

# AR/VR Workshop

## Part 1: **Introduction**

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# Learning plan

<b>Introduction</b>	Overview – outline goals Setting up google cardboard with glitch.com system
<b>A-frame basics</b>	Simple A-frame examples Work with glitch.com
<b>Foundations</b>	JavaScript, DOM, events, Web-Components
<b>A-frame components</b>	Defining A-frame components
<b>Three.JS and A-frame</b>	Basics of Three.js for A-frame
<b>Entity component architecture (ECA)</b>	Three.js and ECA with standard OO paradigm
<b>A-frame and planets</b>	Complex 3D a-frame, work with complex a-frame detail and basic planetary math; illustrate ECA, geometries, controls, etc.
<b>A-frame and animations</b>	Goal: show how to do basic animation
<b>Conclusion</b>	Goal: review our learning

# Outline

Overview

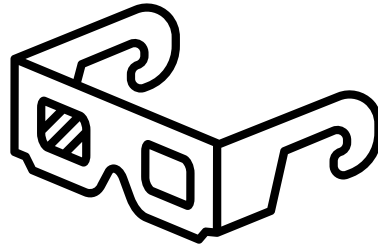
No installations needed

What is Glitch.com?

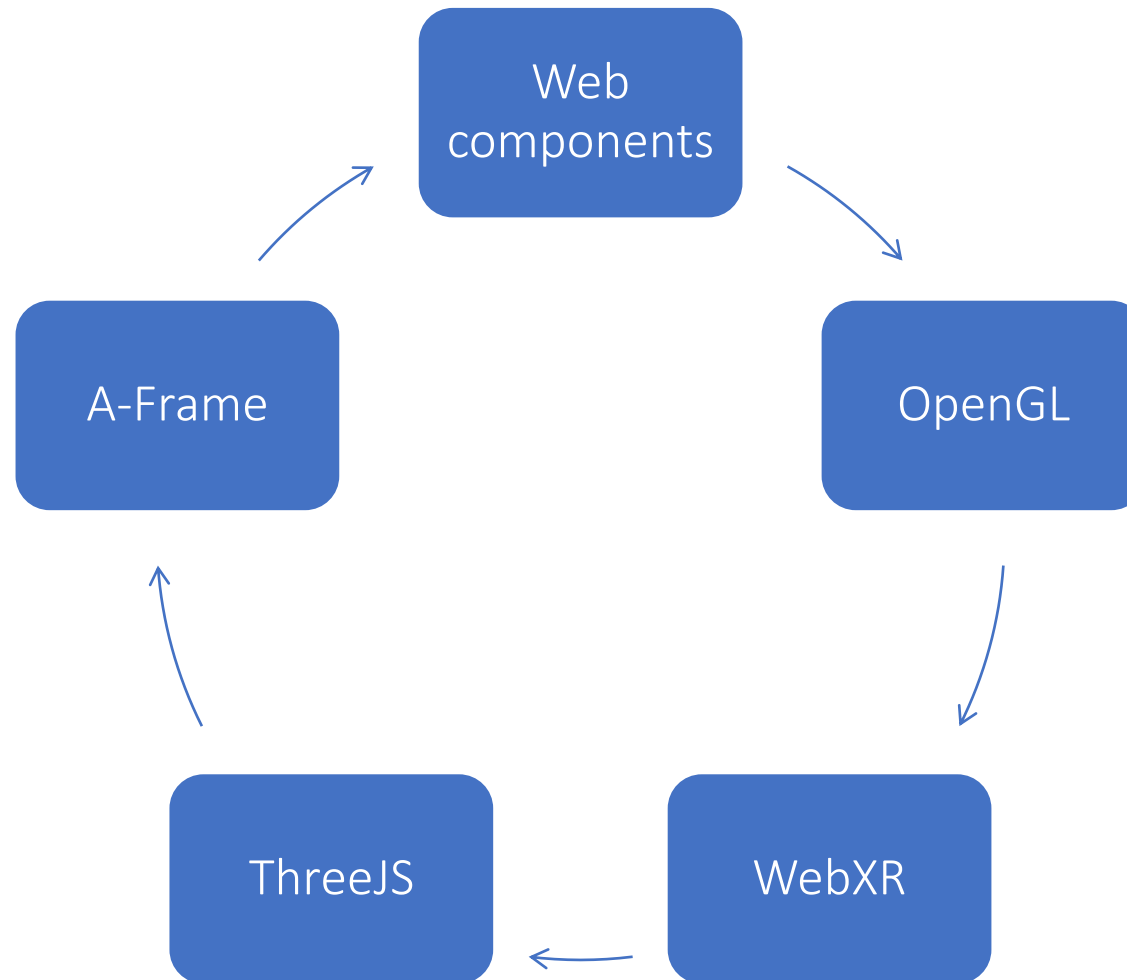
Create a github repo: <https://github.com/wonder-phil/urls>

