

Adam Retter BSc (Hons)

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Introduction

Adam has a wide spectrum of skills, ranging from hardware and network configuration and deployment, up through to software development and architecture, such breadth allows innovation and improved communication at all levels of project delivery.

Adam excels in a technical lead role, and whilst maintaining excellent technical knowledge allowing him to roll up his sleeves and get into the trenches, he is also an excellent communicator and enjoys presenting to the business.

Adam is a software hacker at heart and likes to contribute to public knowledge and collaborate with his peers. As such he is on the peer-review panel of several conferences, an invited expert of the W3C and a contributor and committer to many Open Source projects. Adam specialises in the delivery of complex Big Data projects.

Core Skills

Software Development

Scala, Akka, Scalatra, Play, LiftWeb	HTML5 XHTML, XForms, XSL-FO	Specs2, ScalaCheck
XML, XQuery, XSLT, XPath, XSpec	Javascript, Angular.js, jQuery, Bootstrap	JUnit, JMock, EasyMock, Mockito
Java 7, DOM, SAX, StAX, VTD-XML	Web Services REST, SOAP	Agile Development Approaches
J2ME, NFC, RFID	Functional Programming	Test/Behaviour Driven Development
Spring, MVC, JSF IceFaces	Aspect Oriented Programming	CI (Jenkins / Travis)
Hibernate and Hibernate Envers	Map Reduce (Hadoop / Shadooop)	Intelli-J, NetBeans, Eclipse, oXygen

Servers

eXist-db Native XML Database	MarkLogic Server	RocksDB
Apache Jena and Fuseki	PostgreSQL	MySQL
Oracle RDBMS	Apache Lucene and Solr	Apache Tomcat and Eclipse Jetty
Git and Subversion	nginx	Apache HTTPD
Bind	Samba	Active Directory
Courier IMAP	Postfix	Microsoft IIS

Systems

Redhat Enterprise Linux, CentOS, Fedora and Ubuntu	OpenSolaris, OpenIndiana, Solaris 11	Amazon EC2
MacOS 9, X	FreeBSD, OpenBSD	
Microsoft Windows Desktop and Server		

Employment

June 2014 – Present

Director

Evolved Binary Ltd. London, UK

Freelance Consultancy: Previously providing Big Data processing expertise to ICIS which is part of the Reed Business Information group of Reed-Elsevier. I am deeply involved in helping deliver and optimise their next generation Commodities Market Information Platform which provides information to 180 markets across the world. Currently involved in Research and Development for Document Oriented NoSQL databases.

September 2011 – June 2014

Implementation Lead (Contractor)

The National Archives. London, UK

Implementation Lead in Digital Preservation, focused on building the next generation Digital Archive for both digitised and born-digital material. Leading a technical team of more than six Java/Scala and XML developers and systems engineers. Skills involved are systems design and architecture, setting technical direction, mentoring and technical delivery. I was responsible for the entire technical design of the Digital Archiving System. I have also introduced Agile development methodologies for the project, and require a high-level of quality from my team, including: Peer Code Reviews, Unit Testing, Continuous Integration and Personal Continuous Improvement. I am also focused on performance optimisation of the system, optimising Java, XSLT, C and Python code. In the last year I have introduced Scala to the development team and helped them to become proficient in this exciting language, resulting in faster delivery for the business.

August 2010 – January 2012

Director and Co-Founder

eXist Solutions GmbH. Rüsselsheim, Germany

eXist Solutions provide support services for the eXist-db Native XML Database. International in nature, eXist Solutions consultants work either on-site with the client or remotely. Providing Contractual Development and Operational Support, Consultancy, Bespoke Development, Hosting and Training. Based near Frankfurt, I moved to Germany for almost one year to help assist in getting the company started.

May 2010 – Present **Consultant**

Accountable Care Ltd. Torquay, UK

Agile development of a complete time and staff accounting system. Two bespoke applications – 1) a J2ME NFC RFID acquisition MIDlet for Nokia and Sagem mobile phone handsets, communicating via HTTPS with 2) a J2EE web app management system, built with Spring, Hibernate, IceFaces Facelets and PostgreSQL.

