Chase Ruppert

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AWARDS

Amazon Inventor 2018
Awarded twice (patent submissions)

LANGUAGES, SDKs, SOFTWARE

Languages: C/C++, Lua, C#, GLSL, Python, Assembly, XML, HTML/CSS, ActionScript, JS, SQL/HIVE
SDKs: PS4/XBone, iOS/Android, Lumberyard/CryEngine, Qt, OpenGL, Unity, Unreal/UDK, OSG
Software: Visual Studio, P4/git/SVN, gcc/gdb, LLVM/LLDB, XCode

WORK EXPERIENCE

Amazon 2015 - Present
Software Development Engineer, Lumberyard Game Engine *Palo Alto, CA*

- Within a year of joining, and without prior Lumberyard/CryEngine experience, added foundational UI tech including localization support, font rendering improvements, a unit-test framework and HTML-like markup support across a variety of platforms, including console, mobile, and Mac.
- Executed feature requests for first-party game teams, such as pixel-perfect font rendering, an improved Sprite Editor, spritesheet support, flipbook animations, loading screens, and advanced text overflow techniques.
- Resolved performance, memory usage, and rendering quality issues for The Grand Tour game team.
- Integrated scriptable input pipelines and networking features into Lumberyard's visual scripting system.
- Mentored two interns which resulted in employment offers, one of whom accepted a full-time position.

Electronic Arts 2011 - 2015
Software Engineer, Origin *Redwood City, CA*

- Served as lead engineer for supporting and maintaining Origin client user login and authentication, which is used by millions of gamers daily.
- Provided game team support for AAA game titles, such as Battlefield: Hardline, FIFA, Battlefield 4, Titanfall, and more.
- Ported C++ telemetry reporting API from PC to beta PS4/Xbox hardware and added support for asynchronous metrics collection.
- Resolved over 60% of Origin's crashes and 50% of login issues by analyzing crash reports, working with domain experts and investigating telemetry.
- Authored several tech briefs for medium-sized Origin features, documenting key architecture and implementation choices, alternative solutions, possible risks and mitigation strategies.

Electronic Arts 2013
Gameplay Engineer, Unity (New IP) *Redwood City, CA*

- Prototyped a multiplayer FPS arena shooter in Unity using C# with a team of about 30 engineers, game designers, and artists.
- Developed power-ups system that provided an abstract interface for the base player class to initialize, start, update, and end a power-up.
- Created a cloaking power-up that used a refraction shader (in GLSL) to alter the player's appearance.
- Wrote a normal-mapped shader in GLSL that incorporated a Blinn-Phong lighting model for character rendering and supported dynamic team color mapping.

Lockheed Martin 2008 - 2011
Rendering Engineer *Orlando, FL*

- Contributed to the success of three separate graphics and game engines written in C++, shipping several training products domestically and internationally within budget and on time.
- Played a key role in performance, content pipeline, and runtime streaming technologies to allow real-time rendering of extremely large (up to 300 km x 300 km) detailed worlds rendered in OpenGL.
- Created content pipeline that supported GPU instancing, ground texture blending, and paging.
- Wrote memory allocator that tracked leaks and detected buffer overruns and memory corruption.

Zephyr: Tides of War 2007 - 2008
Gameplay Engineer *Orlando, FL*

- Developed voice-activated game in C++ with a team of five programmers, five artists, and six producers.
- Implemented a XML-driven mission system that allowed spawning, timed events and volumetric triggers.
- Created visual damage system that featured varying levels of damage and destruction.
- Integrated dynamic shadow system and worked alongside artists to integrate model animations.

Morphin' Marvin 2007 - 2008
Lead Engineer *Orlando, FL*

- Developed Morphin' Marvin, an award-winning, revenue-generating 2D Flash game for Shockwave.com, using ActionScript 3.0, during personal time.

ACADEMIC EXPERIENCE

Xbox XDK/Console Development

- Created a cross-platform, 3D text-rendering, networked, XML-driven game engine in C++, which builds and runs for Xbox, OpenGL and DirectX (completed in six, 40-hour weeks).
- Developed an OpenGL PC game in C++ and ported it to Xbox.
- Integrated a memory allocator and eliminated over 700 memory leaks in 22 hours.

Computer Graphics

- Applied Blinn-Phong shading, cube-mapping, projective shadows and reflections, and ray-tracing.

Multi-threading & Networking

- Implemented UDP 3-way handshake in C++ game engine.
- Developed multi-threaded TCP/IP client and server applications in C#.

PERSONAL PROJECTS

Custom Game Engine (C++)
Engine Programmer

- Ongoing development of self-written, cross-platform XML-driven game engine that supports XBOX, PC (OpenGL/DirectX), and Mac platforms.
- Supports basic UDP networking and physics (collision detection and reactions).

EDUCATION

M.S., Interactive Entertainment 2008
Florida Interactive Entertainment Academy (FIEA) at the University of Central Florida

B.S., Computer Science 2007
University of Central Florida - President's Honor Roll, Dean's List