



DIGITAL
STORYTELLING

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Technologies to break communication and interaction barriers to access Virtual Worlds.

Dr Chris Hughes

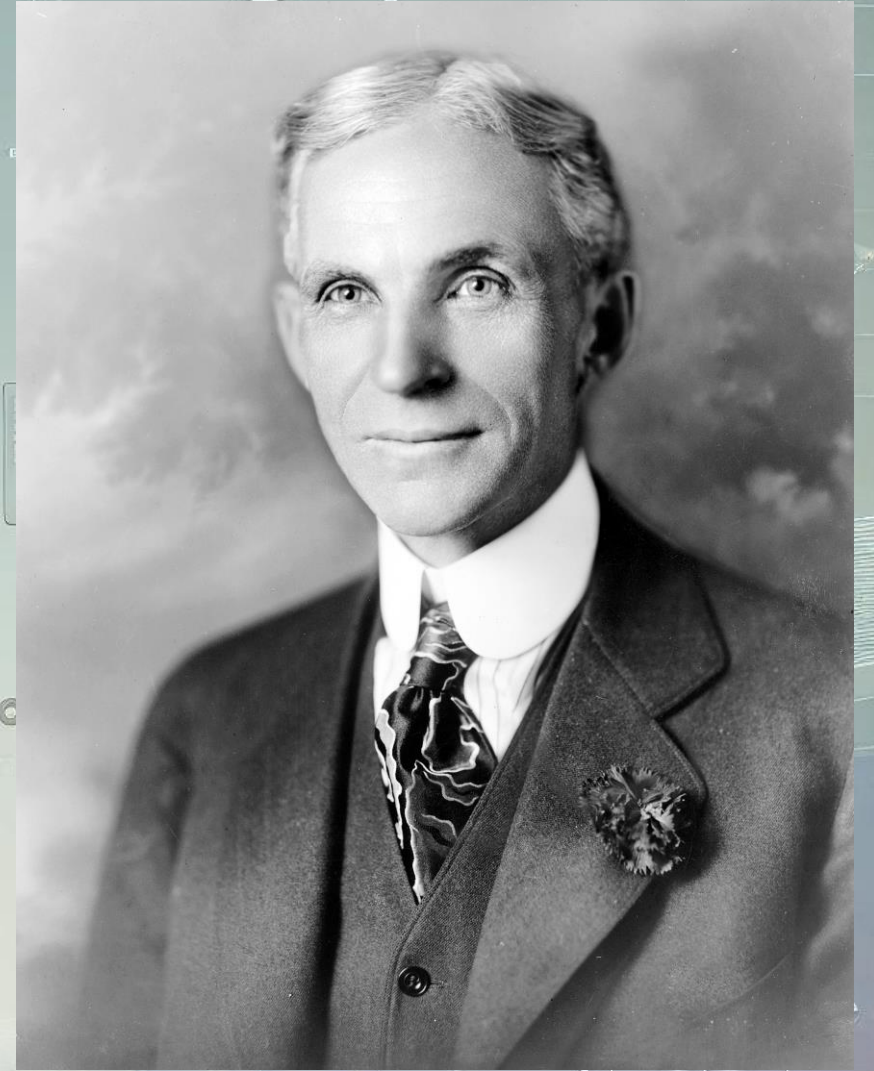
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DIGITAL

