
BabiaXR

Virtual Reality Data Visualizations for the
browser





BabiaXR

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BabiaXR, a toolset for 3D/VR data visualization in the browser.



Lastest Content

[Deploying a WebRTC \(easyrtc\) server](#)

Jun 7, 2021

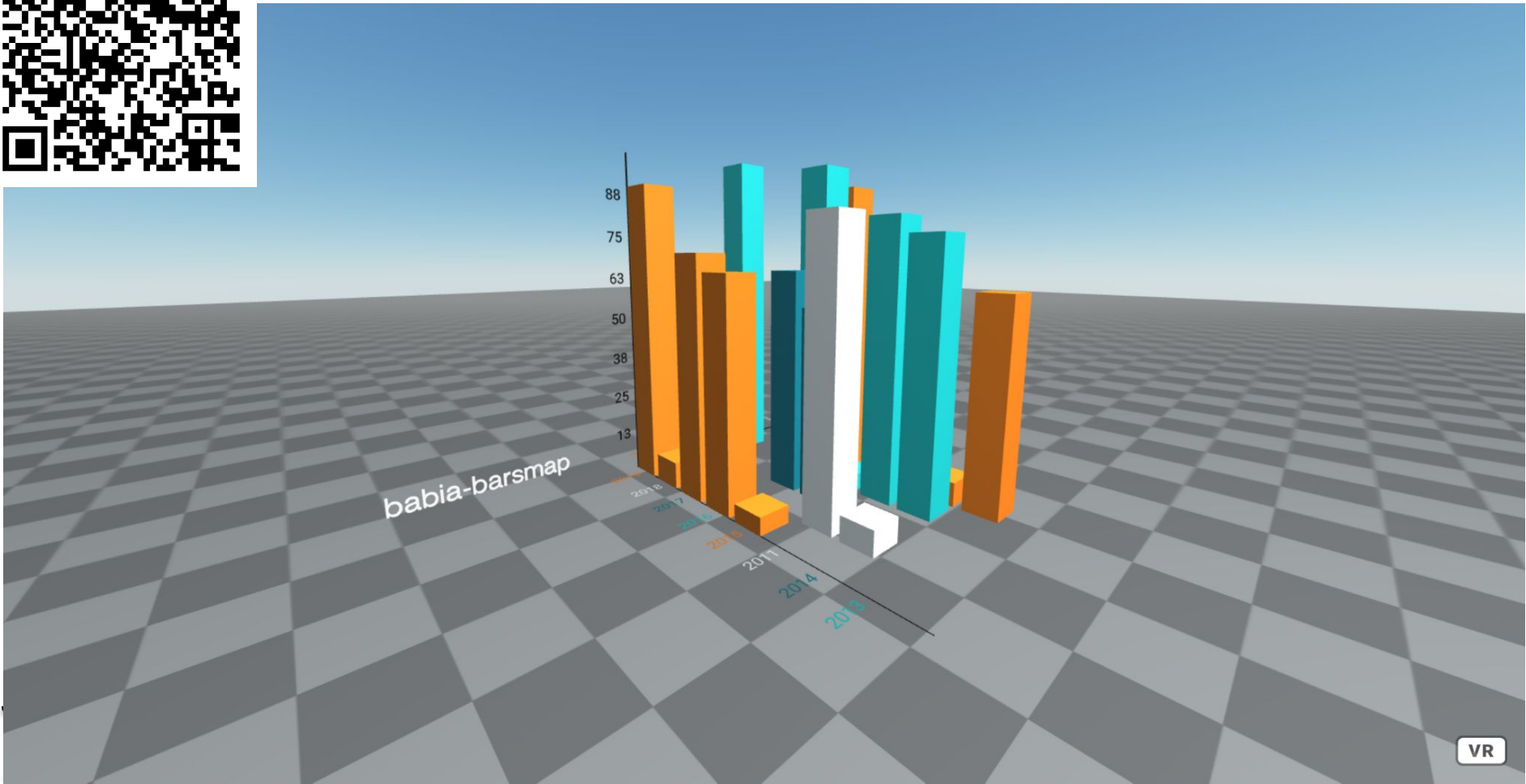
[Multiuser](#)

Jun 7, 2021

[How to test with Cypress](#)



<https://babiaxr.gitlab.io/aframe-babia-components/examples/charts/barsmap/>

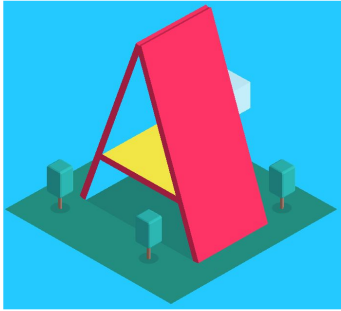




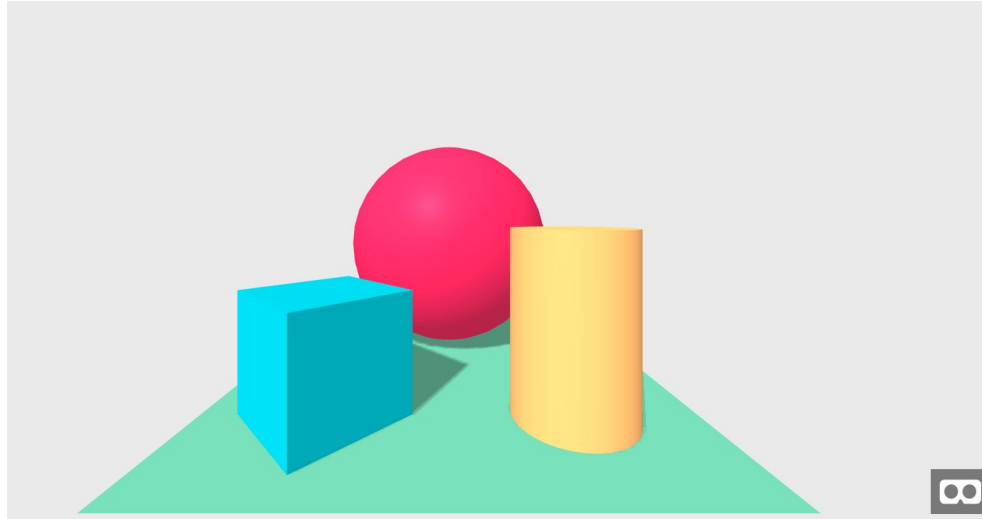
<https://babiaxr.gitlab.io/aframe-babia-components/examples/demos/1.0.11/>



