

TECH 1711 - Mixed Reality Studio

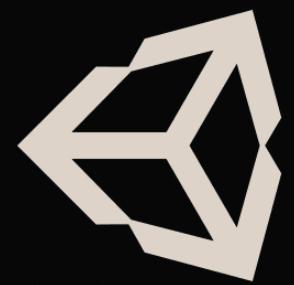




Distraptor

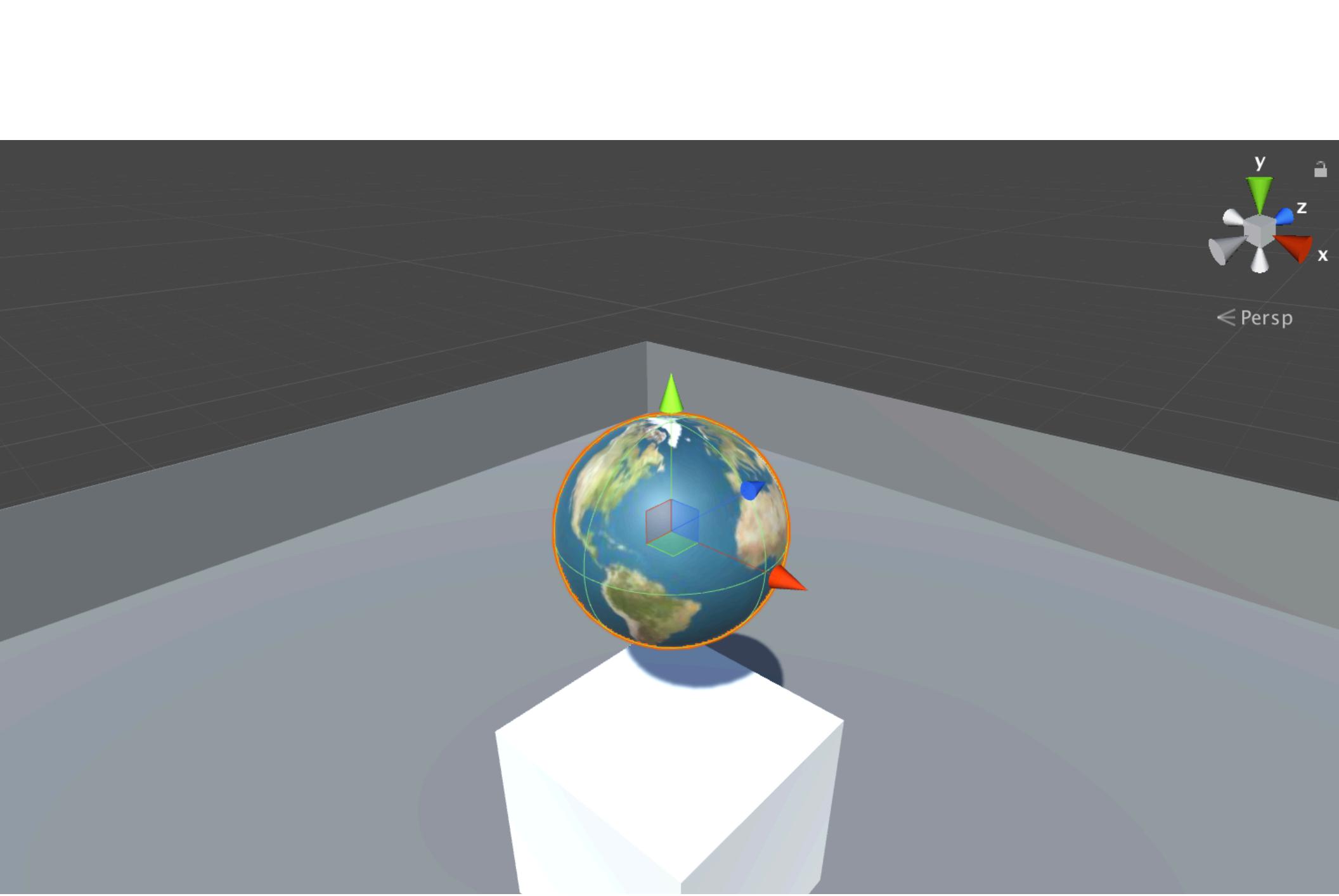
Velociraptor =

Timeraptor



unity





Inspector **Lighting**

Sphere **Static**

Tag: **GravityObject** Layer: **Default**

Prefab

Transform

Position	X: 0	Y: 2.08	Z: 0
Rotation	X: 0	Y: 0	Z: 0
Scale	X: 0.8	Y: 0.8	Z: 0.8

Sphere (Mesh Filter)

Sphere Collider

Mesh Renderer

Rigidbody

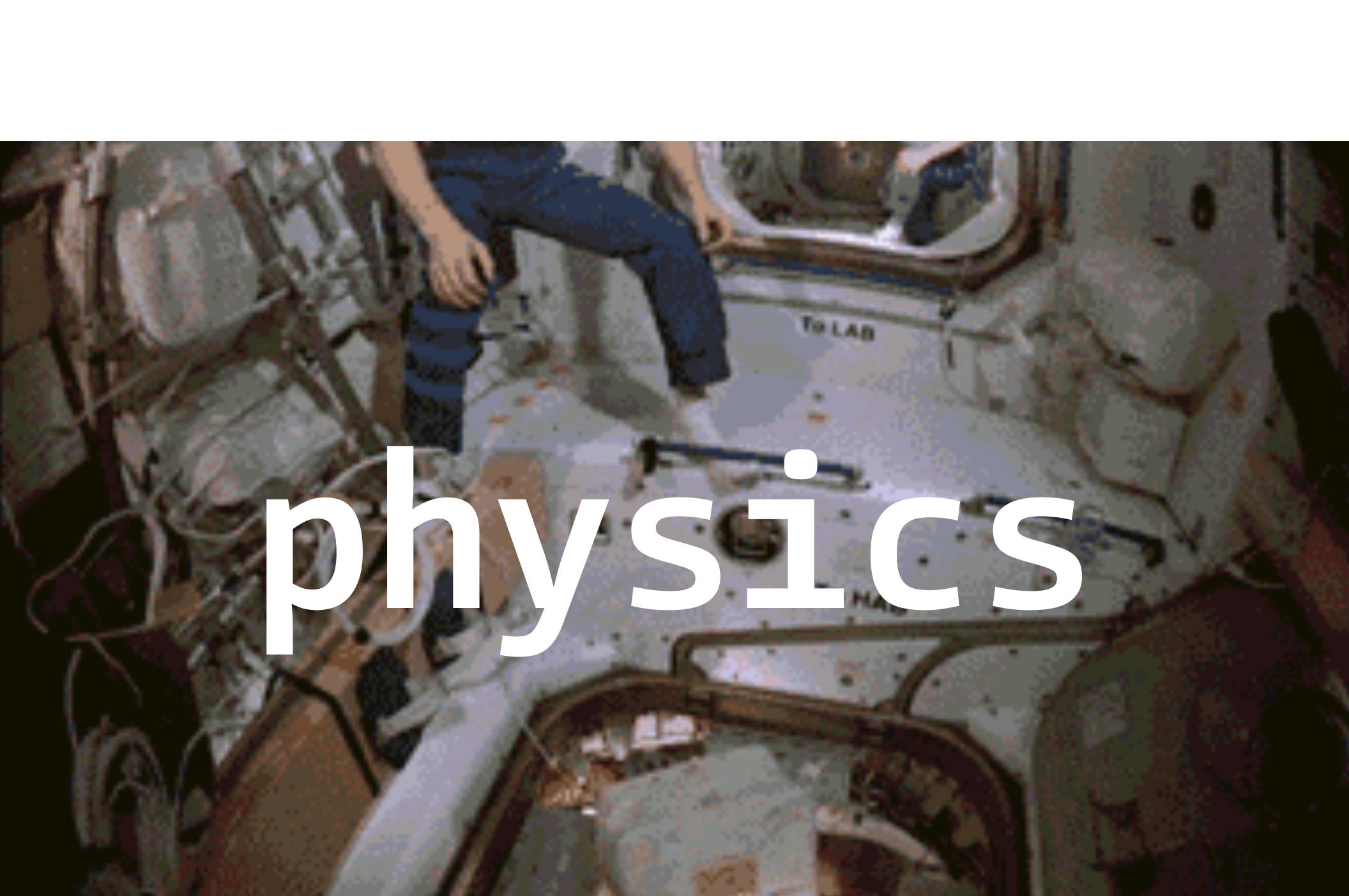
Mass	0.1
Drag	0
Angular Drag	0.05
Use Gravity	<input type="checkbox"/>
Is Kinematic	<input type="checkbox"/>
Interpolate	<input type="checkbox"/>
Collision Detection	None
	Discrete

Constraints

Freeze Position	<input type="checkbox"/> X <input type="checkbox"/> Y <input type="checkbox"/> Z
Freeze Rotation	<input type="checkbox"/> X <input type="checkbox"/> Y <input type="checkbox"/> Z

Object Physics (Script)

Script: **ObjectPhysics**



physics

```
void OnTriggerEnter(Collider c) {  
    // Do something here  
}  
  
void OnCollisionEnter(Collision c) {  
    // Do something here  
}
```



Debug.Log("Hello!");

Vectors

In programming terms, you can think of Vectors as a way to store 2, 3, or 4 values in one easy-to-use package:

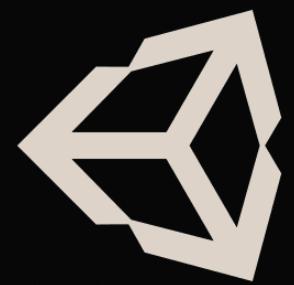
```
Vector2 someNumbers = new Vector2(1.0, 2.2);
Vector3 someOtherNumbers = new Vector3(5.3, 2.6, 12.0);
Vector4 evenMoreNumbers = new Vector4(7.4, 2.1, 12.0, 9.8);
```

RayCasting

RayCasting is when we shoot an invisible line into our scene to see if we hit something in that direction.

To understand RayCasting, you must understand **Vectors**.