**“If I had asked people what they wanted
[or needed], they would have said faster
horses.”**

- Henry Ford

*(*No evidence he actually said it..)*



Overview

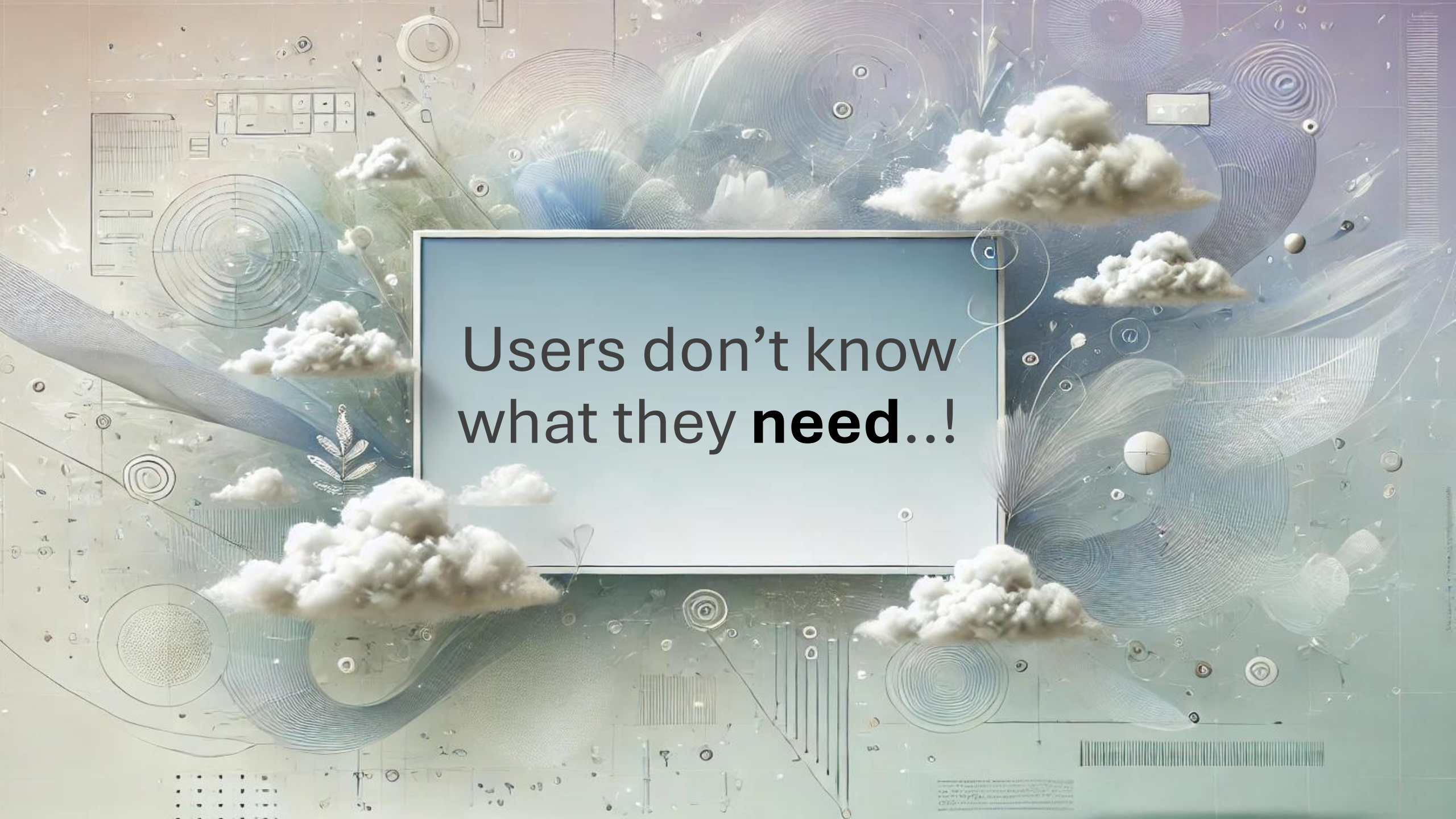
Users don't know
what they **want**...!

Users don't know
what they **do**...!

Break barriers for
inclusive VR







Users don't know
what they **need**..!



Approaches evaluated	Advantages	Disadvantages
Fixed in Scene (locked in vertical?)	Easy to achieve technically Can be “burned in” as open captions	Still may be difficult to locate depending on where user is looking Switching from one block to the next may be challenging
Fixed in scene, repeated evenly spaced	Easy to achieve technically Can be “burned in” as open captions	Still may be difficult to locate depending on where user is looking Switching from one block to the next may be challenging
Appear in front, then fixed in scene	Always appear in view, but don’t distract after appearing	May require user to move their head to see content
Fixed, position in scene	Clear context from where the voice is coming from, while not distracting	Production cost to position captions properly, not needed in other approaches May require user to move their head to see content, or render on top, resulting in a distracting effect
Head-locked	Always in view Simple to implement Understandable	May be distracting, feel “stuck to your face” Fixed to head may cause discomfort Caption may occlude content
Head-locked on horizontal axis only	Always in view	May be out of view when looking up/down Fixing in only one direction seems more distracting than follow head
Head-locked with lag, animate into view	Always in view Avoids head-locked discomfort	Animation feel unpredictable, reduce immersion
Head-locked with lag, jump into view	Stays in view	Jumping is somewhat unpredictable, distracting when it happens
Fixed, positioned in scene, then head-locked with lag	Clear context from where the voice is coming from, while not distracting	Production cost to position captions properly, not needed in other approaches

WTF does this all mean????

