
BabiaXR

Virtual Reality Data Visualizations using
only Front-End



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<https://babiaxr.gitlab.io>



BabiaXR

HOME

Release Notes

Components

Documentation

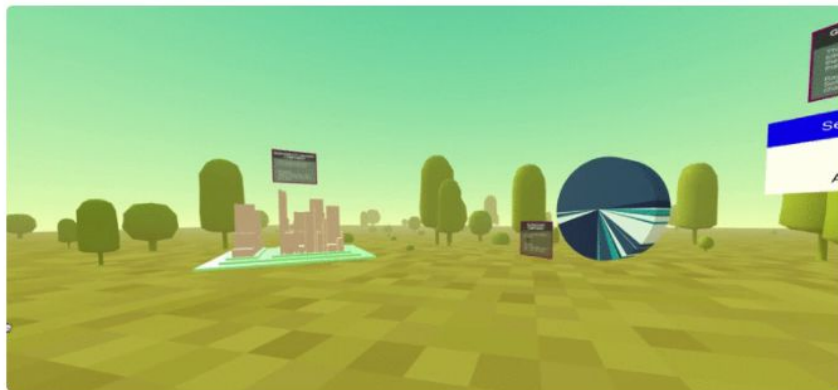
Examples

Publications

About



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BabiaXR is a GitLab organization where the development of the different visualizations are allocated. BabiaXR has the aim of aggregate different components, using A-Frame, that can create different types of chart in a modern browser, the web is a universal environment and any device that has a modern browser that supports WebXR can visualize the charts that the BabiaXR components produce, making it more universal and easy to use.

Lastest News

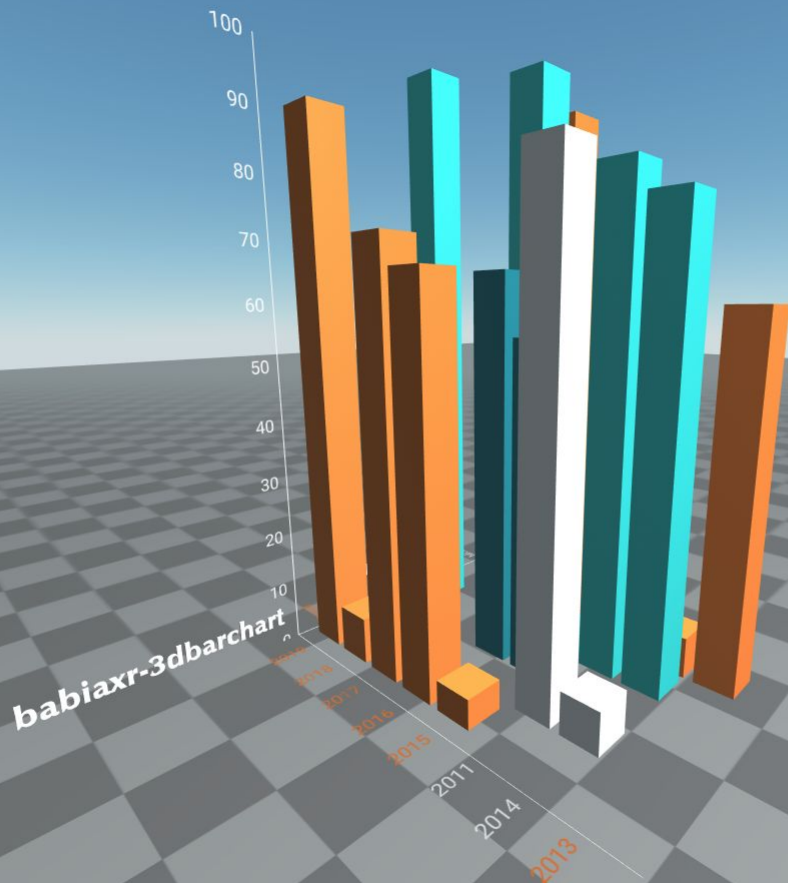
How to use Totem Component

Aug 27, 2020

Remix this example on Glitch. Or view the demo. Let's learn how to create a totem component and link it to different babiaxr-components. babiaxr-totem