A-Frame



```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Hello, WebVR! • A-Frame</title>
    <meta name="description" content="Hello, WebVR! • A-Frame">
    <script src="https://aframe.io/releases/0.8.2/aframe.min.js"></script>
  </head>
  <body>
    <a-scene background="color: #ECECEC">
      <a-box position="-1 0.5 -3" rotation="0 45 0" color="#4CC3D9" shadow></a-box>
      <a-sphere position="0 1.25 -5" radius="1.25" color="#EF2D5E" shadow></a-sphere>
      <a-cylinder position="1 0.75 -3" radius="0.5" height="1.5"
        color="#FFC65D" shadow></a-cylinder>
      <a-plane position="0 0 -4" rotation="-90 0 0" width="4" height="4"
        color="#7BC8A4" shadow></a-plane>
    </a-scene>
  </body>
</html>
```



Entity - <a-entity>

Components - HTML attributes on <a-entity>'s

System - Systems are similar to components in definition



<https://aframe.io/docs/1.2.0/introduction/entity-component-system.html>

Component

```
AFRAME.registerComponent('foo', {  
  schema: {  
    bar: {type: 'number'},  
    baz: {type: 'string'}  
  },  
  
  init: function () {  
    // Do something when component first attached.  
  },  
  
  update: function () {  
    // Do something when component's data is updated.  
  },  
  
  remove: function () {  
    // Do something the component or its entity is detached.  
  },  
  
  tick: function (time, timeDelta) {  
    // Do something on every scene tick or frame.  
  }  
});
```

`<a-entity foo="bar: 5; baz: bazValue"></a-entity>`



<https://aframe.io/docs/1.2.0/introduction/writing-a-component.html>

babia-queryjson

```
<a-entity id="data"  
  babia-queryjson="url: ./data.json;">  
</a-entity>
```



babia-queryes

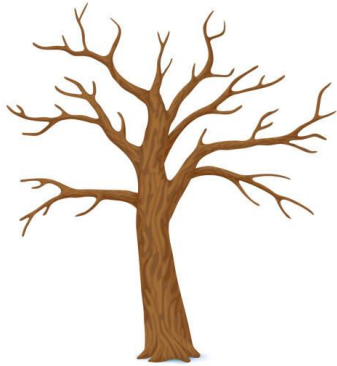
babia-querygithub

babia-filter

Work In Progress



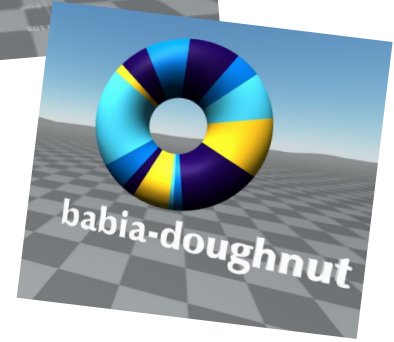
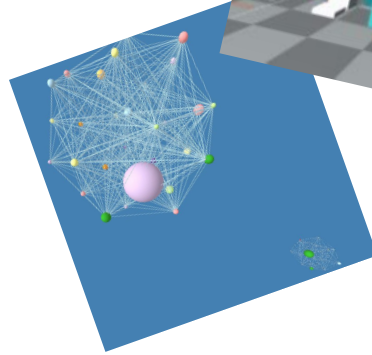
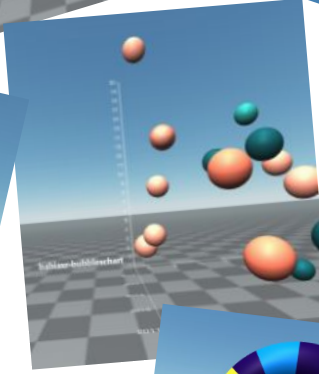
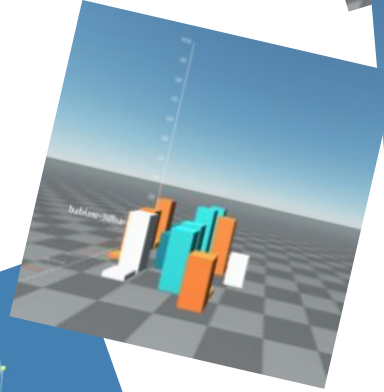
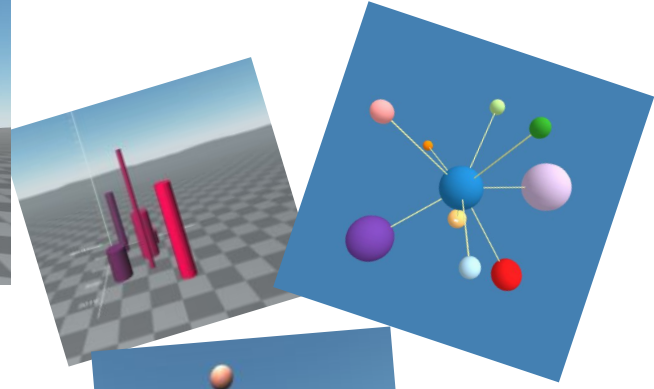
```
<a-entity babia-filter="from: data; filter: age=2017"></a-entity>
```



