Keith Braithwaite

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Experienced Lean, Agile Delivery Lead, Manager, Coach and Trainer
Iterative, Incremental, Evolutionary Service Innovation, Delivery, Operation
Cynefin, Scrum, Kanban, eXtreme Programming, Lean UX, DABL, Business Model Canvas

Overview of Major Roles to Date

Now an independent consultant, under the Dark Peak brand, Keith has over 20 years' experience in the development of software–intensive products and systems as a Director, manager, consultant, delivery lead, technical lead, developer, and tester.

Industry sectors, Domains, Territories

He has worked for product companies, service operators and professional services providers, and on projects in business domains ranging from used–car dealers to global consumer banking, including linear broadcast TV, mobile data and device management, life assurance and pensions, retail data analytics, higher education, pharmaceuticals, and government.

He has worked for companies headquartered in the UK, USA, and mainland Europe, and has delivered services including consultancy and project delivery on sites in the UK, USA, Singapore, and India.

Roles

Keith has been a Director with Board–level P&L responsibility for multi–year programmes with budgets in the millions of pounds, and company revenues around ten million pounds.

He has line managed up to fifteen direct reports at a time, which including Principal Consultants and Leads. He has interviewed hundreds and hired many dozens of staff from graduate new–entry engineer to Principal and Director levels, in UK, mainland Europe, USA, Singapore and India.

▷ Within professional services organisations Keith has played a key role in finding, exploring, winning and delivering software, system, and product development opportunities with individual budgets from the hundreds of thousands of pounds to many millions.

He has take part in all parts of project delivery from pre–sales and identification of leads, lead qualification; drafting and presenting proposals, including initial scope, plans and budgets; closing deals; recruiting and training cross-functional delivery teams, sometimes including client staff and third parties; and managing projects to a successful conclusion, often winning repeat business from very satisfied clients.

▷ Keith also provided buy–side consultancy to clients, including creation of qualification questions for prospective suppliers, scoring guides, assessment of suppliers and decision support for the clients' purchasing authorities.

Agile Development

Keith was one of the earliest adopters of eXtreme Programming and later Agile development in the UK.

▷ Since 2001 all his work has been Agile and Lean, applying Cynefin, Scrum, XP, Kanban, Lean UX and other approaches, including the Discovery, Alpha, Beta, Live, Retirement model of Service Delivery.

He has led the successful adoption of Agile delivery in his employers' and clients' teams, including within ISO 9001 and ISO 13485 compliant quality systems, and SOX Ch. 4 compliant environments.

This included training and coaching developers in technical practices such as Test–Driven Development (TDD), continuous integration/test/deployment, and Pair Programming but also training Project and Product Managers to use iterative and incremental approaches such as Scrum, within frameworks such as DABLR, and coaching and supporting executives to make effective use of the management tools available in an Agile development environment. He is an effective coach and trainer for junior developers up to the C–suite.

▷ Keith co–authored the first peer-reviewed descriptions of successful globally distributed eXtreme Programming/Agile development, in 2005.

Other Industry Contributions

Keith is a popular and effective speaker at in-house and public conferences across UK, Europe and the USA. He created the "TDD as if You Meant It" exercise popular in code dojos around the world.

He was Programme Chair of the XPDays London conference series for 2008 and 2009, and has been a member of the Programme Committee of the BCS Spa conference on many occasions. He contributed to two O'Reilly books, and has written several op–ed articles for the trade press.

▷ Keith was for several years a Guest Lecturer on the "Commercial Programming" module of the Software Engineering MSc at U. of Birmingham.

Other Experience

In his own time Keith is a NED on the boards of both a small property management company and the Community Bookshop in Glossop.

Employment History

Dark Peak Consulting _____ 2018—date

Independent consulting, training and coaching in Lean and Agile product and service development and management.

Consultant — Glossop   only role

Independent consulting, training and coaching in Lean and Agile product and service development, service delivery, and management. Offering professional services throughout the UK and Ireland.

