



Lyubomir Kostadinov

👤 Profile

Third year student interested in the field of computer graphics, I have knowledge and experience in C/C++ and the Agile methodologies. So far, during my study in university I have worked on different projects, some of which include: Descent Raytraced, rougelike game with custom game engine, simple ray tracer, strategy game on raspberry pi 4 with 3D graphics using openGL es 3, game engine with 3D graphics using DirectX 12, and small demo game with Unreal Engine.

🎓 Education

Bachelor Creative Media and Game Technologies (programming track), Breda University of Applied Science, Breda, the Netherlands
September 2020 — Present

Secondary School, Sofia High School of Mathematics (SMG), Sofia, Bulgaria
September 2015 — May 2020

★ Projects

Descent Raytraced - year 3 project

<https://youtu.be/wCGnQoakOWc>

During my third year in university I worked on Descent Raytraced. The purpose of the project was to rewrite the graphics of the old game Descent to be using ray tracing. For this project we used DirectX Raytracing API. I worked on creating the DirectX renderer, implementing the path tracing algorithm and the physically based rendering.

Rougelike game - year 2 project

https://youtu.be/xErvTAX_Lc8

In the second year in university I worked on a game with a group with other programmers to create a game, using custom game engine built in C++ and DirectX 12. The game runs both on Windows and PlayStation 4. For this I worked mostly on implementing the UI elements functionality.

Game engine - year 2 project

https://youtu.be/mJh2_gTslok

I worked on this project in a group of 4 people, the engine is developed in C++, DirectX 12 for windows graphics and GNMx for PlayStation 4 graphics. The engine provides demo game which runs both on windows and PlayStation 4. For this project I worked on the graphics implementation on windows using DirectX 12. The renderer contains model loading, texture management, directional lights and post-processing pipeline.

Details

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IT Technologies

C/C++, DirectX, OpenGL

Helix Visual Client(P4V)

GitHub

Unreal Engine

Jira

Languages

English

Bulgarian

Hobbies

Sound Design, Drawing.

3D OpenGL - side project

<https://github.com/lubokostadinov/3DOpenGL.git>

<https://youtu.be/DDv-jmcb5X4>

The program contains model loading (OBJ format), materials with textures, instanced rendering and point lights. For this project I used C++ and OpenGL.

Simple Ray Tracer - year 1 project

<https://github.com/lubokostadinov/RayTracer-Project.git>

The program outputs ray traced image, which contains a plane and spheres with diffuse shading and reflection. For this project I used my own math library and implemented unit tests for vector operations.. The project is built in C++ and uses SFML (Library) to draw the pixels.

Empires - year 1 project

<https://youtu.be/T96Bzpo98Is>

Strategy game on raspberry pi 4 built with C++ and openGL es 3. The game generates a galaxy and gives each player a home planet. The goal of the game is to gather resources, craft space ships and conquer the enemy planets. The game contains GUI made with ImGui, 3D models (OBJ format), Instanced rendering and post-processing effects.

Snackbar Showdown - year 1 project

<https://buas.itch.io/snackbarshowdown>

During my first year at university we had to work in a group project and release a game, using Unreal Engine. For this game I worked on the Player movement mechanics, his health system, the collectible items and the inventory system.

★ Strengths

Dedicated

In school I played volleyball for 7 years, almost never skipped training and learned to always give my best every day.

Curious

I was always interested in reading and learning how certain things work. Recently I was fascinated when I learned how computers produce sound and read a whole book on this topic and even tested some techniques in synthesizing my own sounds.