



Objetivo:

Usar o elemento <Canvas> com animação

Conceitos:

- Canvas
- Contexto canvas
- Animação

```
1 <!DOCTYPE html>
2 <html>
3
4 <head>
5 <meta content="text/html; charset=utf-8" http-equiv="Content-Type">
6   <title>Sistema Terra Lua</title>
7
8   <script>
9
10     var sun = new Image();
11     var moon = new Image();
12     var earth = new Image();
13
14     function init(){
15         sun.src = 'img/Canvas_sun.png';
16         moon.src = 'img/Canvas_moon.png';
17         earth.src = 'img/Canvas_earth.png';
18         setInterval(draw,100);
19     }
20
21     function draw() {
22         var ctx = document.getElementById('canvasTerraLua').getContext('2d');
23
24         ctx.globalCompositeOperation = 'destination-over';
25         ctx.clearRect(0,0,300,300); // limpa canvas
26
27         ctx.fillStyle = 'rgba(0,0,0,0.4)';
28
29         ctx.strokeStyle = 'rgba(0,153,255,0.4)';
30         ctx.save();
31         ctx.translate(150,150);
32
33         // Terra
34         var time = new Date();
35         ctx.rotate( ((2*Math.PI)/60)*time.getSeconds() + ((2*Math.PI)/60000)*time.getMilliseconds() );
36         ctx.translate(105,0);
37         ctx.fillRect(0,-12,50,24); // sombra
38         ctx.drawImage(earth,-12,-12);
39
40         // Lua
41         ctx.save();
42         ctx.rotate( ((2*Math.PI)/6)*time.getSeconds() + ((2*Math.PI)/6000)*time.getMilliseconds() );
43         ctx.translate(0,28.5);
44         ctx.drawImage(moon,-3.5,-3.5);
45         ctx.restore();
46
47         ctx.beginPath();
48         ctx.arc(150,150,105,0,Math.PI*2,false); // orbita da terra
49         ctx.stroke();
50
51         ctx.drawImage(sun,0,0,300,300);
52     }
53
54   </script>
55 </head>
56
57 <body onload="init()">
58
59   <canvas id="canvasTerraLua" width="300" height="300"></canvas>
60
61 </body>
62
63 </html>
```