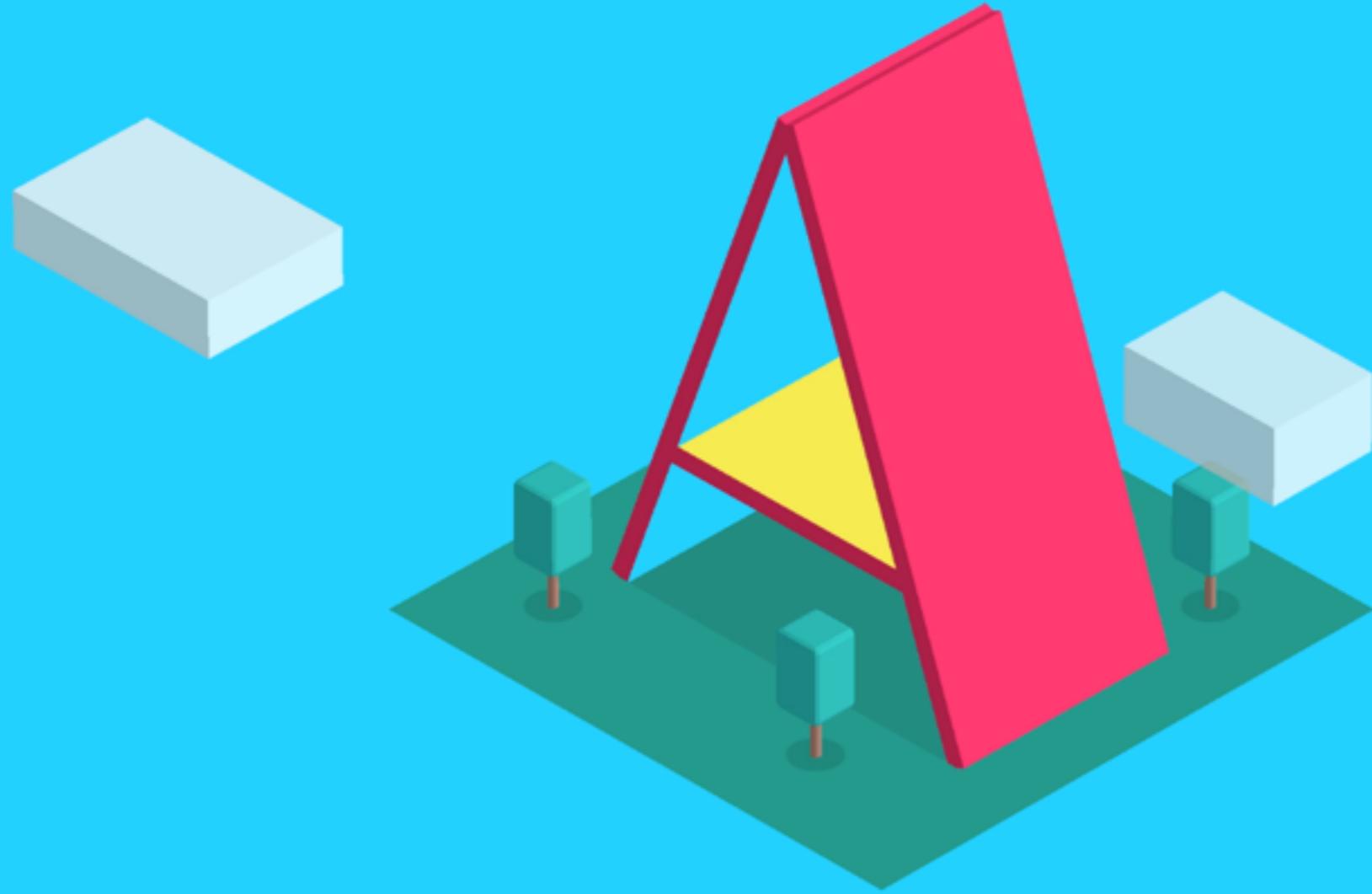


A-FRAME

VR for Web Developers

@andgokevin / @dmarcos / aframe.io
SFHTML5 / 25 May 2016



A-Frame

Community

Experiments

```

24     opacity: .5;
25     float: right;
26     text-decoration: none;
27   }
28   a:hover{
29     color:#fff;
30     opacity: 1;
31     text-decoration: none;
32   }
33   a img{
34     width:35px;
35     height:35px;
36   }
37 }
38
39 </div>

```

Import WebVR Polyfill

Set up Camera

Geometry + Material + Add

Build UI for Entering VR

Initialize scene

Too hard to create WebVR experiences.

```

46   <a href="https://cabbibo.com"><br>
47     <a target="_blank" href="http://twitter.com/share?text=Touch%20the%20Rainbow%20Membrane%20with%20%23Web%
48       %20and%20@LeapMotion%20(%20Code%20by%20@Cabbibo%20)&url=http://cabbibo/RainbowMembrane"></a></br></br></br>
50     <a href="http://cabbibo.com">WEBVR</a></br>
51     <a href="http://cabbibo.com">CABBIBO</a></br>
52     <a href="https://www.leapmotion.com/">LEAP MOTION</a>
53   </div>

```

Hook up VREffect

Create render loop

```

54   <script src = "lib/leap.min.js"></script>
55   <script src = "lib/three.min.js"></script>
56   <script src = "lib/underscore.js"></script>
57   <script src = "lib/jquery.min.js"></script>
58   <script src = "lib/TrackballControls.js"></script>
59   <script src = "lib/bitcoinjs.js"></script>
60   <script src = "lib/SubdivisionModifier.js"></script>
61   <script src = "lib/PhysicsRenderer.js"></script>
62
63   <script src = "lib/VREffect.js"></script>

