BEACH

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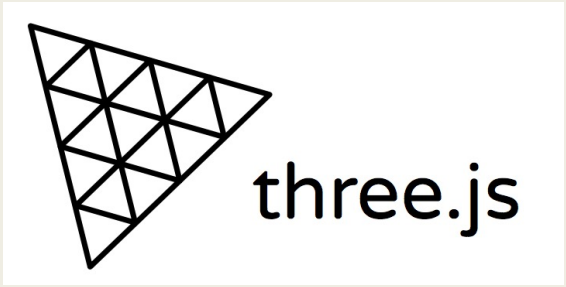
Introdução à Computação Gráfica – 2021/2022 – Projeto 2

Ideias principais

- Praia
- Ondas
- Texturas
- Interação com o Utilizador

Ideias Principais

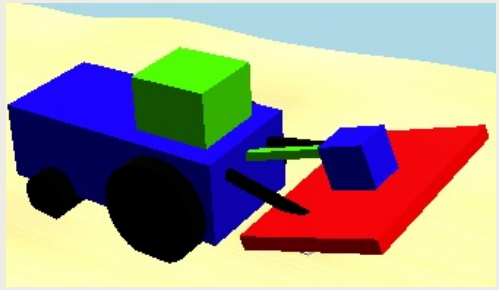
- Three.js
- GLB files
- Gestaltor
- Deployment



