50 Lessons from 80+ VR & AR Prototypes

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Audio

#1

Great audio is critical to immersion

#2

Spatial audio is more than just dynamic volume

Process

#3

Iterate. Your first idea probably won’t be your best

#4

Test in VR ASAP

#5

Scope

#6

Not every experience will be better in VR

#7

Don’t be constrained by reality

#8

Design from the ground up specifically for VR

Motion

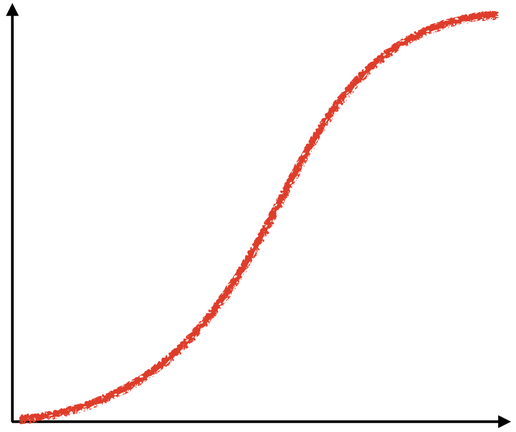
#9

When your eyes and your vestibular system disagree, you get sick

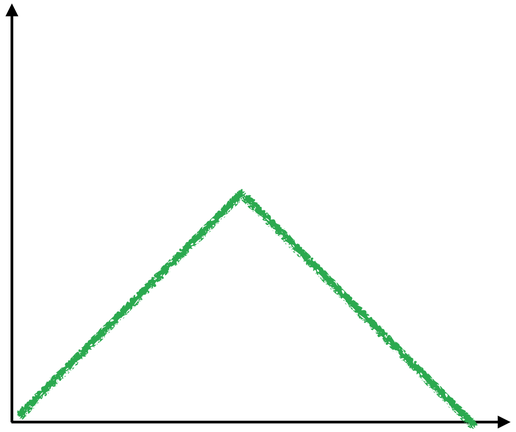
#10

Minimize problems with constant velocity or “blink teleport”

