CRAIG JEFFREY

⬢ **WEBSITE** craigjeffrey.net ⬢ **E-MAIL** craigjeffrey3@gmail.com
⬢ **MOBILE** 07955624135 ⬢ **LinkedIn** https://uk.linkedin.com/in/craig-j

Graduate C++ Programmer and Game Developer

Curious and open minded graduate looking for a new place to learn. My goal is to improve my programming skills, learn new skills and work on interesting problems in a friendly environment.

Skills

Languages:	**Competent: ⬢ C++ (4 years experience)** Basic: ⬢ C# ⬢ HLSL ⬢ MATLAB ⬢ Python ⬢ HTML/CSS/JavaScript
Dev Tools:	**Visual Studio, Git/GitHub,** Unity, CMake
Libraries/APIs:	**C++ Standard Library (including C++11),** Boost (filesystem), DirectX 11, OpenGL 3.0 (fixed-function), Windows API, XAudio2, WinSock, SFML, Box2D, RapidXML, dear imgui, aubio.
Miscellaneous:	3D rigging/skinning with Autodesk Maya, LaTeX with TeXstudio

Education

2012-2016, Abertay University: **BSc(Hons) Computer Games Technology. Achieved 2:1.**
Best module grades include: Network Programming (A+), Procedural Methods (A), Computer Operating Environments (A) and Applied Game Technology (A). Full list of grades available on my LinkedIn.

Projects

Visit my website for more projects, more details and to download executables/reports.

Honours Project - "RhythMIR" (2016 ⬢ C++ (Various Libraries) ⬢ Windows ⬢ RhythMIR Website)
RhythMIR is an automatic game content generation tool and a rhythm game. My dissertation "Digital Music Information Retrieval for Computer Games" discusses and evaluates using digital signal processing techniques on music files to generate gameplay automatically. RhythMIR is open source and is released on Windows for free, see the project website for more details.

Group Project - "Galaxea" (2015 ⬢ C++ (Abertay PSVita Framework) ⬢ Sony PS Vita)
⬢ 2D game produced in a team of 8 alongside 1 gameplay programmer.
⬢ As engine programmer I implemented: level loading (using Tiled and RapidXML), menus, UI, overall application state machine and tile collision physics (using Box2D).

Networked Space Game with Spectator Client (2015 ⬢ C++ (SFML, WinSock, Box2D) ⬢ Windows)
⬢ 2D physics-based game originally implemented on PS Vita then ported to SFML on Windows.
⬢ Game runs as server, spectator clients may connect to receive frame-based event messages via TCP.
⬢ Spectator clients run deterministically with a short delay as a lag buffer.

Concurrent A* Pathfinding (2015 ⬢ C++ ⬢ Windows)
⬢ Implementation of A* pathfinding using manhattan heuristic.
⬢ Use of C++11 threading library to calculate many paths simultaneously.

Procedural Gas Giant (2015 ⬢ C++/HLSL (DirectX 11) ⬢ Windows)
⬢ Procedurally generated icosphere with a 1D texture.
⬢ Texture manipulation using GPU simplex noise to approximate a gas giant's storms.

Interests

Computer Gaming
I enjoy games that have depth (gameplay mechanics or story) or involve mastering a skill. I tend to play online games as I am competitive. I obtained **basic skills in image editing and UI design** while customizing the user interface of various games I enjoy.

Computer Hardware **Peripherals (Mechanical Keyboards, Headphones)**

References available on request.