Immersive Subtitle Display Modes (Click to drag view, button to advance captions / or play, select mode)

Play

Next Caption

Previous Caption

Hide Details

Head-locked

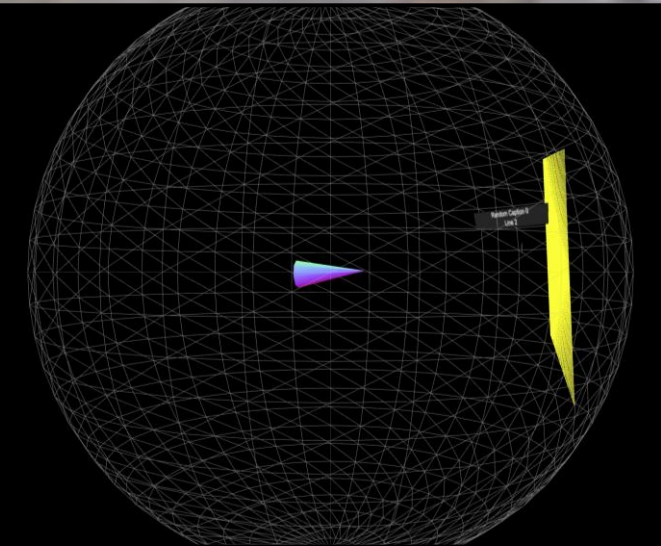
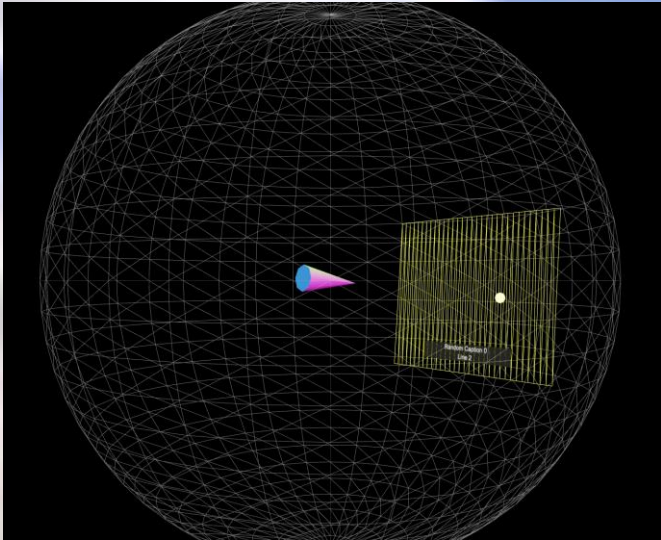
London Bridge