<http://docs.unity3d.com>

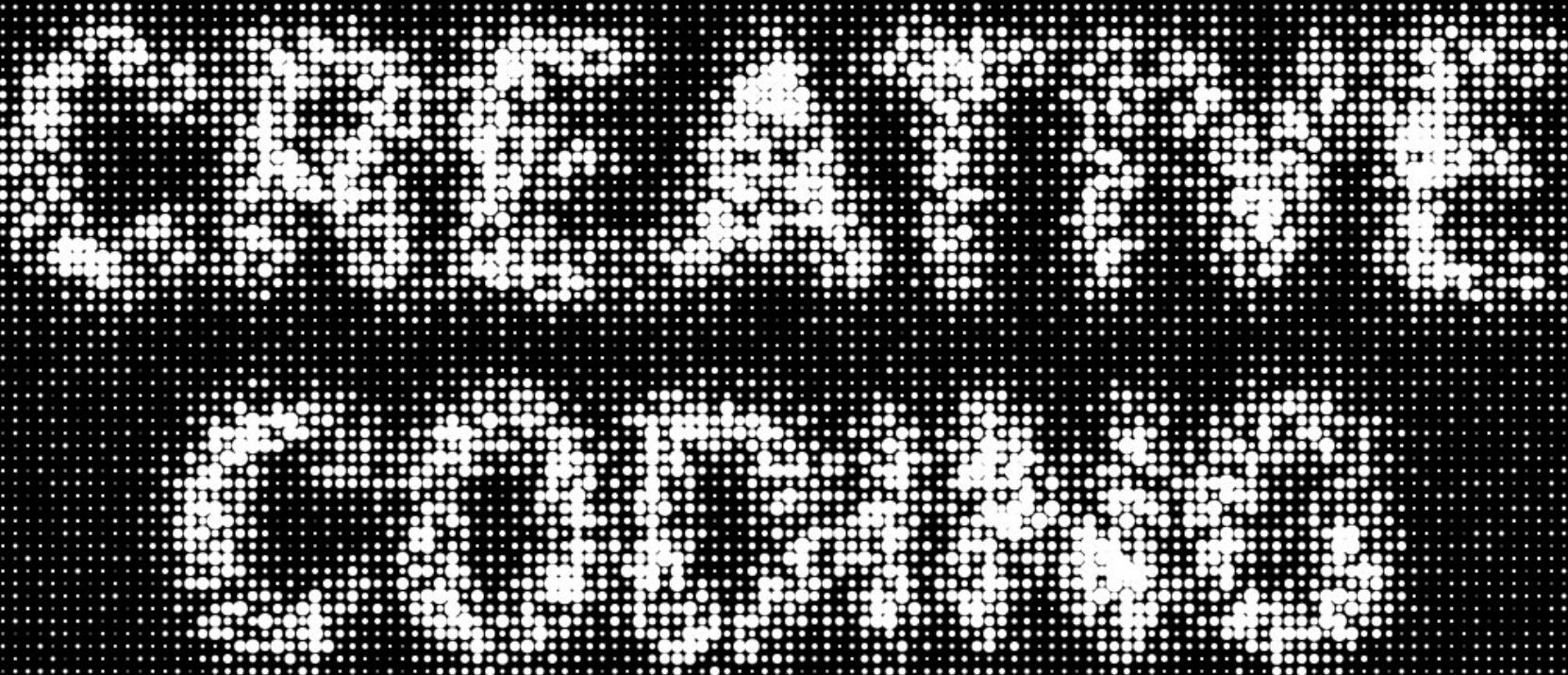


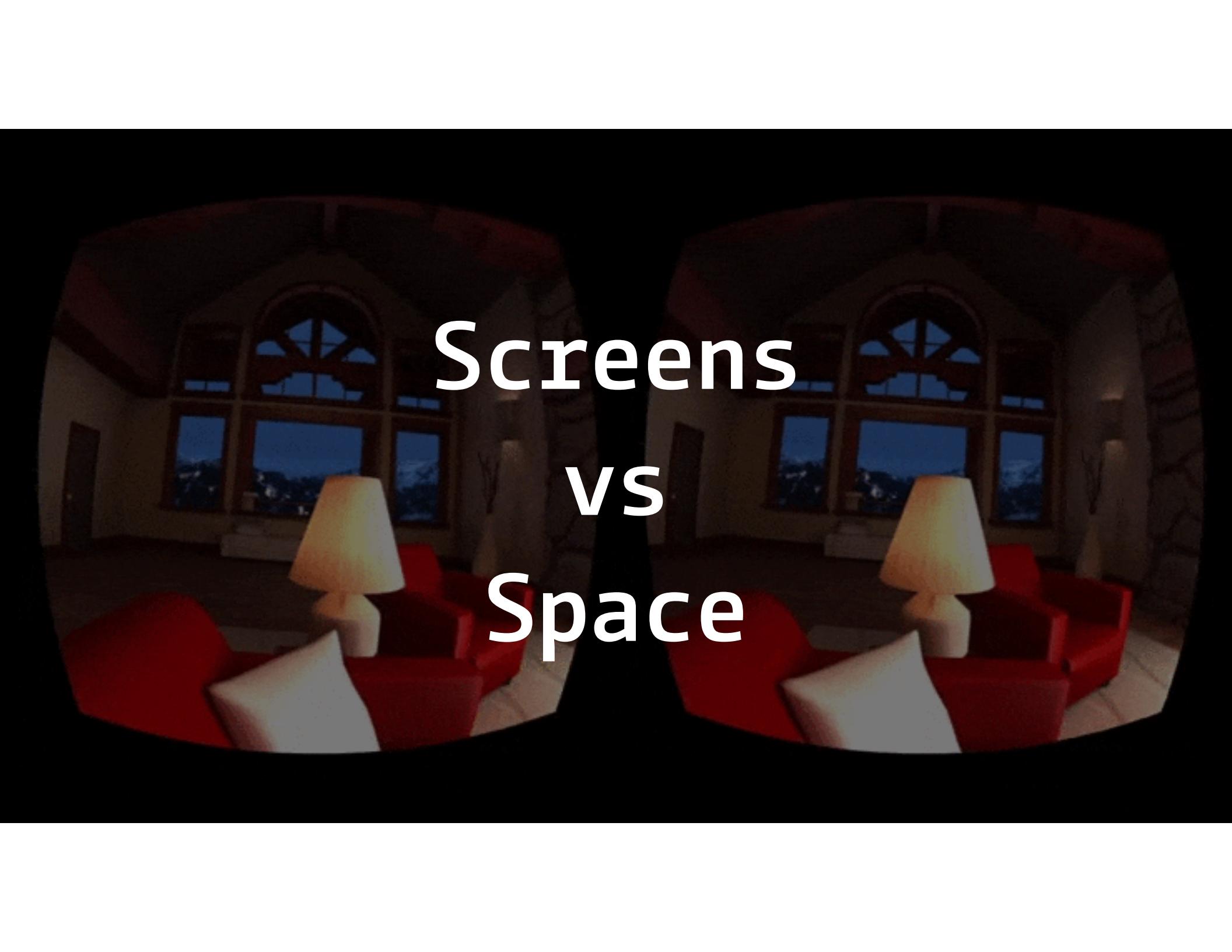
unity



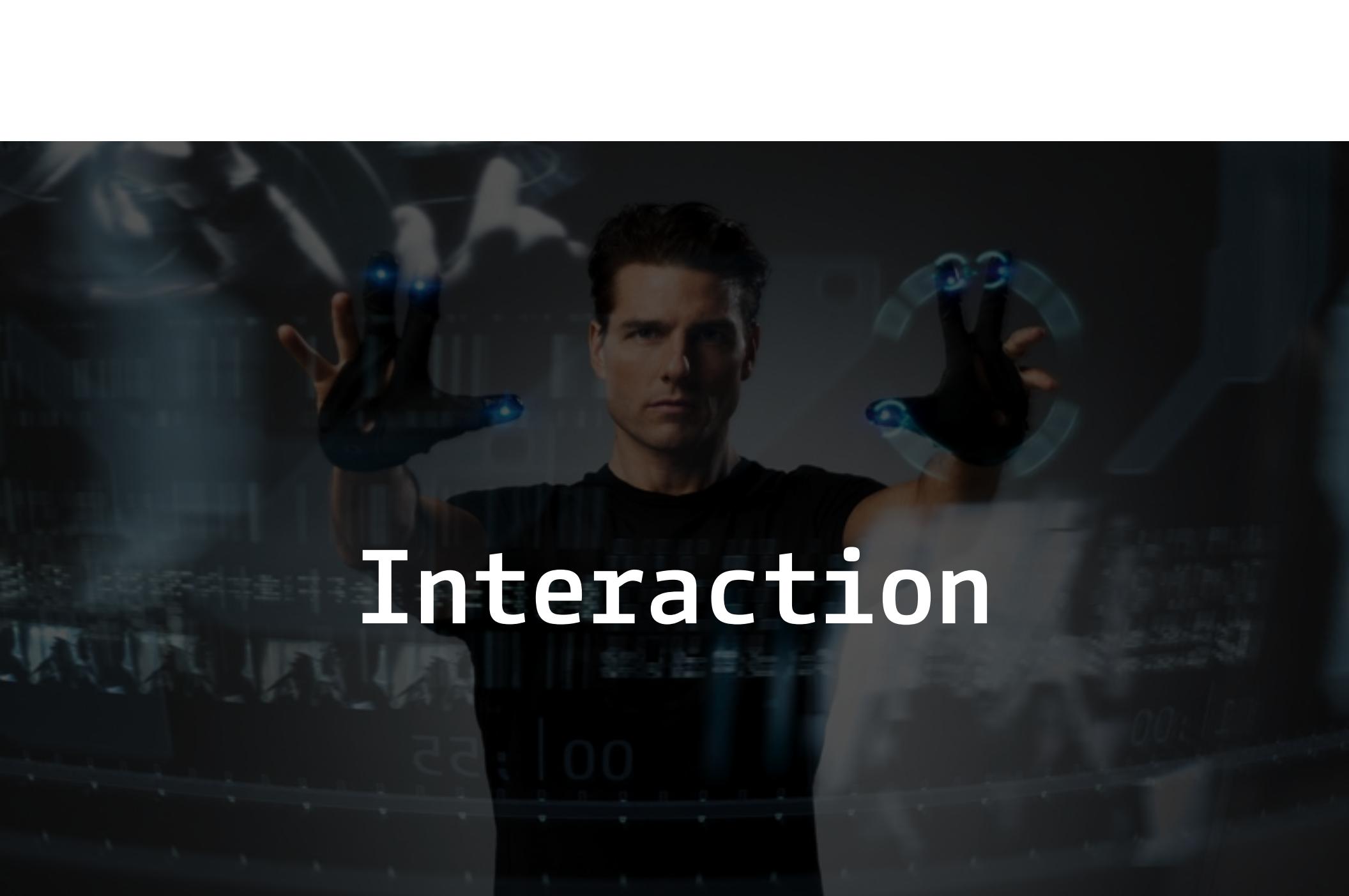
The background features a dark purple gradient. In the center is a large, solid red circle. The foreground consists of two stylized, purple, low-poly mountain ranges that meet at the bottom, creating a sense of depth. A light gray grid floor is visible at the base of the mountains.

What is AR/VR/MR?



A dark, atmospheric photograph of a room featuring a large, ornate arched window that looks out onto a night sky with stars. In the foreground, there are two red armchairs and a small white table lamp on each side, creating a symmetrical composition.

