



**TECH 421**  
**Future of Digital  
Media**

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



**Writing/Documentation Due!**

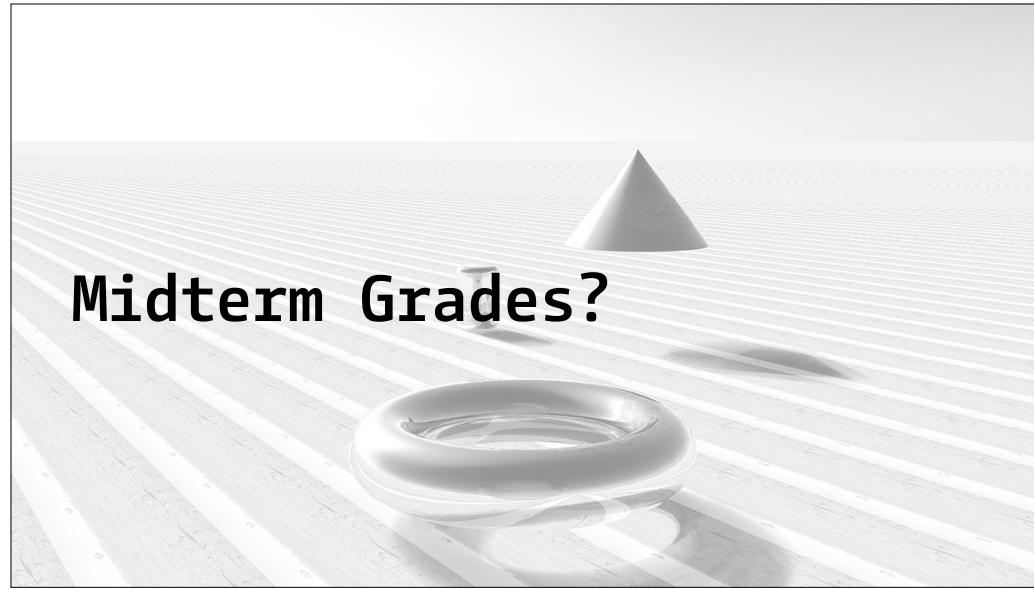
Planning/Diagrams/Pseudocode



Congratulations! You all made an AR/VR project!

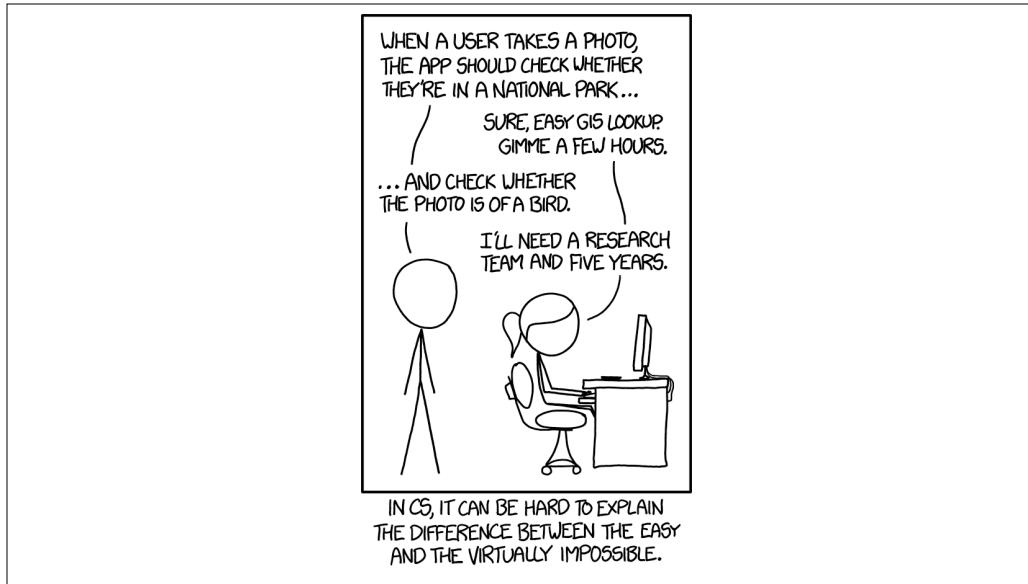


It's OK if that revealed more questions than answers. Questions are good!

