

WebVR

The next frontier

Привет москва!

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@g33konaut



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What we'll cover

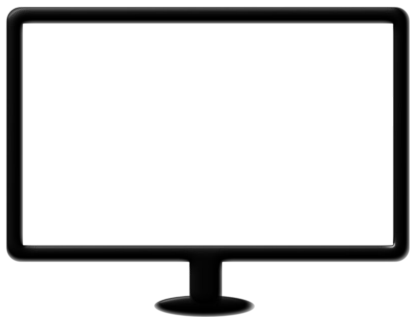
- Making 3D things on the web
- What is WebVR?
- WebVR 101
- What are the challenges?

Making 3D things on the web

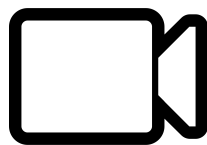
WebGL

- Using a **<canvas>** element and **WebGL**
- Libraries such as Three.js, Babylon, ...

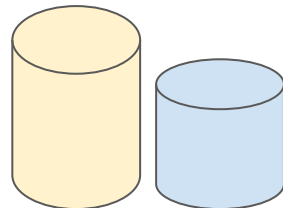
Three.js



Canvas + Renderer



Camera



Scene

Three.js

```
var renderer = new THREE.WebGLRenderer(),  
    scene = new THREE.Scene(),  
    camera = new THREE.PerspectiveCamera(...),  
    box = new THREE.Mesh(...)  
  
scene.add(box)
```

Three.js

```
function update() {  
  box.rotation.y += Math.PI / 100  
  renderer.render(scene, camera)  
  requestAnimationFrame(update)  
}  
requestAnimationFrame(update)
```


VR



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VR - what's it good for?

- Maps / Navigation
- Education / Research
- Healthcare
- Entertainment / Journalism
- Marketing

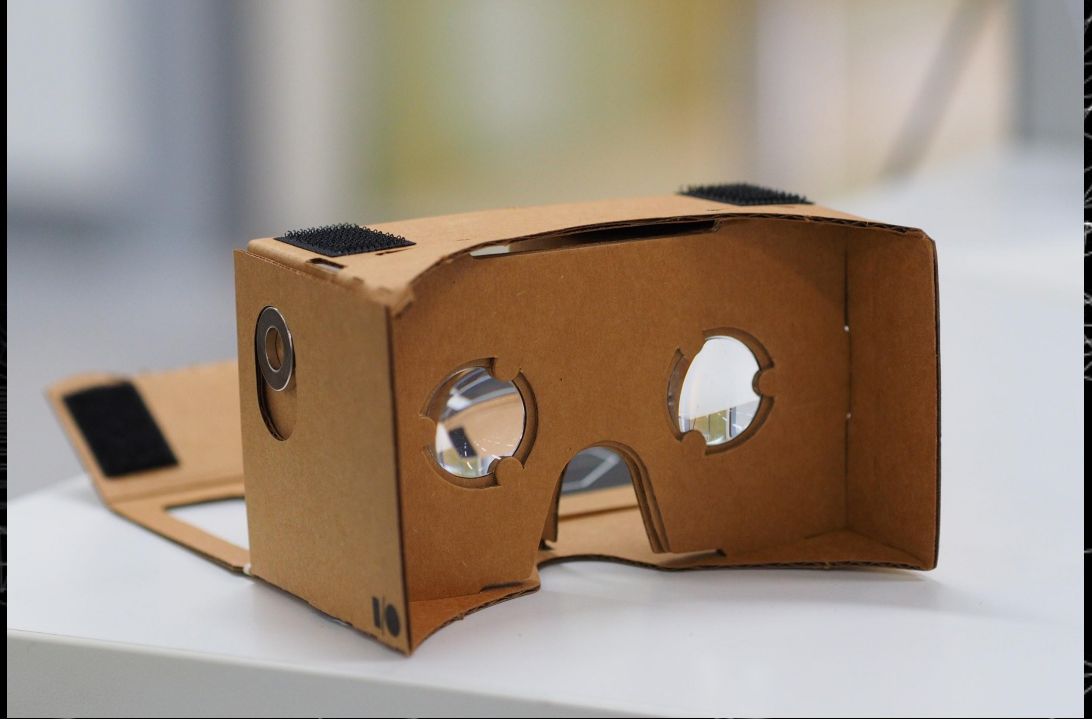
VR Hardware

- Oculus Rift
- GearVR
- HTC Vive
- Google Cardboard
- OSVR
- ...etc...