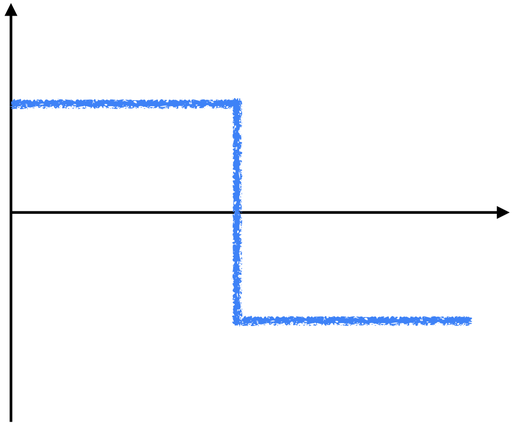
position

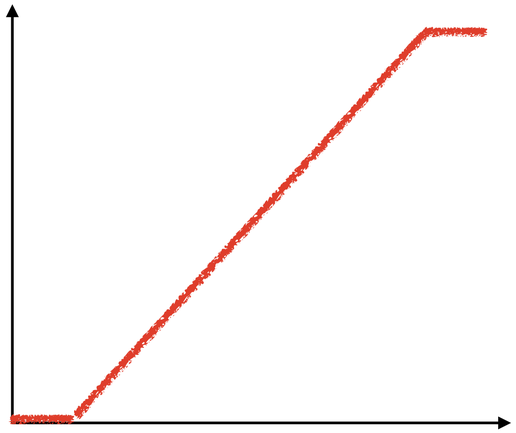


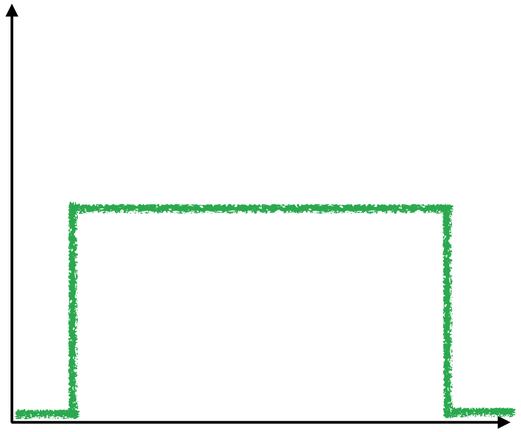
velocity

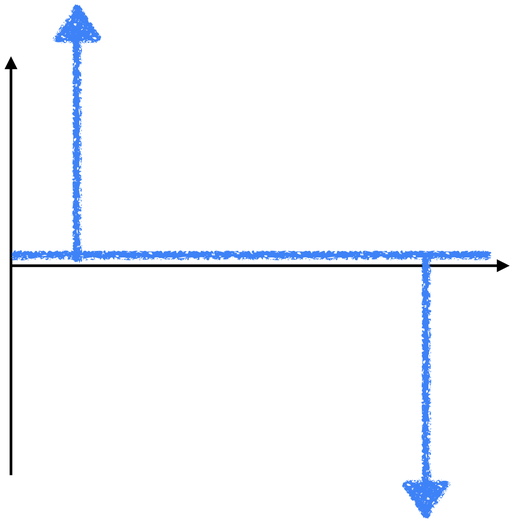


acceleration

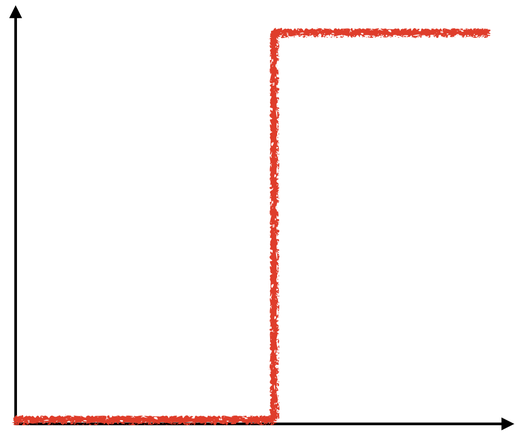








position



#11

