DALE WHINHAM
Software Engineer, Newcastle-upon-Tyne

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PROFILE

A highly-motivated, passionate and inquisitive programmer, electronics enthusiast and musician. Holder of a Master's degree in Computer Science (Games Engineering).

Formerly an IT Manager at a multi-national engineering company, I left after 4 years of service to pursue my dream of turning a coding hobby into a career in software engineering.

I'm eager to join a collaborative team where I can both contribute my skills and grow through new challenges.

RECENT PROJECTS

mt32-pi   https://github.com/dwhinham/mt32-pi

An open-source, bare-metal (no operating system) MIDI synthesizer for Raspberry Pi, emulating the capabilities of classic 1980s/90s music synthesizers. Written in C/C++ and featured in many retro-gaming YouTube videos as well as *Tom's Hardware*: https://www.tomshardware.com/news/raspberry-pi-mt32-pi-midi-synth

ARM Mali SDK   https://developer.arm.com

A C++ and OpenGL ES native Android code sample, demonstrating how to use multisampled framebuffer objects and render-to-texture to achieve efficient anti-aliasing on the ARM Mali series of mobile GPUs.

MilkyTracker   https://milkytracker.org

I ported this open-source cross-platform music editor to Cocoa (macOS) using Objective-C and OpenGL in order to remove its dependencies on deprecated macOS APIs. This has given me substantial experience in mixing C, C++ and Objective-C together in one project.

I additionally contributed a new CMake-based build system, bugfixes for the app's Mac sound driver (Core Audio), a port of the app from SDL 1.x to SDL 2.x for Linux targets, and set up Travis/AppVeyor continuous integration.

SKILLS

Programming

C ▪ C++ ▪ Python ▪ Bash
Rust ▪ Some assembly (ARM/x86)

Visual Studio/VS Code ▪ Xcode
IntelliJ ▪ Android Studio

Git ▪ CMake ▪ SSH
Unix command-line ▪ Cloud VMs

Linux ▪ macOS
Embedded Systems/Microcontrollers

Cross-platform development
LLVM/GCC compilers ▪ Game dev

PHP ▪ SQL ▪ HTML5 ▪ CSS
JavaScript ▪ React

Libraries and Frameworks

SDL2 ▪ OpenGL ▪ Unity & Unreal
Arduino ▪ Circle (RPi bare metal)

Operating Systems

Windows ▪ Linux
macOS ▪ BSD family

ACHIEVEMENTS

Academic Prize 2018   Newcastle University

Awarded the School of Computing prize for best overall performance by an MSc Computer Game Engineering student.

HackNE 2014   Hosted at Hancock Museum, Newcastle

Participated in a Hackathon in a team with three other students. Awarded the main prizes from two sponsors (Bloomberg and Bede Gaming) for best use of APIs and for our creative use of hardware (Arduino/LED matrices).

EDUCATION

2018-2019: PGDip Cloud & Big Data   Newcastle University

Big Data Analytics, Cloud Computing, Machine Learning, Data Visualization, Programming for Big Data, Maths & Stats for Computer Scientists, Time Series Data, Statistics for Big Data.

2017-2018: MSc Computer Science (Dist.)   Newcastle University

Advanced Programming for Games, Advanced Graphics for Games, Advanced Game Technologies, Research Methods, Team Project, Final Project & Dissertation. Achieved Distinction.

2013-2017: BSc Computer Science (Hons.) Newcastle University

Specialized in Game Development and achieved First Class

EMPLOYMENT

2021 (Aug-Nov): Software Engineer   Coconut Lizard

Completed a project to port a AAA game studio's Unreal Engine memory diagnostics/profiling toolset to PlayStation 4.

2015-2016: Intern Software Engineer   ARM

Developed code samples for the ARM Mali graphics SDK during a summer internship. Later worked on power management firmware for ARM-based system-on-chips.

2008-2012: IT Manager   P3Voith Aerospace

Responsible for all aspects of IT within the company, including procurement and deployment of hardware and software, and providing one-to-one technical support to employees across three UK offices.

REFERENCES

I would be delighted to provide references upon request.

Other Skills

- Ability to take responsibility for tasks and work independently

- Ability to work under pressure and meet deadlines

- Adaptable, flexible, and quick to pick up new development tools and techniques

- Good at problem-solving

- Great team-working and communications skills

- Excellent written English

- Excellent documentation and code-commenting skills, familiar with Doxygen, wikis etc.

- Lots of experience with version control (Git), continuous integration, and code review systems (e.g. Gerrit)

- Great debugging skills; familiar with Visual Studio, Xcode and IntelliJ built-in debuggers

- Strong understanding of C/C++ pointers and dynamic memory allocation

- Understanding of multithreading and thread-safety

- A love of graphics and audio-related programming

- A love of "close-to-the-metal" programming; enjoy producing code that directly accesses the hardware or operating system