



3D GAME

Background:

Students received this assignment after practical sessions where they have already implemented rendering and animation of triangle mesh models, and also complete a 2D Asteroids game earlier in the semester. They had to combine the game architecture elements with 3D graphics, with more complex control and animation challenges.

The assignment text was as follows:

Write a 3D third-person-view game with OpenGL. The game should be one of the following, or implement comparable functionality:

- fly the airplane
- fly the helicopter
- drive around a wheeled vehicle

Multiple rotating parts on the vehicle are required (e.g. airscrews, rotors, wheels).

The user should be able to control the vehicle with the keyboard and/or the mouse. The camera should follow the vehicle, looking down at it from above. There should be textured -- even if flat -- terrain underneath. Some blimps or balloons should hover in the skies and some critters should be in the fields. If the vehicle hits them, something should happen -- the game ends, the game restarts, the screen blinks red, the player loses a life, the vehicle takes damage, its speed, maneuverability, weapon is upgraded, etc.

See game-[demo.mov](#) and [emmaplane2.avi](#) for examples of submitted homeworks.