Screens vs Space



Interaction

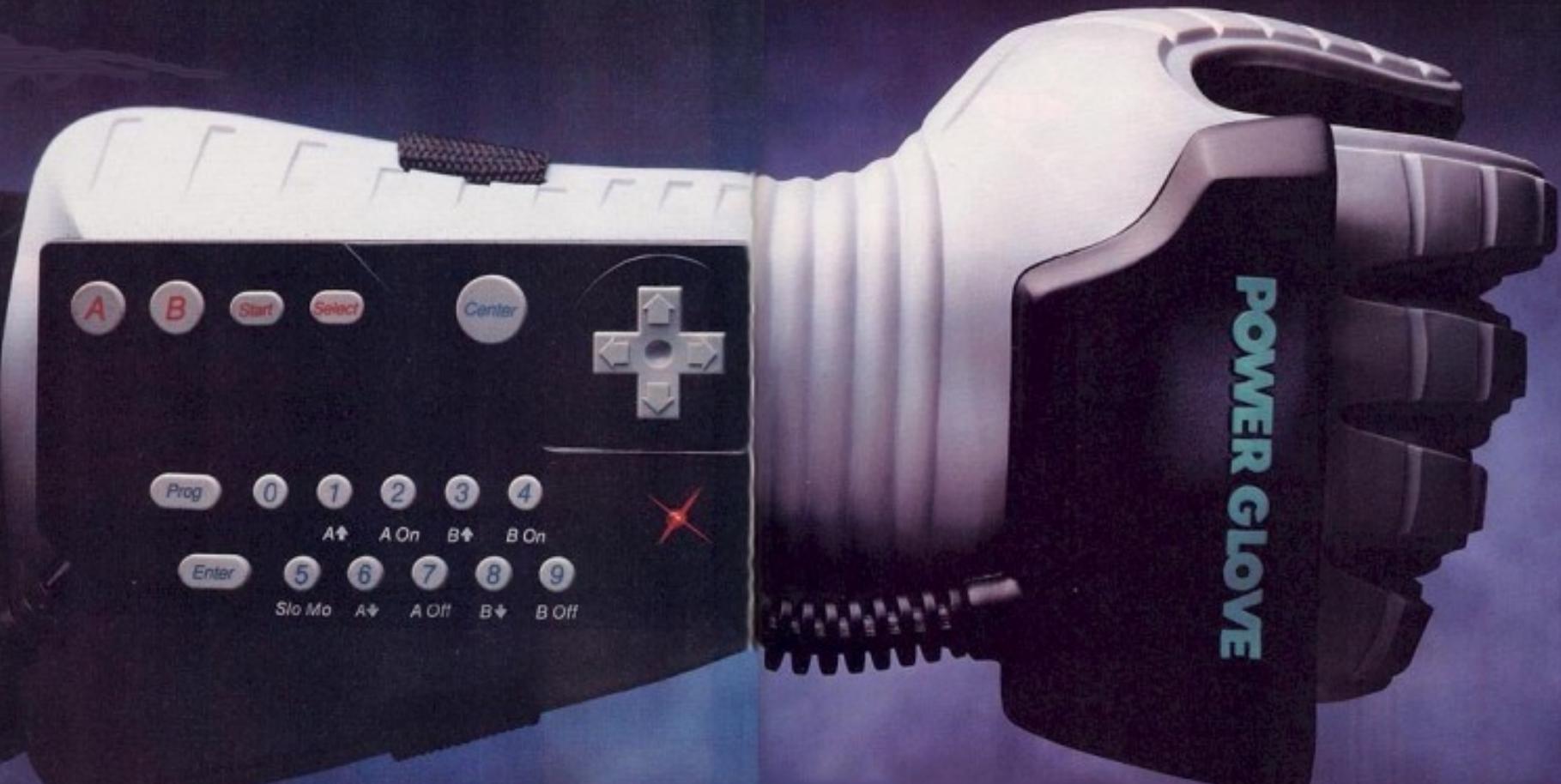
A man with short brown hair, wearing a black t-shirt, is shown from the chest up. He is wearing a VR headset and holding two motion controllers, one in each hand. The controllers have glowing blue circular elements on them. The background is dark and appears to be a digital or virtual environment with some faint, glowing shapes.

Manipulation

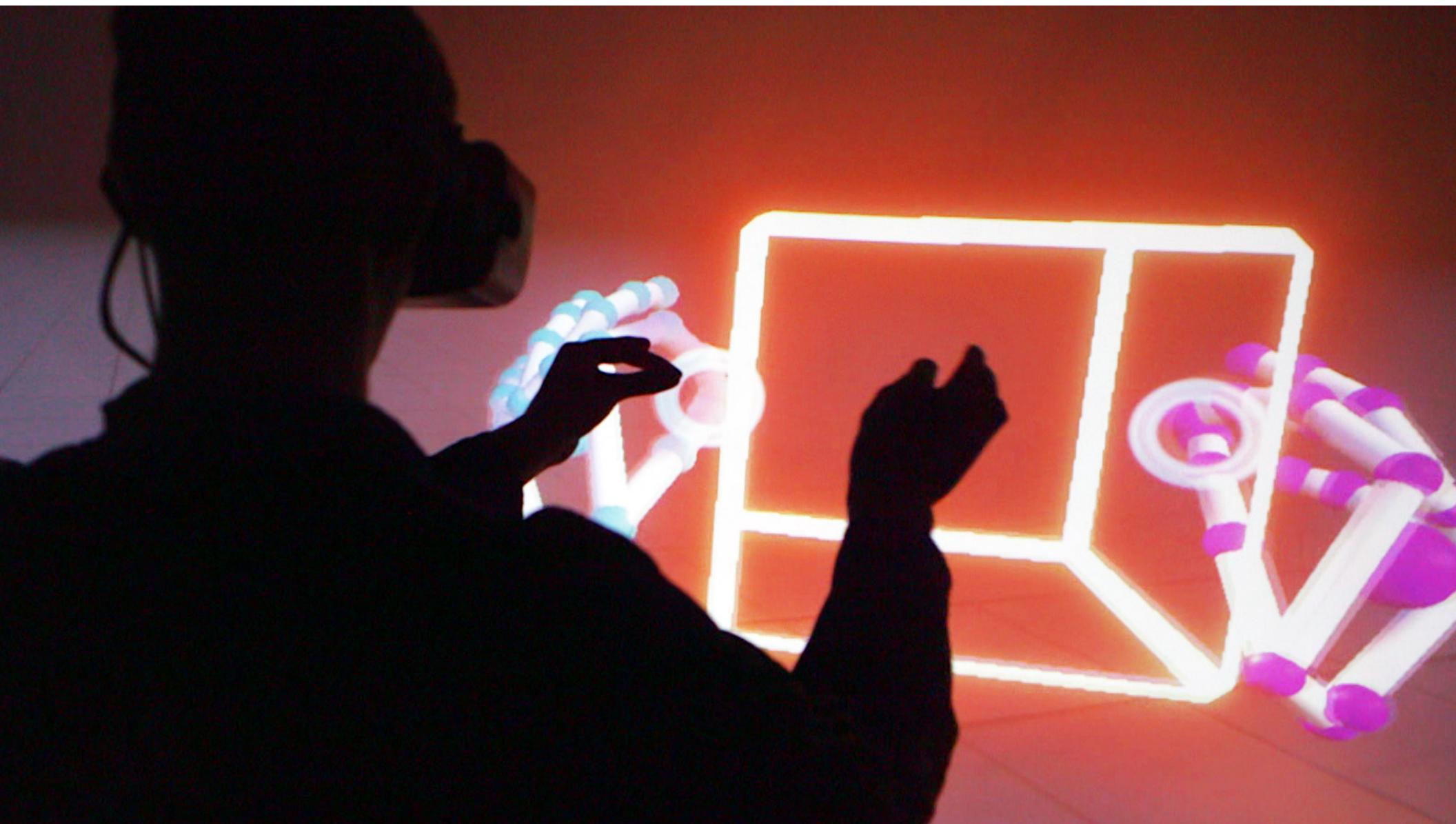
Exploration



Manipulation



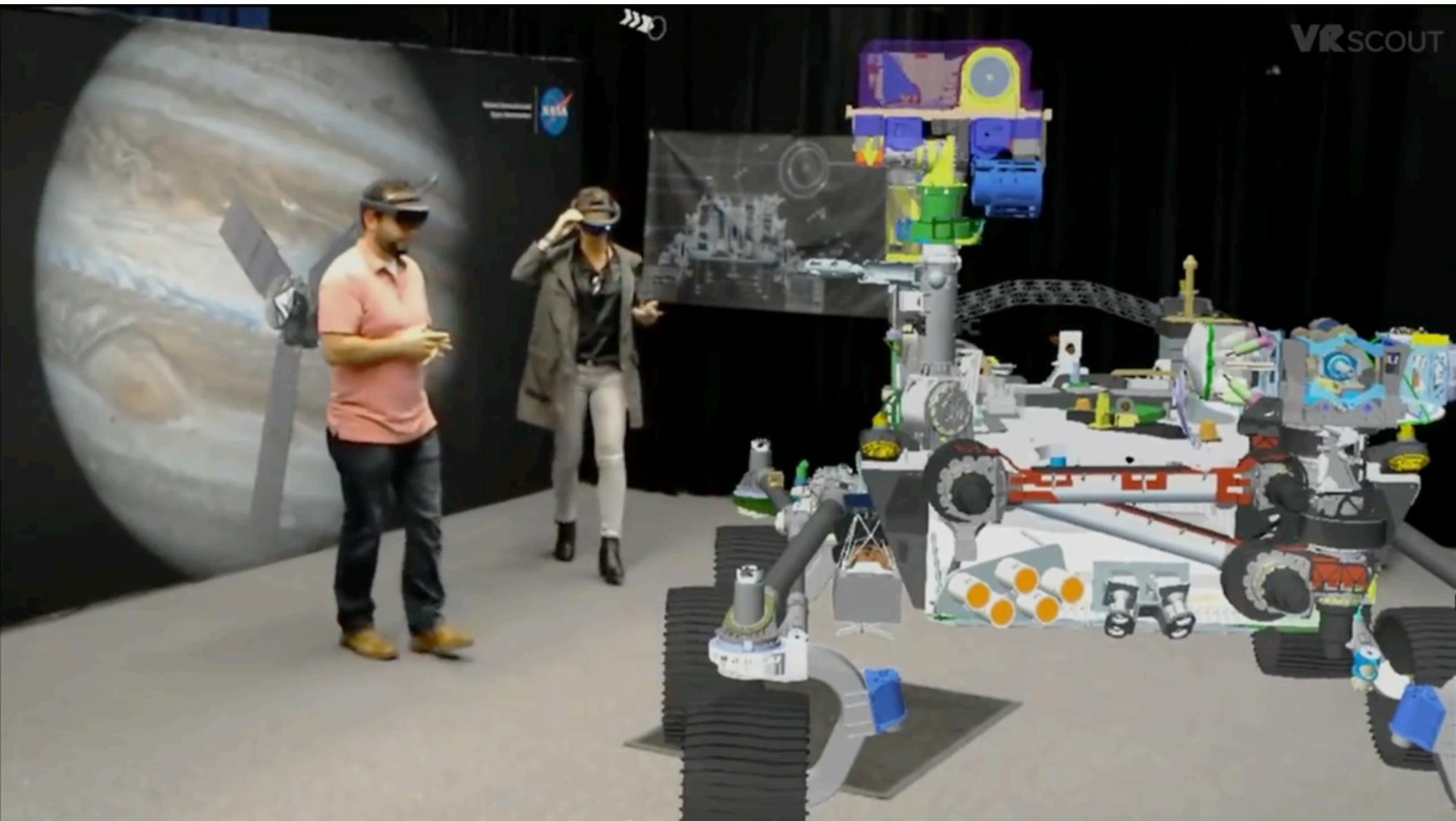
POWERPLAY.