```

Instantiate renderer

Add lighting

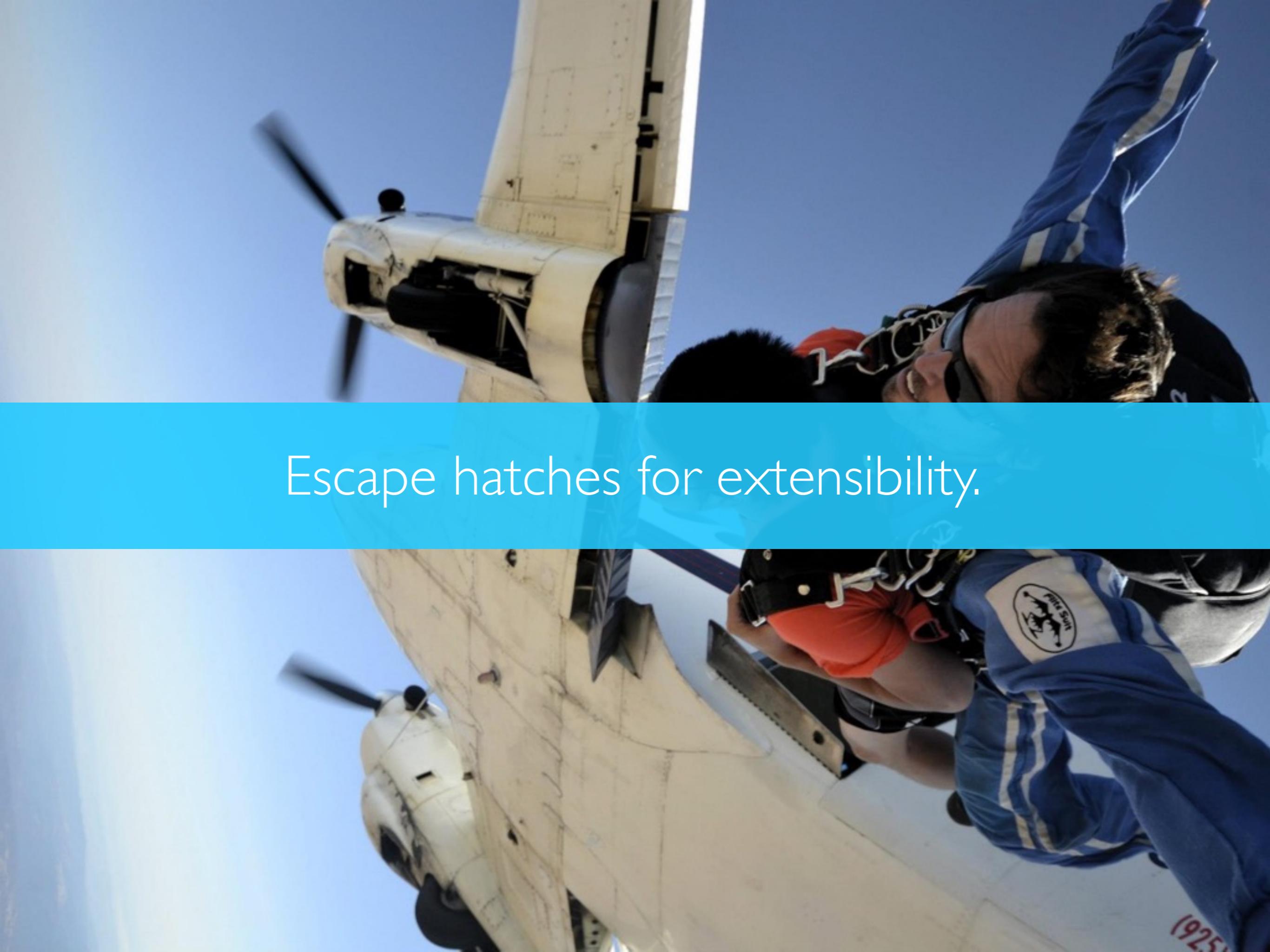
Declare canvas

<α-scene>

```
<a-box src="texture.png" width="5">
```

```
<a-obj-model src="flying.obj">Not powerful enough.
```

```
<a-sky src="360-image.png">
```



Escape hatches for extensibility.

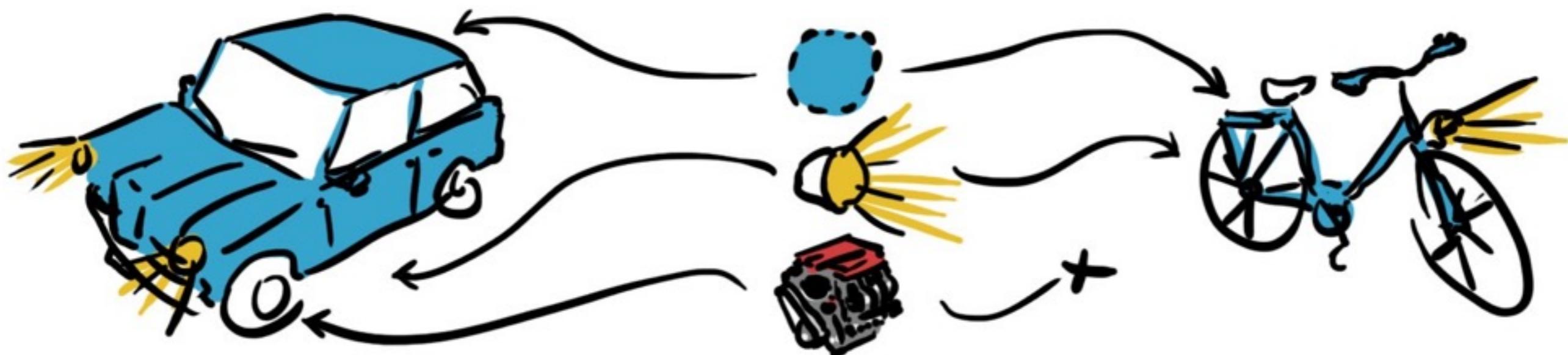
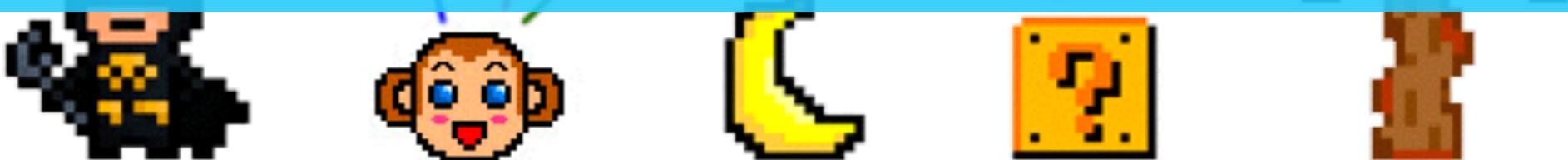


COMPONENTS



Entity-Component-System

ENTITIES



COMPOSING AN ENTITY

<*a-entity*>

COMPOSING AN ENTITY

```
<a-entity geometry="primitive: sphere; radius: 100"  
material="color: skyblue">
```

COMPOSING AN ENTITY

```
<a-entity geometry="primitive: sphere; radius: 100"  
        material="color: skyblue"  
        entity-generator="mixin: rain; num: 100">
```

COMPOSING AN ENTITY

```
<a-entity geometry="primitive: sphere; radius: 100"  
        material="color: skyblue"  
        entity-generator="mixin: rain; num: 100">
```

```
<a-mixin id="rain"  
        geometry="primitive: sphere; radius: 0.05"  
        material="color: white; opacity: 0.5">
```

COMPOSING AN ENTITY

```
<a-entity geometry="primitive: sphere; radius: 100"  
        material="color: skyblue"  
        entity-generator="mixin: rain; num: 100">
```

```
<a-mixin id="rain"  
        geometry="primitive: sphere; radius: 0.05"  
        material="color: white; opacity: 0.5"  
        event-set="_event: collide; explode: true">
```

COMPOSING AN ENTITY

```
<a-entity geometry="primitive: sphere; radius: 100"  
        material="color: skyblue"  
        entity-generator="mixin: rain; num: 100">
```

```
<a-mixin id="rain"  
        geometry="primitive: sphere; radius: 0.05"  
        material="color: white; opacity: 0.5"  
        event-set="_event: collide; explode: true"  
        random-position="min: -10 50 -10;  
                      max: 10 80 10">
```

COMPOSING AN ENTITY

```
<a-entity geometry="primitive: sphere; radius: 100"  
        material="color: skyblue"  
        entity-generator="mixin: rain; num: 100">
```

```
<a-mixin id="rain"  
        geometry="primitive: sphere; radius: 0.05"  
        material="color: white; opacity: 0.5"  
        event-set="_event: collide; explode: true"  
        random-position="min: -10 50 -10;  
                      max: 10 80 10"  
        template="src: #rain-animation">
```

“A-Frame is like when MVC landed in traditional front-end work...[where] three.js is like jQuery.”

