

# executive summary

**SIMON COOKE**

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*Big-picture focused, experienced Director-level Software Engineer and Business Developer with a creative flair, a track record of providing timely, innovative solutions, and a keen eye for detail. Excellent communicator and manager, with demonstrated expertise in Games Development, Consumer Software, and Embedded Systems.*

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## Employment History

*X-Ray Kid Studios (July 2008 - Present)* *Director of Engineering & Business Developer*

- Drove the multi-year technical strategy for X-Ray Kid Studios, including choice of development platform and staged parallel development on multiple titles.
- Negotiated contracts with 3<sup>rd</sup> party vendors & middleware providers.
- Game design and concept work on a number of titles for Microsoft as a 3<sup>rd</sup> party vendor, as well as XRK internal projects.
- Initiated project pitch discussions with various third party publishers, from making the initial contact through to final in-person pitching of the project.
- Budgeted and planned staff and schedule for \$12.8MM game proposal, and technical evaluation and planning for a \$1.25MM joint venture.

*Surreal Software (Midway Games) (January 2005 – July 2008)* *Principle Technology Engineer*

- Managed several teams of between 5 and 7 people, including career development and project planning.
- Developed key gameplay systems for *This Is Vegas*, and tools used throughout Midway's studios.
- Worked closely with design and art teams, and teams in other studios to ensure their needs were being met
- Took a team with a poor reputation with the other departments, and entirely turned it around.
- Lead Engineer experience spanning Tools, Engine and Gameplay technology on XBOX 360, XBOX, PS3, PS2, and PC, including all areas of the Unreal Engine 3 codebase.

*Intelligent Ion Inc. (2002-January 2005)* *Lead Software Engineer & Architect*

- Designed and implemented graphical user interface, low-level hardware interfaces, high-speed network architecture, and statistical analysis reporting/graphing applications for a miniaturized scientific instrument, responding quickly to rapidly changing requirements in a limited resource environment.

*Sierra Entertainment Inc. (1999-2002)* *Lead Software Engineer & Architect*

- Managed teams of up to 5 people, and scheduled product features
- Designed and implemented new versions of *Generations Family Tree* software, including UI and custom database code, VRML generation, printing logic, reports generation.
- Designed, architected and implemented *Sierra Photo Lab* image editing software from scratch, and lead the engineering project from start to finish.
- Repeatedly shipped on time and under budget on limited resources and short schedules.

*Microsoft Corporation (1998-1999)* *Software Design Engineer*

- Designed and implemented parts of the *.NET framework* (Winforms), and maintained VJ++ 6.0 code.

*netFusion Ltd/Inc. (1996-1998)* *Product Dev. Specialist, Sr Software Consultant / GUI Project Coordinator*

- Maintained existing mainframe capacity planning product, and designed architecture for a new C++/win32 based product with wider scope and better UI.
- Acted as GUI coordinator for a European Community engineering project on secure networking.

*Freelance software engineering (1991-1997)* *Various*

- Worked on ports of *Prince of Persia*, *Lemmings* and *Populous*. Wrote terminal software, disk copy-protection, ultra-fast compressed audio playback and other routines.

## Education

BSc. (Honors) in Physics with Electronic Engineering, University of Manchester Institute of Science & Technology.

# full details

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## SKILL SET

### Languages

C++, C#, Assembly language, SQL.

### Frameworks, APIs and other knowledge

Win32, ATL, WTL, STL, COM, MFC, GDI, DirectX, WinSock, TCP/IP, UI Design & Implementation.ASP, Microcontroller programming, Embedded Systems, Image Processing, 3D algorithms, MMX and SIMD, TCP/IP, UDP, .NET, XBOX 360 architecture, Playstation 3 architecture.

### Skills

Software project management. Risk analysis and management. Budgeting, planning and scheduling. Business development. Games development on XBOX 360, XBOX, PS2, PS3 and PC. Games design. Software and systems architecture. User Interface development and design. C++, C# and Win32 programming. Specialist in software optimization, debugging.