Be creative with teleportation preview and other types of motion

#12

Narrow the FOV
while moving

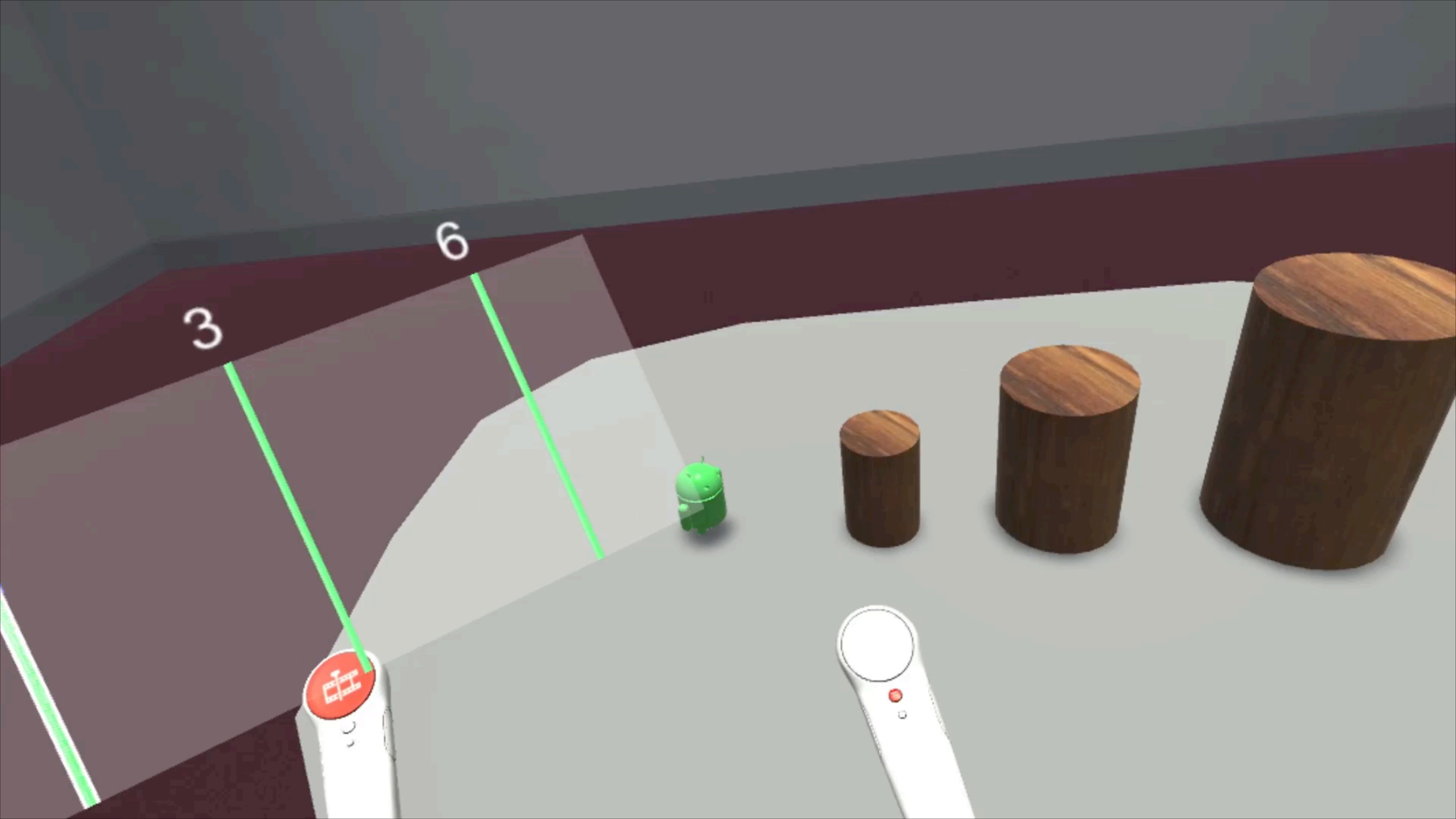
#13

Teleport to a psychologically safe space

Interaction

#14

Players love experiences that allow for creativity


6
3

#15

Let them throw it!