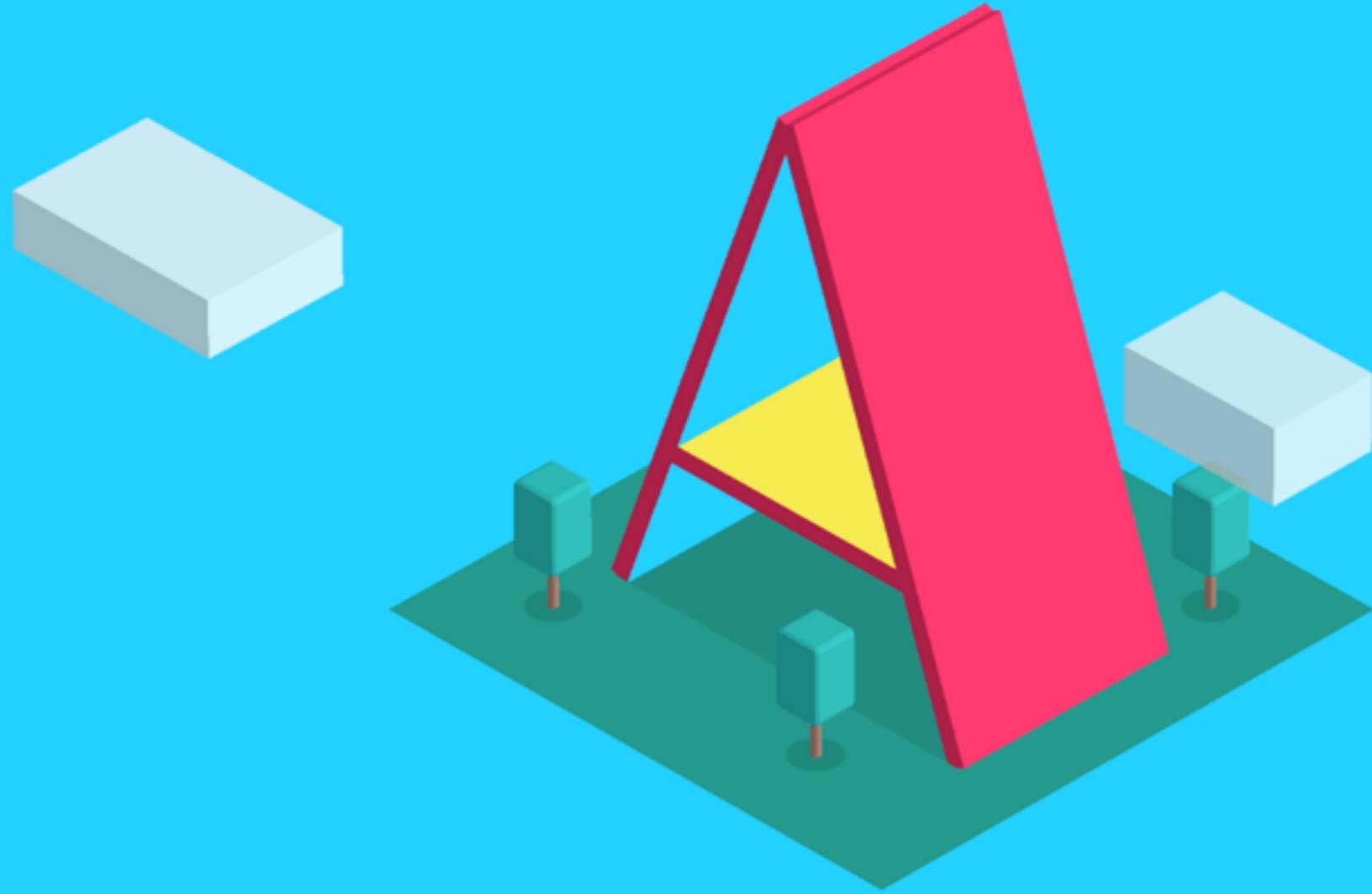
– @wizgrav

The background of the slide features a 3D rendering of a rustic wooden cabin with a dark brown shingled roof. A small porch with a white railing is visible on the right side. In the foreground, there's a green lawn with a grey stone path leading towards the cabin. A rectangular welcome mat lies on the grass, featuring a decorative border and the text "Welcome to A-Frame" in a stylized font.