Zuhlke Engineering _____ 2006—2018

Zuhlke Engineering Ltd is a wholly–owned subsidiary of the Zühlke Technology Group AG, headquartered in Switzerland and also operating in Austria, Bulgaria, Germany, Hong Kong, Serbia, Singapore, and UK. It delivers consulting and engineering services in product innovation to clients including government departments, global banks, fund managers, media companies, medical device manufacturers, university administrations, pharmaceutical manufacturers, and more.

Keith worked on projects in all of those business domains and fulfilled a number of technical and managerial roles at Zuhlke, some concurrently, and was throughout a member of Group Management involved in strategic planning for activities across all territories. All his work at Zuhlke was carried out within and ISO 9001 compliant quality system, and some projects were also within an ISO 13485 compliant quality system.

Director of Customer Solutions — London and Manchester, UK   2016—2018

Board level Director with P&L responsibility for all of Zuhlke's work for clients in UK, including financial modelling, planning, and tracking of multi-year customer engagements with budgets approaching 10 million pounds.

Identified, recruited, and managed three Solution Centre Directors. Coached them in creating Solution strategies comprising business plans, reusable assets, and supporting marketing material.

▷ Under Keith's leadership the Solution Centres grew revenue from £6M to £9.7M while improving gross margin from 43% to 45%.

Signed off on all project proposals with significant commercial risk to the UK company. Supervised and coached all Engagement Managers in Zuhlke UK. Liaised with senior and C–level staff in client organisation, was the escalation point for project and programme issues.

▷ Lead the adaption of DABL, as used in public–sector projects, to Zuhlke's private sector projects.

Engaged with Directors of Customer Solutions in other Group companies around the world to guide the commercial strategy of the Group as a whole.

Recruited and managed one Project Support Administrator as part of the Group's PMO function. Took part in recruiting and selecting the Finance Assistants, Financial Controllers, and HR Managers for the UK company.

Head of Competence Unit (HoCU) — Manchester, UK   2016—2018

Line Manager of up to six engineers and consultants based in the Manchester office, as part of the UK Competence Centre. Responsible for finding, selecting and hiring staff. Guided career development and progression of those staff, including training budgets.

Responsible for staffing project teams for engagements on client sites in the North West of England. Co–author of various UK and Group HR policies, including parts of the Staff Handbook. Represented Zuhlke at trade shows, recruitment fairs and industry events throughout the North of England.

▷ The Competence Centre secured Best Companies™ ★★ accreditation for Zuhlke Ltd as good employers in 2016 and 2017, with improving scores.

Assisted in establishing the operating company in Serbia by taking part in several early interview rounds in Belgrade to identify and hire engineers there of the same standard as in the UK.

Location Manager — Manchester, UK   2015—2016

Led the exercise to select a location for the second Zuhlke office in UK. Having identified Manchester, led the exploration and development of local markets, found and negotiated terms for office space.

Relocated to the North West to begin identifying and hiring staff, and also to identify and engage with prospective clients.

Took part in selecting and hiring the Business Development Associate for the North West.

Business Unit Leader (BUL), Centre for Agile Practice — London, UK   2006—2015

As a BUL, Keith held combined P&L, commercial and line–management responsibilities.

He selected, hired, coached, and managed engineers and consultants. He also worked alongside Business Development to identify new business, and had responsibility for closing deals. On his deals Keith was engagement

manager, and in the more complex or higher–risk cases, also project manager.

> ▷ Keith's Business Unit was responsible for the majority of the company's growth in annual gross profit over the period, from less than £100,000 to more than £600,000.

In this role he also performed market analysis, creating and implementing technical and go–to–market strategies for his BU.

He assessed the capabilities of potential off–shore development partners in Eastern Europe for Zuhlke, including site visits to overseas development centres, and interviews with management and staff.

His commercial responsibilities as a BUL included:

- Qualifying leads
- Fully costed proposals
- Presenting proposals, negotiating terms, closing deals
- Planning and managing delivery
- Securing extensions, upselling, cross–selling

> ▷ Keith's BU delivered some of the GDS Exemplar projects, establishing the viability of the DABL model of service delivery. He lead the adaptation of DABL to private sector projects at Zuhlke.