https://thescorpoi.github.io/icg-beach/

Água

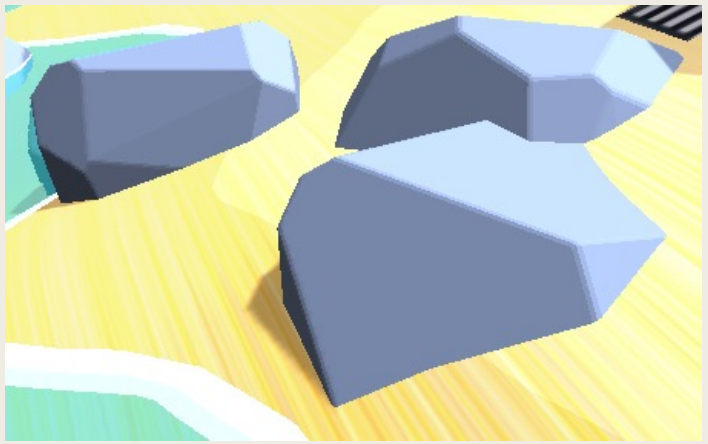
Areia

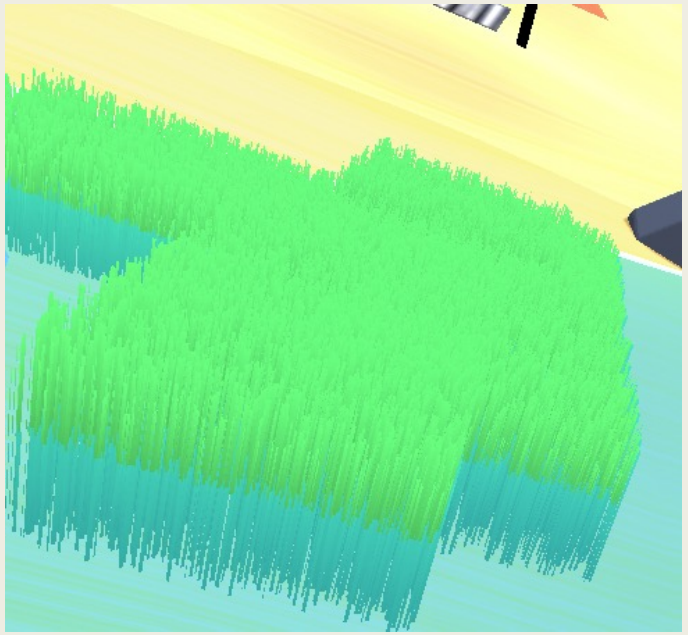


Trator

Peixes

MODELOS



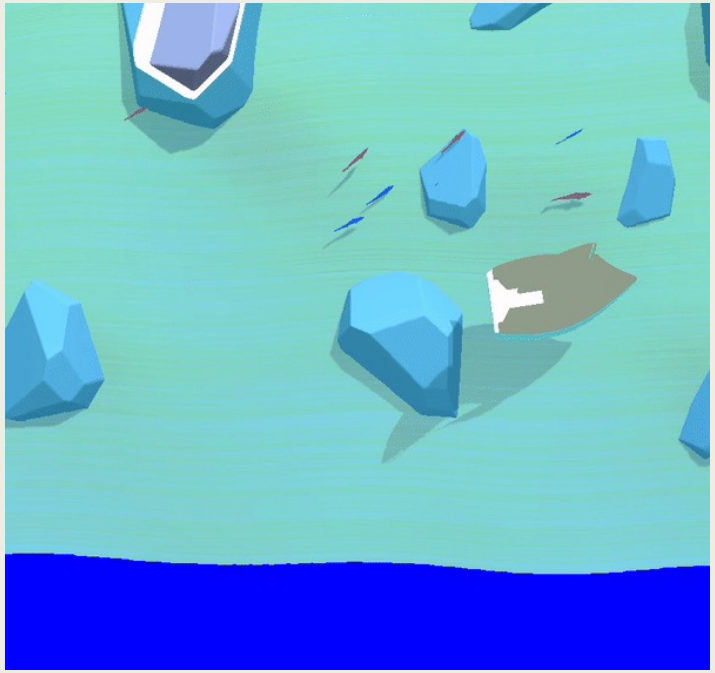


