

Spherical planets and the Sun



What is our GOAL for this MODULE?

The goal of this module is to create spherical planets and the Sun and orbit them around the Sun in A-Frame.

What did we ACHIEVE in the class TODAY?

We created spherical planets and the Sun and revolved them around the Sun.

Which CONCEPTS/CODING BLOCKS did we cover today?

- Entity Component System in A-Frame
- <a-entity>
- Animation component inside entity

How did we DO the activities?

1. We learned how to add `<a-entity>`.

```
index.html > html > body > a-scene
1  <!DOCTYPE html>
2  <html>
3    <head>
4
5      <script src="https://aframe.io/releases/1.0.4/aframe.min.js"></scrip
6
7    </head>
8    <body>
9      <a-scene background="color: #000000">
10
11        <a-entity>
12
13        </a-entity>
14
15      </a-scene>
16    </body>
17  </html>
```

2. We created two spheres one for the Sun and another for Mercury inside `<a-entity>`.

```
2  <html>
3    <head>
4      <script src="https://aframe.io/releases/1.0.4/aframe.min.js"></script>
5    </head>
6    <body>
7      <a-scene background="color: #000000">
8
9        <!--Sun-->
10       <a-entity>
11         <a-sphere position="0 2.5 -5" color="orange"></a-sphere>
12       </a-entity>
13
14       <!--Mercury-->
15       <a-entity>
16         <a-sphere position="2 2.5 -5" radius="0.2" color="red"></a-sphere>
17       </a-entity>
18
19     </a-scene>
```

3. We used the animation component in `<a-entity>` for orbiting planets around the Sun.

```

3  <head>
4    <script src="https://aframe.io/releases/1.0.4/aframe.min.js"></script>
5  </head>
6  <body>
7    <a-scene background="color: #000000">
8
9      <!--Sun-->
10     <a-entity>
11       <a-sphere position="0 0 0" radius="2" color="orange"></a-sphere>
12     </a-entity>
13
14     <!--Mercury-->
15     <a-entity position="0 0 0" rotation="0 0 0" animation="property: rotation; to: 0 360 0; easing: linear; loop: true; dur: 20000">
16
17       <a-sphere position="1 2.5 -5" radius="0.2" color="red" ></a-sphere>
18
19     </a-entity>
20
21   </a-scene>
22 </body>
23 </html>
24

```

4. We learned how to use `<a-camera>` inside `<a-entity>`.

```

body>
<a-scene background="color: #000000">

  <!--Camera-->
  <a-entity position="0 0 25">
    <a-camera></a-camera>
  </a-entity>

  <!--Sun-->
  <a-entity>
    <a-sphere position="0 0 0" radius="2" color="orange"></a-sphere>
  </a-entity>

  <!--Mercury-->
  <a-entity position="0 0 0" rotation="0 0 0" animation="property: rotation; to: 0 360 0; easing: linear; lo
    <a-sphere position="1 0 -5" radius="0.2" color="red" ></a-sphere>
  </a-entity>

</a-scene>

```

- Created the Sun and other planets using the entity component system.

```
index.html > html > body > a-scene > a-entity
<!--Venus-->
<a-entity position="0 0 0" rotation="0 0 0"
  animation="property: rotation; to: 0 360 0; easing: linear; loop: true; dur: 25000">
  <a-sphere position="3 0 -5" radius="0.3" color="red"></a-sphere>
</a-entity>

<!--Earth-->
<a-entity position="0 0 0" rotation="0 0 0"
  animation="property: rotation; to: 0 360 0; easing: linear; loop: true; dur: 30000">
  <a-sphere position="5 0 -5" radius="0.4" color="blue"></a-sphere>
</a-entity>

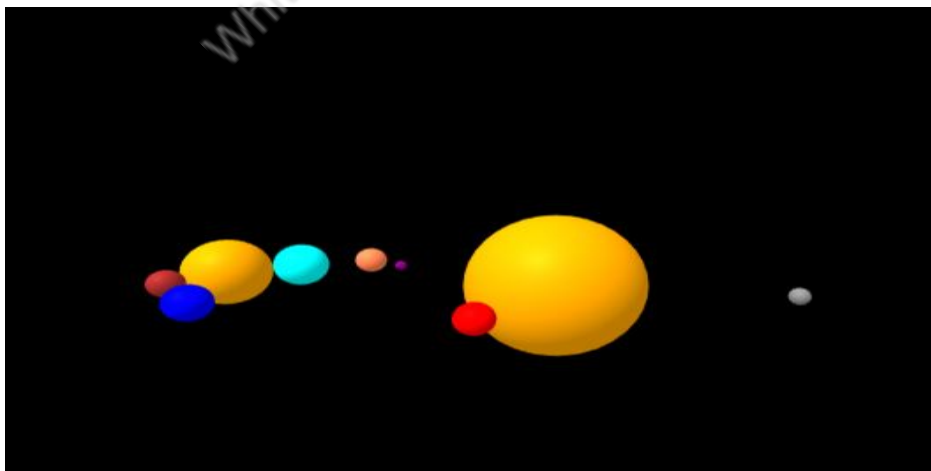
<!--Mars-->
<a-entity position="0 0 0" rotation="0 0 0"
  animation="property: rotation; to: 0 360 0; easing: linear; loop: true; dur: 35000">
  <a-sphere position="7 0 -5" radius="0.4" color="brown"></a-sphere>
</a-entity>

<!--Jupiter-->
<a-entity position="0 0 0" rotation="0 0 0"
  animation="property: rotation; to: 0 360 0; easing: linear; loop: true; dur: 40000">
  <a-sphere position="0 0 -5" radius="1.2" color="orange"></a-sphere>
</a-entity>

<!--Saturn-->
<a-entity position="0 0 0" rotation="0 0 0"
  animation="property: rotation; to: 0 360 0; easing: linear; loop: true; dur: 45000">
  <a-sphere position="11 0 -5" radius="0.9" color="cyan"></a-sphere>
</a-entity>

<!--Uranus-->
<a-entity position="0 0 0" rotation="0 0 0"
  animation="property: rotation; to: 0 360 0; easing: linear; loop: true; dur: 50000">
  <a-sphere position="13 0 -5" radius="0.6" color="coral"></a-sphere>
</a-entity>

<!--Neptune-->
<a-entity position="0 0 0" rotation="0 0 0"
  animation="property: rotation; to: 0 360 0; easing: linear; loop: true; dur: 55000">
  <a-sphere position="8 0 -5" radius="0.2" color="purple"></a-sphere>
```



We were able to revolve all the planets around the Sun using an animation component.

What's NEXT?

In the next class, we will be learning how to add texture to the planets and the Sun. We learned about parent/child entities.

EXTEND YOUR KNOWLEDGE:

You can refer to the below link for more information.

<https://aframe.io/docs/1.1.0/introduction/>

WhiteHat Jr + WhiteHat Jr + WhiteHat Jr