## PROFESSIONAL EXPERIENCE

### X-Ray Kid Studios (July 2008 – Present)

#### *Director of Engineering (July 2008 – Present)*

*“Simon IS the BEST engineer I have met. If you ever get the chance to work with him take it” – Mike Christian (Founder, XRK)*

*“He is a tremendous self starter, strong manager, and a true futurist with a solid grasp of the bigger picture ... Simon possesses the invaluable combination of refined technical ability and exceptional understanding of the work of his creative counterparts” – Brian Wyser (Founder, XRK)*

*““Intelligent, creative, thoughtful, and knows his business from every angle. Anyone would be lucky to have someone of Si’s caliber on their team.” – Aron Lusen (Art Lead, XRK)*

- Set the technical direction of the company, including evaluating various target games platforms based on the short term and long term business opportunities that they would present for the company.
- Managed pitch discussions with various third party publisher, from initial contact through to final meetings.
- Represented the company in pitches with third party publishers, including acting as producer for pitch efforts, and producing leave-behind materials.
- Evaluated various engines and tool chains for suitability for developing video games to meet XRK’s strategic vision.
- Negotiated contracts and established relationships with 3<sup>rd</sup> party vendors & middleware providers, including Microsoft’s as-yet unannounced announced Independent XBOX Developer program.
- Game design work on a number of as-yet unannounced titles for Microsoft, and internal projects.
- Assisted with the optimization of a partner’s internal engine for the XBOX 360 platform.
- Prepped partner’s cross-platform engine for use by XRK prototyping efforts (stripped out existing game code, fixed bugs, implemented new systems where necessary, including spline-based rail camera system).
- Developed stories for a number of game concepts, building on and fleshing out the initial ideas.
- Wrote concept video script for ARG game as an internal sales tool for Microsoft.
- In tandem with Studio Director, developed the pitch & concept for a new music-fighting game – *MashUp!*
- Created and implemented engineering department hiring practices.
- Built company public-facing website.
- Developed budgets, staffing plans and schedule for \$12.8MM game proposal (*The 99*).
- Performed technical analysis and evaluation for joint-development deal on an XBLA title (\$1.25MM budget).

## **Surreal Software (Jan 2005 – July 2008)**

*"Almost single handedly shipped Suffering 2: Ties That Bind"* – Noah Heller, Producer; Stu Denman, Tech Director

### **Principle Technology Engineer (Feb 2007 – July 2008)**

*Project: This Is Vegas (Unreal Engine 3)*

- Wrote tool to dump structure layout information from PDB files using the DIA SDK, and identified several key memory and object layout optimizations.
- Memory and CPU cache optimization of key data-streaming systems on XBOX and PS3, giving a x10 speed improvement, and 1.5Mb reduction in memory usage.
- Primary engineer responsible for porting *This Is Vegas* to the PS3, including strategic code pulls from Epic's vendor branch, memory optimization, speed optimization, integrating graphics debugging and optimization tools, training other programmers on use of the PS3 toolset, and generating scheduled tasks for other programmers on the team to aid in the PS3 work.
- Implemented the in-game HUD for several key game components.
- Architected and implemented in-game UI management framework to tie Flash movies to the game code; included event management, control containment, and stacked UI scenes.
- Owned the UI framework, and Scaleform integration; audited other teams' work with this studio-wide.
- Created automatic source-code merge tool in C# to automate the routine merging of code from other studios, as well as a variety of Visual Studio Project file merge and consistency checking tools.
- Rewrote an automated centralized file backup tool I had previously architected (implemented by our Automation engineer when I was tools lead) in C# at the request of the IT department, making it much more robust.
- Implemented dynamic array usage tracking tool to assist in the memory optimization of the game to fit into the XBOX360 memory map.
- Identified key code sharing opportunities across studios, shared technology expertise and code among all Midway studios.
- Mentored several of the newer programmers across the team.
- Localization planning for simultaneous ship across three platforms, and several languages.

