

Darian Anthony Patrick

Web Application Specialist

- Highly competent in Perl, Python, and PHP web application development
- Thirteen years of web programming experience
- Twelve years of Linux system administration experience, specializing in web application hosting
- Six years of web application security practice
- Led team of seven Perl programmers to successful launch of tax filing software

Core Competencies

- Web Application Development
- Web Application Security
- Penetration Testing
- Network Application Development
- IdM Deployment and Administration
- System Administration

Experience

Vocational

Sept. 2005–
Present

Principal, Application Development, *Criticode LLC*, Philadelphia, PA.

- Created e-commerce, information security, customer relationship management, and marketing communications applications for the publishing, financial, and media arts sectors, using PHP (CakePHP, Moodle, Joomla), Perl (Catalyst, Class::DBI), MySQL, and Apache;
- Administered CRAN repository and created R packages for private client;
- Maintained identity management infrastructure (CoSign, Shibboleth) for large private university;
- Designed and implemented K-12 student performance and outcomes tracking system in PHP (CakePHP) and Java (BIRT, Tomcat, OSGi);
- Implemented academic history tracking/transcript functionality for Philadelphia School of Psychoanalysis as Moodle extension;
- Maintained and extended web application tracking K-12 student counseling interactions;
- Created web portal aggregating network security sensor data for real-time monitoring of system availability, security posture, and policy violation attempts;
- Conducted web application security assessments, made recommendations for remediation of discovered vulnerabilities, and verified successful application of recommendations;
- Implemented web-based conference registration system utilizing S/MIME to secure e-mail communications;
- Developed data-intensive web portal containing community news, events, and commerce information for every zip code in the US;
- Developed Voice over IP communications platform based on Asterisk PBX, integrating physical SIP instruments, IAX analog telephone adapters, as well as software phones, and using analog and IP trunks

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- Aug. 2007–
Sept. 2011 **Senior Programmer Analyst, App. Sec., University of Pennsylvania, Philadelphia, PA.**
- Deployed and managed university-wide instant messaging system based on the Openfire XMPP server;
 - Performed security assessments and code reviews of Java, PHP, Perl, and Oracle PSP (PL/SQL)-based web applications;
 - Deployed and managed CoSign for university-wide, single sign-on web authentication;
 - Deployed and managed Shibboleth for inter-university federated web authentication;
 - Developed the WebLogin Management System, for provisioning of CoSign-authenticated web applications using Perl, Net::XMPP, KinoSearch/Lucy, etc.;
 - Drafted documentation for web authentication system and conducted workshops demonstrating deployment of CoSign for system administrators and web developers;
 - Collaborated in incident handling of web application security issues;
 - Improved Kerberos authentication handling in Zimbra groupware software;
 - Developed initial code for scheduling of voicemail, call forwarding, and zero out in SER and Asterisk-based VoIP system using jQuery and PHP
- Mar. 2007–
Aug. 2007 **Consultant, University of Pennsylvania, The Brokers Group, Inc., Princeton, NJ.**
- Conducted web application security assessments, made recommendations for remediation of discovered vulnerabilities, and verified successful remediation;
 - Conducted PHP application version migration reviews;
 - Implemented extensions to Openfire IM Server to support Kerberos password authentication;
 - Developed PEAR package providing authentication against proprietary web authentication system
- Mar. 2005–
Sept. 2005 **Director of Information Technology, Solutions for Progress, Inc., Philadelphia, PA.**
- Supervised team of system administration and support staff, tasked with supporting 80+ on- and off-site users;
 - Worked with architects and engineers to define and install necessary IT infrastructure during construction of new office and datacenter;
 - Created budget, organized vendors and subcontractors, and guided system administration staff in deployment and integration of IT infrastructure in newly constructed office space;
 - Led vendor evaluation and selection efforts for acquisition of office systems, including Cisco Call Manager-based VoIP system;
 - Reorganized IT department to more efficiently accomplish short- and long-term system administration and technical support goals;
 - Designed and scripted (using Perl) e-mail and internal instant messaging systems;
 - Performed various system administration and user support duties as needed
- Feb. 2004–
Mar. 2005 **Software Developer - Technical Lead, The Benefit Bank, Solutions for Progress, Inc., Philadelphia, PA.**
- Lead team of seven software developers in architecture, redesign, and implementation of software components, in Perl, for web application providing access to federal, state, and local public assistance benefits, as well as federal and state tax filing, for low-income and disadvantaged people
 - Scripted custom development working environment, and supporting developer tool set, using Perl and standard XML processing tools, facilitating efficient application programming, compilation, and testing in the Unix environment
 - Recommended and implemented office-wide network infrastructure improvements, in support of development activities
- Teaching
- Jan. 2012–
Mar. 2012 **BPC Mentor, U. Penn Netter Ctr. for Comm. Partnerships, Philadelphia, PA.**
- Introduced high school students to software development using MIT Scratch, as well as App Inventor for the Google Android platform;
 - Formulated and delivered lesson plans and created test applications for debugging exercises
- 2000-2001 **Teaching/Lab Assistant, School of Technology, Kent State University, Kent, OH.**
- Assisted in development and presentation of courses taught in the lab of Dr. Khin M. Yin;
 - Subjects included Java programming, Windows and Linux server administration, networking, and security;
 - Built and configured lab network infrastructure, including custom Linux-based firewalls and Cisco managed switches

