Pete Woods

Team lead and engineer

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About me

The focus of my work is always quality. This includes technical aspects, such as: writing clear and comprehensive tests; code that you can look at and understand; making use of existing libraries; and continuous refactoring to maintain clean code. On the non-technical side, it includes: collaborating effectively with designers, other engineers, managers, and customers; and focusing on the issues when problems arise by sharing responsibility and avoiding blame.

This focus has shone through in my work at Canonical for my technical leadership over several projects, resulting in a *Spotlight Award* in 2016 where I was called out as a *a great role model.*

I am an extremely fast learner, getting productive in new areas and technologies very quickly. You can put me on almost any project and I will soon be effectively contributing, both technically and through leadership.

I'm never happier than when I can pass my experience on to my co-workers, especially when enabling them to write better code and enjoy their work more. Going out of my way to help and inspire my team-mates helps me develop close working relationships and friendships with them. If you check my LinkedIn recommendations, you should see this is corroborated by previous colleagues.

I have project management experience, being familiar with managing customer relationships and expectations throughout the development lifecycle. You'll find me: dependable; on-time for meetings; and able to put my opinions forward when needed, in a constructive and supportive way.

Skills

Languages	C++11, Java 8, GoLang, Ruby, Python, BASH, JavaScript, SQL, Puppet
Technology	REST, Spring, JPA/Hibernate, Qt/QML, TCP/IP, Linux, Git, Jenkins, HTML5, CSS, MySQL, Oracle
Techniques	Team Leadership, Agile, SCRUM, TDD, BDD, CI, DevOps

Education

2004–2005 **MSc in Mathematics**, *Distinction*, University of York.

- **Content** Entitled "Data Analysis, Networks & Non-linear Dynamics", this course taught important techniques in data visualisation, network modelling and dynamical systems.
- **Thesis** I researched automated methods for solving variable demand equilibrium network models. I compared generic classical methods, including simplex downhill search and simulated annealing, to more modern experimental and domain-specific methods. I presented the results at the national conference for *Mathematics in Transport.*

2000–2004 **BSc in Mathematics & Computer Science**, *1st*, University of York.

- **Dissertation** I studied use of the *Syndrome Decoding Problem* as the core of a cryptographic system. This involved attacking it with nonstandard heuristic search techniques, some of which I had learned during my industry placement at BAE's *Advanced Technology Centre.*

Experience

KDAB GmbH — Lancaster, UK (Remote)

2017–present **Senior Engineer**, *KDAB UK*.

- **Java web services** I took a legacy internal business-critical Java EE application and modernised it using Java 8 and Spring MVC / JPA, adding automated unit and integration testing, while maintaining various stakeholder's needs.
- **Mobile app development** Developed rich, fluid cross platform (Android and iOS) mobile applications for different clients, sticking to budgets and delivering high customer satisfaction.

Canonical Ltd. — Lancaster, UK (Remote)

2012–2017 **Senior Engineer**, *Ubuntu Mobile*.

- **Projects** I developed the lock-screen infographics from backend to presentation. I developed the voice control system, writing scripts to train CMU's Sphinx against the VoxForge speech corpus, creating language models for use in a simple command and control library. I worked extensively on the network management indicator to improve its quality.
- **Testing enabler** I developed several C++ libraries (libqtdbustest, libqtdbusmock, unity-scope-harness, gmenuharness) to enable testing of projects that previously weren't testable at all, or only in a limited way. Here are examples of extremely readable tests using these libraries: indicator-network, indicator-sound.
- **GoLang web services** I worked on Canonical's Snappy packaging / IOT / embedded platform for around 1.5 years adding additional RESTful APIs and testing to support purchasing of packages.

BAE Systems: Applied Intelligence — Cheltenham, UK

At BAE Systems, I led teams developing Java based services and applications. From around 2010 I moved onto high performance distributed C++ systems.

2010–2012 **Principal Consultant**, *Electronic Systems Group*.

- **Team leadership / Management** I managed budgets and contracts for the business area's projects, ensuring timely and on-budget delivery. I led weekly SCRUM planning sessions and daily stand-ups.
- **DevOps** I led the Agile development of an automated system for continuous deployment of a large and complex software stack based on RHEL using Ruby and Puppet. I created new testing tools to enable TDD of Puppet modules.
- **High performance C++** I implemented high performance data structures using STL and Boost. I carried out performance tuning using a mixture of Valgrind and VTune. I optimised the product's test suite, reducing a complete run to under 5 minutes, down from over an hour.

2008–2010 **Senior Consultant**, *Systems Integration Business Unit*.

- **Team leadership** After becoming the tech lead of a Java based data fusion and visualisation platform, I instigated the use of Agile methods (SCRUM and TDD) to restore stability to a rapidly growing codebase (~1 million LOC) and team (25 engineers). This codebase is now integrated into BAE Systems' AML Compliance offering.
- **High performance Java** Being a data fusion platform, scalability and performance was of paramount importance. Working from the initial graph implementation I was able to achieve memory savings of around 80%, aided by tools like YourKit and VisualVM.
- **Data visualisation** I built several data visualisation output plugins for the platform including: interactive graph node/pairs; traditional charts; and an OpenGL 3D GIS view using WorldWind.

2006–2008 **Consultant**, *National Security Business Unit*.

- **Data migration** I led a small team developing and deploying a data migration solution using Java and Oracle PL/SQL.
- **Oracle tuning** I spent time performance profiling the database design and making improvements using Oracle's query plan analyser. With the right selection of indexes and SQL query design I was able to reduce migration time to minutes from hours.