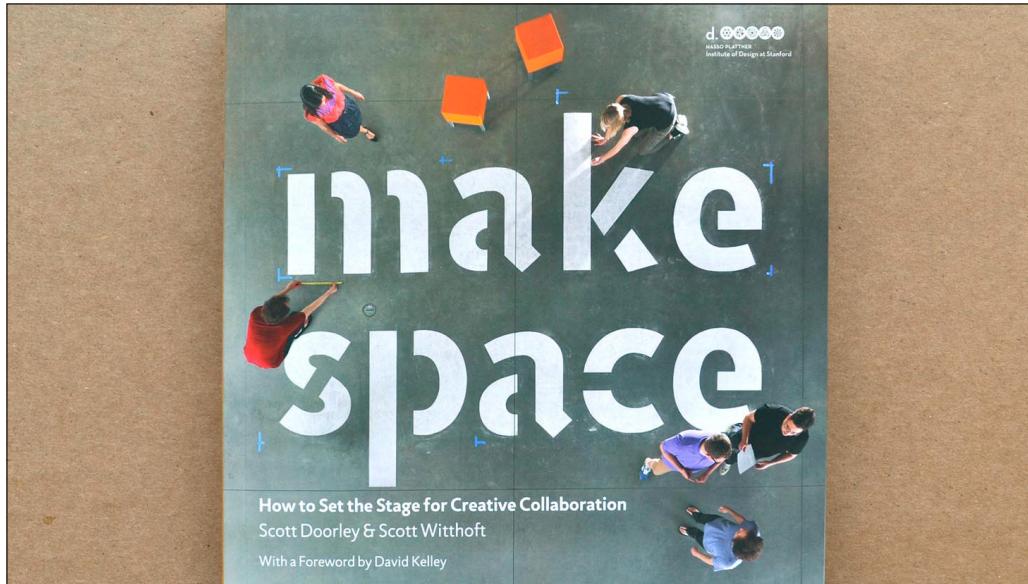


## Midterm Grades?

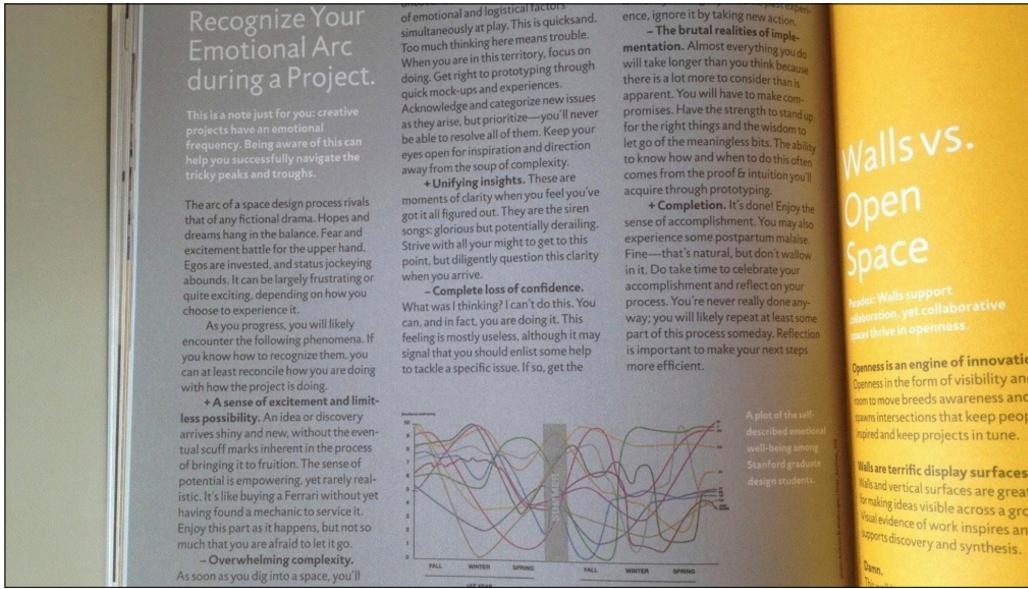
I'll get you notes ASAP by next week.



No we have to get better at identifying what's easy and what's hard. What's a good "scope" for a project?



Moving back to concepts...



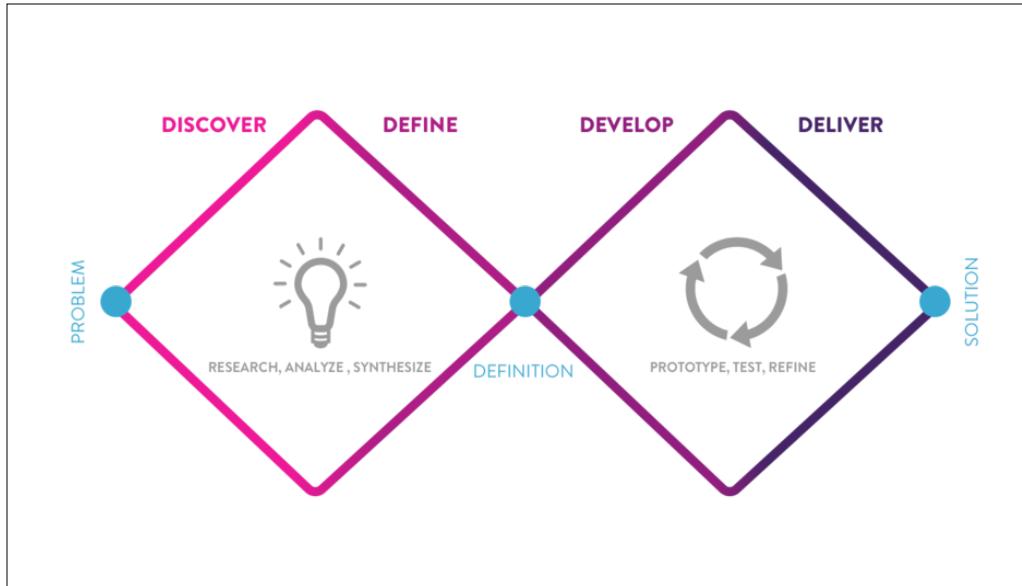
Moving back to concepts...

# The brutal realities of implementation

Let's leave this...

**A sense of excitement  
and limitless  
possibility**

...and go back to this!



Want to get back in to concept/idea mode.

Finals are surprisingly soon

Get better at identifying what's easy and what's hard. What's a good "scope" for a project



The most common symptoms are general discomfort, headache, stomach awareness, nausea, vomiting, pallor, sweating, fatigue, drowsiness, disorientation, and apathy.[2] Other symptoms include postural instability and retching.[2] Virtual reality sickness is different from motion sickness in that it can be caused by the visually-induced perception of self-motion; real self-motion is not needed.[1] It is also different from simulator sickness; non-virtual reality simulator sickness tends to be characterized by oculomotor disturbances, whereas virtual reality sickness tends to be characterized by disorientation.[3]

Another trigger of virtual reality sickness is when there is disparity in apparent motion between the visual and vestibular stimuli. Essentially what happens is there is a disagreement between what the stimuli from the eyes send to the brain and what the stimuli from the inner ear are sending to the brain. This is what is essentially at the heart of both simulator and motion sickness. In virtual reality, the eyes transmit that the person is running and jumping through a dimension, however, the ears transmit that no movement is occurring and that the body is sitting still. Since there is this discord between the eyes and the ears, a form of motion sickness can occur.

