CHAD MCKINNEY

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PROFILE

Versatile programmer and researcher with a wide range of experience including gameplay programming, engine development, audio DSP, compilers, user interfaces, networking, and web based projects. Additional skills include music composition, sound design, and generative creativity.

WORK EXPERIENCE

2016–Present   **Lead Gameplay Engineer, Cloud Imperium Games**
Star Citizen and Squadron 42 – Developed and supported many player facing multiplayer gameplay features using a highly modified fork of CryEngine/Lumberyard in C++. Features include the interaction system, item health and destruction, the room and atmosphere system, player created missions, energy and power distribution, designer systems for item creation, spline traversal to planetary surface locations, physically moving elevators, inventory, global persistence, and more.

Promoted to Lead Gameplay Engineer in 2017 and duties expanded to include managing and mentoring a team of gameplay engineers, contributing to company wide technology initiatives, and coordinating with directors and other discipline leads. Additionally, I run the hiring initiative for gameplay engineers in the LA and Austin studios, conducting interviews, reviewing code, and have secured many new members on the team.

2014–2016   **Software Engineer, Zindagi Games**
Elder Scrolls Online – UI engineer on a third party team for the ESO console release using Lua, Xml, and C++. Developed console implementations for various systems such as the guild store, looting, character creation, quests, and inventory.

Once the ESO contract ended I moved over to gameplay programming on mobile games using C# and Unity3D. Implemented several gameplay features such as various puzzle mechanics, a recurring rewards and event system, as well as rewrote the audio and music playback system used for all projects in house.

2011–2014   **Researcher and Teaching Assistant, University of Sussex**
Researched and developed collaborative systems for making generative music. Projects include several network synced 3D environments with procedurally driven interfaces and a pure functional language for live-coding music that compiles to JavaScript and runs in a browser. Also provided teaching assistance for classes including Generative Creativity, Intro to Programming, Operating Systems, Networking, Compilers, and Computer Music.

PROGRAMMING LANGUAGES

C/C++, C#, Haskell, Lua, Python, Unix/Bash, JavaScript, SuperCollider

SKILLS

Data Oriented Programming, Multithreading, Linear Algebra, Linux Development, Digital Signal Processing, Domain Specific Language Design

ENGINES, FRAMEWORKS, LIBRARIES, AND APIS

CryEngine, Lumberyard, Unreal, Unity3D, WebGL/Web Audio, C11, C++11/14/17, Boost, Qt, LLVM, LaTeX

TOOLS

Visual Studio, Perforce, GDB, Git, Rad Tools Telemetry, CMake, WAF, VIM

EDUCATION

2011–2016 **Doctor of Philosophy, University of Sussex**
Music Informatics, Dissertation: Design, Collaboration, and Embodiment in Networked Music Interfaces for Live Performance

2007–2009 **Master of Fine Arts, Mills College**
Electronic Music and Recording Media

2001–2007 **Bachelor of Music, University of Oklahoma**
Music Composition

PUBLICATIONS

2016, Sussex	Design, Collaboration, and Embodiment in Networked Music Interfaces for Live Performance
2014, NIME	Quick Live Coding Collaboration In The Web Browser
2013, Bantam	Stout recipe included in the book *Brewing Britain*
2013, NIME	An Interactive 3D Networked Music Space
2012, LIPAM	Visualization of Network Based Multi-User Instruments
2012, LIPAM	Liveness in Network Music Performance
2012, SMC	Yig: The Father of Serpents
2012, ICMC	OSCthulhu: Applying Video Game State Based Synchronization to Network Computer Music
2012, SLEO	Glitch Lich: Evolution of An Intercontinental Laptop Band
2009, Batty	Glitch art contribution to *Glitch: Designing Imperfection*
2007, Mills	Metagaming: Experiments With Art And Games

HOBBIES AND INTERESTS

Video Games

Favorite games and series include Grim Fandango, Dark Souls, Hearthstone, Braid, Diablo, Deus Ex, Shadow of the Colossus, Super Metroid, and The Elder Scrolls series. First computer was a Commodore64 and began gaming with games like Ultima and Battletech, which has become a life long obsession.

Music Composition and Performance

Written compositions for various bands and ensembles including technical metal, jazz, orchestra, string quartet, solo piano, percussion ensemble, Koto, and more.

Home Brewing Beer

Several years experience including high marks from the Great British Beer Festival and a published imperial stout recipe. Wide range of ales including Pale Ales, IPAs, Brown Ales, Porters, Stouts, and assorted Belgian styles.