



VR FOR FIRST-TIMERS

Workshop by the Media
Creation Lab team

Agenda +

Introduction to VR

- What is Virtual Reality
- Humanistic Overview
- Types of VR Experiences
- VR Applications and Considerations

Introduction To Oculus Quest

- The Oculus Quest
- Using the Oculus Quest
 - Strategies for Motion Sickness
 - Headset
 - Controllers
 - Guardian: Stationary
 - Guided Non-Interactive Activity
 - Guided Interactive Activity
- Questions
- Media Creation Lab





INTRODUCTION TO VR



What is Virtual reality? +

An artificial environment that is experienced through sensory stimuli (such as sights and sounds) provided by a computer and in which one's actions partially determine what happens in the environment
(Merriam-Webster, n.d.)

We can distill this definition:

An artificial environment that is experienced through sensory stimuli (such as sights and sounds) provided by a computer and in which one's actions partially determine what happens in the environment



What is Virtual reality? +

Virtual reality is present in all storytelling (displaced communication), a fundamental and uniquely human activity.

It puts the listener, reader, viewer, or player in a different place (time/space).

We'll focus on experiences in which the presented place (real/artificial) is essential to the intended experience.



Humanistic Overview

+ Our History



EARLY 3D

- 1788: Panorama
- 1838: Stereoscope
- 1939: Vitarama aka Cinerama

(Barker, n.d.)



WAR

- 1939–1945: Flight sims
- 1940s–1950s: "Whirlwind" & "SAGE"

(Teslasuit, 2017)



VISIONARIES

- 1960: HCI
- 1962: Sensorama
- 1964: "ultimate display"
- c 1967: HMD
- 1970s: 3D models

(Heilig, 2014)



BOOM-BUST

- 1970s–1980s: Data gloves
- Mid-1980s: NASA VIEW, "virtual reality"
- 1980s–1990s: Rise & fall

(Scientific American, 1987)



STEADY ADVANCEMENTS

- 1990s: *Doom*, online role-playing games; science/medicine applications

(QuasarTE, 2010)



STEADY REVIVAL

- 2000s: Wii, PS Move, Xbox Kinect
- 2012: Oculus Rift

(Evan-Amos, n.d.)

(Lowood, 2022; Virtual Reality Society, 2019)

VR Experience Labelling



People usually label VR experiences based their **level of immersion and/or interactivity** (low/minimal, partial, high/full).

The immersivenesss of an experience is subjective.

However, its main determinants/dimensions are


- 1. Extent of illusion** of 'being there' (telepresence) (Lowood, 2022)
 - Highest level: HMD obscuring real world & showing (realistic) 3D visuals
- 2. Extent of interactivity** with/within world (agency)
 - Highest level: Motion controllers allowing immediate/obvious (true-to-life) actions



