



**TECH 421 - Future of Digital Media**

**TECH 3706 - AR/VR in Architectural Environments**

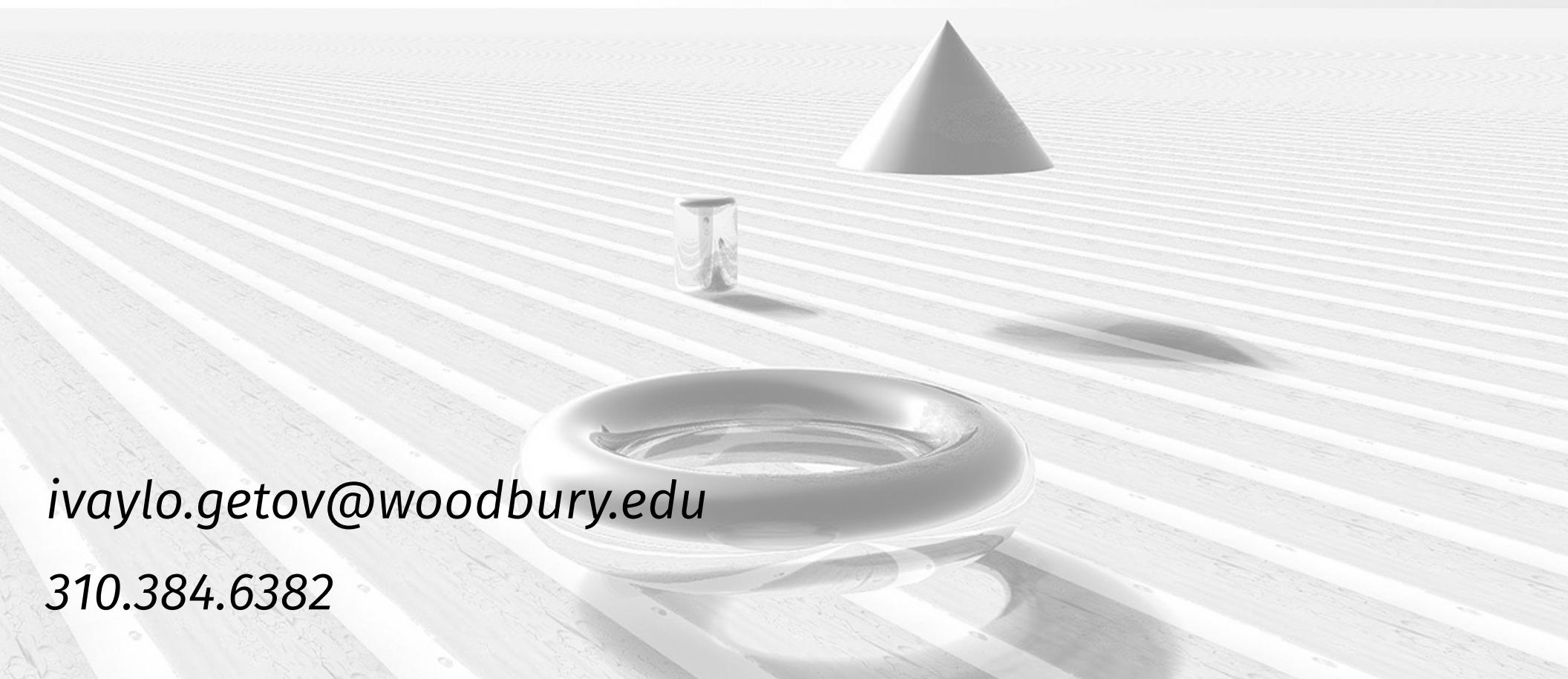
# Most Up-to-date Syllabus:

*<https://github.com/ivaylopg/Tech421Tech3706>*

# Contact Me

*ivaylo.getov@woodbury.edu*

310.384.6382



# What is AR/VR?

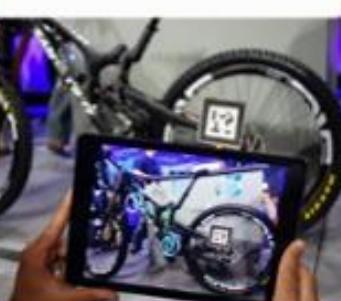
*Inducing targeted behavior in an organism by using artificial sensory stimulation, while the organism has little or no awareness of the interference.*

Predominantly  
Real World

## AR Augmented Reality

Blends virtual worlds  
with the real world by  
overlaying generated  
graphics and audio  
onto the real world

JASS  
Just Another  
Smartphone  
Screen



AR

## Augmented Reality

Blends virtual worlds  
with the real world by  
overlaying generated  
graphics and audio  
onto the real world

TR

## Transparent Reality



FR  
Flat Reality

JASS  
Just Another  
Smartphone  
Screen



MR  
Mixed Reality



Predominantly  
Computer Generated

VR

## Virtual Reality

Closed computer  
generated environment  
with no direct input  
from or interaction with  
the real world