"getting your sea legs".

individual susceptibility

[https://en.wikipedia.org/wiki/Virtual\\_reality\\_sickness?oldformat=true](https://en.wikipedia.org/wiki/Virtual_reality_sickness?oldformat=true)

Like a poison



REVIEWS

NEWS

VIDEO

HOW TO

SMART HOME

CARS

DEALS

DOWNLOAD

WEARABLE TECH

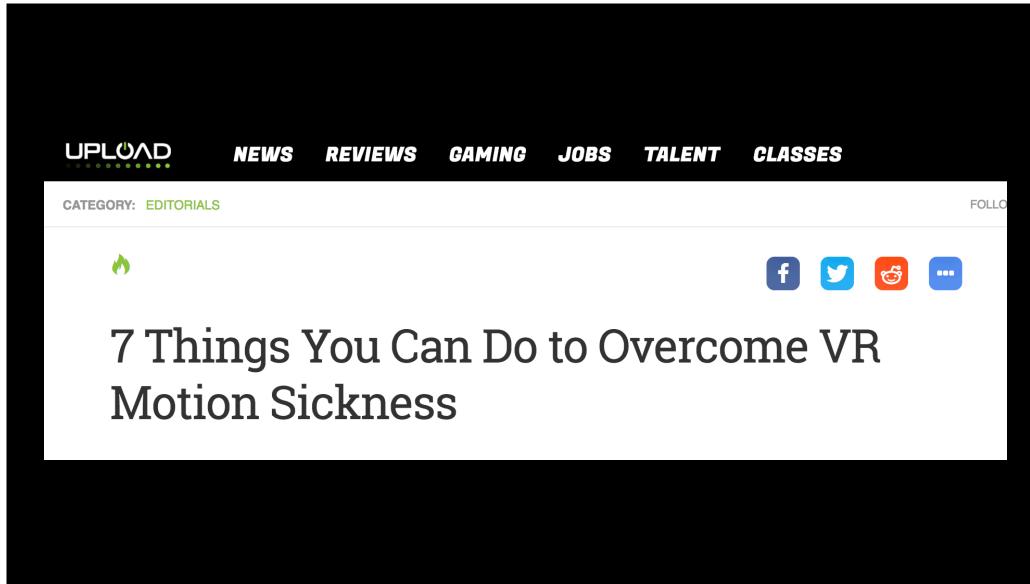
# The dangers of virtual reality

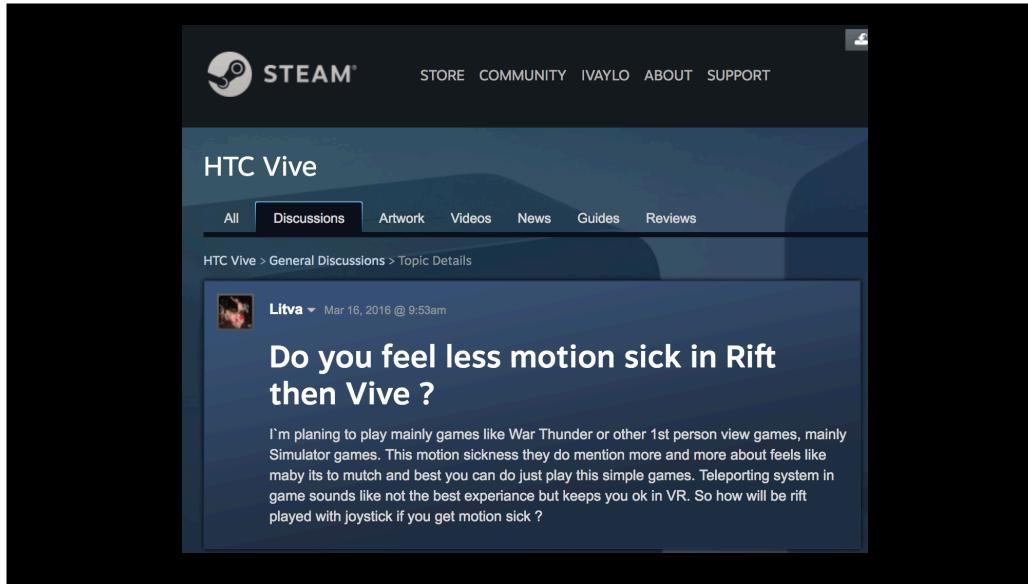
Commentary: Tripping over wires, accidental TV breakage and nausea. VR could get you hurt. Better to be prepared.

