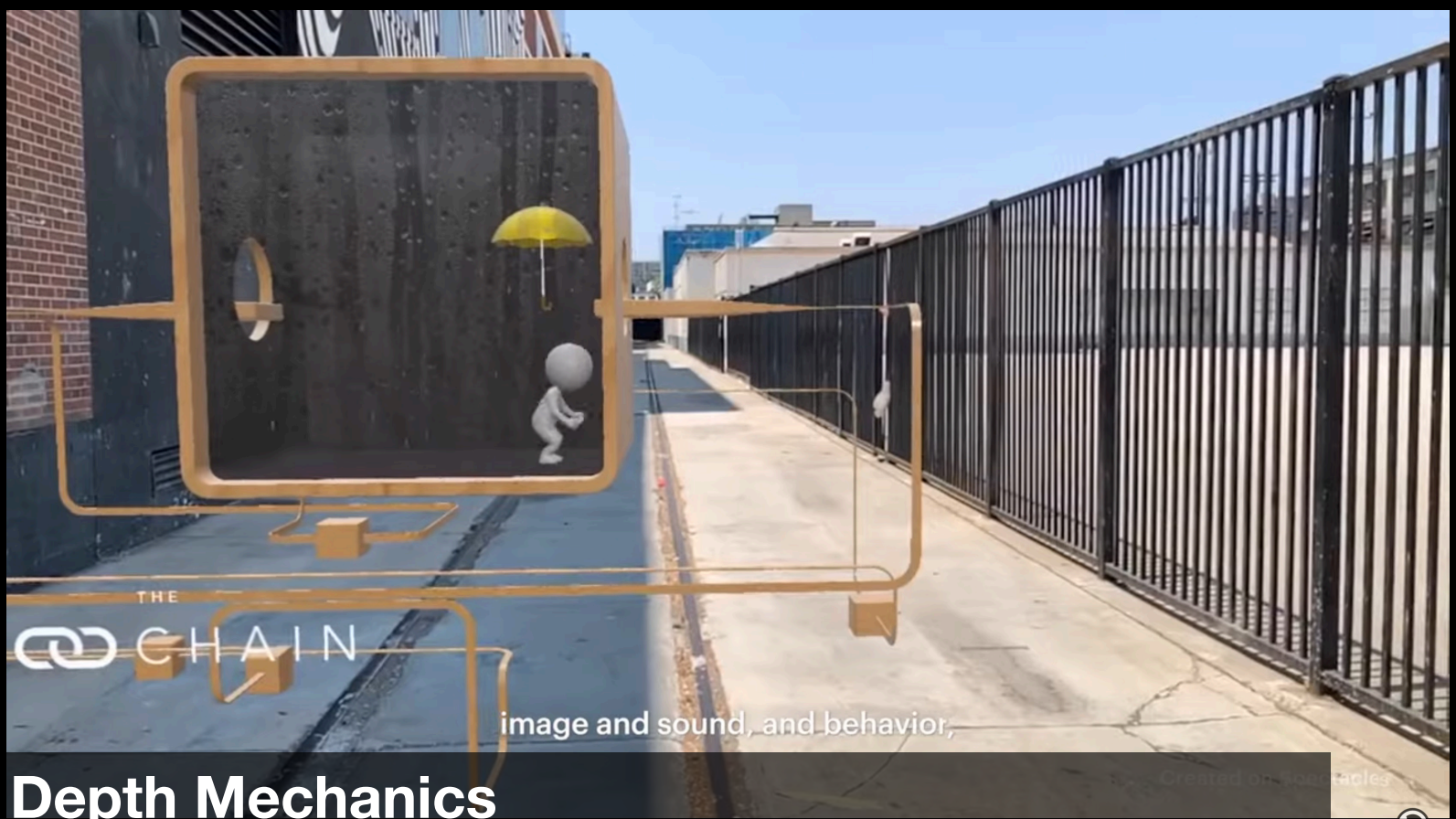
NFT gallery in Cryptovoxels





Surround with 3D Gameplay vs Nose Against Window More Emotion Curiosity Wonder Surprise





Depth Mechanics

Move in Real World to Solve Puzzles

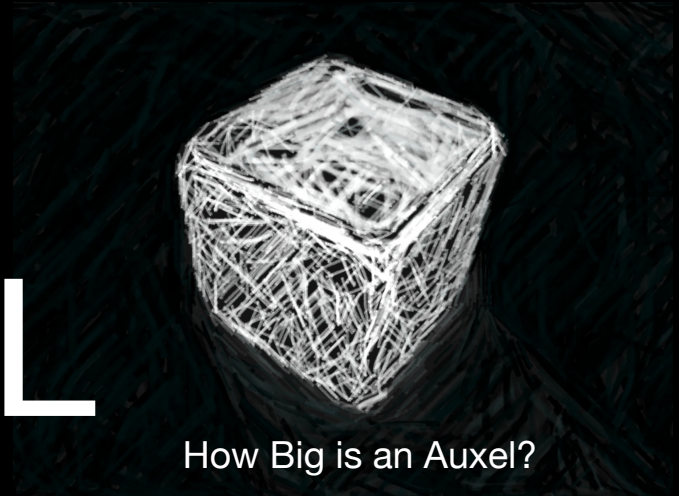
The Chain Michael French Snap Next Gen Spectacles



AUXEL

“Audio Pixel”

Audio Source With Positional Information



Spatialize Audio for Immersive Interactive Play

Unscramble the Oracle, XEOPlay BOSEAR (also ClubHouse)



