

TODD J. SEILER

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OBJECTIVE

To obtain a position as a software engineer at an innovative technology oriented company where I can advance towards a senior level software engineer.

TECHNICAL EXPERIENCE

Programming Languages: C/C++, HLSL, C#, x86/Z80/PIC18FXX2 Assembly

Libraries: Win32, C/C++ Standard Library, STL, OpenGL, DirectX (9.0c), TinyXML, FMOD, Winsock.

Programming Environments: Microsoft Visual Studio .NET 2008/2010, g++, make, Vim

Physics Programming: Rigid Body, Soft Body, Space Partitioning Systems: KD Trees, BSP Trees. Narrow Phase CD: SAT, Impulse based Collision Resolution.

Graphics Programming: Software Rendering Pipelines, Direct3D, OpenGL, 2D Tile-Based, GUIs, dynamic Spline generation, Occlusion Culling, Deferred Shading, HDR, Post-Processing Techniques, Global Illumination - PRT with Spherical Harmonic Lighting, Image Based Compression / Decompression Techniques, Ray Tracing with Soft Shadows and Anti-Aliasing.

Animation Programming: Hierarchical Modeling, Skinning/Vertex Blending, Inverse Kinematics, Quaternion based interpolation methods: LERP, SLERP, I-SLERP.

Miscellaneous: Compiler Implementation, Custom Debugging and Profiling tools, A* Pathfinding, Finite State Machines, GBA & GBC Development, Linux, Microsoft Office, Subversion, Doxygen, Design Patterns, Agile - Scrum, XML.

WORK EXPERIENCE

- **Microsoft**, Software Development Engineer in Test, (03/10 - Current)
- **VMC**, Various XBLA Titles, Black Box Tester, (02/10)
- **Gas Powered Games (VMC)**, Supreme Commander 2, Black Box Tester, (10/09 - 02/10)
 - Worked on-site with engineers and designers to isolate critical bugs.
 - Tested Xbox 360 and PC versions daily.
 - Provided accurate and detailed bug reports.
 - Performed UI, Functional, Regression, Interoperability, Stress, and Performance testing on a daily basis.
- **Valve Software (VMC)**, Left 4 Dead 2, Black Box Tester, (07/09 - 10/09)
 - Tested Xbox 360 and PC versions daily.
 - Analyzed Xbox 360 version for possible Microsoft certification failures.
 - Discovered 800+ bugs in less than 4 months.
 - Worked on-site with engineers and provided feedback for them.
 - Performed UI, Functional, Regression, Interoperability, Stress, and Performance testing on a daily basis.

- **I Do Stream LLC**, PHP Programmer, (08 - 09)
 - Extended front and backend functionality implementing security features as necessary.
 - Integrated the new subsystems with the existing system.
 - Provided live technical support to clients.

DIGIPEN GAME PROJECTS

More information available on my portfolio website: <http://www.toddseiler.com>

- **Sundown Cerose (PC)**, (2008 - 2009)
Technical Director - Team of 3 (2 developers, 1 artist)
 - A 3D top-down isometric based action/adventure game.
 - Reengineered and expanded the graphics subsystem, using DirectX, to allow for a variety of techniques, including post processing, particle systems and vertex/pixel shaders.
 - Implemented level editor to help the artist design and develop the levels.
 - Technologies consisted of DirectX, Win32 API, C/C++ Standard Libraries, TinyXML and the STL to ensure robust modules.
- **Crystal Nebula (PC)**, (2007 - 2008)
Technical Director - Team of 3 developers
 - A 3D top-down isometric based action/adventure game.
 - Designed and programmed the collision detection, collision resolution, physics, scene manager, input subsystem and engine framework while utilizing DirectX, Direct3D and TinyXML.
 - Utilized C/C++, the Win32 API, DirectX, C/C++ Standard Libraries and the STL to ensure the implementation of a robust engine framework.
 - Engineered a component-based design using Object Oriented Programming principles and Design Patterns to allow for versatility and scalability in the engine framework.
- **Tanks n' Toasters (PC)**, (2006 - 2007)
Producer/Programmer - Team of 4 developers
 - A 2D top-down tile-based action shooter game with a variety of missions.
 - Designed and programmed the graphics system, engine framework, menu/button system, weather system and the special effects system.
 - Utilized DirectX, the Win32 API, the C/C++ Standard Libraries and the STL extensively.
 - Developed the sound module using the FMOD library and integrated it into the engine framework.

AWARDS AND ACHIEVEMENTS

- Tri Kappa Award, Recognizes a superior student in the field of Computer Science, 2001
- Dean's List, University of Dubuque, 2001 - 2005
- Guest Lecturer, Topic: Game Development, Computer Club at the University of Dubuque, 2004

EDUCATION

- **DigiPen Institute of Technology**, Redmond, WA (2005 - 2009)
 Bachelor of Science in Real-Time Interactive Simulation (Computer Science)
 Minor: Physics
 Minor: Mathematics
- **University of Dubuque**, Dubuque, IA (2001 - 2005)
 Bachelor of Science in Computer Graphics and Interactive Media
 Minor: Computer Information Systems