

Mr Jaime Metcher

Overview

I am

1. a translator between educators and technologists, and can add value in both directions
2. strong in abstraction and system modelling
3. a talented software designer and developer
4. an effective writer and presenter.

In my ideal job I would contribute in all of these ways, while working to improve the standard of eLearning practice and improve real outcomes for students.

I'm based in Brisbane, Australia. I would be willing to relocate internationally for the right opportunity, and I'm a disciplined and effective remote worker.

Career themes

The role of design in software; the role of design in education; systems that enable, capture, and propagate design insights.

Design can be a very broad term. To me, the most interesting aspect of design thinking is the tension and synergy between structure and improvisation, procedure and judgement. This is at the heart of software development, education design, and professional practice in general. Design insights are notoriously hard to capture and apply, but I think we can make progress through clever combinations of human and computer systems.

Technologies

I have established areas of deep technical expertise, but to me, the more interesting story is around putting technology to work to improve educational outcomes. Learning and adapting to new technologies is a key strength that allows me to suit the technology to the requirement, rather than vice versa. See page 5 for the list of technologies that I've used to meet current and recent challenges.

Qualifications

Bachelor of Science (Mathematics), University of Queensland

Employment history

My early career revolved around mathematical programming, followed by a period of child-rearing and part-time work.

On accepting a software engineering role at an online medical education company, Med-E-Serv, I found myself in a small, intensely results-driven organisation that was multi-disciplinary to its core. My continuing development as a software engineer included responsibility for project management and execution, which then led to a stint as operations manager for the whole company. As the company grew I was tasked with establishing a service delivery division, while also increasing my involvement in product design and software architecture. Progressing to the position of Technical Manager, I was a member of the senior management team, with overall responsibility for our 24x7 internet services, our software development team, and our software design and architecture.

After testing the market, the University of Queensland identified Med-E-Serv as the leading health-sector eLearning organisation in Australia, which led to the acquisition of the company and the establishment of the Centre for Innovation in Professional Learning (CIPL). I was seconded to CIPL in the role of Technology Strategist, responsible for leading technical development of flagship professional learning projects, participating in program design, and contributing to our active program of teaching, presenting and publishing.

Start	Finish	Title	Employer
2009	Present	Technology Strategist	Centre for Innovation in Professional Learning, University of Queensland
2007	2009	Technical Manager	Med-E-Serv P/L
2006	2007	Service Delivery Manager	Med-E-Serv P/L
2005	2006	Operations Manager	Med-E-Serv P/L
1999	2005	Senior Software Engineer Project Manager	Med-E-Serv P/L
1996	1999	Assistant Systems Programmer	Department of Social and Preventive Medicine, University of Queensland
1992	1996	Timetabling Officer (part-time)	Australian Catholic University
1992	1995	Class-room Tutor (part-time)	Redlands Community College
1988	1991	Analyst/Programmer	Hitech Mapping Systems

Career theme - Design patterns in professional education

Rather than an exhaustive list of duties and achievements in each of my roles, I offer this career narrative around one of the most important themes of the last few years.

Design patterns

As a senior developer and software architect at Med-E-Serv I became convinced of the value of design patterns in maintaining the design integrity of long-lived and continuously evolving software systems (see conference presentations Metcher 2010 and Metcher 2011). When the educators at Med-E-Serv were looking for a way to communicate their accumulated years of professional learning design expertise to a wider audience outside of the team, I introduced to them the design pattern work of Christopher Alexander, Martin Fowler, and Linda Rising. Immediately the combination of useful rules, flexibility, and professional judgement struck a chord, and we entered a period of learning and brainstorming about how to apply the design pattern paradigm to education. This period culminated with the publication of two papers in an international design journal (see Robinson et al., 2011, and Bianco et al., 2011).

eLearning system development

The process of documenting our design insights reinforced our commitment to our in-house eLearning system, which we had used to deliver many hundreds of courses to over 68,000 students. The in-house system arose out of necessity. It was developed at a time when the eLearning tools market was immature and offered no viable alternatives for those wanting to design pedagogically sound, online professional education. We fully expected comparable alternatives to emerge in the ensuing years. However, it has since become clear that the evolution of the eLearning tools market has taken place in a way that is largely uninformed by education design. Even in 2011, 10 years after its inception, our in-house system provided affordances difficult or impossible to reproduce in other systems.

As architect and technical lead, I was responsible for sustaining best practice in software development, including agile planning, continuous release, version control, test automation, and good, sustainable object-oriented design. Going beyond a pure technical focus, I was also able to embed our education design insights into the software design in an increasingly visible manner. This so-called 'traceability' of the high-level design in the implemented system remains an interest of mine.

