

MATTHEW FLYNN

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Portfolio: <http://audio-programming.matthewe-f.com/>

WORK EXPERIENCE

Composer/Sound Designer Assistant

Jun - Aug 2023

To Daniel Kluger, Grammy-nominated composer and sound designer

- Contributed to planning and set up of signal flow, equipment, and acoustic treatment of 5.1-capable studio outfitted with multiple synths and monitors
- Learned to work without direct oversight, solving problems and gaining necessary skills as they arose

Full-Stack Developer

May - Sep 2022

uCredit

- Collaborated with ~15 fellow students to build degree completion and course schedule planning app used by hundreds of peers after release
- Received academic credit for work; project approved and overseen by Johns Hopkins faculty advisor

Composer & Technical Audio Designer

Feb - Aug 2021

Project Nono (Video Game)

- Worked at the Johns Hopkins Medical Research Center on a game for fine-motor physical therapy
- Composed interactive music responding directly to controller input from players, rather than game state, greatly increasing player engagement in clinical trials
- Used MIDI in Wwise for music, to allow smooth and responsive changes in tempo, instrument, etc.
- Created velocity- and cc-sensitive MIDI instruments in Wwise, to play files described above

OTHER AUDIO PROJECTS

Audio Programmer

Nov 2024 - Jan 2025

Various DAW Plug-ins (Personal Project)

- Created channel-variable EQ and configurable repeating delay plugins with JUCE and C++
- Used circular buffers, in-place algorithms, graphics caching, etc., to achieve high performance
- Implemented parameter smoothing and audio resource synchronization to prevent audible artifacts

Audio Programmer

Oct 2023 - Jan 2024

Dynamic Ambience System in Unity (Personal Project)

- Implemented dynamic triggering, modulation of SFX based on tagged game objects and "zones"
- Ambience seamlessly blends between zones; volume and trigger rate increase/decrease based on distance from the zone, with overlap area between zones
- Spatialized SFX based on game objects; used multiple point-source emitters to simulate area sources
- Created system to define "contoured" SFX randomization, e.g. to create dynamic bird calls out of individually recorded chirps, with realistic pitch contour and timing variation, etc.

Programmer

Mar - Aug 2021

Project Dew

- Implemented 100+ sound effects and interactive music tracks using Wwise
- Integrated Wwise with Unity, handling all event and game sync programming with WAAPI
- Dynamically loaded Wwise Soundbanks based on gameplay scenario

EDUCATION

B.S. in Computer Science, 2024

Johns Hopkins University, Baltimore MD. GPA: 3.77

B.M. in Music for New Media, 2024

Peabody Institute, Baltimore MD. (Concurrent with above)

SKILLS

Programming Languages

C++, C#, C, Java, JS/TypeScript, x86-64 Assembly

Audio Tools and Frameworks

Wwise, WAAPI, JUCE, Unity Audio System

Languages

Conversational Japanese

Relevant Coursework

Object-Oriented Software Engineering, Algorithms, Data Structures, Sound Design for Games, Linear Algebra, Calculus I-III