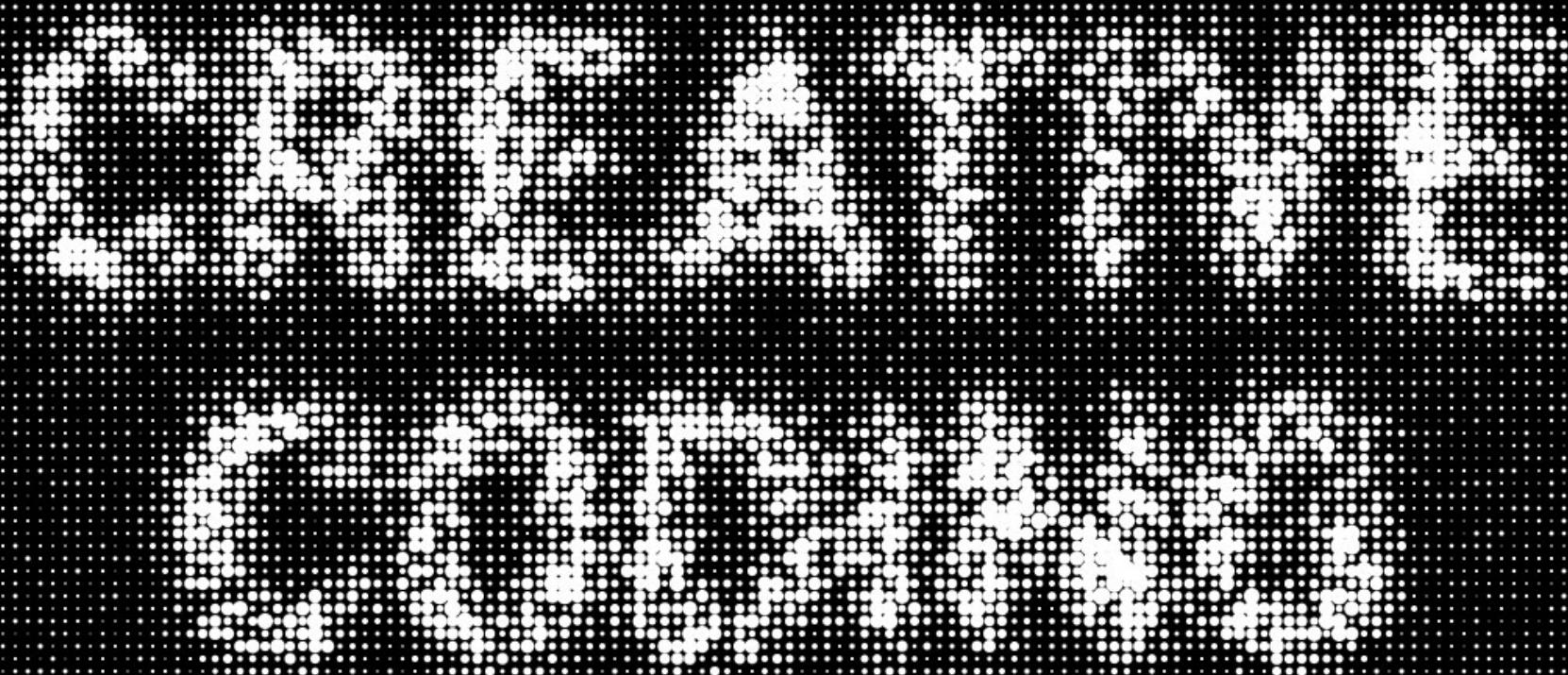
# *Augmented Reality*

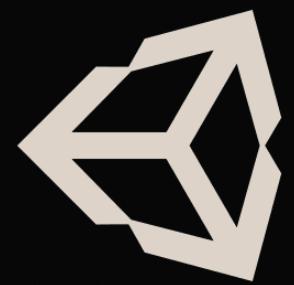
vs

# *Virtual Reality*









unity

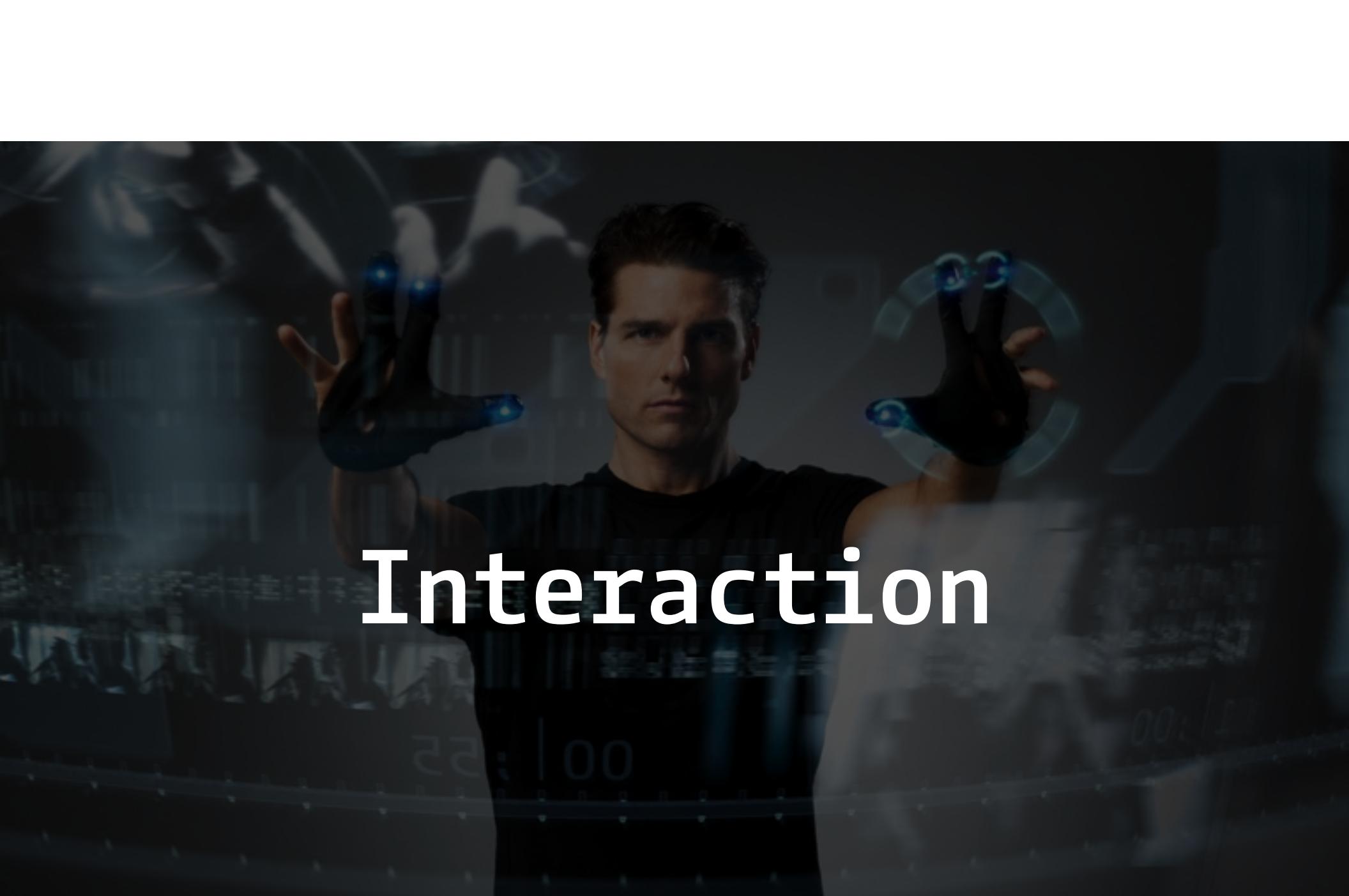


```
// Update is called once per frame
void Update () {
    if (Input.GetMouseButtonDown(0)) {
        Drop();
    }
}

void Drop() {
    gameObject.GetComponent<Rigidbody>().useGravity = true;
}
```

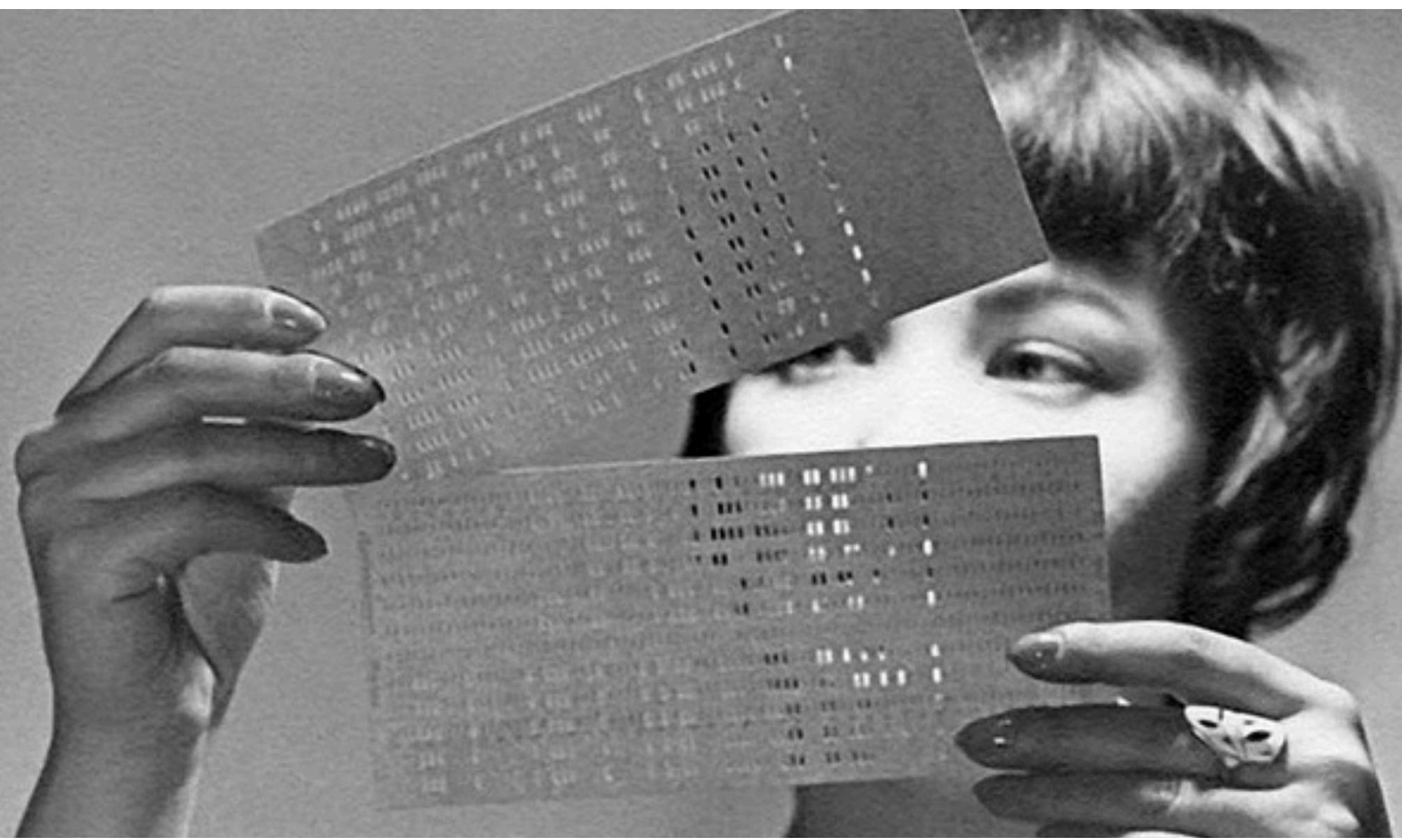
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    }
}

void Drop() {
    gameObject.GetComponent<Rigidbody>().useGravity = true;
}
```



# Interaction