April 2008 – May 2010 **Senior Java Developer**

Landmark Information Group. Exeter, UK

Landmark is Britain's leading supplier of land and property search information. Providing digital mapping, planning and environmental risk information, Landmark also delivers comprehensive geospatial solutions.

- Agile development within the Application Services Team utilising Java and C#.NET.
- Providing specialist XML processing development expertise.
- Development, improvement and testing of on-line registers for Home Information Packs and both domestic and commercial Energy Performance Certificates in England, Wales and Northern Ireland. The Register's dataset consists of over 2 Million XML documents, and is increasing by about 1 Million documents a year.
- Developed a Data Warehouse solution focused on efficient Java and XML parsing to shred the Registers XML documents and Schemas into Oracle 11g for use by Business Objects Enterprise.

Sept. 2004 – April 2008 **Principal Developer / Technical Lead**

The Devon Portal Project. Exeter, UK

The Devon Portal is an initiative of the Devon e-Partnership formed from a central government drive for integrating and providing existing local government services online. The Portal forms the technical delivery platform for the partnership; consisting of – 10 local and unitary Devon authorities, Dartmoor National Park, Devon & Cornwall Constabulary, Devon and Somerset Fire and Rescue Service and Devon County Council.

- Responsible for the technical architecture, development and implementation of all hardware and software; diverse role drawing on my wide skill base and research capabilities.
- Designed and developed a substantial online directory of Community Groups to assimilate many existing disparate applications and databases. The solution was delivered atop eXist; an Open Source Native XML Database written in Java. The solution was developed using XQuery, XSLT, XForms and Java. As a consequence I became a developer on the eXist project, fixing bugs and adding necessary missing features to enable delivery of our solution.
- Designed and implemented a federated Search, A-Z and Integrated Public Services Vocabulary meta-data classification system across all partners websites. The solution comprised of SmartLogic Semaphore Server, bespoke Java middleware and SOAP web services, GlassFish application server and a variety of bespoke client implementations for our partners Content Management Systems. As well as designing the architecture, I wrote almost all of the bespoke code and acted as Project Manager during the implementation and delivery phase.
- Mentored and trained a junior software engineer, developing his skills in XML, XQuery, XSLT, XForms, Java, JavaScript and Unix systems administration.

March 1997 – April 2003 **Network and Sys Admin / Web Developer / Trainer**

Project COSMIC. Ottery St. Mary, UK

Further information available on request.

Open Source Achievements

During my spare time I have contributed to various Open Source projects and have also enjoyed some freelance consultancy resulting from this work. My most recent works are on my GitHub <http://github.com/adamretter>. Some of the highlights are below:

Digital Preservation @ The National Archives

- CSV Validator. A Schema language for defining CSV files and a tool for validating them. <https://github.com/digital-preservation/csv-validator>
- UTF-8 Validator. A tool for validating that a file or data stream consists only of valid UTF-8 byte sequences. <https://github.com/digital-preservation/utf8-validator>
- DROID. A tool for identifying file types by signature analysis. I contributed several features, bug-fixes and refactored the build system. <https://github.com/digital-preservation/droid>

Shadoop

- A Hadoop Map-Reduce framework for Scala, that provides a DSL for Scala developers. Provides unique optimisations for processing large binary files in Hadoop.
- Based on combining several existing projects, bug-fixes and a few new features.

whatithink.com

- Concept and training-aid application for the XML Summer School, in Oxford – <http://www.xmlsummerschool.com> <http://sourceforge.net/projects/seewhatithink/>.
- Two distinct web applications, communicate via REST. First application is built in XQuery, XSLT and eXist-db, the second is built in Scala, LiftWeb and MySQL.