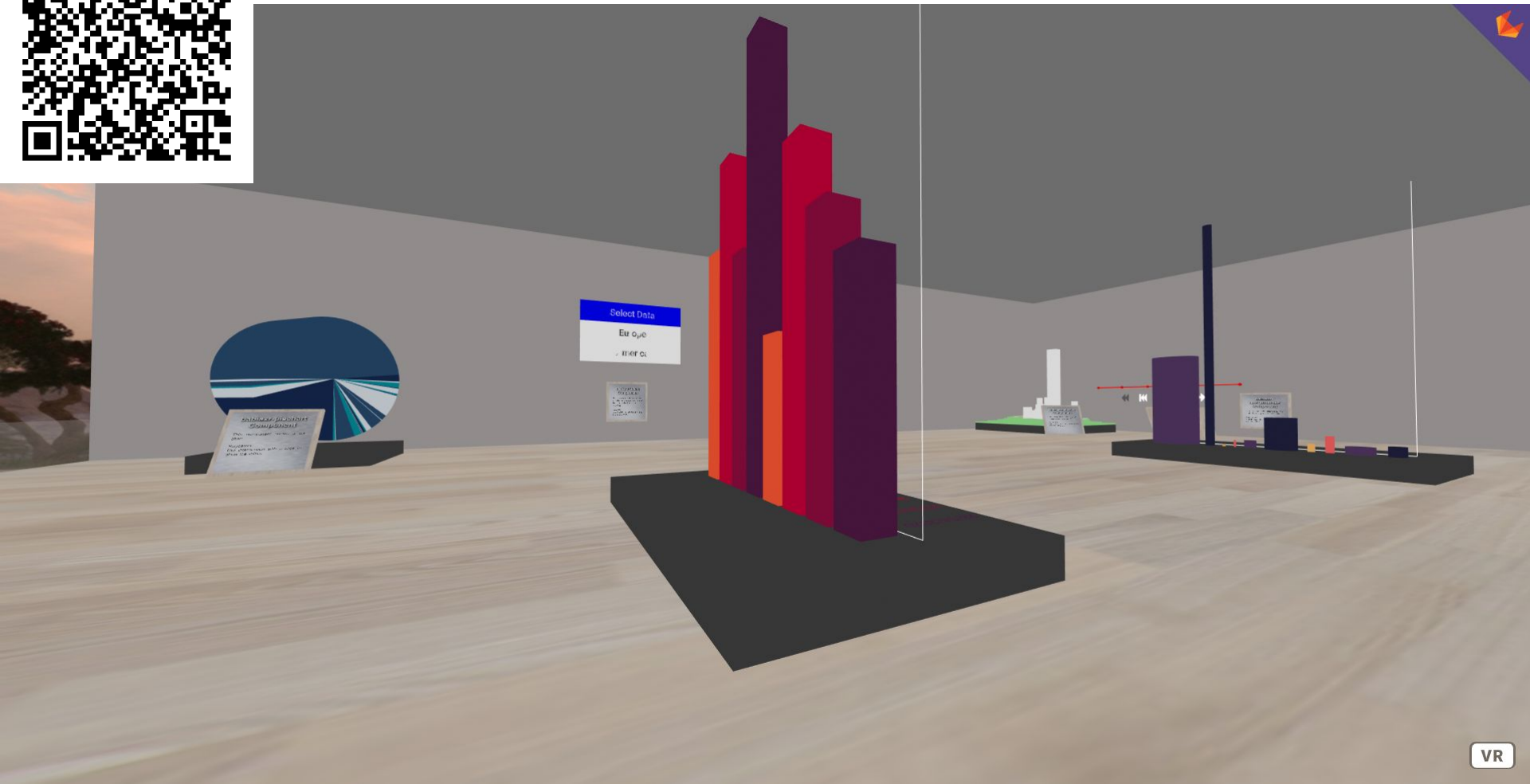


https://babiaxr.gitlab.io/aframe-babia-components/examples/charts/3dbars_chart/

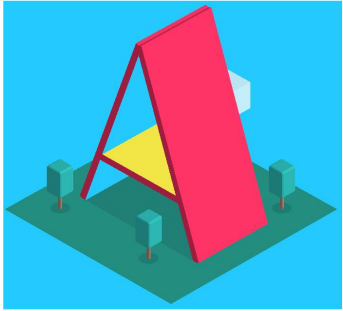




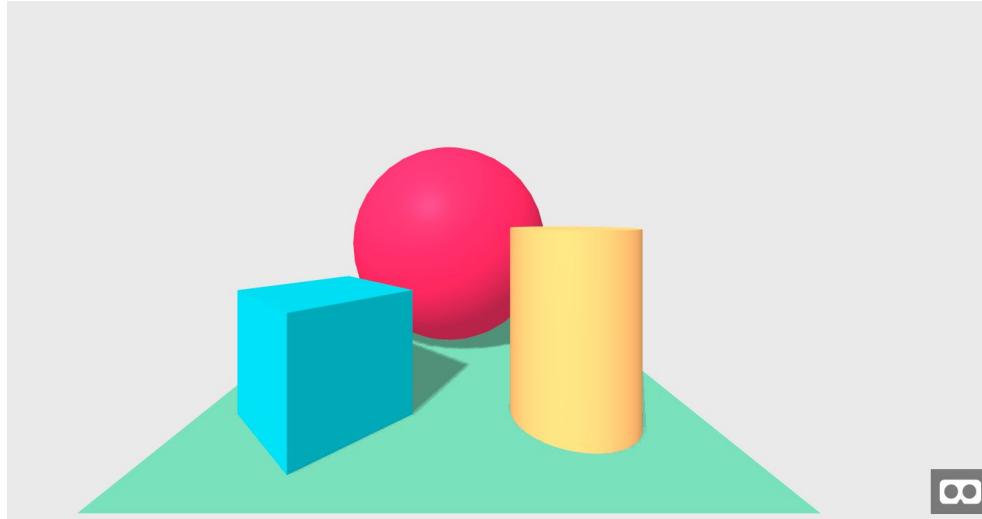
<https://babiaxr.gitlab.io/aframe-babia-components/examples/demos/fosdem/completed/>



