

## Summary

Greg Baker is a nationally-recognised expert on innovation, idea generation and integration in software development and ICT operations and management. He has hands-on skills in mobile development, e-learning, image analysis, natural language processing, virtualisation, big data, devops, capital raising, strategy, finance and management. His client base includes a who's-who of startups, multinationals, governments and charities.

## Contact Details

<b>Phone:</b>	+61 408-245-856	<b>E-mail:</b>	gregb@ifost.org.au
<b>Github profile:</b>	solresol	<b>Twitter:</b>	gregory_d.baker

## Work History

<b>The Institute for Open Systems Technologies Pty Ltd</b>	Owner and director	1999-2006, 2007-present
<b>Google Inc, Switzerland</b>	Site Reliability Engineer	2006 - 2007
<b>CSIRO Division of Radiophysics</b>	Experimental Scientist	1994 - 1996

## Patents

<b>GGL-1722-00-US</b>	Information Technology Management Using Diagrams
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## Books Published

<b>Planning, Deploying and Installing Data Protector 9</b> Published February 2015 <a href="http://www.amazon.com/dp/B00T68FR64">www.amazon.com/dp/B00T68FR64</a>
<b>Operating, Running and Supporting HP Data Protector 9</b> Published February 2015 <a href="http://www.amazon.com/dp/B00T99I4VK">www.amazon.com/dp/B00T99I4VK</a>
<b>Migrating, Cloning and Obsoleting Data Protector Cell Managers</b> Published December 2014, #1 book on Amazon Australia by an Australian author in the "Business Software" category in its first week after launch. <a href="http://www.amazon.com/dp/B00QWFM5NM">www.amazon.com/dp/B00QWFM5NM</a>
<b>A Better Practices Guide for Populating a CMDB</b> Published March 2014 <a href="http://www.amazon.com/dp/B00J4GZ006">www.amazon.com/dp/B00J4GZ006</a>
<b>How to use HP DataProtector 8</b> Published September 2013 <a href="http://www.amazon.com/dp/B00FBD54F2">www.amazon.com/dp/B00FBD54F2</a>
<b>When Medusa Went on Chatroulette</b> Published December 2015 <a href="http://www.amazon.com/dp/B018GBRDCC">www.amazon.com/dp/B018GBRDCC</a>

## Computing Conference Papers

<b>It is nearly cheaper to build a smart apartment than a dumb one, but it is much harder work</b>	Australian Unix Users Group	Sep 2005.
<b>Caffeine-free E-speak: Developing applications without Java</b>	HP Developers Conferences in Australia, Korea and Taiwan	May 2000, Aug 2000.

## Involvement in Nascent Businesses<sup>1</sup>

When	Who	What they do/did	What I did for them	Where they are now
2000-2006	<b>Centre for Organisational Innovation</b>	HR and staff surveying via the web	Developed their software and partly financed them	Partly sold, profitable
2000	<b>Nuix</b>	At the time, they were still trying to figure that out	Installed their first systems, interviewed their first IT staff	Listed
2004-2006	<b>Control-ability</b>	Smart housing building control	Infrastructure design, project management, software development	Still doing well as far as I know
2006-2007	<b>Google</b>	You've probably heard of them	Reliability engineer... it wasn't exactly a start-up when I was there, though.	Heading towards the first trillion dollar market cap, but I can't claim much credit for that.
2011-2012	<b>K2 Knowledge Solutions</b>	E-learning	Set up accounting, payroll, ABN, ACN and infrastructure for them	Went insolvent. Can't win them all
2011-2014	<b>Dealers</b>	Motor dealership insurance platform	Infrastructure deployment, choice of platforms, software development	Possibly about to be bought by a major underwriter
2014-2016	<b>Wet-weather line</b>	Telephony to social media gateway	Everything	Profitable
2015	<b>iprax</b>	Online Naplan testing and reporting	All software development, some marketing	In use by top-tier schools
2015	<b>Atlassian</b>	Jira and Confluence	Developed a service catalog	About to IPO, but they had been doing fine long before me
2015-2016	<b>Queckt</b>	Big data, AI, estimation management	Everything: software development, marketing, algorithm design	Still early stage
2016	<b>Clapit</b>	Social media platform	Some programming and database work	Growing really well

<sup>1</sup>I also *left* the team at CSIRO that went on to build WiFi because I didn't think their approach was right. As it turns out, actually they were right, I was wrong. So I'm not 100% accurate in picking winners.