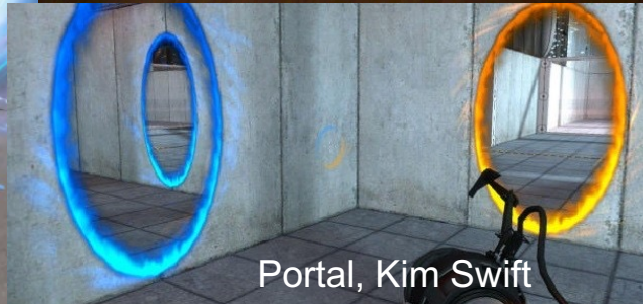
XEODesign



Wizards Unite Niantic



ARia's Legacy



Portal, Kim Swift

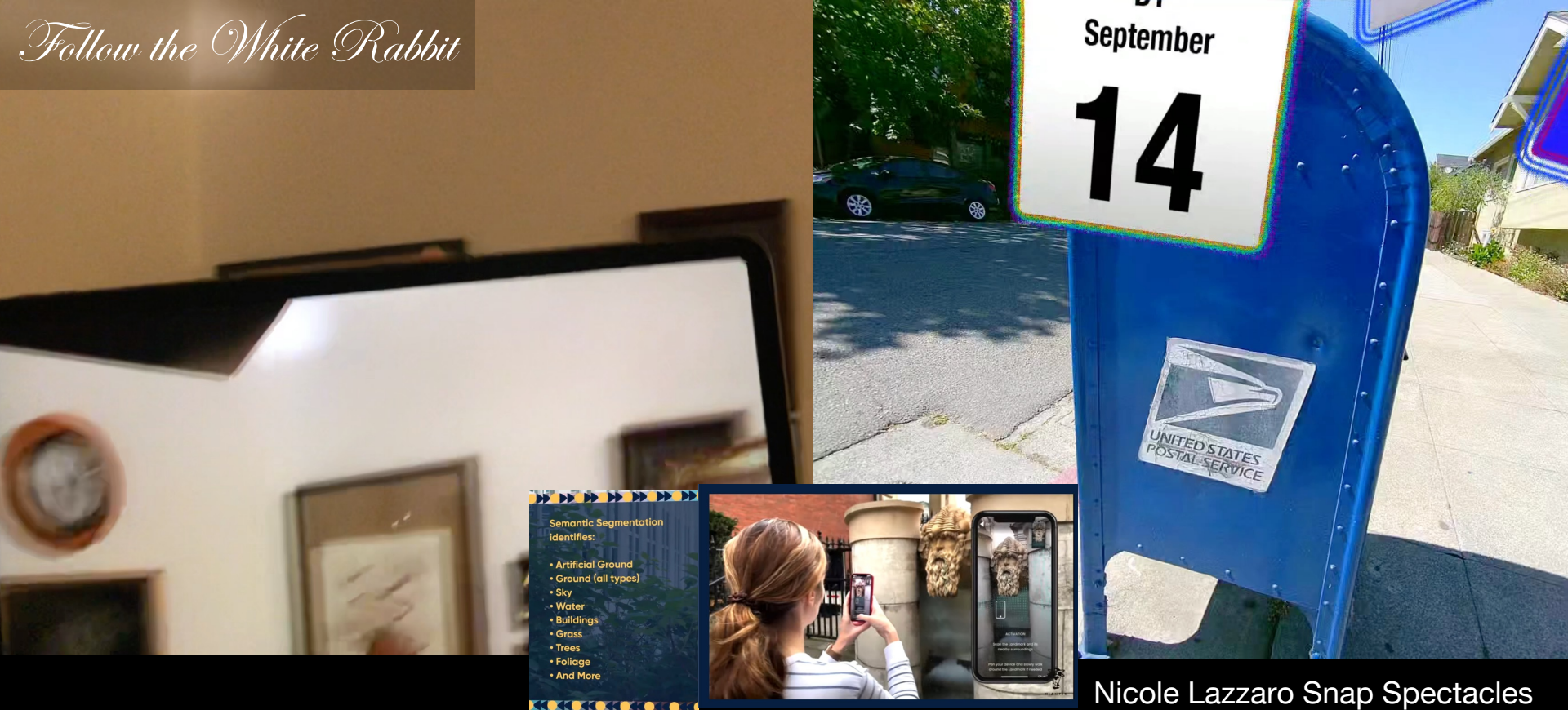


Doors

Portal Gameplay vs "AR Mode Portals"



Follow the White Rabbit

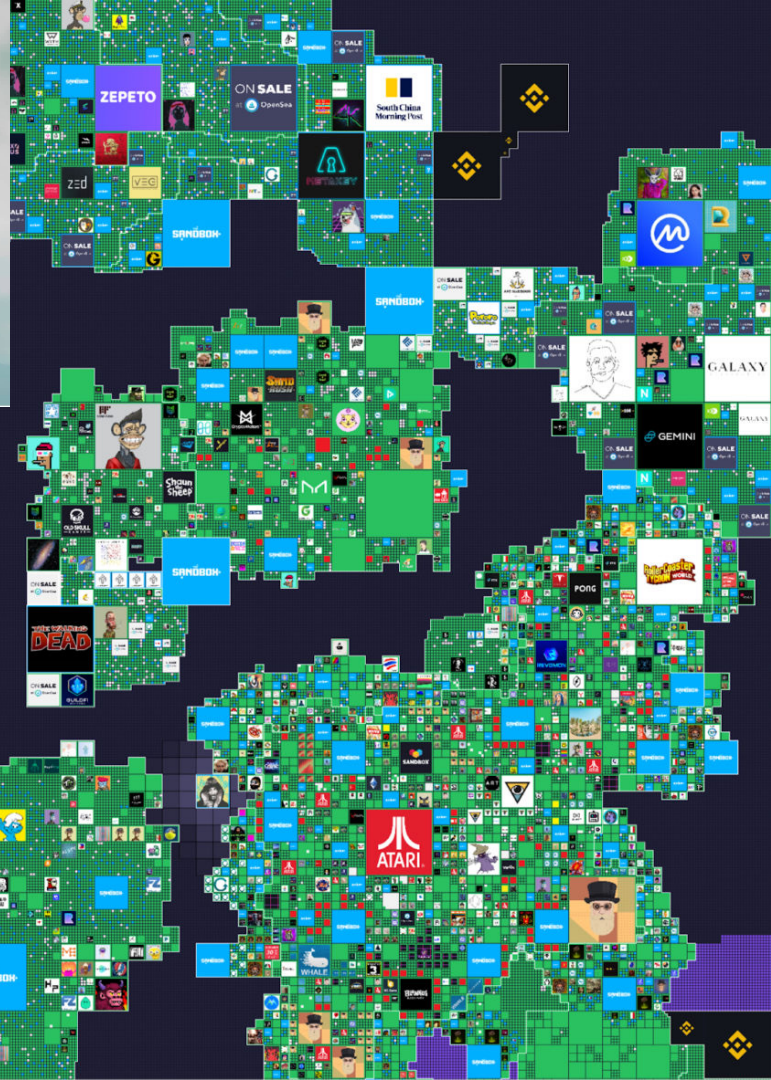


Nicole Lazzaro Snap Spectacles

Niantic Lightship ARDK

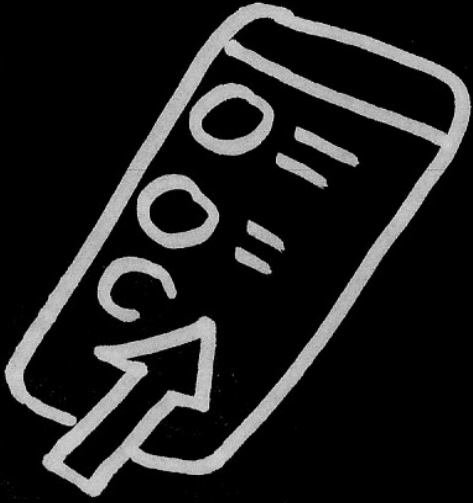
New Mechanics from Real World Understanding