```
C:\>chkdsk  
Volume Serial Number is 3E76-4B58
```

```
2,146,467,840 bytes total disk space  
    131,072 bytes in 2 hidden files  
      32,768 bytes in 1 directories  
    7,405,568 bytes in 124 user files  
2,138,898,432 bytes available on disk
```

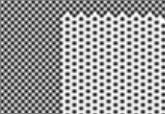
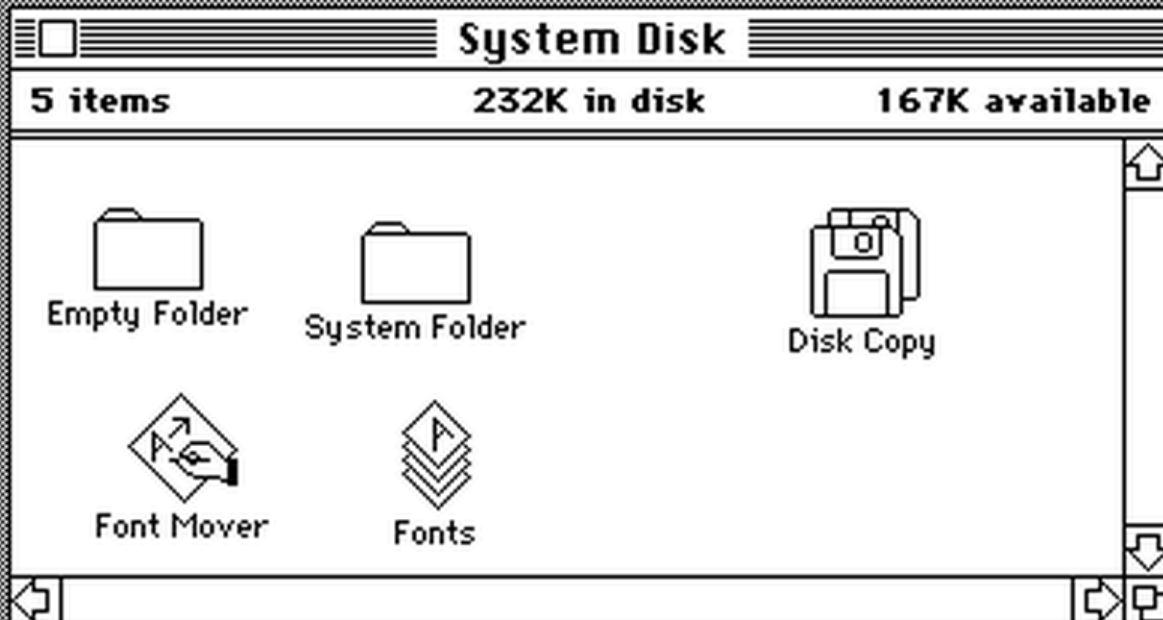
```
      32,768 bytes in each allocation unit  
      65,505 total allocation units on disk  
      65,274 available allocation units on disk
```

```
655,360 total bytes memory  
 602,704 bytes free
```

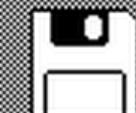
```
Instead of using CHKD SK, try using SCANDISK. SCANDISK can reliably detect  
and fix a much wider range of disk problems. For more information,  
type HELP SCANDISK from the command prompt.
```