## Academic History

<b>Incomplete Ph.D (Cryptography)</b>	Macquarie University	1999-2000
Topic: <i>Lopsided elliptic curves in small finite fields</i>		
<b>B.Sc. with First class honours</b>	Macquarie University	1992-1996
GPA: 3.75/4.0. Awards: 3 Mathematics, 1 Computer Science.		
Thesis: <i>Q-gol: a system for describing quantum computation</i>		
Subjects: <i>Chinese, Linguistics, Audiology, CompSci, Maths, Physics, Stats, Operations Research</i>		

## Languages Spoken

<b>English</b>	Natively	<b>Mandarin</b>	Really, really badly
<b>Esperanto</b>	Terrible, but comprehensible	<b>Cantonese</b>	Enough to understand my in-laws
<b>German</b>	Native speakers beg me to stop	<b>Latin</b>	Mostly forgotten
<b>French</b>	Can read a bit	<b>Koine Greek</b>	Not too bad, but not that useful

## Parliamentary Evidence

Urged by Hon Chris Bowen MP (Federal Assistant Treasurer) to submit <b>A Suggestion for Fringe Benefit Tax Changes for Public Transport Tickets</b> to the Australian Treasury Future Tax System Review	April 2009
Invited to provide evidence on the impact of section 17 (intellectual property) of the Free Trade Agreement between Australia and the USA following submission of <b>A Suggestion for Two Small Additions to Chapter 17 of the USA-Australia Free Trade Agreement</b> . Subsequently gazetted.	April 2004 (and October 2005)
Testified before the Australian House of Representatives Enquiry into Broadband Wireless following my submission of <b>Finding A Reasonable Compromise for the Use of 802.11 Equipment in Australia</b>	May 2002

## Mobile Apps Developed (Full stack engineering)

Name	Store	Platform	Tech	Description
<b>Sydney Schools Sport Wet Weather Line</b>	Apple iTunes	iOS	Phonegap	Connects to an Google App Engine back end to collect voice-mail messages.
<b>Wet Weather Line 2014</b>	Google Play	Android	Phonegap	(Ditto)

## Interesting Data Science Projects

<p><b>Centre for Organisational Innovation</b></p>	<p>COI do staff attitudinal surveys. Once they had a few million data points I did a cluster analysis of companies to find the differences in the drivers of effectiveness. It turns out that there are 5 different ways to be very effective, and a further 8 common “other” categories of companies.</p> <p style="text-align: right;"><b>Clustering, statistical computing</b> www.coigroup.com</p>
<p><b>Queckt</b></p>	<p>Can computers do a better job of dispatching service desk tickets than a human being? I analysed the ITIL interactions for Auckland City Council and a defence organisation. Humans mis-route around 15% of all tickets; a naive bag-of-(words/bigrams/trigrams) model can get this below 10%. There is some evidence that it’s possible to do better than chance on predicting changes that will fail based on vocabulary and tense use.</p> <p style="text-align: right;"><b>Linguistic analysis, ticket analysis</b> x.ifost.org.au/queckt</p>
<p><b>Dealers (Allianz)</b></p>	<p>Motor dealership insurance is complex because it spans so many different lines (e.g. maritime, weather, professional indemnity, etc.) One of the features of the Dealers system that I wrote was that it supplied an email address for underwriters to Cc their correspondence to. Any such emails get automatically associated with the right policy. Keywords (and their sentiment) sentiment get highlighted, so the underwriter from another line can glance through unmanageable troves of emails and note “asbestos, but it’s green; excess profit-taking: red”.</p> <p style="text-align: right;"><b>Geo, Sentiment Analysis</b> dealers.mobbs.com.au</p>
<p><b>Mouth Inside</b></p>	<p>I developed some image analysis software in Javascript. It’s not complete, but can capture some medically-useful data already.</p> <p style="text-align: right;"><b>Image analysis</b> mouth-inside.appspot.com/capture</p>
<p><b>HPOM Autolearn</b></p>	<p>HPOM is a systems management product. I wrote a plug-in for it to cut implementation times down to a few hours or days instead of weeks. It does some basic statistics on CPU utilisation, memory usage, etc. to learn what is normal, and alert on anything highly deviant. It projects linear trends on these to predict exhaustion. It detects log files (even from newly-installed applications) and then does Bayesian filtering to learn what messages should be displayed to operators.</p> <p style="text-align: right;"><b>Statistics, Bayesian inference</b> www.ifost.org.au/products/autolearn</p>

## Scientific Papers

<b>Q-gol: a system for describing quantum computations - Theory, Implementation and Insights</b>	Macquarie University , School of MPCE, 1996 Computing Honours Thesis (2 external citations)
<b>Simulating quantum computers</b>	Macquarie University, School of MPCE, 1998, to launch the first joint symposium on mathematics and computing.

