Alexei Yatskov

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INTERESTS

I'm passionate about software engineering and spend much of my free time contributing to cross-platform, open source projects (see github.com/foosoft). I particularly enjoy working on low-level systems and services where performance and stability are critical. The additional challenge of designing intuitive APIs for such modules is both fun and rewarding.

My other hobbies include a fascination with the Japanese language and literature. I view getting my N1 certification (highest level for foreigners) after many years of hard work to be one of my proudest achievements.

WORK EXPERIENCE

ArenaNet (Bellevue, Washington, USA)

Programmer at Large, 2016 – 2019

I returned to ArenaNet after completing my studies in Japan to contribute to a new and exciting technology initiative. Given the title of *Programmer at Large*, I had the latitude and trust of my employer to work on engine features that I identified as being important to the project. One of my overarching responsibilities became rearchitecting an existing codebase to support very large streaming worlds, which have never been possible in any of the studio's prior titles. This complex and far-reaching task gave me the opportunity to engineer multiple systems of which I am very proud.

Contributions:

- ‣ Object streaming for vast, open worlds within an existing engine (C++)
- ‣ Sparse database for storing and asynchronously retrieving millions of items (C++)
- ‣ Tooling for rapid baking of individually authored areas into a continuous world (C++, C#)
- ‣ Asynchronous broad phase system for graphics, audio, streaming, and scripting (C++)
- ‣ Archive format with per-structure versioning, JSON round-tripping, and viewer (C++, Python)
- ‣ Data visualizers to facilitate debugging and performance optimization (C++, Python)

ArenaNet (Bellevue, Washington, USA)

Engine Programmer, 2007 – 2014

I joined the team just in time for the development kickoff of the award-winning Guild Wars 2 MMORPG. Although my official role was that of an engine programmer, I made significant contributions across the entire code base, designing, implementing, and optimizing key systems. I am particularly proud of my improvements to the game patching system, which saved the company millions of dollars on net café data transaction fees in China.

Contributions:

- ‣ Core map systems including decals, audio zones, and environment maps (C++)
- ‣ Rapid content iteration for designers via live-preview from within the game (C++)
- ‣ Tools for environment art and designer content pipelines (C++, C#, Python)
- ‣ In-game "Google Maps" style interactive map system and supporting tools (C++)
- ‣ Asynchronous file I/O retrofit for core engine systems and new game patching features (C++)
- ‣ In-game web browser integration for auction house and gem shop (C++, JavaScript)
- ‣ Python module for inspecting game assets, which extended capabilities of tech artists (Python)
- ‣ Web-based build monitoring and management tool (Python, Lua, HTML, JavaScript)

Amaze Entertainment (Kirkland, Washington, USA)

Tools and Gameplay Programmer, 2005 – 2007

During my time at Amaze, I worked on small teams of two to three programmers to develop six Nintendo DS titles, which included several well-known Disney licenses. I communicated directly with designers and artists to build new game features and tools; the managed DirectX based game I wrote in college became the foundation of a studio-wide map content editor.

Contributions:

- Enemy AI, pathfinding, and special boss encounters (C++)
- Content tool development and direct designer support (C#)
- Fixed rail and cinematic camera systems (C++)
- World gameplay objects and equipment paperdolling (C++)
- Custom minigames and in-game user interface implementation (C++)
- Peer-to-peer multiplayer features and single-cart "Download Play" (C++)

EDUCATION

Keio University (Fujisawa, Kanagawa Prefecture, Japan)

MS, Cyber Informatics (2016)

- Awarded the prestigious "Design the Future" full scholarship (four annual recipients).
- Spoke at international conferences about my research in multidimensional data visualization.
- Attended lectures, participated in discussions, and presented research topics in Japanese.

University of Washington (Bothell, Washington, USA)

BS, Computing Software Systems (2006)

- Placed on Dean's List for outstanding academic performance

SKILLS

Computer Languages
- C/C++ – over fifteen years experience writing concise and efficient code
- Python – extensively used for automation purposes, numerous hobby projects
- Go – currently favorite language for personal projects, used for thesis
- JavaScript – maintainer of a highly rated browser extension with over 20k users
- C# – frequent exposure from design tool and data compiler development
- HTML/CSS – familiar with popular frameworks, maintainer of foosoft.net
- Lua – experience using in build pipeline and embedded contexts

Human Languages
- English (Fluent)
- Japanese (Fluent, N1 certified)
- Russian (Native)

Technology
- Windows
- Linux (Arch, Debian, Fedora)
- Visual Studio
- GCC
- Git
- Perforce
- Windows API
- Node.js