```
C:\>_
```

File Edit View Special



System Disk



Guided Tour



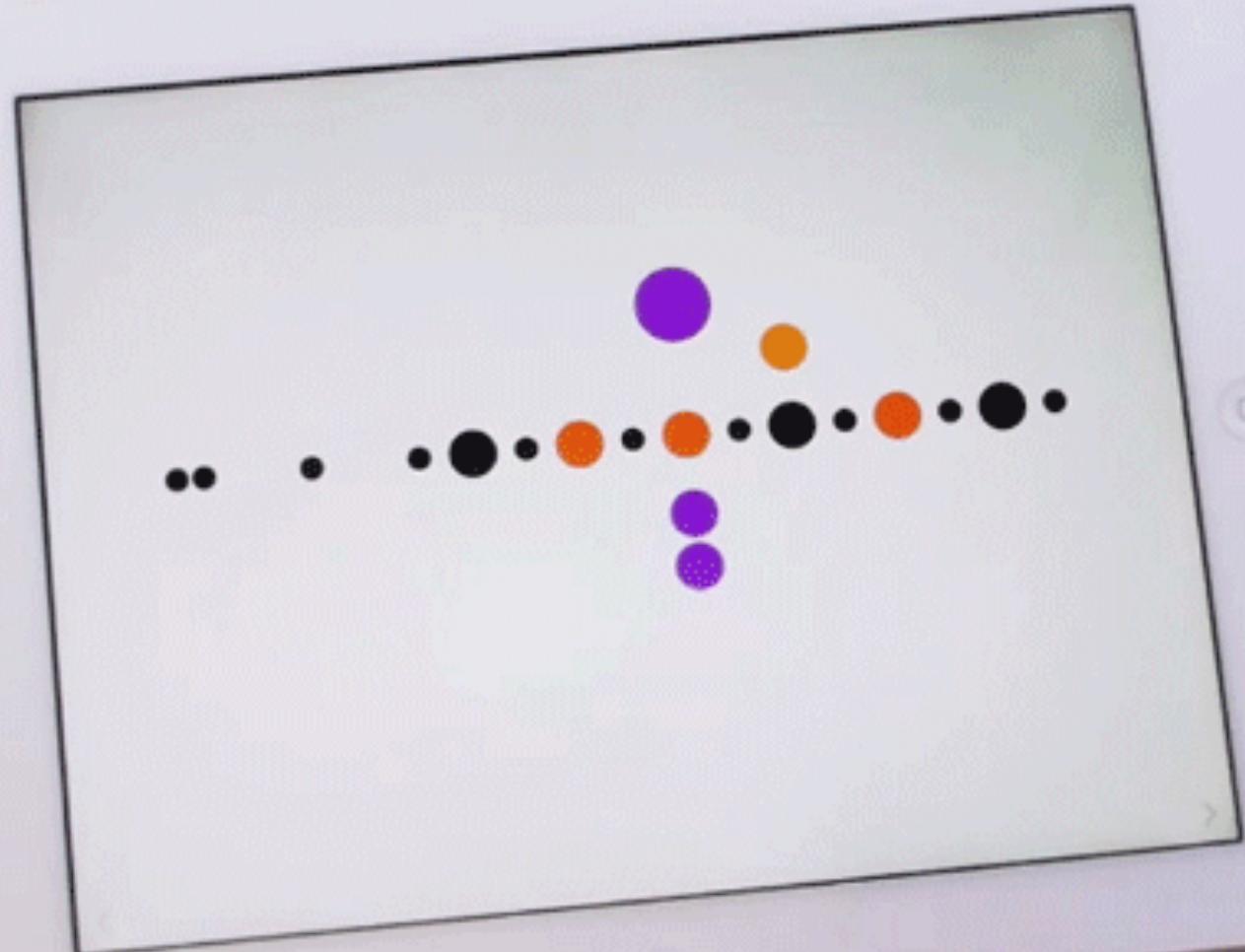
SysVersion



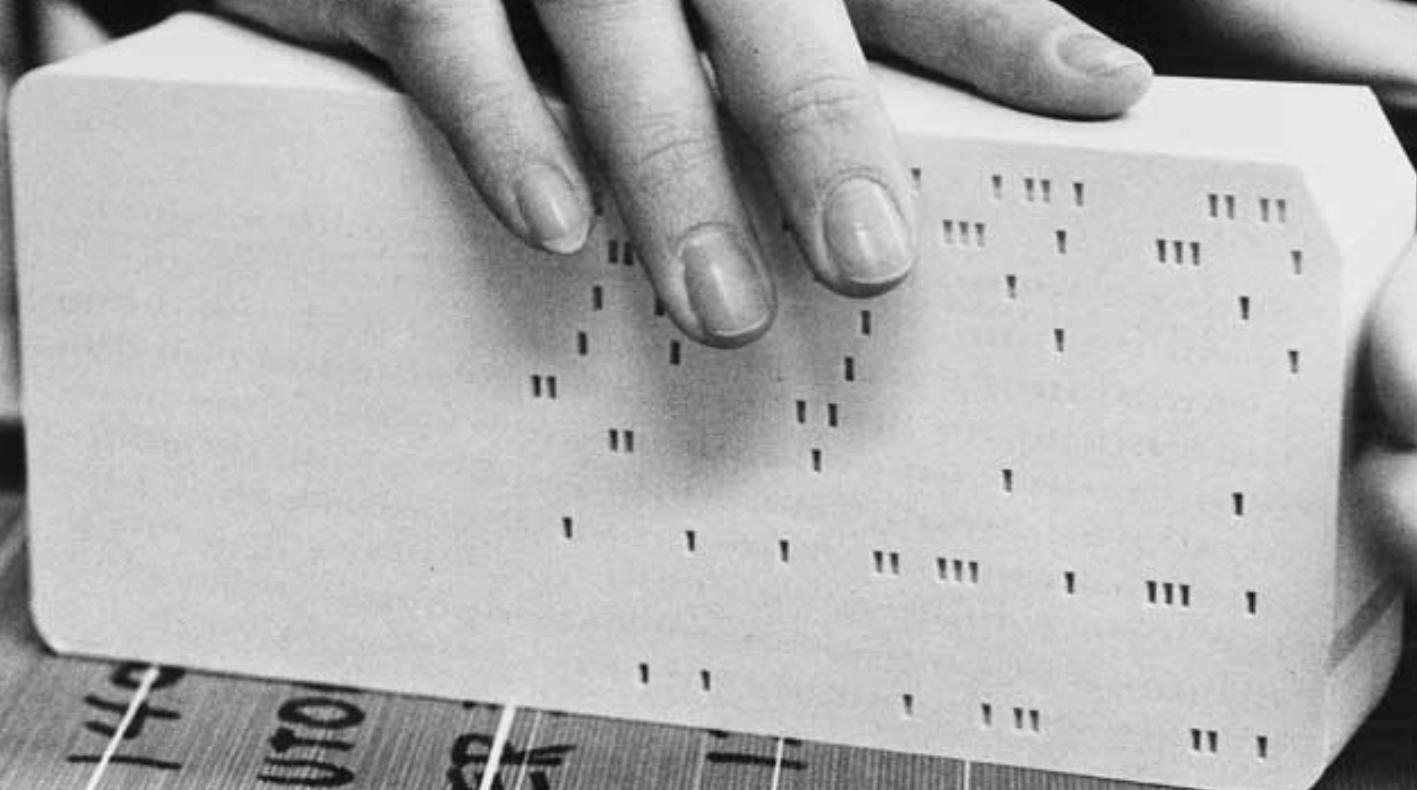
My Folder

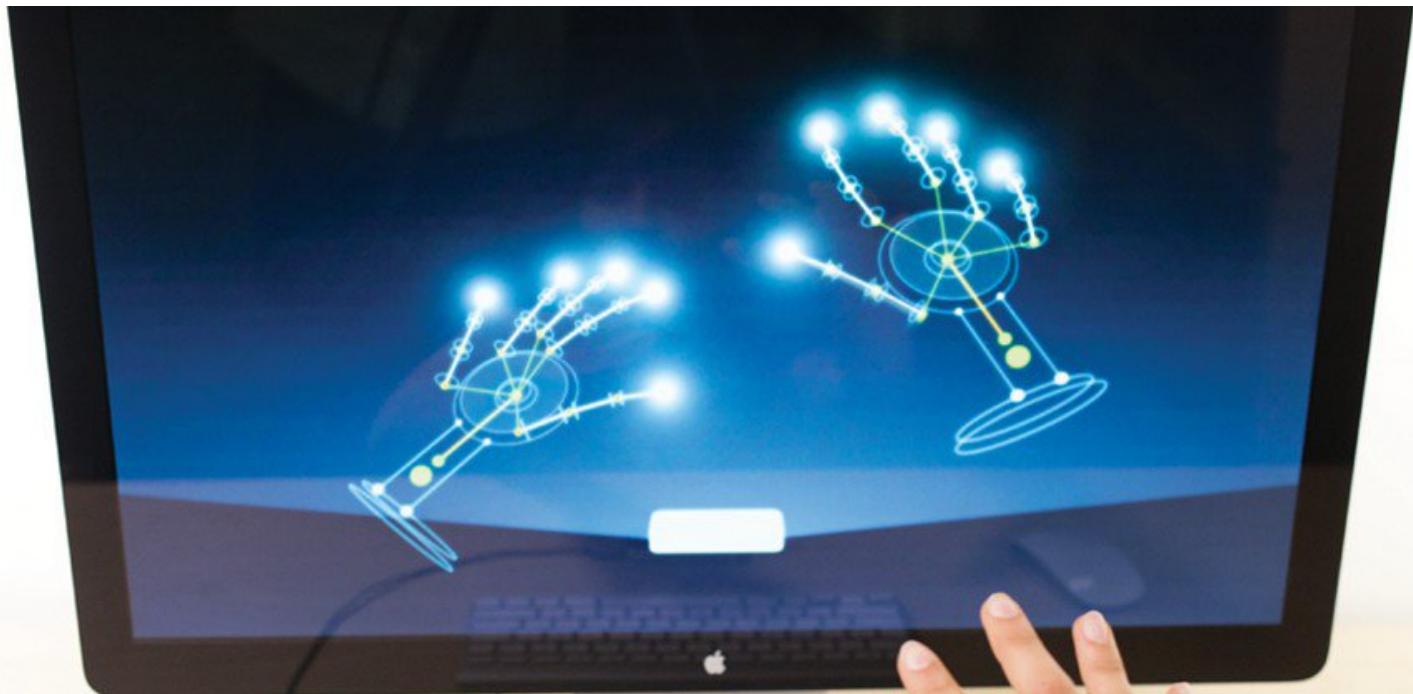


Trash







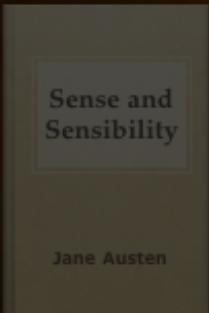
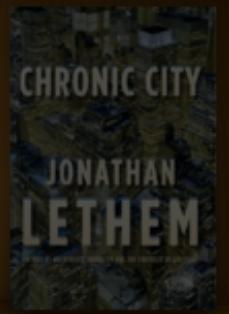


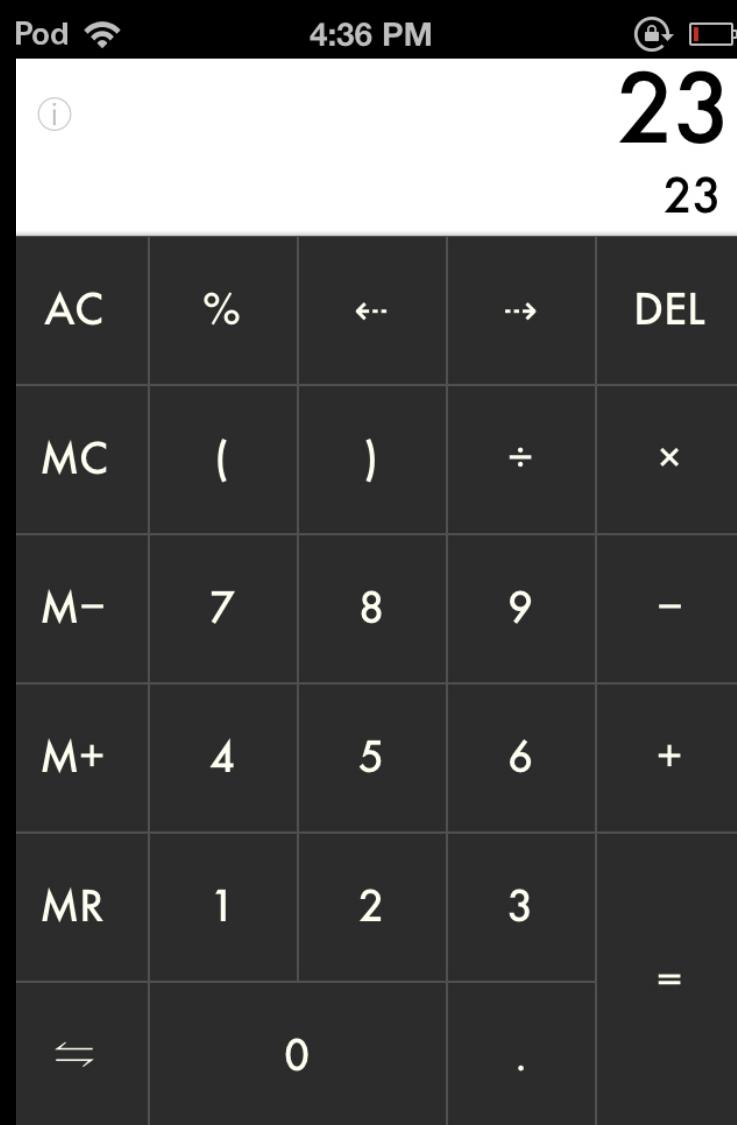
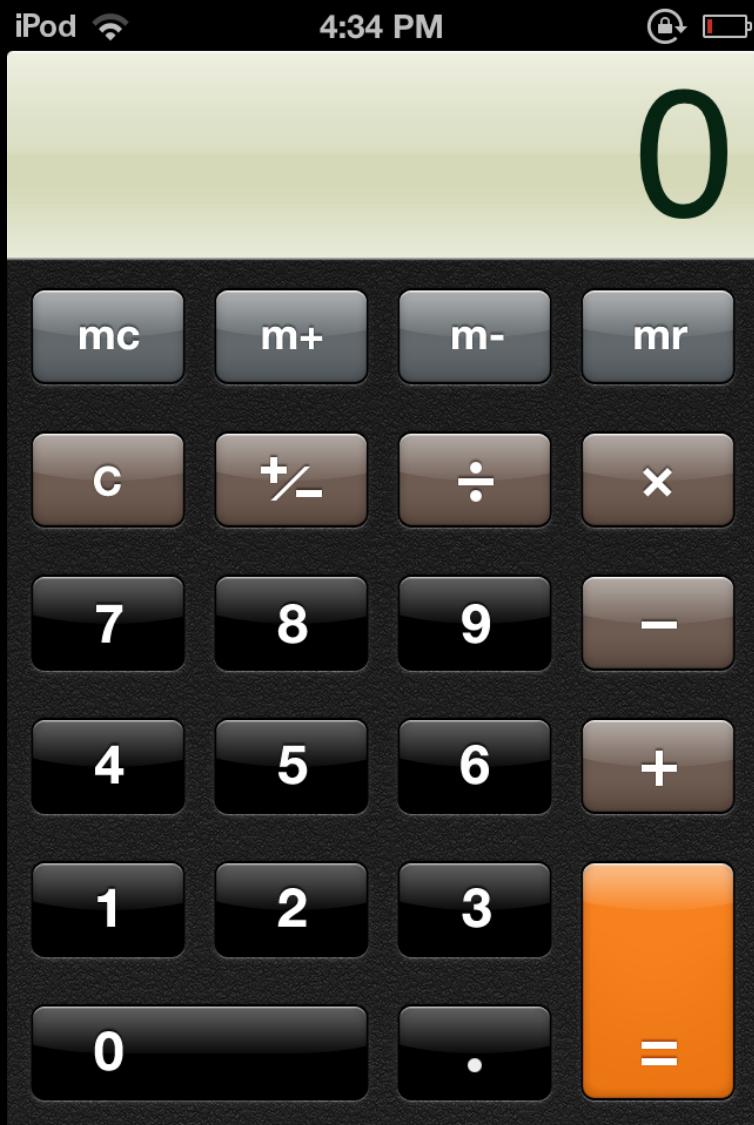


# Expectations



# Skeuomorphism





## iCal

Day | Week | Month | Year



◀ | Today | ▶

Sun 29	Mon 30	Tue 1	Wed 2	Thu 3	Fri 4	Sat 5
6				10	11	12
13				17	18	19
20				24	25	26
27	28	29	30	Today	31 May	1

All Contacts

skeuomorphism 0 Found

No Results



◀ Today ▶

Thu 3

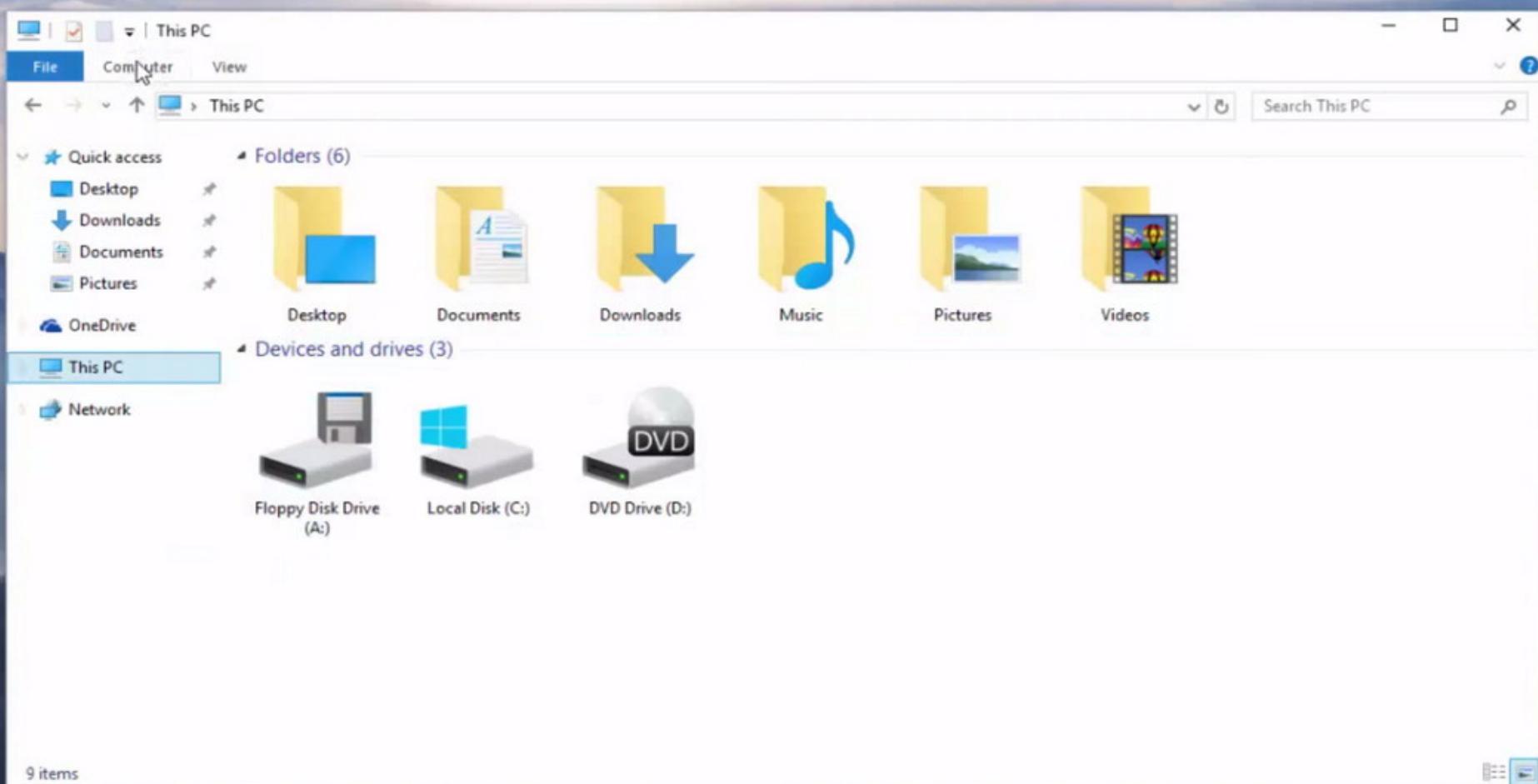
Fri 4

Sat 5