Modelos

- Barco
- Rochas
- Corais
- Guarda sol

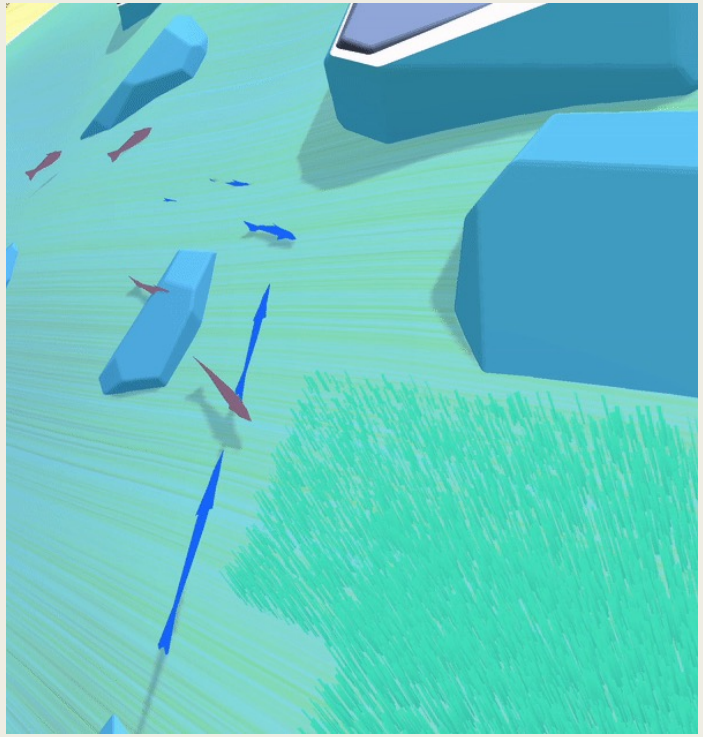
Animações

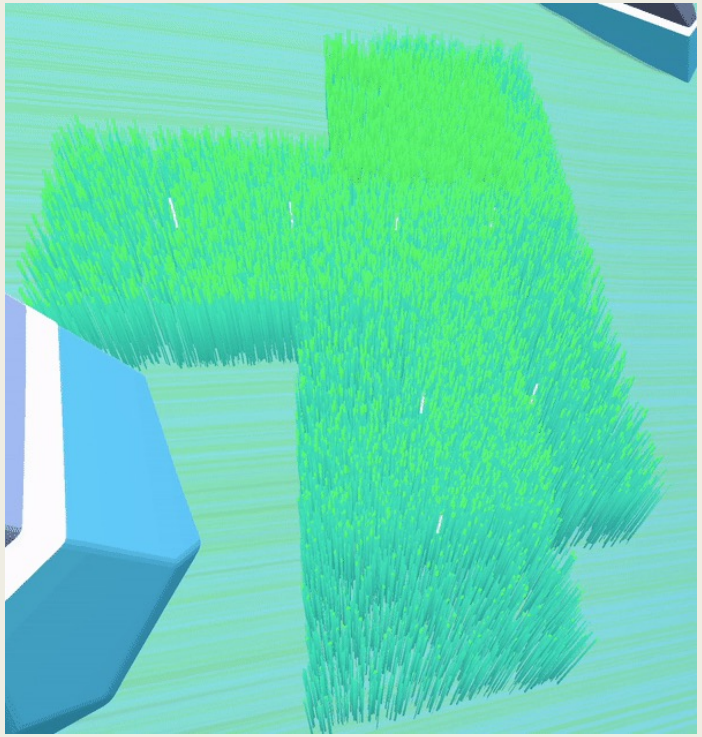
- Movimentação da àgua
- Criação de ondas



