

Mark Wickens

eng mgr / full stack / scala / java / agile / security

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Operating in the Legal & FinTech space I've held purely technical, team leader and engineering manager roles fully remote for the past 17 years. I've been involved with companies from start-ups to global multinationals.

I enjoy a hands-on approach to both software engineering and team management, supporting and hiring engineers as well as providing mentoring and coaching in best practices for software development – always with security built in from the ground-up. Experienced in the challenges of both Start-up fluidity and Digital Transformation, re-engineering monolithic application stacks into cloud-centric systems & services. Able to juggle the complexities of management and development responsibilities, including supporting and maintaining business critical systems.

Extensive current development experience in Scala, Java and Typescript using several cloud platforms including Amazon AWS, Google Cloud Platform (GCP) and Microsoft Azure, across a broad cross-section of industries, including Legal, FinTech, Defence, 24/7 Electricity Trading, Graphical Information Systems, Call Centre applications and Government CMS.

Senior Principal Engineer (Scala/Akka & Typescript/React)

Aturna LLC

06/2022 – 05/2024

Aturna's mission is to revolutionize affordable Legal Services in the USA through Innovative Technology. The platform is client facing and provides the ability to generate legally-binding documents for US citizens including Health Care Proxies, Powers of Attorney and Wills. The business model integrates Law Firms to provide advice, guidance, and signatory/notary facilities.

Leveraging React/Typescript for the frontend and Scala/Akka for the backend, the platform is hosted on Google Cloud Platform. The Scala backend includes two main applications - the workflow engine drives a React frontend via RESTful APIs, and a parser engine is responsible for final document generation to PDF. Version control via Git, CI/CD using CircleCI, infrastructure uses Terraform and the application persists to a Postgres database. Firebase is used for Authentication and Authorization.

Key Achievements:

- *Document Generation Expertise*: Spearheading the transformation of document generation, I applied my expertise to re-engineer this critical component into a resilient, scalable, performant, and maintainable platform.
- *Signup/Login Refresh*: Re-implemented the signup/login mechanism in-house and integrated Social Login via Google & Facebook.
- *Nationwide Reach*: Successfully expanded Aturna's services to cover all US states, overcoming the intricate legal nuances of each region.
- *Rebranding Success*: Instrumental in the successful rebranding of our online legal system, showcasing adaptability and creativity alongside technical prowess.

Tech Stack Backend: Scala, Akka, Cats Effects, Spray Json, Scala Mock, Wire Mock, ScalaLike JDBC, Kamon, Logback, Pure Config, Fast Parse, PDF Box, Flying Saucer, JSoup, Thymeleaf.

Tech Stack Frontend: React, Typescript, React Redux, MUI Components, Formik, Google Maps, SASS, Playwright, Stripe, HTML5, CSS3.

DevOps: Terraform, Google Cloud Platform (GCP), Firebase, Postgres, Liquibase, Circle CI, Sentry, Microsoft Clarity.

Tooling: SBT, Visual Code, IntelliJ IDEA, WebStorm, DataGrip, GIT, Github, Docker Containers, Yarn, NPM, JIRA, Confluence.

ClioTech secondment via The Startup Factory (Typescript/React/Node.js), 11/2023 - 02/2024

I spent 3 months on secondment to The Startup Factory team helping them deliver a next-generation AI-driven book authoring platform. ClioTech allows an author to create a book primarily via speech and a mobile phone. I was involved in two main areas: Prompt Engineering - a series of data-driven experiments to improve ChatGPT 4 generation of the book Section and Chapter titles and author cues. I also created a back-end document generation solution to facilitate the use of a human editor, managing the text flow within the platform. The tech stack is Node.js with a React frontend, Typescript being used throughout.

Tech Stack: React, Typescript, Node.js, ChatGPT 3/4, NX, Docker, AWS, MUI Components, Formik, Prisma, Sentry, DocXML, Express, io-ts, Mono Repo.

Software Development Manager (UK)

Hansard Global plc

06/2008 – 06/2022

Software Development Manager at Hansard Global plc having worked fully remote for over 13 years. I manage a team who are both remote and in-office.

Working with a seasoned team of professionals on a suite of award-winning secure online applications and complex back-end systems. Security, performance, and high availability are key attributes of these systems with 60,000+ clients and brokers self-managing more than \$1.3 billion of invested assets. For the past three years I have been involved in whole-system digital transformation project to migrate in-house applications to Azure Cloud.

My role is split between hands-on development and managing several engineers as direct reports. The development staff I manage are based in both the UK and the Isle of Man. Line-manager duties include holidays and sickness, performance appraisals, staff conduct, team communications, and promoting values and mentoring team members. I report to the Director of IT to allocate and prioritize work, provide estimates, updates on progress and assess risk.

We use Agile development practices, test driven development, and run projects according to the Scrum Methodology. I am a Certified Scrum Master. I was promoted internally to this position from the role of Senior Software Engineer. Fully remote from day 1, with office visits once a quarter.

- Digital transformation of n-tier java applications into a cloud-centric architecture utilising microservices, event driven services, bus-based communication, and secure API management.
- Development and maintenance of numerous online and internal business-critical systems.
- Security-centric approach using client & server validation, data sanitisation & escaping (OWASP).
- Introduced Scrum Agile ceremonies to improve development process via inspect-and-adapt cycles.
- Our systems won 'Best Digital Proposition' award at the International Advisor Global Financial Services Awards '19
- Personally committed over 1 million lines of code.