### **Lead Gameplay Programmer (Nov 2005 – Feb 2007)**

*Project: This Is Vegas (Unreal Engine 3)*

- Was asked by the producer to move from the Tools team to fill a long vacant spot as manager of the Gameplay programming team.
- Managed a team of five engineers. Wrote performance reviews, approved feature design documents.
- Was involved in early-phase design discussions regarding key game features.
- Designed and implemented player-world interaction system. Featured spatial and data-based culling to improve performance, hugely reducing the size of the data sets considered each frame.
- Integrated third party UI framework (Scaleform) into the game, and debugged XBOX 360 renderer implementation provided by another Midway studio. Added memory usage statistics and CPU performance statistics. Created automatic import tool for the art team to convert Flash movies into asset packages.
- Implemented in-game mini-map.

### **Lead Tools Programmer (Jan 2005 – Nov 2005)**

*Project: Suffering: Ties That Bind (Proprietary Engine)*

- Managed a team of three engineers, and repaired their reputation with the rest of the company. Also provided software engineering guidance.
- Managed the Tools Team schedule. Assessed risk and priority of tasks, and triaged bug work during the final push to release the game.
- Diagnosed hard to debug issues with the game engine and renderer systems (PS2, XBOX, PC), and fixed a large quantity of bugs in the level editor.
- Architected and developed a crash monitoring and tracking system which has since been used throughout all Midway studios, and exposed problems with our internal tools which were not being reported by the artists and designers.
- Heavily optimized the performance of the art pipeline, and the editor tools.
- Helped design with the pacing of cinematics scenes in the opening sequence of Level 1.
- Provided Tools support to Localization department on Russian version of Suffering 2.
- Identified critical problems with our build and submissions process – including the diagnosis of faulty hardware – which were holding up the successful shipping of the game.
- During the final crunch, took on another two engineers who were underperforming, and coached them.
- Wrote performance reviews, was involved in hiring, firing and layoff decisions.

## Intelligent Ion Inc. (2002 – Jan 2005)

### *Lead Software Engineer and Architect*

- Designed, implemented and architected a networked client/server fast data acquisition system for a Mass Spectrometer. Implemented in C++ on an embedded Windows NT4.0 system. Client software was designed for Windows 2000/XP, and included innovative buffering schemes to maintain peak network performance, with fallback to modem speeds for remote troubleshooting.
- Designed and implemented GUI for client software, including real-time (and throttled) charting of acquired data and statistical analysis, including spectral peak identification, centroiding, noise analysis (1<sup>st</sup> order differential), windowed and rolling averages.
- Implemented add-on tools using Excel for offline data manipulation.
- Created graphical charting application with several different modes for data display, including automatic axis calibration and logarithmic display of data.
- Designed and implemented the Gas Chromatograph control system.
- Introduced software backup and versioning management procedures.
- Worked closely with the Principal Hardware Engineer to specify embedded systems requirements for the version 2 system (Coldfire based), debug prototypes and schematics, analyze bugs, and other troubleshooting and design tasks. Utilized debugging and physics skills to debug complex hardware and physics problems from the control board through to the internals of the particle accelerator ionizer assembly.
- Worked closely with the VP of R&D to specify requirements and design software and hardware systems.
- Scheduled software project tasks and hardware development tasks in conjunction with the other technical team members.
- Specified tasks for, and oversaw development efforts of 3<sup>rd</sup> party contractors.
- Shipped 10 prototype systems to laboratories across the world, including the University of Florida, JPL, PNNL, and Sandia Labs.
- Performed technical presentations and demonstrations for potential investors, customers and scientific advisors.
- Authored and researched technical and business presentations including project planning and project risk analysis for the board of directors and key investors (delivered by the CEO and VP of R&D).
- Produced graphic design material including logos, banners, product displays and graphics for onscreen use. Maintained and designed the company website. Designed, laid-out and wrote the software user manual. Acted as network administrator.
- Wrote internal tools for mailing list and calendaring distribution via email using the Outlook Object Model.
- Wrote Visual Installer install/uninstall wrappers around software components for distribution to customers.