#16

Think about gestures

#17

Let sloppy actions have structured results ▶

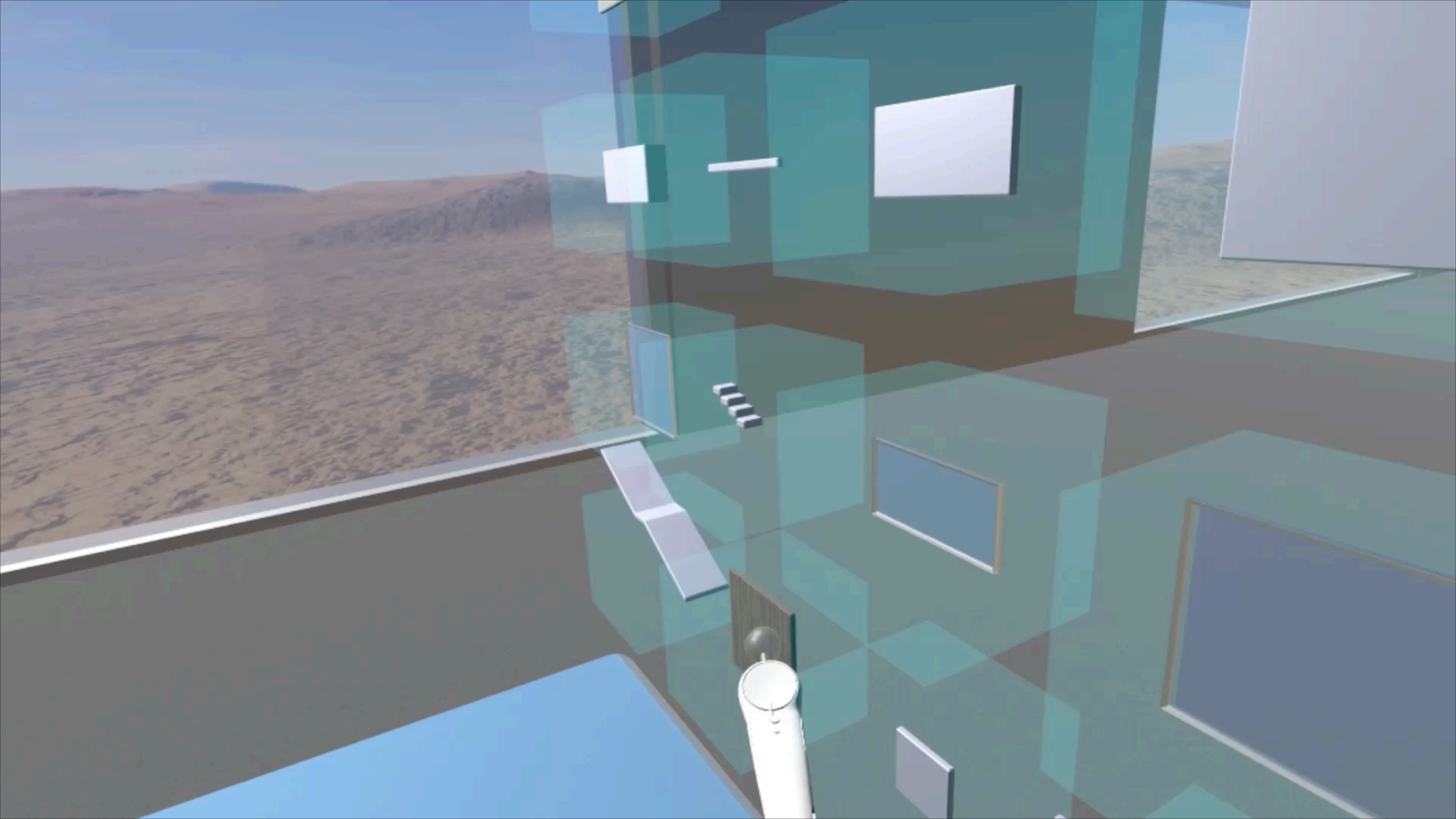
#18

Give your players superpowers

Controllers

#19

Use snapping to constrain motion ▶



#20

Keep interactions in
a comfortable space

#21

Controls don’t have to be mapped 1:1

#22

Use haptics

Environments

#23

We love huge spaces

#24

Divide your world into smaller spaces that fit into a typical physical space

#25

Place objects in a way that keeps players in the physical space

#26

Texture everything,
even if it’s just a
subtle noise texture

#27

Show the physical bounds in the virtual world

#28

Everyone loves particles!