EXQuery

- Founded the EXQuery project in February 2009 to address shortcomings with using XQuery for developing full applications – <http://www.exquery.org>. <https://github.com/exquery>.
- Launched the project formally via. a poster session at the XML Prague 2009 conference.
- Recruited known experts from the community to participate. Contributed to EXPath.
- Created the RESTXQ specification, for which a paper was accepted and presented at XML Prague 2012. <https://github.com/exquery/exquery>

eXist-db XML Native Database

- Core developer and contributor
- Java and XML developer on the project since May 2005 – <http://www.exist-db.org>
- Many fixes and features committed, including an XQuery SOAP Server, Scheduler and XForms.
- Attended and presented at all XML Prague conferences since 2006

Chiba XForms Server

- Java and XSLT developer on the project – <http://www.chiba-xforms.org>
- Created XHTML output version of XSLT. Committed several small fixes and new functions.
- Implemented xforms:copy according to W3C XForms 1.1 specification.

Apache HTTPD

- Back ported mod_proxy reverse proxy cookie support in C++ from the Apache HTTPD 2.2x branch to Apache HTTPD 2.0.55.

Freelance Consultancy

Strategy, Policy and Organisational Change, Devon County Council

- Prototyping RESTful delivery of the Open Data portal data.devon.gov.uk using eXist to provide, XML, JSON, HTML and RDF navigable representations of data sets.

Office of the Historian, US State Department

- Implementation of setUid and setGid XQuery execution in the security and compiler sub-systems in eXist-db.

Eleven LLP – NHS Care Trust, Nottingham

- eXist-db and XQuery optimisation for an Open Source patient records system based on HL7.

British Broadcasting Corporation – Backstage, London

- XQuery development for processing Twitter data (>16 million XML documents) with eXist-db for visualisation, and searching WorldService news feeds.

Belgrade Center for Digital Humanities, Serbia.

- Java development of an oXygen plugin to query RESTful web services and populate auto content completion suggestions.

United Nations – Department of Economic and Social Affairs.

- Consultancy and development on the Bungeni Project centred around using eXist as the repository for legal documents produced by parliaments in Africa.
- Consultancy on an addition to the original project to provide a second more advanced and simplified REST API in XQuery.

University of Oxford

- Development of a TEI Annotator application built on the NetBeans platform and integrating oXygen.
- Lectured Computer Science students on XML native databases; used eXist for practicals.
- Collaborated on development of an online Lexicon of Personal Greek Names for the Classics Department using eXist.

Nature Publishing Group, London

- Consultancy on capabilities of XML native databases; eXist, MarkLogic and large datasets.
- Advised on journal publishing platform architecture.

University of the West of England, Bristol.

- Lectured Computer Science students on using and developing with eXist.
- Advised on eXist development for the computing schools information system.

Publications

Published papers, conference presentations and videos: <http://www.adamretter.org.uk/presentations.xml>

I am also currently co-authoring a book on eXist for O'Reilly and it should be published in August 2014:
<http://shop.oreilly.com/product/0636920026525.do>

Professional Memberships and Interests

- **XML London** – Peer Review Panel member since April 2013.
- **Balisage** – Peer Review Panel member since April 2012.
- **XML Guild** – Invited Member since January 2012.
- **XML Prague** – Program Committee member since September 2011.
- **W3C Provenance Working Group** – Invited Expert since October 2011.
- **W3C XML Query Working Group** – Invited Expert since July 2010.
- **XML Summer School** – Teaching faculty member since September 2009.
- **Snowboarding** – BASI qualified instructor, previously practising at Torquay Alpine Ski Club.
- **Other-** Exploring the countryside in England and Germany, travelling, home improvement, electronics, computing history and reading.

Education

Sept. 1999 – June 2003 BSc (Hons) Computer Science (Software Engineering)

University of Derby

- Upper Second-Class Honours Degree (2:1).
- Complete life-cycle including analysis, design, project management, development and testing.
- Also studied and excelled at all BSc Computer Science (Networking) modules.
- Year in industry involving project management, budgeting and development.
- Double A graded dissertation, titled: 'Distributed Storage for an Internet Model'.

Sept. 1992 – June 1999 GCSE and GCE A-Levels

The Kings School

- GCE A-Level – Computing and Physics.
- GCSE – 9 Higher Tier Qualifications: English, Maths, Science, Electronics, Design and Realisation, History and French. Gained additional Diploma of Achievement whilst studying GCSEs.

References

References are available on request.