

## 1. Introduction



So if we go to

<https://thimbleprojects.org/scottturneruon/692403>

Using the markers above with this url running on your device (with a camera enabled) it should add two new objects over the markers. you will need a copy of these images printed out. If you have it I would suggest running it in Firefox.

## 2. Getting Started

The guide for all this is <https://aframe.io/blog/arjs/>, with this you have pretty much everything you need.



To start your own go to <https://glitch.com/> ->new project->Hello World project

In the **index.html** deleted everything in there and replace it with

```

<!-- include A-Frame obviously -->
<script
src="https://aframe.io/releases/0.6.0/aframe.min.js"></
script>
<!-- include ar.js for A-Frame -->
<script
src="https://jeromeetienne.github.io/AR.js/aframe/build
/aframe-ar.js"></script>
<body style="margin : 0px; overflow: hidden;">
  <a-scene embedded arjs>
    <!-- create your content here. just a box for now -
->
    <a-box position="0 0.5 0" material="opacity:
0.5;"></a-box>
    <!-- define a camera which will move according to
the marker position -->
    <a-marker-camera preset="hiro"></a-marker-camera>
  </a-scene>
</body>

```

Should have a white box over the Hiro marker when the web camera/phone/tablet is shown the markers.

The code not in bold below just sets it up - to play with it we don't need to worry about what it does - we can just use it. The bit in bold is the bit initially we change or add to - in this case it puts a default white box over the marker.

```
<!-- include A-Frame obviously -->
<script
src="https://aframe.io/releases/0.6.0/aframe.min.js"></
script>
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src="https://jeromeetienne.github.io/AR.js/aframe/build
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<body style="margin : 0px; overflow: hidden;">
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    <a-box position="0 0.5 0" material="opacity:
0.5;"></a-box>
    <!-- define a camera which will move according to
the marker position -->
    <a-marker-camera preset="hiro"></a-marker-camera>
  </a-scene>
</body>
```

It can be seen at <https://decisive-cookie.glitch.me>

### 3. Playing with other objects

Now if we replace

```
<a-box position="0 0.5 0" material="opacity: 0.5;"></a-box>
```

With

```
<a-sphere position='0 0.5 0' radius="0.3" color="blue"></a-sphere>
```

We get a blue ball in place of the box

Now for some fun

<http://www.pngall.com/bee-png/download/84> is a bee image – download it

Go back to Glitch, and if we go to assets we can add the image. Open up the folder that has the downloaded image and drag it into the asset window.

When it stops downloading and shows the image, click on the image to get the new web address we are going to need that next. so take a copy of it.

If we replace

```
<a-sphere position='0 0.5 0' radius="0.3" color="blue"></a-sphere>
```

With the following by just adding

in `src="https://cdn.glitch.com/04b86bba-0978-4bf4-b3a7-2ece72336f90%2FBee-PNG.png"` as below

```
<a-sphere position='0 0.5 0' radius="0.3" color="blue" src="https://cdn.glitch.com/04b86bba-0978-4bf4-b3a7-2ece72336f90%2FBee-PNG.png"></a-sphere>
```

We get a blue ball with a bee stretched over it. But it doesn't look that great if we remove the color="blue" we see the bee stuck at the bottom of the ball still but the colours are back.

Now if we replace

```
<a-sphere position='0 0.5 0' radius="0.3"
src="https://cdn.glitch.com/04b86bba-0978-4bf4-b3a7-
2ece72336f90%2FBee-PNG.png"></a-sphere>
```

With commands to rotate the sphere

```
<a-sphere position="0 0.5 0" radius="0.3"
src="https://cdn.glitch.com/04b86bba-0978-4bf4-b3a7-
2ece72336f90%2FBee-PNG.png">
  <a-animation attribute="rotation" to="360 360
360" dur="5000" easing="linear"
repeat="indefinite"></a-animation>
</a-sphere>
```

We get a rotating sphere with the image on it.

This can be found at <https://simplistic-wakeboard.glitch.me> and works with the Hiro marker

If you want to find out how I felt about presenting go to <https://dandy-custard.glitch.me/>

Now let's try a GIF

<https://giphy.com/gifs/ar-vr-uon-dWskM0qQeY9DhSUsIT/media>

Download the GIF and then copy (drag and drop) into the asset folder of your project get the web address and put into src="" in place of the one that is there already

An example can be found at <https://root-reply.glitch.me/> and works with the Hiro marker.

## 4. Issues and Thoughts

- Make sure all the markers have white space surrounding them.
- Video is fun
  - It is browser dependent on Firefox <https://thimbleprojects.org/scottturneruon/692403> would place a video on Chrome and so others it is a static image.
  - There are ways around it <https://cloudy-nation.glitch.me> a play button is added but it does involve more code <https://glitch.com/~cloudy-nation>
- The QR code approach doesn't always work with all phones and tablets.
- If I am honest, the technology is cool and useful for educational use, but I not sure where it all can go. **The question is what can others come up with to use it, I would love to hear about it.**