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



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>`



babixr-querier_json

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

babixr-querier_es

babixr-querier_github



babixr-filterdata
(for filtering) - WIP

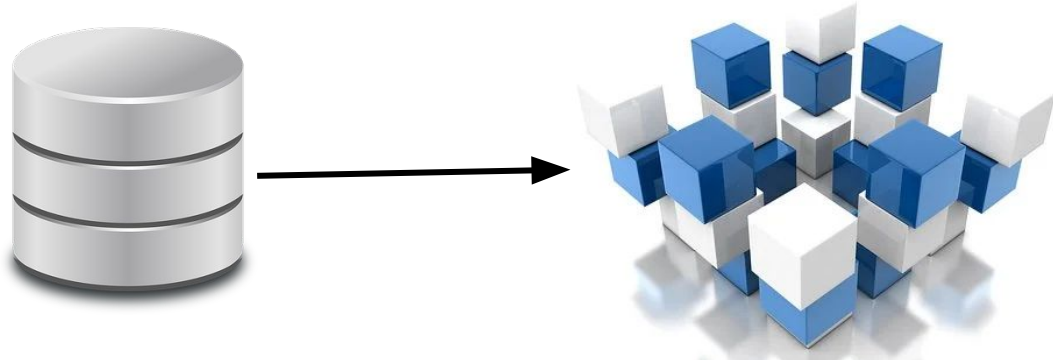


```
<a-entity babixr-filterdata="from: data; filter: name=David" ></a-entity>
```

babixr-vismapper

(maps data properties to visualization properties)

```
<a-entity babixr-simplebarchart='legend: true; axis: true' babixr-vismapper='x_axis: name; height: size' ></a-entity>
```



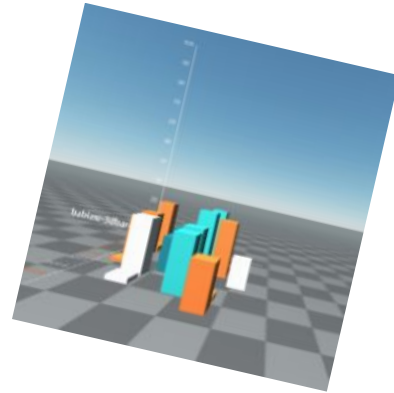
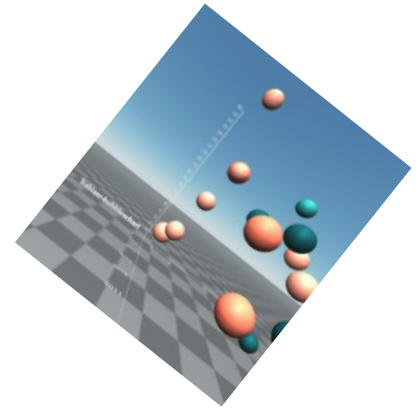
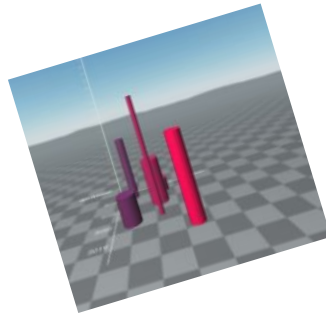
Visualizations

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

.

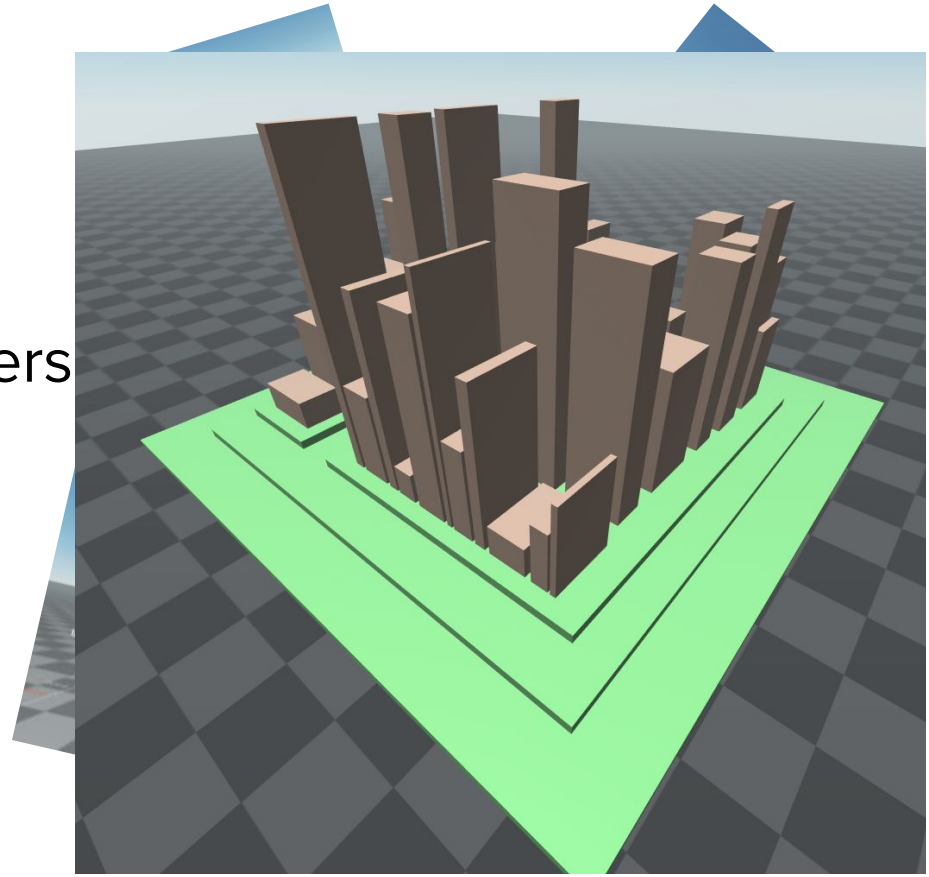
.