**Puzzling Places
Build World
The Sandbox LAND
AKA Real Estate Tycoon
w/Crypto**

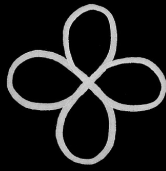
W



Web 2
Attention Harvest
Windows & Feeds

Web 3
Improve Focus
Worlds to Explore

W Business Models that Give Me Superpowers



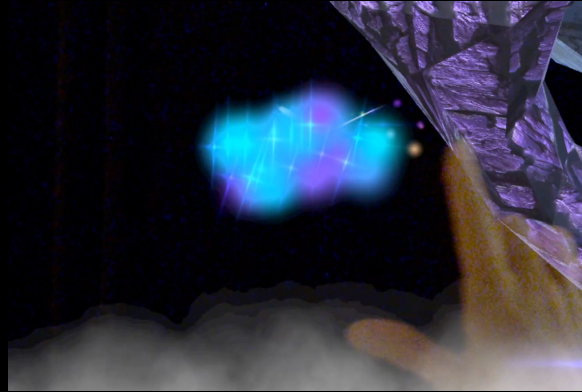
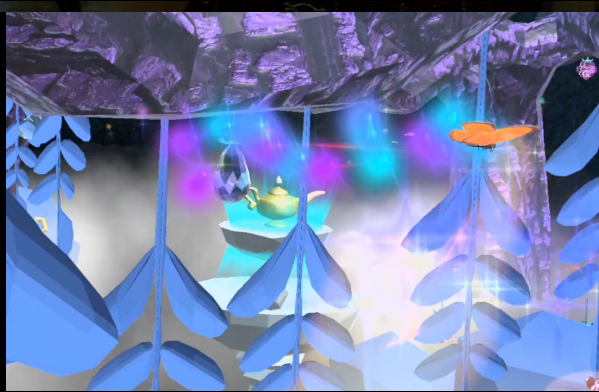
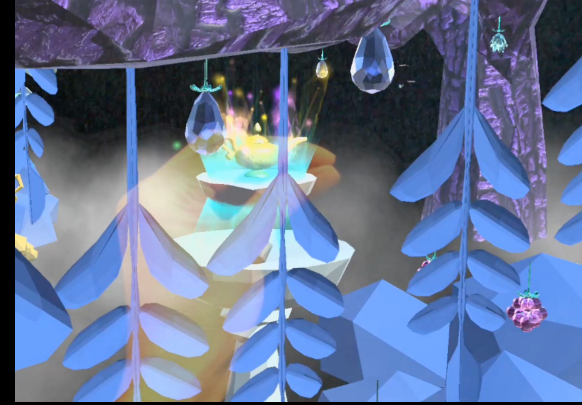
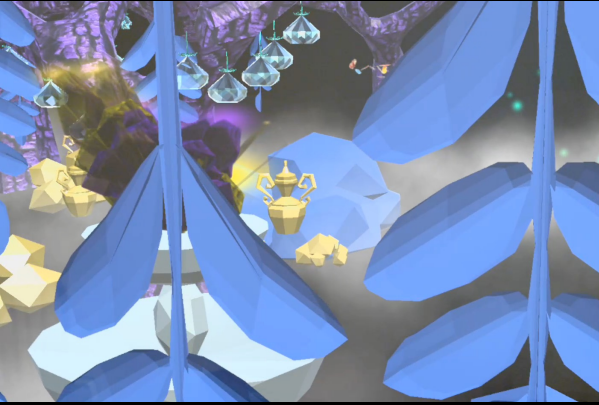
UX Why?

- 1. Surround with 3D Gameplay vs
Nose Against Glass More Emotion
Curiosity Wonder Surprise**
- 2. Depth Mechanics & World
Understanding Require New Skills**
- 3. Auxels Spatial Audio New
Experiences**

**Explore Build & Understand Worlds
Instead of Windows and Feeds**



XEODesign



2. Directly Play with Hands and Objects

Follow the White Rabbit



XEODesign



Direct Hand Controls, UI, and Game State
Increase Immersion & New Interaction
Half Life Alyx, Lone Echo, The Climb 2



