# Michael John Earnshaw

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Profile

I am Consultant with more than 17 years of experience, I have worked in both front and back end roles(Architect/Designer/Developer) from architectural inception(POC) to operational maintenance using J2EE technologies (3 tier, n-tier,ESB/SOA MOM, core Java and .NET. I have worked within the financial sector (7 years) and the telecoms sector (6 years) amongst others.

Key Skills

* **Modeling**: Agile Methods (Scrum,TDD,XP)(5 years), UML)(15 years), RUP(Rational Trained), ER Modelling,SOA, MOM,ESB,Web Servcies(REST,SOAP),TOGAF, Enterprise Architect
* **Java** (14 years **J2SE** and 10 years **J2EE**, 8 years **Swing**, 5 years **Spring**, Sun Certified), **XML**(9 years, Web Services, HL7[MiM])
* .**Net** **C#**(2 years), knowledge of **C#** (Web Services), **C++**(3 years(Visual Studio)),
* **SQL**(15 years(Oracle,SQLServer,Sybase,MySQL)).
* **Systems:**MS Windows, Office 365, SharePoint, Sun Solaris O.S., Linux (Red Hat, Ubuntu)
* **Servers & Tools:** JBoss(JBoss Trained), WebSphere, WebLogic, Sun AppSvr(Glassfish), Apache Tomcat, Eclipse IDE(WASAD,STS),NetBeans, Visual Studio, Jira, Jenkins/Hudson,Fisheye,Maven,Ant,Subversion,GIT,Perforce,ClearCase
* **Other skills:** SQL,*Object Caching*-Coherence, Berkeley , *ORM*-Hibernate, Spring(Web, Batch, Integration,Data), *Messaging*-JMS, SunMQ,Tibco RV, JSP,Servlets, HTML

Qualifications

* Computing BSc (Hons) II i , Manchester Metropolitan University (1997)

Final Year modules – Neural Networks, Prolog for Production Rule-Based Systems, Genetic Algorithms (Final Year Project)

Career Resume

***London Borough of Croydon(LBC) Applications and Information Architect (05/16-10/16)***

I was employed to oversee the BAU running of all LBC’s IT Systems in conjunction with several initiatives I established. The permanent member of staff had been seconded to create the architecture for a Dynamics CRM-centric single view of the resident.

-Completed decommissioning of Windows 2003 servers for COCO compliance for the PSN and the upgrade to Windows Server 2012.

-Facilitated the rollout of approx. 3500 Windows 10 Laptops to all of LBC staff.

-Established Enterprise Architecture Model in Sparx EA.

-From Business Case to Implementation, I established a Development Lab to allow approx. 6 in-house development projects to use a “Sand-box” environment for development, integration, non-functional and system testing for 3rd party suppliers.

-Participated in Several Divisional Systems reviews, Social Care, Streets, Trees and Parks, Housing.

-Facilitating various departments in the selection of 3rd Party software either COTS or bespoke

-Carried out technical assessment for new software with a view to suitability and cohesion with the target enterprise architecture. Essentially cloud-first using Microsoft products as the base infrastructure i.e. Windows 10, Windows Server 2012, Office 365, SharePoint, ADFS, Dynamics CRM.

***Undergoing Treatment (9/14-03/16)***

I have been undergoing treatment for a long-term illness which is now in remission.

***Frontline Consultancy Architectural Consultant (8/14-9/14)***

Short term contract to resolve scalability issues with a finance web application. The presentation layer is Spring MVC, the business tier is Java with Spring deployed to oracle app server 10g and the Data layer uses Toplink as its ORM to an Oracle 12c database. The app server is sat on jdk1.4.2 32-bit and Red Hat 3 32-bit. The app server suffered object bloat mainly due to the ORM implementation and the JVM was unable to cope. My recommendation was to upgrade the jdk, app server/ web server (tomcat) and operating system to 64-bit as an immediate fix followed by creation of full regression testing. I initiated a set of performance tests using SoapUI with Groovy scripts with reciprocal analysis using JProfiler.

***House Husband/Part-Time Consultant (1/13-7/14)***

I have two boys that I look after while my Ex-Wife works. I thought I would spend so more time with them before they grow up. During this time I have been keeping my skills up to date via updates via membership of various technology companies Microsoft, Oracle, Sun, Spring, JBoss, Apache etc and investigation and development of new features. I have also been aiding in a part time basis a financial software consultancy in investigation for optimising client side caching in a MVVM model using Caliburn, Windsor, and WPF in a .Net Framework. As well as using NodeJS as a Server -Side Service Oriented Architecture.