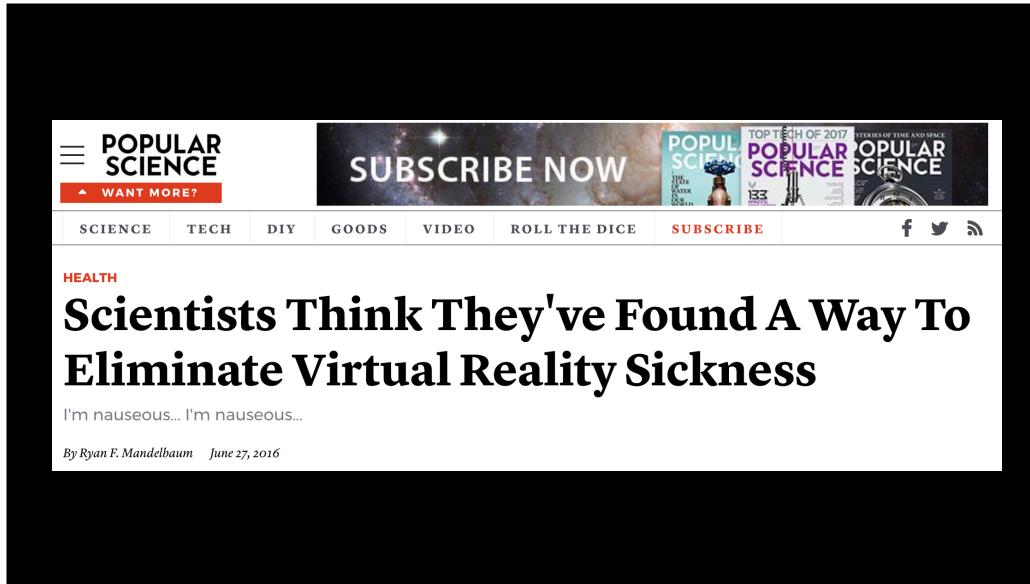
BY SCOTT STEIN / MARCH 29, 2016 2:59 PM PDT

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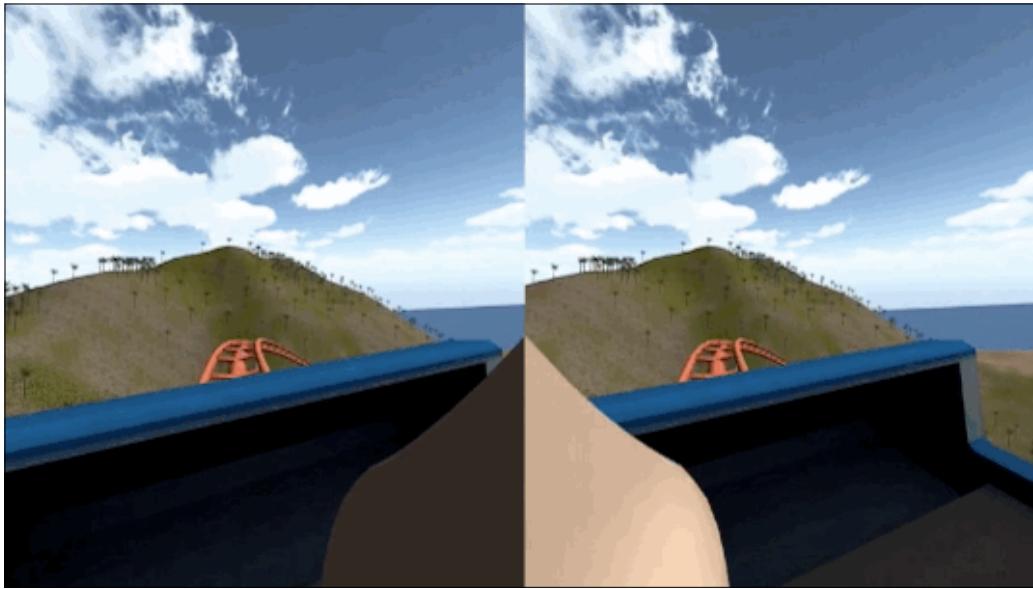




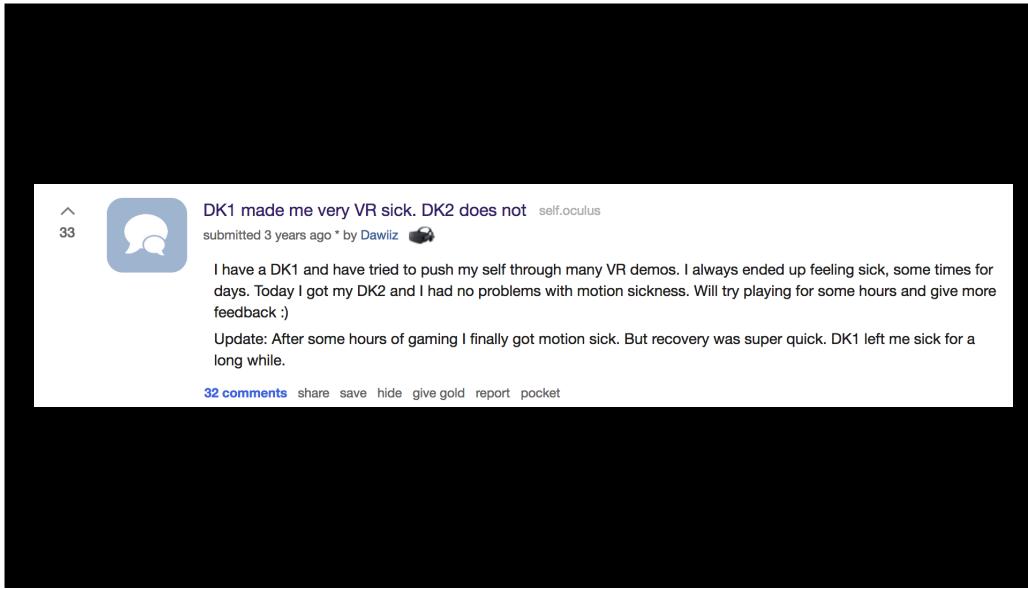




Nasum Virtualis



Nasum Virtualis - putting a nose in as a frame of reference.



This helped, but also the tech is just getting better too.



First Oculus dev kit (left) didn't have positional tracking. DevKit2 added a IR webcam.