Auto Jump

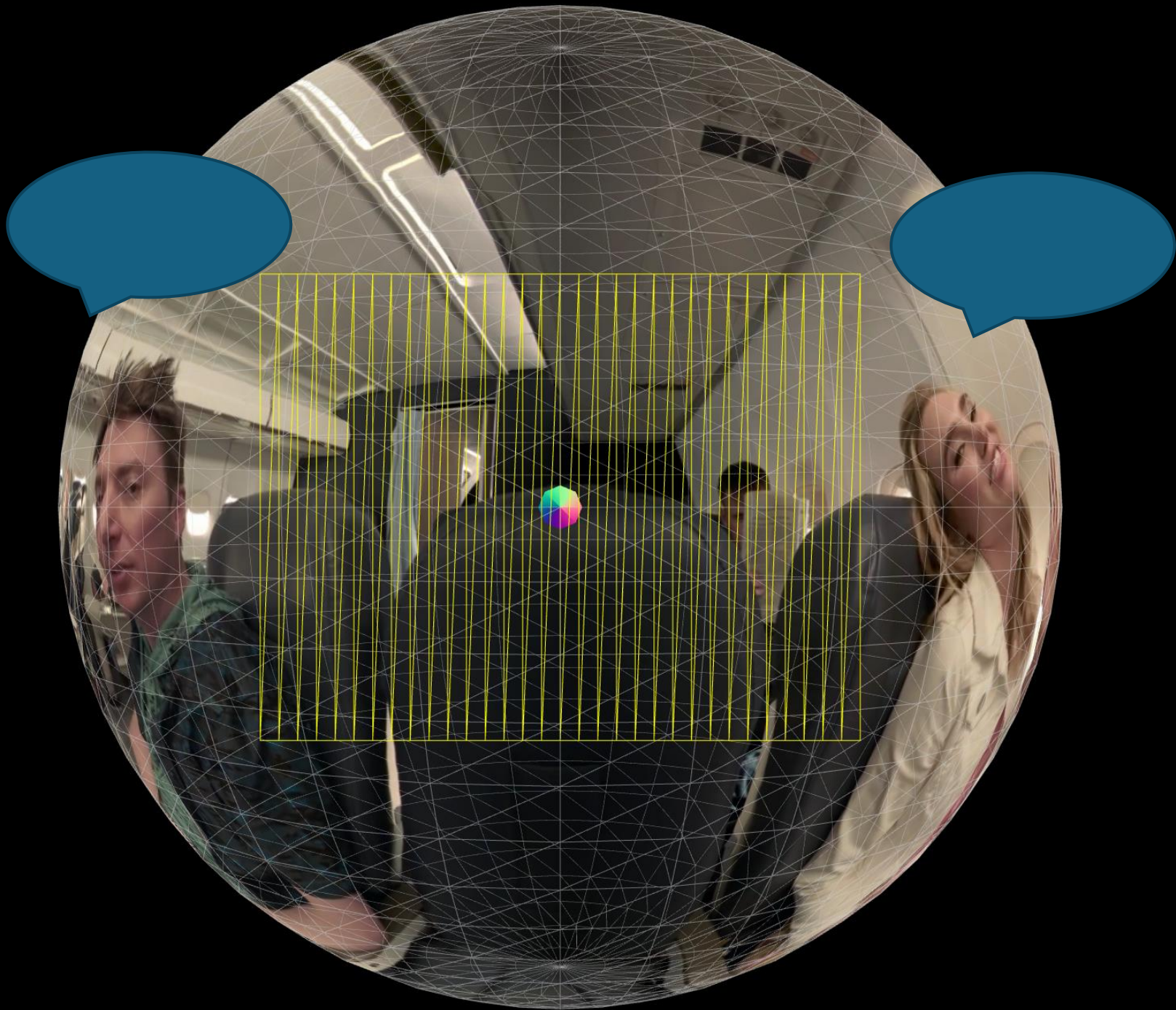
Head-locked

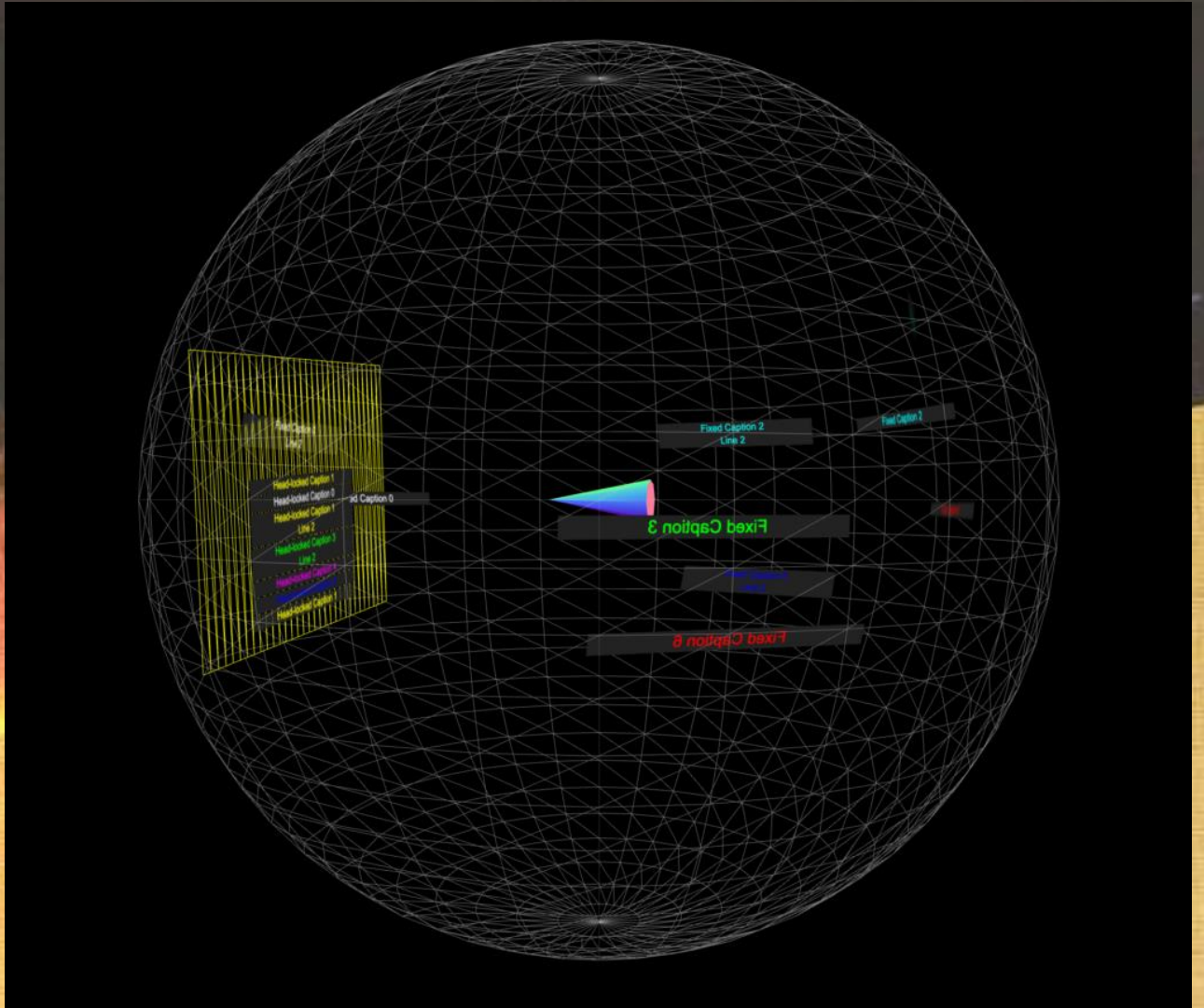
Originally Identified in Matthew Johnston's Survey.