VR Experiences

Context/Scope

 **Standalone or shared
(live world)**

 **Computer-generated
basis or real-world
basis (augmented
reality)**

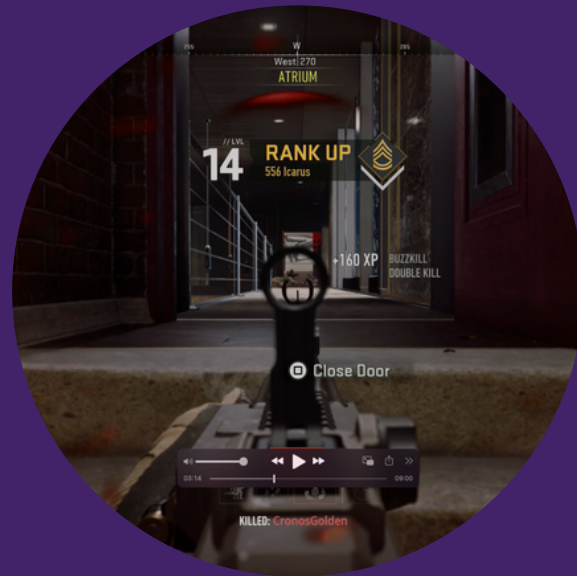


VR Experiences


Spectrum of immersiveness/interactivity



 **Example 1**
Playing video game




- Immersion
- Interactivity

 **Example 2**
Using vehicle simulator
(physical controls, no HMD)




- Immersion
- Interactivity

 **Example 3**
Viewing movie within VR
headset with surround
sound



- Immersion
- Interactivity

 **Example 4**
Playing game within VR headset
and motion controls



- Immersion
- Interactivity



**VR IN *YOUR* FIELD OF
WORK/STUDY?**



Virtual Reality + Applications & Considerations

Practical/potential applications

- Training besides military-related vocations
- Health & well-being (e.g. Davidson, 2022)
- Education (e.g. York University, 2022)
- Enterprises involving physical spaces

Concerns/consequences for consideration

- Not commercial viable yet (e.g. Leswing, 2022)
- Not economically accessible to all
- Not adaptable yet (e.g. Ugolik Phillips, 2020)
 - Compare with video-game industry:
 - Xbox Adaptive Controller
 - *The Last of Us Part II*
 - Game Accessibility Guidelines
- Privacy/security issues (e.g. Everson Layden, 2022; Vittorio, 2022)









INTRODUCTION TO OCULUS QUEST



The Oculus + Quest

"The Quest is the first fully functioning VR headset from Oculus that is completely wireless and requires no additional hardware to enjoy" (*Bhphotovideo*) all virtual non-interactive and interactive experiences such as:

-  **Stream TV, movies, and videos**
-  **Play immersive games, from the comfort of your home.**
-  **Create interactive experiences**
-  **Explore both real and un-real worlds**

Oculus Quest



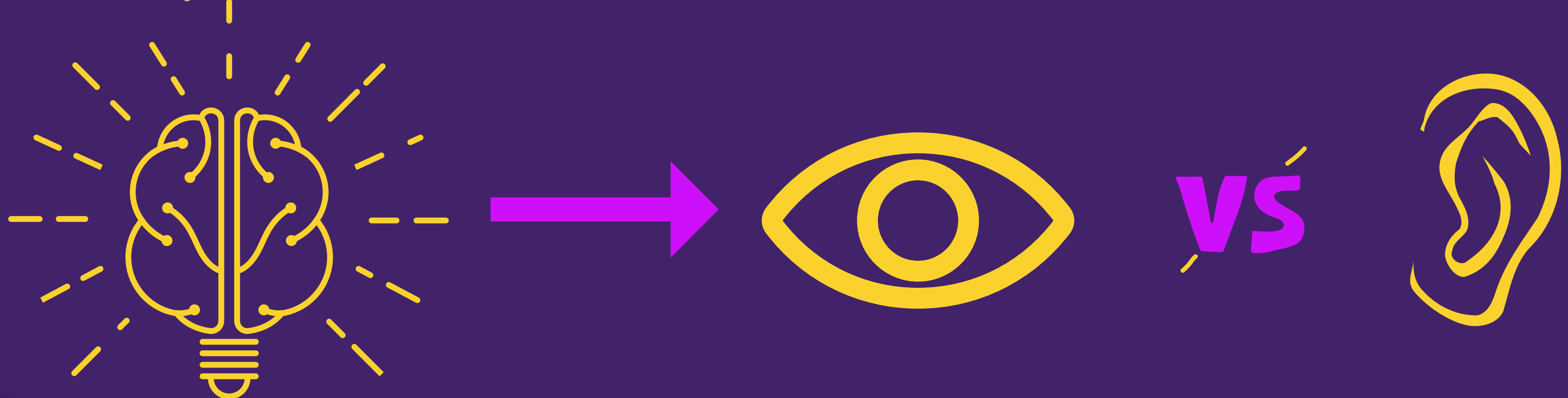
Oculus Quest 2

Understanding Motion Sickness+

Motion sickness (*simulated*-motion sickness) is a common outcome of VR experience.

It results from a sensory-perception discrepancy between your visual system and your motion/balance system.

