

Juan Camilo Escobar

moskatero@gmail.com | www.moskatero.org

SKILLS

- 5+ Years of programming experience.
- Proficient in OOP and component based architecture.
- Familiar with Agile software development.
- Software
 - Proficient in Visual Studio.
 - Proficient but rusty in Eclipse.
 - Familiar with Unreal Engine, Unity Engine.
 - Familiar with Maya, Photoshop.
- Programming Languages
 - Proficient in C/C++/C#
 - Proficient but rusty in Java.
 - Familiar with SQL, Lua, Assembler
 - Familiar but rusty in ActionScript.

PROJECT EXPERIENCE

- Model Voxelization
 - Created a voxel based module for my game engine be used as a tool or a game mechanic.
 - Implemented the Voxelization of models already existing within the engine.
 - Implemented the conversion of voxel data to vertex and mesh data for rendering.
 - Optimized the rendering of voxel grids.
 - Only the shell of the object is created as mesh data.
- Voxel grids subdivided to avoid having to recreate the whole mesh when a voxel is activated or deactivated. Custom C++ 3D game engine
 - Using modular software development developed a functional 3D game engine.
 - Used DirectX 11 as the graphics library with HLSL Shaders.
 - Created wrapper classes DirectX to hide it away from the user and allow for future implementation of multiplatform code with OpenGL.
 - Bump mapping.
 - Post processing.
 - Implemented game objects following Entity Component System architecture.
 - Created templated memory pools using block allocator.
 - Created templated resource managers using shared pointers.
 - Added an AI component with grid based pathfinding.
 - DFS, BFS, Dijkstra and A*.
 - Upgraded the math library used in the software rasterizer.
 - Added Quaternion based rotations and improved.
 - Implemented a Meta system to selectively handle runtime code information.
- Software rasterizer pipeline
 - Learned the core level of how 3D graphics work without libraries or GPU optimizations.
 - Created a basic math library in C++ to handle geometry and transformations.
 - Implemented an optimized linear interpolation function for line and triangle drawing.
 - Added support of a custom z-buffer and culling.
 - Used Phong shading to handle lighting.
- Oculus Rift Unreal Engine Game
 - 9 months development cycle using Scrum.
 - Team consisting of 2 programmers, 4 game designers and 3 artists.

- Used both C++ and Blueprints(visual scripting) in Unreal Engine.
- Created a light detection stealth system by reverse engineering the math behind directional, point and spotlights hitting the character model at any given time.
- Created the AI for the two main NPCs using UE behavior trees.

EDUCATION

July 2014 - March 2016

Art Institute of Vancouver - *Visual and Game Programming*

- Deeply focused on C++ geared towards game development.
 - Implemented low level socket networking, for TCP and UDP. Created a thread safe queue and deque data structures.
 - Implemented the core basics of AI.
 - Grid based pathfinding using DFS, BFS, Dijkstra and A*.
 - Steering behaviors in 2D and later implemented them in 3D space.
 - Goal driven behavior for AI actors.
 - 3D graphics for games.
- Data compression (RLE, Huffman).

June 2009 - June 2014 (Withdrawn)

Universidad Los Andes, Bogota Colombia - *Systems Engineering*

- Relevant Courses
 - Structural Math and Algorithm Design.
 - Data Structures.
 - Object oriented programming I, II in Java
 - Differential and Integral Calculus.
 - Physics (Theory and practice).
 - Fundamentals of technology (Assembler, Data encryption)

WORK EXPERIENCE

July 2012- January 2013

Gammapeit Ltda, Bogota Colombia- *Software analyst*

- In charge of the testing, integration and documentation of the installation of different Oracle software on a RedHat server.

HOBBIES

- Videogames (RPG, RTS, FPS, Action/Adventure, roguelike, ARPG, JRPG... Pretty much all genres)
- Reading (Fantasy/sci-fi, manga, comics, webnovels)
- PnP Roleplaying (D&D, Vampire, Numenera)
- Global Game Jam.
- Playing guitar.
- Writing.