Centre adscrit a: UNIVERSITAT DE BARCELONA

ESCOLA DE NOVES TECNOLOGIES INTERACTIVES

Practical Assignment 4 - Fluid simulation

The main objective is to implement a basic fluid simulation. We will restrict the kind of simulation to one of the common ones used in videogames: Gerstner waves. To make things more interesting, couple the fluid simulation with an sphere. The sphere should fall from a height and sink or float depending on its mass.

Make the simulation restart every 20 seconds.

The framerate is already fixed to 30fps, so each frame should simulate 33.3ms.

1. Create the fluid simulation. (6pt)
   Use the Gerstner Wave approach.
   You may use the ClothMesh primitive to render the mesh of surface of the fluid.

2. Use the sphere primitive as a buoyant object. (4pt)
   Make the sphere mass tweakable from the GUI to allow different buoyancy forces to be computed or randomize the mass between restarts.

As part of the deliverable, write a short document (max. 2 pages) explaining your design and implementation decisions.