Brain: Eyes vs inner ears

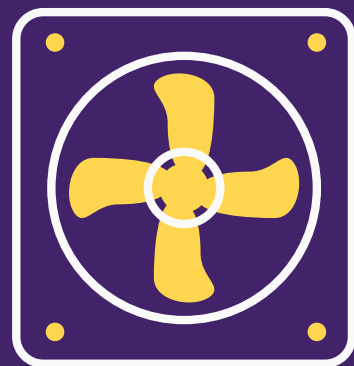


Using the Oculus Quest + Mitigating Motion Sickness



Mitigation (e.g. Whitson, 2021)

- Clean lenses
- Suitable inter-lens distance
- Comfortable environment (air flow, temperature)
- Persistent, tactile stimuli (fan, rug)
- Low-intensity experiences
- Short sessions (desensitization)

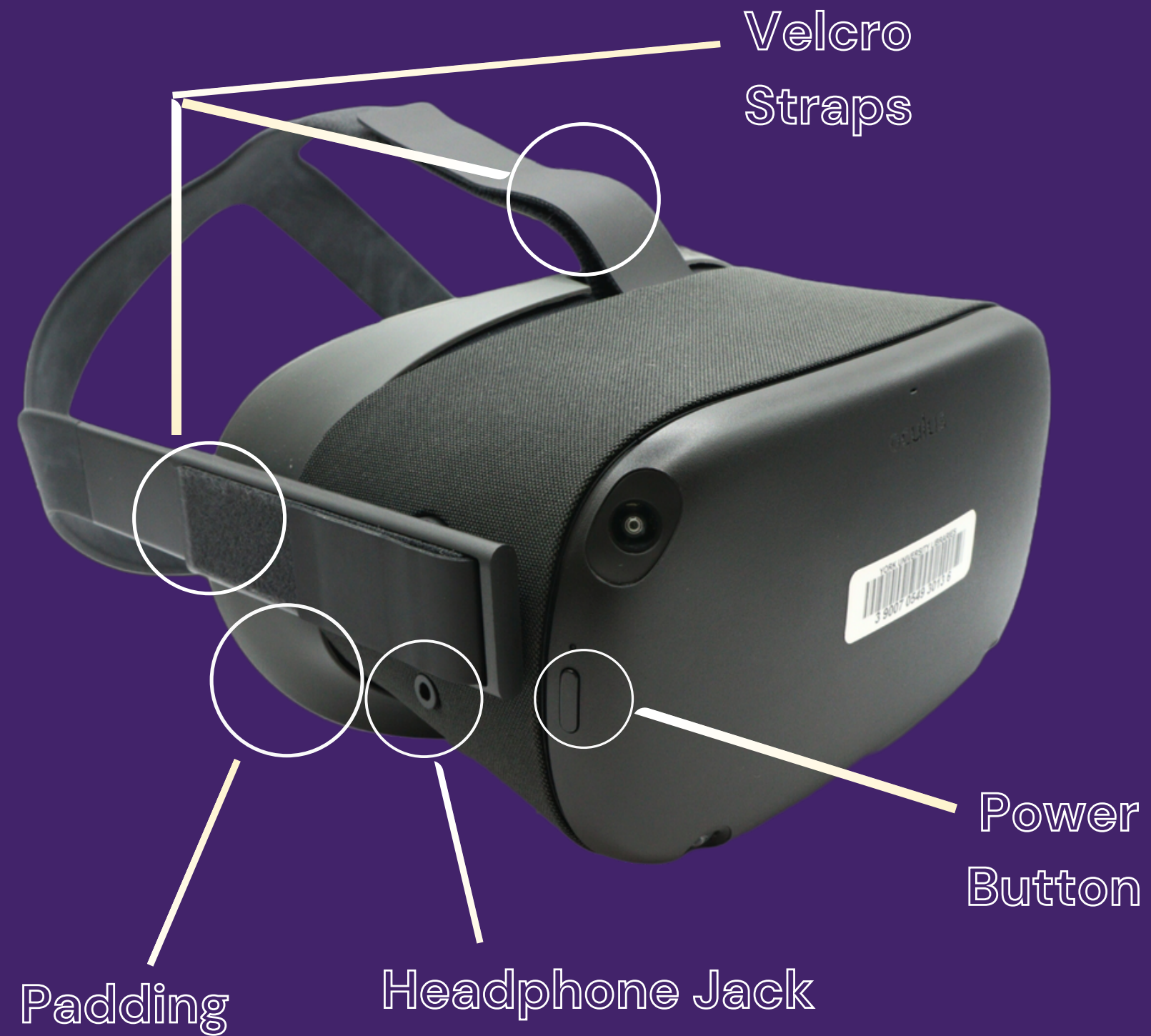


Minimizing visual fidelity

- Decreased field of view
- Disabled motion-blur
- Fixed on-screen indicators
- View stabilization (disable head-bob effect)