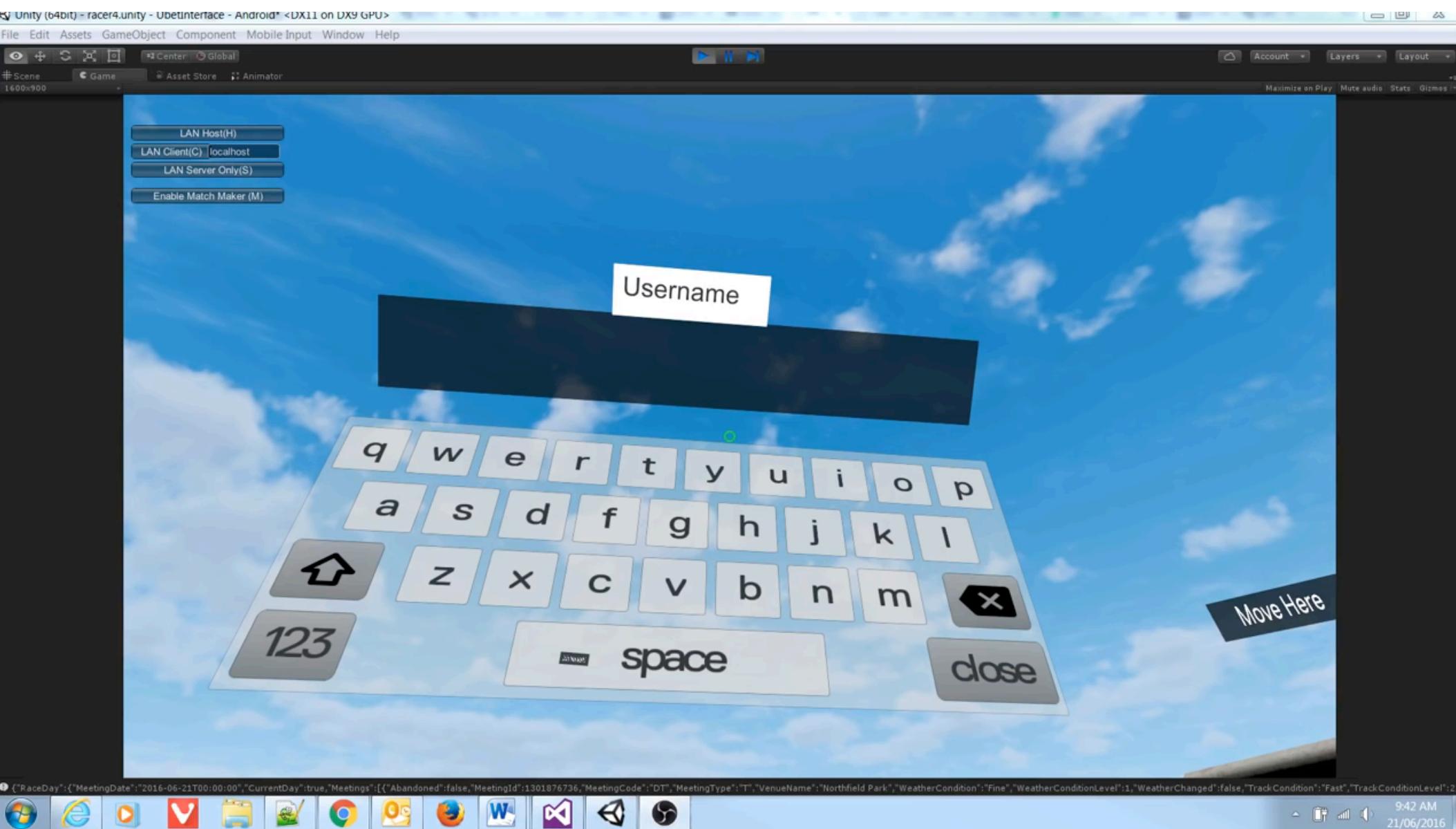


Exploration

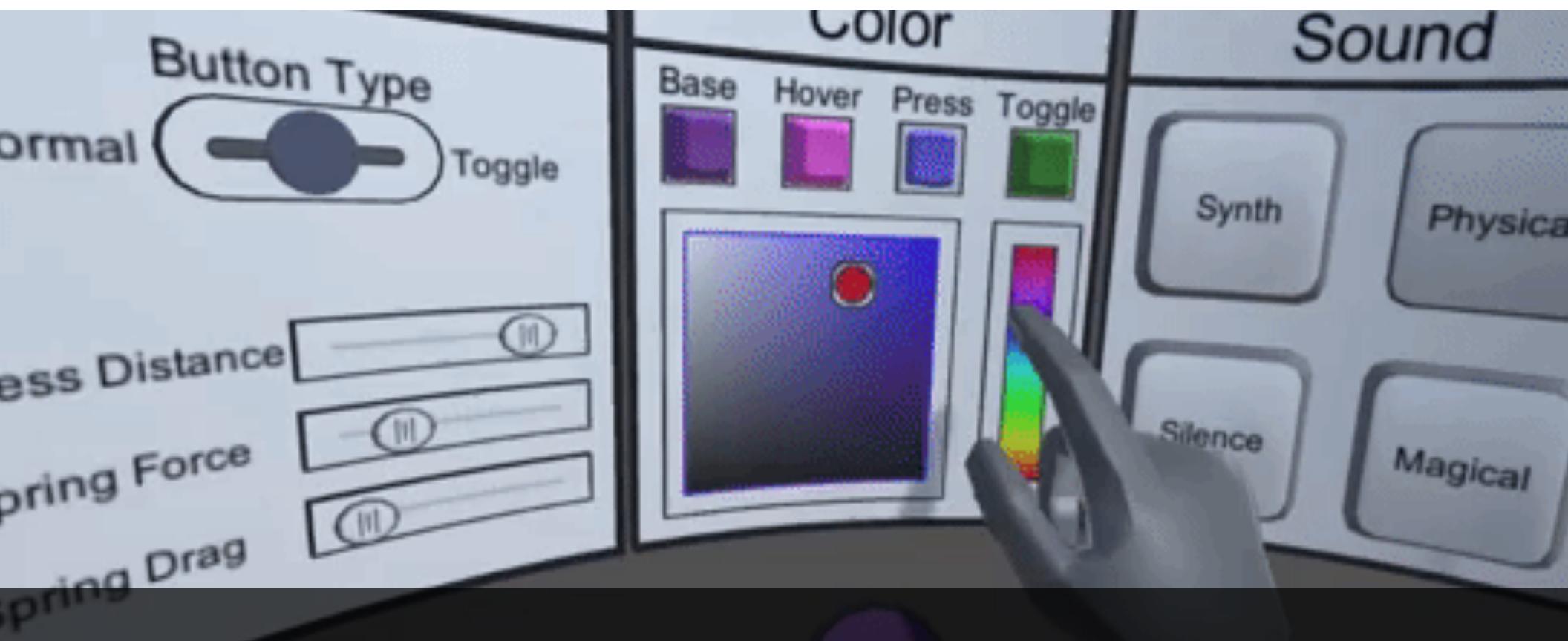
VRSCOUT



Designing for Interaction







UI and UX

A color photograph from the movie "The Goonies". A young man with dark hair, wearing a brown jacket over a white shirt, stands on the roof of a dark-colored car. He is holding a white boombox with black speakers and a cassette slot above his head with both hands. The background shows a dense forest of tall trees with green and yellow autumn leaves. The scene is set during the day.