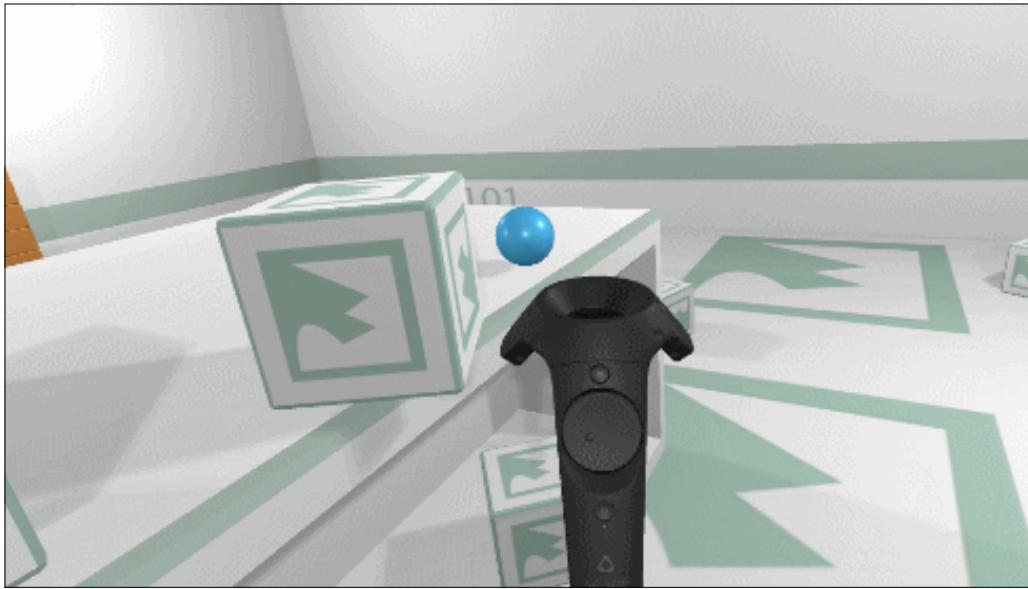
IR webcam was great step forward, but there were still other technical problems (for example, the refresh rate on the internal display)



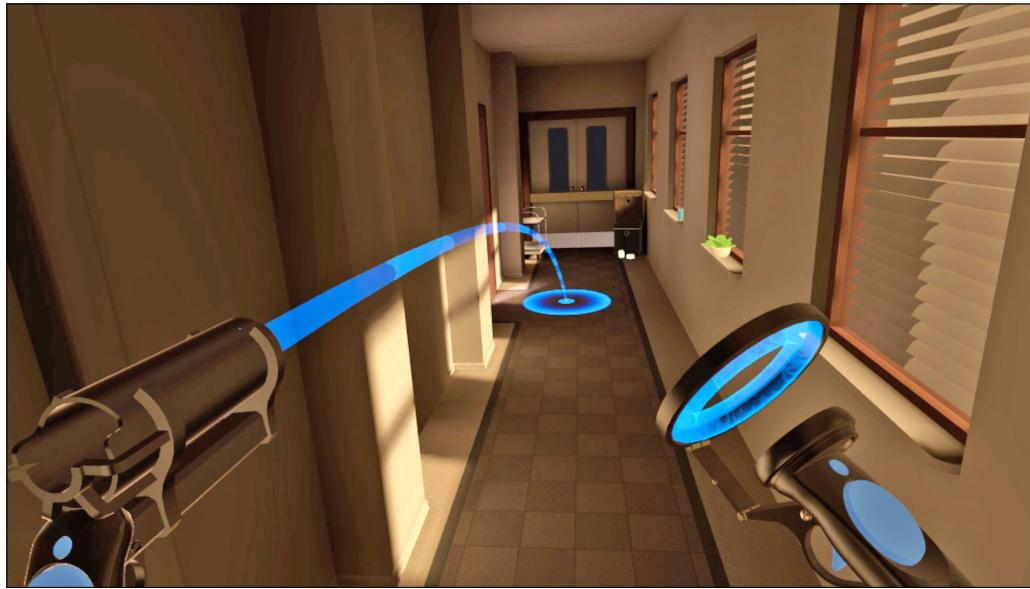
Positional tracking is HUGE step forward for avoiding sickness - avoiding disconnect between visual perception and sense of movement.



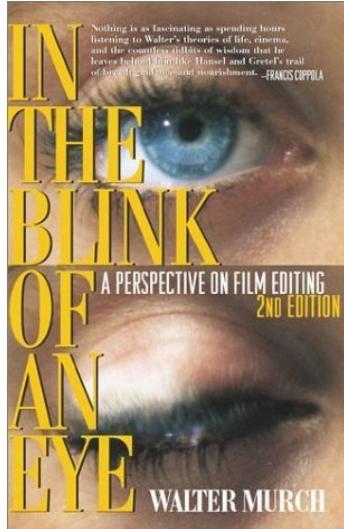
Cockpits are great ways to have frames of reference and avoid sickness...

