Sam Mackie – Audio Programmer

C++ developer passionate about procedural audio systems for games.
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EXPERIENCE

Junior Audio Programmer – Tazman-Audio (December 2019 - Ongoing)
Working on the Fabric audio middleware and various 3rd party projects (C++, C#).

Creator - Polar (October 2018 - September 2019)
Created a real-time game audio engine for Windows and Linux that leverages GPUs for signal processing. Features include a voice playback and mixing system, additive synthesis modules and physical modelling for procedural synthesis (C/C++, CUDA).

Creator - Wwise Suite (March 2019 - Ongoing)
Created a set of audio effect plugins to extend the Wwise middleware. Suite includes a bitcrusher, transient designer and a wavetable synthesiser (C/C++).

EDUCATION

Solent University - MSc Computer Engineering (September 2018 – October 2019)
Planned, coded and debugged object-oriented business software (Java).
Designed and tested databases for the web (SQL).
Implemented and deployed a RESTful API for web applications (PHP, Javascript).
Researched and presented the latest technical trends in networking and cyber security.

Final Project:
Researched, developed and benchmarked the performance of real-time procedural audio techniques when applied to GPGPU computing for discussion in a dissertation (C/C++, CUDA).

Keele University - BA Music Technology, First Class (September 2013 – June 2016)
Developed a granular audio application for surround sound playback (C).
Prototyped performative sound design tools for musicians (Max, Pure Data).
Recorded, mixed and mastered for live bands (Logic Pro X).

Final Projects:
Created and presented a 16-minute portfolio of sound design, programming and audio-visual compositional projects to the public with live surround sound diffusion.

Researched and analysed a chronology of war films to publish a dissertation on the past, present and future of narrative sound design techniques.

HOBBIES

Language learning (Japanese), playing drums, field recording and writing sound design analysis.