Scale

#29

Accurate scale matters

#30

Scale can convey
power or vulnerability

#31

Use scale as a tool

#32

When you change scale, don’t forget to scale physics and audio

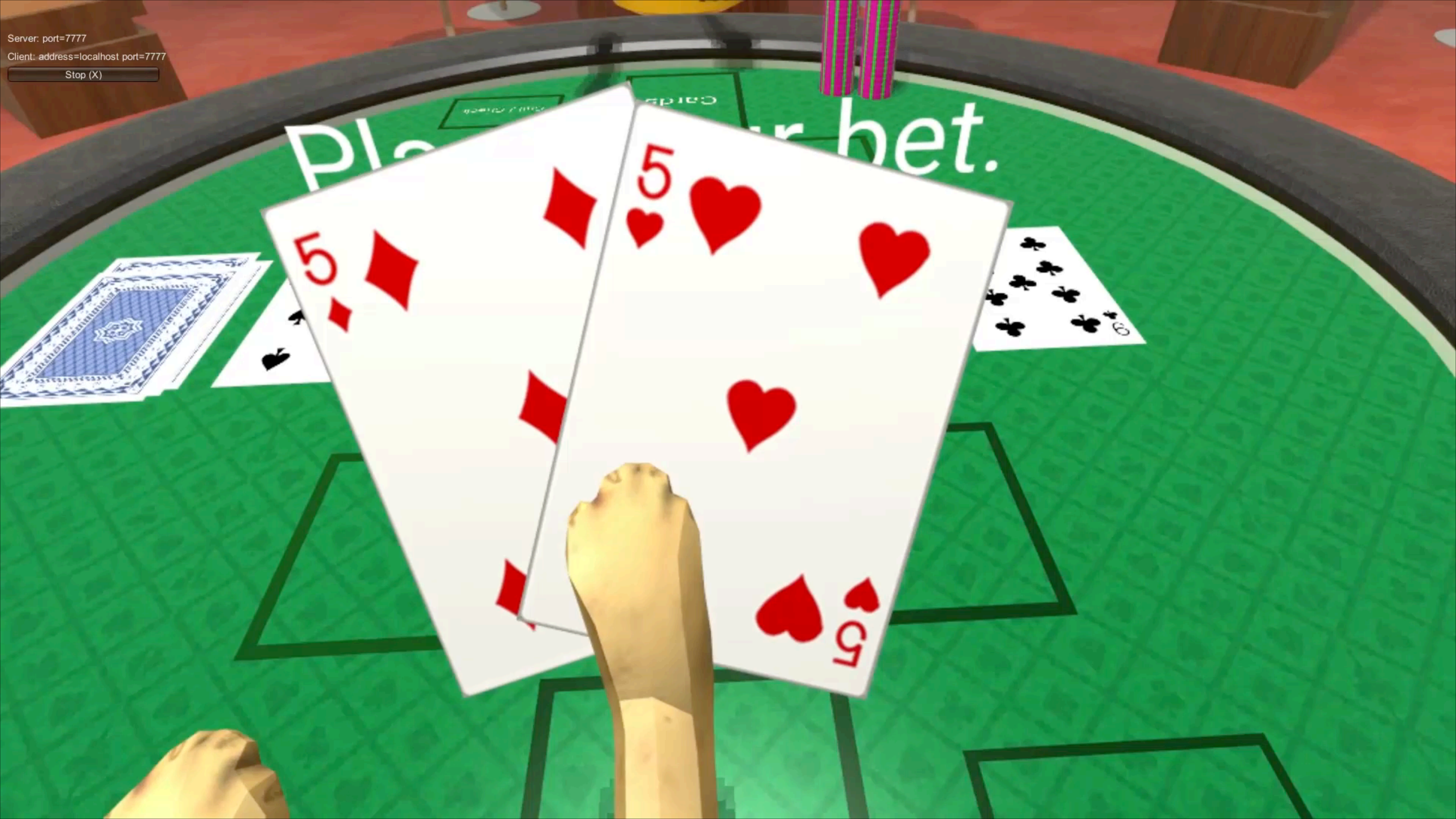
Copresence

#33

Players expect
something to happen
when they touch

#34

Don’t reward bad behavior ▶


Server: port=7777
Client: address=localhost port=7777
Stop (X)

#35

Do reward prosocial interactions ▶

Ser
Cli
Stop (X)

#36

Enforce social boundaries

#37

Voice chat multiplies immersion

#38

Put shared objects at the center of the space

#39

Think about asymmetric experiences

Avatars

#40

Avoid full-body avatars in a first-person view ▶

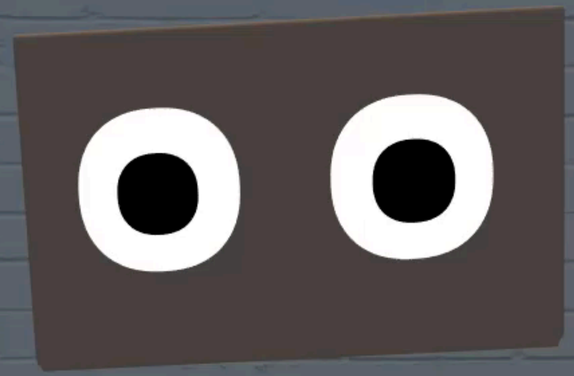
#41

Eyes are the window
to the soul ▶

Server: port=7777

Client: address=localhost port=7777

Stop (X)



#42

When you pick up an item, that item can become your controller

#43

Beware of the uncanny valley ▶

Server: port=7777
Client: address=localhost port=7777
Stop (X)