.



Visualizations

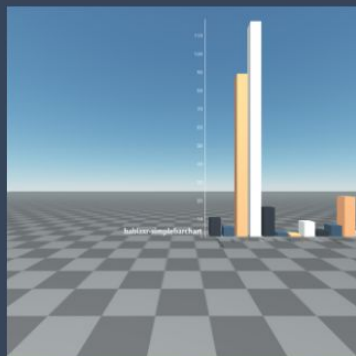
1. Pie
2. Doughnut
3. 3D/2D bars
4. 3D/2D cylinders
5. Bubbles
- .
- .
- .
6. **CodeCity**



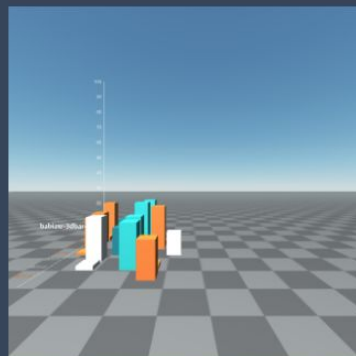
Charts



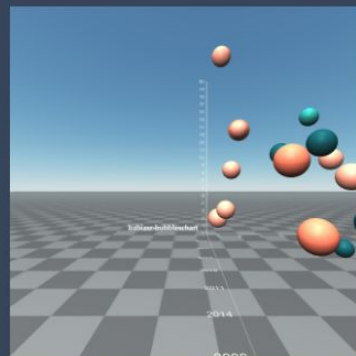
Pie chart



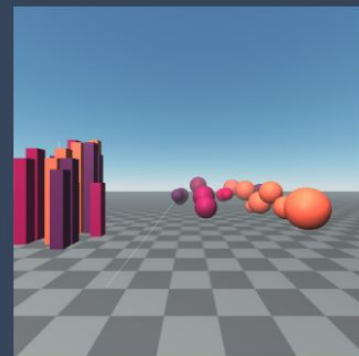
Bars chart



3D Bars chart

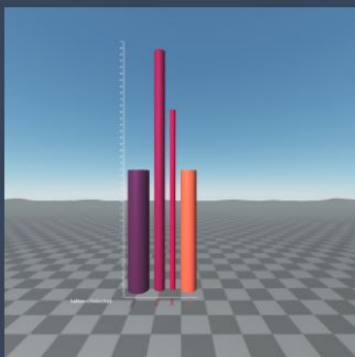


Bubbles chart

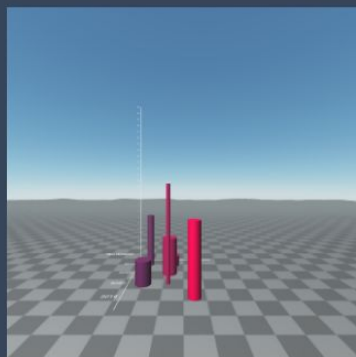


Multiple charts

Mixing of different type of charts



Cylinder charts



3D Cylinders chart



Doughnut chart



Components API

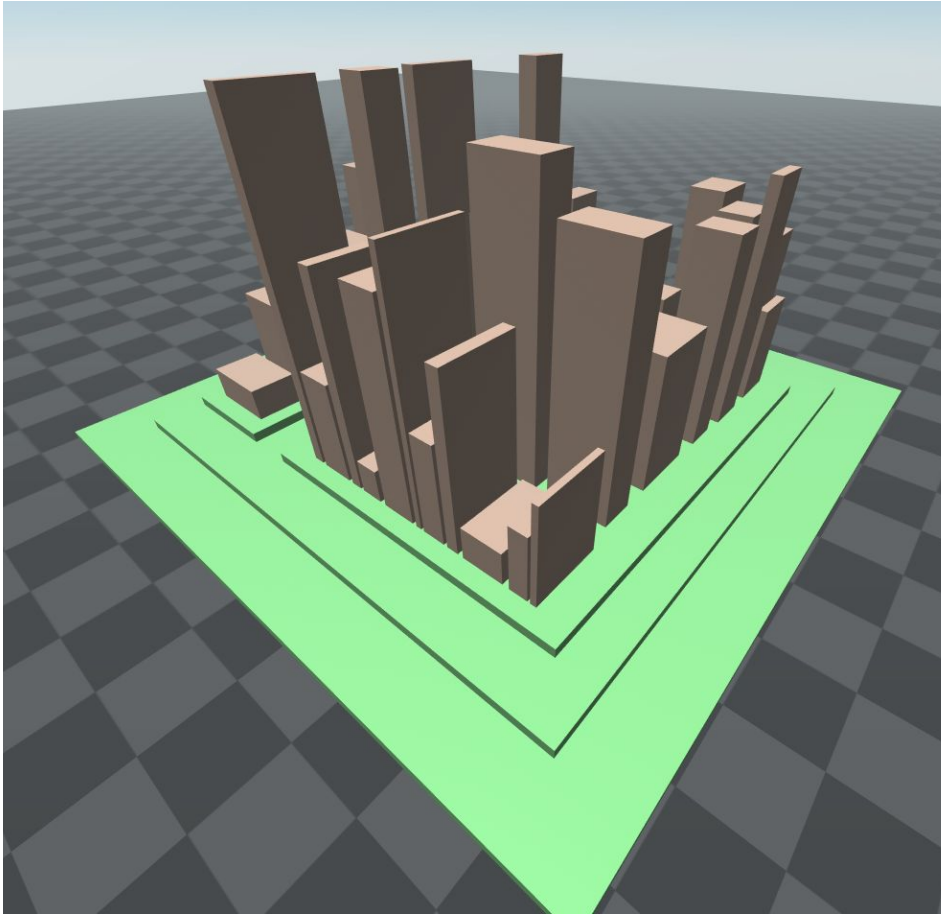
<https://gitlab.com/babiaxr/aframe-babia-components/-/blob/master/README.md>



