

GAME EXPERIENCE

Monster Mafia – Unreal Development Kit

- Transparency shader for when the player view is obstructed
- Invisible Man boss artificial intelligence
- Melee enemy artificial intelligence.

Legend of the Monkey King – Unreal Development Kit

- Edge detection and drawing shader
- Weapon system and particle effects
- Co-designed of the game architecture and systems.

Battle for the Underground – Torque X

- Designed and developed core mechanics

GAME TECHNOLOGY

3D Rendering Engine

- Supports Open GL / Direct X 10 / Direct X 11 Rendering API's
- Forward Euler Integration physics
- Quake III BSP file format support with PVS, Frustum culling and Bezier Patches, textures, lightmaps with gamma correction
- Scene graph support with efficient frustum culling
- Content Management system to avoid duplicate textures, and models
- Patch based terrain system with distance and intrinsic level of detail, terrain stitching and binary terrain file format support

Light Propagating Volumes

- Based on Anton Kaplanyan's white paper
- Calculates global illumination values in real time
- Uses reflective shadow maps as secondary light sources
- Easy to use with other lighting models
- Scalable

Hardware Tessellation

- Progressive terrain stitching on the GPU and distance based or screen space level of detail
- Geometry Images (image encoded models) loading and rendering
- Vector Height map displacement

Scripting language

- Lexical Analyzer, Parser and Compiler
- Virtual Machine runtime
- Stack based execution
- Loosely typed variables
- Reference counting for garbage collection
- Integrated with the 3D engine

Math Simulation

- Constraint based cloth simulation with Verlet integration, cloth tearing, and sphere collision
- Mass spring damper system with backward or forward Euler integration
- Particle system with plane and sphere collision.
- Hermit splines for smooth lines
- Quaternion and spherical linear interpolation

2D Rendering Engine

- Support for color coded sprite sheets for automatic loading
- Bounding box collision system with detection and resolution
- Tile based levels
- Text based level format

FMOD audio support

EDUCATION

The Guildhall at Southern Methodist University August 2009 – December 2010
Plano, TX

- Master in Interactive Technology, Specialization in Software Development
- GPA: 3.8

Pontificia Universidad Catolica Madre y Maestra August 2003 – September 2006
Santo Domingo, Dominican Republic

- B.S., Software Engineering
- GPA: 3.3

EXPERIENCE

C/C++ Developer September 2008 – March 2009

Genisource – Santo Domingo, Dominican Republic

- Developed a log parser that extracts information and inserts it into a database
- Rewrote the reporting system of an internet security utility.

Senior C#/ ASP.Net Web Developer February 2007– September 2008

America Movil IT / NewTech – Santo Domingo, Dominican Republic

- Liaison between my development team and our client, Verizon Business.
- Designed and led a development team for an internal ticket routing web application.
- Worked on various small scale web applications for the marketing division of Verizon Business

Junior C#/Asp.Net Web Developer January 2006 – September 2006

Nextmedia – Santo Domingo, Dominican Republic

- Developed a loan tracking application for a nonprofit organization.
- Implemented and developed a web application for the Dominican IRS that allowed users to renew their car registration.

SKILLS

C/C++ '03, C# 3.5, Unreal Script, VB.Net, ASP.Net, ASP 3.0 JavaScript, Transact SQL, Microsoft Visual Studio 2008, Eclipse, SVN, Direct X 10/11, Open GL, Tessellation, Lighting, XNA, FMOD, Multi threading, Particle Systems, Numerical Integration, Linear Algebra, Quaternion, Splines, BSP, Quad tree, Scene Graph, UDK, pl/sql, Microsoft SQL Server, HTML, XHTML, XML, XAML, TCP,UDP