Diegetic vs Non-Diegetic

ANALYSIS
CODES:
234654 453 30
654334 450 16
245261 865 26
453665 765 46

MATCH

SCAN MODE 43894
SIZE ASSESSMENT

ASSESSMENT COMPLETE
FIT PROBABILITY 0.99

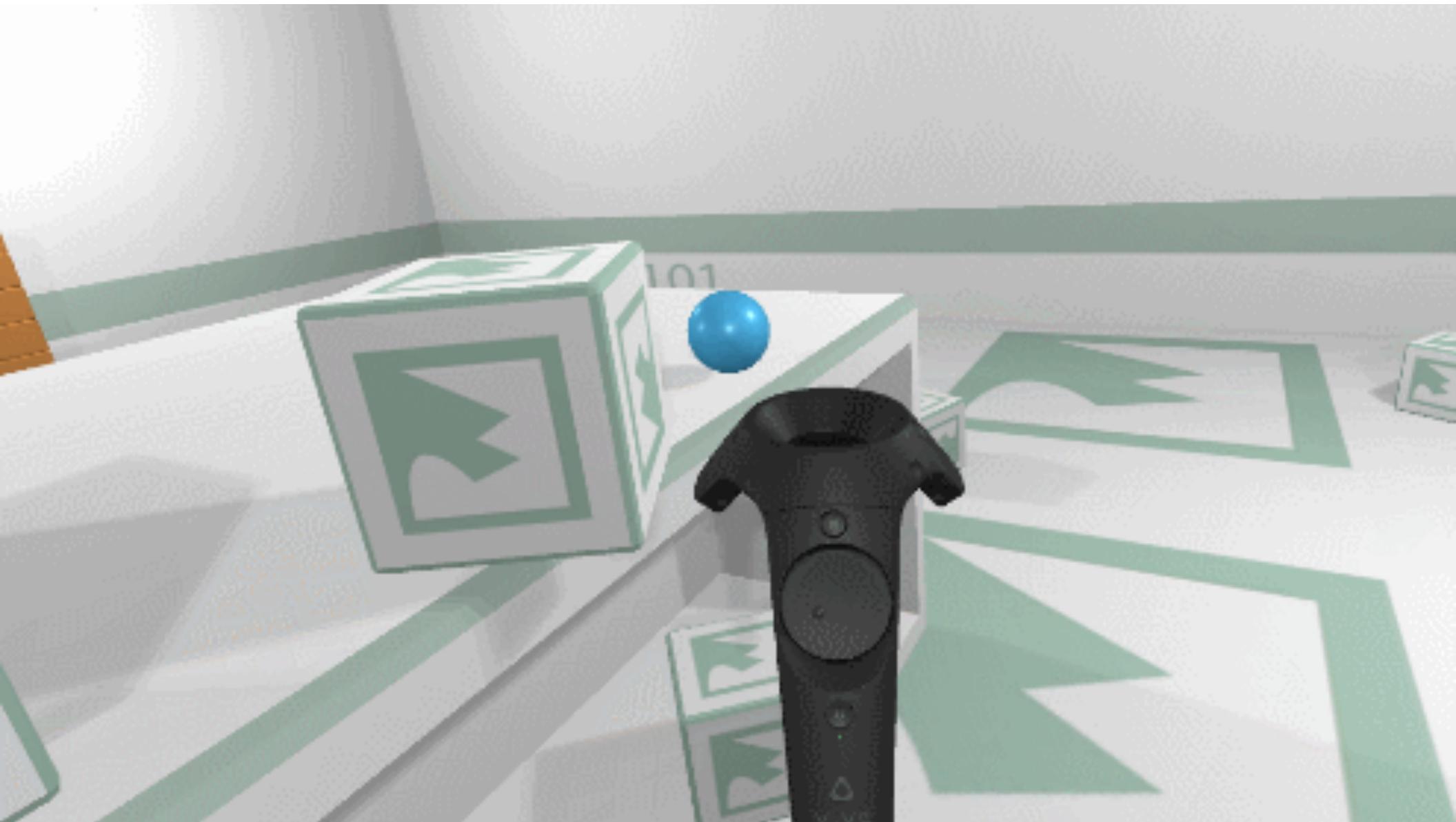
RESET TO ACQUISITION
MODE SPEECH LEVEL 78

