

Profile

I am currently looking for a software development role, preferably coding in C++ however I am flexible depending on the position. I have one and a half years pure industrial C++ experience and I also use the language in my spare time. I have two and three quarter years experience in a research position at The National Archives and other experience along the IT service chain described below. I have a Masters Degree in Digital Culture and Technology and a Bachelor of Science in Software Engineering.

Education / Qualifications

Kings College London 2004 - January 2006:

MA Digital Culture and Technology: Merit

Keele University 2001 - 2004:

BSc (Hons) Software Engineering: 2:2

Stafford College 1998 - 2001:

GNVQ: Advanced Information Technology: Distinction

A-Level: Psychology

Walton High School 1993 - 1998:

GNVQ: Intermediate Information Technology: Distinction

GCSE: Six GCSE's Grade B

Skills

Programming Languages: C/C++ (Allegro, STL, MFC, Boost, Gameboy Development Kit), Python, PHP

Web Based Languages: XML, XSD, XSLT, HTML/XHTML, CSS, AJAX

Scripting: JavaScript, MS Dos Batch Files, Bash

Semantic Web: RDF, Turtle, SPARQL, sparqllib, ARC2

IDE: Visual Studio, NetBeans, Eclipse, Gel, Dev-C++

Operating Systems: Windows, Linux, DOS, Windows Server 2003

Installation Systems: NSIS, Install Shield

Network Analysis: Wireshark, Cain & Abel, WinPcap

Other: Tortoise CVS, Subversion, Apache HTTP Server, Bugzilla, Fogbugz, MySQL, Programmers Notepad 2, Notepad++

Employment History

Employer: The National Archives

Job Title: Digital Preservation Researcher

From: 1st June 2009

To: Present

The main focus of my role at The National Archives is the research and provision of solutions for the internal requirement of preserving government's digital records. The main requirements of this role include researching file format specifications and developing binary signatures based on the internal representation of the format for the organization's DROID tool. Based on this research I also produce guidelines for internal and external consumption documenting digital preservation best practice. Other responsibilities have included representing The National Archives at various conferences as an attendee and participant. My research has allowed me to write solutions and proof of concept tools in C++ and Python. I have used the role to learn Python from scratch and enjoy working with the language a great deal. I have recently developed a tool to parse the header information in JPEG2000 files and validate XML contained within using standard Python libraries. I have provided input to projects outside of The National Archives including being part of a JPEG2000 working group for the Wellcome Trust, contributing, reviewing and writing reports for the Planets EU project and working on documentation and contributing work to the Unified Digital File Formats registry which has participants from numerous memory institutions in the US, Canada and Europe.

As well as my main responsibilities, my primary research focus at the moment is the conversion and release of our online file format database as linked open data. I am the technical lead and primary developer on this project. The focus of this work requires converting legacy table based data to triples for delivery through a triple store and SPARQL endpoint. The development of a PHP user facing interface for browsing and

maintenance of data and the development of legacy SOAP web services for integration with existing systems at The National Archives. I have developed a large part of the eventual solution including mapping tools for the data, a draft RDF vocabulary and the majority of the solution combining SPARQL with more traditional SOAP techniques using standard PHP libraries. We currently use a standard user interface developed within government on top of a SPARQL endpoint to deliver the data to users however we hope to develop this further to provide provenance information by way of quads to the end user. I continue to work with external stakeholders and projects outside of the organization to align efforts to connect multiple sources of information together because beyond the technical solutions we develop for the semantic web, the communication and sharing of ideas is key.

Other development opportunities at The National Archives have seen me write a JPEG2000 correction tool to fix an XML transcoding error in LuracTech CLT software in C++. I have seen my JPEG2000 validation scripts embedded into the primary ingest workflow. I have written a tool which outputs formatted XML from a regular expression string that can be used as a standalone signature file in the DROID identification tool. I plan to extend this to be much more general purpose in my own time as soon as possible. I am currently working on the next 10 week development of DROID itself. My primary development environment at the archives is currently Ubuntu Linux running the net beans IDE.