UI

#44

Avoid UI that requires you to turn your head

#45

Not too close, not too far

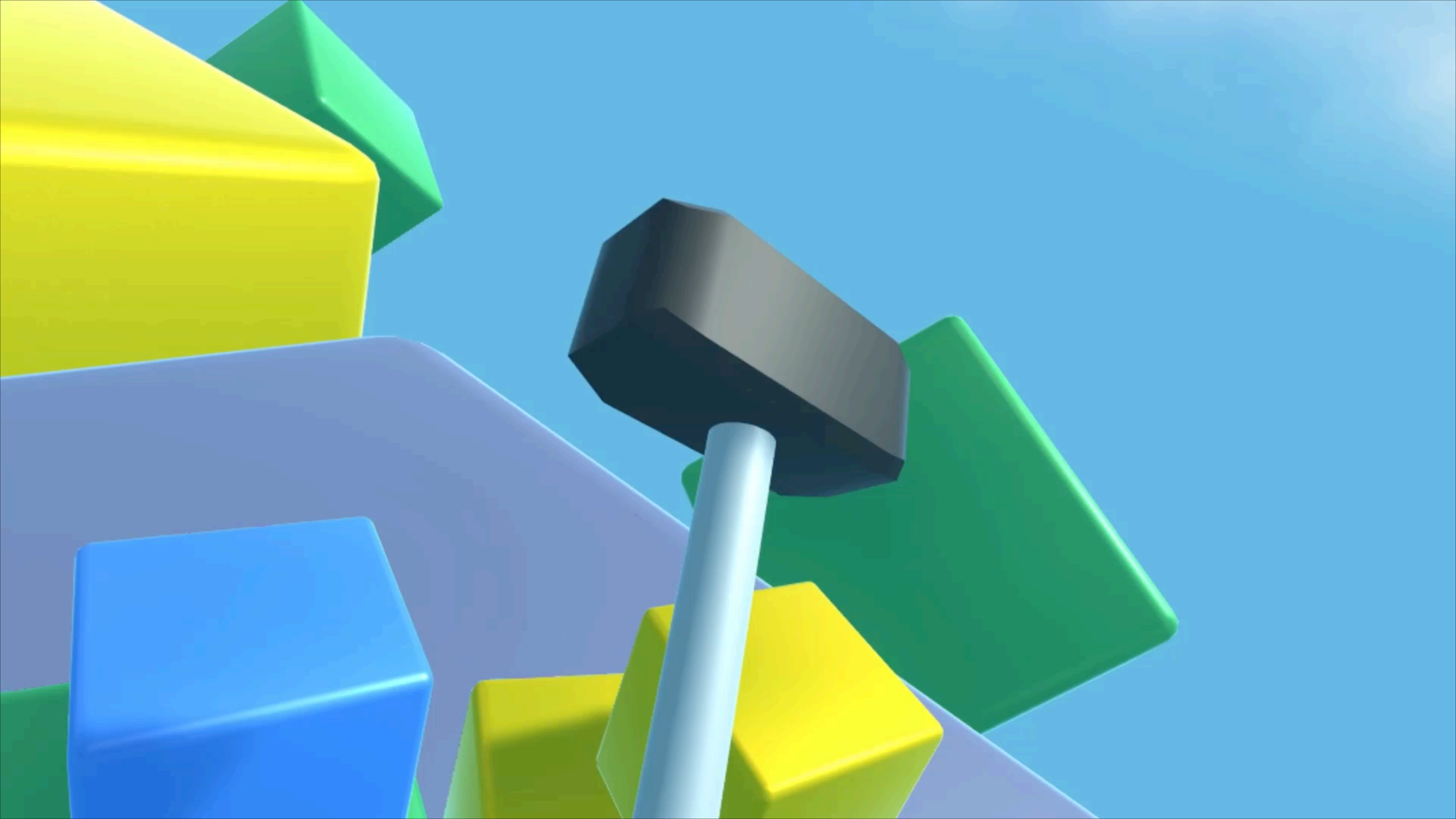
#46

Keep the text big

Smartphone VR

#47

A well-designed elbow model can make interactions feel natural ▶



#48

Performance matters

Final takeaways

#49

Check out what others are doing

#50

You’re a pioneer.
Think big!

Questions?

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