Chris Schmelzle

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PROFILE

Experienced Software Engineer with a history of consistently delivering successful projects across a wide range of platforms, including mobile, console and web. Self-motivated and deeply committed to continuous learning, readily embracing new technology stacks, tools, and methodologies. A collaborative team player who thrives in cross-discipline environments with a keen eye for design and visual aesthetics.

CORE QUALIFICATIONS

- Key contributor in building a #1 Top Grossing Mobile App
- Extensive experience in cross-platform development
- Comfortable working in both licensed and proprietary engines
- Effective cross-discipline communicator, collaborator and mentor

- Expert programming aptitude in C++
- Seasoned in tackling problems regarding memory and performance on consoles, mobile devices, and web
- Well versed in many facets of application and game development, including user interface, controls, gameplay, graphics, core systems, networking and tools

PROFESSIONAL EXPERIENCE

Lead Software Engineer

Ronday Technologies | Denver (Remote), CO | Aug 2021-Aug 2023

- Developed **Ronday** - a web based spatial Audio/Video communication platform for remote work and social events with an emphasis on genuine presence.
- Lead Engineer overseeing core Unity systems, user experience (camera, controls, interactions), user interface, performance and rendering, video playback, and application settings.
- Managed a team of Unity developers, artists and UX designers in an Agile/Scrum development methodology using Jira/Confluence. Actively led code reviews, best practices, bug triage, and feature release cadence.
- Built several full-stack systems to address business objectives and increase adoption, including customizable wallboards, in-engine web views, robust room security, projecting video to surface, teleporting between spaces and dynamic room customization.
- Individual contributor on several large-scale stack refactors, including replacing the existing mesh networking (Photon) with a dedicated server (DarkRift2) and the migration from a standalone Unity application to a React-based web application.
- Created a highly extensible profiling/debugging system in both Unity and React that facilitated displaying real-time information about the application state and performance, which led to a massive improvement in stability and bug identification.
- Optimized the renderer to allow for high user counts by leveraging React and HTML5 canvas to render performant video overlays.
- Built several full-stack mini-game experiences to delight and entertain users, such as Bean Bag Toss, Capture the Flag, Roulette, Blackjack and Slot Machines using Unity and React.
- Prototyped leveraging Generative AI to facilitate dynamic space creation and customization.

Senior Software Engineer

Deck Nine | Westminster, CO | Nov 2018-Jul 2021

- Primary platform engineer on **Life is Strange - True Colors**, a narrative adventure game using UE4.
- Working closely with artists and designers, defined supported graphical features, memory budgets and asset pipelines for all platforms at different scalability levels and optimized memory usage to allow for a large open-world setting.
- Provided graphics programming and debugging to support high fidelity cinematic experiences and modified UE4 source code to allow custom functionality of several key graphical features, such as post-processing and volumetric lighting.
- Created extensible NPC AI systems allowing designers to create dynamic character interactions and a vibrant game environment.
- CPU/GPU optimization and hitch prevention with emphasis on load balancing, concurrency, mesh level of detail levels, instancing, occlusion culling, lighting/shadows, ray tracing and post processing.
- Refined animation blending system to provide lifelike interactions with objects in the world for both the player and NPC actors and added key functionality to support proprietary in-house cinematic toolset.
- Working solo, brought the Switch version of the game to a first-playable state.

Lead Platform Fidelity Engineer

Telltale Games | San Rafael, CA | Aug 2015-Sep 2018

- Lead Engineer responsible for engine compatibility and visual fidelity across a wide variety of console, desktop and mobile devices. Primary point of contact for addressing problems related to material, mesh, texture and animation compression.
- Addressed memory and performance constraints by modifying rendering features to scale based on platform capabilities and implemented expanded rendering features, with an emphasis on mobile platforms.
- Championed a pre-production stress testing and tools unit testing initiative, dramatically reducing release blockers and content rework and authored several tools to improve feature release velocity.
- Implemented several shader debugging, performance monitoring and memory scoping tools which significantly improved release cadence while maintaining a large cross-platform shader and materials pipeline.
- Overhauled memory management system and refactored the existing asset preloading system to better complement expanded engine capabilities and to facilitate smooth gameplay experiences.
- Improved engine performance leveraging more efficient data structures and design patterns, asynchronous file loading, and multithreading.
- Provided mentorship and best practices for QA, choreographers, lighting artists, animators and content programmers to maximize release cadence under tight deadlines.