Animações

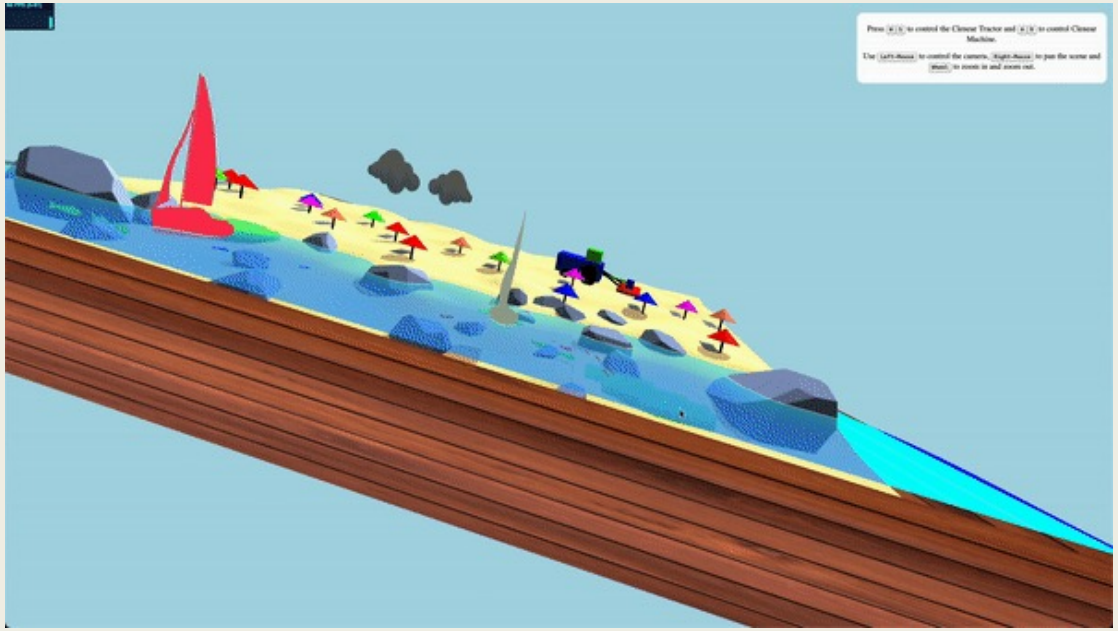
- Peixes
- Corais

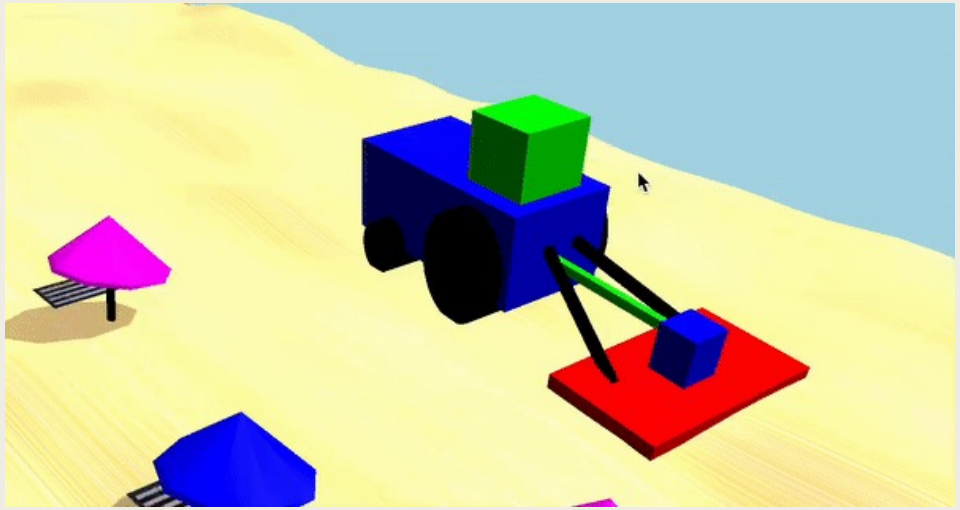




Animações

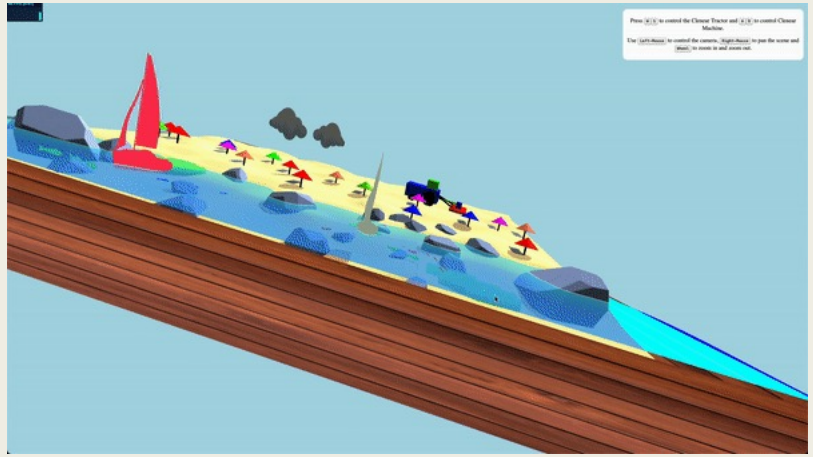
- Trator
- Câmara

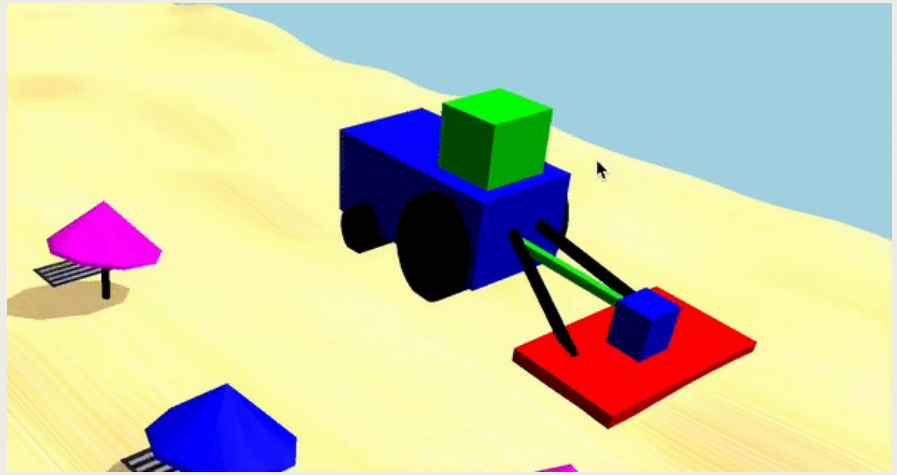




Interação com o Utilizador

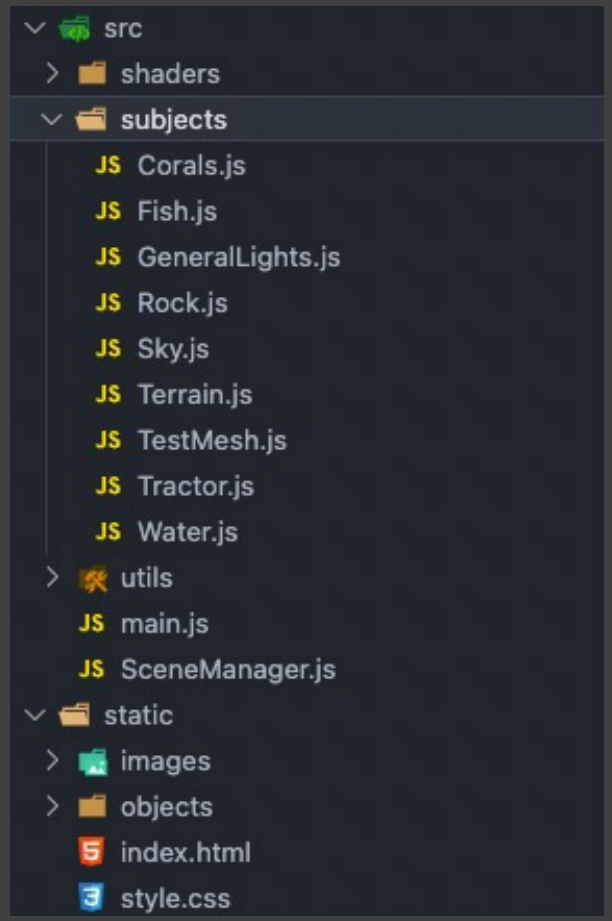
- Mudança da vista da scene, usando o rato, graças ao TrackBall Controls.
- Através do teclado (WS) para movimentar o Trator, e (AD) para elevar ou descer a alfaia.





Desenvolvimento

- Organização de Código




```
function SceneManager(canvas) {
  const clock = new THREE.Clock();

  const stats = Stats()
  document.body.appendChild(stats.dom)

  const screenDimensions = {
    width: canvas.width,
    height: canvas.height,
  };

  const DPR = (window.devicePixelRatio) ? Math.min(window.devicePixelRatio, 2) : 1;
  //const DPR = 2;

  const camParams = {
    default: [100, 100, 100],
    range: [200, 200],
    lookat: [10, 0, 100],
  };

  const terrainDimensions = [330, 250];

  const  const bufferScene: THREE.Scene
  const bufferScene = buildScene();
  bufferScene.background = new THREE.Color('#add8e6');
  const renderer = buildRender(screenDimensions);
  const camera = buildCamera(screenDimensions);
  const sceneSubjects = createSceneSubjects(scene, camera);
  const {colorTarget, depthTarget} = createTargets();
```

```
  const loader = new GLTFLoader();
  loader.load( 'objects/rock_03.glb', function( gltf ) {
    const mesh = gltf.scene.children[0];

    mesh.material = new THREE.MeshPhongMaterial({
      flatShading: true,
      color: 0x7787aa,
      shininess: 0,
    });

    mesh.castShadow = true;
    mesh.receiveShadow = true;

    addToScene(mesh, [20, -5.5, 33], [0, 0, 3], 9);
    addToScene(mesh, [5, -2.2, 3], [3, 0, 0], 7);
```

Desenvolvimento

- Problemas e Dificuldades
  - *Fazer a movimentação da àgua*

Referências

- https://sbcode.net/threejs/gltf-animations-transform/
- https://jsfiddle.net/felixmariotto/hvrg721n/
- https://codepen.io/seanseansean/pen/ReMvxV
- Material fornecido pelo Docente nas aulas