Oculus Quest Headset Overview



Oculus Quest Using the Headset



1

Pull up the headband to loosen the headspace



2

Place the headset on your head and pull down the headband



3

To loosen or tighten the straps, remove and then pull the Velcro strap in the direction of the arrows



4

Once the headset is a comfortable fit, re-attach the Velcro strap to the headband by moving them in the direction of the arrows

Oculus Quest Headset Overview

Adjustable
Straps



Face Padding

Power
Button



Volume Button



Lens Spacers

To adjust the focus, move the lenses towards the direction of the arrows to move them closer or farther apart

Oculus Quest 2 Wear the Headset



1

Place the head set on your head, and bring down the straps past/below the base of your skull



2

Pull up the adjustment straps at the top of the head, until it detaches from the headset



3

Keep pulling the straps until the headset is flush with your face. Then push down the strap until it is secured to the velcro strip at the top of the headset

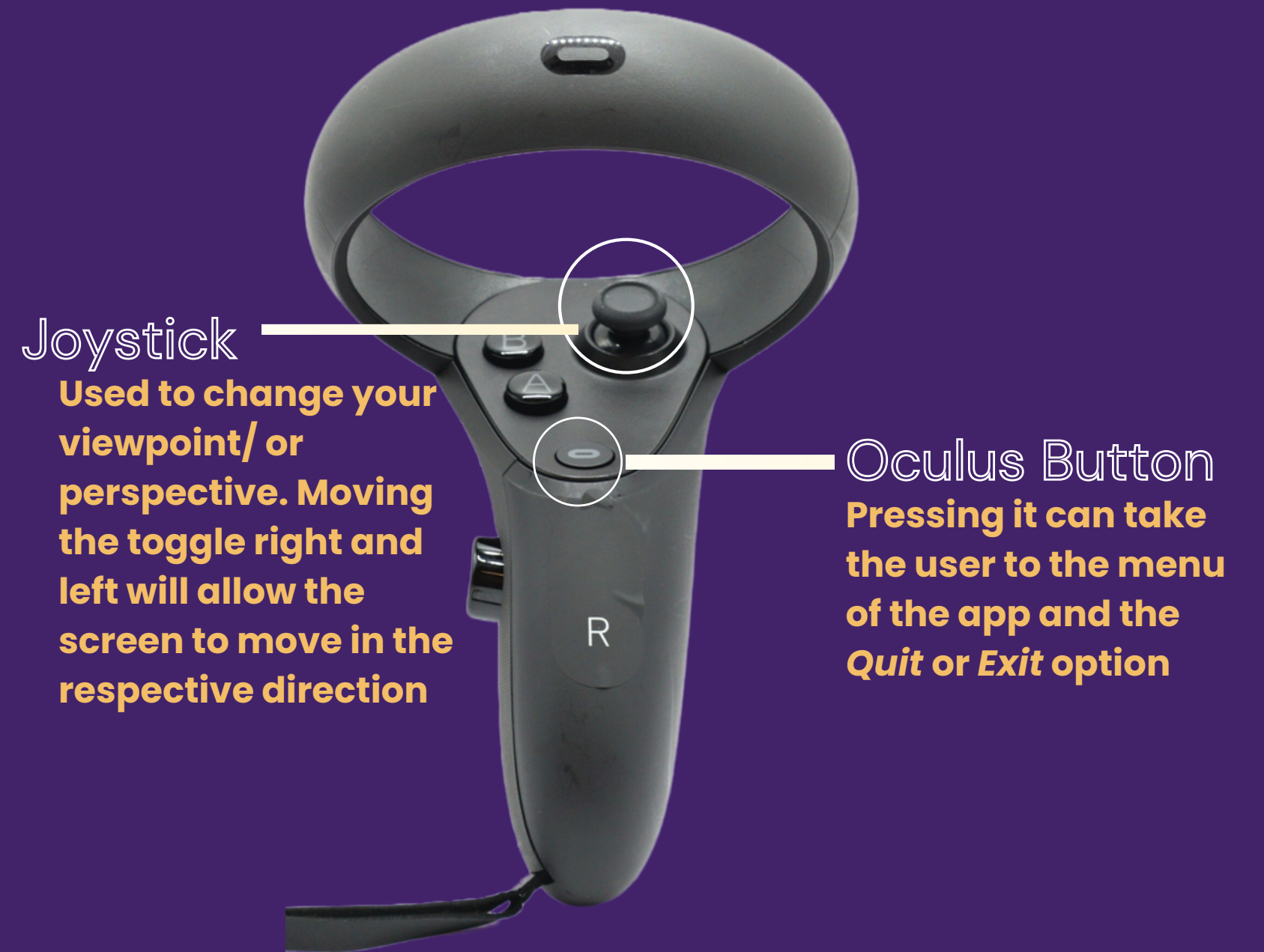


4

Move the two adjustable knobs left to right, to tighten or loosen the headset

Using the Controllers

Oculus Quest



Using the Oculus Quest + Guardian

A Guardian is a virtual boundary where users can define a play area for themselves. It is a built-in safety feature that prevents you from getting too close to an object.

A Stationary Guardian requires the user to remain in one place, while a Roomscale Guardian allows the user to move freely within a selected place.



(Meta Quest, 2021)

Using the Oculus Quest

Setting the Floor Level



Turn on the Oculus Unit and follow the on-screen instructions to connect it with the mobile app. This step has already been completed for you

1

Secure the controllers to your wrists, using the safety Straps



2

Place the headsets on your head and adjust the focus



3

Set the floor Level by placing the controllers on the floor



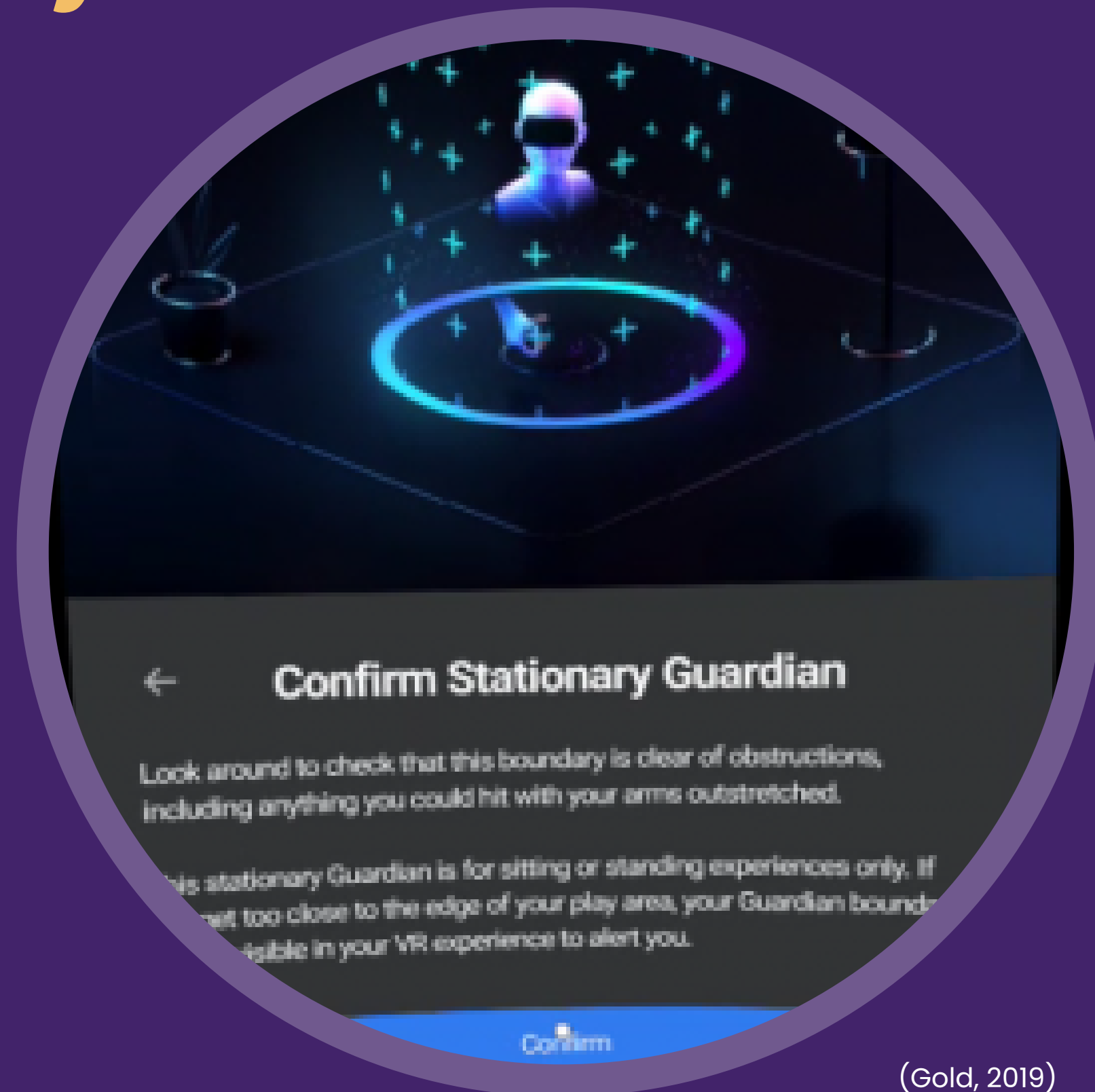
(Meta Quest, 2021)