Senior Developer, BJSS, (08/12 – 11/12)

I am working on new SOA based architecture to support the expansion of BBVAs, a Spanish Investment Bank, FX Trading platform. Various clients(Fat,Web) call the services via SOAP, RESTful protocols. The messages are adapted and mediated prior to routing to the specific service. The services are provided on a bespoke ESB layered on top of UltraMessaging (29West). The services are implemented using Java employing EJB3 techniques. Coherence has been used to aid performance and Hibernate as the Persistence mechanism.

The development methodology is SCRUM with the use of AGILE techniques where appropriate. Test Driven Development (TDD) drives the process with integration in Jenkins(Hudson) for Continuous Integration). Sonar with a variety of plugins e.g. PMD,CheckStyle,FindBugs, JaCoCO are also employed to assure code quality and test coverage. JIRA is used to tracking task and resource progress and planning.

Senior Developer, PlusNet, (02/12 – 06/12)

I worked on new SOA based architecture to support the core systems of whole PlusNet enterprise. The original system was all implemented using PHP. These Business Services are being migrated to using a combination of JavaEE(EJB3) and Open Source technologies such as Spring and Hibernate with a MySQL Database. The Business Services provided range from Authentication and Authorisation to provisioning broadband and phone services through B2B services to BT.

The development methodology was SCRUM with the use of AGILE techniques where appropriate. Test Driven Development (TDD) drives the process with integration in Jenkins(Hudson) for Continuous Integration). Sonar with a variety of plugins e.g. PMD, JaCoCO are also employed to assure code quality and test coverage. JIRA is used to tracking task and resource progress and planning.

Development Lead/Architect, HSBC, (03/10 – 10/11)

I am working on an integration/migration project within Equity Finance (Swaps). The 2 existing systems, order management and trade/positions management are being merged into one system.

I have been involved in various POC to establish a new architecture. These include Web Services implemented using an Fuse ESB, Spring Integration, POJOs and EJBs.

The resultant architecture has been a C#(WPF) front-end, a middle tier which provides services via Web Services (JBoss/WebSphere) through EJB3 for the business logic. Entities are stored in the middle tier by Coherence. Persistence in the data tier uses Oracle and SQLServer.

The services provide all the data/information to either the front office trading apps or to other subscribers from other businesses e.g. Prime Services (Prime Brokerage) for example current open positions. The synchronous messaging uses Web Services to publish the services and the broadcasting using TibcoRV. I have been instrumental in the architecture of the new system. Essentially, SOA implemented architecture clustered and distributed (London & Hong Kong) for redundancy, load balancing and performance.

I established an Agile environment by installing and configuring JIRA to model the development process, installing and configuring Subversion to integrate unit tests (JUnit,JMock,Mockito) with the Continuous Integration tool (Hudson) and JIRA to facilitate configuration management. I employed various tools to aid code coverage and quality (Sonar with PMD,Findbugs,Checkstyle).

Consultant, Rule Financial, (08/09 – 03/10)

***Technical Lead, Deutsche Bank***

I worked within Legal & Risk on an employee trading system which allows the user to generate personal trades within the bank. The trade undergoes an approval process that is modelled in the system using jBPM. The web front end is AJAX based using JavaScript, Freemarker, JSON and JSP. The middle tier is J2EE employing Spring MVC, Web Services calls to communicate with other banking systems, jBPM and Drools (JRules) for modelling the business logic and Hibernate (Annotations) for the ORM layer. This communicates with an Oracle database for persistence. Oracle also uses DBLink to retrieve instrument, counterparty and employee data. The security model is mixture SSO and LDAP implemented through WebLogic configuration.

The development methodology was essentially AGILE/SCRUM. Daily Scrums highlighted the current work with an indication of burn-down. Poker was used for task estimation and JIRA used to track task progress. Development task were driven from the test(TDD) and use case. Pair programming was used where appropriate. The JIRA reference was used for all comments in SVN to integrate the two systems using Fisheye. Hudson was used for Continuous Integration.

Senior Developer, Vodafone, (05/09 – 06/09)

I completed a Proof of Technology that demonstrates OpenID integration with other service providers as both a consumer and a provider. Subsequently this was successfully demonstrated to the Vodafone board. An existing OpenID account was authenticated through the existing Vodafone IDM system and subsequently provisioned a new account. This was provisioned with Vodafone’s existing provisioning system using Web Service calls. The technologies employed between the OpenID API and the provisioning system was SOAP Web Service calls; REST was used to make authentication calls to the IDM system. JSPs within the Spring MVC were used for the Web UI.