Reduces boilerplate

Familiar for web developers and designers

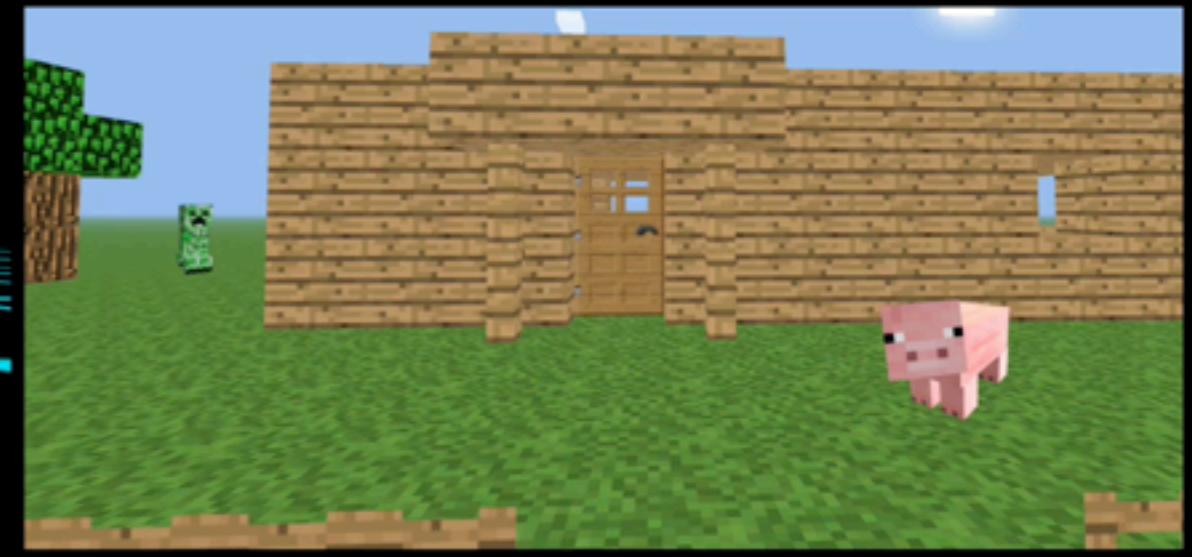
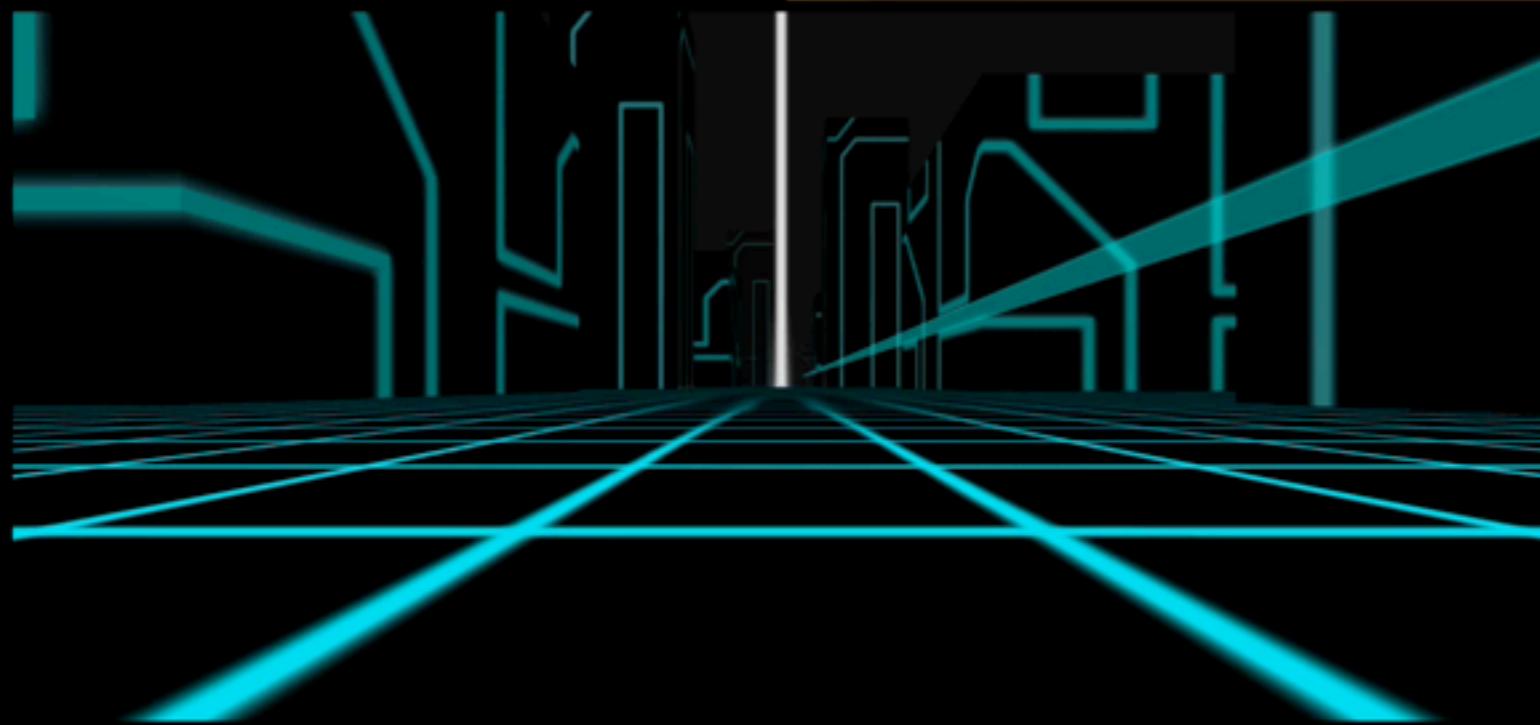
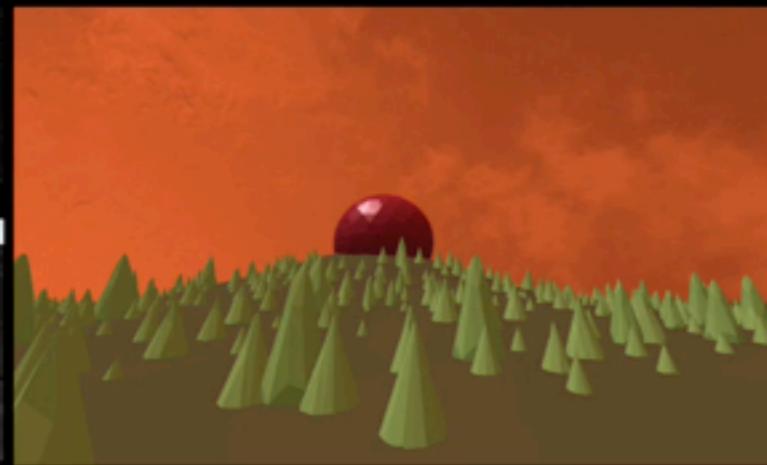
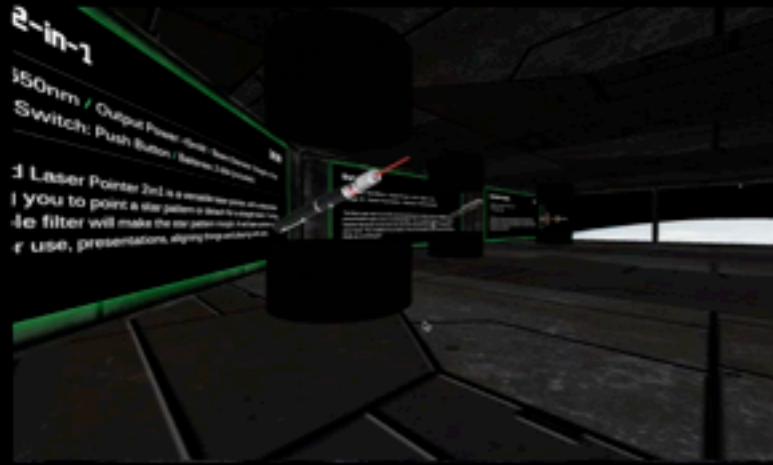
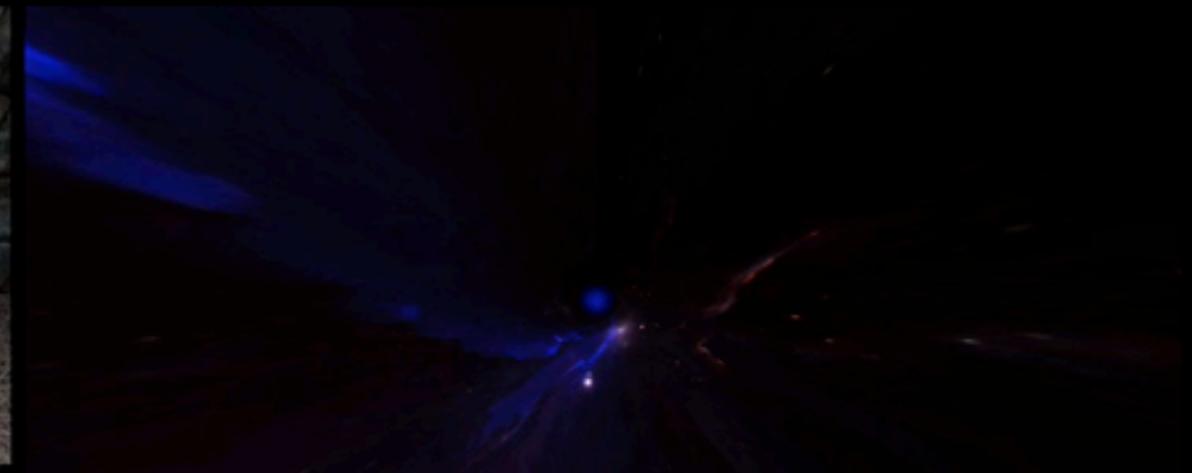
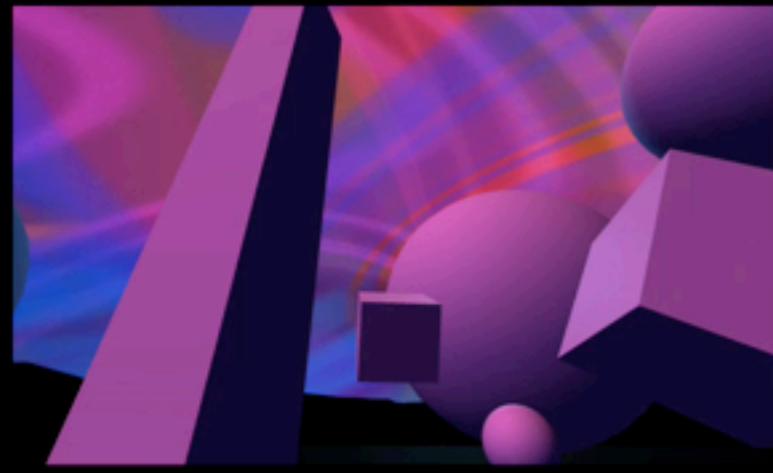
Declarative ECS framework for three.js