Get an account in Glitch.com

Our first VR/AR page



# High level view and learning path



# No installation VR

Nothing installed

We do need to add two accounts

1. Github.com

- Create a short URL with a public repo

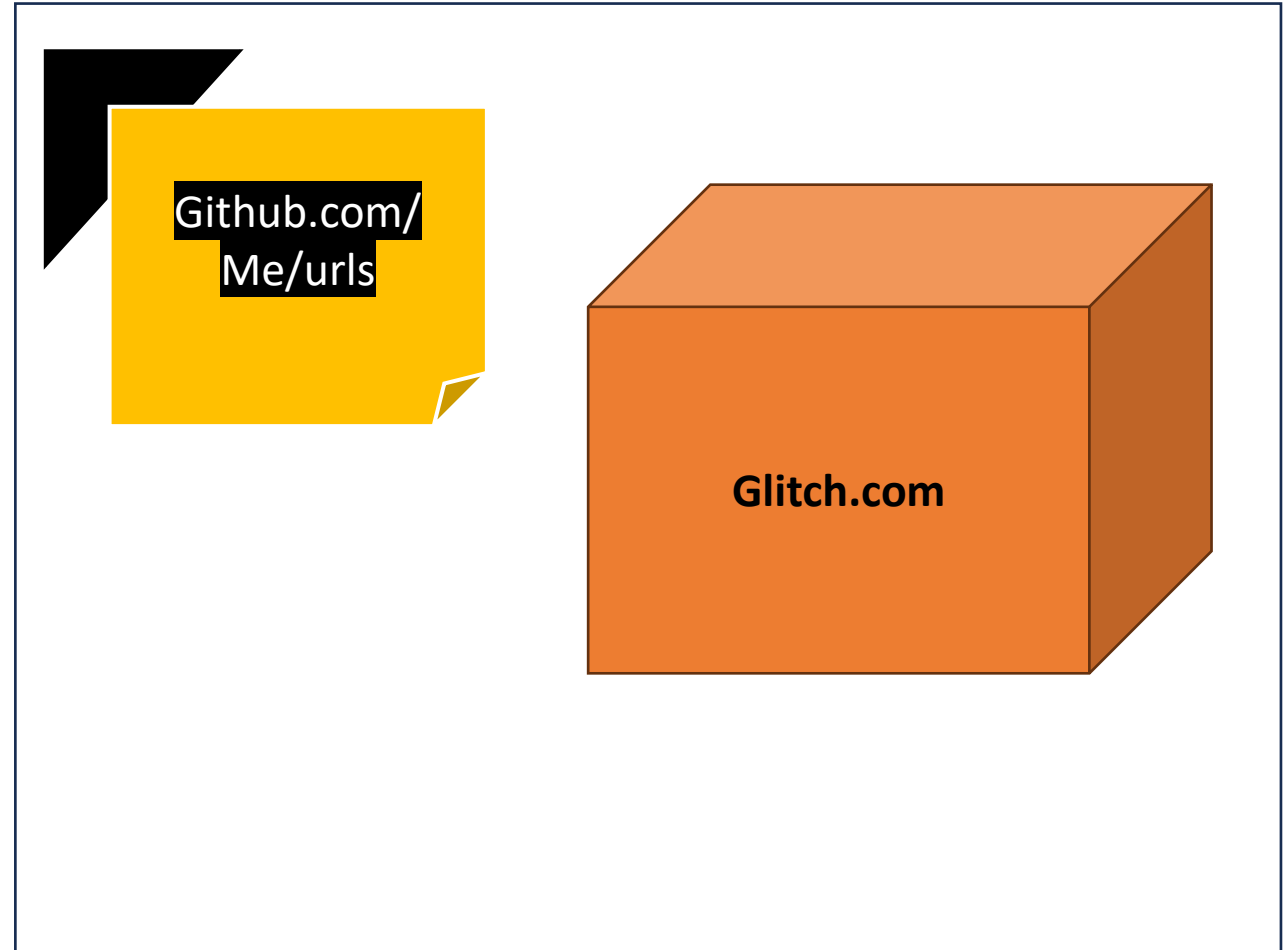
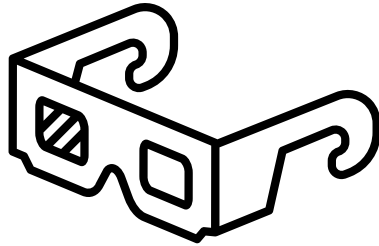
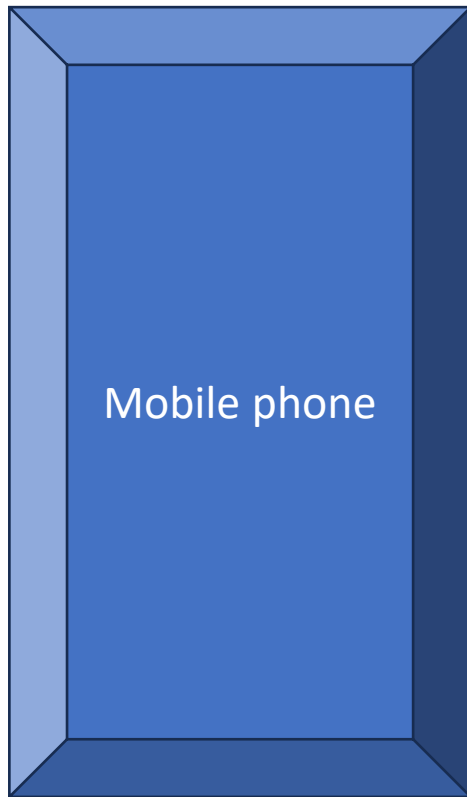
2. Glitch.com