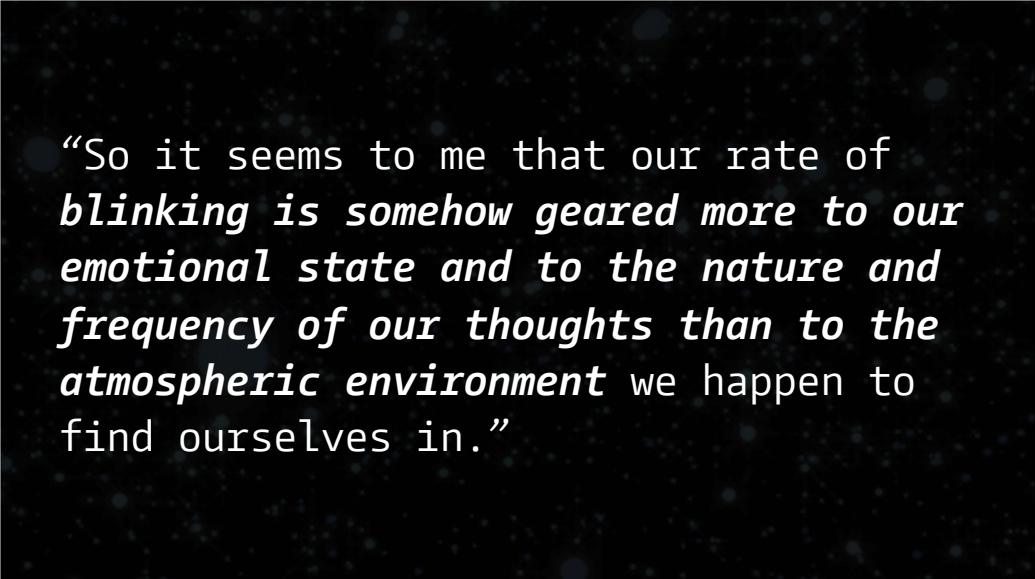


Teleporting allows us to virtually move without *physically moving*.



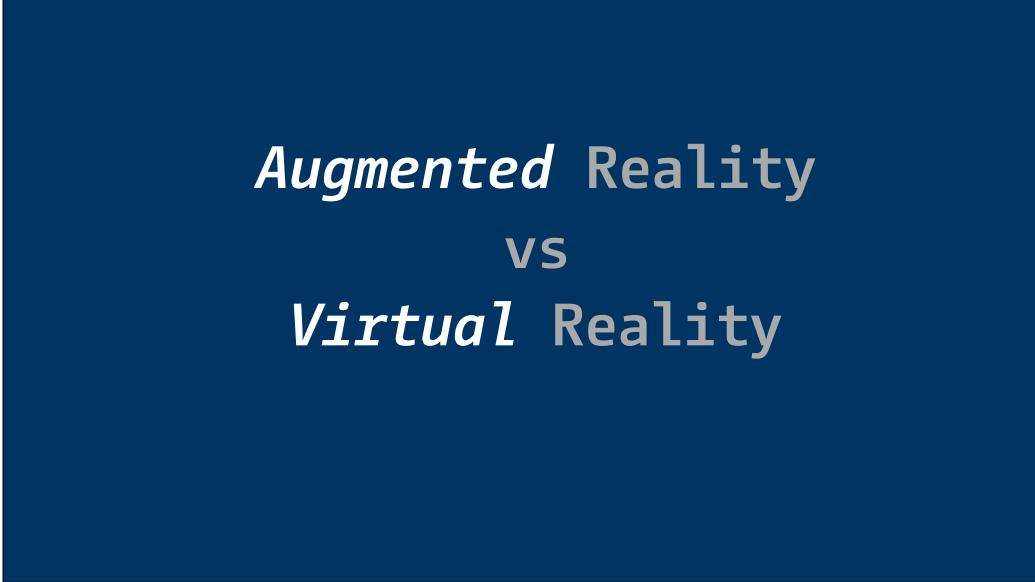
Why doesn't teleport freak us out?





“So it seems to me that our rate of ***blinking is somehow geared more to our emotional state and to the nature and frequency of our thoughts than to the atmospheric environment*** we happen to find ourselves in.”

The blink is either something that helps an internal separation of thought to take place, or it is an involuntary reflex accompanying the mental separation that is taking place anyway.



# *Augmented* Reality vs *Virtual* Reality

Recap: As far as this class is concerned, we're drawing the line here:

**Virtual Reality** = Where everything that the user sees & hears is controlled by the created experience.

**Augmented Reality** = You are adding things to the real world.

# Screens vs Space

Not just about recreating *existing* spaces, but inventing new ones

# Designing for Interaction

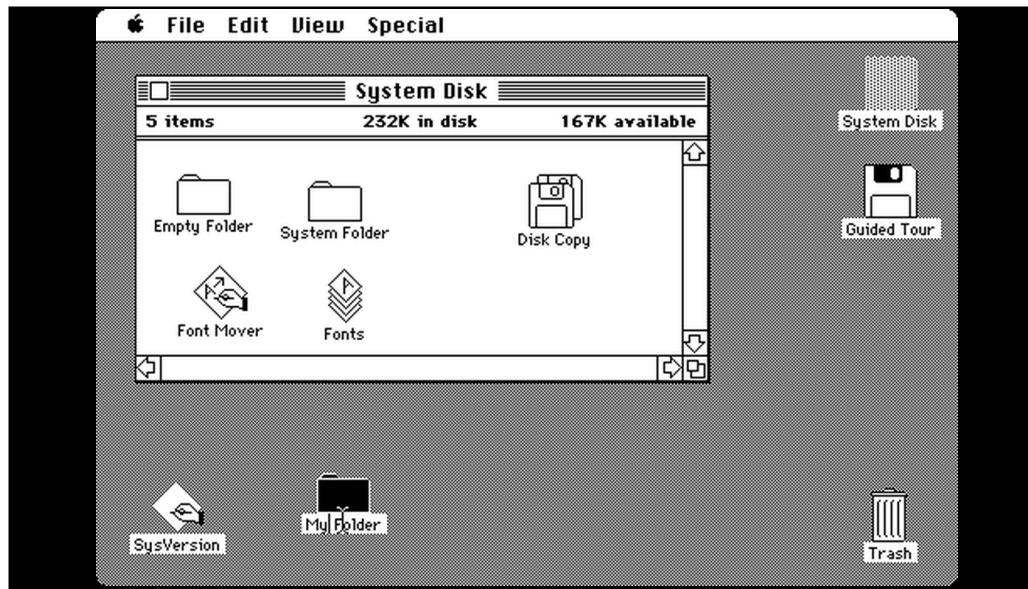
Design to the available tools or invent new tools