## Sierra Online Inc. (1999 – 2002)

*"Simon's infectious energy and focus on the goals of the project helped us pull off one success after another. It was a pleasure being a part of the team with him that produced award winning products" – Sam Hranac (Designer, Sierra Online)*

### *Lead Engineer, Architect (2001-2002)*

*Project: Sierra Photo Lab*

- Designed, implemented and architected a photo editing application for inclusion with multiple Sierra Home products (Print Artist, Hallmark Scrapbook, Print Artist Disney, Hallmark Card Studio, etc), starting from scratch. The product ("Sierra Photo Lab" or "Sierra Photo Power") shipped ahead of schedule, and is designed for future extensibility and maintenance. The product is based around a core of C++ utilizing the ATL and WTL libraries, heavy GDI utilization, as well as the Lead Tools imaging libraries for file import/export support. It includes standalone application functionality, and can also be integrated into other applications using a simple DLL interface. The application was specifically designed to be localized for a variety of languages and countries.

- The Photo Lab application I designed is for inexperienced users, and includes support for: image cropping, color correction, brightness/contrast manipulation, custom-cropping of images using rubber-banding, cropping to shapes stored in WMF files, red-eye reduction, blurring and smoothing of the image. It is designed to accept pluggable UIs and tasks with a minimum of dependencies on the rest of the framework, has command-pattern implementation for Undo/Redo support, supports an in-memory compressed Undo stack for continuous undo/redo, has a dynamically resizing UI based on child-dialogs for ease of localization, and has a minimum of dependency on the system registry and file-system to reduce the cost of testing and writing installation software around it.
- Implemented the main framework for the application, including file import and export, time-to-download estimates, the undo/redo system, main application frame window code, custom UI controls, dynamic UI resizing, and the color correction and brightness/contrast manipulation functions.
- Managed and scheduled a team of 5 developers

### *Lead Engineer, Architect (1999-2001)*

*Project: Generations Family Tree*

- Designed, improved upon and maintained the #1 selling U.S. Genealogy software title *Generations Family Tree* (Time Magazine's recommended Christmas gifts for 2001, PC Magazine's #1 Editor's Choice). Utilized C++ on Win32, with a custom flat-file database, GDI, and LeadTools for image file importing. Support tools & suite applications were created using VB6.0, DAO, SQL, MFC, ATL, the IE browser component and other 3rd party tools. VB applications were extended with C++ DLLs to add low-level removable device management
- Managed & scheduled development tasks for team of 3 developers
- Worked with the designer to create new features, and with the producer and production coordinator on content and product planning
- Designed features and internal architecture for the next-generation version of the product
- Fixed 1000+ bugs in legacy code over a 4 month period. Increased performance in some areas by a factor of 17
- Proposed the creation of and implemented Sierra's first ever DVD software product –Generations Deluxe DVD – reduced cost-of-goods by over 50%, increased the performance of the product by a factor of 3, vastly improved the end-user experience, and side-stepped an ongoing “# of CDs in the box” marketing war with the competition.
- Created procedures, and wrote test tools and product build verification tools using Visual Basic with C/C++ DLL libraries to reduce costs and problems during production of large numbers of content CDs. Designed and built data distribution and viewer tools that were used by the Generations product, and by 3rd party vendors.
- Worked with the installation engineer and personally wrote installation software to produce install/uninstallers for the software package.
- Used tools such as BoundsChecker and DevPartner to ensure high performance, high quality code that had been checked for code coverage.
- Authored content for the Generations Liberty Edition product, including some graphic design
- Managed relationship with beta test teams.
- Worked closely with producer on titles, including risk analysis, design change control, prototyping and scheduling. Worked closely with Localization, QA and Tech Support teams.
- Participated in usability studies and marketing focus groups to better understand our target demographic
- Assisted VIPs and press with products
- Also: Managed the relationship with our beta test teams. Worked closely with producer on titles to ensure that we shipped on time – including risk analysis, design change control, prototyping and scheduling. Worked alongside QA and Tech Support to ensure that our product met their needs and quality standards. Assisted VIPs and press with products. Participated in usability studies and marketing focus groups to enhance my understanding of our target demographic. Worked autonomously and in conjunction with other project sections where appropriate.

