

HIGHLIGHTS

Experienced developer with excellent communication, interpersonal, and team management skills. Proven analysis, programming and problem solving skills for a large variety of current platforms, environments and languages.

PROFESSIONAL EXPERIENCE

Sep2010-Present Forks and Hope Toronto, Ontario

Contract Programmer specializing in graphics and game development

Currently developing a multiplatform engine for [Empty Clip Studios](#), supporting the iOS, Android, OSX, Windows, and PSP versions of upcoming titles.

Responsible for developing and extending

- multiplatform graphics subsystem (OpenGL ES, OpenGL, D3D9)
- multiplatform touch and traditional input systems
- multiplatform streaming and resident audio systems
- multiplayer and online presence
- in-game advertising
- in-game analytics
- tools and pipeline

Dec2007-Sep2010 Bedlam Games Toronto, Ontario

Technical Director and Lead Programmer

Directing the technical affairs of a 40-person studio. Recruiting, employee development and management of a team of 10 programmers plus outside contractors. Responsible for:

- Studio tools and engine planning and design
- Development of technology demos and game prototypes
- Technical analysis, planning and pitch support for all prospective projects
- Development of two Unreal Engine based games.
- Technical and combat demos for *Playstation3*, *Xbox 360* and *Win32* using *Unreal Engine 3* and *Gamebryo/Lightspeed*.
- All user and infrastructure hardware selection and procurement.

Jan2006-Dec2007 Groove Games Toronto, Ontario

Lead Programmer, Founding member of Groove's game development studio

Recruiting and management of a team of 7 programmers. Responsible for the development of:

The Road to Sparta:

An unreleased single player game created for the 300 DVD launch.

Kung Fu: Deadly Arts.

A Kung Fu themed online head-to-head fighter using Unreal Engine 2.5.

- Design of a tool chain for visually laying out combat state machines and generating run-time code from the state machine diagrams.
- Novel online combat system design and implementation.

PROFESSIONAL EXPERIENCE

Nov2002-Dec2005 Rockstar Games Toronto, Ontario

Programmer

[The Warriors](#) for Playstation 2 and Xbox.

Combat and Animation System: designed and implemented combat system, in close coordination with game designers and animators; all in-game animation playback.

Scene Playback System: designed and implemented the in-game scene playback system.

Combat Collision System: designed and implemented an optimized combat collision system.

Animation Tool Chain: developed an exporter for in-game character and scene animation from 3D Studio Max 5, an off-line compressor for animation data.

Asset Pipeline: maintenance of linux/cygwin make-driven data build system.

Nov1997-Nov2002 Matrox Graphics Inc. Toronto, Ontario

Software and Architecture Designer

Participated in the Design, Specification, and Approval of the [arb_matrix_palette](#), [ext_vertex_shader](#), [arb_fragment_program](#), [arb_vertex_program](#), [vertex_buffer_object](#), and [OpenGL versions 1.3 and 1.4](#).

Planned the [June 2002 ARB meeting](#) hosted by Matrox. Obtained ARB membership for Matrox.

[Parhelia](#) OpenGL Developer: designed, managed and implemented OpenGL extensions to support Parhelia's pixel processor.

Designed and implemented the driver texture compression code for DXT format.

[Matrox G550](#) chip architecture, design, specification, documentation, and device driver architecture, design and development for a high performance 3D graphics accelerator ASIC with an integrated T&L RISC processor.

Responsible for chip, board and system level *performance analysis*

Transform and Lighting processor: participated in the design of a custom SIMD-RISC processor and its interfaces for the pipelined processing of primitive rendering commands, responsible for *precision specification and analysis*.

Programmable Setup Engine Module: wrote, tested, debugged and supported all primitive setup code (highly-optimized custom VLIW assembly-language programs) for embedded execution, as well as all driver-level management code.

Graphics Driver: participated in the design, development, debugging and support of an integrated graphics driver for the G550 product, including the 2D (GDI) display driver, kernel-level miniport, Direct3D and DirectDraw (DX8), and OpenGL drivers.

Tempest chip architecture, design, specification, documentation, and device driver architecture, design and development for a high performance 3D graphics accelerator ASIC.

Per-Pixel Fog hardware design, precision analysis

Anti-Aliasing hardware design, and precision/quality/performance analysis

Direct3D 5/6 Driver design, development and debugging

Chip C-Model development and validation

Dec1995-June1997 Gray Matter Inc. Toronto, Ontario

Tools Programmer

Development of 2D and 3D asset creation tools under SGI Irix and Motif using Iris GL

Supported asset creation using Softimage and Alias|Wavefront software.

EDUCATION

1990-1995 Queen's University Kingston, Ontario

B.Sc.H. Computer Science, 1995

B.A. Physics, 1994