10

11

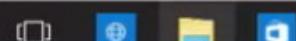
12



Windows 10 Pro  
Evaluation copy



Search the web and Windows



# Designing for Interaction

# Screens

vs

# Space

Netflix

www.netflix.com/browse

NETFLIX

Browse ▾ DVD

Search

Michelle

My List

NETFLIX CHEF'S TABLE

NETFLIX DAREDEVIL

NETFLIX BLOODLINE

NETFLIX UNBREAKABLE KIMMY SCHMIDT

NETFLIX MARCO POLO

NETFLIX VIBRANT

# Marvel's Daredevil

★★★★★ 2015 TV-MA 1 Season

Blinded as a young boy, Matt Murdock fights injustice by day as a lawyer and by night as the Super Hero Daredevil in Hell's Kitchen, New York City.

Starring: Charlie Cox, Deborah Ann Woll, Vincent D'Onofrio  
Genres: TV Shows, Comic Book & Superhero TV, Crime TV Shows  
This show is: Exciting, Gritty, Dark

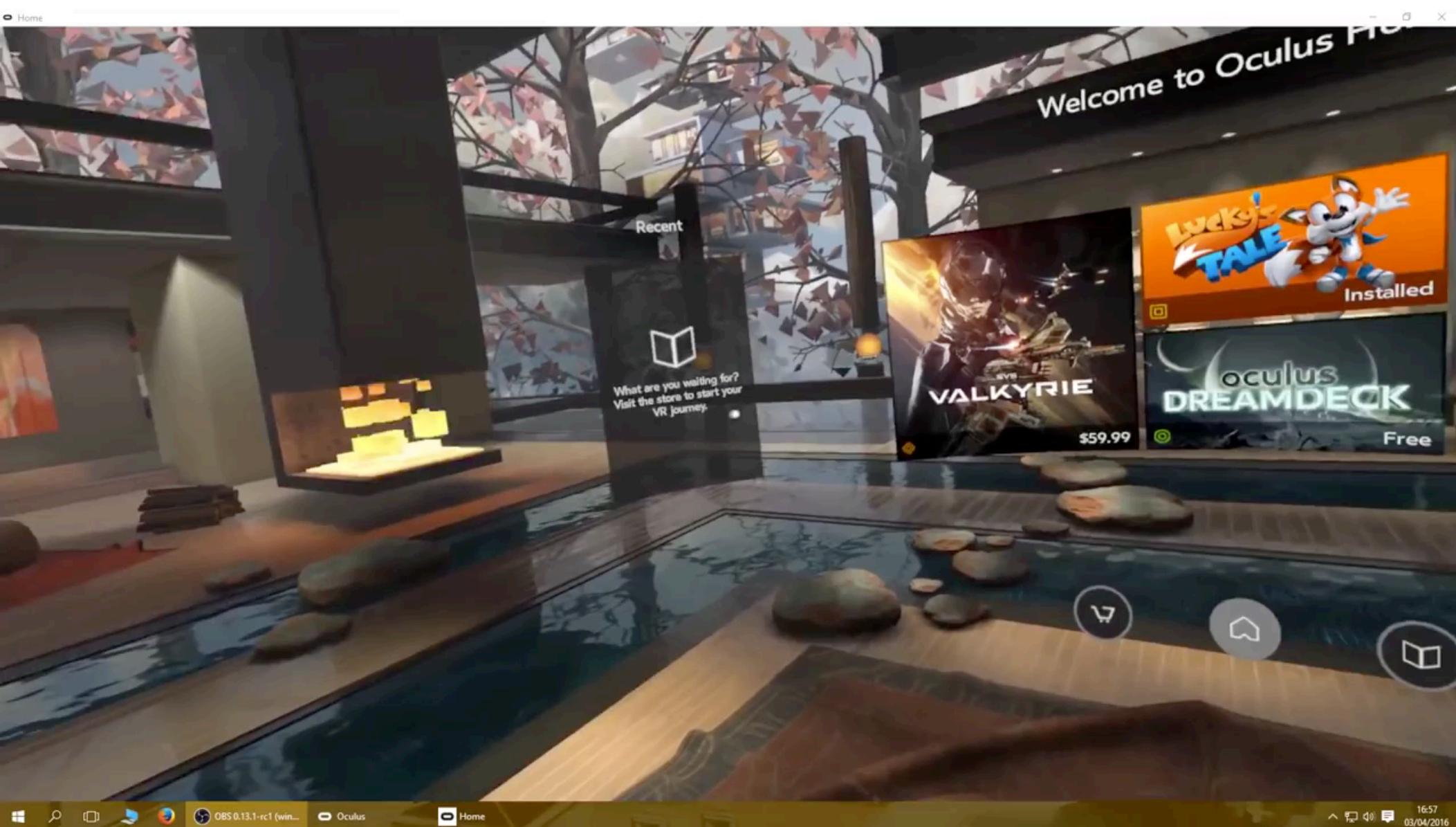
"Law & Order: Criminal Intent" star Vincent D'Onofrio plays Daredevil's nemesis Wilson Fisk, a.k.a. Kingpin.

MY LIST

OVERVIEW EPISODES MORE LIKE THIS DETAILS







# Screens

vs

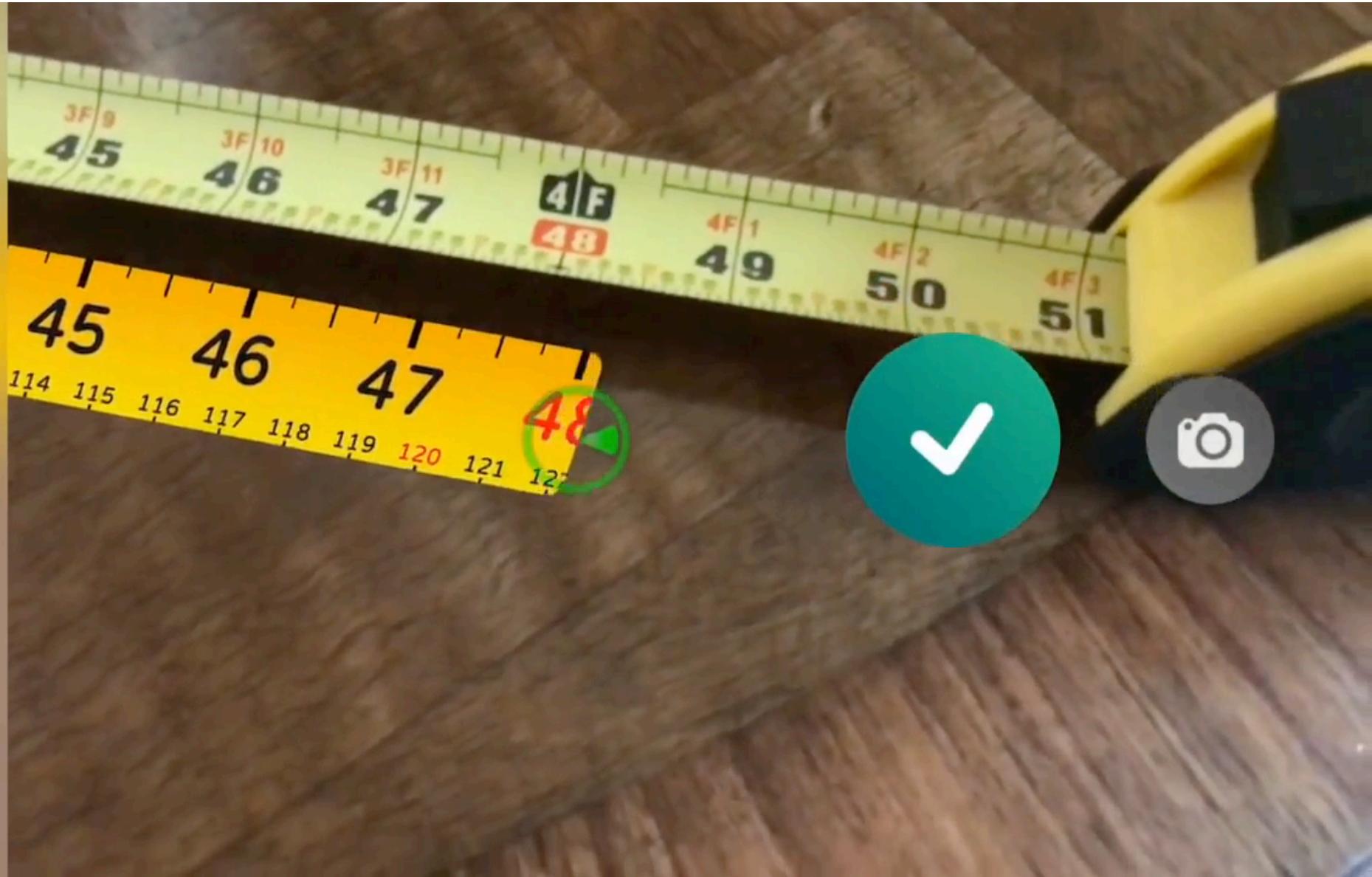
# Space

48.0 in

122 cm

METRIC

4.0ft



# Manipulation

# Exploration



# Manipulation

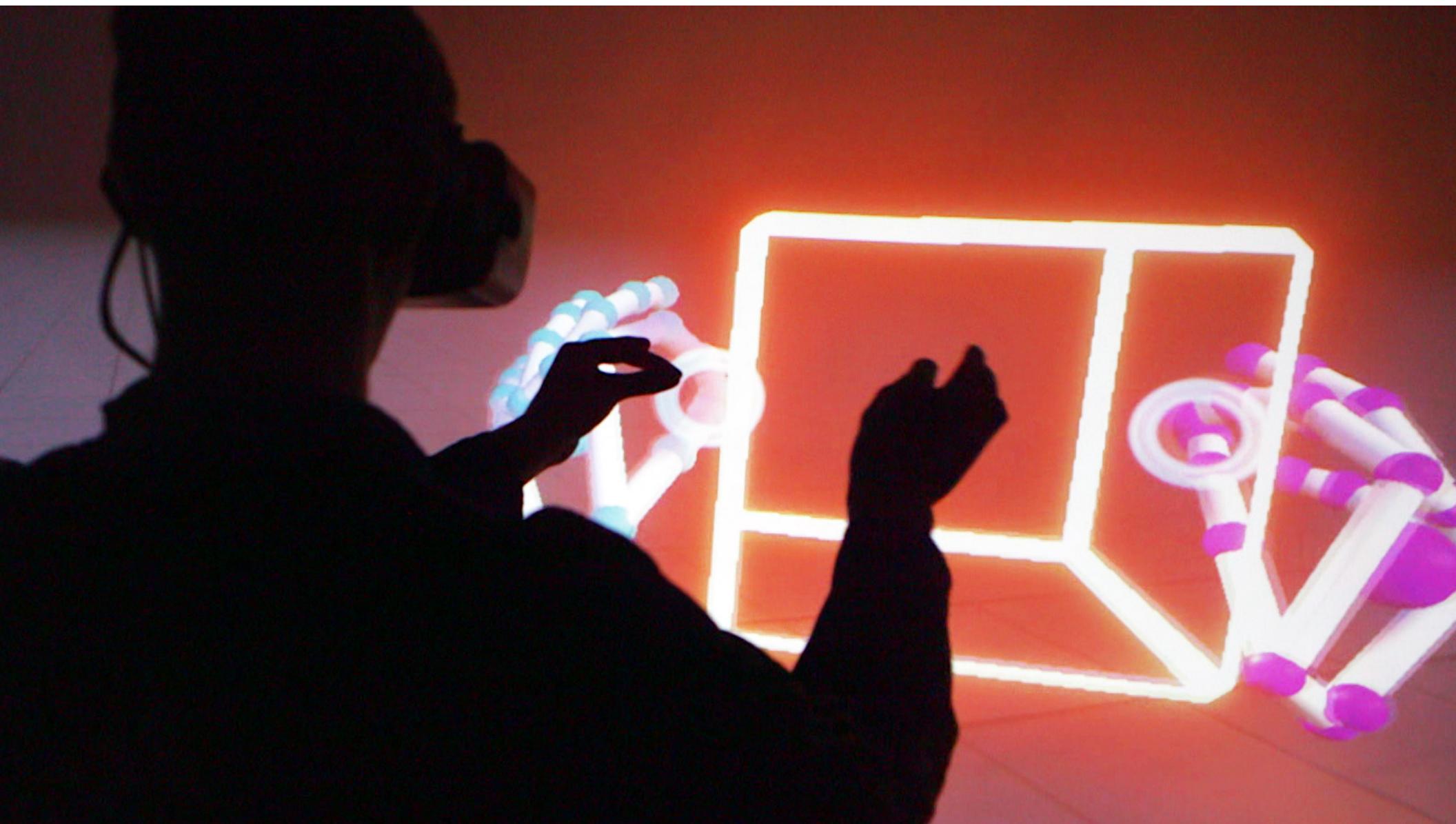




# POWERPLAY.









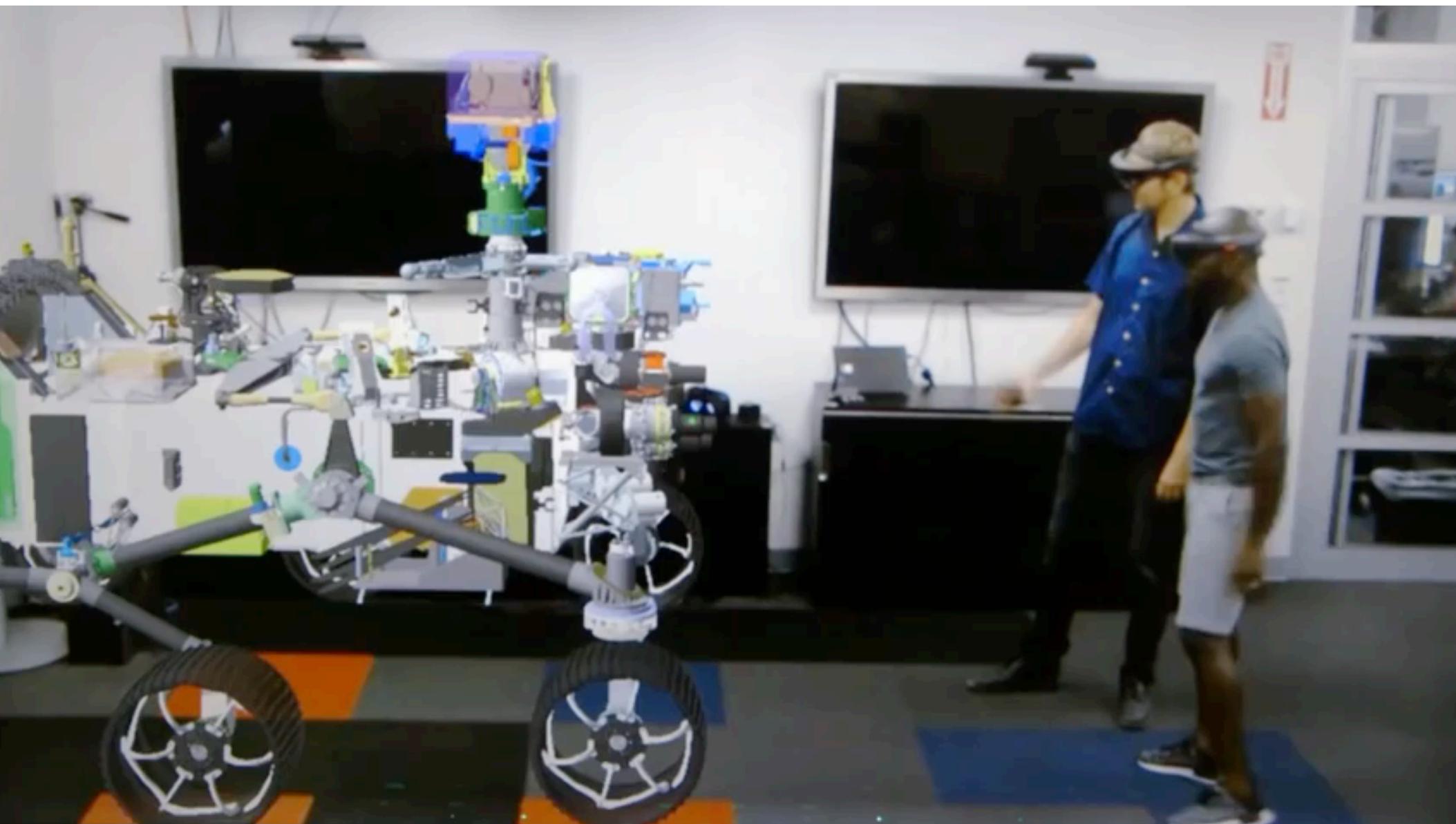
Hi, I'm Cortana.

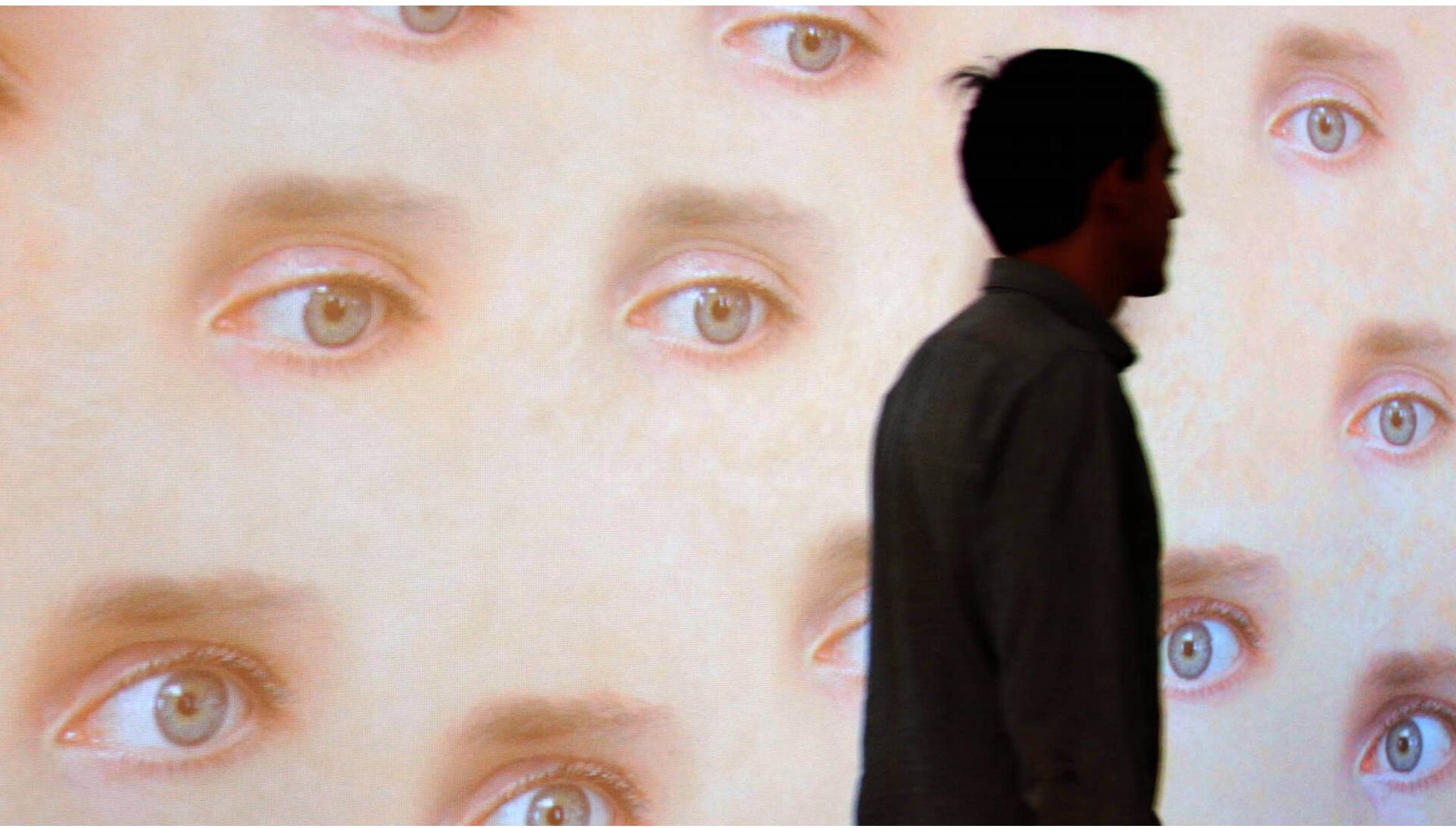
# Manipulation

# Exploration



# Exploration





A woman with long blonde hair, seen from the side and back, wears a black VR headset and uses her right hand to touch a large, semi-transparent