Follow the White Rabbit

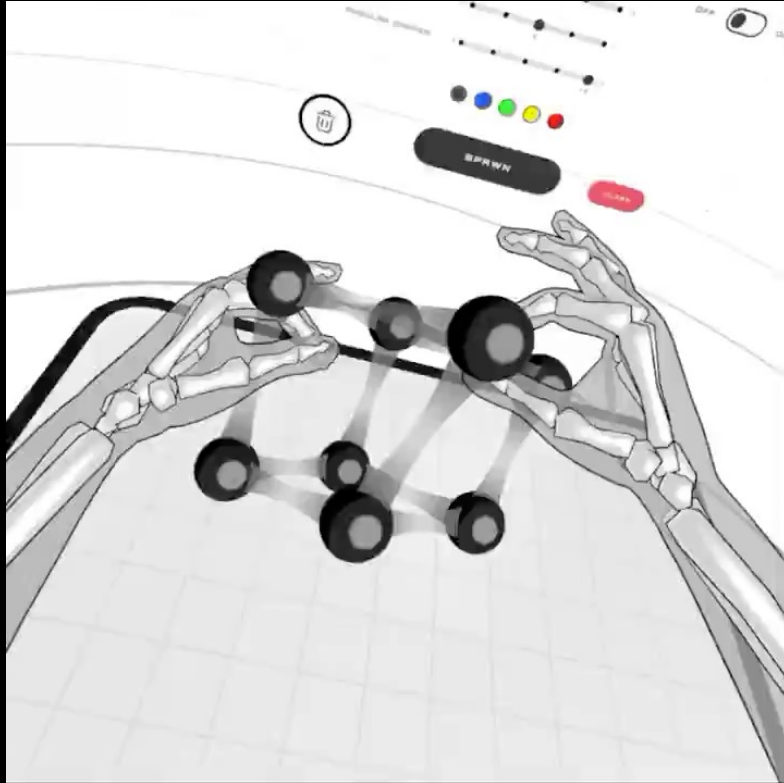


**New Dimensions and Gameplay with
Hand Gestures** Hide the Wait





How We Want Hand UX to Feel



Dennys Kuhnert
@DennysKuhnert

Hand Physics Lab Side Quest



Create Yummy Hand Interaction



Snap Next Gen Spectacles



Direct Manipulation New Mechanics





Snap Next Gen Spectacles



Direct Manipulation New Mechanics

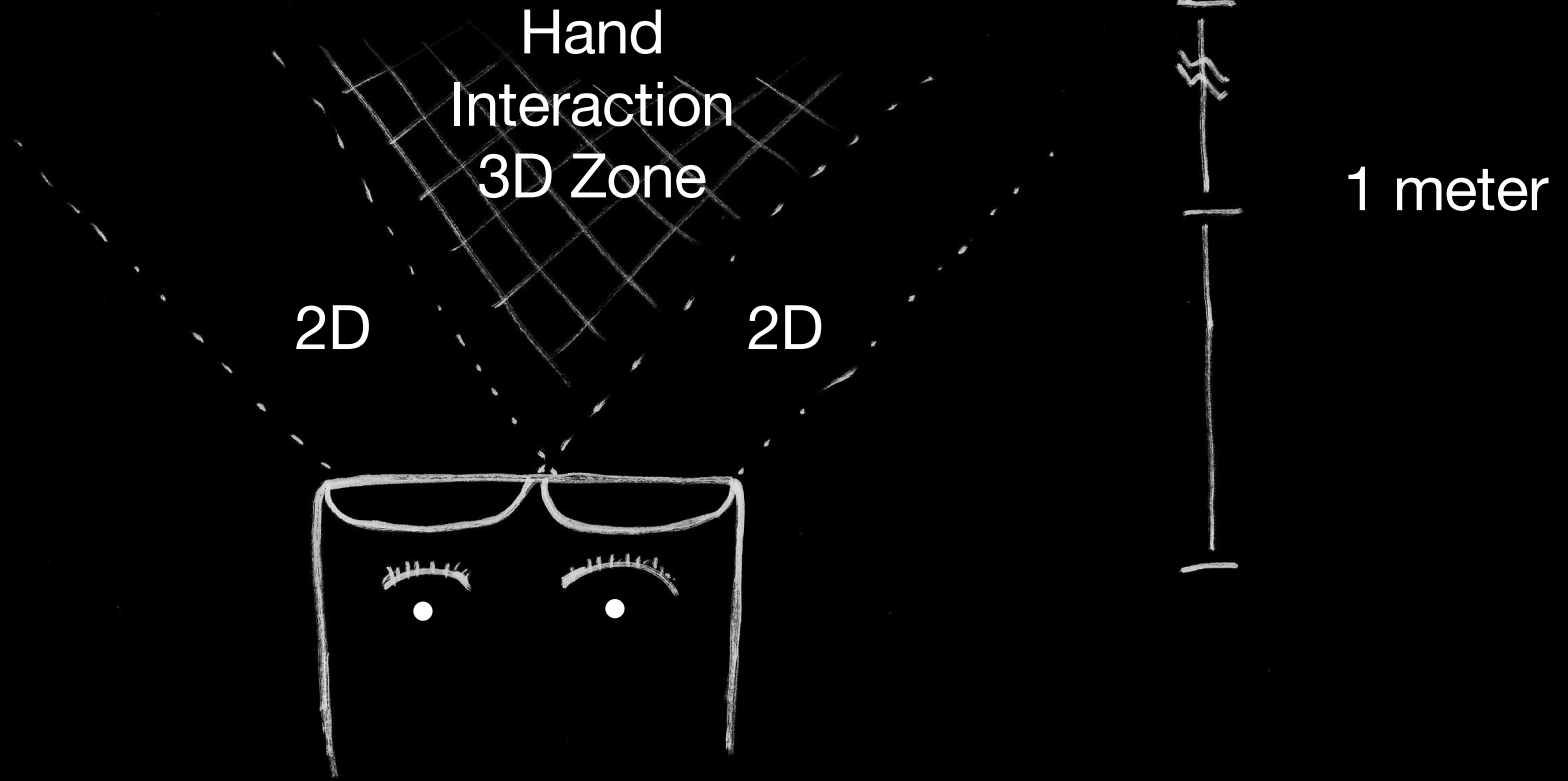


Basic Hand Interactions

- Point
- Pinch & Drag
- Grab & Rotate
- Hand & Arm Swipe
- Selected State Glow
- Gestures (if speedy)
- Haptics
- Fun Feel