Components User Guide

https://gitlab.com/babiaxr/aframe-babia-components/-/blob/master/docs/HOW_TO_CHARTS_WITH_QUERIER.md

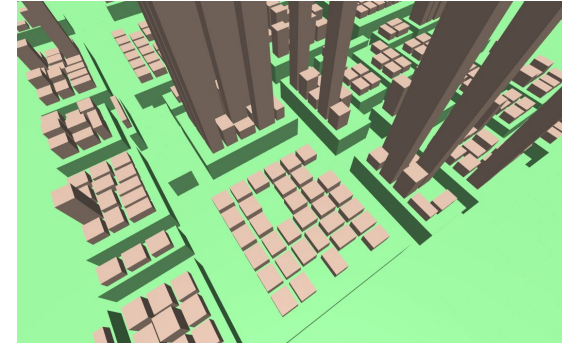




Time evolution

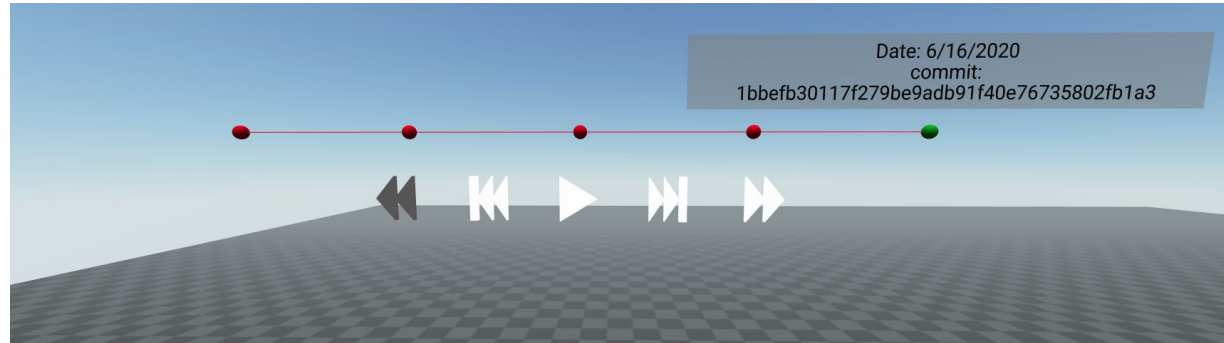
City Layout

From present to past and from past to present
Empty zones = files that used to exist/will exist



UI Navbar

For moving between time snapshots



Configuration

- `data` : mandatory, the data retrieved from the 2. section.
- `absolute` : Absolute size (width and depth will be used for proportions)
- `width` : Width of the entire city.
- `depth` : Depth of the entire city.
- `split` : Algorithm to split rectangle in buildings: naive, pivot
- `farea` : Field in data items to represent as area
- `fmaxarea` : Field in data items to represent as max_area
- `fheight` : Field in data items to represent as area
- `titles` : Titles on top of the buildings when hovering
- `buffered` : Use buffered geometries (improves performance)
- `building_color` : Color of the buildings
- `base` : build the base or not
- `base_color` : color of the base
- `border` : Size of border around buildings (streets are built on it)
- `extra` : Extra factor for total area with respect to built area
- `zone_elevation` : Zone: elevation for each "depth" of quarters, over the previous one
- `unicolor` : Unique color for each zone
- `wireframe` : Show materials as wireframe
- `time_evolution_delta` : Time evolution time changing between snapshots
- `time_evolution_init` : Time evolution time changing between snapshots
- `time_evolution_past_present` : Time evolution direction
- `ui_navbar` : UI navbar ID if exists.



