E-fólio B | Instructions for resolução do E-fólio

Computer Graphics | 21020

Period of realization

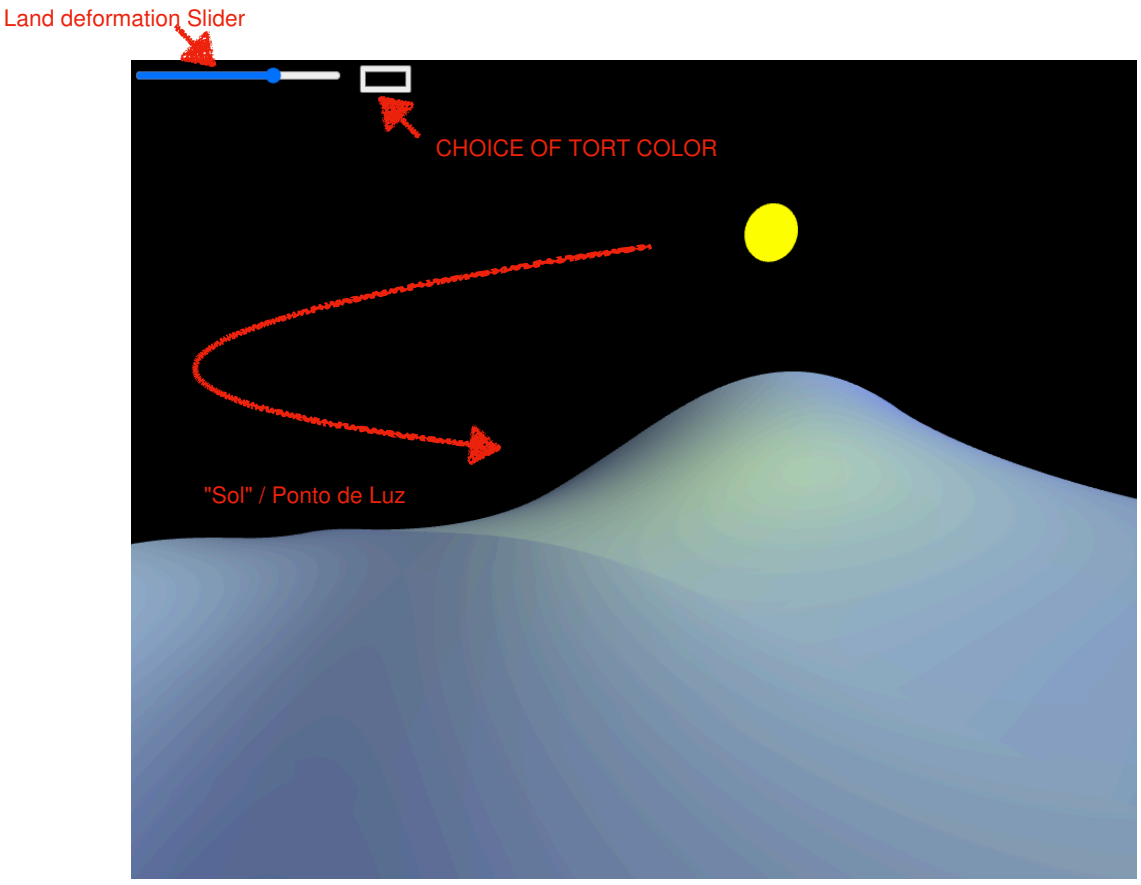
Runs from December 15, 2022 to January 8, 2023

Delivery Limit Date

January 8, 2023, until 23:55 from mainland Portugal

Work to develop:

The student is asked to develop in Three.js a land generation system that allow the user to change the height map and color of it, while a point of Lighting works like a rotating sun around the map. The goal is to bring the Figure below, eventually with enough graphic improvements:



Unlike the previous efoil, it does not require a very absolute specification in the as they develop work, there is a lot of breadth for diversified solutions, but the evaluation is done in a very pragmatic way, according to success in the development of what is requested in the following criteria:

Criterion / objective	Value
Modular development, with presentation of an html fi smal, with css fi s, a MAIN.JS and 6 MJS MJS: TERRAINGegeneration; TeriCustomization; Uicontrols; rendering; SKYSPHERE, Addons (the latter may be empty if they do not add any functionality	0.2
Existence of a yellow sphere in the sky, rotating through the convenient plan, illuminating the terrain below.	0.4
"S" key allows for pause/continuation of the trajectory of the sphere through the sky.	0.2
Creation of a terrain map with Perlin Noise in the Teroingeneration module. The terrain should have a consistent deformation with sensible geometries for the purpose (i.e. vertices do not far exceed the height of the screen, consecutive vertices with heights excessively display, etc.).	0.6
Slider that allows a change in the map of heights in a flower shape.	0.4
"R" key allows you to reset the original land	0.2
"A" key allows randomize the map of heights for a new geometry	0.2
UI control for functional land color change	0.2
Code commented properly	0.2
Report with explanation of development and options taken (maximum 2 pages A4, source 10, simple spacing).	0.0- 0.4
Delivery of all fi litches by compressing them in a single zip omen, adopting the following Format: .zip.	0.2

The criteria itself total only 3.2 of the 4.0 values. The remaining 0.8 values are reserved for creative options/techniques that show mastery of knowledge in the areas addressed in this second half of the semester (the most useful for this type of project will be the area of lighting, viewports and geometric transformations, but eventually as it is a terrain simulation, they may want to explore beyond the matter and peek at some physics applications). In the report they should explain what they filed for In addition to the mandatory criteria, and why they have opted for these solutions.

Must load the aforementioned figure to the platform on the e-Folio B device up to date and time Delivery limit. Avoid delivery near the time limit to be careful against any problems.

Indicate if you detect any problem with the statement. How the work is individual, Use the personal email instead of the forums for any questions whose clarification can

give clues unfit to your colleagues (in doubt, assume it is the case): Pedro.pestana@uab.pt (Do not use private message on the platform, it is less philable)

The page should run flowed from an index.html fi tiler located in Base directory of your work.

The end to send should not exceed 8 MB.

One of these modules will have in turn that I import Three.js from CDN, from the following form: import * as THREE from 'https://unpkg.com/three@0.124.0/build/three.module.js';

As usual, the essential (eliminatory) requirement: the program has to be ready to run, without changes or broken dependencies, following the norms established above for interfaces and objects. (Two suggestions to mitigate this Danger: test a computer other than development before shipping; double Security Send a short screen capture video that shows local operation - If the program does not run there will be penalty anyway, but with the video does not it will be an eliminatory issue).

Votes of good work! Pedro Pestana and António Araújo