Interactive Graphics

Homework 2

Online Thursday May 9th, 2019
Deadline: Sunday **June 2nd, 2019 (11.59pm, Rome time zone)**

Tasks to do

The homework must be completed alone. Each student should do its own homework. Start by creating your own repository in the GitHub Classroom of the course by clicking on this link https://classroom.github.com/a/boR_tDJ2 , please enter the **email you used to register in Piazza.** If you are not registered in Piazza https://piazza.com/uniroma1.it/spring2019/1044398/home please register and then post a message on Piazza with your email saying you cannot register in GitHub Classroom. After registering in GitHub Classroom, you should already have the needed files, otherwise you can clone or download them from this repository https://github.com/marcoschaerf/hw2 which contains the files needed for the homework. Please **do not change the names of the files**, you only need to modify their content.

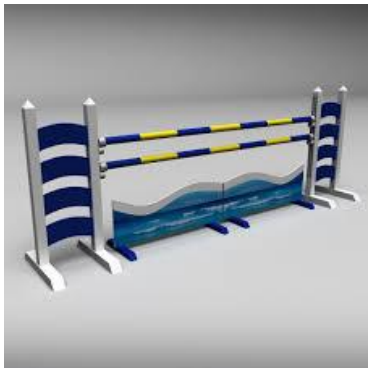
You need to modify the files so to obtain the following effects:

1. Create a hierarchical model of a (simplified) horse, composed of the following parts;
    a. body
    b. 4 legs, each one composed of 2 independent components (upper and lower leg)
    c. head
    d. tail

    All components are cubes, use the cube function present in the file

2. Add a procedural texture to the body of the horse. The texture should be a checkerboard pattern but with a linear decrease of intensity from the front to the back of the body. Use, as a reference, textureCube4 of Chapter 7 of the examples of the textbook. Notice however that you should not apply a sinusoid but a linear decrease in the direction of the tail.

3. Create a (very simplified) model of a jump obstacle made with cubes. Use, as a reference, one of the following images (your version can be much simpler):



4. Add a button that starts an animation of the horse so that, starting from an initial position where it is standing and positioned along the x axis, it walks by moving (alternatively back and forth) the legs, then jumps above the obstacle and lands after it.

Describe your solution in a short document (2-3) describing your solution, the document should include a brief description of the techniques used, the advantages and disadvantages of the proposed solution, the features of your solution. Describe your solution in a short PDF document (2-3 pages) describing the

techniques used, the advantages and disadvantages of the proposed solution and the features of your solution.

How to submit the homework

All homeworks MUST be uploaded to the **GitHub Classroom** of this assignment (NOT ON YOUR PERSONAL GitHub) https://classroom.github.com/a/boR_tDJ2 , including the **documentation**.

Don't post solutions on Piazza. Use Piazza only for questions and clarifications. Do not ask for clarifications or comments by email, use only Piazza