Alex Nischwitz

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EXECUTIVE SUMMARY

Software engineer with a successful track record of leading programming teams for Hogwarts Legacy, Fortnite, and Mortal Kombat 1. Recipient of Master of Science in Software Engineering with a Focus in Real-Time Game Systems. Expertise in C++, Unreal Engine 4, and Perforce. Platform development experience includes Nintendo Switch, PS4, Xbox One, and Oculus Rift. Experienced with Nintendo cpu and gpu APIs. Aptitude for multi-threading, debugging, and optimizing speed and memory. Excellent interpersonal and group communication skills, fostering strong interdepartmental collaboration. Thrives when multi-tasking and working within tight deadlines, consistently meeting milestones. Highly self-motivated and detail-oriented with organizational and problem-solving skills.

HIGHLIGHTED ACCOMPLISHMENTS

- Led multiple engineering teams during the development of two AAA Nintendo Switch releases.
- Coded features and bug fixes for two AAA releases on Nintendo Switch, PS4, and Xbox One.
- Released and maintained an Unreal Engine 4 virtual reality title on Oculus, Steam, and Viveport.
- Programmed a game engine with bespoke file formats to display, animate, and manipulate models.
- Designed, implemented, and debugged multi-threading architectures across multiple projects.

WORK EXPERIENCE

Shiver Entertainment Miami, FL

Software Engineer Aug. 2021 – Present

Unannounced Project [Proprietary Engine, C++, Perforce]

- Led a 3 person team to stand up a proprietary render pipeline
- Implemented features for rendering & compute graphics, file i/o & save data, and networking
- Debugged and fixed numerous crashes and blockers

Mortal Kombat 1 [Nintendo Switch, Unreal Engine 4, C++, C#, Perforce]

- Coordinated Switch fixes and features with NetherRealm and team for monthly patches.
- Reduced load times in story mode
- Extended features and fixed bugs in Switch build and package toolchain.
- Setup, configured, and maintained TeamCity infrastructure and configurations.

Fortnite, Seasons 24 - 26 [Nintendo Switch, Unreal Engine 5, C++, Perforce]

- Led two engineering teams making speed and memory optimizations
- Planned and prioritized tasking.
- Facilitated integration of external teams with internal Epic teams.
- Interfaced with Epic Production team on progress and planning.

Hogwarts Legacy [Nintendo Switch, PS4, XB1, Unreal Engine 4, C++, C#, Perforce]

- Coordinated with teams on audio, animation, art, and gameplay optimizations and reductions.
- Tracked and planned tasks to maintain velocity on performance and memory targets.
- Optimized for speed & memory usage and fixed bugs via Rendering and Engine systems [C++].
- Extended features and fixed bugs in Switch build and package toolchain [C#].

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- Ran daily automation builds on dev kits to generate performance and memory analytics.
- Customized automation tool chain to automate processes and extend functionality via Python.

Dark Catt Studios Chicago, IL

Programmer Aug. 2018 – Feb. 2020

Djinni & Thaco: Trial by Spire [Unreal Engine 4, C++, Subversion]

- Released and maintained for HTC Vive, Oculus Rift and Rift S.
- Coordinated with other departments to implement audio, animation, art, and gameplay.
- Designed and implemented main game loop, Menu UX/UI, Audio Manager, Save System, etc.

PROJECTS

File System [C++, Win32]

- Developed platform agnostic wrapper for storage read/write.
- Implemented proxy calls for Win32 read, write, seek, and tell.

Memory System [C++, Win32]

- Built on top of low-level Win32 APIs.
- Overloaded new and delete operators to track memory leaks and help debugging.

Math System [C++]

- Implemented vector, matrix, trigonometry, & quaternion classes and operations
- Optimized using Return Value Optimization and SIMD intrinsics.

2-D and 3-D Graphics Systems – [C++, C#, OpenGL, GLSL, DirectX 11, DirectX 12, HLSL]

- Developed system to render sprites and fonts.
- Used XML parsing to import and load characters from font sheets as glyphs.
- Developed system to render models and animation by coordinating file, math, and other systems.
- Designed code to create and manage models, textures, shaders, game objects, etc.
- Implemented lighting systems and orthographic & perspective camera systems.

FBX Converter [C++, FBX SDK]

- Extracted model and animation data to manipulate and export to a custom binary archive format

Audio Stitcher [C++, WaveOut]

- Orchestrated 24 threads across multiple systems to load and play multiple files like one file.

Maze Solver [C++]

- Increased performance speed of single-threaded solver into a multi-threaded solver by 45%

EDUCATION

DePaul University, M.S., Software Engineering (Real-time Game Systems) Aug. 2018 – May 2021

Otterbein University, B.S., Computer Science Aug. 2014 – May 2017