CRAIG JEFFREY

Graduate C++ Programmer

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Profile

Graduate level programmer and game developer searching for a job to apply my skills. Quick learner and perfectionist - I find the process of mastering a skill deeply rewarding and pride myself in being competent at what I do. Open minded, curious and always willing to learn and consider criticism. My goal is to improve my 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)*

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

Best module grades include: Network Programming (A+), Procedural Methods (A) and Computer Operating Environments (A). Full list of grades available on my LinkedIn.

Projects

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

Group Project - *"Galaxea"*   (2015 ⬤ C++ (Abertay PSVita Framework) ⬤ Sony PS Vita)
⬤ In third year at university I participated in a professional group project working on a 2D game based on a brief by FuturLab in a team of 8 alongside 1 gameplay programmer.
⬤ As the engine programmer I implemented many aspects of the game including level loading (using Tiled and RapidXML), menus, UI, overall application state machine and tile collision physics (using Box2D).

Concurrent A* Pathfinding   (2015 ⬤ C++ ⬤ Windows)
⬤ Implementation of A* pathfinding using manhattan heuristic.
⬤ Use of C++11 threading library to calculate many paths simultaneously and output through a channel.

Procedural Gas Giant   (2015 ⬤ C++/HLSL (DirectX 11) ⬤ Windows)
⬤ Procedurally generated icosphere with a 1D texture.
⬤ Texture manipulation using GPU simplex noise to visually 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 as well as the ability to deduce game implementation details.

Computer Hardware and Peripherals
I have an interest in computer hardware and have above average knowledge of how computers work physically (thanks to both education and personal interest). I'm also interested in high end peripherals such as mechanical keyboards and headphones.

References available on request.