

# James M. Stewart

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## GAME EXPERIENCE

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**Visual Concepts**, Presentation Engineer, *NBA 2K9* April 2008-September 2008

- Presentation Scripting: Extended a proprietary scripting language to expose engine functionality for game flow, audio/commentary events, and UI animation.
- Implemented new UI feature for 2K9: Coach's Clipboard, an interface for the user to send commands to AI players during live play or timeouts.
- Implemented numerous statistical splashes and overlays (ala a televised basketball game).
- Converted dozens of native menu/UI classes and Maya scenes to a new data-driven UI system; served as the engineering point-of-contact for firefighting issues with the transition.

**Stormfront Studios**, Programmer, *The Spiderwick Chronicles* May 2007-April 2008

- Developed for Xbox 360, PC, PS2 and Wii platforms
- Implemented several game objects, sprite powers (player power ups and attacks), AI behaviors, a dumbwaiter minigame, input buffering/filtering, and the cheat system.
- Developed two C# tools: File monitor and server for a live update system (edits on PC appear in the game); and a GUI for all developers to manage local project/branch settings for Perforce and the Build system.
- Implemented HUD elements: 3D power selector, quest pages and updates, multiplayer menus
- Delivered Xbox 360 demo; implemented systems related to Xbox OS issues: achievements, rich presence, player profile management.
- Maintained particle system and authoring tool. Optimizations and bug fixes.

**Gearbox Software**, Programming Intern, *Brothers-In-Arms: Hell's Highway* July-September 2006

- Wrote script for the multiplayer mode of forthcoming title for PC and Xbox 360.
- Gained experience with Unreal 3 engine, especially networking issues and UnrealScript.

**White Wolf Publishing, Inc.**, Copyeditor, Freelance Editor and Writer January 2000-June 2001

- Co-authored nine sourcebooks for company's various role-playing properties.
- Wrote two short stories to company's fiction anthologies.
- Copyedited eight novels and 26 source books for company's various role-playing properties.

## TECHNOLOGY EXPERIENCE

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**AI Game Programming Wisdom 4** February 2008

Contributing Author

- Wrote article "Intrinsic Detail in Navigation Mesh Generation" for a yearly anthology of AI papers published by Charles River Media.

**Master's Thesis: Pathfinding Over Streaming Terrain** August 2006-March 2007

Sole Programmer

- Streams data from hard drive to simulate massive terrain.
- Features terrain synthesis, procedural navmesh generation, mesh refinement via RQT (restricted quadtree triangulation), A-star search using streaming navmesh.
- Streaming database is multithreaded, multidimensional cache that uses file handles to couple clients from cache pages. Navmesh paging scales to large numbers of pathfinding clients.

**DangerBall '77**, Unreal Tournament 2004 Total Conversion January-March 2006

Programmer

- Created with a team of 10 artists, level designers, and programmers.
- Worked primarily on HUD and UI elements, as well as replication issues.

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## **Grimoire, Half-Life 2 Total Conversion**

September 2006-March 2007

Producer, Programmer

- Led a team of five programmers, four artists and six level designers in the creation of a spell-based arena-style fighting game using Valve's Source engine.
- Developed schedules and milestone criteria, managed team leads.
- Coded numerous entities, game rules, worked with artists to import models and animations.

## **Game Framework /Dual Renderer**

July 2005-October 2006

Sole Programmer

- Abstract interface with Direct 3D 9 and OpenGL 1.5 implementations.
- Flexible stream manager with D3D vertex streams/Open GL VBOs accepts geometry in multiple formats.
- Supports HLSL 3.0 and OpenGL assembly shaders, demo features bump mapping in both APIs.
- D3D Only implementations: Kawase Bloom Filter, true HDR with exposure adjustment and floating-point textures and render targets.
- Loads and renders Quake I and III BSPs (with ray-casting and Potentially Visible Set culling implemented) and .RAW height maps for terrain. Md2 animation.
- Includes exporter compatible with 3D Studio Max 7/8; exports bone data for animation.
- Controlled via a cooperative multitasking system implemented in Lua.

## **Orbital: 2D Game Demo**

July-October 2005

Sole Programmer

- A top-down space navigation game written using Windows GDI.
- Used FMOD Sound Ex API. Used effects and pitch APIs in addition to core functionality.
- 25 levels of play and a scripted victory sequence.

## **EDUCATION**

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### **The Guildhall at SMU, Plano, TX**

July 2005-March 2007

- Master of Science, Interactive Technology
- Specialization: Software Development

### **State University of New York, New Paltz, NY**

January 2004-June 2005

- Post Graduate work, Computer Science

### **University of Texas, Austin, TX**

December 2000

- Bachelor of Arts, English
- Recipient of National Merit Scholarship and Dedman Scholarship

## **CORE SKILLS**

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Strong knowledge of C++, some experience with C#, Java, J2ME

Development experience with Unreal 3 and Unreal 2.X, and Valve's Source engine

Console development experience: Xbox 360, PC, PS2, Wii

Script Experience: Lua, Ruby, UnrealScript

Proficient with OpenGL 1.5 and DirectX 9, esp. Direct 3D and FX framework

Software Familiarity: MS Visual Studio .NET, Code Warrior, Radix Studio, Perforce,

DevTrack, Subversion (TortoiseSVN), Adobe Photoshop CS2, 3D Studio Max 8, MS Project,

Unreal Development Environment (UDE), XLAST, Araxis Merge

API familiarity: Max API (3D Studio Max), Microsoft XDK