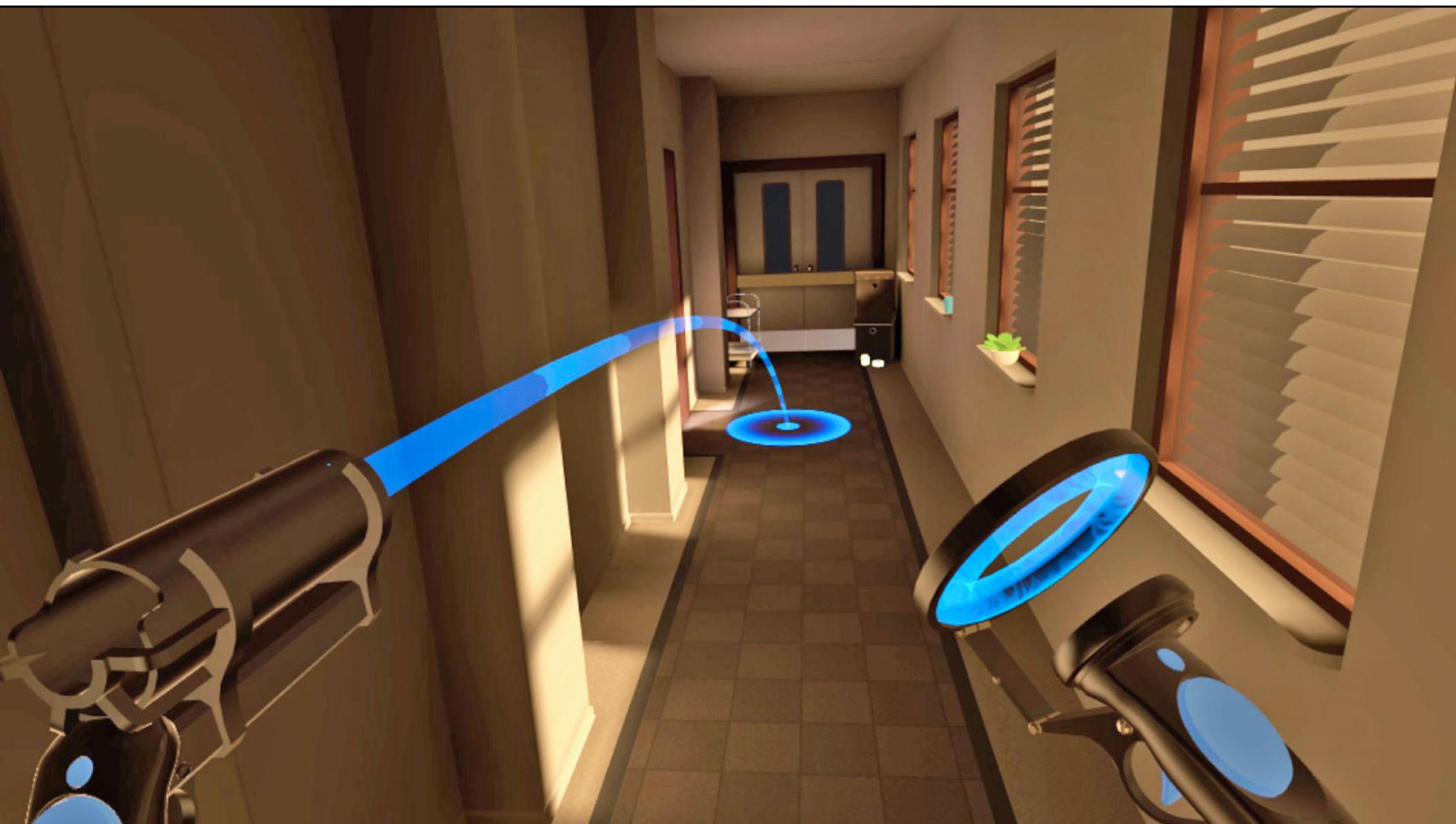
PRIORITY OVERRIDE
DEFENSE SYSTEMS SET
ACTIVE STATUS
LEVEL 2347923 MAX





VR Sickness

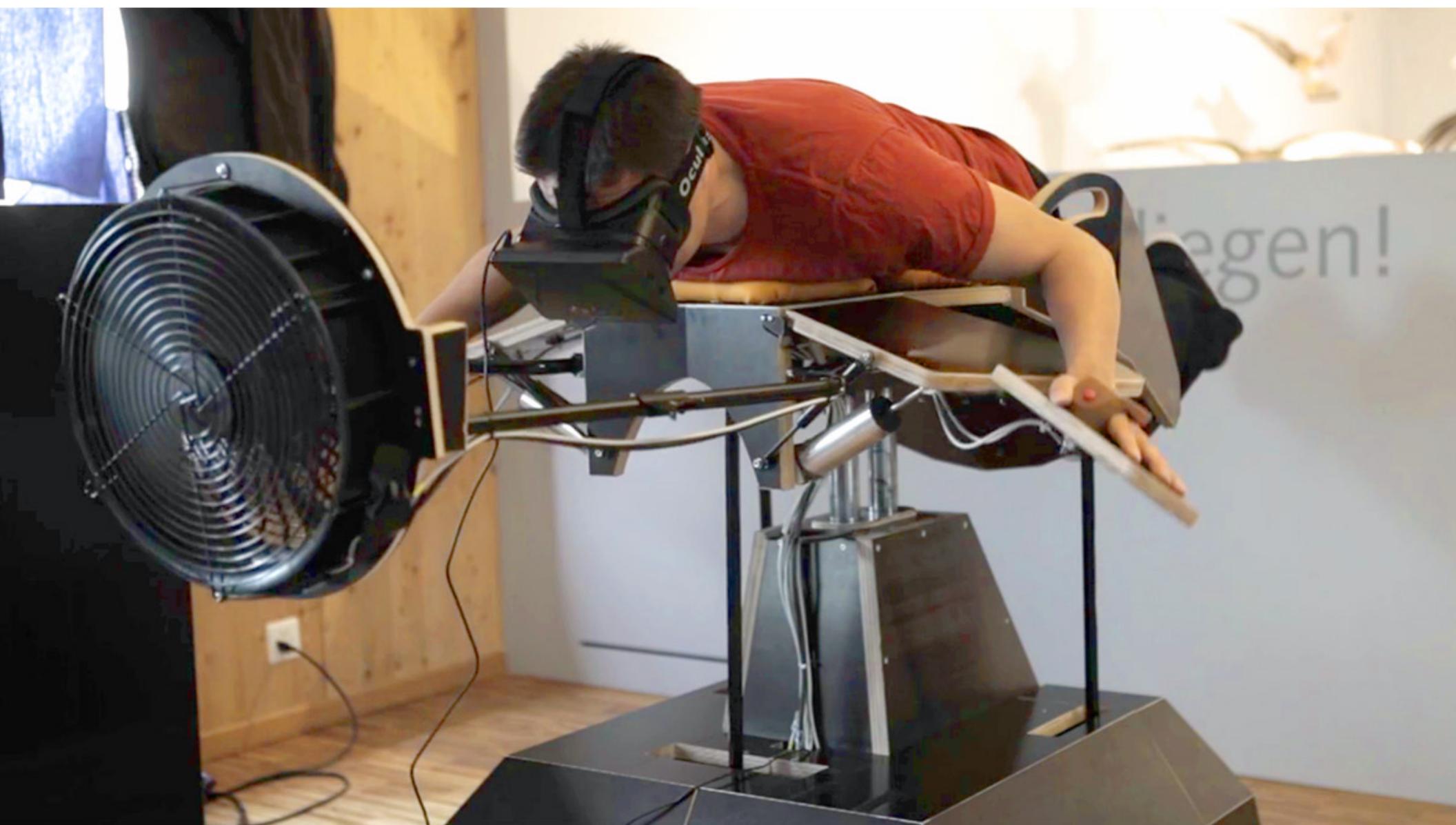




Modality



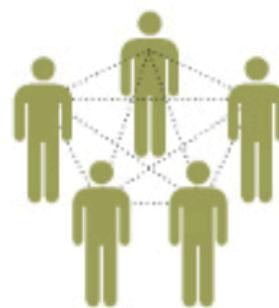




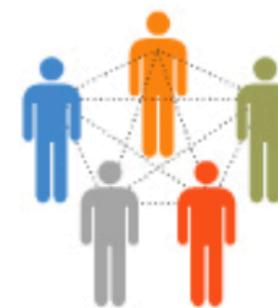
Traditional Design



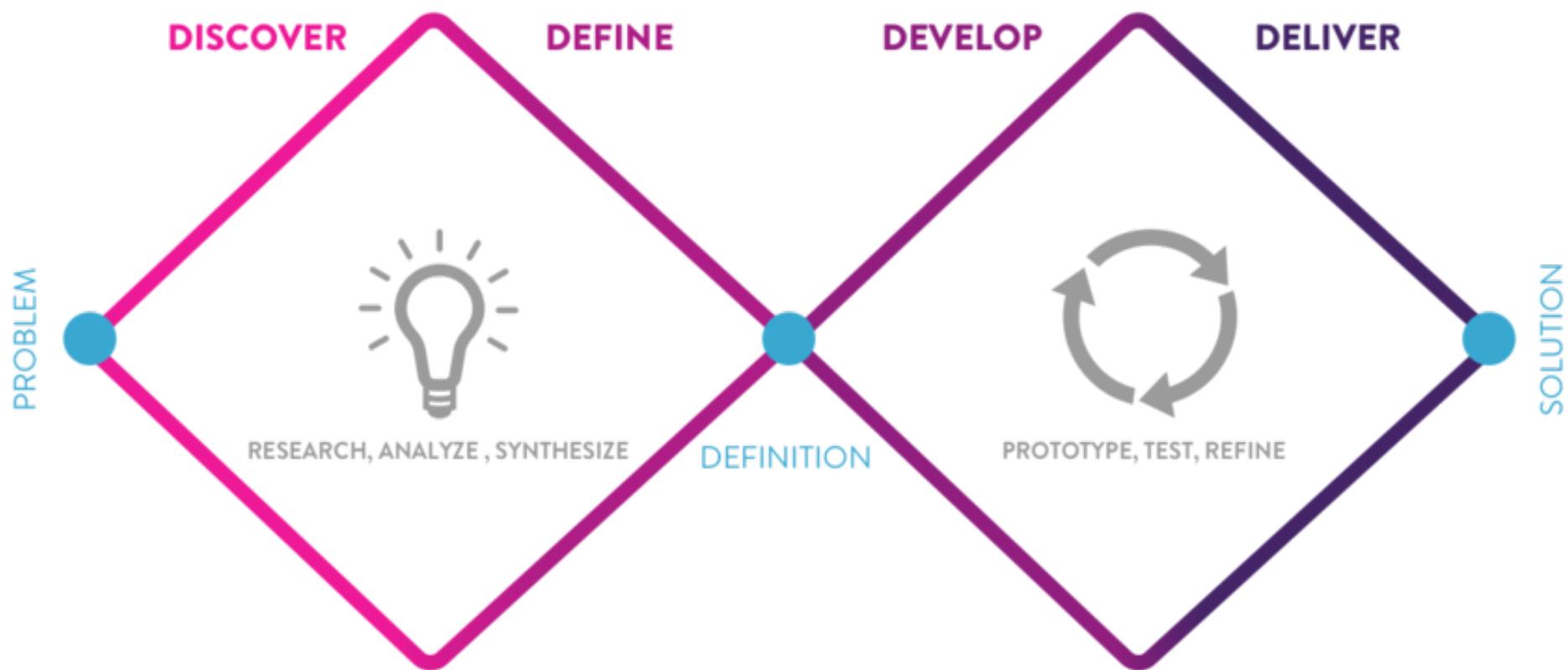
Alone-work



**Single-discipline
Teamwork**



**Cross-discipline
Teamwork**



INSPIRATION

I have a design challenge.

How do I get started?

How do I conduct an interview?

How do I stay human-centered?

IDEATION

I have an opportunity for design.

How do I interpret what I've learned?

How do I turn my insights into

tangible ideas?

How do I make a prototype?

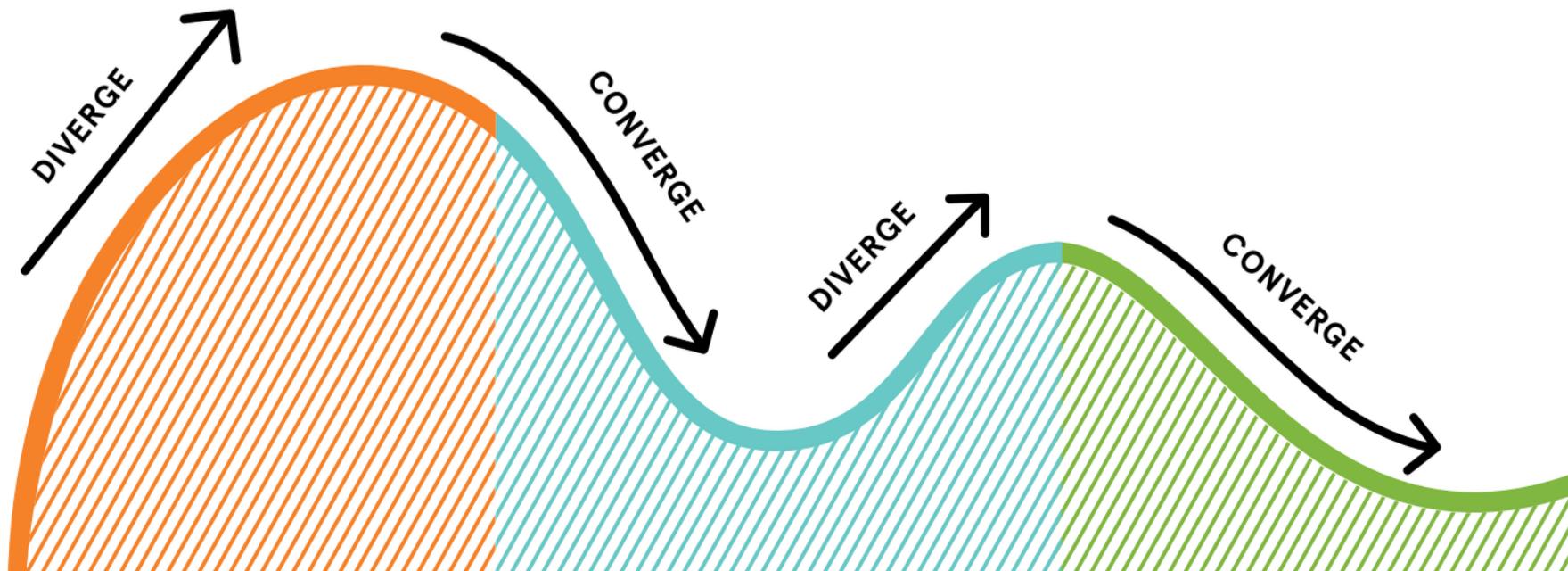
IMPLEMENTATION

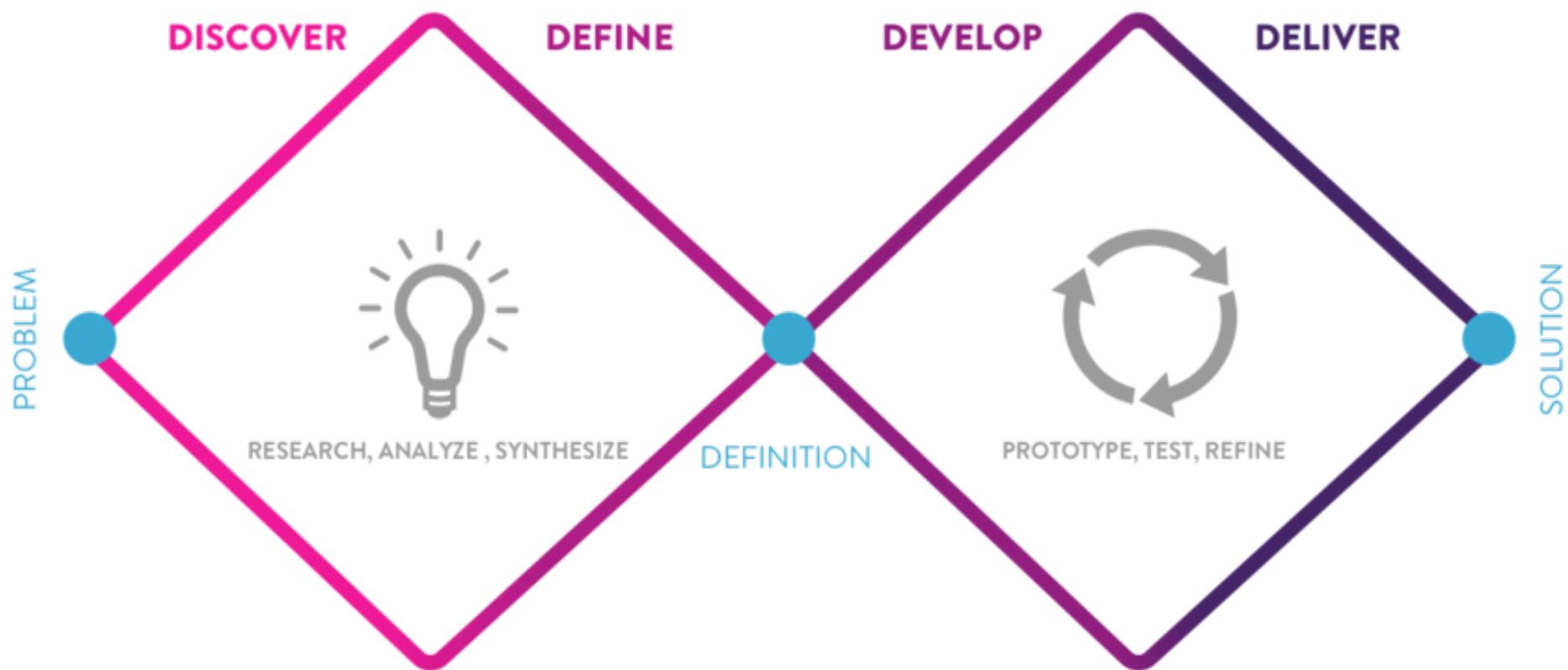
I have an innovative solution.