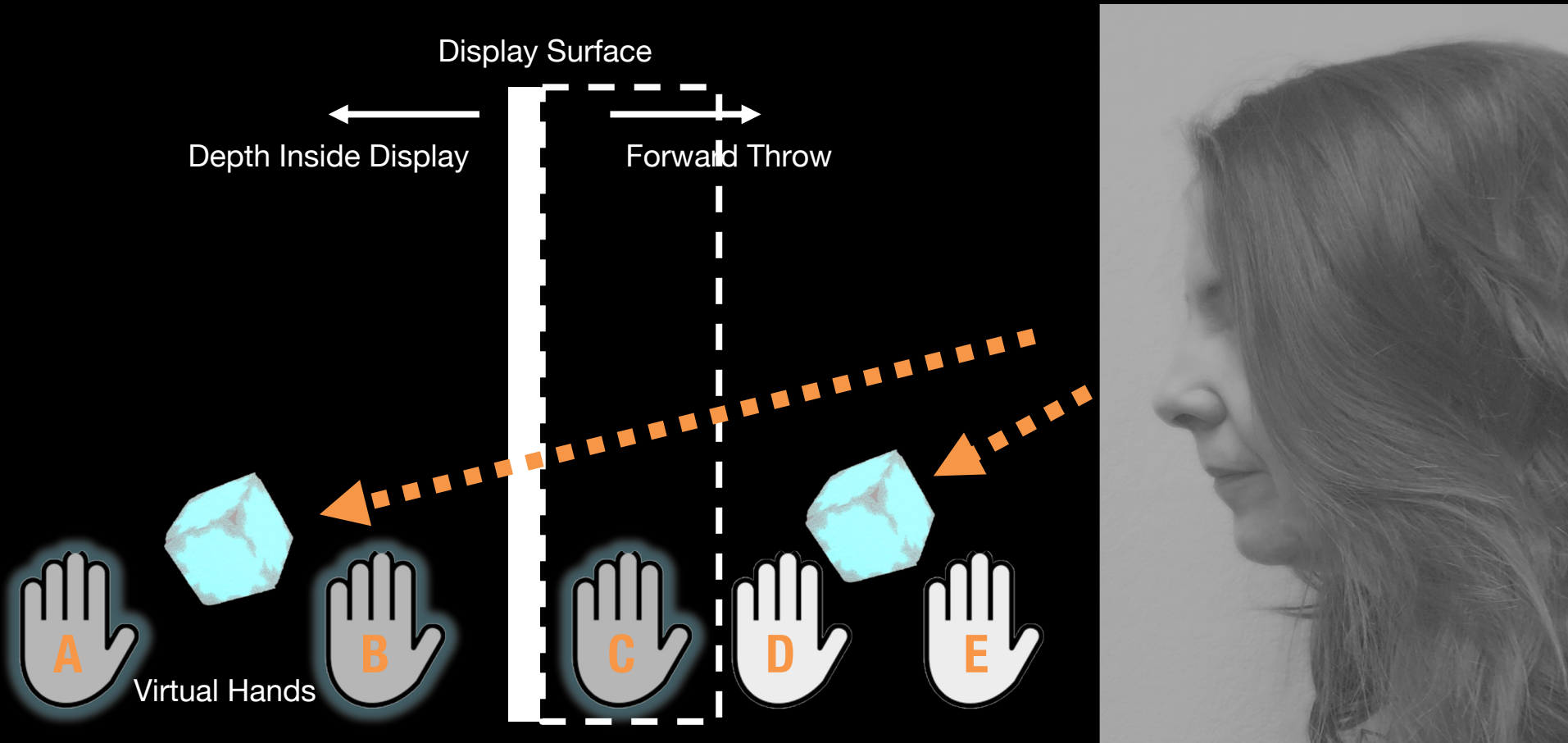


Hand & Object Replaces Mouse & Icons

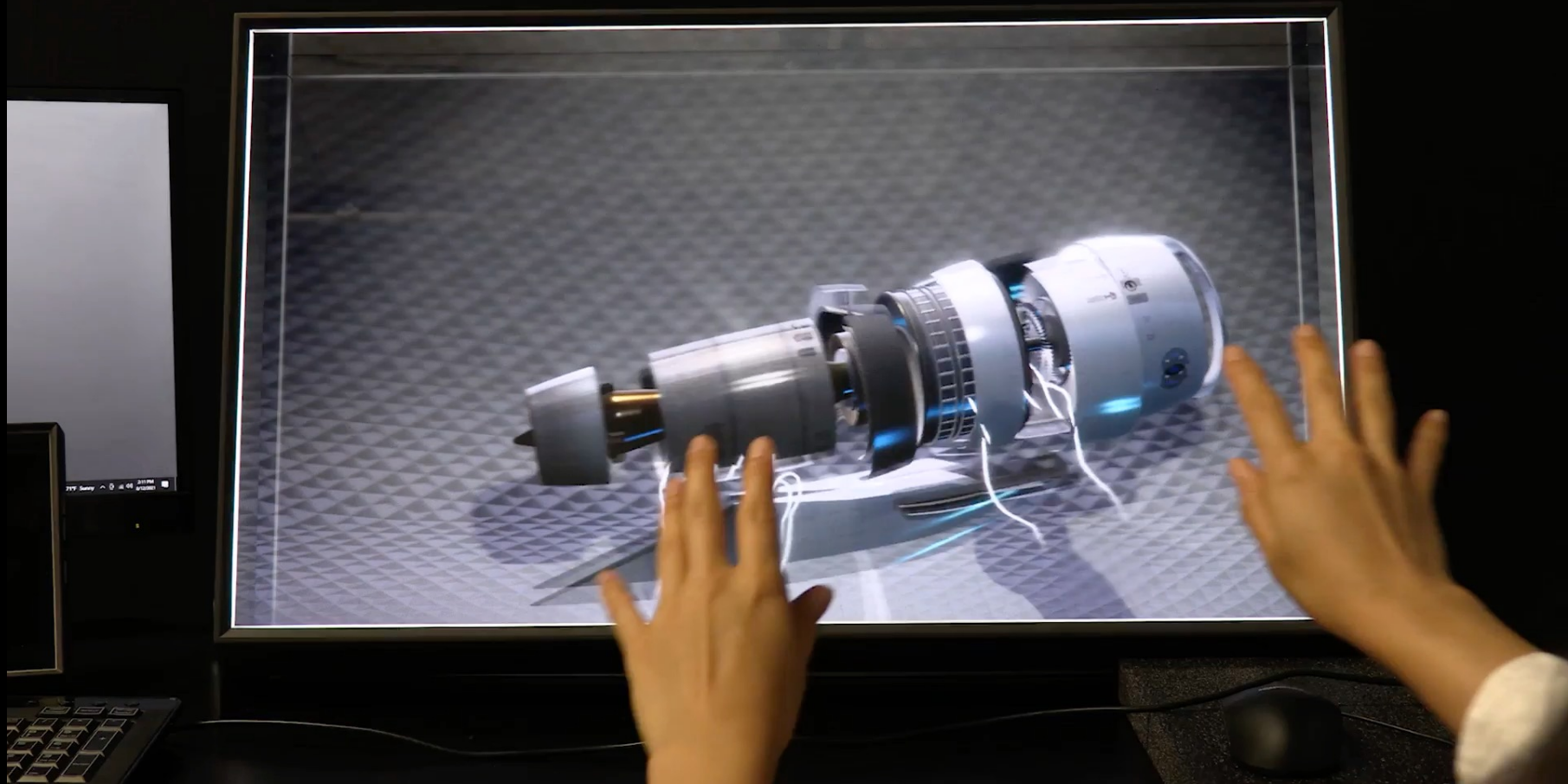


Provide Wide FOVs for More Depth Cues
Magic Leap, Nreal, Hololens

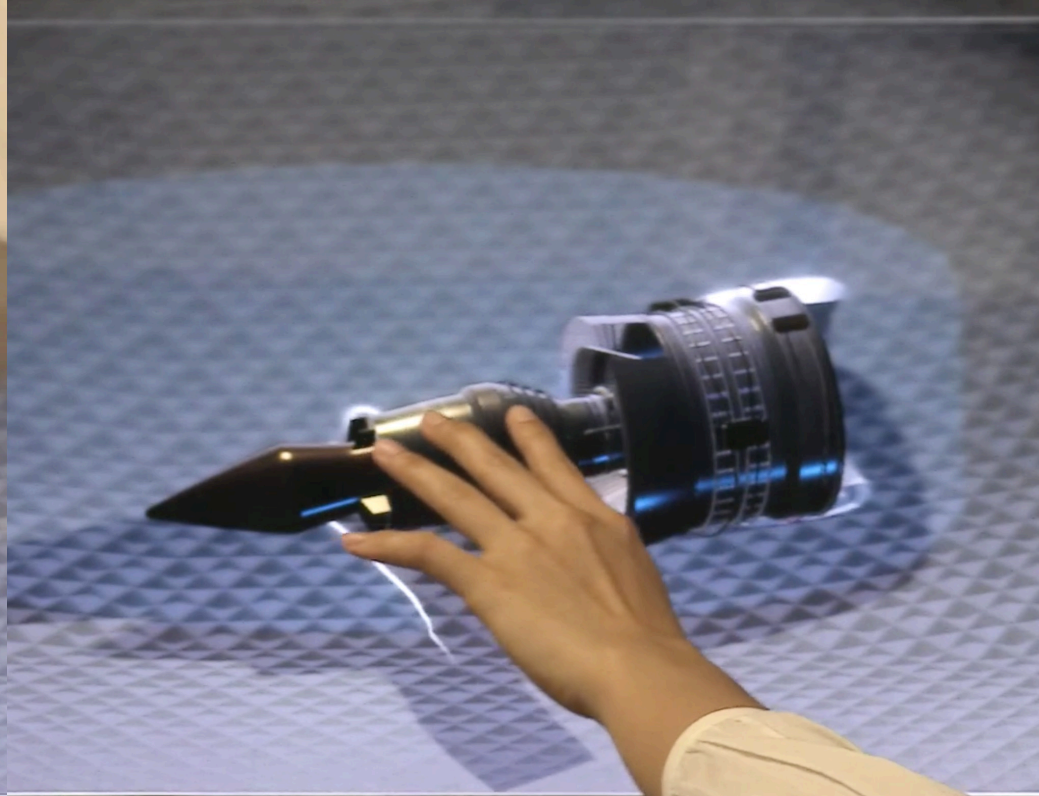
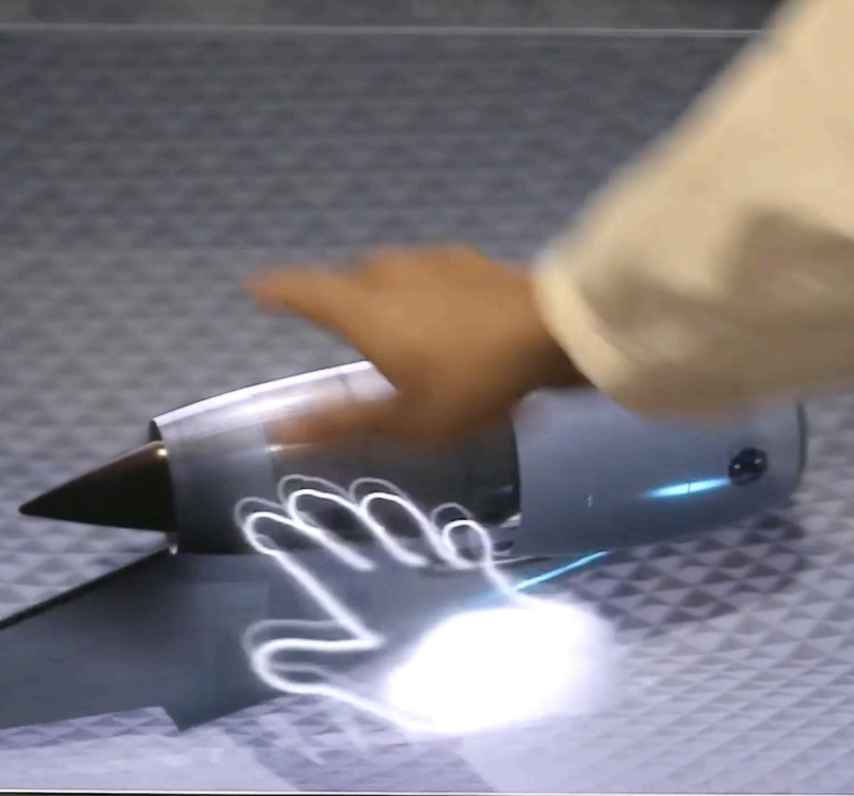




Hand Occlusion for Lightfield Displays



Looking Glass 3D Display (no glasses)