Employer: Origin Data Realisation LTD / Red Box Recorders

Job Title: Junior Analyst Programmer

From: 11th November 2007

To: 15th May 2009

Junior Analyst Programmer developing VOIP recording solutions, primarily in C++. Areas of focus included improving existing solutions for recording Avaya, Nortel, Cisco, Ericsson and SIP VOIP calls, and implementing new solutions for VOIP providers such as Panasonic. Some other important protocols I focused on included, H225, Q931, and MGCP. I was also involved in back end development for our web front-end maintaining an ISAPI DLL. Front-end development required Javascript and XHTML skills to add functionality to primarily a form based interface. I spearheaded a move to a more dynamic web based solution where possible by introducing the use of AJAX to the recorder front-end. The code produced in this role adhered to C++ Standards as strictly as possible and where possible using VC6.0 SP6.

At Red Box I saw through a number of important projects including the implementation of a number of features, the biggest being a search filtering mechanism for our recording software. I was also involved in a number of bug fixes large and small in numerous areas. Through my work at Red Box Recorders I developed greater problem solving abilities and a better grasp for meeting deadlines. The main skills I was required to learn from scratch focused around analysing bit level data transmitted across the network. I picked up a working knowledge of Wireshark and WinPcap. Interpretation of network protocols and standards was central to producing successful solutions. Where protocols hadn't been made available by a supplier it was important to discover reliable signalling patterns directly from the network traffic.

Employer: Risk Decisions LTD

Job Title: Technical Support Assistant

From: 22nd May 2006

To: 7th May 2007

First and Second line support for a software suite providing a set of enterprise risk management solutions to organisations. Dealing with clients ranging from the Ministry of Defence to the utilities and construction companies. Required to give support ranging from installation issues to the usage of the software and risk management best practice. At times I was required to discuss possible system architectural solutions for running various versions of the software in different operating environments. Internally I provided software QA, testing the software at various stages of development as part of the release cycle or part of the support process. As part of the QA process I was asked to provide solutions that the users could implement themselves.

- First and second line technical support
- Technical Authoring
- Software QA (Primary tester for Predict! Risk Controller Lite)
- Oracle Installation, Support and Development
- Internal I.T. Support
- Central focus of communication between clients, sales and development teams
- Knowledge of software release cycle and the software development process

Further Employment History

Jagex LTD (Work Experience) Games Content Developer 18 th April 2006 20 th April 2006	HMV Trocadero, London Shop Floor Assistant 13 th February 2006 13 th April 2006
HMV Selfridges, London Seasonal Temporary Staff 16 th November 2005 1 st January 2006	Kings College London Exam Invigilator 10 th January 2005 14 th September 2005
HMV, Hanley Shop Floor Assistant 14 th May 2003 29 th February 2004	Poundstretcher LTD, Stoke-On-Trent Shop Floor Assistant 16 th October 2001 29 th March 2003
Poundstretcher LTD, Stafford Shop Floor Assistant 8 th September 1999 12 th September 2001	Shugborough Shooting School, Rugeley (Casual) Trap Operator/Referee 25 th September 1997 10 th March 1998

Publication Record

Spencer, R. (2010). The Digital Image. In: Bülow, A. and Ahmon, J. Preparing Collections for Digitization. London: Facet Publishing. 33-45.

Talks at Conferences

8th European Conference on Digital Archiving, Geneva, Switzerland, 2010.

The Future of File Format Identification, PRONOM and DROID User Consultation, Kew, UK, 2011

7th International Digital Curation Conference, Bristol, UK, 2011

Future Perfect 2012, Wellington, New Zealand, 2012

Websites

www.exponentialdecay.co.uk - A portfolio website I have created to exhibit a number of sample applications I have produced and some of my university work.

pidgeracer.tumblr.com - I developed a computer game in C++ primarily through the years 2007-2009. A small amount of this work was also completed the following years but to finally push the release of this piece work developed in my spare time I developed a tumblr blog to release the game, the source code and to invite comment from users.

Interests

My personal interests include music and film; watching various sports; reading; computer games; programming and computing. I enjoy the design and development of ideas, new and old across a broad spectrum of areas. I am a keen road cyclist and have taken part in the Three Capitals in Three Days cycling challenge for the Mines Advisory Group (MAG). I am also currently taking piano lessons.

References

References can be provided on request.