globe of the Earth floating in front of her. The globe shows a detailed view of the Americas and Europe. The background is a dark room with wooden shelves containing books and framed pictures.

# Examples

# Designing for Interaction

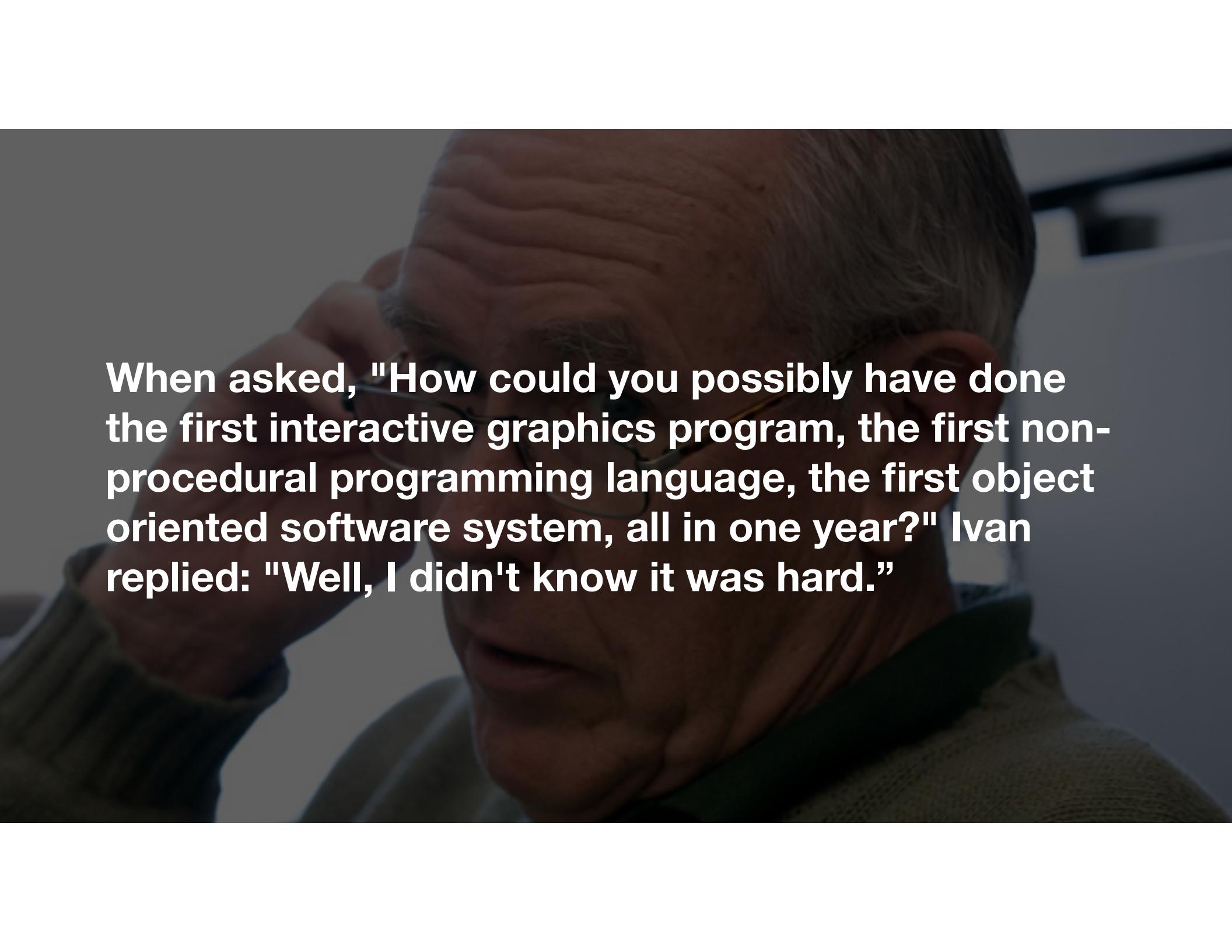


reaaaallly cute



TEAMWORK  
MAKES THE  
DREAM WORK



A close-up, slightly blurred portrait of Ivan Sutherland. He is wearing dark-rimmed glasses and a green button-down shirt. His gaze is directed downwards and to his right, with a thoughtful expression.

**When asked, "How could you possibly have done the first interactive graphics program, the first non-procedural programming language, the first object oriented software system, all in one year?" Ivan replied: "Well, I didn't know it was hard."**

Something Digital you Wish you could touch?