### **Microsoft (1998 –1999)**

#### *Software Development Engineer on the .NET framework team*

- Implemented and maintained user-interface controls for the .NET framework, both against IE's COM object model, and win32 managed code.
- Implemented updates and patches for Visual J++ 6.0.
- Worked in all areas of the UI framework, identifying and fixing hard-to-solve issues.

## **Accurule Inc. (1998, 3 month contract)**

### *Contract Software Engineer*

- Fixed several key systems in Accurule's steel plate measuring table system, including bug fixes and changes to video capture software.
- Architected and implemented from scratch servo control systems, data capture tools and UI for Accurule's Laser Measurement System, for measuring hot steel as it exits a steel furnace.

## **netFUSION Inc. / netFUSION Ltd. (1996 – 1998)**

### *Product Development Specialist (1997-1998) Senior Software Consultant / Project GUI Coordinator (1996-1997)*

- Maintained and enhanced the user experience of netFUSION's windows-based enterprise capacity planning and management software for mainframes (PROSIM)
- Designed the application architecture and user interface for the next-generation version (NTSim) for managing Windows NT based networks
- Acted as Graphical User Interface coordinator for the EU-commissioned TRUMPET project (security and management of high-speed ATM networks), ensuring a consistent, user-friendly front-end across the entire project, making it much easier to sell to the EU-commission as a viable project.
- Implemented client software for graphical network management, including geographical-based rendering of the network configuration.
- Designed and implemented a Java based rapid-application development GUI toolkit for company use.

## **SAMCo Ltd. / Noesis Software Ltd. / FREDSoft Ltd. - Games Development (1990 – 1996)**

Worked on ports of the games Lemmings, Prince of Persia and Populous to various UK home computers. Also worked on original games titles such as Parallax, Exodus. Experience includes fast music playback routines, assembly language programming, copy protection systems, simple DOS and bootstrapping logic, fast sprite display, algorithm design, input handling, game logic, code optimization, collision detection, tile-based map creation, game-loop handling, sprite animation logic, and graphics creation and display.

## **EDUCATION**

**University of Manchester Institute of Science and Technology, Manchester, U.K.**  
BSc Hons. Physics with Electronic Engineering

## **PORTFOLIO**

My software portfolio is online at <http://home.earthlink.net/~simoncooke/portfolio.htm>

## **WORK STATUS**

I am authorized to work in the US for any employer and am a permanent U.S. resident (green card holder).

## **HOBBIES AND OTHER INFORMATION**

Entertainment industry experience as Producer, Assistant Director, 2<sup>nd</sup> Unit Camera, Video Editor, Grip, Production Assistant, SFX compositing and Sound Engineer (*The Good Samaritan – Popcorn Films, Finn's Last Dance – Salazaar-Dillinger Productions*)

Graphic design, marketing and PR, website design and technical writing experience for a number of companies (including X-Ray Kid Studios, netFUSION Inc/Ltd, and Intelligent Ion).

I have extensive news-stand published freelance journalism experience (with over 120 published articles in *Your Sinclair, .net, Internet & Comms Today, Internet Today, NetUser and How To Get Online*).

My screenplay *UNSEALED* won Best Short Script for February 2008 on Francis Ford Coppola's script development site Zoetrope.com.

## **REFERENCES AVAILABLE ON REQUEST**