A-Frame

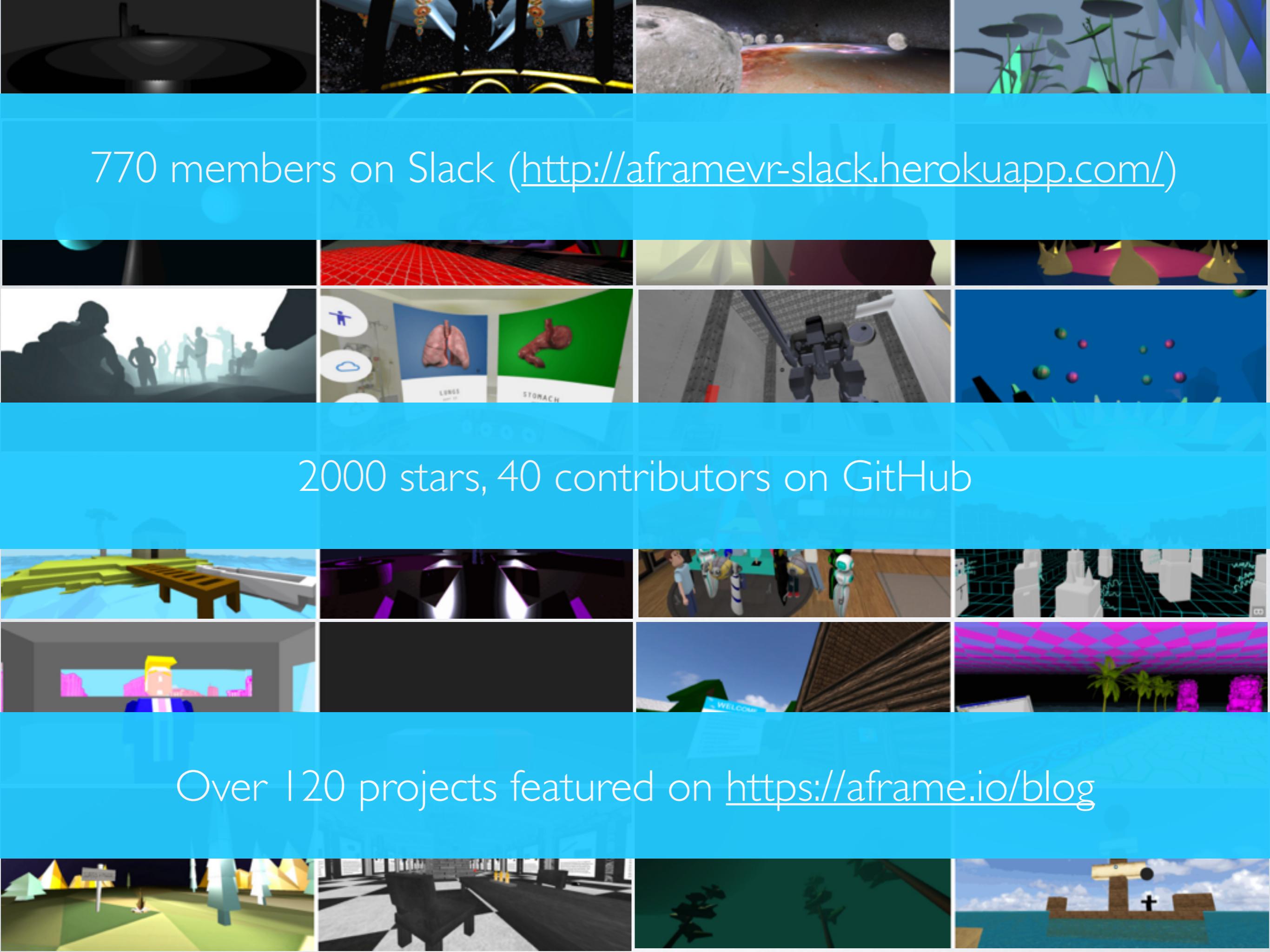
Community

Experiments



position rotation
controls scale light material
fog geometry sound
text obj-model collada-model