babia-treebuilder

Visualizations

1. Pie
2. Doughnut
3. 3D/2D bars
4. 3D/2D cylinders
5. Bubbles
6. Network
- .
- .



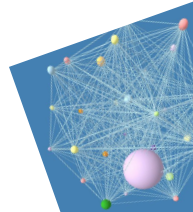
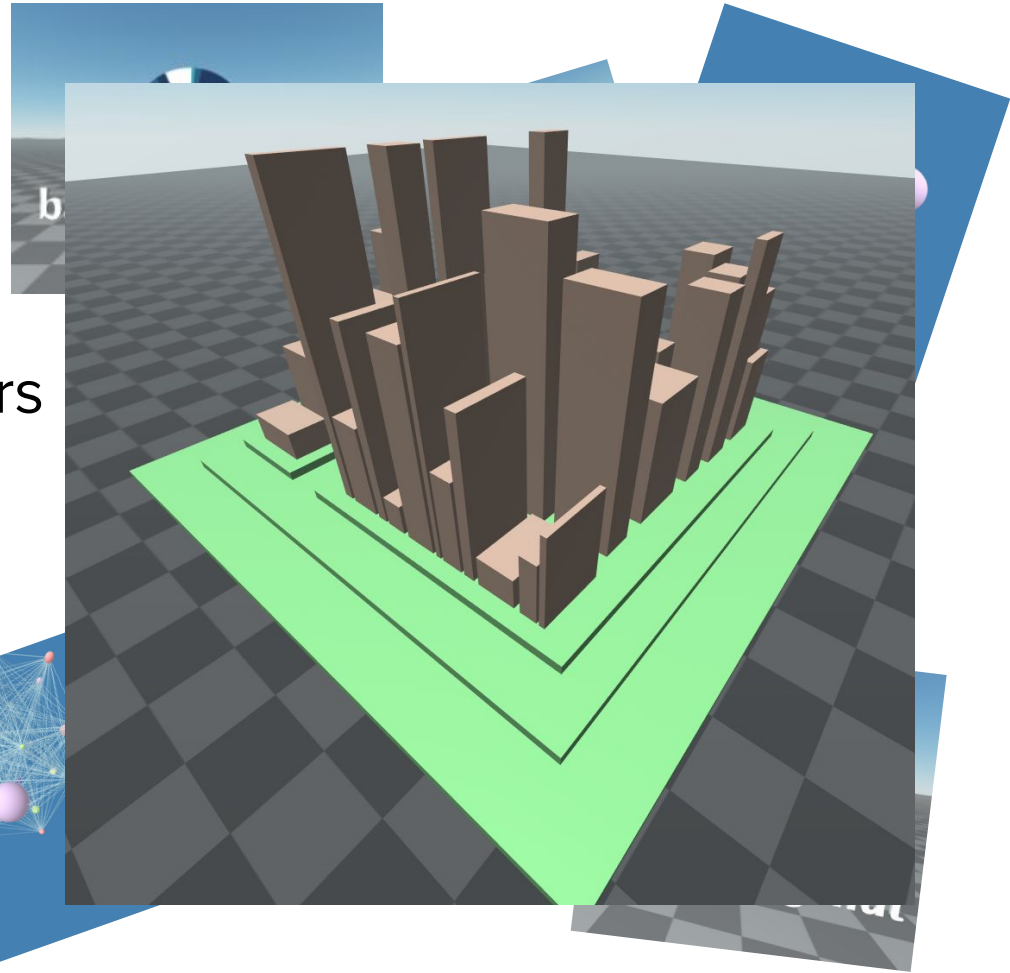
Visualizations

1. Pie
2. Doughnut
3. 3D/2D bars
4. 3D/2D cylinders
5. Bubbles
6. Network

.

.

