

Devon Raymond Murray

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Qualifications

- C++/C# programmer skilled in real-time systems, software architecture, and linear algebra.
- Demonstrated analytical and quantitative problem-solving skills.
- In-depth knowledge of Audio Engineering and Audio Programming.
- Capable of handling large workloads under intense pressure and deadlines.

Work Experience

Coded Creativity – Software & Audio Engineer, 3D Artist, Designer March 2021 - PRESENT

- Independently developing a Survival Horror game with advanced AI, Combat, and Game Systems.
 - Behavior Trees for Enemy Artificial Intelligence (AI), A* (a-star) algorithm for enemy path finding.
 - Typing mechanics for in-game computer interaction (diegetic UI).
 - Rendering dynamic materials through Unity Shaders.
 - Physics-based sword combat combined with smooth item equips/drops.
- Developing a SIMD Math Library with goals of implementing into Unity or other engines.
- Experimenting and creating Music and Sound Effects for games.
 - Accomplished with Ableton, Pro Tools, FL Studio, MaxMSP, and live Instruments & Foley.
- Prototyping different gameplay mechanics and game systems.
 - Inventory systems, Equipping Items, Weapons (Melee & Firearms), Physics-Based movement.

Microsoft (Turn 10 Studios) – Gameplay Engineer [C++, C#, WPF, SQL] Oct. 2022 – Sept. 2023

Credited on [Forza Motorsport](#)

[\(Best Sports/Racing Award – 2023\)](#)

[\(Innovation in Accessibility Award – 2023\)](#)

- Single-player features, with a mix of Live Service and Database work.
- Voice overs, audio events, and other areas of Onboarding.
- Rewards and other miscellaneous UI modals.
 - Utilized MVVM to implement UI under a modified WPF implementation.
 - Wrote the structure for reward popups after races.
 - Scripting and minor DB changes for data transfer.

Verizon (Envrmt) – Junior Engine Developer [C++, C#, WPF, Python] June 2021 – Oct. 2022

Developed BlueJeans Spaces for Windows Platform.

[\(Spaces Ad\)](#)

- A Virtual Workspace for people to communicate with co-workers as if they are in the office.
 - Modifications to Engine as necessary for certain tasks.
 - Developed multithreaded network calls to make user-searching possible.
 - Updated audio systems to accommodate for audio events.
 - Created Audio Events and Engine Callbacks for user interactions.
 - Created the Search Bar, Settings, Spaces Sorting, and Onboarding through WPF using MVVM.
 - Various different bugfixes, features, and refactors.

Dark Catt Studios – Gameplay Engineer Intern [C++, UE4] Jan. 2019 – June 2019

Credited on [Djinni & Thaco: Trial By Spire](#)

- A VR Tower Defense game made using Unreal Engine 4 Blueprints.
 - Debugging and programming enemies, audio systems, and controls.

Education

DePaul University, Chicago, IL
B.S. in Computer Science

Sept. 2016 – Mar. 2021

Technical Summary

Programming Languages:	C / C++, C#, Python, XML, HTML, CSS, JSON, Java, JavaScript, Bootstrap, SQL
Frameworks & Libraries:	WPF, Unity, Unreal Engine 4, DirectX11, FMOD, XAudio2
Agile Platforms:	Azure, Jira, Taiga, Trello
Platforms & IDEs:	Windows, Visual Studio, VSCode, Jenkins, Salesforce
Version Control:	Perforce, Git, BitBucket, Tortoise SVN
Relevant Applications:	Pro Tools 12, MaxMSP, Ableton Live, FLStudio, MuseScore, Blender, Gimp
Skills:	Linear Algebra, Real-Time Systems Architecture, Game Programming, Audio Engineering, Music Production, Technical Writing

Relevant Projects

Bumper Ship Showdown [C#, Unity] – Lead Programmer, Audio Production Lead

A 3D online brawler where players partake in a dangerous sport, which is essentially bumper cars in space with more objectives.

- Gameplay, Audio, and Network Programming.
 - Events, Game Modes, Unity UI, Optimization, Debugging
- Sound Design and Music Production.
 - Composed and Produced all sounds and music in ProTools 12, FLStudio, & MuseScore.
 - Recording and Production accomplished with live guitar, bass, & synth recordings mixed with pre-produced percussion and samples using MaxMSP & FLStudio.

Modest Engine [C++, FMOD] ([Click for Videos](#))

Created a Game Engine, during my degree, to help with developing a game. Consists of several core systems as well as Audio research.

- Modest Sound (Audio API using FMOD), Game Objects, Collision, Scene, Terrain, Alarms, Input, Sprites, Fonts, Screen Logging, Resource Management, & Math Tools

Vox Tanx [C++, Modest Engine] ([Click for Video](#))

- A simple tank game demoing the features of the Modest Engine (see above).
- Worked with ProTools 12 & MuseScore to record and produce any sounds and music for the game.

Multithreading Coursework [C++, WaveOut, XAudio2]

- Multithreaded Audio Playback
 - A system that reads multiple audio files, writes to, and stiches together twenty 2K-byte audio buffers, playing them seamlessly, as if it's one file.
 - Simultaneously loads, writes to buffers, and coordinates which/when audio is played. Using Circular Queues, Futures/Promises, and waiting.
- Multithreaded Maze Solver
 - An exercise in making a DFS maze solver faster through parallelization.
- Created a Multithreaded Audio API using basic multithreading techniques and software architecture strategies.