Senior Software Engineer

Machine Zone | Palo Alto, CA | Mar 2012-Jun 2015

- Senior engineer leading core engine technology and tools used by the game and art teams in support of **Game of War.**
- Championed the effort to upgrade the proprietary engine from OpenGL ES 1.1 to OpenGL ES 2.0.
- Implemented dynamic tutorial system affording designers and data scientists granular control over a user's first time experience, which had a dramatically positive impact on monetization.
- Implemented core game features such as Mail, City View, World View and Casino as a full-stack engineer.
- Implemented several Cocoa tools - Map Editor, Particle Editor, 2D/Vector Animation, Shaders, Animation and Emoji to allow game designers direct access to mutate game content.
- Wrote Maya exporter for Mesh and Skeletal Animations and added support for a shader-based post processing system.
- Enhanced HTML UI markup language Librocket by adding new decorators, events, text effects, scrolling marquees, render to texture and shader effects.
- Tackled on-call and customer support issues to prevent exploits and revenue damaging bugs from persisting.
- Implemented particle and shader effects used by game and art teams as a Technical Artist.

Programmer

Terminal Reality | Irving, TX | Feb 2009-Feb 2012

- Primary focus during development of **Def Jam Rapstar** was to work with designers and artists to execute the desired visual aesthetics during core gameplay, while recording freestyle tracks, and throughout the UI at both shippable quality and performance, with special emphasis on the Wii.
- Implemented cross platform leaderboards and friend list functionality for Xbox Live and Playstation Network.
- Primary focus during development of **Kinect Star Wars** was the fulfillment of core gameplay functionality in Dance and Star Fighter modes. including character rendering, stage lighting, particle and material effects, post processing effects, scripted events, animation and in-game UI.
- Provided supporting engineering efforts to the Pod Racing mode by adding dynamic weather and ground effects, prototyped NPC behaviors and course obstacles, and hooked up several achievements.
- Used the Kinect depth image to create player silhouettes and implemented photo capturing functionality across all modes for the above title.

SELF DIRECTED EXPERIENCE

Hello Moose LLC

- First Project - 2D/3D Box2D powered infinite runner game called **Ski Bums**
- Wrote full-featured cross platform engine in C++/Objective-C/Swift/GLSL
- Platform agnostic renderer - OpenGL, OpenGL ES 2.0, Metal
- Leverages ECS architecture for components and json reflection system for serialization
- Created a Windows-based editor for creating levels, materials, entities, particles and UI
- Game logic written in Lua and bound to underlying engine via LuaBind
- Unlockable achievements and leaderboards via GameCenter integration
- Ad-supported monetization via TapJoy
- Source/Demo available upon request!

SKILLS

Languages: C, C++, C#, Objective-C, Swift, Java, JSX/TSX, Lua, SQL, Python
Web: React.js, Node.js, Lit.js, CSS, HTML5, Three.js
Platforms: Xbox, PlayStation, Nintendo, Windows, OSX, Linux, iOS, Android, Stadia, Web
Engines: Unreal, Unity, Source, Infernal, Telltale Tool,
Rendering: DirectX, OpenGL/ES, Metal, WebGL
Profiling: PIX, RenderDoc, Razor, Chrome
Shading: HLSL, GLSL, Assembly, PSSL, Metal
Development: Visual Studio, XCode, GCC, Jetbrains, Android Studio
Modeling: Maya, 3D Studio Max, Blender
Image Processing: Photoshop, Gimp
Source Control: Git, Perforce, Subversion, Mercurial
Project Management: Jira, Confluence, Crucible, Notion
Build: GitHub, Docker, Buildbot, Jenkins. Concourse

EDUCATION

Master of Science: Interactive Technology
Southern Methodist University | Dalllas, TX | 2009
Masters Candidate

Bachelor of Science: Computer Science
Clemson University | Clemson, SC | 2006
Minor in Economics

PORTFOLIOS AND WEBSITES

- https://github.com/defcanuck
- https://www.chris-schmelzle.com