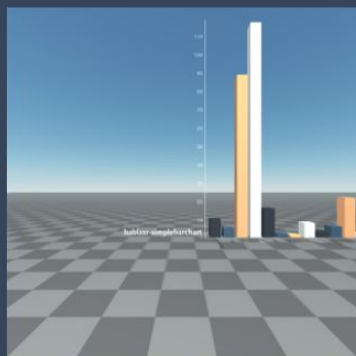
City



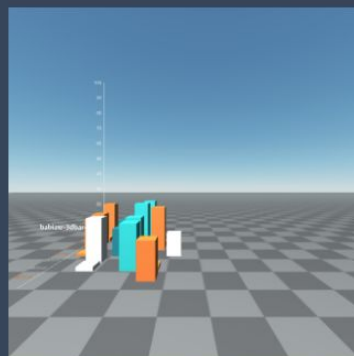
Charts



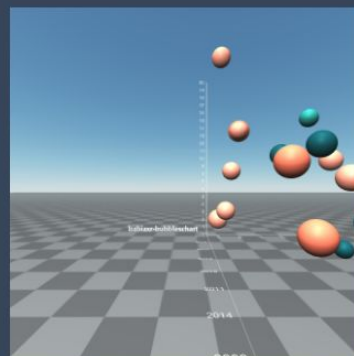
Pie chart



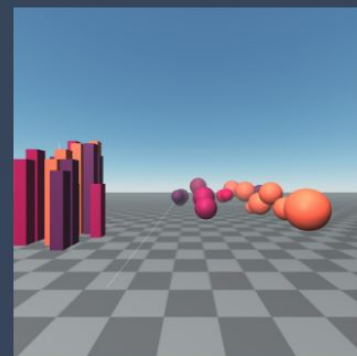
Bars chart



3D Bars chart

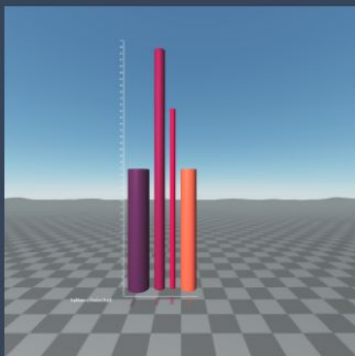


Bubbles chart

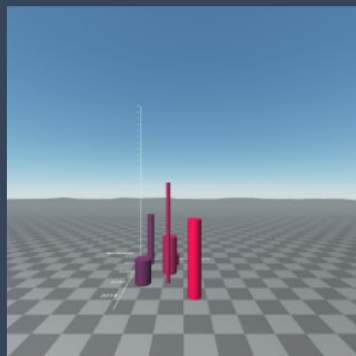


Multiple charts

Mixing of different type
of charts



Cylinder charts



3D Cylinders chart



Doughnut chart



<https://babiaxr.gitlab.io/aframe-babia-components/>

Components API

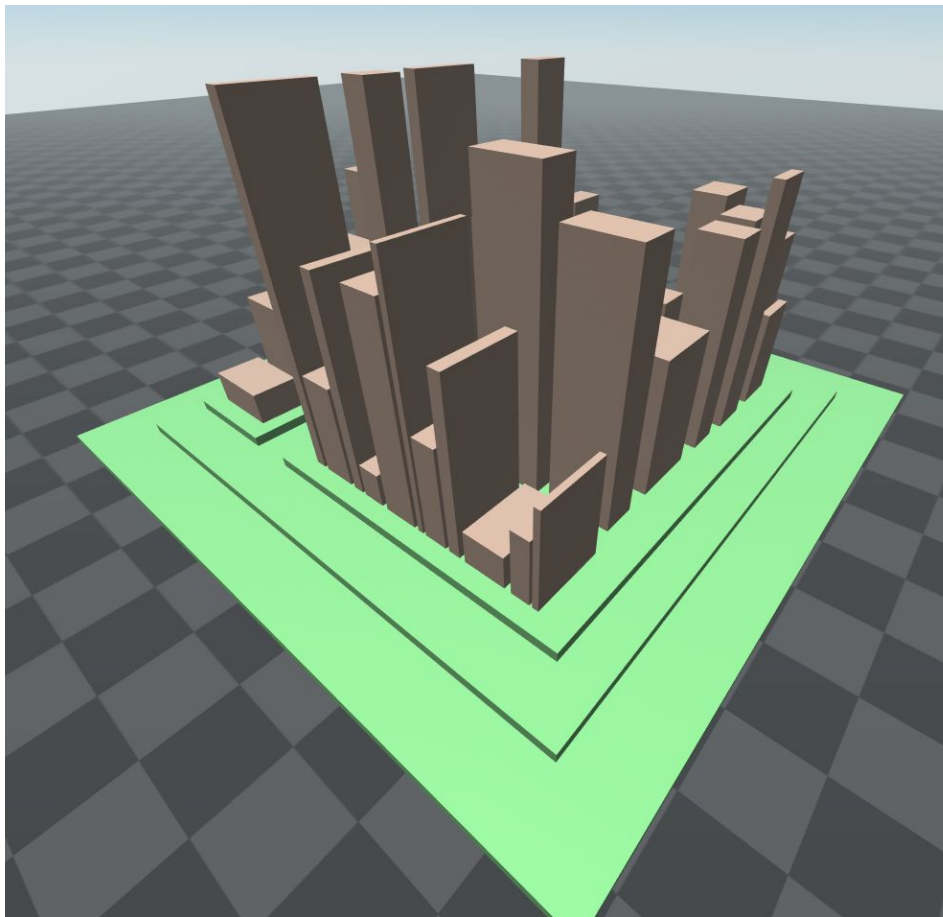
<https://babiaxr.gitlab.io/apis/>



Tutorials

<https://babiaxr.gitlab.io/tutorials/>

City



Layout

Tree structure for districts/buildings

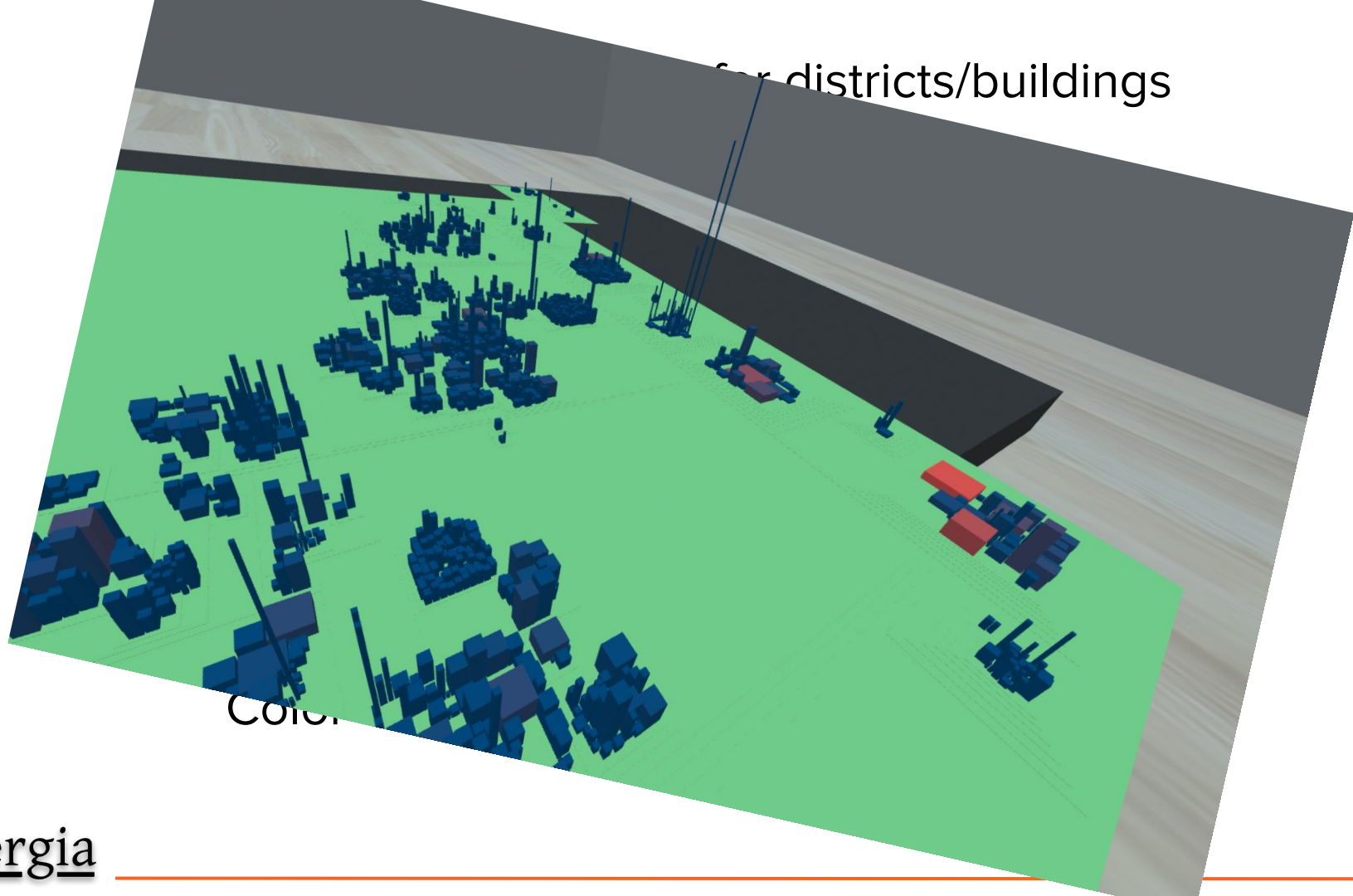
Building Geometry

height

area (depth/width)

Other

Color map for numeric field



Color

Quick full example

```
<a-entity id="queriertest" babia-queryjson="url: ./data.json;"></a-entity>
<a-entity id="treetest" babia-treebuilder="field: id; split_by: /; from: queriertest"></a-entity>
<a-entity scale="0.4 2 0.4" babia-boats="from: treetest; area: area" position="0 1 0"></a-entity>
      babia-city=
```