Lead Architect, BT, (01/06 – 03/09)

I lead the Demographics team implementing the NHS National Integration Programme. Demographics represent all service users’ (patient) non-clinical data, e.g. Name, address, GP, Pharmacy.

The technologies and architecture employed were in principle ESB as a vehicle for SOA. XML Web Services (ebXML) provide services to the national NHS infrastructure. Messages are marshalled and forwarded to the appropriate service by a messaging hub facilitated by Sarvega technology. The core business services tier uses both SLSB and MDB to provide synchronous and asynchronous messaging services. In addition to providing several national CRUD web services for demographic data, a Web App has also been developed to allow data quality work to be managed by administrative staff spread throughout the country. Coherence has been used for distributed session caching. This uses J2EE with a JSP/Spring MVC framework talking to Oracle DB through an ORM layer.

More specifically we used the NHS HL7 implementation, nominally the MIM(Message Implementation Model) for all web services inbound and outbound from Spine. The major service as I was responsible for was PDS. Inbound messages were received into a bespoke ESB where the front line services of authentication/authorization(SAML), validation, auditing and routing took place and subsequently forwarded to the various services. The messages were transformed into a canonical form which were handled using JMS and MDB. I worked with the MIM authors at CfH(NHS) to define the services and message structure to allow for the most performant /efficient message throughput.

My responsibilities stretched from high level technical feasibility workshops with the client(NHS) to building prototypes for proof of concepts for optimization, new design, new technologies and analysis of test results(functional and performance) and subsequent changes to design or hardware configuration/specification.

The major technical requirements are performance and availability SLAs agreed with the client. A large effort is placed on meeting these requirements of >300 TPS and 99.99% availability by for example, applying architecture patterns for resiliency, capacity planning projections for hardware requirements and code optimization.

Architect/Development Lead, European Bank, (07/04 – 01/06)

During my time at the bank I performed 2 roles;

I acted as part of the development team for Risk Management developing a system for the bank. The system calculated the total exposure for all counterparties. The calculation engine was a bespoke component based on a grid computing paradigm. Total exposure information was fed from the grid into an Oracle DB. The UI was J2EE based architecture, JSPs with a Spring Framework supported by Hibernate for the ORM through to an Oracle DB.

I led development for, a J2EE system that manages events and documents for the Board of Directors. The system allows users to manage events, such as board meetings, workshops and handle facilities management.

The technologies used consist of a Swing client that is serviced by an EJB (SLSB) middle tier implemented on JBoss (4.0.1) and the data persisted to an Oracle database. The document management is handled by Lotus/Domino. The two sub-systems communicate using a mixture of HTTP (SOAP) and JMS. The HTTP connectivity allows the J2EE to request document information from the domino server. The messaging aspect is used to synchronise changes of data between Domino and J2EE, as well as providing client synchronicity.

Both developments shared a similar development lifecycle. This was based on RUP and all documentation supported by UML. Initial UI prototypes have been used to support use case written for user requirement capture. These use cases were elaborated in the design phase and any architecturally significant aspects being fed into the software architecture document.

The coding/unit testing was implemented using Eclipse with JBoss plug-ins/JUnit. Ant was used for configuration and build management.

Technical Lead/Architect UBS, (07/03 – 07/04)

I worked for Equity Collateral Trading on a collateral trade management system.

I was actively involved, since conception, in all areas of the development from user requirements capture from the traders, to architecture and production of documentation required by the development process.

Analysis and design work has been conducted in adherence to RUP. Use Cases, SAD & Design Specifications been supported by UML. This new architecture is seen as the reference architecture for all new development by Equity Collateral Trading.

The new system is n-tier; a C# client application communicates through WebServices to a Web Tier for synchronous calls and uses Tibco's Rendezvous for asynchronous (events) calls. They middle tier has been achieved by an EJB Tier hosted on Websphere 5.1 and persisting to various Sybase Database instances. The EJBs are written and debug in WSAD5.1.1 and C# app with Syncfusion’s Essential Grid to handle the DataGrids in Visual Studio. Net2003.

The development environment in C# relies on Clearcase for version control, NAnt for build/ configuration management, NUnit for unit testing. Similarly, Clearcase is used on the java side in conjunction with Ant for the builds and JUnit for the unit testing.

Analyst/Developer, Barclays Bank plc, (04/03 – 07/03)

I worked on the Use Cases, documented and designed in TogetherJ, for the new version of the branch management software that allows bank staff to service customers, create and manage new applications for accounts, loans, credit cards etc. As the major requirement is migration from the legacy software and hardware that will no longer be supported much of the business process is being taken from the legacy system.