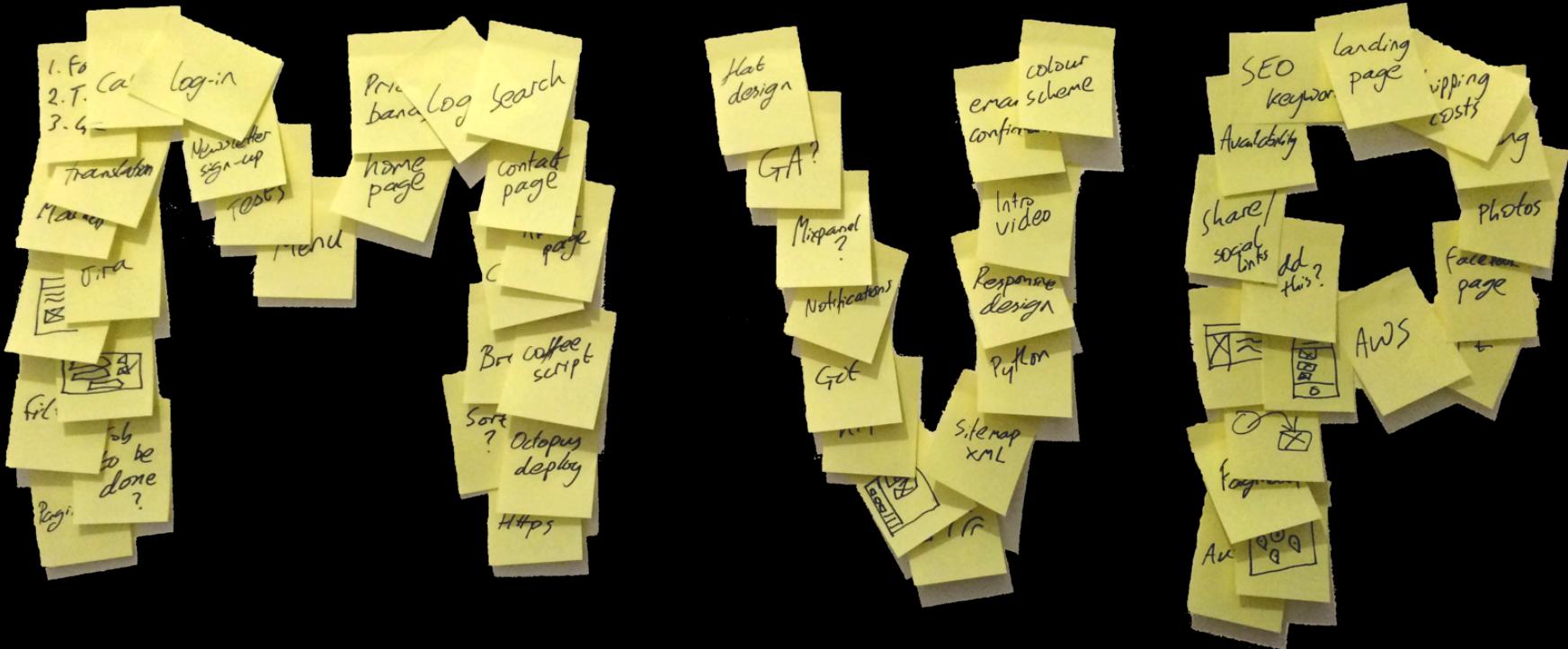
How do I make my concept real?

How do I assess if it's working?

How do I plan for sustainability?







HOW TO BUILD A MINIMUM VIABLE PRODUCT

NOT LIKE THIS



1

2

3

4

LIKE THIS



1

2

3

4

5



HASSO PLATTNER
Institute of Design at Stanford

make space

An aerial photograph showing several people interacting with large white letters spelling "make space" on a dark, polished floor. One person in a red shirt is measuring the height of the letter 'm' with a tape measure. Another person in a pink shirt is standing near the top of the letter 'a'. A person in a black shirt is kneeling near the bottom of the letter 'e'. Two other people, one in a blue shirt and one in a black shirt, are standing near the bottom of the letter 's'. A small orange cube is positioned above the letter 'a'. The floor has a grid pattern, suggesting it is made of tiles.

How to Set the Stage for Creative Collaboration

Scott Doorley & Scott Witthoft

With a Foreword by David Kelley

A sense of excitement
and limitless
possibility

Overwhelming
complexity

Unifying
insights

The brutal realities
of implementation

Use What You Know

Don't go down
rabbit holes...

Don't forget the
boring stuff

What now?

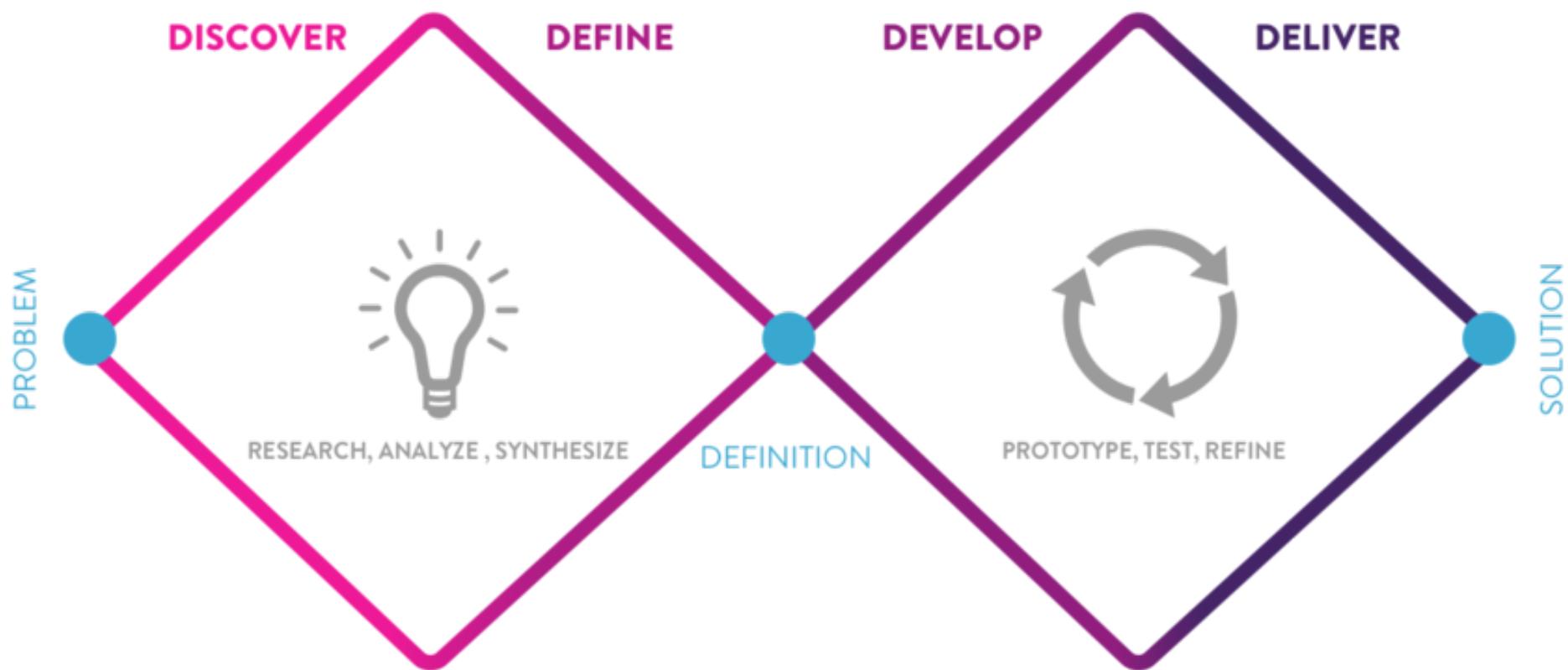


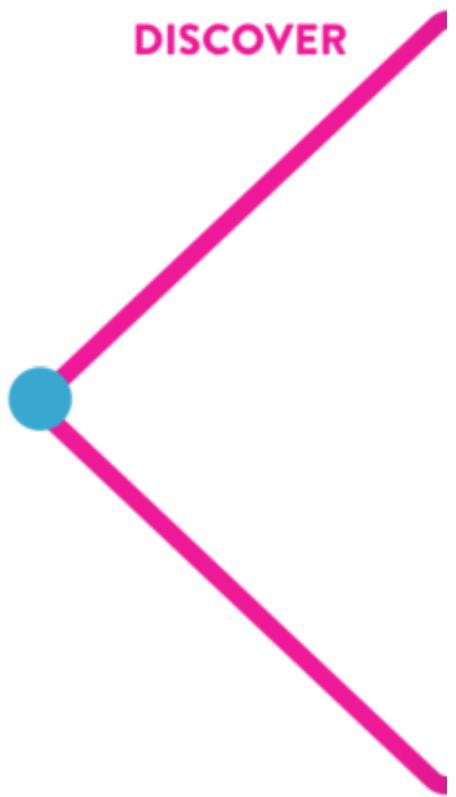
Escape Room

The image is a screenshot from a 3D escape room game. In the center, there's a large wooden control panel with a circular emblem featuring a mask-like face. Below it are several red buttons and switches. A long, articulated metal arm extends from the right side of the panel towards the center. In the foreground, there's a metal cage containing a small white rabbit. Next to it is a control panel with a screen showing colored dots and a set of numbered cones (2, 3, 4, 5) on the floor. To the right, there's a wooden cabinet with a gramophone on top. The background shows a room with wood-paneled walls, a window with red curtains, and a small table with a bell jar containing a flower.

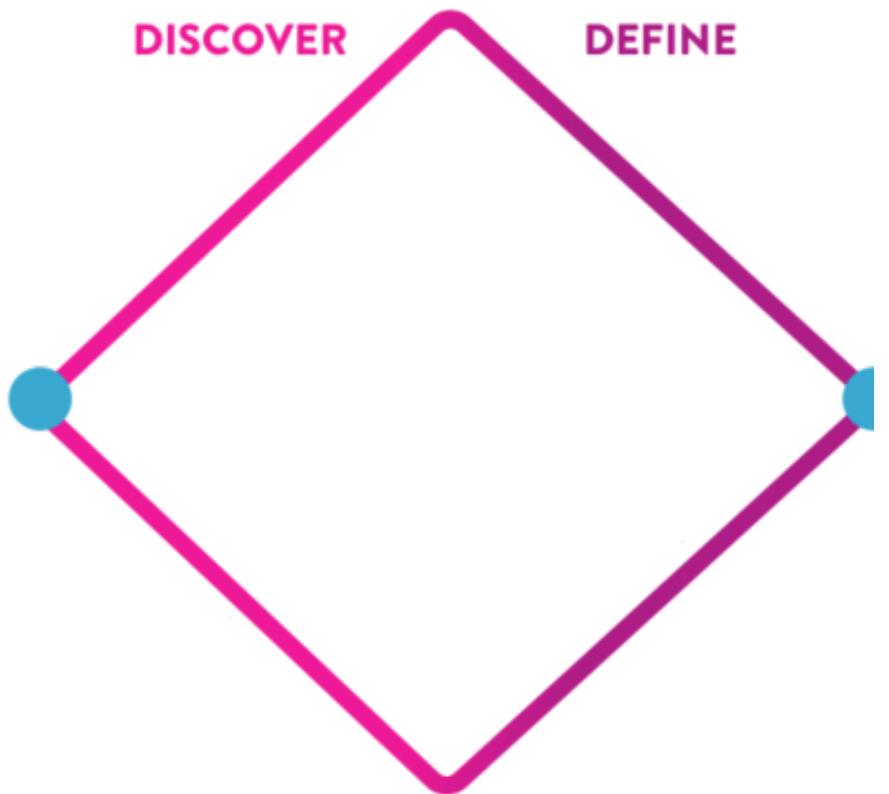
A dark, atmospheric scene of a classical building at night. The building features large columns and statues. Blue laser beams are projected across the scene, creating a grid-like pattern that highlights the architectural details and the overall mood of the setting.

