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TP1 Assignment

Git url: https://github.com/yourname/tp01

Ex01. Runaway button

```html
1   <!DOCTYPE html>
2   <html lang="en">
3
4   <head>
5     <meta charset="UTF-8">
6     <meta http-equiv="X-UA-Compatible" content="IE=edge">
7     <meta name="viewport" content="width=device-width, initial-scale=1.0">
8     <title>Document</title>
9     <script src="https://cdn.tailwindcss.com"></script>
10    <script src="tween.umd.js"></script>
11  </head>
12
13  <body>
14    <div class="m-auto w-[500px] h-[500px] bg-red-400 ">
15      <button id="btn" class="px-2 w-[100px] bg-green-400 text-sm">Catch
        Me if you can</button>
16    </div>
17  </body>
18
19  <script>
20    let btnEle = document.getElementById('btn');
21
22    let currCoords = { x: 0, y: 0 };
23    btnEle.addEventListener("mouseover", () => {
24      let coords = currCoords; // start coordination
25      const nextPos = generateNextPos();
26      const tween = new TWEEN.Tween(coords)
27        .to(nextPos, 500) // end coordination
28        .easing(TWEEN.Easing.Quadratic.Out)
29        .onUpdate(() => {
30          btnEle.style.setProperty('transform', `translate(${coords.x}px,
          ${coords.y}px)`);
31          currCoords = { x: coords.x, y: coords.y };
32        })
```
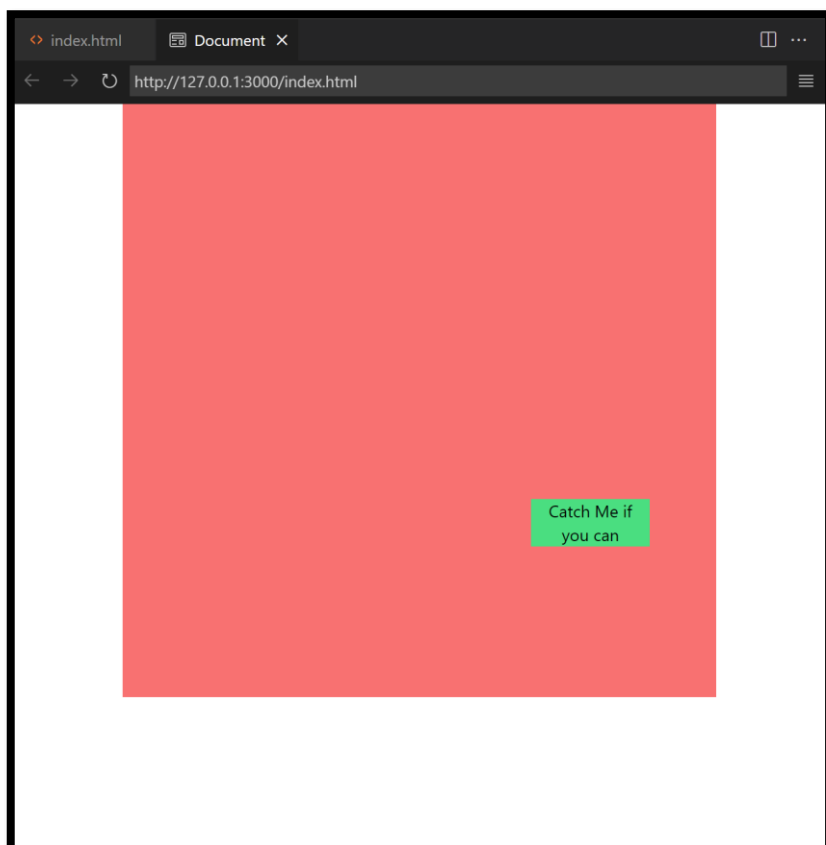
```
29          .onUpdate(() => {
30            btnEle.style.setProperty('transform', `translate(${coords.x}px,
              ${coords.y}px)`);
31            currCoords = { x: coords.x, y: coords.y };
32          })
33          .start()
34      });
35
36      function generateNextPos() {
37
38        const xmax = 400, xmin = 0;
39        const ymax = 400, ymin = 0;
40
41        const newX = Math.floor(Math.random() * (xmax - xmin)) + xmin;
42        const newY = Math.floor(Math.random() * (ymax - ymin)) + ymin;
43
44        if (Math.sqrt(Math.pow(newX - currCoords.x) + Math.pow(newY -
            currCoords.y)) <= 100) {
45          return generateNextPos();
46        }
47
48        return { x: newX, y: newY };
49      }
50
51      // Setup the animation loop.
52      function animate(time) {
53        requestAnimationFrame(animate)
54        TWEEN.update(time)
55      }
56      requestAnimationFrame(animate);
57
```

Output:

Ex02. Multi-Projection

```html
index.html ✕

index.html > html > script
1    <!DOCTYPE html>
2    <html lang="en">
3
4    <head>
5      <meta charset="UTF-8">
6      <meta http-equiv="X-UA-Compatible" content="IE=edge">
7      <meta name="viewport" content="width=device-width,
         initial-scale=1.0">
8      <title>Ex2</title>
9    </head>
10   > <style>···
28   </style>
29
30   <body>
31     <div class="wrapper">
32       <canvas id="viewport" width="640" height="480">
33       </canvas>
34       <br />
35       <span>Canvas 👻: Please show your face on me</span>
36       <br />
37       <button id="play-btn" onclick="onOpenWebcame()">Play</
         button>
38     </div>
39   </body>
40   <script>
41     const canvas = document.querySelector('canvas');
42     var video = document.createElement('video');
43     video.autoplay = true;
44     video.playsInline = true;
45     let playing = false;
46
47     function onOpenWebcame() {
48       playing = !playing;
49       canvas.width = video.videoWidth;
```

```
58
59        document.querySelector('#play-btn').innerHTML = playing ?
          'Pause' : 'Play';
60
61      }
62
63      function handleSuccess(stream) {
64        // window.stream = stream; // make stream available to
          browser console
65        video.srcObject = stream;
66      }
67
68      function handleError(error) {
69        console.log('navigator.MediaDevices.getUserMedia error: ',
          error.message, error.name);
70      }
71
72      /**
73       * Access camera
74       **/
75      navigator.mediaDevices.getUserMedia({
76        audio: false,
77        video: true
78      }).then(handleSuccess).catch(handleError);
79
80
81    </script>
82
```

Output:

Canvas 🐧: Please show your face on me

[Pause]