

# Rachel Crawford

[rachelnertia@gmail.com](mailto:rachelnertia@gmail.com)

[rachelnertia.github.io](https://rachelnertia.github.io)

Mobile: (+44) 745 6917 471

## Education

2012-2016, Abertay University: **BSc (Hons) Computer Games Technology**. Expected: First.

## Technical Skills

**Languages:** C/C++, C#, HLSL, GLSL, Python, Java, Lua, ActionScript, HTML, CSS

**APIs and Libraries:** Direct3D 11, OpenGL 3.0 (fixed-function), SFML, Maya API (C++ and Python), Windows API, WinSock, XAudio2 and X3DAudio, FMOD Ex, C++ STL

**Development Tools:** Visual Studio, Maya, Unity, PhyreEngine, Game Maker, Flash, LOVE, Perforce, Mercurial, SVN, Git, FMOD Designer, GCC, MinGW, Make

## Projects

More details and projects can be found online at [rachelnertia.github.io/portfolio](https://rachelnertia.github.io/portfolio).

**AMPS – A Musical Platforming Symphony** (2015, Sony's PhyreEngine – PC and PS4)

**Role:** Engine/Audio Programmer

- 2D platformer in which parts of the level move with the music
- 3 programmers, 2 sound designers, 1 artist, 1 level designer
- Demoed to the public for 4 days at our own booth at the Dare Indie Showcase 2015
- Managing audio asset pipeline; FMOD Designer and FMOD Ex API; synchronisation of game objects with beat of the music; fast-forwarding and slowing down of music; collision detection and response; menu system.

**Procedural Walking** (2015, Autodesk Maya)

- Scripting and Dynamics coursework
- Used Maya C++ API to create a plugin to implement a system for walking a insect-like rig across any mesh; walker can traverse terrains, spheres, etc.

**Graphics Programming with Shaders coursework** (2014, DirectX 11 – PC)

- Creation of HLSL vertex, hull, domain, geometry, pixel and compute shaders
- Animated water surface demonstrating tessellation, reflection of cube-mapped sky, normal mapping, additive sine waves
- Compute shader implementation of 'Voxel Space' raycasting algorithm used to render convex terrains in early *Comanche* games and *Outcast*
- Geometry shader point-sprite expansion

**OpenGL coursework: terrain generation** (2013, OpenGL – PC)

- Fixed-function graphics pipeline programming
- Convex terrain generated with fractal Perlin noise

## Other Experience

Secretary, Abertay University LGBT+ Society (2014-2016)