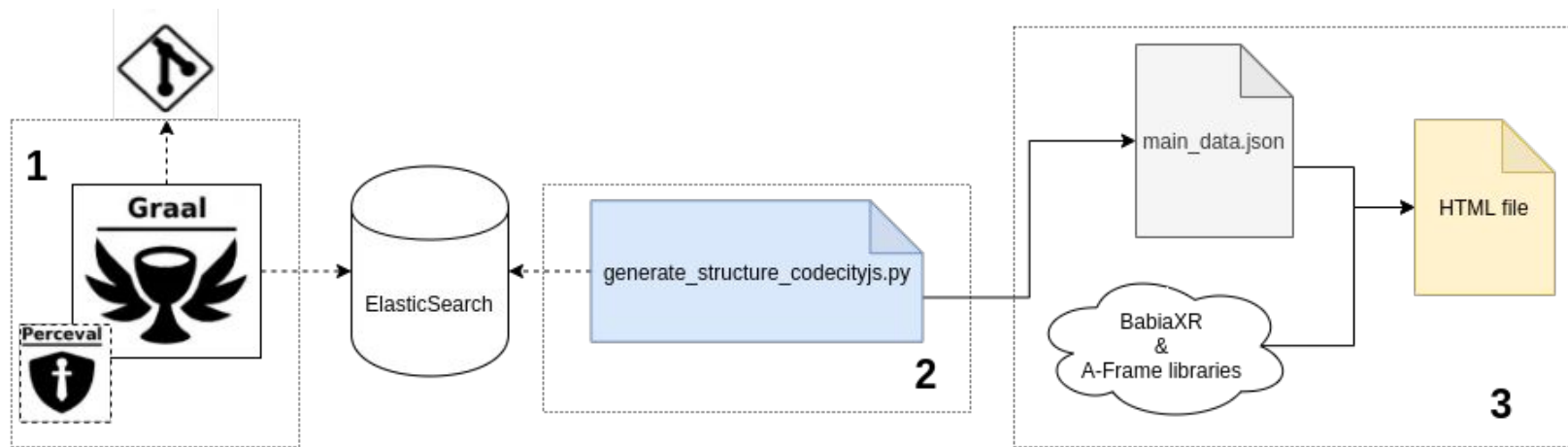
Configuration

Time evolution commit by commit city with ui navbar:

```
<a-entity position="0 0 -3" id="codacity"  
  babiaxr-codacity='width: 20; depth: 20; streets: true; color: green;  
  extra: 1.5; base_thick: 0.3; split: pivot; titles: true; time_evolution_delta: 500;  
  data: main_data.json; time_evolution_init: data_0; ui_navbar: navigationbar'  
</a-entity>
```



