Create a 3D scene containing the following:

- A textured uneven ground surface generated from a heightmap image. The ground should be broken up into a number of equally-sized meshes of suitable size (i.e., it should not be generated using only a single mesh).
- 100 (at least) textured houses, trees or other static objects, located on the ground surface. You should use at least 2 different textures for your objects (e.g. 2 different kinds of houses). The objects should vary in size and be distributed (deterministically or randomly) across the surface.
- A graphical model created by you, using vertices (VertexPositionNormalTexture), i.e., not imported through the content pipeline. This model can be of a fairly simple variety (e.g. a simple humanoid figure), but must (a) be textured, (b) be created hierarchically using a suitable data structure or class/object hierarchy, and (c) move along the ground surface of the scene with some simple animation.

Functionality:

- The model should be controlled using the keyboard and/or mouse, with a third-person chase-camera. The model should follow the height differences of the ground created by the heightmap.
- Each static object in the scene (including the mesh segments) should be connected to a BoundingBox (or BoundingSphere) that encapsulates the entire object.
- Use the camera's BoundingFrustum (or a BoundingSphere) together with the objects' BoundingBoxes/BoundingSpheres to perform software culling, i.e., no draw calls should be made for objects that are completely outside of the camera's view.
- You should use vertex buffers to upload your model to the graphics card for best performance. Use symbols and instances where possible—don't create multiple models (e.g., for the static objects) unless it's absolutely required.
- Your program should follow object oriented principles!

Formalities:

- Your solution for this assignment may build upon your solution for assignment 1.
- Work in the same groups as in assignment 1.
- See Kronox for examination date.