

Luke Whitehorn (MPhys)

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Previous Employment & Experience

Employer	From	To	Position & responsibilities
Nymus 3D	Apr 14	-	3D generalist. Modeller, animator, texture artist, shader, FX artist, plugin developer.
Medway Council	Apr 13	-	Freelance database developer & consultant.
Ubisoft Massive, Malmo, Sweden	Dec 12	Mar 13	3D generalist. Modeller, animator, texture artist, shader, FX artist, plugin developer.
Energia VFX, Tampere, Finland	Mar 11	Dec 11	3D generalist. Modeller, animator, texture artist, shader, FX artist, plugin developer.
Inferno Ltd.	Jul 10	Dec 99	Freelance 3D generalist. Modeller, animator & texture artist.
Eurisko Studios	Jan 08	-	Developer, 3D animator, modeller, texture artist, compositor, match-mover.
The Atomic Weapons Establishment (AWE)	Aug 04	Jan 08	Explosives scientist, theoretical modeller & developer. <ul style="list-style-type: none">• Analysis of mathematical models from scientific literature.• Implementation of appropriate models as elements of simulation and/or analysis software.• Application design and development in C# with OpenGL.• Give presentations in area of expertise to both internal departments and external interests.• Perform experiments with explosives.• Write operating instructions, risk assessments and reports.• Liaise with experimental team leaders with respect to numerical model calibration and feedback.• Provide mathematical support for fellow team members.
Medway Council	Feb 03	Aug 04	Caretaker
UGC Cinemas	Jan 00	Oct 02	Stock manager & database admin
Mortimer Homes	Jul 97	Nov 99	Care assistant

Programming languages

- Extensive experience; C/C++ (9+ years, inc. advanced topics, STL, multi-threading, quality assurance, 3D maths, complex algorithms, design patterns), Python, C# (4 years at AWE), VBA, LScript, S
- Experience; MEL, Java, Fortran, BASIC, html, PHP

Applications

- Lightwave, Photoshop, Shake, After Effects, Houdini, Modo, Maya, Syntheyes, Apple Motion, Fusion, Combustion, Final Cut Pro.
- MS Visual Studio, Xcode, Subversion.
- MS Office suite, expert at Excel and Access.

Education

Degree

Subject	Physics with Space Science and Systems
Result	2-1 Master of Physics with Honours
From	University of Kent at Canterbury
Dates	1997-09-01 — 2001-07-01
Final year project	Hypervelocity meteor impacts at oblique incidence and their effects on a populated Earth

A Level / foundation year

Subjects	Physics, Maths, Chemistry, Biology, Geography, Art,
Results	A, A, B, D, E, D
From	Queen Mary & Westfield University, The Howard Grammar School
Dates	1996-09-01 — 1997-06-01, 1994-09-01 — 1996-06-01

Training

- Introduction to explosives, Cranfield University.
- Shock hydrodynamics, AWE internal.
- Partnership course, AWE internal.
- First aid & resuscitation.

Notable achievements

- Developed a render farm controller for Lightwave using Python and wxPython for interface elements.
- Developed in C++, marketed and released the vRoom plugin for Lightwave 3D (for both PC and Macintosh) – a complex shader that simulates the interiors and glass of buildings as seen through windows when applied to polygons. (www.euriskostudios.com/es/plugin_pages/vRoom.php)
The development of this shader involved a large amount of complex 3D maths, including ray tracing, development of vector and polygon class libraries, algorithm optimisation and multi-threaded programming techniques.
- Developed several publicly available free plugins for Lightwave 3D (in C++), plus rapidly developed in house tools to solve immediate problems.
- Winner of TEEMAC Young Scientist award, with entrants from; AWE, QinetiQ, dstl and Cranfield University.
- While at AWE, solely developed an OpenGL based GUI graphing tool and subsequent scientific modelling application:
 - Written in C#.
 - Designed to easily handle huge datasets from oscilloscopes (10 million+ points) whilst still remaining fully interactive.
 - Interactive user interface to manipulate data efficiently.
 - Implementation of; sorting algorithms, Levenberg-Marquardt optimization & solutions to differential equation systems.
- Implementation of 'Interactive Depth of Field Using Simulated Diffusion on a GPU' (Kass et al, Pixar Animation Studios) in a post processing plugin written in LScript.
- Co-author of 'Oblique incidence hypervelocity impacts on rock' (Burchell & Whitehorn, 2003)
- Solely completed several digital effects sequences on a community sci-fi film project. This included concept art, storyboarding, 3D content creation, shading, lighting, rendering, live action integration and compositing.
This work was performed on a charitable basis and was used to assist New Brompton College in their bid for academy sponsorship.

Interests

- Playing the guitar/bass, writing music and performing.
- Military history.
- The natural sciences.
- Film.
- Computer games (co-op FPS and grand strategy).