Don't try to find a new interface for email, REPLACE EMAIL

# Modality

*n. - A particular mode in which something exists or is experienced or expressed.*

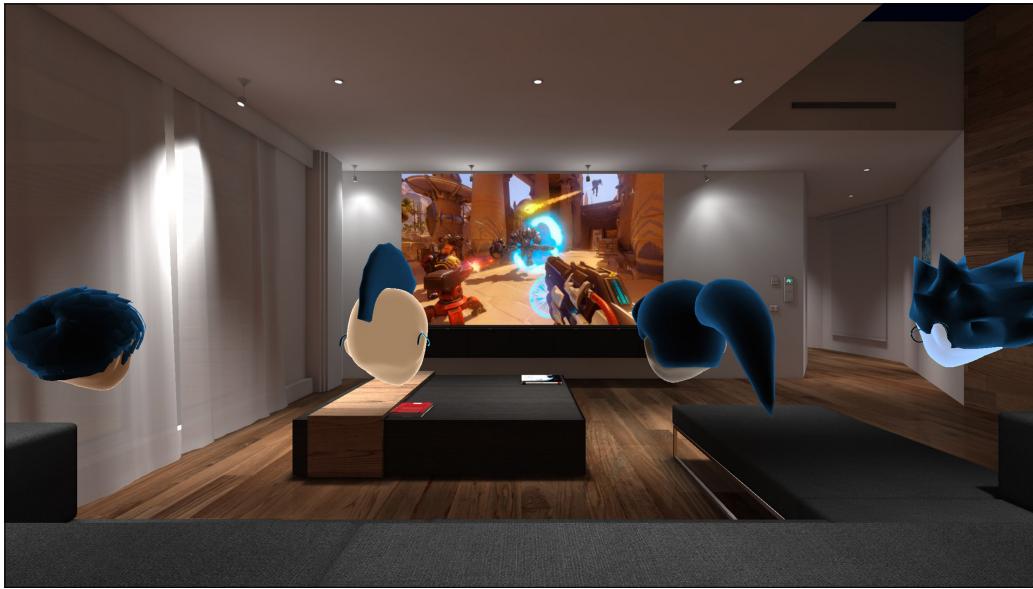
Basically, the way that you do something.



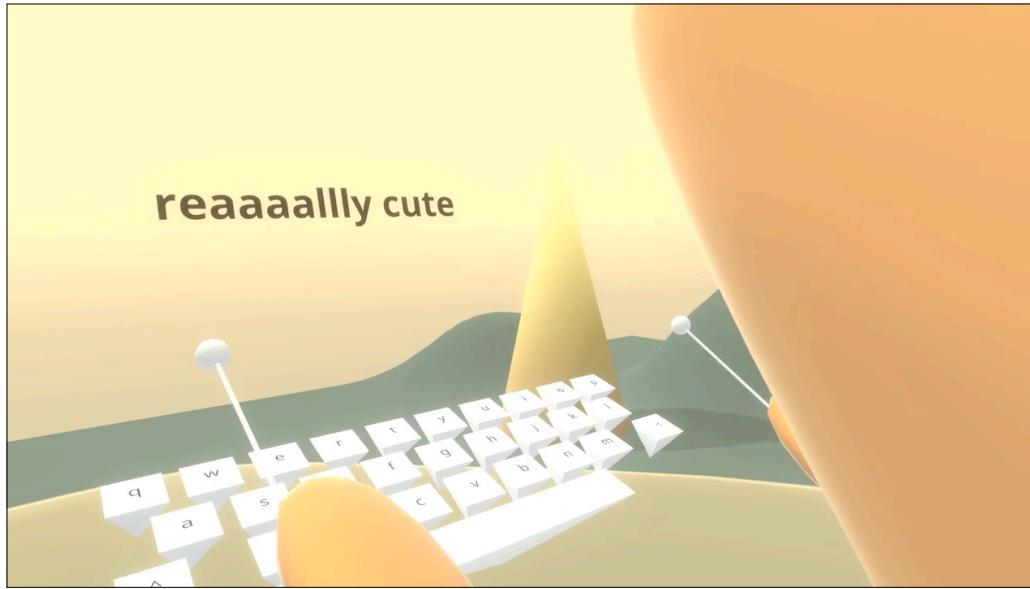
Do you keep this metaphor of files/folders?

Do we make little filing cabinets and sheets of paper.









Good example: uses space and natural interaction for the tools you have available (handheld remotes)