Using the Oculus Quest

Creating a Stationary Boundary +



Sit in one place and select either *Stationary Guardian* or *Switch to stationary Guardian*. Once a stationary Guardian is set, a glowing blue circle will appear on the 'ground.'



(Gold, 2019)

Non-Interactive Activity

Universal Menu +

1

Press the Oculus button, to enter the home screen

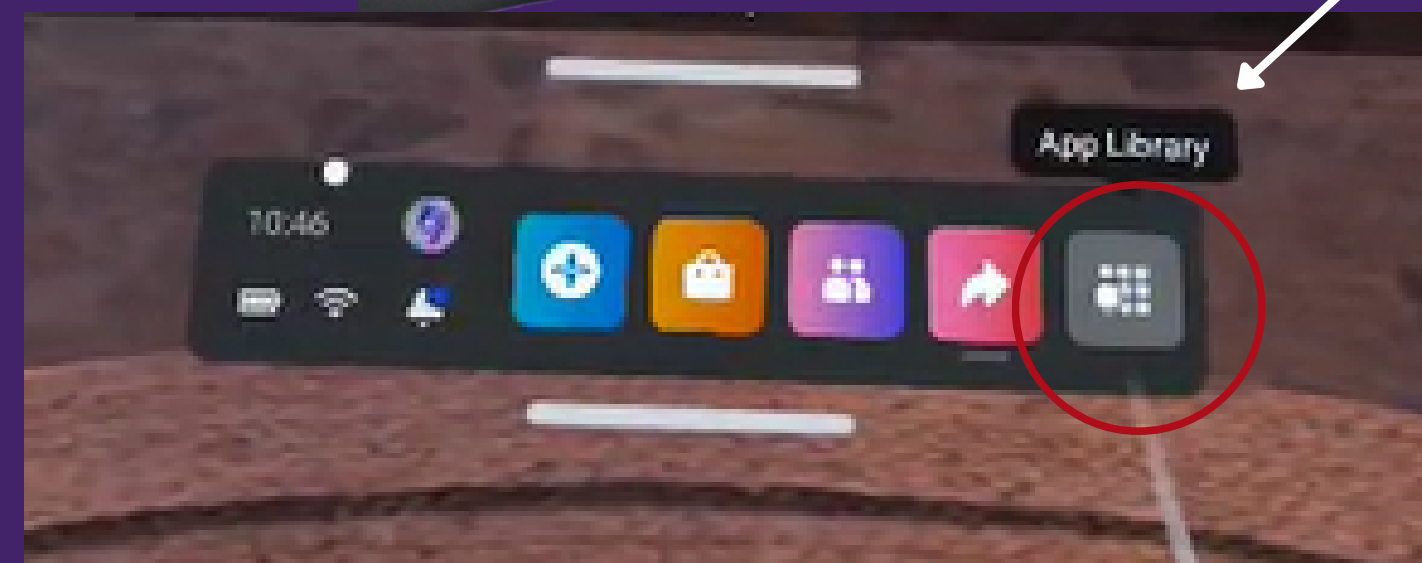