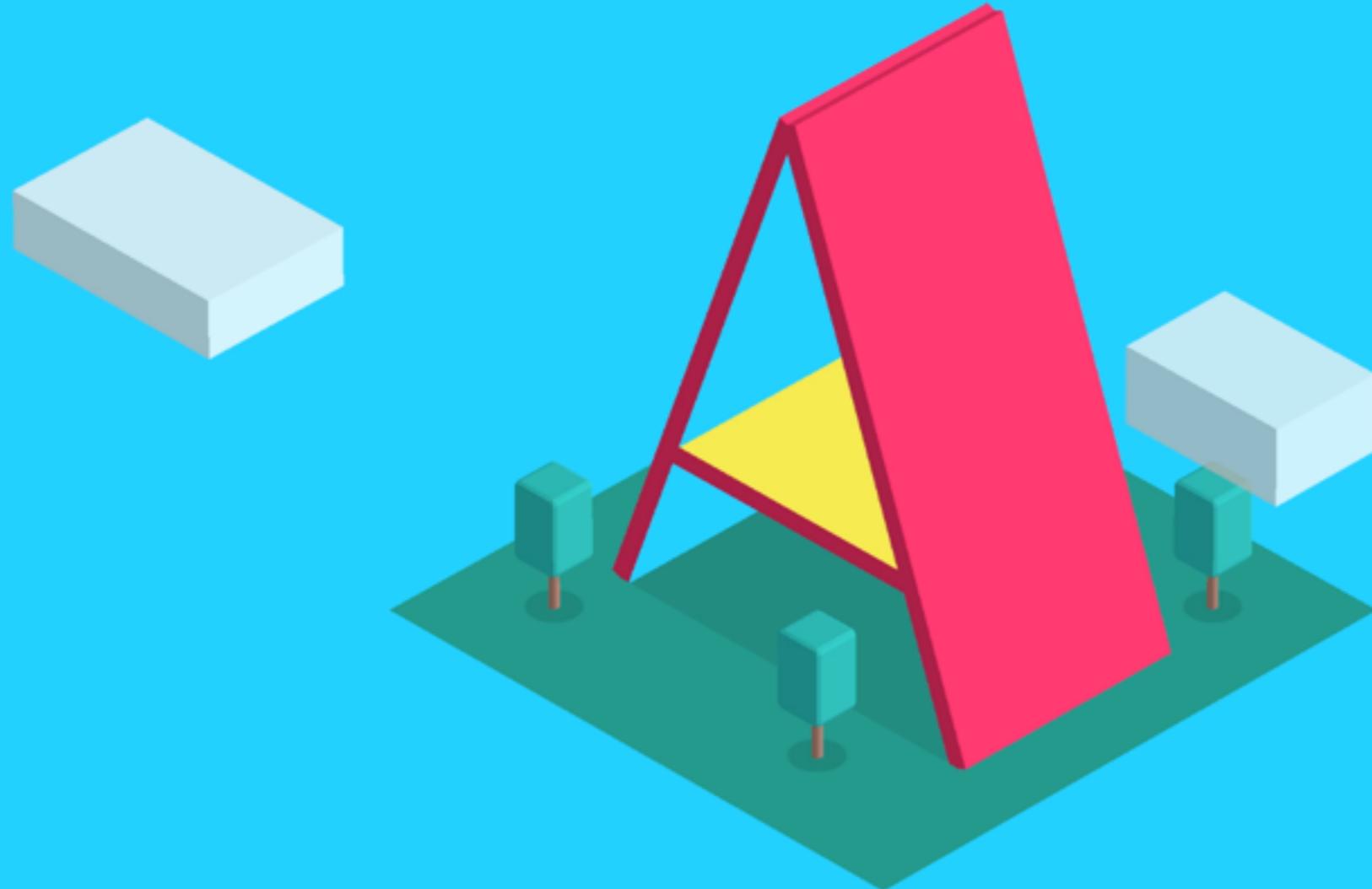
explore aframe-react look-at selectable altspace
no-click-look-controls hud gif-shader draw noise
orbit-controls crease mouse-cursor html-shader
meshline firebase audio-visualization
template physics layout along-path randomizer
text lazy-load position rotation leap-motion-controls
lathe-geometry controls scale light material
gltf collider fog geometry sound gamepad-controls
aframe-meteor proxy-controls collada-model fbx
stereo fence href extrude-geometry follow
fit-texture interpolation entity-generator ocean
universal-controls mesh-line grid-helper draggable
aframe-extras d3



770 members on Slack (<http://aframevr-slack.herokuapp.com/>)

2000 stars, 40 contributors on GitHub

Over 120 projects featured on <https://aframe.io/blog>



A-Frame

Community

Experiments



Multiuser

See you at tiny.cc/aframe-multi

SCENEGRAPH

- Camera
- Scene [...]
 - Box_1
 - Box_2
 - Point_light_1
 - Cylinder_1
 - Cylinder_2
 - Plane_1
 - Light_2
 - Light_3
- Scene 2 [...]
 - Box_3
 - Point_light_2
 - Point_light_3
 - Cylinder_3
 - Cylinder_4
 - Plane_2
 - Plane_3
 - Light_4
 - Light_5
- Scene 3 [...]
- Scene 4 [...]
 - Cylinder_5
 - Box_4
 - Point_light_4
 - Box_5
 - Box_6

ATTRIBUTES

COMMON

Type	Box
ID	B47D0BFC-D63A-4CBB-98...
Position	5.76 2.00 3.14
Rotation	0.00 0.00 0.00
Scale	1.10 1.00 2.00
Visible	<input checked="" type="checkbox"/>