Something big you wish you could see small?

Something small you wish you could see big?

Something invisible you wish you could see?

Tool?

Format?

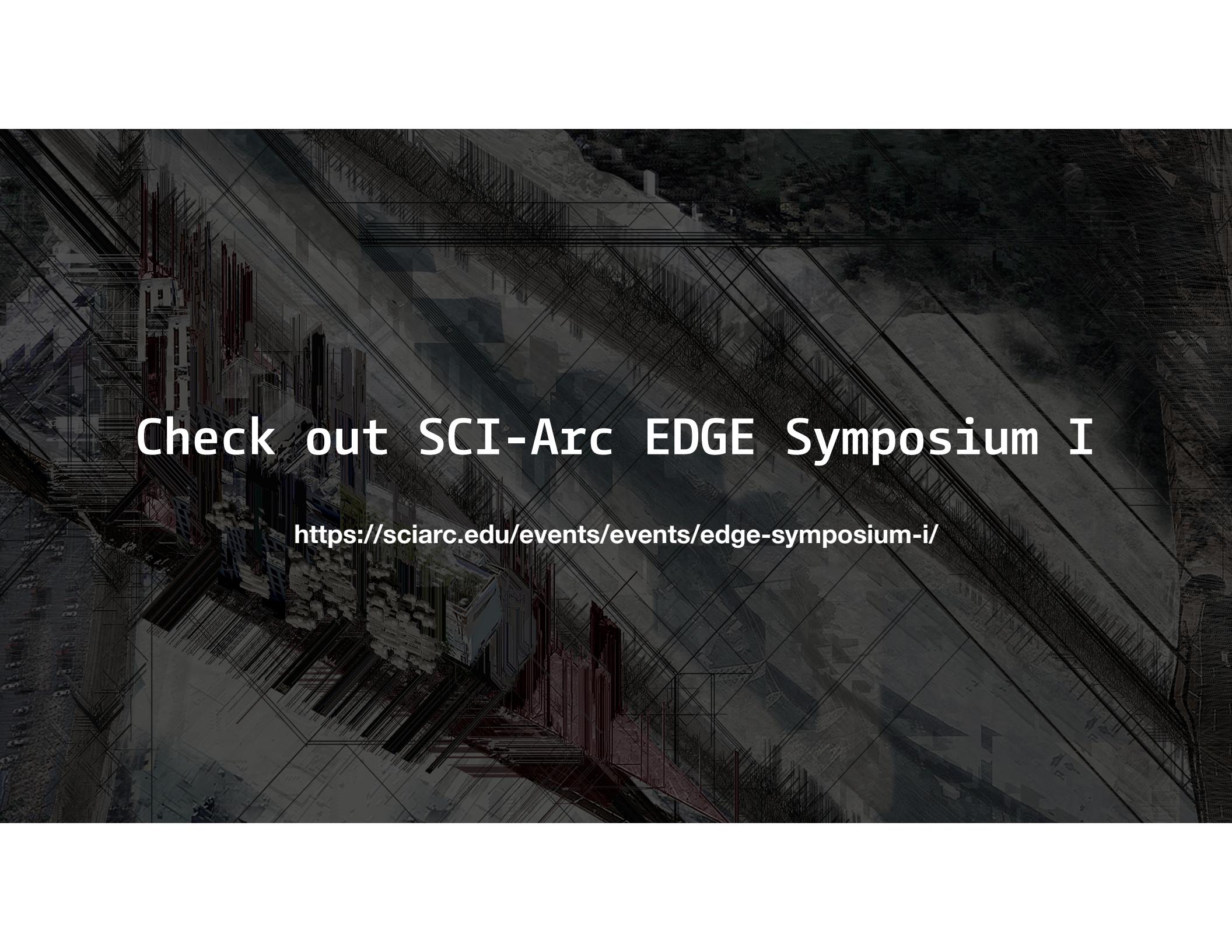
No bad ideas!

Specifically think about  
places where technology is a  
**barrier**.

Combine Similar Ideas

Separate Complex Ideas

Find Cause & Effect  
Relationships



# Check out SCI-Arc EDGE Symposium I

<https://sciarc.edu/events/events/edge-symposium-i/>

John Underkoffler - TED Talk and Article

<http://bit.ly/2vmZLrp>

Design For Humanity - Parts 1, 2, 3

<http://bit.ly/1T0gJ6E>



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