Quick full example

```
<a-entity id="queriertest" babia-queryjson="url: ./data.json"></a-entity>  
<a-entity id="treetest" babia-treebuilder="field: id; split_by: /; from: queriertest"></a-entity>  
<a-entity scale="0.4 2 0.4" babia-boats="from: treetest; area: area" position="0 1 0"></a-entity>  
      babia-city=
```

Quick full example

```
<a-entity id="queriertest" babia-queryjson="url: ./data.json"></a-entity>
```

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<a-entity id="treetest" babia-treebuilder="field: id; split_by: /; from: queriertest"></a-entity>
```

```
<a-entity scale="0.4 2 0.4" babia-boats="from: treetest; area: area" position="0 1 0"></a-entity>  
  babia-city=
```

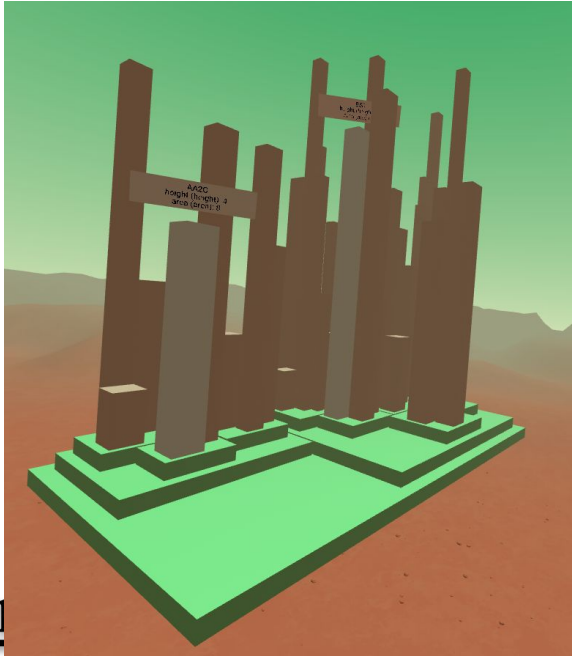
```
1  [
2    {
3      "id": "Root/BlockA/BlockA0/A0A",
4      "area": 2,
5      "height": 1
6    },
7    {
8      "id": "Root/BlockA/BlockA1/A1A",
9      "area": 2,
10     "height": 1
11   },
12   {
13     "id": "Root/BlockA/BlockA1/A1B",
14     "area": 5,
15     "height": 4
16   },
17   {
18     "id": "Root/BlockA/BlockA1/A1C"
19     "area": 4
```

Quick full example

```
<a-entity id="queriertest" babia-queryjson="url: ./data.json"></a-entity>
```

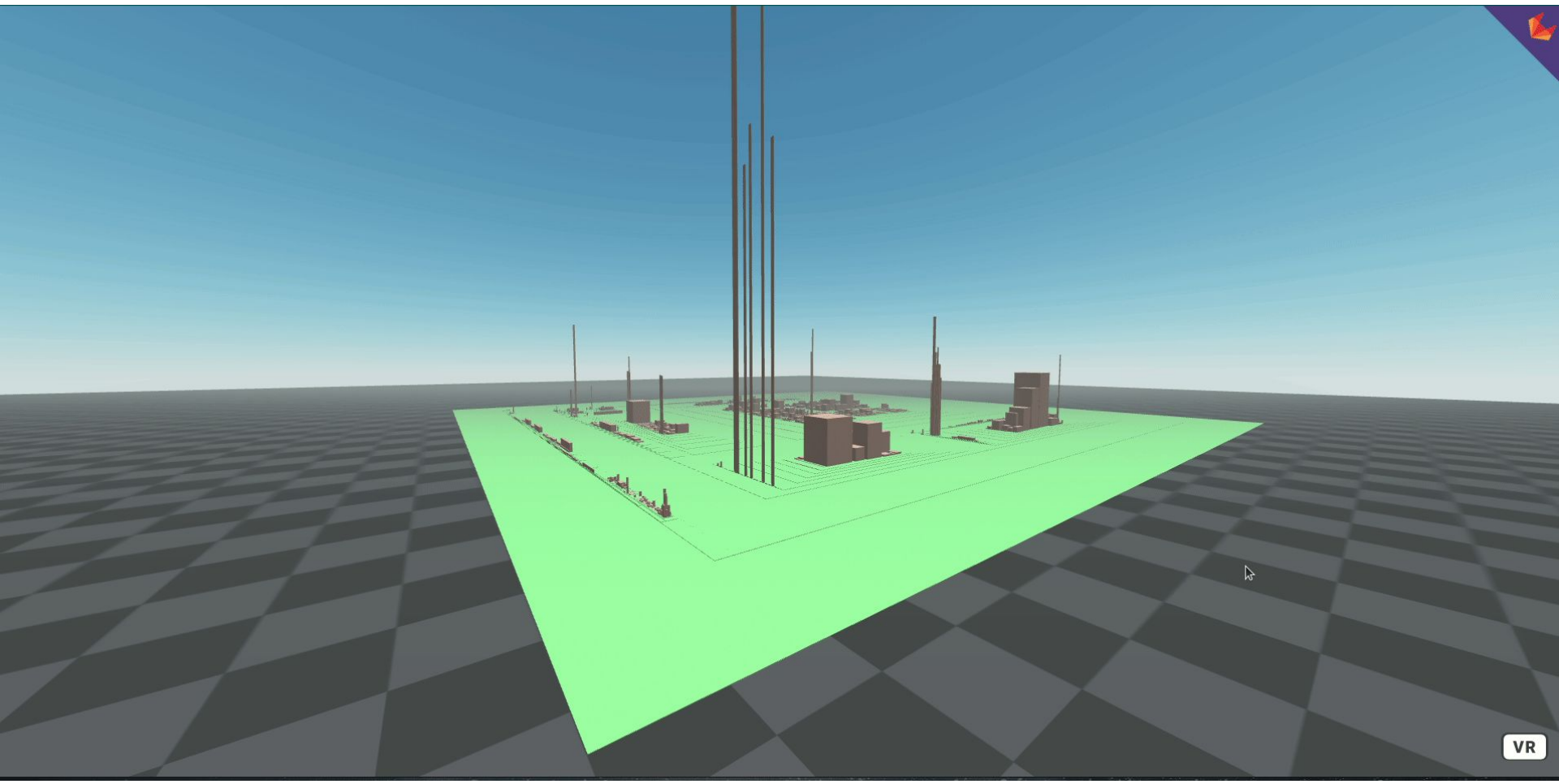
```
<a-entity id="treetest" babia-treebuilder="field: id; split_by: /; from: queriertest"></a-entity>
```