Principal Consultant — London and Manchester   2006 – 2018

Introduced Agile Development, particularly eXtreme Programming, Scrum, and Kanban to Zuhlke's UK and Swiss companies, and to their clients.

> ▷ In some cases created order–of–magnitude improvements in delivery of features, with near complete elimination of unplanned re–work from defects.

Provided training, consultancy, and hands–on delivery effort to clients' executives, managers, and development teams in Lean and Agile techniques to improve technical and business agility, including:

- Process improvement through effective *Retrospectives*
- Specification by Example, using *FIT* and *Concordion*
- *DDD*
- Iterative Product Development with *Story Mapping*
- Effort and duration *estimation* with *PERT* and
- *Wideband Delphi* (including when to not estimate)
- Effective *Scrum*
- Managing work with *Kanban* and *Single Piece Flow*
- *TDD*
- Automated *testing:* functional, integration, and performance
- *Exploratory Testing*

Provided delivery services to clients including:

- Requirements Engineering
- Technical Architecture
- Internal and External quality, including design metrics and *Fagan*
- *Inspection* of code
- Development Processes
- Automation of Development Pipelines

For clients engaging with other suppliers, Keith provided assistance to their buying centres by:

- Constructing qualification checklists
- Assessing supplier proposals
- Scoring responses
- Providing decision support for buyers

Deployed tools and techniques including the *Cynefin Framework*, *IDEF0* business process modelling, GE and Boston Consulting Group style *multi-factor analysis matrix*.

Represented Zuhlke Engineering Ltd on Zühlke Group technical decision making bodies.

On the Programme Committee of Zühlke Group's bi–annual internal technical conferences.

Speaker on behalf of Zuhlke at numerous technical conferences in UK and Europe.

WDS Global _____ 2003 – 2006

A product and services company, since purchased by Xerox. WDS developed and operated a "white label" product to remotely solve mobile data configuration issues on handsets, offered both as an on–prem solution and as multi–tenanted *SaaS* operated by WDS with near 24×7 availability to subscribers on behalf of and branded for network operators.

Research Team Coach — Poole, UK   2005 – 2006

Led a small team of developers to explore new service and product ideas through the development of prototypes in *Java*, *Ruby* and *Smalltalk* on *Windows*. Used the *Soft Systems Methodology* to identify and develop new product ideas and opportunities.

> ▷ Dramatically improved the company's agility in responding to client's feedback, Service Delivery

Managers' market needs and Product Managers' vision through fast feedback on early realisation of vision.

Coached Service Delivery Managers and Product Managers in effective working with an eXtreme Programming/Agile delivery capability, including planning for iterative, incremental development.

Head of Development — Singapore and Wollongong, Australia   2004 – 2005

Recruited, managed, and trained Software Developers in the Singapore office to work in close collaboration with APAC clients.

> ▷ With UK and US peers, created a follow–the–Sun

24×5 globally distributed eXtreme Programming team—perhaps the first of its kind in the world.

Retrained existing development team in Australia.

Worked with clients in Australia, peninsular Malaysia,

Singapore, Thailand, providing requirements engineering and technical delivery management.

Agile Coach — Poole, UK   2003−2004

Selected staff from the existing UK development team who would remain as part of the new distributed eXtreme Programming structure. Retrained those who were selected in eXtreme Programming practices.

▷ Led by example as a programmer in a Pair Programming environment using TDD with inten-

Recruited the Head of Development and initial engineering team for new development location in Kirkland, Washington State, USA

sive refactoring, continuous integration, continuous test and other practices.

Interviewed and selected new staff to join the UK team. Worked in self–organising cross–functional teams to implement new services and products in *Java* and *Prolog* on *Windows* and *Linux*.

Penrillian   2001 — 2003

A start–up development house, creating native and managed code mobile apps for product vendors around the world, ranging from novel predictive text input mechanisms to a satellite navigation app.

Senior Software Developer — Penrith, UK   only role

Reported to the MD, first software engineer hired.

▷ Selected, recruited, trained, and coached the subsequently hired engineering staff.

