

Manoel McCadden

Audio Programmer

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SKILLS

Programming Languages: C/C++ (Memory Mgmt, Multithreading), Javascript; Familiar w/ Assembly, GLSL, R, C#, Java
Computer Science: DSP, Real-Time Sound Synthesis, Computational Acoustics, Data Structures, Algorithms, OS, Architecture
Libraries & APIs: OpenGL, GLFW, GLM, Dear ImGui, JSON for Modern C++; Familiar with Vulkan
Development Tools: P4V, Git, Doxygen, Make, Visual Studio, NeoVim
Development Practices: Code Reviews, Unit Testing, Debugging, Profiling, Code Documentation, Technical Writing
Game & Audio Software: Wwise, FMOD, UE5, C++ Custom Engine, Art & Audio Pipeline Development
Audio Engineering: Reaper, Mixing, Vocal & Instrument Recording, Live Event & Studio Setup & Teardown

PROJECTS

- Hyperfist** Sep 2025 - Present
- Audio Programmer on an 18-person team, where we are creating a 3D fast-paced first-person melee combat game about delivering the most radical punch possible using Unreal Engine 5.4 and Wwise 2023
 - Showcased at Seattle Indies Expo and Seattle Indies SLICE
 - Implementing UI/VFX synchronization with music and SFX, and dynamic audio interactions with our charging system
- Cretaceous Clash** Sep 2024 - Aug 2025
- Programmer, Technical Audio Designer, and Tech Lead on a 5-person team where we created a 2D turn-based action RPG in a C++ custom engine with task-tracking, weekly code reviews, and semi-weekly team meetings
 - Engineered an FMOD-powered audio system with features such as BPM-based movement synchronization, auto-ducking, and action-triggered audio transition
 - Built an OpenGL and GLFW-based graphics system using GLM, GLSL shaders, batch rendering, and Z-Depth sorting
- Nomentum** Oct 2023 - Dec 2023
- Designed and implemented a 2D momentum-based platforming game with a 3-person team in C
 - Developed a modular grid-based level building system, streamlining the creation of our 10+ levels
 - Implemented and maintained a physics system to handle input-based acceleration, gravity, and collision resolution

WORK EXPERIENCE

- Game Project TA/Mentor** Redmond, WA
DigiPen Institute of Technology Sep 2025 - Present
- Supporting 17 tech teams, with 3-to-6 members each, in audio, graphics, physics, serialization, and engine architecture as they develop an original game in a custom C/C++ game engine
 - Providing direct mentorship for one of the custom engine tech teams through in-person and online support and guidance
- Sound Lab Assistant** Redmond, WA
DigiPen Institute of Technology Sep 2024 - Present
- Development of an automated room reservation tool to simplify the process for both users and the sound lab team
 - Assisting students in debugging issues in both blueprint and C++ Wwise middleware implementation and integration with Unreal Engine 5
- Data Analytics/Music and Sound Design TA** Redmond, WA
DigiPen Institute of Technology (WANIC Program) Summer '23, '24, & '25
- Worked with a team of TAs to develop and deliver a new program to 70+ high school students, which introduced them to topics in data analytics such as plotting, research, and analysis through R and Excel
 - Mentored 15 students of varying skill levels by managing attendance daily, grading weekly assignments, and individually working with each student to ensure they had the needed support for their development

EDUCATION

- DigiPen Institute of Technology** Redmond, WA
Bachelor of Science in Computer Science and Digital Audio Aug 2023 - May 2027
Dean's List 2024-2025