

# Interactive Graphics

## Homework 2

Online May 10th, 2018

Deadline: **June 3rd, 2018 (11.59pm, Rome time zone)**

### Tasks to do

The homeworks must be completed alone. Each student should do its own homework. Download the file Homework2.zip from the course homepage in Piazza

<https://piazza.com/uniroma1.it/spring2018/1044398/home>

After unzipping you will find this file, and 2 directories, one (Common) contains the required libraries, and one contains the files to modify (Homework2.html and Homework2.js). These are the files of example **figure** of Chapter 9 of the examples of the textbook, these are meant only as an example, not a starting point. You need to modify the files deleting all the sliders and completely replacing the figure present in the file with the new one described below. The tasks you need to complete are.

1. Create a hierarchical model of a (simplified) dog, composed of the following parts;
  - a. body
  - b. 4 legs, each one composed of 2 independent components (upper and lower leg)
  - c. head
  - d. tailAll components are cubes, use the cube function present in the file
2. Add a procedural texture to the body of the dog. 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. Add a button that starts an animation of the dog so that, starting from an initial position where it is standing and positioned along the x axis, it walks to the right by moving (alternatively back and forth) the legs and turns the head in the direction of the viewer.

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. This file should be submitted in PDF format and its name should be student ID number (numero di matricola). If you do not have a Sapienza student ID number, use your last name.

### How to submit the homework

After you finish completing all the tasks, create a zip file CONTAINING ONLY THE TWO SOLUTION FILES WITH THE ORIGINAL NAME (Homework2.html and Homework2.js) AND THE PDF DOCUMENT (<student\_ID\_number>.pdf), do NOT include the Common directory and this file. The name of the zip file should again be your student ID number (numero di matricola). If you have a uniroma1.it email account please fill in this form (requires logging in your uniroma1.it email account):

<https://goo.gl/forms/E7pOKc83wdqe755N2>

and upload there the zip file (STRONGLY PREFERRED SOLUTION). Otherwise, put it in any other sharing website and send me ([marco.schaerf@uniroma1.it](mailto:marco.schaerf@uniroma1.it)) the link. As a last resort, send me the zip file as an attachment in email. **Don't post solutions on Piazza.** Use Piazza only for questions and clarifications.