Shane Christopher

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Technical Skills

Programming Languages:
- C++, C#, Java, DirectX, OpenGL, HLSL, GLSL and Python.

Programs:
- Maya, Clarisse, Houdini, Unity, Unreal, Linux, Git.

Areas of Expertise:
- Optimisations for CPU, GPU and memory usage
- Multithreading for background loading and processing
- Material look development and texture pipelines
- Real-time 3D graphics and maths

Work Experience

Jan 2011 - Present   **Double Negative Visual Effects**

Position: Research & Development Programmer

Current Work:
Lead Architect for Sombrero our in house look description format. This includes plugins for importing and exporting these looks to and from Clarisse, Maya and Houdini as well as previewing the materials with PBR shaders in Maya's viewport 2. The core library is written in C++ with python bindings that are used by a separate look baking pipeline.

Lead Software Engineer on our alembic caching and previewing library. This makes use of multithreaded reading from disk of the information required to preview the alembic models in OpenGL, while maintaining a small memory footprint on both the CPU and GPU side. The primary use of this library is a plugin for Maya's viewport 2 which can preview animated caches of millions of vertices in real time.

Previous Work:
Lead Architect on Spectre our in house volumetric preview library. This was a standalone library that allowed for loading of volumes from multiple formats through a plugin system and subsequent previewing of them using fast OpenGL rendering. Multithreading was used to enable realtime lighting from directional light sources without slowing the main thread.

Software Engineer on DNB our in house volumetric production renderer. This renderer was used until third party volumetric renderers were able to provide the same features and speed. My work centred around moving away from a mega shader to a node based material system. This included writing a node editor UI as well as support for the node shaders in the renderer and Maya based UI. The node editor provided artists with greater control over the final look.

Education

Sept 2009 - Sept 2010   **Trinity College Dublin**

M.Sc. Interactive Entertainment Technology

Game design and programming in C#, C++ and DirectX.
Areas covered included Rendering, Physics, Animation and Augmented Reality.
My thesis "Integration of Ray-Tracing Methods into the Rasterisation Process" involved using a GPU based raytracer written in DirectX 9 as the shadow pass during deferred rendering.

Sept 2008 - May 2009   **Galway-Mayo Institute of Technology**

B.Sc. Software Development

Sept 2003 - May 2006   **Dun Laoghaire Institute of Art, Design and Technology**

B.Sc. Multimedia Programming

Personal

I have handled large team projects in professional, academic and personal settings. I have also been involved in online collaborative mods for several game engines including the source engine and the cryengine.

I enjoy leading and being part of a team while also being willing to help others with their problems in any area. I have great communication and presentation skills which I've found critical in the workplace.

One of my more prominent skills is the ability to pick up new languages or technologies quickly and intuitively.

I have a strong interest in personal programming projects and I am currently working on a virtual reality game using the HTC Vive which is written in the Unity game engine.

Previous Unity projects have included an infinite terrain system that generated chunks of terrain in the background and a flight simulator.

Outside Unity I have written several helper libraries for scene management, OpenGL rendering and raytracing.

I am an avid hiker, climber and snowboarder.

References

Oliver Harding – Senior Software Engineer R&D, Double Negative.
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John Dingliana - Course Coordinator, Trinity College Dublin.
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