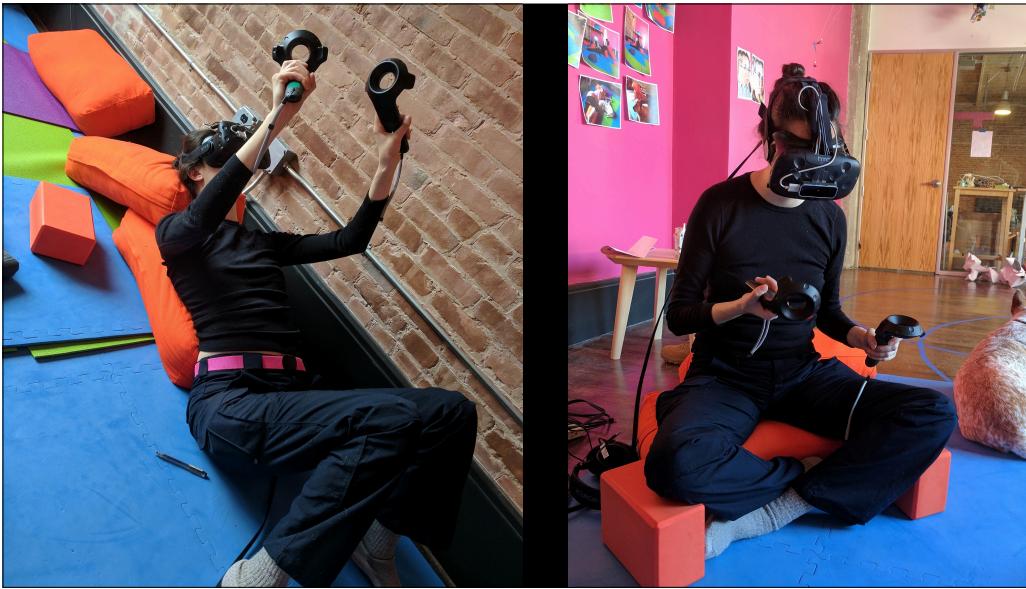


M EIFLER, AKA BLINKPOPOSHIFT.

<http://elevr.com/studio-metaphor-an-embodied-software-paradigm/>



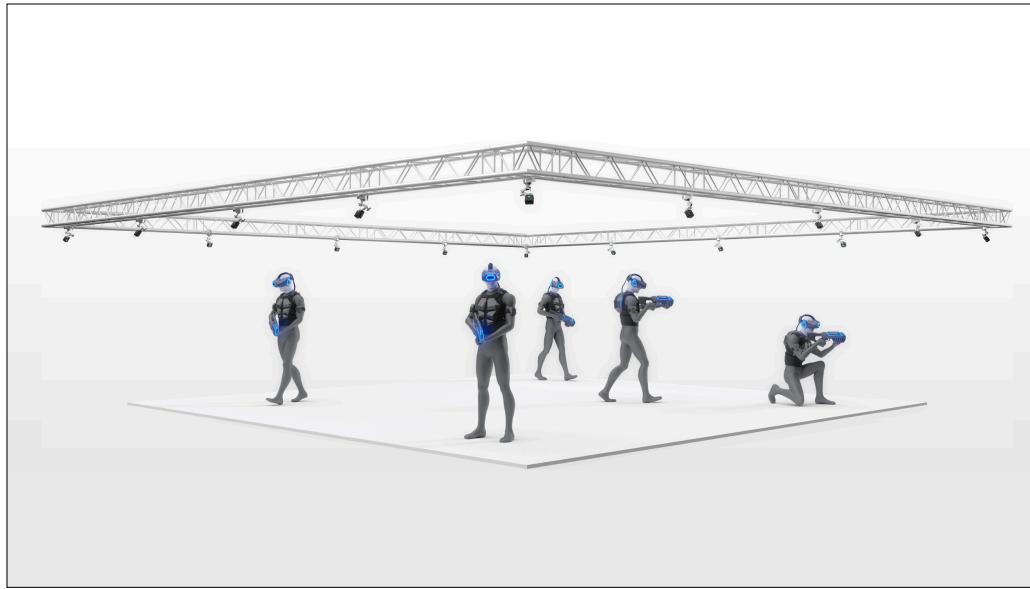
Not just what you are doing in the experience! Think about **how** the user uses it.







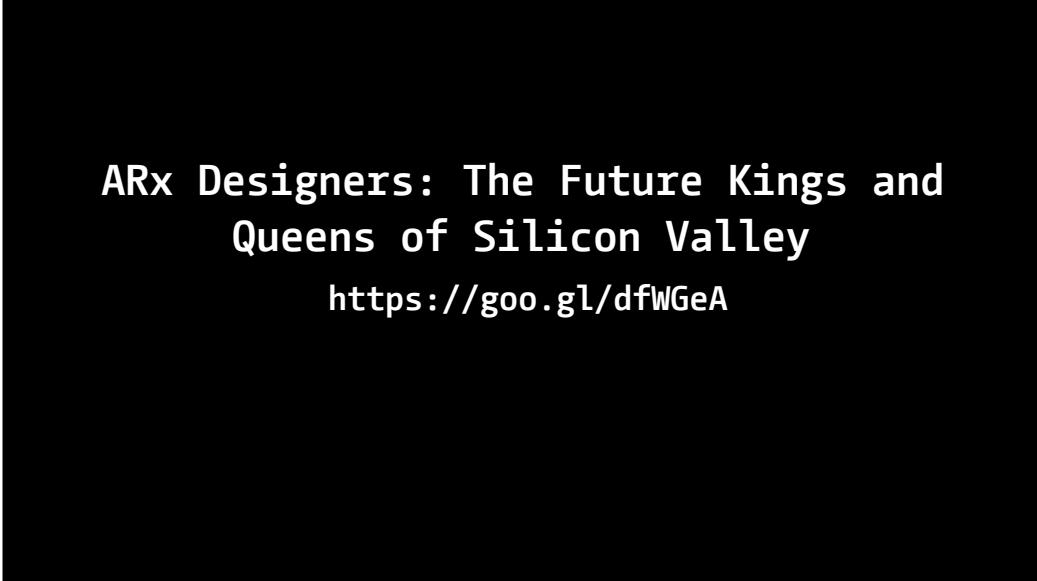
Finally, think of scale!



# Modality

*n. - A particular mode in which something exists or is experienced or expressed.*

Basically, the **way** that you do something.



## **ARx Designers: The Future Kings and Queens of Silicon Valley**

<https://goo.gl/dfWGeA>

Reading for next week:

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Thank you!