Strategic change at UQ

Alongside key members of my team, I was seconded to the University of Queensland in 2009 to assist in moving the university towards more effective engagement with professional learning initiatives. We conducted a successful bid for a large-scale, federally funded intervention in teacher professional development (see Robinson & Metcher, 2014a). I was responsible for co-designing the online experience, establishing the server infrastructure to support the installation of our eLearning system, and commissioning and managing external contractors for new software development. Building on the success of that project, I started another round of review of the existing tools ecosystem to determine how best to embed our design patterns into the university's practices and systems.

Tool support for design patterns

As a first step in our tools review I documented the implementation-level affordances of our eLearning system as a set of “implementation patterns” (see Metcher 2013), and led a small team to design and publish a sample course using our system. I then commissioned the re-development of the sample course design using two market-leading learning management systems, by education developers expert in those systems. Finally, I asked the contracted developers to conduct a self-assessment of the extent to which they were able to recreate the documented patterns, and in parallel conducted my own assessment of the same (see conference presentation Metcher 2013). The conclusion was that several of our most important design patterns remain largely absent from and unsupported by the mainstream tools market, and that it would require significant software development to extend existing platforms to change this situation.

Ongoing and future activities

Our activities to promote good design in eLearning continue on several fronts. We continue to engage with the leading learning tools developers to encourage them to extend their support towards high-level learning design. I am investigating the possibility of establishing our eLearning system as an open-source project, where it could act as an example implementation of our design patterns. Finally, as time allows, I pursue a program of publishing and speaking.

Publications

Bianco N, Robinson L, **Metcher J**, Hendy R. Realising the potential of design patterns in professional learning. *Design Principles and Practices: An International Journal*. 2011 5(4):475-483

Metcher, J 2013, 'CPD implementation patterns', Internal distribution, University of Queensland.

Metcher, J, Robinson, L, Hendy, R, Le, H & Bianco, N 2013, 'Measuring impact and engagement in large-scale online CPD', Internal distribution, University of Queensland.

Robinson L, Bianco N, Hendy R, **Metcher J**. A design pattern language for effective professional development programs for clinicians: a decade of design-based research. *Design Principles and Practices: An International Journal*. 2011 5(4):553-570

Robinson, L & **Metcher, J** 2014a, 'Professional learning and a national community of practice for teachers leading local curriculum change', in L Carvalho & P Goodyear (eds), *The architecture of productive learning networks*, Routledge, New York.

Robinson, L & **Metcher, J** 2014b, 'Designing for the social dimensions of learning', in G Trentin (ed.), *Network-based continuing medical education*, Nova, New York.

Presentations

Metcher, J 'Blackboard learn for large scale Professional development: A feasibility study', paper presented at Blackboard Teaching and Learning Conference, Melbourne, Australia, 2013.

Metcher, J 'Design patterns and form processing', paper presented at cf.Objective (ANZ), Melbourne, Australia, 2010.

Metcher, J 'Using a java domain layer with ColdFusion', paper presented at cf.Objective (ANZ), Melbourne, Australia, 2009.

Metcher, J 'Why bother with OOP?', paper presented at cf.Objective (ANZ), Melbourne, Australia, 2011.

Technical

Every software developer CV needs one: here's the technology laundry list. Much of this is simply irrelevant to the more strategic roles I can fill, but part of my value to small agile teams is that I can pinch-hit across the entire technology stack, not just at the architecture level.

Advanced These are my in-depth technologies. I'm happy to take on any problem in these domains.	
Java (Spring/Hibernate/AspectJ)	ColdFusion (Adobe and Railo)
Object-oriented design	SQL
Competent I can use these technologies to produce production-ready systems.	
Vagrant	Ansible
HTML	CSS (SASS)
Perl	JUnit
Webdriver	MS SQL Server
Getting by I use all of these regularly in my personal development environment, but there are certainly common use cases I haven't yet approached.	
Gradle	Ant
Javascript	Vmware
Virtualbox	Linux
Git	Subversion
Apache httpd/Tomcat	MySQL
Cloud deployment	
Nodding acquaintance I can understand and debug these technologies, but I wouldn't be your first choice for large-scale development in these.	
PHP	Smalltalk
Wordpress	Drupal

SPSS	LDAP
Bash	Samba
UML	Blackboard
Moodle	Canvas

A note about methodologies:

When the Agile Manifesto appeared, I was delighted – finally I had the common language to describe my approach to software development. Particularly resonant are the Scrum approach to allowing flexibility by defining control points, and Alistair Cockburn’s very sensible approach to context in his Crystal methodologies. XP (Extreme programming) is a very nice way to work in the right environment. Few of us have that environment, but I have had the pleasure of approximating it once or twice. Finally, as a way to improve the integration between stakeholder communication and software design, Eric Evan’s Domain Driven Design very much strikes a chord.