The architecture is n-tier; Chordiant has been employed to implement the UI and the business object and data layers written in Java, a facade of Session Beans deployed to Websphere. Persistence is achieved using MQSeries to post messages to various data storage devices, including DB2, that sit on an IBM Mainframe.

Senior Engineer, Mentor Graphics corps, (2001 – 2003)

I initially created a J2EE prototype for the system that fed Java Application Clients as well as a JSP Web Client. However, due to the lack of resources with the correct level of skills and the cost of implementation of AppServer over a CORBA solution, the decision was taken to use a CORBA implementation.

My role during the elaboration phase was technical architectural analysis and design, i.e. creating the Software Architecture Document. This was defined in UML using Rational Rose as part of the RUP. Also, due to my experience, I mentored other developers in the use of Rose to Design.

The basic architecture is an N-tier distributed system with a Java Swing UI and Web JSP clients. They receive data to construct local client Java Business Objects via XML that is transported over IIOP. A CORBA Application Server is used to feed clients with Data and Services. The data in XML is transformed to SQL/JDBC that is linked to Oracle/MySQL/Progress Databases.

JBuilder is used as the development environment with Version control handled by ClearCase. Ant is used for configuration and build management. The AppServer and database Server will be hosted on Unix while clients will sit on Windows/Unix workstations.

The business domain is the EDA (Electronic Design Aid), in particular the automotive/aeronautic wiring industry.

Technical Architect / Lead Developer, 9a plc, (1999 -2001)

Initially employed on “greenfield” development of a telecoms billing system. I prototyped and developed the base architecture for a distributed n-tier system that utilizes Java and CORBA to provide a flexible and scalable system. An Oracle database provides the persistence store as well as performing the process intensive rating and billing.

I was one of the system architects, chiefly responsible for UI architecture. A base package of UI components have been extended from Swing to provide dynamic internationalization, query and form management. Fundamentally, the architecture uses the MVC design pattern and where possible standard design patterns have been applied. JBuilder has been used as the development environment.

I was trained by Rational Rose when the project was initiated. All analysis and design work from user requirements capture through use cases to analysis using collaboration diagrams to design specification using sequence diagrams, state transition and class diagrams have been documented in Rational Rose using UML

The middleware has been developed using a Visibroker ORB. Although mainly a Java solution, the mediation aspect of the system was written in C++. Therefore, the choice of using CORBA has meant the facility to connect the mediation system to the middleware eventually has been provided.

My team leader responsibilities include project management of a team of developers working on various functional areas of the system, task allocation, project planning, mentoring with design and coding, reviewing of specifications and code in conjunction with my own responsibilities for the UI Architecture. I also attended steering committee meetings regarding the software and project progress. I was also responsible for the managing the testing of the whole system.

I was instrumental in the creation and ongoing development of the quality system.I wrote procedures and processes surrounding the development lifecycle, such as the Usability Guidelines, UI Standards, and trained personnel in the use of those procedures and good working practices. I also trained new developers in Java/AWT/Swing.

The company underwent an ISO 9001 certification audit.

Analyst/Programmer, Wodehouse Consulting, (1998 – 1999)

I joined the company midway through the development of their second version of Tactix, a financial trade tracking system. Originally implemented in FoxPro, the second version has been implemented using C++ for the client interfacing to a Sybase database with the MIS reporting being produced using Crystal Reports. The system was essentially a two-tier “fat” client architecture with MVC pattern for the client. I was responsible for developing various aspects of the settlement system client, from trade reconciliation through to data transfer to the custodian’s system and production of reports from the system. The work involved capturing the requirements from the users through to implementation, testing and release.

Analyst/Programmer, Insider Technologies Ltd, (1997 – 1998)

I was part of a team that developed an ISP Monitoring Application. This application configures a number of comm. devices to automatically connect to ISPs, take a number of metrics e.g. transfer rates of various protocols and stores them in an SQLServer Database. This data is then analyzed and comparative reports are produced both statistically and graphically in a Windows NT GUI. I was responsible for designing and implementing a Java based measurement agent that utilized NT’s Telephony API by uses JNI to wrap the TAPI into a Java Class. I was also responsible for the creation of the SQLServer Database.

I built a SNMP class library to provide an interface for proprietary applications to be “SNMP enabled”. Further to this I developed an application GUI, using Visual C++, that manages processes that reside on a number of platforms, NT, UNIX and Tandem, and provides the system manager with an alerting mechanism when exceptional circumstances arise, e.g. process failure.