MIXINS

- Short
- Yellow
- Cube

Add New **Sphere_low_mix**

COMPONENTS

Add New **Component_38_17**

GEOMETRY

Primitive **BOX**

Translate 0.00 0.00 0.00

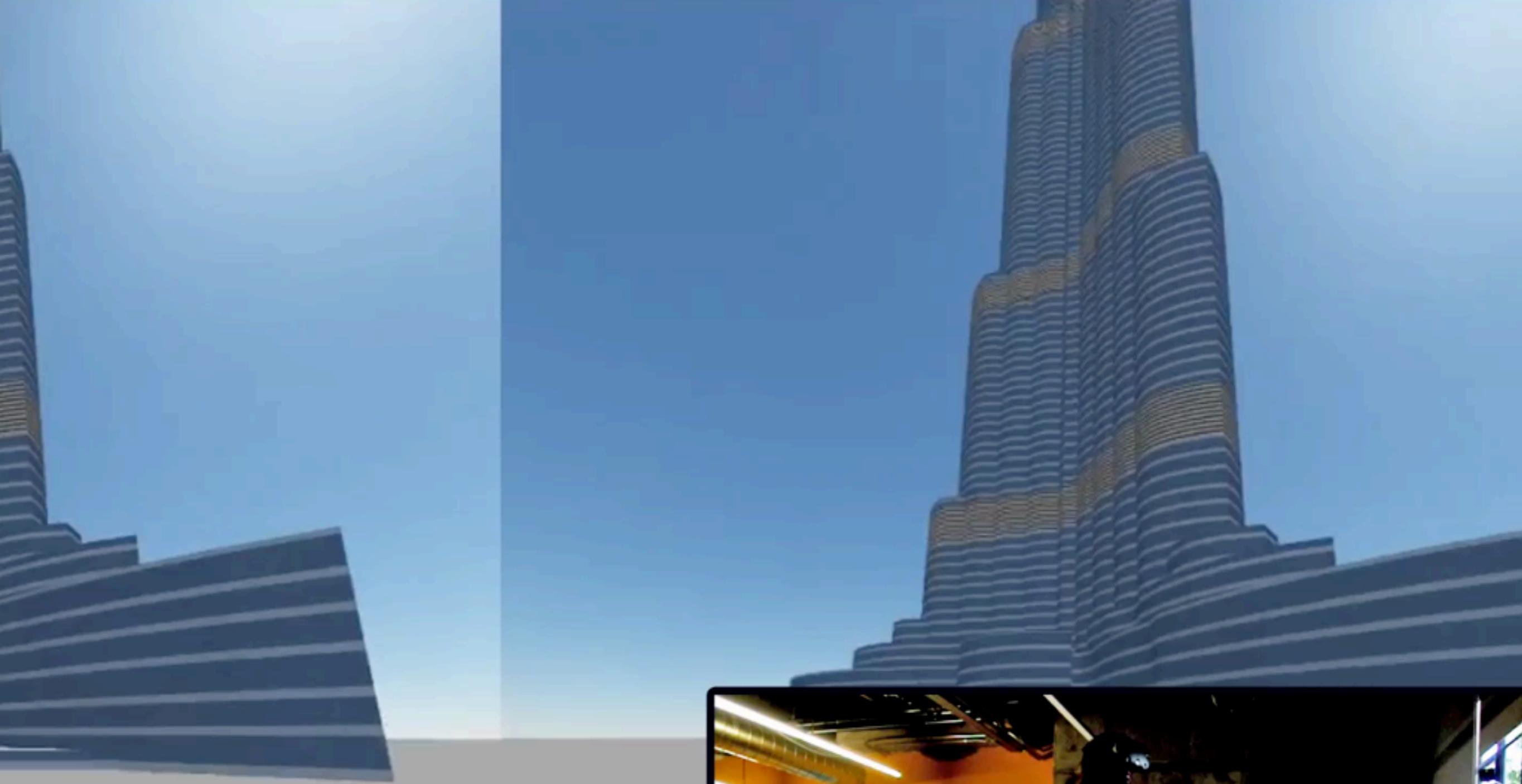
A-Frame Editor

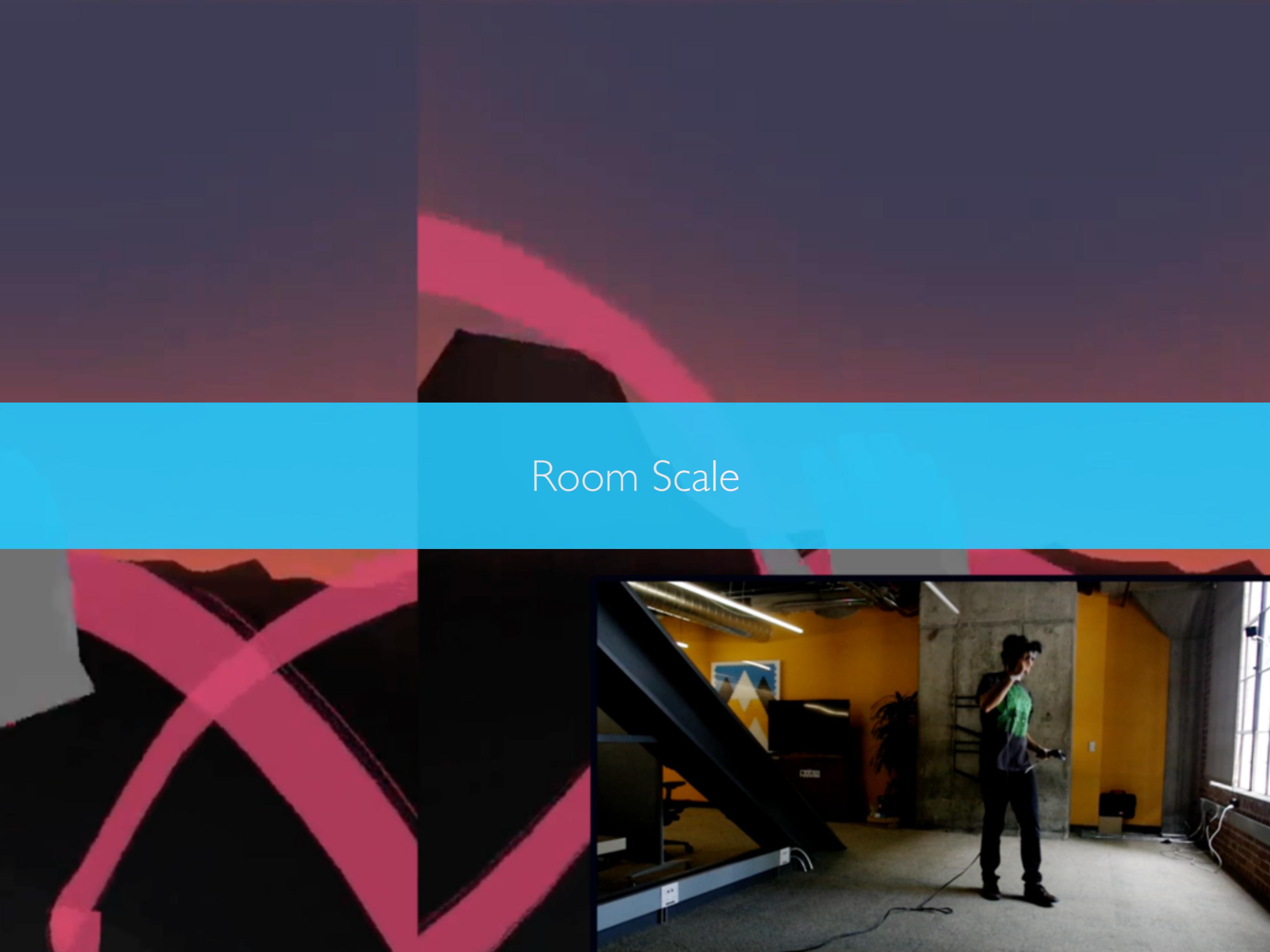
The A-Frame Editor interface is shown, featuring a dark-themed UI with light-colored text and icons. The top navigation bar includes 'A-Frame', 'File', 'Edit', 'Assets', 'Create', 'Components', and a central icon. The left sidebar, titled 'SCENEGRAPH', lists scene components like Camera, Scene, and various primitives (Box, Cylinder, Plane, Light). The main area is divided into three tabs: 'ATTRIBUTES' (selected), 'COMPONENTS', and 'GEOMETRY'. The 'ATTRIBUTES' tab displays common properties (Type: Box, ID: B47D0BFC-D63A-4CBB-98..., Position: 5.76, 2.00, 3.14, Rotation: 0.00, 0.00, 0.00, Scale: 1.10, 1.00, 2.00, Visible: checked) and mixin options (Short, Yellow, Cube). It also includes a 'Mixins' dropdown (Sphere_low_mix) and a component dropdown (Component_38_17). The 'GEOMETRY' tab shows a primitive selection dropdown (BOX) and a translate input field (0.00, 0.00, 0.00). The bottom right features a 3D view with a wireframe cube and a coordinate system (X, Y, Z). The overall theme is modern and developer-oriented.