Obstacle Avoidance

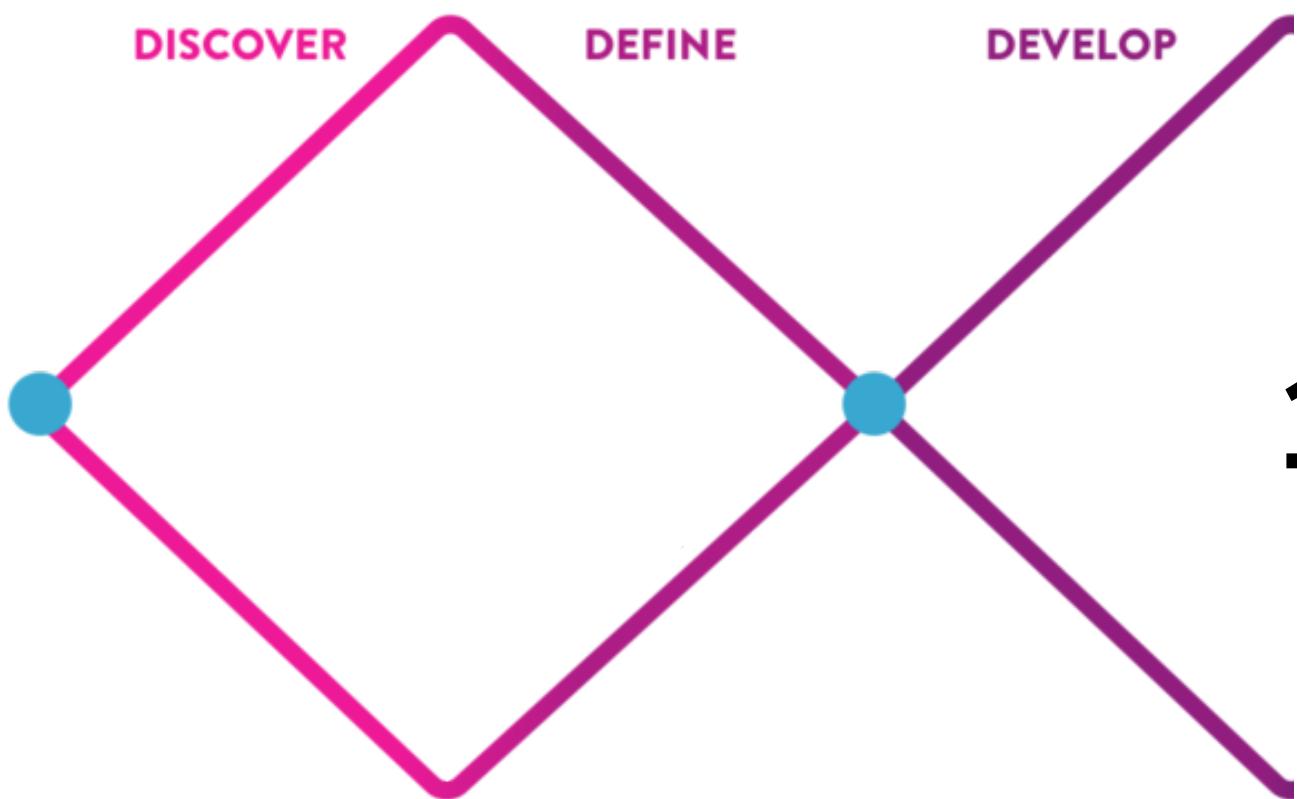




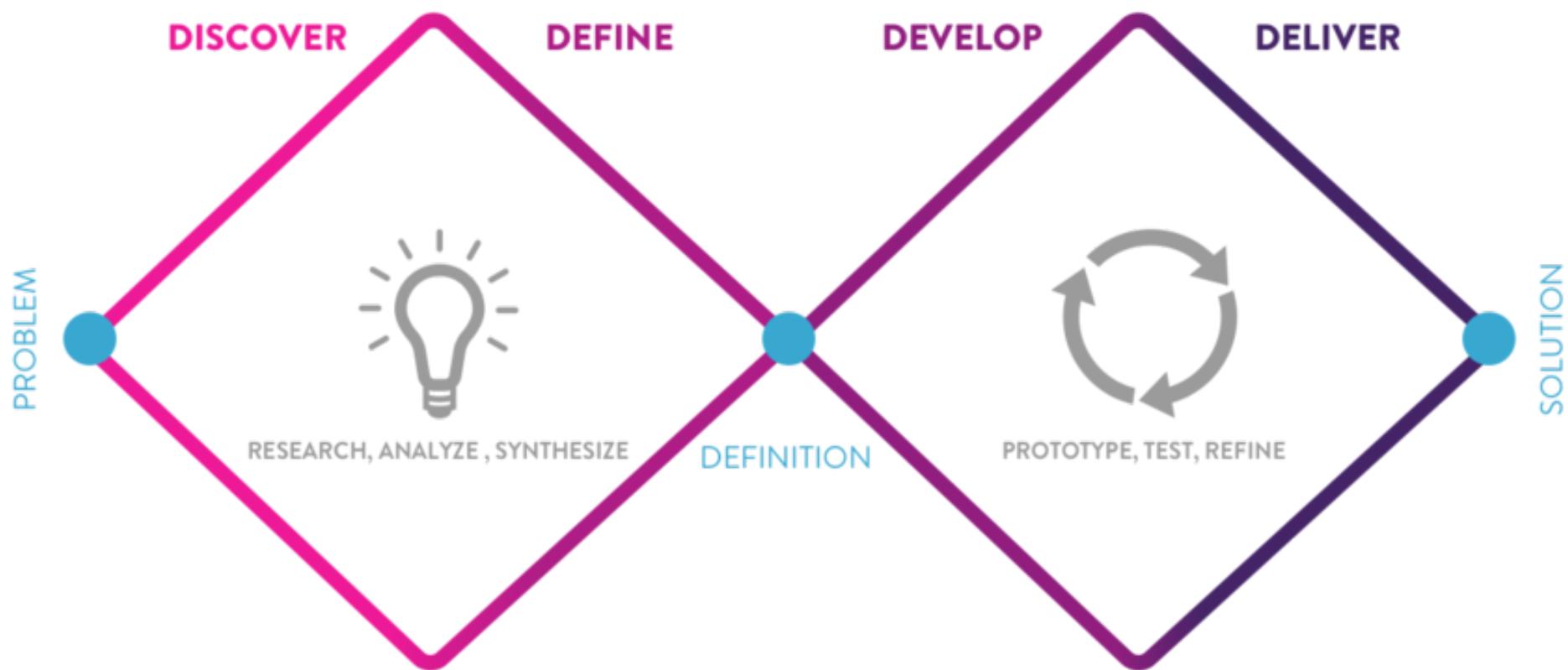
20 Minutes !

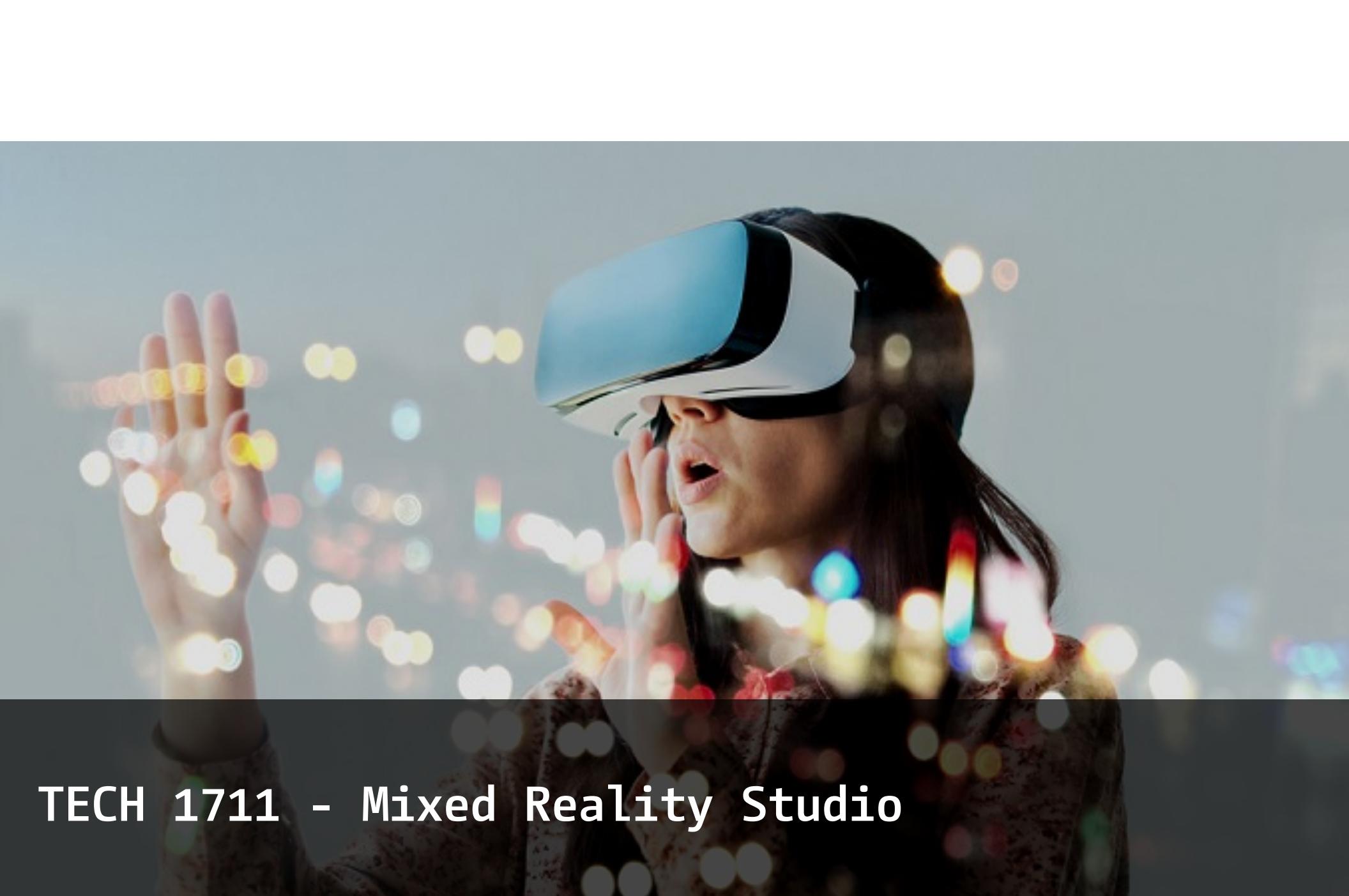


20 Minutes!



1 hour





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