Ian Copland : Software Engineer

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About Me

I am a software engineer who is passionate about programming within the games industry. In particular, I am interested in game engine architecture and graphics programming.

Currently, I am Lead Technology Programmer at Tag Games - a mobile game developer based in Dundee, Scotland. While there, I have worked on a number of mobile titles and have spent the last two years working on the ChilliSource game engine and other internal technologies.

It is my goal to continue to develop a career doing what I love. I constantly strive to improve in all aspects of programming and game development by keeping up to date with current practices and experimenting with new techniques.

Skills

Languages	C, C++, C#, Objective-C, Java, Python, and several others I use less frequently. I have extensive knowledge of C++11 and have experience with C++14
Graphics Techniques	Skinned animation, shadow mapping, various lighting techniques, glow effects, cel shading, Sobel filter edge detection and others. I have implemented both forward and deferred rendering systems
Graphics APIs	OpenGL, OpenGL ES and DirectX
Development Practices	Agile development, code reviews, GitFlow, continuous integration, test driven development, object oriented programming, data oriented programming, concurrent programming and functional programming
Applied Mathematics	Good knowledge of vector and matrix algebra and dynamics
Tools and IDEs	Visual Studio, Xcode, Eclipse, Git, SVN, Jira, Crucible, Stash and Jenkins

Experience

Lead Technology Programmer, Tag Games Ltd: 2013 – Present

- Lead development of the ChilliSource game engine. This includes designing engine features, managing the task backlog, reviewing all additions to the engine and assisting the game teams with any problems encountered
- Currently designing and implementing a new multi-threaded, deferred renderer
- Developed a number of other rendering features such as: the particle system, shadow rendering, skinned animation, font rendering and many others
- Implemented core engine features such as: concurrent task scheduling, the maths library, resource management and the platform agnostic file system
- Open-sourced the engine, making it publicly available on GitHub
- Assisted with the design of our 'Game Backend as a Service' platform, ChilliConnect
- Developed a tool which generates SDK source code for ChilliConnect

Personal

- Developed and released 'Blue Up!', an endless runner with Worms style destructible terrain
- Experimented with and evaluated the performance of various C++ allocators

Gameplay Programmer, Tag Games Ltd: 2010 – 2013

- Developed a number of mobile titles, including Might & Magic: Clash of Heroes and Doctor Who: The Mazes of Time
- Led the development of Talking Poppet
- Contributed to the ChilliSource game engine while working on game projects
- Trialled and introduced new development practices to the company, including code reviews

Graduate Software Engineer, Realtime Worlds: 2010 – 2010

- Worked off-site at the University of Dundee along-side academic researchers to improve the technologies in Project: MyWorld

Qualifications

BSc (Hons) Computer Game Technology, Abertay University: 2006-2010

- Graduated with an upper second class BSc (Hons) in Computer Game Technology in 2010

Hobbies and Interests

Guitar   I love to play my electric guitar and my new Taylor 214ce acoustic

Taekwon-do   Martial arts have fascinated me ever since I studied Shotokan Karate in my teens. More recently, I have been taking Taekwon-do classes

Reading   Reading is one of my favourite pastimes. I particularly enjoyed the Sherlock Holmes short stories and the novel Catch-22

Personal Details

Date of Birth   13th April 1988

Driving Licence   Full, Clean

References

References are available on request.