Senior Java Software Engineer/Full Stack

As a full stack senior software engineer, I worked in a dynamic team developing and maintaining secure online systems and internal applications. The in-house IT department gives us a competitive advantage through a responsive approach to business requirements.

Tech Stack: Enterprise Java, Spring Boot, Hibernate, HTML5, CSS3, JSTL, JSP, XML, JQuery, Thymeleaf, XSL/XSLT and Oracle 12c SQL.

DevOps: Jenkins, Maven, Microsoft Azure.

Tooling: IntelliJ IDEA, Subversion, git, Confluence, JIRA, Fisheye, Crucible.

As a member of the security team a combination of mentoring and training has provided me with a solid set of secure coding practices based on OWASP recommendations. We use rigorous code reviews, examining both architecture and low-level code constructs together with penetration testing to ensure all software systems, both internal and external, are secure from the ground-up. Development highlights at Hansard include an online signup and self-service authentication software, the internal user-management system, and a comprehensive documentation processing system. I am always trying to improve the user experience and engineer code to the highest standards.

Java Consultant

Argos

05/2008 - 06/2008

Design and prototype for a multi-threaded, socket-based, real-time protocol translator. Designed using use-cases, UML diagrams and prototyped Java 6 and XSL/XSLT/XML code. Prototype utilized the Apache MINA socket-based API.

Enterprise Java Developer

Environment Agency

02/2008 - 03/2008

Enterprise Java Developer working on the DPS3 Project, using a Java, Spring and Oracle technology stack.

Senior Software Consultant

Valtech

01/2005 - 01/2007

Development and maintenance of CMS system using the following technologies: Java, J2EE, EJB, JDBC, Weblogic 8.1, DB2 SQL, C++, XSL, XML, Ant. Provide consultancy and support to the EDS IT Support Team to improve procedures and practices in the building and deployment of next generation DWP infrastructure provided by IBM and EDS. Broad technical toolset including ant, Java, Websphere deployment and administration, MQ Series deployment and administration, AIX administration, shell scripting, XML, XSL, XSLT, DocBook.

Technical Subcontractor

IBM

10/2003 - 06/2005

Development work on the Department of Work and Pensions' Customer Management System (CMS) currently in use throughout job centres in the UK for the processing of claims. Complex XSLT/XSL stylesheet development for the transformation of XML data and presentation of data in PDF format (using FOP). Java/J2EE/EJB development on gateway interface systems.

Java Developer

Prescription Pricing Authority

12/2002 - 03/2003

Analysis, architectural design and development of an internet based application for the query and update of a database using the following technologies: iPlanet 4.x/6.x, Tomcat 4.1, J2EE (including JSP, Servlets and JDBC technologies), XML, Oracle PL/SQL, Microsoft SQLServer and Swing. XML export module and JDBC based transfer and update utility. Development of additional multi-tier functionality within a Swing thick-client/Servlet and EJB server based application.

Java Architect

Gamma Projects

03/2001 - 06/2002

MOD Contract. Analysis, architectural design and development of a distributed tactical communication system using the following technologies: Weblogic 6.1/JBoss 2.4.4, Java J2EE (including EJB, JMS, RMI and JDBC technologies), Servlets, XML, log4j, TCP/IP (socket-based communication), Oracle PL/SQL and Swing. Tested using JUnit. Development of a sophisticated data-mining graphical user interface using the Swing toolkit. Swing based application to visualize graphs of network equipment and their associated connectivity, Oracle Database via JDBC.

Java Architect

British Gas Research & Development

06/2000 - 12/2000

Fixed priced contract to analyse, design, develop and test an Object-Oriented Gas Network Analysis Engine prototype in Java, utilizing RMI and a Swing graphical user interface. Prototype consists of a Java analysis server with a Swing toolkit-based graphical client, communicating via RMI. Object oriented analysis, design, coding and testing was performing using the UML/IDE tool Together/Enterprise 4.0 running on the

Software Engineer

British Gas Research & Development

01/1996 - 01/1999

Fixed priced contract to analyse, design, develop and test an Object-Oriented Gas Network Analysis Engine prototype in Java, utilizing RMI and a Swing graphical user interface. Prototype consists of a Java analysis server with a Swing toolkit-based graphical client, communicating via RMI.

Object-Oriented Development of a multiplatform Java application to provide System Administration utilities to existing application.

Development work covering the full life cycle (including object-oriented analysis and design) on large (500K lines), multi-user (36 sites in UK) Gas Analysis software utilizing the following technologies: C/C++/Fortran, CORBA, Java, OSF/Motif, X-Windows, XDesigner, Sun/Solaris, Linux, OpenVMS.

Education

1st Class BSc. (Hons) Computer Science & Electronic Engineering, University of Hertfordshire

Personal Interests

Author of the ADIF Processor – a Spring Boot AWS Elastic Beanstalk application that visualizes radio contacts on Google Earth. Application: <https://www.adif.uk/> Source: <https://github.com/urbancamo/adif-processor> and [adif-web](#)

Tech Stack: Java 18, Spring Boot, AWS Elastic Beanstalk, JQuery, HTML5, CSS3, AWS Lambda, AWS S3 Storage, Maven, git, GitHub, Gitub Actions & Workflows, Jakarta, Logback, Nominatim, qrz.com API, Java API for KML, Google Earth, OK Http, Apache Commons, Lombok, Guava, Apache Commons, Thymeleaf, JUnit, Swagger, Mockito, JaxB, Jackson.

I'm also the maintainer of the Java API for KML: <https://github.com/urbancamo/javaapiforkml>.