```
<a-entity scale="0.4 2 0.4" babia-boats="from: treetest; area: area" position="0 1 0"></a-entity>  
    babia-city=
```



```
1 {  
2   {  
3     "id": "Root/BlockA/BlockA0/A0A",  
4     "area": 2,  
5     "height": 1  
6   },  
7   {  
8     "id": "Root/BlockA/BlockA1/A1A",  
9     "area": 2,  
10    "height": 1  
11  },  
12  {  
13    "id": "Root/BlockA/BlockA1/A1B",  
14    "area": 5,  
15    "height": 4  
16  },  
17  {  
18    "id": "Root/BlockA/BlockA1/A1C"  
19    "area": 4
```

Boats and City

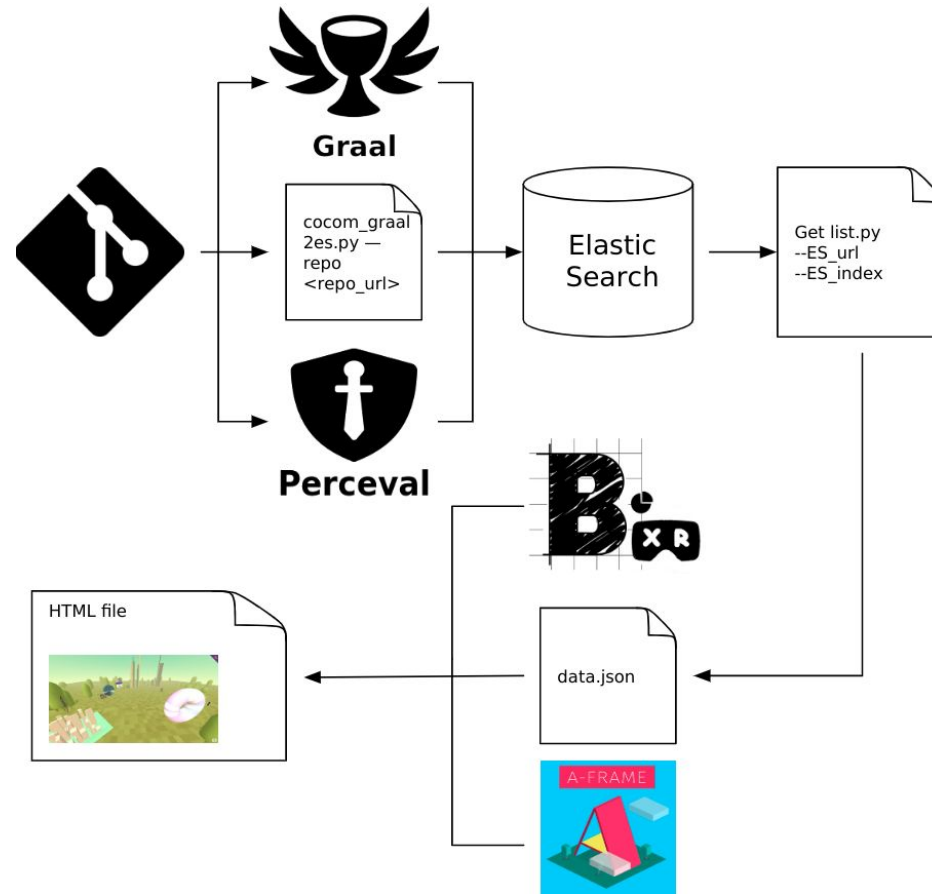


Full Configuration

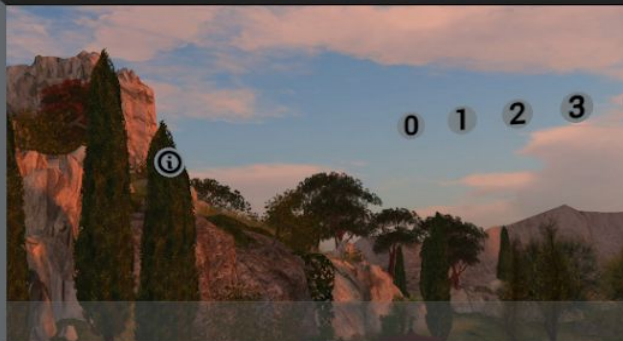
Property	Description	Type	Default value
from	The treebuilder entity ID where is the data for the chart	string	-
area	Field in data items to represent as building area. DON'T USE IT WITH WIDTH/DEPTH PARAMETERS.	string	-
width	Field in data items to represent as building area. DON'T USE IT WITH AREA PARAMETERS.	string	width
depth	Field in data items to represent as building area. DON'T USE IT WITH AREA PARAMETERS.	string	depth
