

# ANDREAS PAPATHANASIS

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## Summary

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Game engine programmer specialized in graphics/tools development using C/C++. Experience in DirectX and OpenGL APIs, the scripting language Lua and the creation of custom scripting languages. Additionally experienced in tools development under the .NET framework (C++, C#).

## Game Work Experience

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SpiderMonk Entertainment February 2005 –  
Dallas, TX  
Game/Engine programmer

- *Six Shooter Showdown: Blackjack*: Participated in the implementation of the engine (graphics, user interface, sound), wrote part of the gameplay code for the J2ME edition.
- Implemented OpenGL ES-based graphics engine for Symbian OS (C++) for 3D game targeting the Nokia Series 60 devices. Math library for fixed-point numbers, full-featured animation system with multiple per-object animation sequences controlled at runtime.
- Created 3D Studio Max exporter for static objects (multiple texture support) and animated characters (vertex skinning). Custom file format to support OpenGL ES native fixed-point coordinates.

Delta Engine April 2005 -  
The Guildhall at SMU (Plano, TX)  
Engine Programmer  
Personal 3D game engine, part of a focus study project at The Guildhall at SMU.

- Shader-driven rendering engine that supports DirectX (HLSL) and OpenGL (ARB assembly shaders).
- Script-driven scene graph and GUI components.
- Scripting support via abstract, language-agnostic API that has been implemented for Lua and DeltaScript, a custom language designed and implemented specifically for the Delta engine.
- Full mathematics library without using any third-party libraries.
- 3D Studio Max exporter with support for static and animated objects. Access and playback of exported objects sequences through the scripting language.
- Advanced terrain rendering component with background streamer thread and view position-dependent adaptive patch LOD techniques.
- Separate Windows editing application written in C++/CLI that provides editing facilities to the engine, like terrain heightmap adjusting and terrain texture painting.
- Deformable object physics. Implemented cloth deformers, soft 3D bodies and grid-based free-form deformation in three dimensions.

Shantytown January 2006 – June 2006  
The Guildhall at SMU (Plano, TX)  
Engine / Tools Programmer  
Point-and-click adventure game developed on the Half Life 2 Source engine.

- Worked as part of a 15 person team of artists, level designers and programmers to implement the game's branching dialogue system.
- Separate C# application to create, edit and save dialogue graphs in the runtime's file format.

Sarge January 2005 – March 2005  
The Guildhall at SMU (Plano, TX)  
Programmer  
Action/Platform game created as a personal project.

- Fast 2D rendering engine based on low-level windows GDI functionality (uses custom blitting), compatible with the majority of graphics hardware available.
- "Action replay" feature, with VCR-style controls to view action from each level.
- 2D Physics engine makes objects respond realistically to explosions and other forces.
- C# tile-based level editor with real-time preview feature (hosts the C++ game runtime).

Ego July 2005 - December 2005  
 Engine Programmer The Guildhall at SMU (Plano, TX)  
 Team game project on the Quake 2 engine. Worked as part of a 5 all-programmer team.

- Worked on the HUD component on Quake's gameplay code (drag-and-drop inventory window, RPG style level-up screens, dialogue/quests windows)
- Integrated the scripting language Lua with the Quake 2 engine.

## Work Experience

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Nessos S.A. January 2004 - August 2004  
 Contract Programmer Athens, Greece  
 Responsible for developing and documenting the web client for a .NET based workflow management application suite.

Planet Interactive S.A. September 2003 – June 2003  
 Full time programmer Athens, Greece  
 Assigned to port the company's content management software to the .NET framework.

Wrox Press Ltd. September 2002 – March 2003  
 Author/Technical Reviewer Off-site contract work  
 Article/case study authoring and technical reviewing for the company's content web sites.

Compulink Network S.A. May 2000 – May 2002  
 GameNet Technical Director Athens, Greece  
 Full time employment at the gaming magazine GameNet. Construction of client/server applications to support online services specific to multiplayer PC games.

## Education

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The Guildhall at SMU January 2005 – June 2006  
Plano, TX  
 Certificate in digital game development, software development specialization.

National University of Athens September 1997 – September 2004  
Athens, Greece  
 Physics degree with specialization in electronics, computers and telecommunications.

## Publications

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- DirectX 9.0 and C# (csharptoday.com case study, 3/10/2003)
- Applied client-side scripting with ASP.NET (ASPToday.com article, 3/14/2003)
- Introduction to game programming (csharptoday.com case study, 1/27/2003)
- A complete text-printing framework using GDI+ (ASPToday.com case study, 11/4/2002)
- Using GDI+ from C# (devCity.net article, 8/18/2002)
- XML data storage in .NET (angrycoder.com article, 5/16/2002)