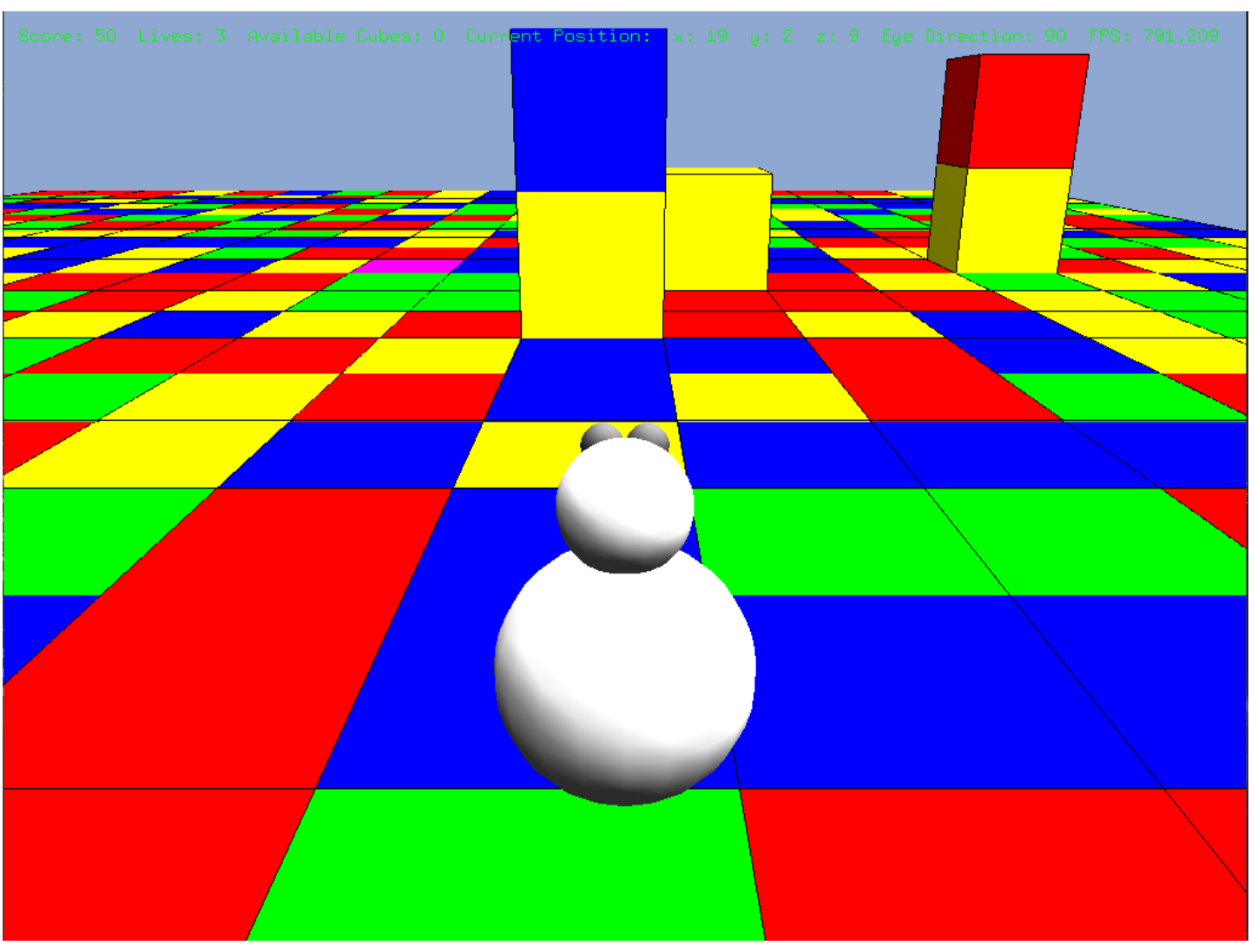
3DMinecraft

A 3D minecraft-type game using OpenGl library implemented in C++.

This game was developed as the first assignment for the undergraduate couse Computer Graphics and Interactive Systems of the Department of Computer Science and Engineering at the University of Ioannina.



Student information

Fotios Mitropoulos 2486

Programming Structure.

- Cube struct holding cube information.
- Camera class with public methods for each function.
- 3d Array holding cube struct objects.

Functionalities.

- Rotating first person camera mode.
- Orbiting 3d person camera mode.
- Zoom in zoom with mouse wheel.
- Multiple lightning modes.

Rules

Rules can be found here.

Installation.

This game was developed in Microsoft VisualStudio Community 2015 v.14.0.25431.01 and is also full compatible with Unix-based or Linux-based systems.

In order to run and play the game, OpenGl libraries are necessary. In Ubuntu 16.04LTS you will need to follow the next steps.

1. sudo apt-get install build-essential
2. sudo apt-get install freeglut3 freeglut3-dev
3. Download the library from http://www.rpmseek.com/rpm-pl/libglui2c2.html?hl=com&cs=libgcc1:RE:0:0:0:0:2420 according to your system. Run sudo apt-get -f install. Then run sudo dpkg -i .

How to compile & run.

You have to compile all source files and an executable file "Assignment1.out" will be created. Make sure that the working directory is the project's directory and run the following commands:

1. make
2. ./Assignment1.out

How to play.

Keyboard functions.

- Esc : exit program
- a : move forwards
- s : move backwards

- a : rotate camera counter-clockwise
- d : rotate camera clockwise
- q : destroy the cube in front
- e : destroy all cubes in Y-axis in front
- r : drop cubes
- spacebar : increase cube reserve by 1
- switch lightning : cycle lightning mode (none - spotlight - flashlight)
- switch camera : cycle camera mode (fps - 3d person shooter)

Mouse functions. (In order to change the default mouse functions you should modify the main.h file on Mouse Parameters section and set the values of your choise)

- Horizontal Move Right : rotate camera clockwise
- Horizontal Move Left : rotate camera counter-clockwise
- Mouse wheel up : zoom in
- Mouse wheel down : zoom out
- Left Click : add cube in front
- Right Click : cick cube

Contact

Feel free to contact me for any reason.

- Personal email : fotismitropoulos@gmail.com
- Academic email : cse32486@cs.uoi.gr