height	Field in data items to represent as building height	string	height
color	Field in data items to represent the color of the buildings as HSL heatmap	string	-
building_separation	Separation of the buildings by a numeric factor	number	0.25
border	Size of border around buildings (streets are built on it)	number	0.5
extra	Extra factor for total area with respect to built area	number	1.0
zone_elevation	Zone: elevation for each "depth" of quarters, over the previous one	number	0.3
building_color	Color of the buildings	color	#E6B9A1
base_color	Quarter color	color	#98e690
data	Data to show with the chart. Important: Using this attribute will disable the <code>from</code> attribute.	JSON (list of objects)	-



Get the Data



Tutorials: <https://gitlab.com/babiaxr/aframe-babia-components/-/tree/master/tools>
Boats API: <https://babiaxr.gitlab.io/apis/charts/#babia-boats-component>



0 1 2 3 4 5

Close All Tooltips

JetUML (Mar 25, 2021)

Each building represents a file in the source code of the system. Each quarter represents a folder. Quarters can be nested to represent nested folders. On each building, we mapped the values of three software metrics:

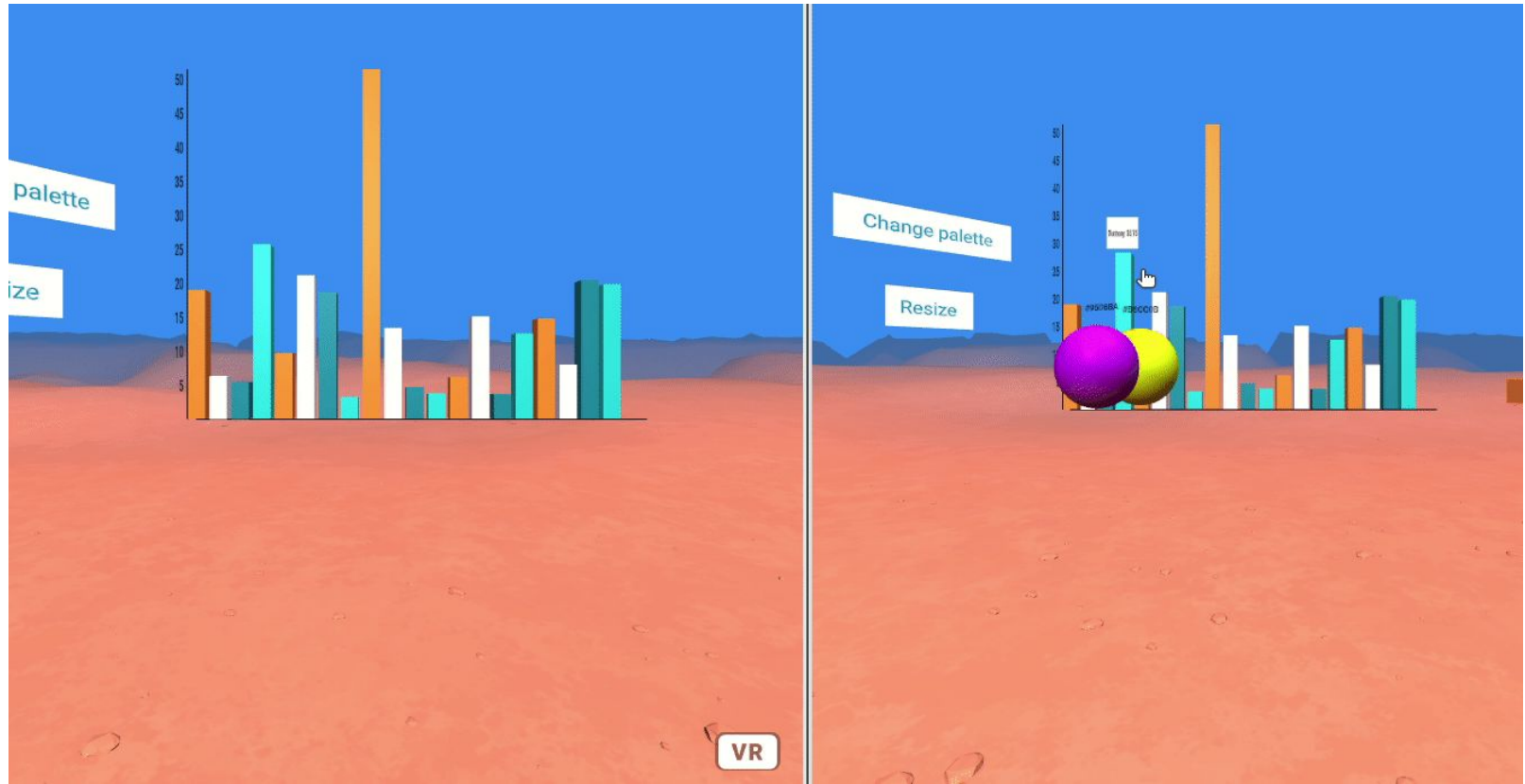
Area: Number of functions
Height: LOC per function
Color: Cyclomatic Complexity (CCN).

(or hover) on a building to discover more.

Time evolution

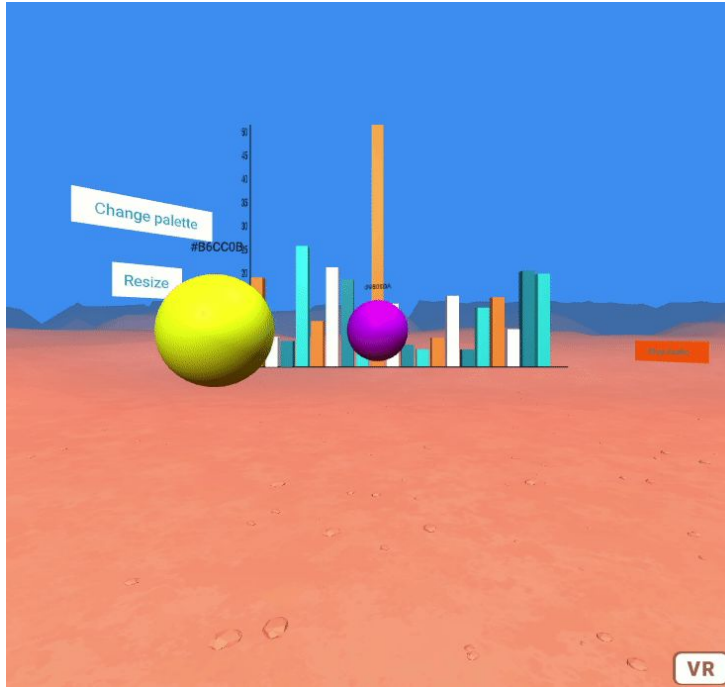


Multiuser



Networked component: <https://github.com/networked-aframe/networked-aframe>

Multuser



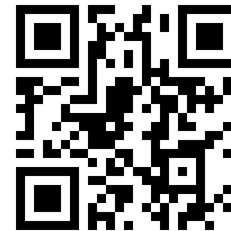
Desert:

<https://tinyurl.com/babiaFOSDEM22>

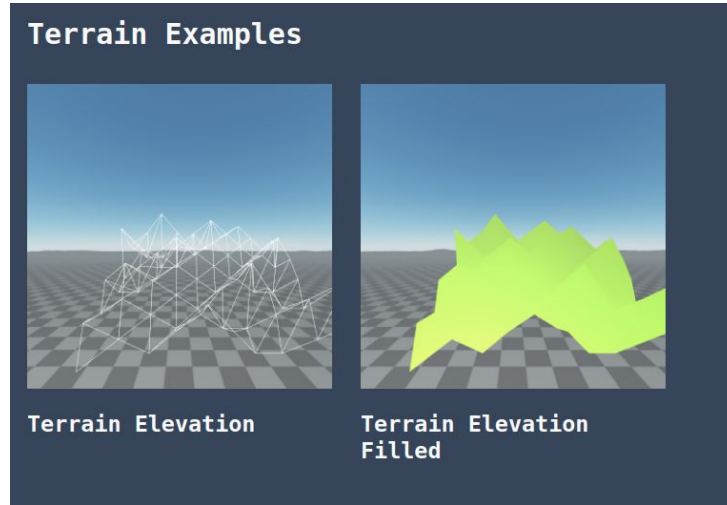


With avatar selection:

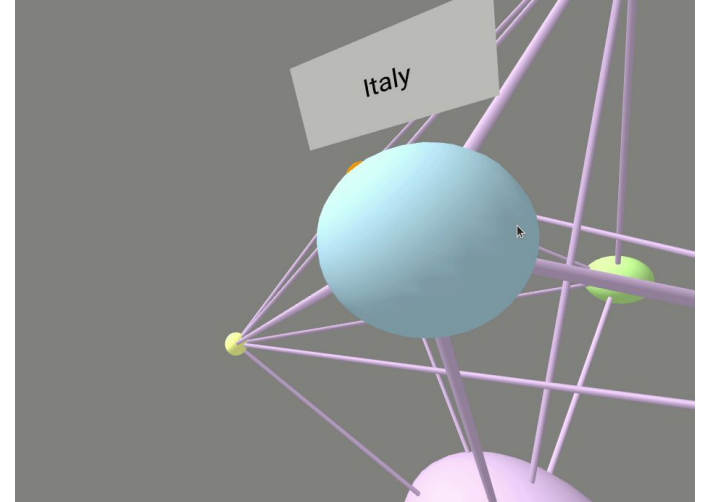
<https://tinyurl.com/babiaAvatars>



babia-terrain

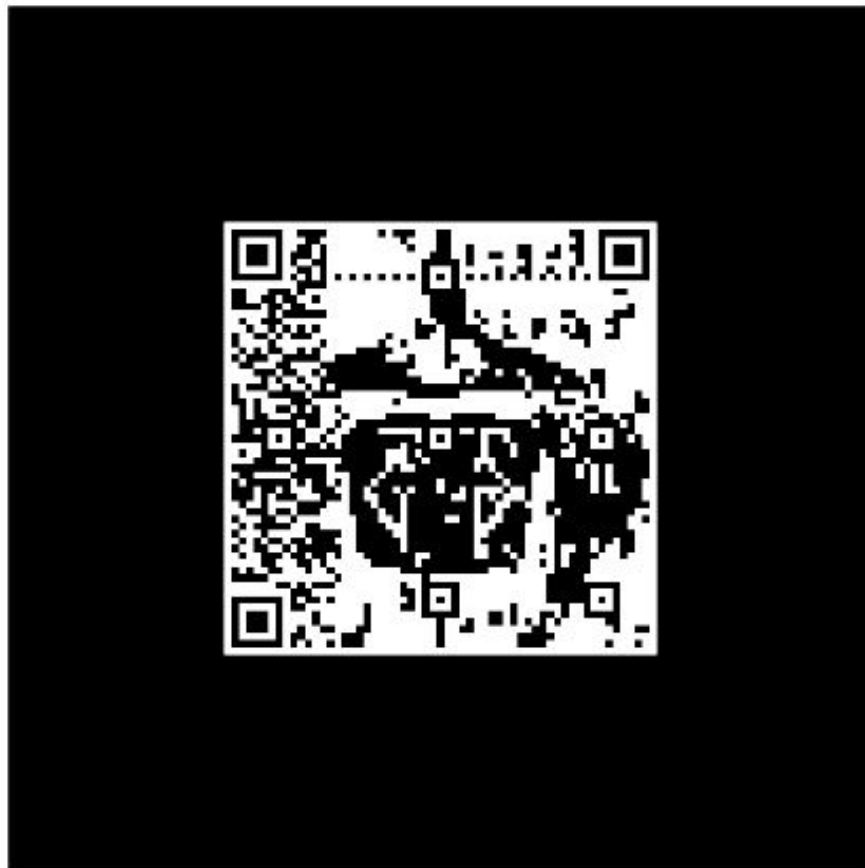
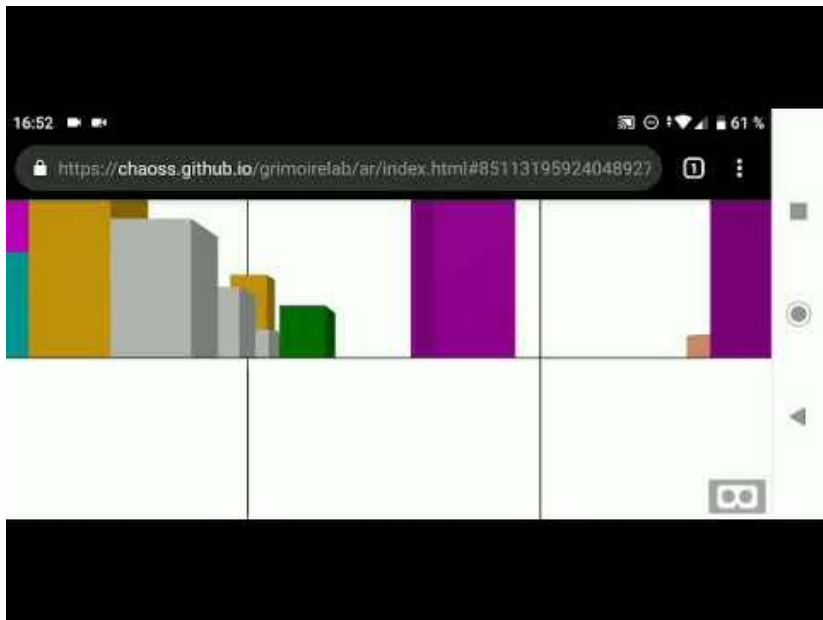


babia-lookat

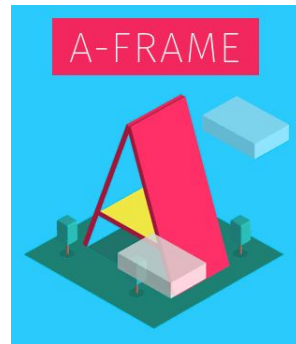


More coming soon!

bonus



WebRTC +
Aframe +
NPM upload



hubs

moz://a

Contributing guide

<https://gitlab.com/babiaxr/aframe-babia-components/-/blob/master/docs/CONTRIBUTING.md>



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