View Angle: 0.53 Subtitle Angle: -2.93
Timecode: 4.65



This an example caption
People Walking, Talking







(MUSIC FADES OUT)

Player

Playback Rate: 1.0x

Auto Pause: ☐ Auto Mute: ☐

Autoplay: ☐ 1

Subtitle Mode: ☐ Subtitles Visible: ☐

Caption Mode: ☐ Auto: ☐

Guide Mode: ☐ Screen: ☐

Web Rotation: ☐ 0

Lock to Mouse: ☐

Show Target: ☐

Auto Play on VUI: ☒

Responsive Captions

Enabled: ☐

Size: 0

Timecode

Enabled: ☐

Format: 00:00

Position: 00:00:00

Size: 00:00:00:00

Caption Parameters

Caption Source: First Subtitle

Quality: 0

Color: 0

FontOffsetX: 0

FontOffsetY: 0.25

FontOffsetZ: 0

Max FontOffsetX: 0

Max FontOffsetY: 0

Max FontOffsetZ: 0

Character Name:

Only on C: ☐ Only on L: ☐

Use Icon: ☐

Caption Minus: 0

Removal Delay: 1000

Max Captions: 1

Align: left, right

Transcript: ☐

Maximize: ☐ 7

Cursor: 0

Transcript Box: ☒

Transcript Location: From caption box

Show Transcript: ☐

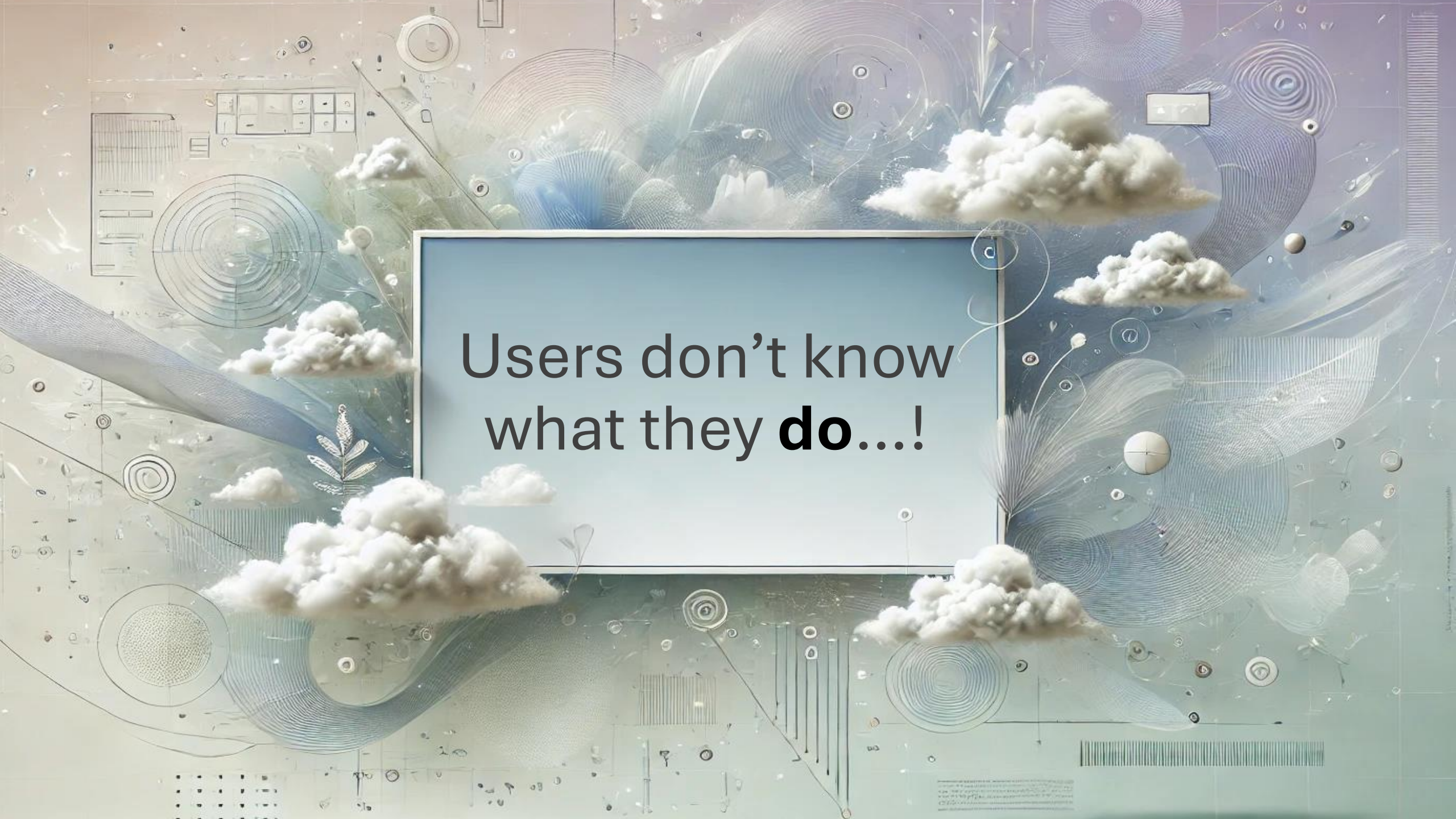
Edit Mode: ☐

Caption Editor

Caption Editor: ☐

Scale Info: ☐

Close Controls



Users don't know
what they **do**...!