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Technical Skills

Programming Languages	C, C++, Java, JavaScript, OCaml, PHP, Perl, Python (CPython, Jython)	Development Frameworks & Libraries	CakePHP, Catalyst, Django, ExtJS, Grails, JEE, JSTL, jQuery, Mojolicious, Spring, Struts, Titanium/CGI::Application
Data Storage Systems	CouchDB, Memcached, MS SQL Server, MySQL, PostgreSQL, Redis, SQLite	Search Technologies	ElasticSearch, Apache Lucy (KinoSearch), Lucene, Solr
Data Analysis & Reporting	BIRT, Hadoop, JMP, R, MapReduce	Web Technologies	Apache, Jetty, lighttpd, mod_perl, nginx, PHP-Java Bridge, PSGI, Plack, Tomcat, WSGI
IdM Applications	CoSign, MIT Kerberos 5, OpenLDAP, Shibboleth	AppSec Tools	JBroFuzz, mod_security, HP WebInspect, WebScarab
System Management	Circonus, Nagios, Puppet, Resmon	Operating Systems	Linux, Mac OS X, MS Windows 2003 & 2008 Server, NetBSD, OpenBSD, OpenSolaris, Sun Solaris 10
Cloud Services	Amazon AWS, dotCloud, Google App Engine, Rackspace Cloud, rsync.net		

Language Competency

English	Native speaker
French	Advanced

Certifications

Programming Languages

- June 17, 2008 **ZCE, Zend Certified Engineer, PHP 5**, *Zend Technologies Ltd.*
ClientCandidateID #ZEND005141, Registration #225801055
- Mar. 28, 2007 **ZCE, Zend Certified Engineer, PHP 4**, *Zend Technologies Ltd.*
ClientCandidateID #ZEND005141, Registration #219662349

Software Security/Web Application Security

- Aug. 31, 2007 **GSSP-JAVA, GIAC Certified Secure Software Programmer – Java**, *GIAC*.
Exam Result ID 58813478538
- May 19, 2007 **GWAS, GIAC Web Application Security**, *GIAC*.
Analyst #0351

Education

- 2009–2012 **B.A., Cognitive Science**, *University of Pennsylvania*, Philadelphia, PA, *In Progress*.
Concentration in Cognitive Neuroscience, with coursework in Computer Science and Statistics
- August 2010 **Intro to Reversing**, *Hive76*, Philadelphia, PA.
Ben Agre, Instructor
- June 2009 **Better Programming Through Testing**, *YAPC10*, Pittsburgh, PA.
Michael Schwern, Instructor
- June 2008 **SEC-538 Web App. Pen. Testing Fundamentals**, *SANS Inst.*, Philadelphia, PA.
Johannes Ulrich, Ph.D, Instructor
- August 2007 **SEC-528 Java Security Auditing**, *SANS Inst.*, Washington, D.C.
Tanya Baccam, Instructor
- July 2007 **SEC-616 Defensible .NET**, *SANS Inst.*, Washington, D.C.
David Rice, Instructor

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June 2007 **SEC-505 Securing Windows**, *SANS Inst.*, Philadelphia, PA.

Jason Fossen, Instructor

May 2007 **SEC-519 Web Application Security Workshop**, *SANS Inst.*, Philadelphia, PA.

Kevin Johnson, Instructor

Presentations

June 2011 **Perl for AppSec**, *OWASP Philadelphia*, U. Penn, Philadelphia, PA.

Reviewed modules and techniques useful in applying Perl to application security challenges

July 2008 **openfire-stats-poller**, *XMPP Summit #5*, OSCON 2008, Portland, OR.

Discussed creation and use of Java-based tool for administration of XMPP Servers

June 2008 **The OWASP Top Ten**, *UICongf*, Wharton School, U. Penn, Philadelphia, PA.

Discussed the top ten web application security issues of 2007

Open Source Project Contributions

Current

- RentChaser.net (back-end and API development, data wrangling, system administration)

- Histogramy.org (front-end development, data wrangling, system administration)

- Net::XMPP (current maintainer)

- Pod::Coverage::Method::Signatures (original author)

- xat (original author)

Past

- CakePHP (bug fixes)

- CoSign (bug fixes)

- Openfire (bug fixes)

- Padre (basic syntax highlighting for Moose and Method::Signatures)

- perl5i (C-based perl5i command line tool)

- Zimbra (Kerberos authentication improvement)

Affiliations

- Module Author/Maintainer, CPAN, Comprehensive Perl Archive Network

- Co-Organizer, Phl.pm, Philadelphia Perl Mongers

- Chapter Co-Leader – Philadelphia, OWASP, Open Web Application Security Project

- Member, FSF, Free Software Foundation

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