



CCWC 2023

Aspects of VR A-Frame

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Outline

Motivation

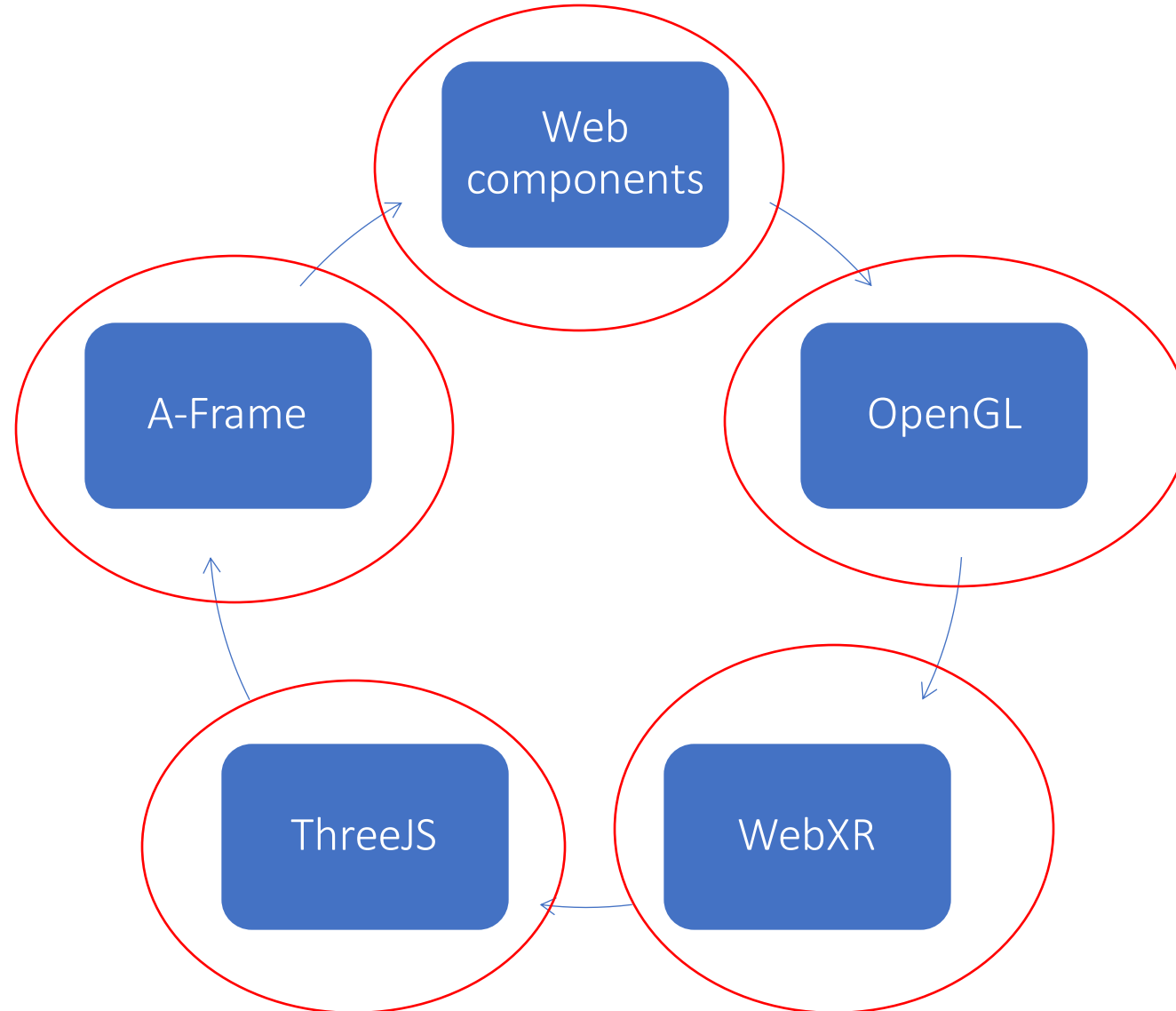
High level view and learning path

Structure of a-frame components

Introduction to building a-frame components

High level view and learning path

Web components
Entity component system



Resources

A-frame.io is the basis of these slides

Many examples

Examples

From a-frame.io

Example

```
<html>
  <head>
    <script src="https://aframe.io/releases/1.3.0/aframe.min.js"></script>
  </head>
  <body>
    <a-scene>
      <a-box position="-1 0.5 -3" rotation="0 45 0" color="#4CC3D9"></a-box>
      <a-sphere position="0 1.25 -5" radius="1.25" color="#EF2D5E"></a-sphere>
      <a-cylinder position="1 0.75 -3" radius="0.5" height="1.5" color="#FFC65D"></a-cylinder>
      <a-plane position="0 0 -4" rotation="-90 0 0" width="4" height="4" color="#7BC8A4">
        </a-plane>
      <a-sky color="#ECECEC"></a-sky>
    </a-scene>
  </body>
</html>
```

Simple example

```
<html>
  <head>
    <script src="https://aframe.io/releases/1.3.0/aframe.min.js"></script>
  </head>
  <body>
    <a-scene>
      <a-assets>
        
      </a-assets>

      <a-box src="#boxTexture" position="0 2 -5" rotation="0 45 45" scale="2 2 2"
        animation="property: object3D.position.y; to: 2.2; dir: alternate; dur: 2000; loop: true"></a-box>

      <a-camera>
        <a-cursor></a-cursor>
      </a-camera>
    </a-scene>
  </body>
</html>
```

A-Frame is very interesting!

Web browser delivery

Built on

Three.js, which is built on WebXR/WebGL/OpenGL

Uses web components

Basic structure of a-frame component

Schema – A-Frame component API

```
AFRAME.registerComponent('box', {  
  schema: {  
    width: {type: 'number', default: 1},  
    height: {type: 'number', default: 1},  
    depth: {type: 'number', default: 1},  
    color: {type: 'color', default: '#AAA'}  
  }  
});
```