Embedded Scenes







Room Scale



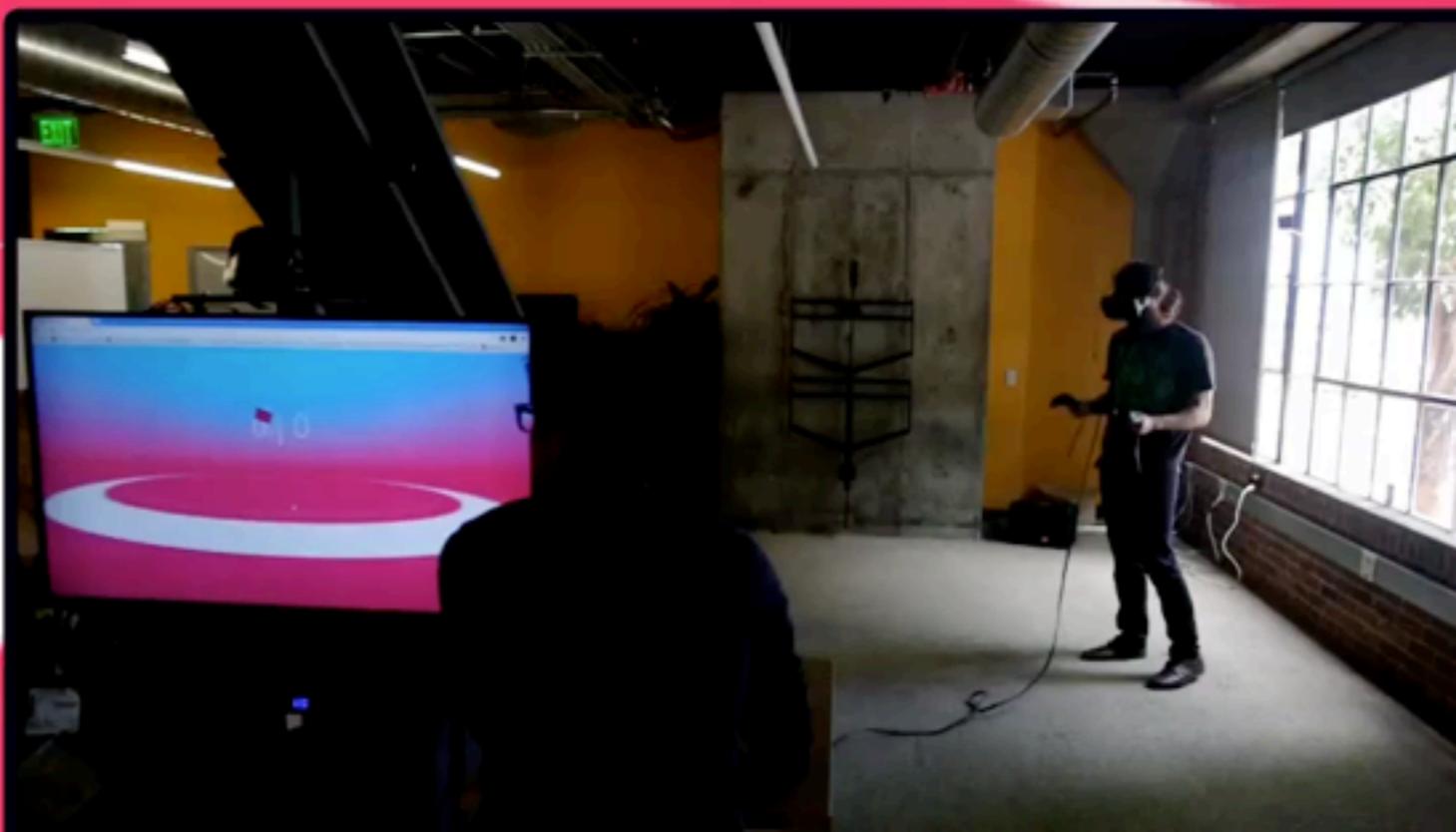


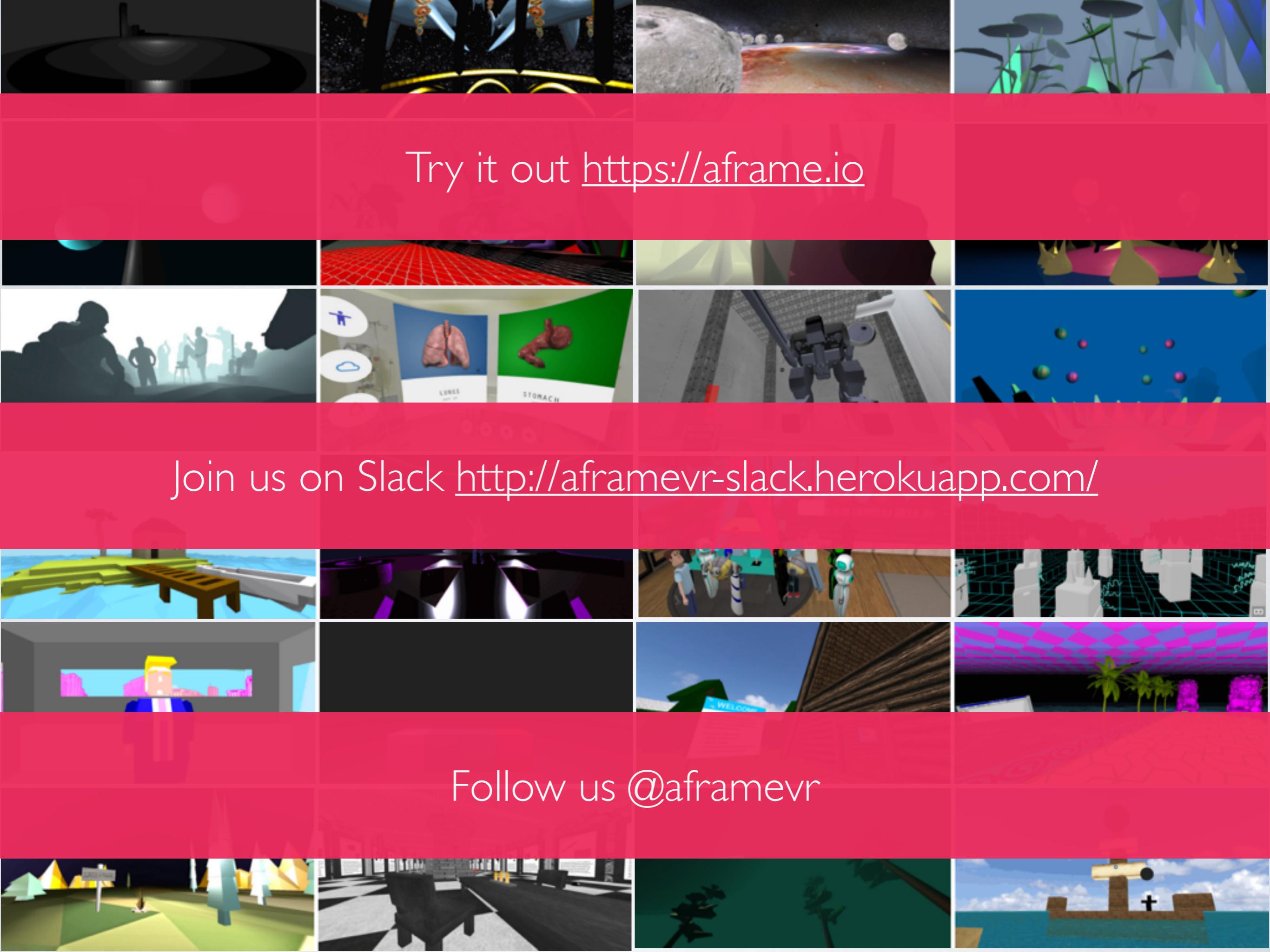


Local Multiplayer



G | O





The image is a collage of 18 screenshots from various A-Frame VR projects, arranged in a grid. The projects include a night sky with glowing yellow and blue particles, a close-up of a textured rock, a landscape with green plants and blue mountains, a red grid floor in a dark room, a white silhouette of people on a dark background, a medical interface showing lungs and a stomach, a blue humanoid robot walking, a blue wall with colorful spheres, a wooden dock on water, a dark purple geometric scene, a group of people in a room, a white bottle on a grid floor, a man in a suit on a screen, a black background, a wooden building with a welcome sign, a pink and blue checkered wall, a forest scene with a path, a hallway with a checkered floor, a green forest scene, and a beach with a wooden cross.

Try it out <https://aframe.io>

Join us on Slack <http://aframevr-slack.herokuapp.com/>

Follow us @aframevr