Performed on–site interviews with staff of a major investor in Hyderabad, Andra Pradesh, India to identify individuals who could be seconded to Penrillian in UK.

Worked in self–organising, cross–functional teams to develop end-user and industrial mobile applications in *C++* and *Java 2 MicroEdition* on *WindowsCE* and *Symbian* platforms for clients around the world including Nokia, T-Mobile, Ericsson. Used eXtreme Programming and Test Driven Development.

AMS   2000 — 2001

The UK subsidiary of American Management Systems, since acquired by CGI.

Software Architect — London, UK   only role

Fostered the use of eXtreme Programming in the new "E–Customer" division created to join in the first wave of the dot–com revolution. Provided technical architecture consulting services to clients in advertising and me-

dia.

Led the technical contribution to the E–Customer Value Proposition. Projects were delivered using *Java* within the *ATG Dynamo* environment on *Windows*.

Parallax (later Keane)   1998 — 2001

Distributed systems consultancy. Acquired by Keane, itself now part of NTT Data

Senior Software Engineer — London, UK and New York, USA   2000−2001

Worked as part of the Architecture Team to specify and design reference data platform for fixed–income instrument trading in a global investment bank. The project was distributed between London and New York, Keith was the go–between for the Analysis and Architecture teams in London and the Programming team in New York.

Used the *Catalysis* method for design of Component–based systems. Implemented architectural demonstrators of feature implementations using *Java 2 Enterprise*

Edition on the *Visual Logic* platform running under *Windows*.

▷ Led the team implementing the authentication module for a very early, and award–winning, on–line life assurance quotation system.

Used *Java* with *CORBA* to emulate the *Java Enterprise Edition* runtime on the IBM *VisualAge* platform.

▷ One of the earliest applications of *TDD* with *JUnit* on a project in the UK.

Software Engineer — London   1998−2000

Worked in development teams to build solutions for various clients in *Java* and *PL/SQL* on *Windows*.

DFI Aeronomics (later Talus/Manugsitics)   1998 — 1998

Air transport revenue optimisation product and services company, subsequently acquired by JDA.

Software Engineer — London, UK   only role

Took responsibility for design and development of a module to support statistical models of seasonal variations in demand for air freight capacity. Used *Ratio-*

nal Rose to develop and maintain *UML* models, with forward–generation of code. Used *MS Visual C++* on *Windows NT*.

Mobile Systems International   1996 — 1998

A mobile network planning and operations management product company, subsequently bought by Ericsson.

Software Engineer — London, UK   only role

Worked in a team of four to develop a new module for the "PlaNET" mobile network planning product. The module was used by wireless engineers to predict 3G mobile signal strength for proposed new networks in dense urban environments based on build footprints and materials.

Liaised with wireless engineers to document the required models using the *Syntropy* method (a combination of object modelling with *OMT* and formal specification with a $\mathcal{Z}$–like language), worked with the team to design a solution, and implement it in *C++* on an *SunOS* unix environment. Worked intensively to profile and optimise the module to meet application non–functional requirements for performance.

Worked with the Technical Writers to create the chapter of the manual for the new module.

▷ All code was supported by comprehensive automated unit and integration tests.

Configuration management and build automation was implemented with *ClearCase*.

Forthtech _____ 1995 — 1995

A startup developing an ERM solution in a proprietary 4GL based on *BBx Business BASIC*

Programmer — Stirling, UK   only role

Worked independently to learn and apply *lex* and *yacc* in a *Unix* environment to maintain and extend the 4GL interpreter, which was written in ANSI *C*, used by the application developers.

Professional Qualifications and Education

Institute of Directors _____ 2014 — 2016

Diploma in Company Direction Advanced training in Board of Directors' effectiveness, assessed by an SCQF Level 9/RQF Level 7 (ie Masters' standard) case study based examination.

Negotiating Skills for Directors Practical training in the techniques of *Principled Negotiation*

Certificate in Company Direction Comprises four modules: Role of the Director and the Board, Finance for Non–Financial Directors, Director's Role in Strategy and Marketing, Director's Role in Leading the Organisation. Assessed by RQF Level 5 and 6 (ie degree standard) written examination.