It is a fragmented ecosystem

- Capabilities
- Applications



Devices & Capabilities

	Oculus Rift	HTC Vive	Gear VR	Cardboard
Position tracking	✓	✓	✗	✗
Roomscale tracking	✗	✓	✗	✗
Controls	2x	2x	Touchpad	Button
Mobile	✗	✗	✓	✓

What is WebVR?

Creating should be for everyone



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Why WebVR?



WebVR...

...will work on all devices with a browser

...will allow to respond to the capabilities

...will make sharing & discovery easier

Let's try
WEBVR

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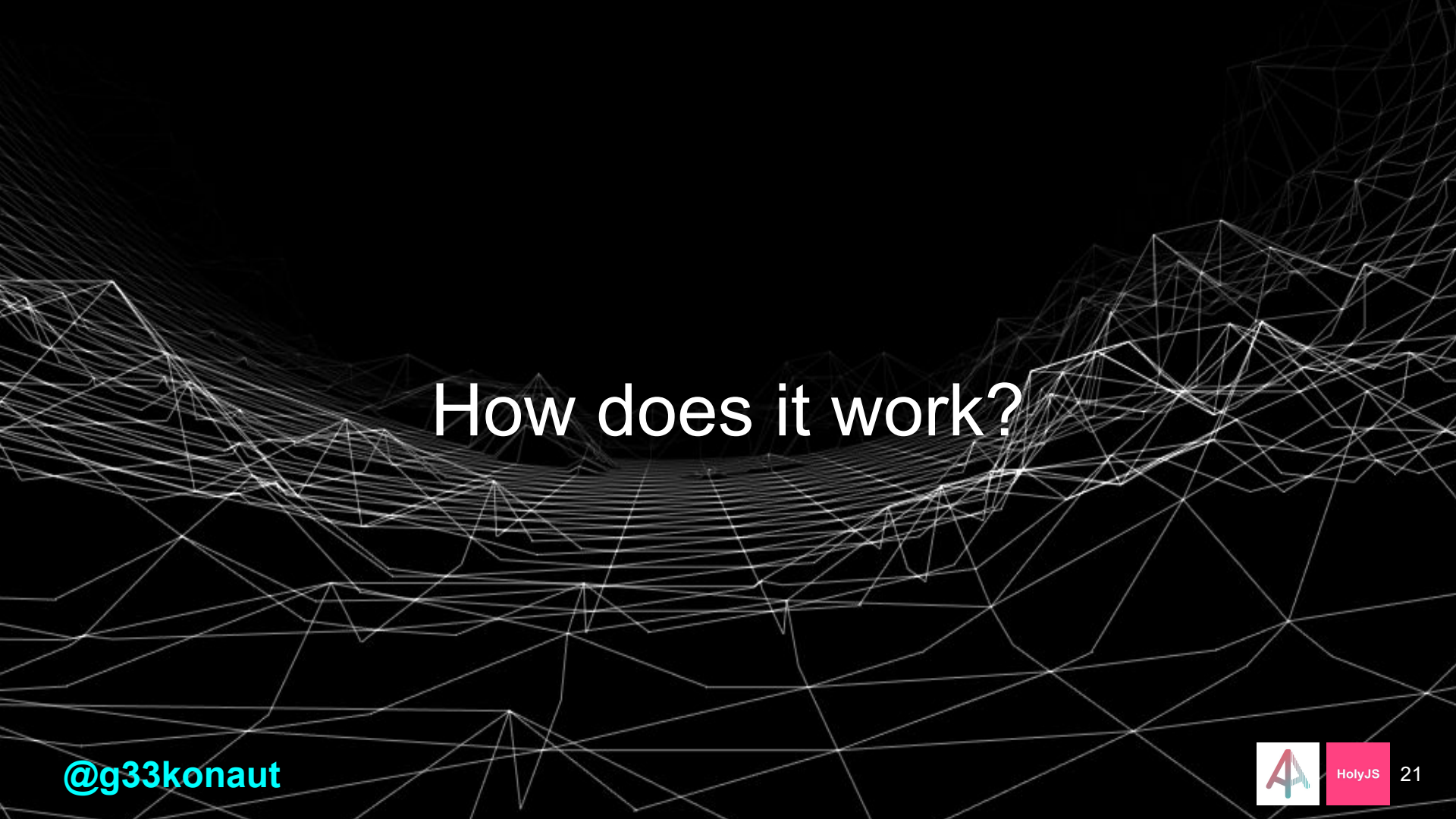


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WebVR demo 1: Photo sphere

WebVR Demo 2: Portals



How does it work?