## Sample Projects

**Motor dealership insurance system** (2011-2014) Motor dealership insurance covers many distinct lines (marine, professional indemnity, property, weather. There are very few products on the market that let dealers, brokers and underwriters collaborate effectively on a risk. I implemented the full engineering stack: an ipad friendly interface (in HTML5 + JavaScript), a Google App engine back end and all external interfaces. Features include extensive integration with Google Maps and Streetview, and keyword and sentiment extraction in order to help underwriters skim the vast quantities of documentation generated.

**Signature Control System** (2004-2006) The most technically advanced smart-housing control system in the world: it includes touchscreens, prox sensors and universal pin access which opens doors, lifts, air-conditioners and boom gates. Other features are shared music libraries, video intercoms, voice-over-IP and integrated billing. It is also believed to be one of the most secure and robust systems of its kind (that is, we have searched and cannot find anything in the same class). I led the technical design and architecture and developed much of the software.

**The Centre for Organisational Innovation: OEP System** (2000-2006) OEP is an evidence-based system for identifying culture and process problems in large organisations. It now boasts over a million records (question / answer responses) covering 1st and 3rd world organisations from around the world. It is used by everyone from the Lebanese Finance Ministry to Novartis. I developed most of this system, partly financed it, supported it for several years, and managed its hand-over to new support structure.

**Aon Risks: Marketing Document Management System** (2003) When insurance brokers engage in marketing (finding a spread of underwriters willing to take on a single large risk) they have to supply large customised collections of documents under revision control with strict privacy policies to each underwriter. There is nothing particularly unusual about this, but in a project to merge the software base of several different incompatible systems together we achieved a negative defect rate: the combined system experienced less bugs and less downtime than the components did previously. And we delivered it for under \$AUD2/line-of-code. It is still in use today, even though it was supposed to be only an interim solution. I assembled and managed the team which did this development work.

## Other Interesting Projects

Created a <b>new compute infrastructure</b> for the Prince of Wales Medical Research Institute (2006), using Linux compute and storage clusters and set up DICOM comms to the nearly-brand-new MRI.
Provided software development lifecycle consulting and <b>came up with a methodology for assessing small-to-medium sized development teams</b> (2006). (Done with employee Dr Christopher Vance.)
Found a <b>signature pattern in DNS changes</b> which was incorporated as part of the Google PageRank algorithm (2006). Implemented a voice gateway to Google's monitoring and alarming system. (2007)
Hacked into casinos, power plants, Pacific island governments, dotcoms and a few other such companies.
Oversaw a <b>clean-room reverse engineering</b> of a hardware repair training manual for high-end HP-UX systems (Superdomes, rp8400, etc.), and dealt with legal fall-out from it (2006).
Created a <b>scraper service</b> for the NSW CTP insurance system to report in real-time on price movements by insurers. (2008, 2011).
Developed <b>courseware</b> in high availability (ServiceGuard) and distributed systems administration (DSAU / cfengine) for Hewlett-Packard (2008-2009).
Wrote (and delivered) several creative-commons licensed courses on ITSM and HP ServiceManager for <b>Australian Parliament</b> and the <b>Department of Defence</b> (2011,2012).
Developed an <b>artificial intelligence module</b> for system and network management which replaces the job of highly-paid consultants (2008-2010).
Taught a backup management course (using DataProtector) for the <b>Vanuatu Ministry of Finance</b> (2009), and since then have done pro bono work for the <b>Vanuatu Reserve Bank</b> and <b>Vanuatu Telecom</b> .
Deployed networking, hardware and POS systems for a retail florist who wanted to have 100% cloud-infrastructure
Taught training courses on HP Data Protector in <b>HP China's Beijing office</b> (2012) and <b>HP Taiwan's Taipei office</b> (2012) Consulted on HP Data Protector to almost all of HP's customers in Australia (2011-2016).
Implemented a branching Naplan (for some ex-Acara staff) (2015).
Launched a wet weather information service which was profitable within 40 hours of work from idea conception to first sale. (2014)

## Courseware Written

<b>Knowledge-Centric Support with SM7</b>	Written May 2010, partly incorporated into Service-Manager 9.X Essentials September 2010
<b>Service Catalog and Request Management</b>	Customised course written June 2010
<b>SM7 ServiceDesk, Incident and Change</b>	Creative-commons licensed course written May 2011
<b>SM Web Services in Perl</b>	Co-written August 2012
<b>Change Management with the Service Manager 9 Content Pack</b>	Co-written September 2012
<b>Advanced DataProtector</b>	Co-written July 2012
<b>Introduction to using HP Service Manager</b>	<a href="http://www.youtube.com/watch?v=PxAZanD6zE">http://www.youtube.com/watch?v=PxAZanD6zE</a>
<b>E-learning and on-line resources for Service Manager</b>	<a href="http://www.ifost.org.au/Training/ServiceManager">http://www.ifost.org.au/Training/ServiceManager</a>

