

Curriculum Vitae - Jonathan Hitchcock

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1 Personal Details

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Telephone: +27 73 254 3923
Born: 12 October, 1979, Harare, Zimbabwe
Marital Status: Single
Citizenship: South African, with British passport
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2 Academic Record

Rhodes University

2002-2004 Masters Degree in Computer Science -
“Decorating Asterisk: Experiments in
Service Creation for a Multi-Protocol
Telephony Environment Using Open Source
Tools”
2001 Joint Honours Degree in Computer Science
and Philosophy (with distinction in both) -
“Investigation into self-taught artificial
intelligence using games as a medium”
1998-2000 Bachelors Degree in Computer Science and
Philosophy (with distinction in Philosophy)

St George's College, Harare

1992-1997 High School, obtaining two A grades and
two B grades for Advanced level Computer
Science, Mathematics, History and English
Literature

3 Skills

1. Operations Management

- Managed a team of operations/platform engineers at Yola, running a wide variety of services, scaling dynamically across a large number of machines and clusters of servers
 - Acted as product owner for several services
 - Ensured the team worked together where necessary, and apart where necessary
 - Maintained server monitoring, ticketing systems, and maintenance delegation
 - Acted as single point of contact for operations, dealing with work delegation, expectation management, and triaging of requests

2. System Administration

- Linux
 - Design, setup and administration of several very large scale (and scalable), distributed platforms running a wide variety of services, including load balancing, data scalability, and redundancy of both storage and systems, for Yola (over three million users and nearly three million hosted sites as of March 2010), and earlier, for the client base of Adept Internet Service Provider
 - Design and implementation of systems to deploy services across a number of systems in an automated, scalable manner
 - Set up of continuous integration systems and integration environments to simulate and duplicate live systems, including build and deploy processes for a wide variety of services
 - Long experience administering Gentoo, Debian/Ubuntu and RedHat/Fedora/CentOS, including shell scripting, etc
 - Experience packaging software for Gentoo's Portage system, Debian/Ubuntu's dpkg, and RPM
- FreeBSD
 - Administrator of the machines belonging to the Rhodes University Computer Users Society, providing services to a large fraction of staff, students and societies on campus

3. Internet Technologies

- Intimately familiar with the problems faced, and the technologies required, when scaling a wide variety of services across a large number of machines/clusters
 - Experience using Amazon EC2, and similar cloud technologies (Amazon's SQS and S3, Rightscale, etc)
 - Familiar with deploying, redeploying and moving services with

- minimal interruptions (and designing systems to minimize such downtime)
- Experience setting up failovers, backups, and interim solutions for such systems
- Mail
 - Long experience with all aspects of email, the SMTP, POP3, IMAP protocols, and associated technologies.
 - Experience installing and running Postfix and Qmail servers in various configurations.
- Web
 - Intimate knowledge of the HTTP protocol and associated technologies
 - Experience installing and running various web servers, including Apache, jboss, Tomcat, Twisted/Web and Nevow
 - Set up and maintained scalable services to host several million user sites for Yola
- DNS
 - Knowledge and experience of DNS systems, the various types of records, hosting and caching, dynamic DNS, etc
 - Experience installing and running BIND and djbdns
- TCP/IP and associated technologies
 - Knowledge and experience of networking, routing, and general internet traffic
 - Experience with various firewalls, specifically ipfw and iptables
- Voice over IP
 - Advanced knowledge and experience of SIP, IAX, and knowledge of H.323
 - Experience with the Asterisk PBX, setup and administration
- "Other" internet technologies
 - Lots of time spent playing with a wide variety of miscellaneous services such as Jabber, Squid, etc

4. Software Development

- Proficient in several languages, including Python, Perl, PHP, C, C++ and Java
- Proficient in several domain-specific languages, such as SQL, Regular Expressions, etc.
- Long experience in Object Oriented Design and Programming
- In depth experience in developing services, applications and extensions for the Asterisk software PBX
- Developer of two popular modular, hot-pluggable bots:

<https://launchpad.net/knab/> and <https://launchpad.net/ibid/>

- Designed and worked with large scale distributed service-oriented architectures

5. Web Development

- In-depth knowledge of (X)HTML and CSS standards, and standards-based web-development
- Proficient in various XML-based technologies (such as XSL transformations, XSD validations, etc)
- Experience with web services, SOAP and RESTful services
- Experience in various web-based systems and frameworks, including TurboGears/Pylons, Django, Drupal, Joomla!/Mambo and Plone.

4 Work Experience

1999-2004: Paid tutor for Philosophy, Computer Science, Logic and Mathematics

2003: Programmer and Project Consultant for the award-winning Ten Years On Journalism project: <http://www.tenyearson.org/>

2004: Programmer and Project Consultant for the Telkom Decade of Dialogue project

Programmer for the iLanga Asterisk-based PBX

Open Source Representative for the University of Fort Hare

2005-2007: Systems Researcher/Developer at Adept Internet, in Stellenbosch

2007-2008: Development Engineer at openVOICE Limited, in Cape Town

2008-Present: Systems and Services Engineer at Yola, based in Cape Town - promoted to Operations Team Leader after a year

5 Publications

1. J. Hitchcock, J. Penton, A. Terzoli, "A multilanguage, open source approach to connecting user interfaces to a next-generation PBX", South African Telecommunications Networks and Appliances Conference, September 2004, Spier
2. L. Dalvit, J. Hitchcock, S. Murray, A. Terzoli, "A Web-Based Tool for Bilingual ICT Education", South African Telecommunications Networks and Appliances Conference, September 2004, Spier
3. J. Hitchcock, J. Penton, A. Terzoli, "The design of a frontend for a software PBX", Astricon, September 2004.

4. J. Hitchcock, "A Survey of Methods for Implementing Behavioural Functions" (Honours thesis, 2001)

6 Awards and Achievements

- 1998-2003:** Awarded Merit Awards/Academic Scholarships/Postgraduate Bursaries for academic achievements
- 1997:** Achieved gold medal (first place) in the Zimbabwe National Mathematics Olympiad
- Awarded Gradwell Scholarship towards University fees
- 1993-1997:** Awarded various cups and prizes for achievements in Academics, Mathematics and Computer Science

7 Cultural Activities

- 1999-2004:** Committee Member for the Rhodes University Computer Users Society (holding the posts of President, Vice-President, and Course Co-ordinator)
- 2002:** Management Council Member for the Rhodes University Debating Society, and member of the organizing committee for the National Debating Championships
- 2006-present:** Committee Member of the Cape Linux User Group (including holding the post of Vice-President)
- 2007-present:** Chief organiser of a very successful series of community networking dinners, under the label "Cape Town GeekDinners"
- Co-organiser of a series of community networking events, under the label "StarCamp Cape Town"

8 References

1. Mr Alfredo Terzoli - Center of Excellence Co-ordinator, Computer Science Department, Rhodes University. Masters thesis supervisor.
a.terzoli@ru.ac.za
2. Professor Pat Terry - Lecturer, Computer Science Department, Rhodes University. p.terry@ru.ac.za
3. Gideon le Grange - Director, Adept Internet, Stellenbosch.

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