Full Member 2014 to date.

Scrum Alliance _____ 2006

Certified ScrumMaster Facilitating iterative and incremental product development using *Scrum*.

Napier University — Edinburgh _____ 1995

IEE/NCC Certificate in Software Engineering Skills–based certification for post–graduate technical and engineering professionals covering:

- Requirements gathering using *Use Cases*
- Object–Oriented Design using *OMT*
- Programming in *C++*
- Relational Database design with *Oracle*, including
- Normalization
- Cost and schedule estimation with *CoCoMo*
- Project management with *PERT* and *Gantt Chart*
- Design and implementation of network protocols

City and Guilds _____ 1995

Programming in *COBOL* Included problem analysis and program design using *Jackson Structured Programming* techniques, desk checking, and manual testing

Database Methods Document–oriented Databases

Miscellaneous _____ 1995 — 2018

Member of BCS the Chartered Institute for IT since 1996.

Additional training received:

Lean User Experience with Jeff Gothelf

Winning Complex Sales rigorous qualification of leads, analysis of buying centres

Behavioural Interview techniques with the *STAR* (Situation, Task, Action, Result) format

Object–Oriented Design with *Syntropy*

Big Data with *Hadoop*

Functional Programming with *Haskell*

Higer Education

Heriot–Watt University — Edinburgh _____ 1989 — 1995

BSc (Hons) Combined Studies 4–year undergraduate degree (with one year out).

Subjects taken to Honours:

- Numerical Analysis, including programming in *Matlab*
- Physics (with Computer Applications), including programming in *FORTRAN 77*
- Computer Science, including programming in *C*
- Final year research project—modelling opto–electronic components to implement neural network weight matrixes in hardware using *SPICE*

Selected Publications and Presentations

Peer Reviewed Conference Papers

- Braithwaite K. & Joyce T. (2005) *XP Expanded: Distributed Extreme Programming* in Proceedings of the 6th international conference on Extreme Programming and Agile Processes in Software Engineering. Springer–Verlag
- Braithwaite K. & Joyce T. (2005) *XP Expanded: Patterns for Distributed eXtreme Programming.* in Proceedings of the 10th European Conference on Pattern Languages of Programs. Univ.–Verl. Konstanz

Invited Conference Talks

- Braithwaite, K. (2012) *Software as an engineering material: how the affordances of programming have changed and what to do about it.* in Proceedings of the 34th International Conference on Software Engineering. IEEE Press

Not collected in Proceedings:

Keynote: Manifesto! Comparing Agile Manifesto with the Communist Manifesto. JAX London Autumn Edition, 2010

Conference Talks and Workshops

Not collected in Proceedings:

TDD as if You Meant It Agile on the Beach, 2016

The "Agile Charlatan" Problem UK Agile Coaches Gathering. Bletchley, 2011

Transitional Practices: Invention, Innovation and Diffusion in Software Development Praxis goto; conference. Aarhus, 2010

Nothing New Under the Sun: continually rediscovering the good ways to build software QCon. London, 2010

Panel: Transparency with Kent Beck, Chris Matts, John Nolan. QCon. London, 2009

Measure for Measure: Quantifying the Effect of TDD QCon. London, 2008

Examples, Exemplars, Requirements, Tests Agile Approaches for Delivering Business Value. London, 2008

Agile Architecture International Agile Conference. 2006, Minneapolis

Trade Press

- Braithwaite, K. (2009) IT Opinion: Fear of Feedback, *Engineering & Technology, 4* number 8. IET

Other Publications

- Braithwaite, K. (2009) "Quantify", "There Can Be More Than One", "Learn from Architects of Buildings", and "Build Systems to be *Zuhanden*" in *97 Things Every Software Architect Should Know*. O'Reilly
- Braithwaite, K. (2010) "Read the Humanities" and "Write Small Functions using Examples" in *97 Things Every Programmer Should Know*. O'Reilly

Other Information

References

Available on request.

Personal Interests

- Tai Chi Quan
- Travel
- Landscape Photography
- Listening to and writing music
- Reading and writing fiction