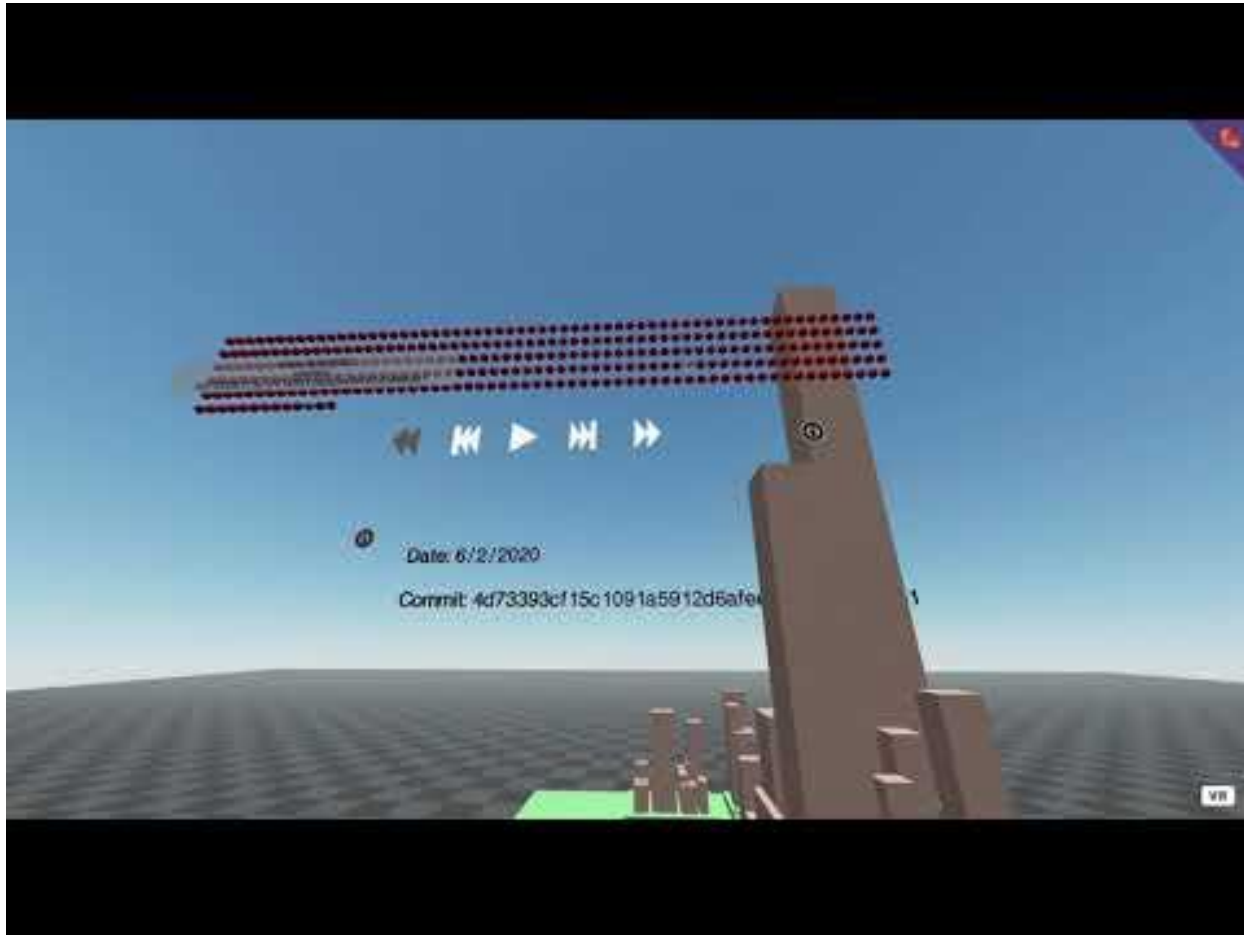
Get the Data





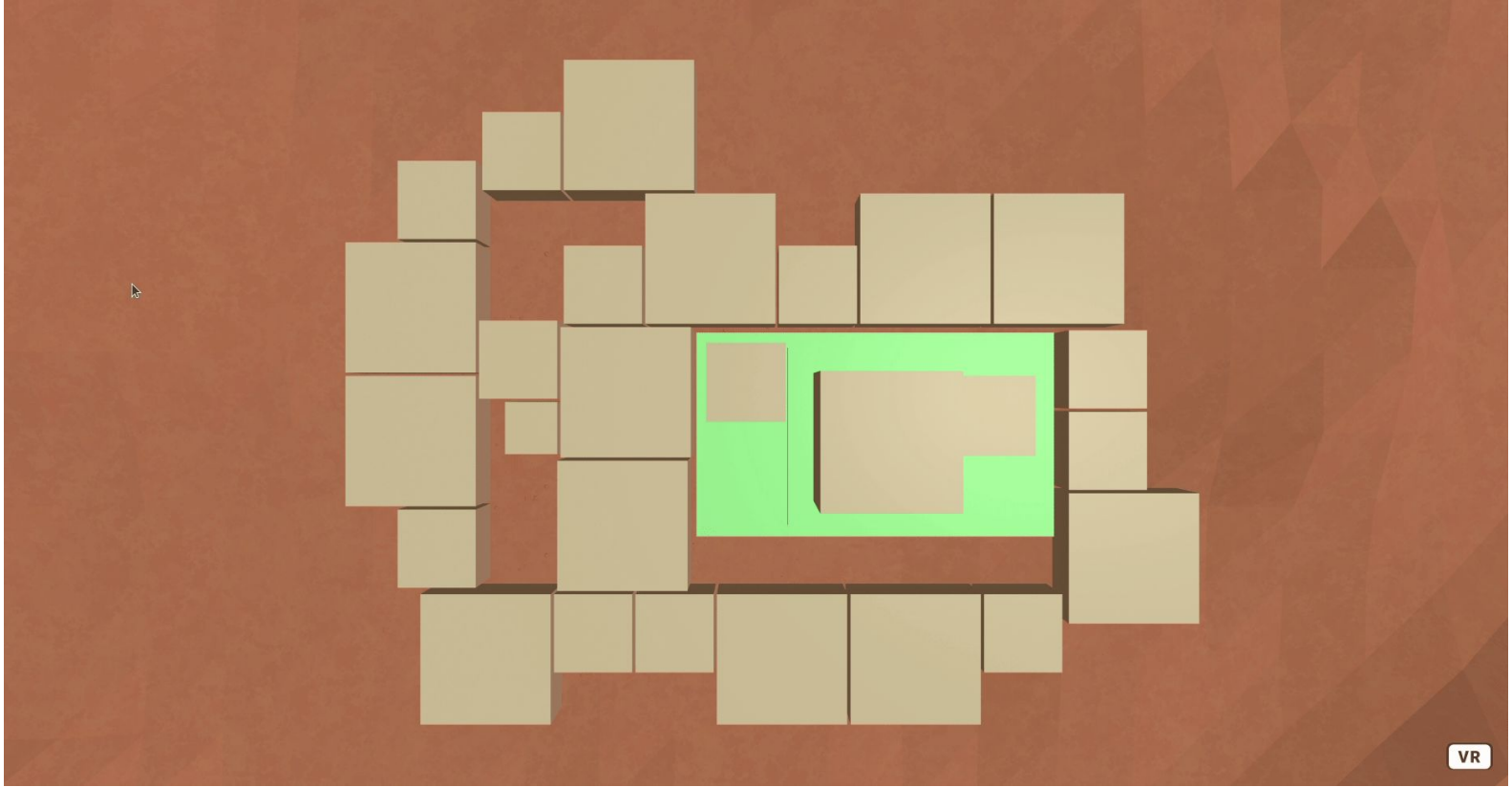
https://gitlab.com/babiaxr/aframe-babia-components/-/blob/master/docs/EXAMPLE_CREATE_CITY_WORKFLOW.md