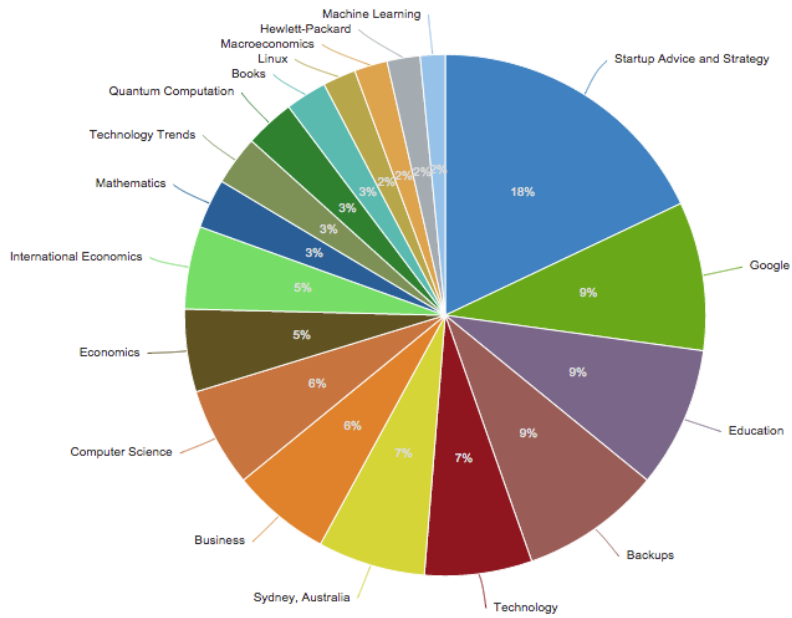
## Tech Skills

	<b>Programming</b>	<b>Sysadmin</b>	<b>Other</b>
<b>Guru</b>	Google App Engine, Python	Tape libraries and VTLs	Backup, HP Data Protector
<b>Strong</b>	Bash, Perl, SQL	Linux, IP networks	Devops, site reliability engineering, face-to-face training
<b>Good at</b>	C, Javascript, HTML, CSS	Firewalls, performance tuning, network monitoring, systems monitoring, MRTG	People management, mentoring, e-learning
<b>Some experience in</b>	Haskell, Ocaml, Tcl/Tk, Phoneygap, JIRA plug-in development	VMware, Cisco, Postgresql, MySQL, Sendmail, Postfix, Communigate, Zabbix, Nagios, ansible, HP-UX	Security, catching hackers, Amazon AWS, Product management
<b>Can do in an emergency</b>	Ada, Go, node.js, C++, Erlang	Windows, Solaris, Oracle, HP Service Manager, MS-SQL, Asterisk, Docker, Hyper-V, puppet, cfengine, Hadoop	Project management, digital marketing, SEO

## Recent HP DataProtector Experience

<b>1997 - 2016</b>	Delivered training in HP DataProtector to HP internal staff, partners and customers independantly and also on behalf of <b>Hewlett-Packard</b> in Australia, New Zealand, PNG, Vanuatu, China and Taiwan.
<b>2016</b>	Consulting clients included Telikom PNG, Royal Children's Hospital Melbourne and SDI.
<b>2015</b>	Consulting clients included RPA Nuclear Medicine, Royal Automobile Club of WA, Vodafone, Vigiltech and ACT Treasury,
<b>2014</b>	Consulting clients included Vodafone, North Sydney Council, TrustPower ISP, Dimension Data, Youth off the Streets, Administrative Appeals Tribunal, Fujitsu, Optiver, PNG Telikom and Meat and Livestock Australia.
<b>2013</b>	Consulting clients included AstraZeneca, Breville, Cranbrook School, the Catholic Education Office Sandhurst, Freightways New Zealand, GWA, Medibank Private, Melbourne Water, SDI, SKYCITY, TrustPower, Vodafone and Waverley College,
<b>2012</b>	Major consulting clients included Uniting Care, Clayton Utz, City of Kingston (Canada) and the Smith Family.
<b>2011</b>	Major consulting clients included All Phones, NIB.

## Knowledge Domains (data from Quora)



## Musical

<b>Rawlingstock Video Productions</b>	Background music for various steam-train buff videos (1991-1997).
<b>Jade's Story: a two way street</b>	Keyboards, some arrangements (2004).