Virtual Hands Inside 3D Display and Occlusion by Virtual Object



The Last of Us 2



Immerse Players with Hand Feel and High Resolution Haptics



 PlayStation.VR

H O Hands Inside the Controllers & Precision



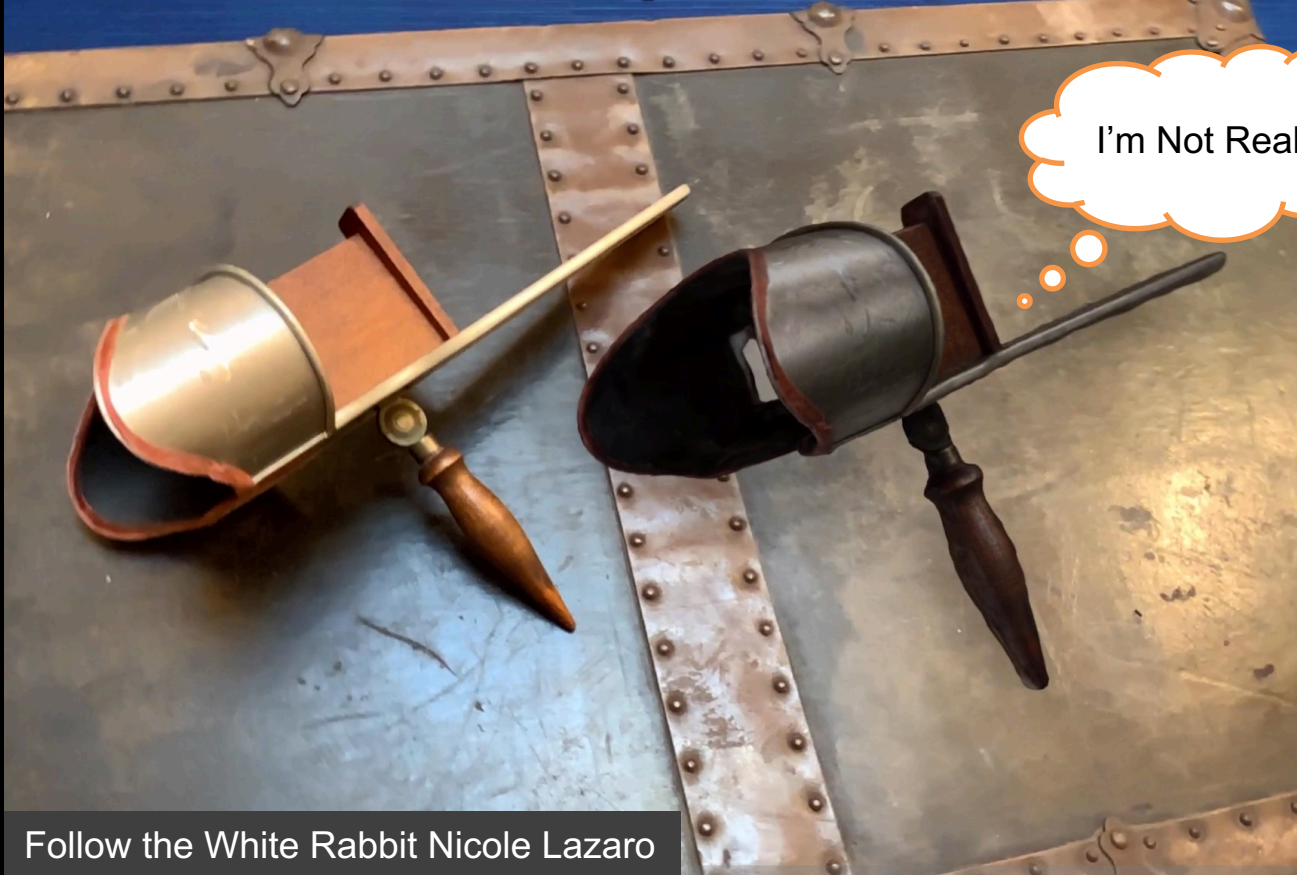
Turn a crank to bring
a machine to life.

Photogrammetry: Nicole Lazzaro



**Build Sculpt Objects Increase Interest
Instead of Icons & Buttons**

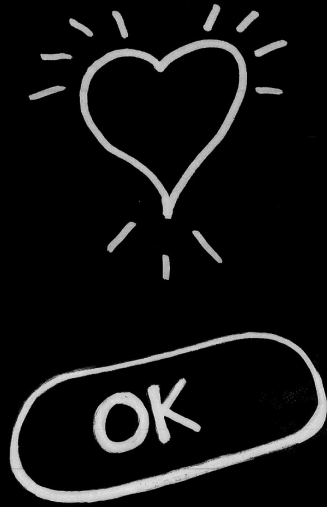




Follow the White Rabbit Nicole Lazaro



Distinguish Between the Virtual and Real
(edit and run time)

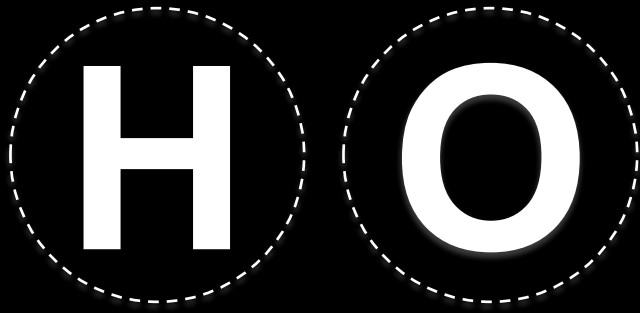
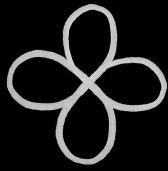


Web 2
Digital Button Slavery
Surveillance Capitalism

Web 3
Mental Agency
New Biz Model



Gameplay Enhance Agency Not Slavery



UX Why ?

- 1. Direct Control & UI Increase Immersion and Storytelling**
- 2. Depth & Dimension Offers Multidimensional Analog vs Binary Input New Interaction Skills & Genres**
- 3. Build Sculpt Archery in True 3D**



