TÉCNICO LISBOA

AVT 2018/19

Assignment 3

The evaluation of this assignment's tasks as well as the tasks of Exercise 7 will be held in **12nd December** and corresponds to **6 points (30%)** of the total grade. The required tasks are listed below.

Tasks

The development of Micromachines application in WebGL/Three.js on a PC computer (tasks of Exercise 7) will be evaluated with **16 points**: cameras (1 pt), objects' movement (1 pt), lights (2 pts), textures (1.5 pts), collision detection (1.5 pts), scoring system (1 pt), fog (1 pt), planar reflections (1 pt), planar shadows (1 pt), billboard (1 pt), lens flare (1.5 pts), particle system (1.5 pts) and bump-mapping (1 pt).

The tasks of this assignment are:

1. To implement on a mobile phone, an animation based on a pre-defined camera path associated with the car and allow a "side-by-side" stereo viewing **[3 points]** with Google Cardboard;
2. The camera orientation should be changed according to events from the mobile direction of a sensor (gyroscope and/or accelerometer) **[1 point].**

The following links are suggested to implement this assignment:

- Google Cardboard (includes list of supported equipment)
  - https://cardboard.withgoogle.com/
  - Download WebGL code at
  - http://vr.chromeexperiments.com/example.html

- Mobile sensors support
  - http://mobiforge.com/design-development/sense-and-sensor-bility-access-mobile-device-sensors-with-javascript

    http://w3c.github.io/deviceorientation/spec-source-orientation.html#usecases

    http://www.w3.org/TR/screen-orientation/

    http://mobilehtml5.org

Notes

1. Students must upload their source files in the Fénix System at the end of the lab class and deliver by email a technical report of 4 pages at most, and a Making Off video till 19th of December.