What's the VR web gonna be?



By [@Lane_Max](#)

[@g33konaut](#)



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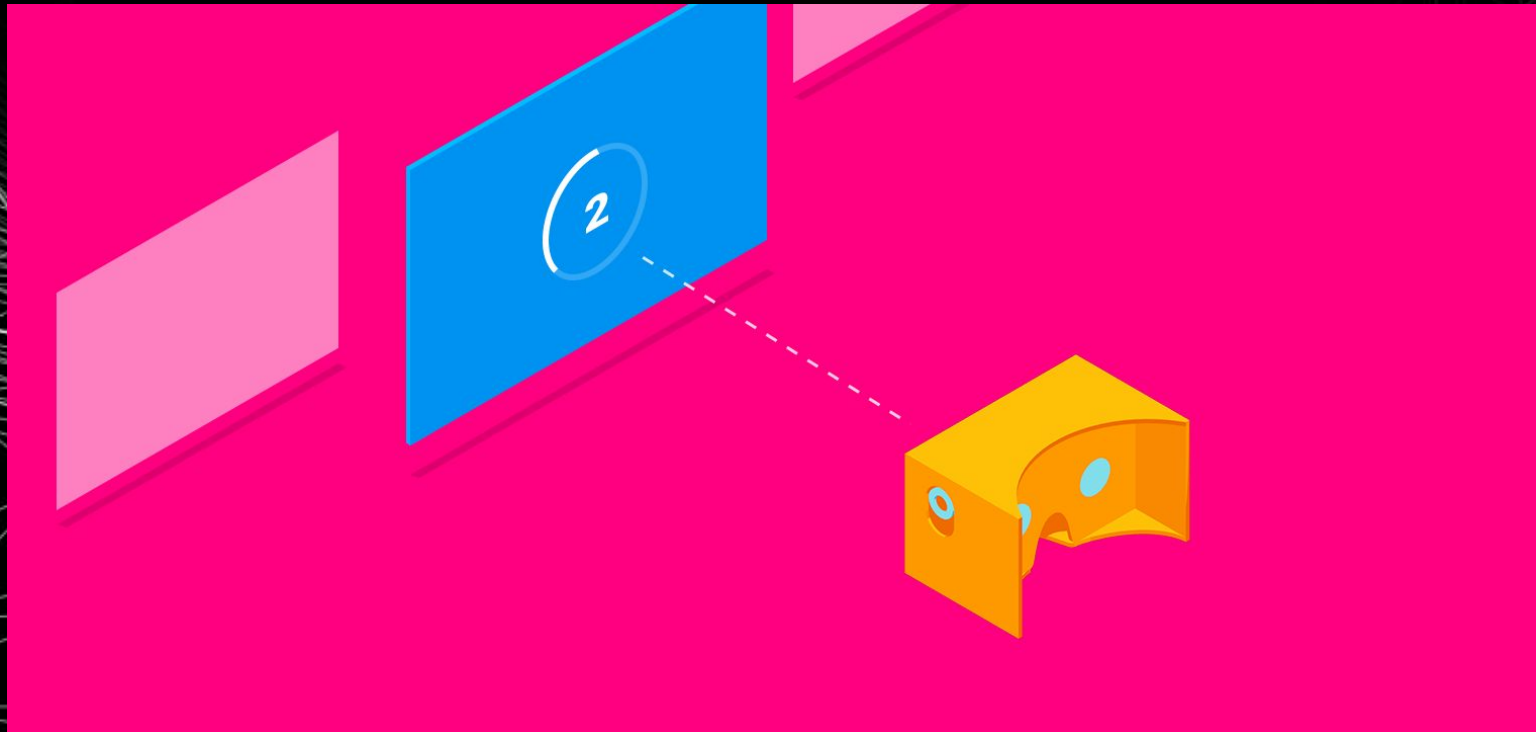
Open Questions & Challenges

Input

The obvious choices may not be the best...



Using gaze or “ray input”



UI

We need to rethink common UI patterns



A few ideas for input hardware

- Gamepad
- LEAPMotion
- Myo
- Microsoft Kinect
- Intel RealSense

Navigation / Locomotion

How do we move in VR?



Source: [@walaber](#) [[this tweet](#)]

Try it out!

- [A-Frame](#)
- jonathanzwhite.github.io/vrlist
- webvr.info

One more thing...

*“If the computer is the bicycle for
our mind,
then VR is the teleporter.”*

- Martin Splitt



спасибо!

Slides: bit.ly/holyjs-webvr

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