2

On the UNIVERSAL MENU find the APP LIBRARY and press the trigger button to enter



Oculus Button

App Library



Non-Interactive Activity

Liminal +

1 Find the *Liminal* app and select it using the trigger button



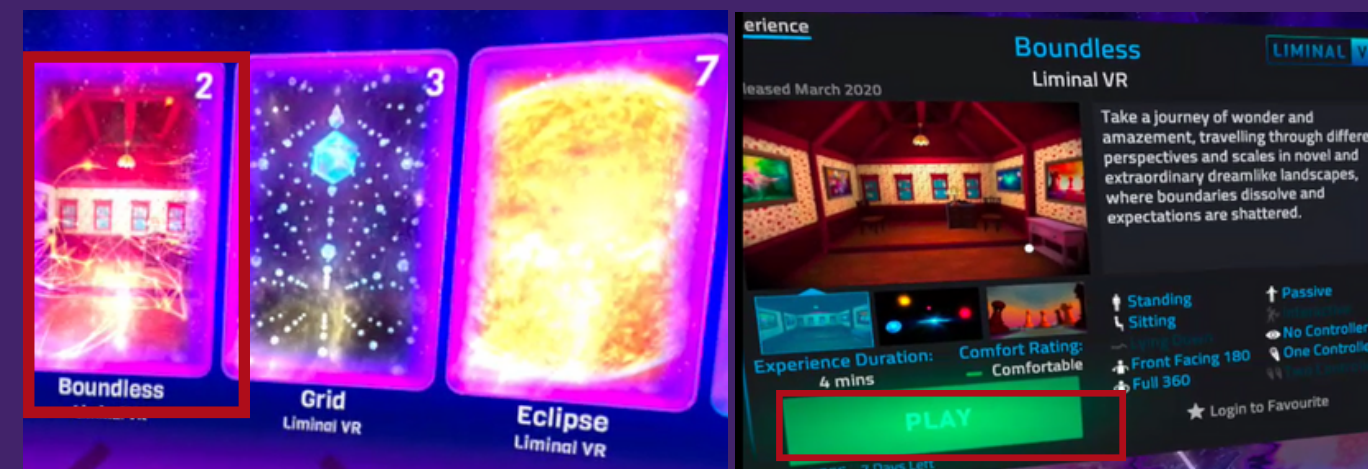
(Liminal VR, n.d)

2 Once the app is open, select *Awe*, which will take you to a new screen



(Liminal VR, n.d)