Directly Manipulate Objects w/Hands as Controls and UI vs Icon and Mouse Keys



XEODesign

Follow the White Rabbit



A 3. 1st Person Avatar Play vs. On Screen Pointer

Magic Leap

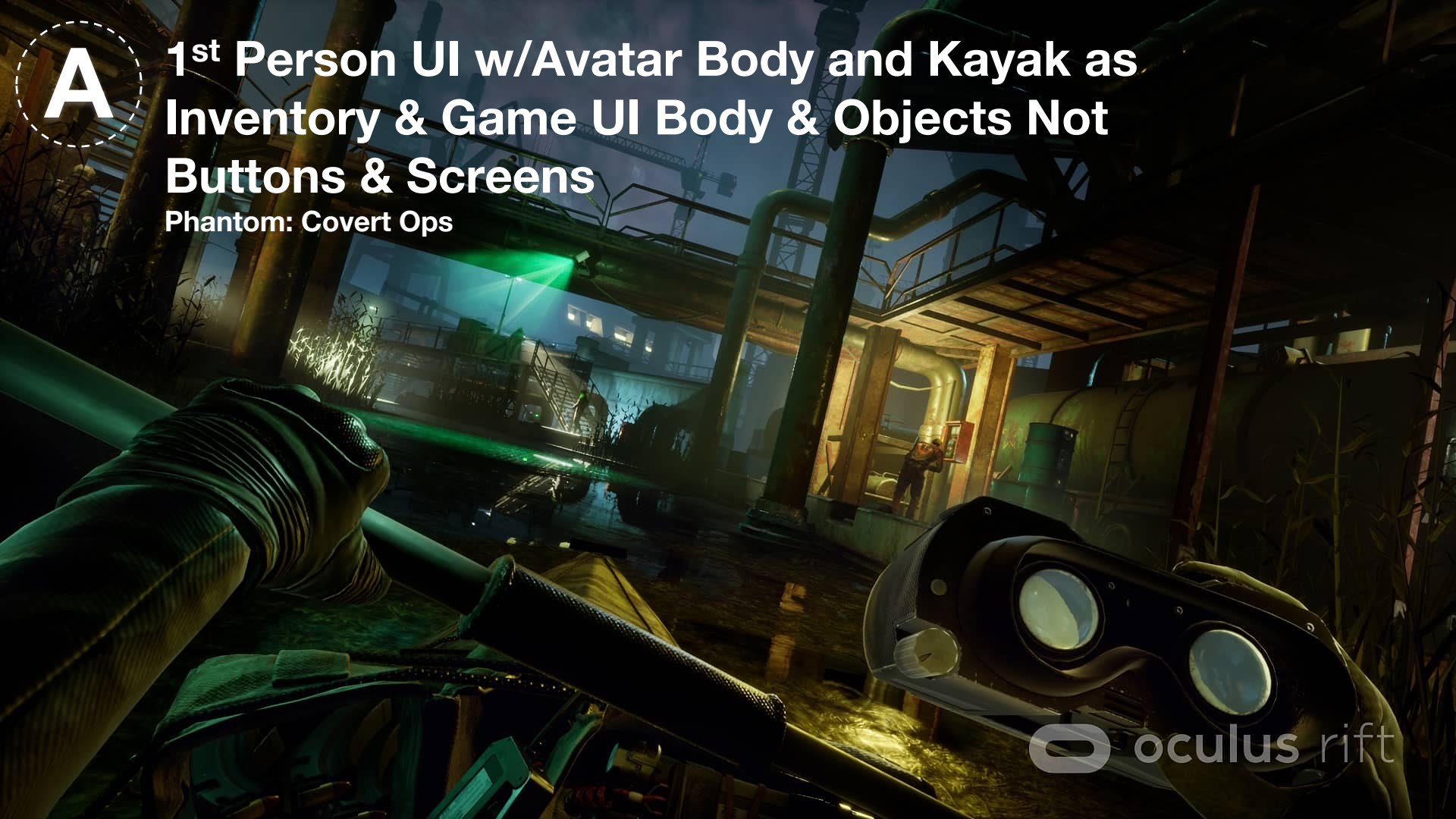


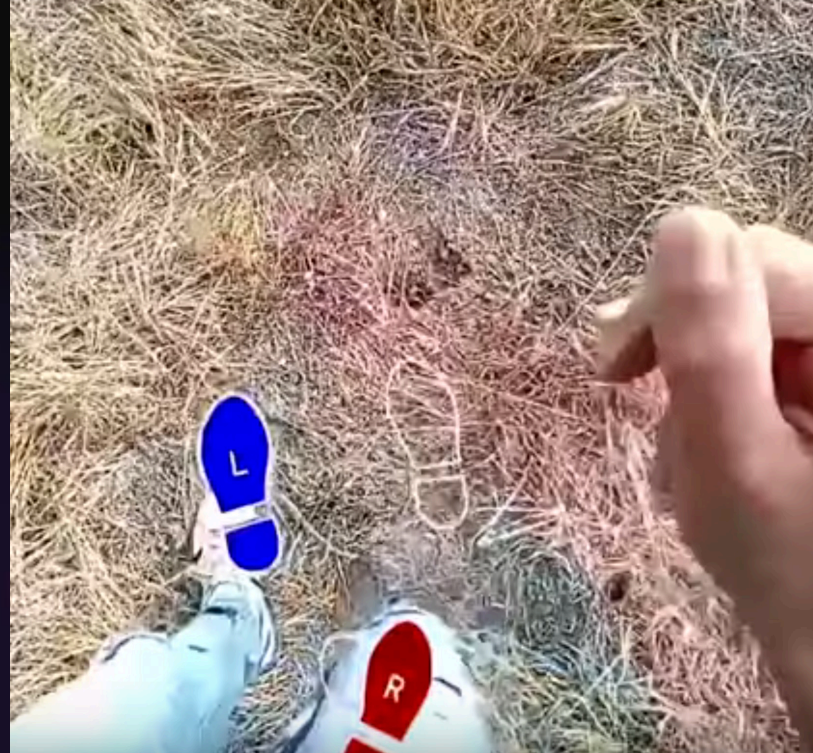
XEODesign

A

1st Person UI w/Avatar Body and Kayak as Inventory & Game UI Body & Objects Not Buttons & Screens

Phantom: Covert Ops





**Skill & Body Control with Feet and Arms as
Input instead of Pointer and Arrow Keys**
Feet Saber VIVE, Dance Helper Game Kat V. Harris Snap Next Gen Spectacles



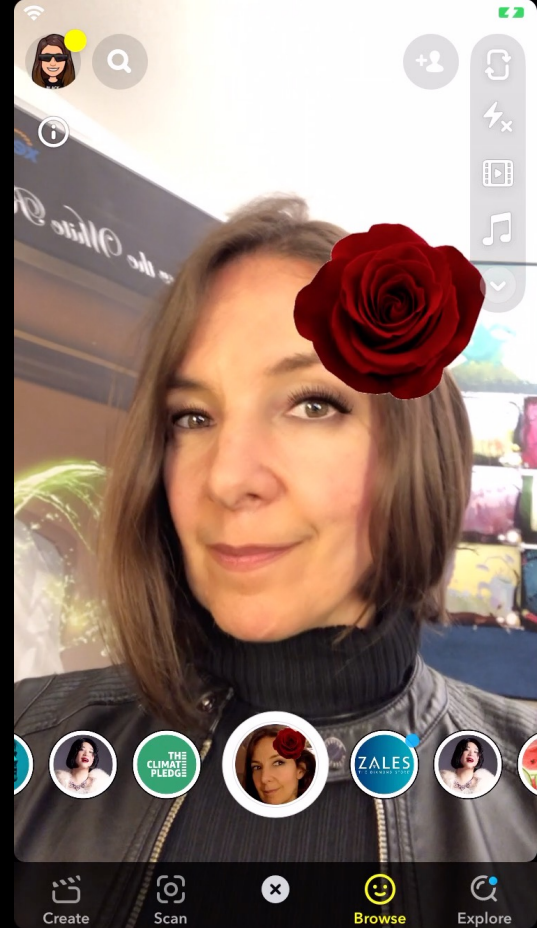


Web 2



Web 3

A Instead of a Pointer be a #MetaHuman



A Let Me Be Who I Want to Be
Increase Personal Expression & Mechanics



XEODesign



CodeMiko Live Streamer



Xanadu Blu, Metahuman Videocaster

Track Body/Face for Live Avatar Performances and Gameplay



Rift - Paige - Don
by Don Allen III

Don Allen III Snap Spectacles

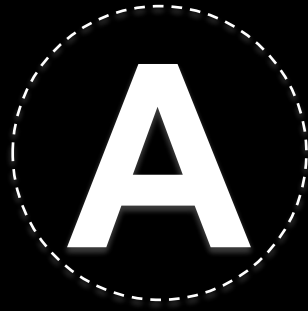
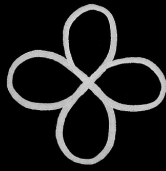


Vodcasto Sally Slade Saltech LLC
<https://www.saltech.llc/vodcasto>

843



A Use AI Style Transfer to Carry Identity as Well as Player Name Between Worlds and Platforms



UX Why?