It says wild flowers can't compete,
leading to a decline in the insects





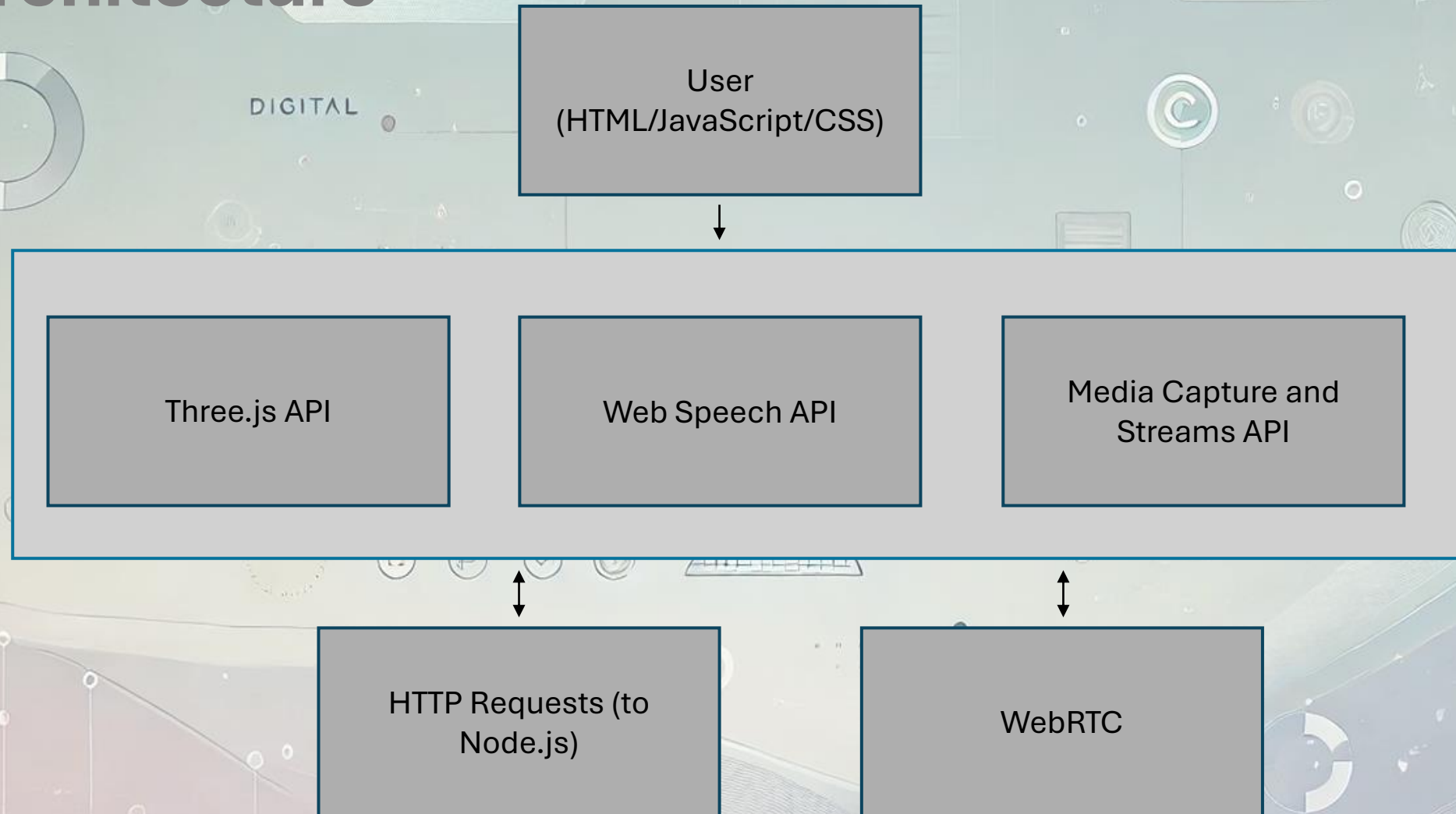
Playback



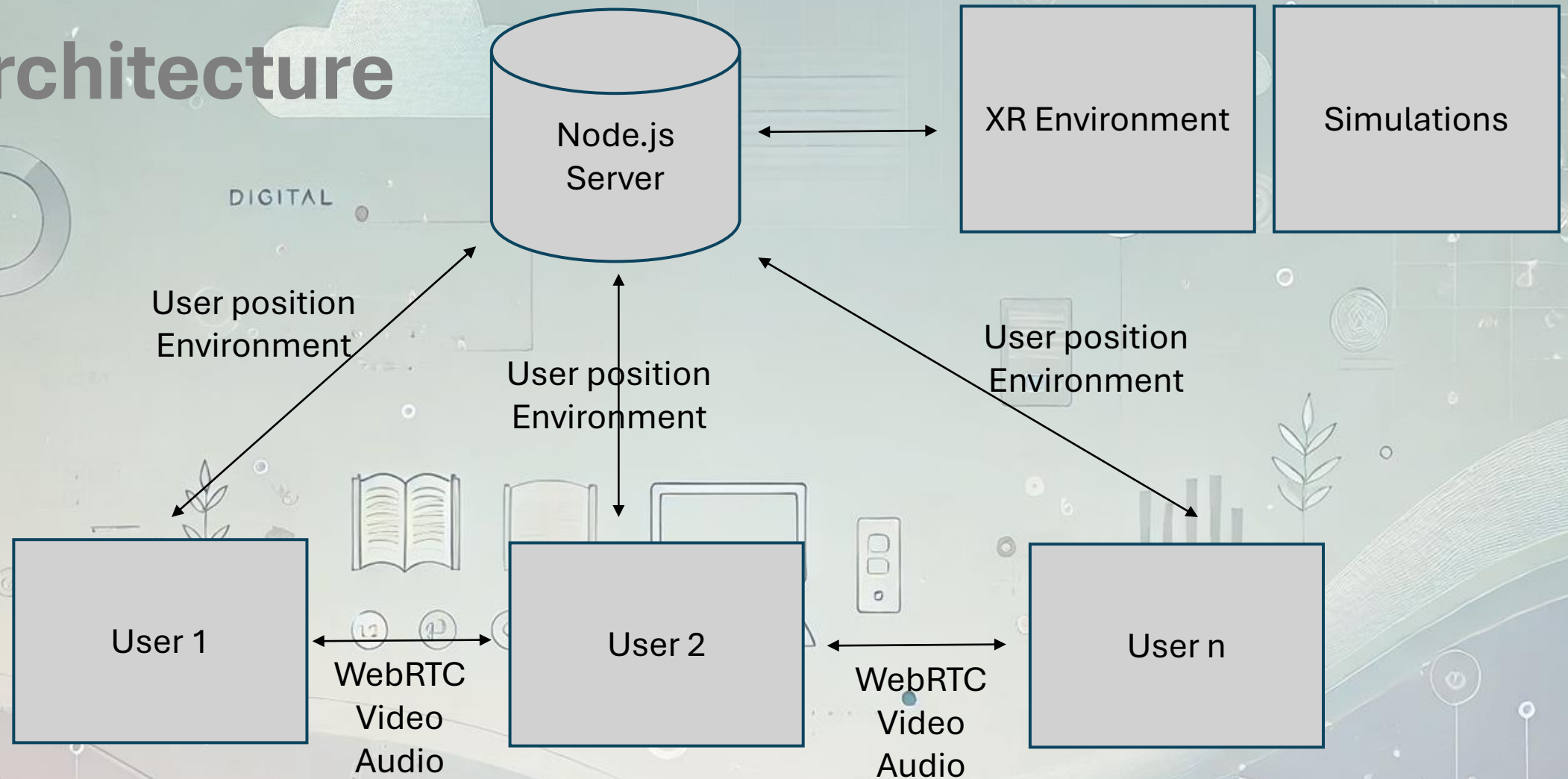


Inclusive VR...?