- Create a free account

Separate browser for A-Frame

# Glitch.com Overview

Computer



# What is glitch?

Cloud-based development environment

Fast development

Gives you a URL for each project

We will use this URL

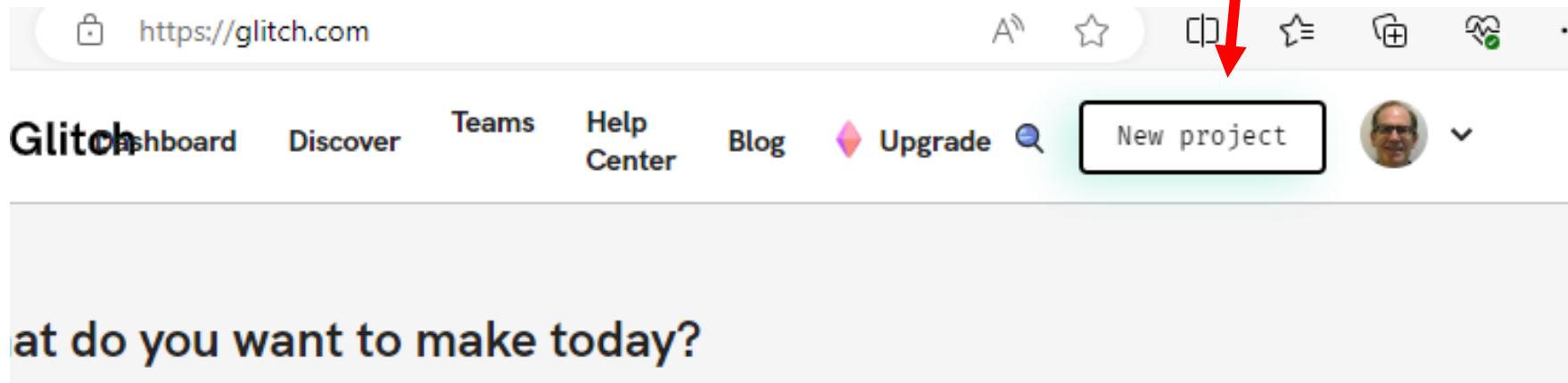
A-Frame in glitch

# A-Frame in glitch

Create a glitch.com account

I hooked my google account to glitch

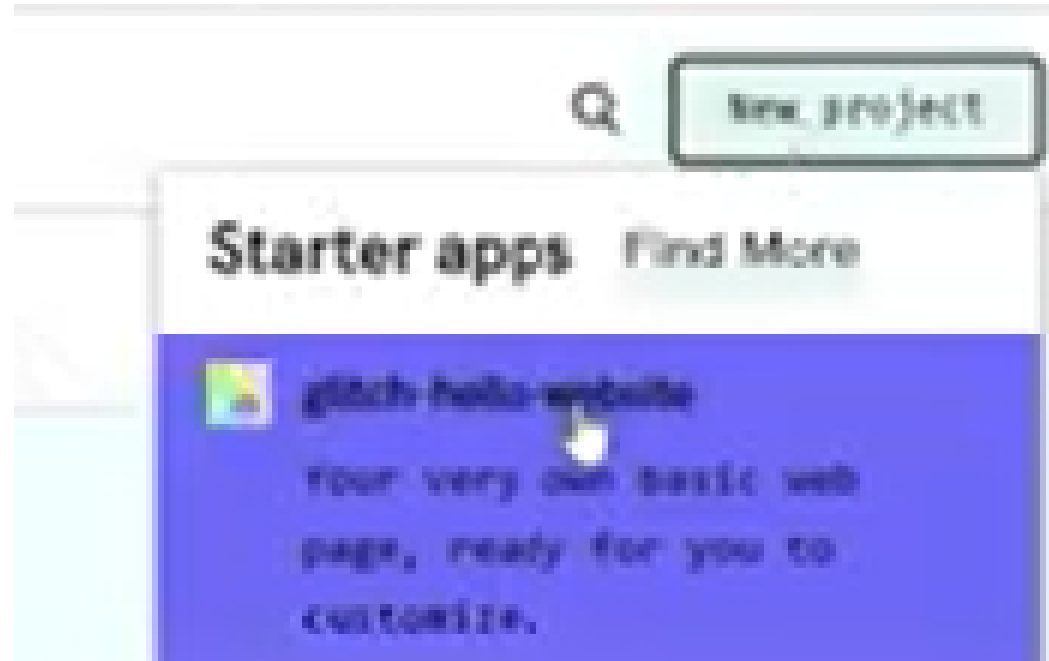
New Project





# Glitch Hello Website

Select first project



# Update index.html

```
<html>
```

```
  <head>
```

```
    </head>
```

```
  <body>
```

```
    </body>
```

```
</html>
```

# New Glitch.me website

<https://certain-crimson-mosquito.glitch.me>

# Update index.html

```
<html>
<head>
  <script src="https://aframe.io/releases/1.4.1/aframe.min.js"></script>
</head>
<body>
  <a-scene>
    <a-sky
      src="https://cdn.glitch.global/4cb2dafa-67a2-4c7f-b424-b5ef32487f34/Moving_Forest_1050_700.webp?v=1696984169228"
      rotation="0 -130 0"
    ></a-sky>
    <a-text
      font="kelsonsans"
      value="HELLO A-Frame!!! PGB"
      width="6"
      position="-2.5 0.25 -1.5"
      rotation="0 15 0"
    ></a-text>
  </a-scene>
</body>
</html>
```

# Two ways to use A-frame

Testing **without** VR

Computer> python3 -m http.server 3001

Glitch.com **with** VR

Through glitch.me weblink from your git repo

# Getting a-frame from aframe.io

```
<head>
```

```
  <script src="https://aframe.io/releases/1.4.1/aframe.min.js">
```

```
  </script>
```

```
</head>
```

Or

```
<body>
```

```
  <script src="js/aframe.io_releases_1.4.1_aframe.min.js"></script>
```