- 1. 1st POV Direct Control and Immersion. You are You vs Puppeting a Character w/Buttons**
- 2. Skill Body Control Move & Dance in 3D Part of Game**
- 3. Increase Expression & Roleplay Across Games Avatar & Name**

Embodiment Avatars to Play Using Real Body vs Pointer and Arrow Keys

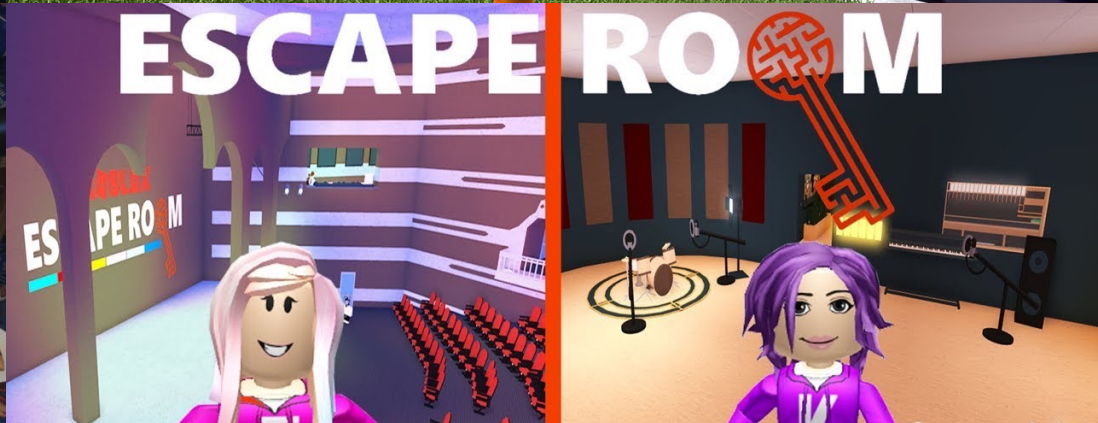




Roblox



Tilt Five Jeri Ellsworth



4. Social Collaboration Experiences and Passion Projects With Friends F2F Instead of Solo Play



The Sandbox:

- VoxEdit model, animate, NFT
- Game Maker
- Marketplace
- LAND

2022: Polygon (Ethereum Sidechain) and DAO for SAND LAND AVATAR holders, DeFi layer



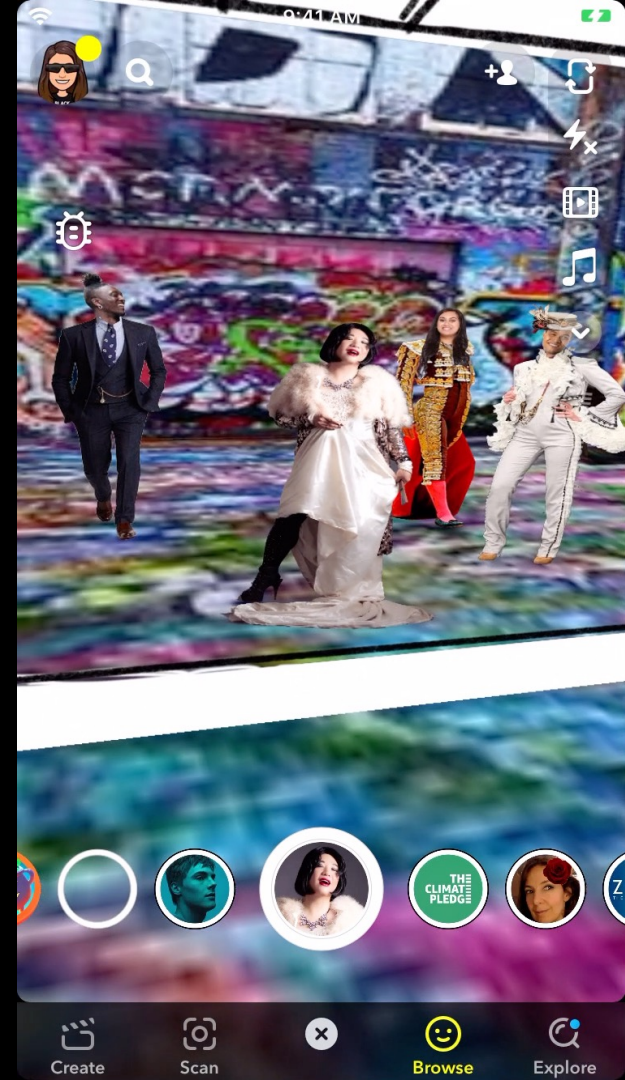
THE
SANDBOX

Creator Mechanics & Social Collaboration New Genres



Paper Doll Opera

A Pocket Opera In Your Pocket

The image is a promotional collage for "Paper Doll Opera". At the top left, the title "Paper Doll Opera" is written in a large, white, serif font, followed by the subtitle "A Pocket Opera In Your Pocket" in a slightly smaller, white, sans-serif font. Below the text are several overlapping images. On the left, there's a portrait of a woman with brown hair and a red rose accessory. To her right is a screenshot of a Zoom meeting grid with four participants: a man labeled "Tenor", a woman labeled "Baritone", a woman labeled "Soprano", and a man labeled "Mezzo". Further right is a screenshot of a video game interface showing a virtual opera house with a colorful, graffiti-like background. On the far right, there are three photographs of people in elaborate costumes: a woman in a red dress, a man in a yellow suit, and another person in a gold outfit. The entire collage has a hand-drawn, sketchy border around the edges.



Offer Play to Earn (P2E) Mechanics
Social Trust Values Cryptocurrency
 Investment vs Affordable vs Fun Gameplay, Axie Infinity





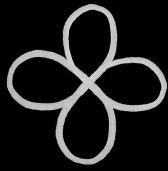
Web 2
Pay to Play
Create for Likes



Web 3
Play to Earn
Don't Spoil the Fun

Need New Web3 Social KPIs & Play to Earn and ...?
Connect People Don't Exploit Them





UX Why?

- 1. F2F Play More Fun**
- 2. Creator Mechanics & Social Collaboration & Experiences
New Genres**
- 3. Create Store Exchange Value
UGCETT**

Remember to Make Play 2 Earn Fun

**Social Collaboration to Build Experiences
w/Friends Instead of Solo Play**



XEODesign



Web 3 The Choice is Yours



WHOAS Analysis



■ Worlds ■ Hand & Object ■ Avatars ■ Social Collab



Take a WIMPS-Ventory!

Where Would WHOAS Be Better?





WHOAS

Worlds: Surround 3D Gameplay Depth Mechanics, Auxels
Instead of 2D Windows & Feeds

Hands: Directly Manipulate Objects, Use Controllers for Precision,
New Interactions Instead of Mice

Objects: Build, Sculpt, and Interact Depth & Dimension Gameplay
Instead of pressing Button Icons

Avatars: 1st POV Immersion, Body Control Skills,
Expression Roleplay Instead of Pointers Arrow Keys

Social Collaboration: F2F More Fun, Creator Mechanics, UGCETT
Create Store Exchange Value. Remove the Separation
Between People Instead of Solo Play

WHOAS Metaverse UX Design  WIMPS
Do These to Feel Metaverse-al

WHOAS

The Metaverse is a place to



1. Explore new **Worlds**
2. Interact with **Objects** with our **Hands**
3. Immerse with our real body or **Avatars**
4. **Collaborate, Socialize**, and pursue passion projects and experiences with friends

It's Your Move

What Will You Build in the Metaverse?

Q&A Thank You!

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510-658-8077



Snap Next-Gen Spectacles