3 Click on *Boundless* experience and then select *Play*



Non-Interactive Activity

Liminal +

1 Use the *Arrow* button and then the *Home* button to return to the menu screen

2 Select *Calm*, which will take you to a new screen, and select *Aurora*

3 Select *Play* and choose *3 mins* for the length of your experience

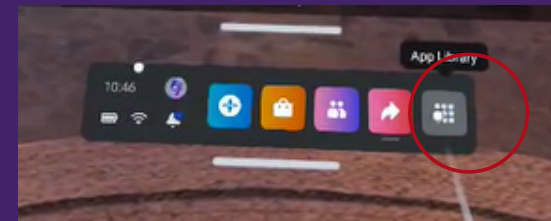


Interactive Activity

First Steps(10-15 mins) +

2

Click on *App Library* and Select First steps using the trigger button



App Library



***Thoughts or
Questions for us?***

Media Creation Lab +



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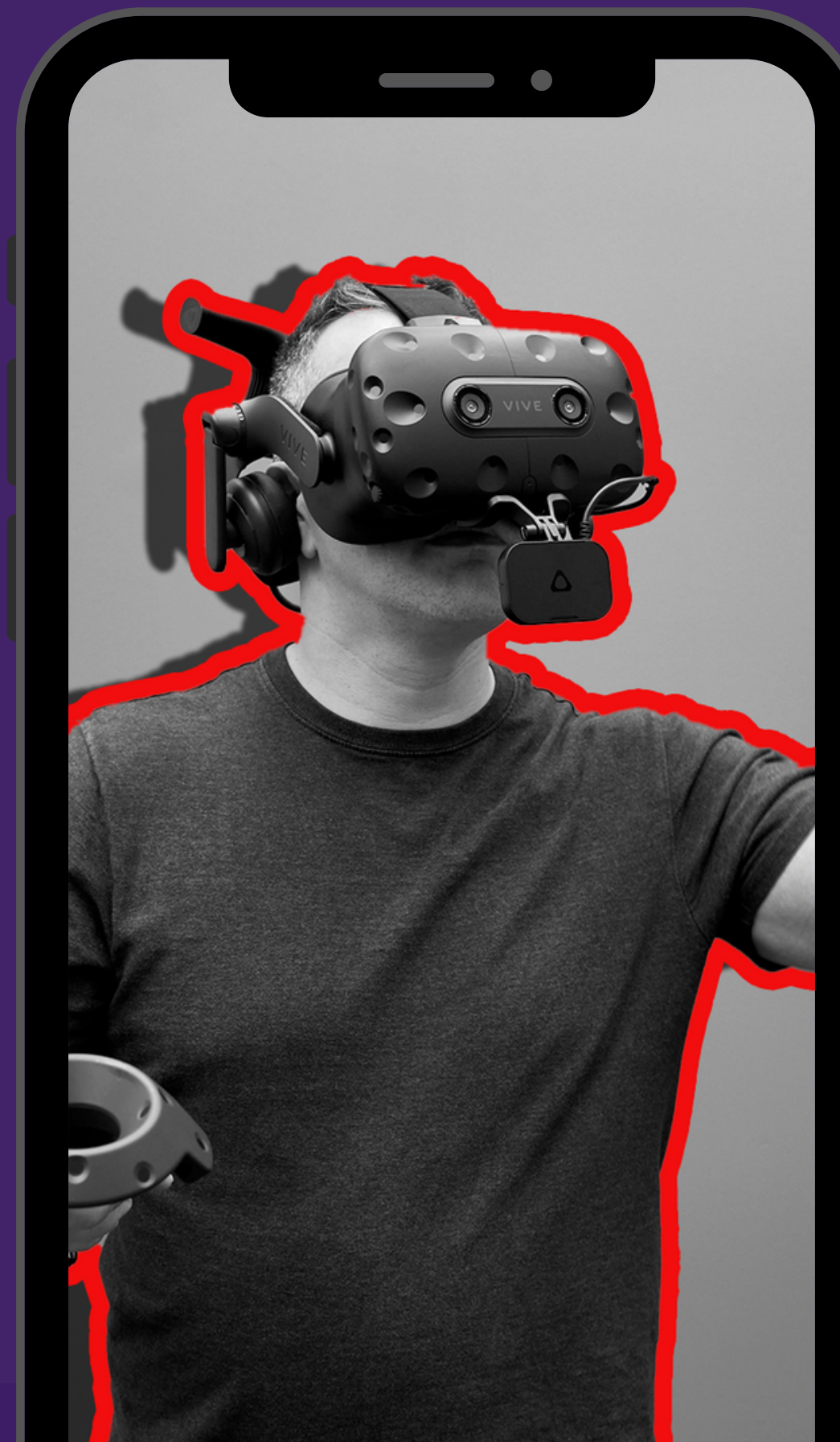
<https://bit.ly/yorku-mcl>



Scott Library Room 207



Discord server #6450





THANK YOU



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