Example



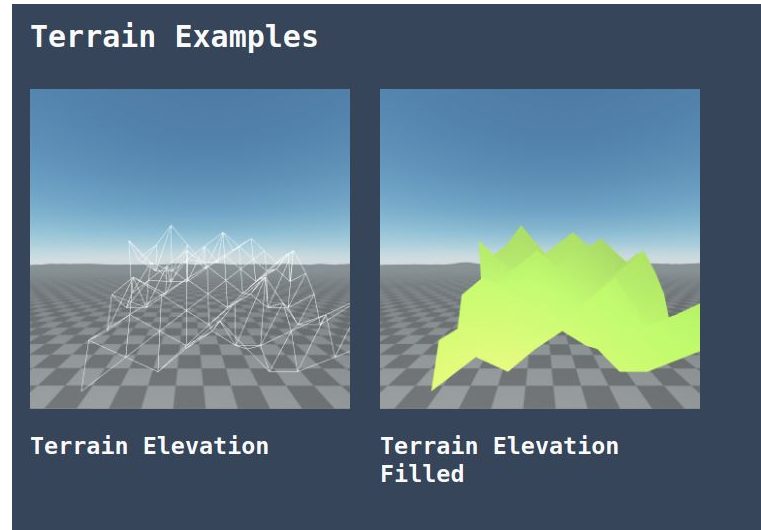
other
components

Islands (representing code as islands, WIP)



VR

Terrain

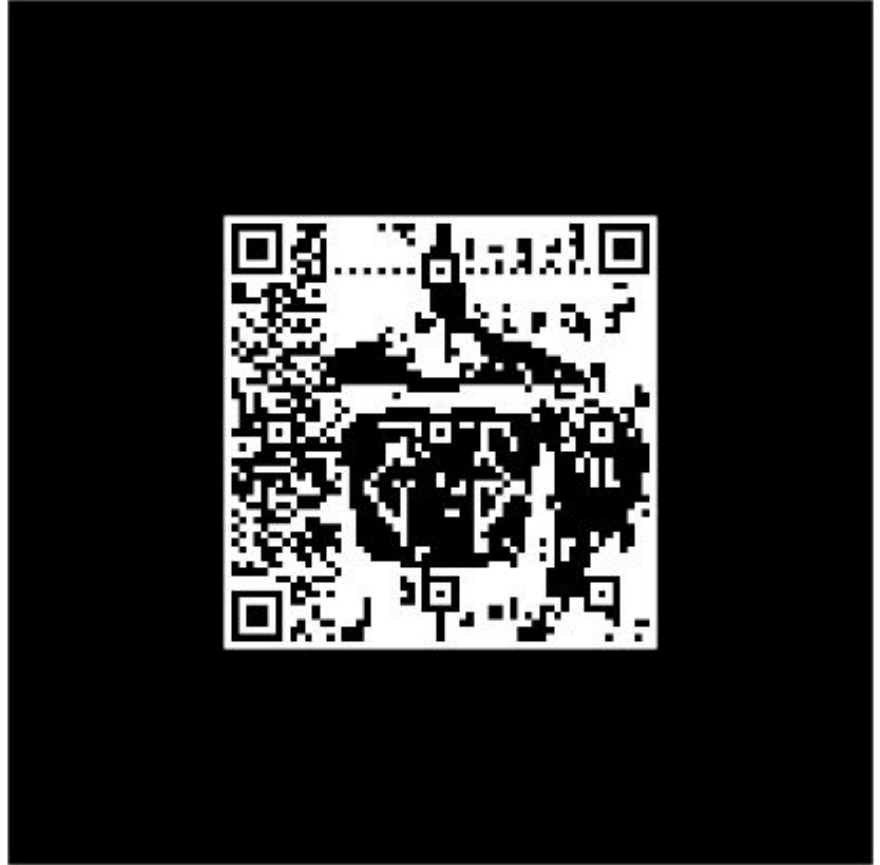
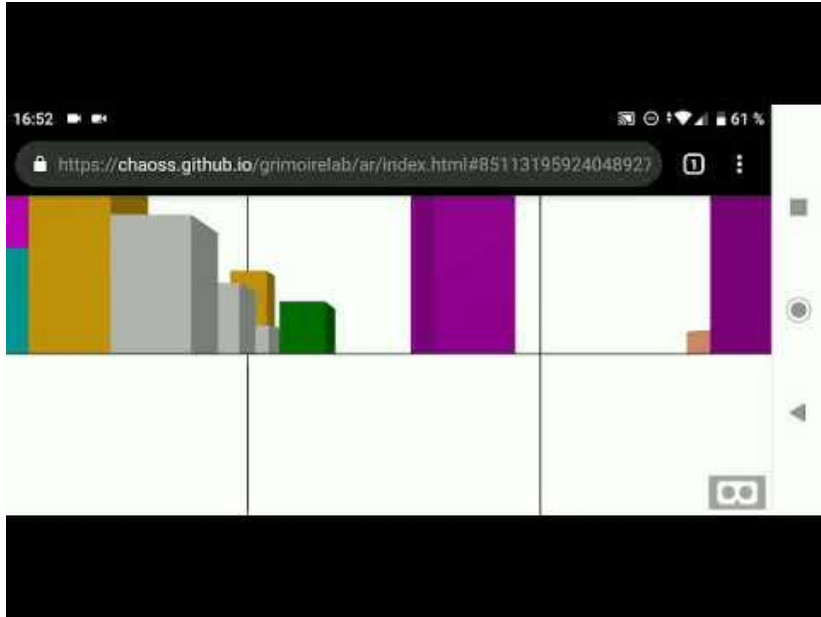


Totem (for dynamically changing between set of data)

...

More coming soon!

bonus



Contributing Guide

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



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