Architecture



Architecture



Collaborative XR

Chris



Chris

On he fly

Hello

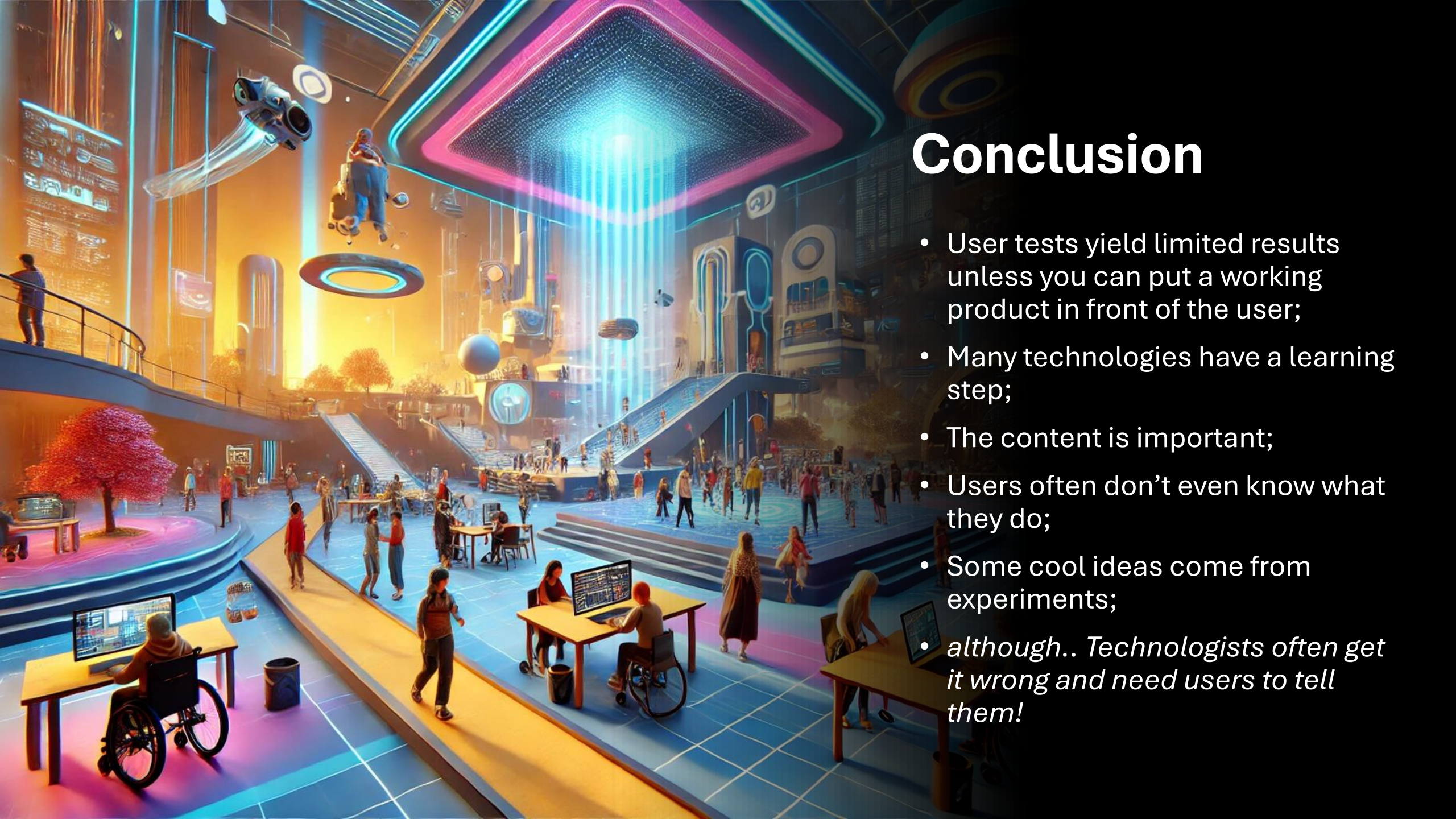
ds

Super pili

Srange

he doesn't work





Conclusion

- User tests yield limited results unless you can put a working product in front of the user;
- Many technologies have a learning step;
- The content is important;
- Users often don't even know what they do;
- Some cool ideas come from experiments;
- *although.. Technologists often get it wrong and need users to tell them!*

Thank you!

Any Questions

Chris

Thank you!

Any Questions?

Ben

Carlos

Pilar

I have a question

Kryz

Marta