Matthew Schafer

: Toowoomba, QLD, Australia
: www.matty-o.dev
: lucidsigma17@gmail.com
: www.github.com/LucidSigma

Self-motivated individual with an interest for all software engineering – from embedded systems to computer graphics to application development to front end. Currently looking for first time employment.

Technical Skills

Languages

Compiled/JIT:	C, C++, Rust, C#, Java
Interpreted:	JavaScript, TypeScript, Python, Lua, PHP, Ruby
Functional:	F#, Haskell
Other:	HTML, CSS, Sass/SCSS, SQL, GLSL

Libraries/Frameworks

Games/graphics:	SDL, SFML, OpenGL, Vulkan, WebGL, OpenAL
Web:	jQuery, Node.js, Express.js, MongoDB/Mongoose, Ruby on Rails, Bootstrap, Semantic UI

Tools/Systems

Editors/IDEs:	Visual Studio, Visual Studio Code
Version control:	Git
Operating systems:	Windows, Linux (Ubuntu, Xubuntu, and Debian)

Projects

Full list of projects is available at my website (www.matty-o.dev/portfolio) or on my GitHub page (linked above).

WorldBuilder

GitHub: https://github.com/LucidSigma/worldbuilder Hosted at: https://young-waters-53007.herokuapp.com/
Developed a Node.js web application with user content. Users can create planets and add comments to created planets. Features a login authentication system to allow users to edit/delete their own planets/comments. All data is managed with a NoSQL database (MongoDB). Website is designed using RESTful routing.
Technologies used: Node.js + Express.js, MongoDB, HTML5/CSS3, JavaScript, Bootstrap 4, Particles.js

OpenGL Voxel Engine

GitHub: https://github.com/LucidSigma/Voxel-Engine
Developed a voxel engine application with chunk loading and block placing/breaking. Integrates a custom-made 3D camera and 3D positional audio system with OpenAL. Demonstrates understanding of 3D graphics, game engine architecture, linear algebra, and optimisation.
Technologies used: C++17, SDL2, OpenGL 4.6, GLSL 4.6, OpenAL 1.1

Vulkan Terrain Generator

GitHub: https://github.com/LucidSigma/vulkan-terrain-generator
Developed a 3D terrain generator with the Vulkan API (using simplex noise). Integrates a custom-made 3D camera and infinite procedural chunk loading/generation. Demonstrates an understanding of low-level computer graphics, game engine architecture, concurrency hardware/memory management, real-time diffuse lighting, and linear algebra.
Technologies used: C++17, SDL2, Vulkan 1.2, GLSL 4.5

Education

University of Southern Queensland Toowoomba, QLD 2017-2020
Major: Bachelor of Computer Science; graduated with distinction (GPA 6.54/7.00)
Minor: Applied Mathematics
Coursework: Programming, algorithms/data structures, embedded system design/development, operating systems, networking, web technology, algebra/calculus, differential equations, operational research.