TOMAZ MURAUS

SKILLS

Python, JavaScript / Node.js, PHP, Cassandra, CouchDB, MongoDB, Apache httpd, Nginx, Chef, Puppet, Ansible, ElasticSearch, Tcl, Apache Solr, Bash, Lua, DNS, TCP, UDP, Linux, FreeBSD, Source game engine, Android, SSL / TLS

EDUCATION

- University of Maribor, Faculty of Electrical Engineering and computer Science - BSc, Computer Science and Information Technologies
- Secondary Technical and Vocational Electrical Engineering School - Computer Science and Electrical Engineering

EXPERIENCE

Rackspace Hosting, Inc.   Project Lead (Service Registry)   July 2012 - June 2013
San Francisco, CA

- Designed most of the product architecture
- Took the product from the idea to the preview phase in a short amount of time (3 months)
- Acted as a product owner which included collaboration with multiple teams inside Rackspace:
    - Marketing
    - Legal
    - Sales
    - Security
    - Documentation
- Developed big chunks of the backend code
- Developed and helped with the development of multiple client libraries written in Node.js, Luvit, Python and Twisted Python
- Developed majority of the deployment and infrastructure automation
- Implemented zero-downtime and zero customer impact continuous deployments
- Set up continuous integration and continuous deployment systems
- Wrote big chunks of the internal and external (customer facing) documentation
- Worked on supporting, operating and running the product
- Worked on migrating from Cassandra 1.1 to Cassandra 1.2
- Integrated the service and helped with the development of client libraries for an in-house distributed tracing system built in top of Zipkin and RESTkin
- Developed different tools which allowed us to write documentation in a Github flavored Markdown format and host it on Github. Compared to old DocBook and XML based system, this made it way easier and less painful for developers and others to contribute.
- Worked on the customer outreach

Rackspace Hosting, Inc.   Engineer (Cloud Monitoring)   December 2010 - July 2012
Remote, San Francisco, CA

- Worked on different parts of the Cloud Monitoring as a Service product written in Node.js, Java, C and Lua using Cassandra, ZooKeeper, Scribe and Reconnoiter
- Developed a schema and data migration framework for our custom Node.js Cassandra ORM which allowed us to perform rolling deploys in a fully distributed environment

- Worked on the host agent written in C and Luvit (`https://github.com/luvit/luvit`). My contributions included:
  - support for connecting to multiple agent endpoints
  - hearbeat (ping-pong) protocol
  - support for basic sigar checks (cpu, memory, network, disk) and sending check results to the agent endpoint
  - support for custom plugin checks written in an arbitrary programming language
  - Cloudkick agent plugins compatibility layer for the custom plugin checks
  - improved build system so the agent and Luvit compiled on FreeBSD
  - ...
- Submitted a patch to the sigar project (`http://support.hyperic.com/display/SIGAR/Home`) which makes it work on FreeBSD 9 and above
- Wrote a Node.js test and process orchestration framework named Whiskey (`https://github.com/cloudkick/whiskey`, `http://www.rackspace.com/blog/rackspace-open-sources-whiskey-a-test-framework/`)
- Author or contributed a lot of code to the following Node.js projects:
  - node-rproxy (`https://github.com/racker/node-rproxy`),
  - node-elementree (`https://github.com/racker/node-elementtree`),
  - node-cassandra-client (`https://github.com/racker/node-cassandra-client`),
  - node-elementtree (`https://github.com/racker/node-elementtree`),
  - node-swiz (`https://github.com/racker/node-swiz`),
  - node-thrift (`https://github.com/racker/node-thrift`),
  - node-buildbot (`https://github.com/racker/node-buildbot`),
  - node-command-parser (`https://github.com/racker/node-command-parser`)
  - node-terminal (`https://github.com/cloudkick/node-terminal`)
  - rate-limiter (`https://github.com/cloudkick/rate-limiter`)
- Fixed concurrency issues in our graylog2-server fork (`https://github.com/racker/graylog2-server`)
- Submitted multiple improvents to the reconnoiter project (`https://github.com/omniti-labs/reconnoiter`):
  - Added support for multiple body matches in the HTTP check
  - Added includebody option to the HTTP check
  - Fixed a bug in the HTTP check extract option
  - ...
- Wrote first version of the Python command line client for the monitoring API (`https://github.com/racker/rackspace-monitoring-cli`)
- Wrote a high-performant reverse proxy service which sat in-front of the API services and handled authentication and rate limiting
- Wrote multiple Chef cookbooks and recipes
- Helped with debugging and fixing production issues
- Helped with maintaining Vagrant development image
- Helped with maintaining configuration in Chef
- Set up and maintained multiple Buildbot instances
- Helped with writing custom checks for Nagios.
- Helped with setting up, managing and optimizing logging infrastructure powered by Elastic-Search and Graylog2

- Worked on tunning the JVM for multiple Java applications (Cassandra, Graylog, Elastic-Search)
- Worked with other teams inside Rackspace to integrate our product with authentication and usage and billing system
- Was part of our on-call schedule.

Cloudkick, Inc.   Software Developer   March 2010 - December 2010
Remote, San Francisco, CA

- Developed different background services written in Python using Twisted framework
- Added support for caching messages in memcache to our custom Scribe (`https://github.com/facebook/scribe`) data store
- Developed and worked on multiple Django applications
- Added support for parallel execution of Django and Twisted Python tests which dramatically decreased the test suite run time
- Set up multiple continuous integration and build systems powered by Buildbot
- Created and maintained a self-sustaining development environment image powered by Vagrant. This image reduced barrier to entry and dramatically decreased time needed to set up a local development environment.
- Developed, deployed and optimized a search system powered by Apache Solr (`http://lucene.apache.org/solr/`)
- Developed a role-based access system used in the Cloudkick web application
- Developed a multi-factor authentication support (email, SMS, Yubikey) for Cloudkick web application and cloudkick-config C program
- Worked on an application deployment platform named Cast (`https://github.com/cloudkick/cast`) written primary in Node.js
- Wrote multiple build scripts for different projects using Scons (`http://www.scons.org/`)
- Added multiple features and helped improve the Cloudkick agent written in C and Lua
- Worked on multiple core agent plugins writen in Lua
- Worked on multiple custom agent plugins (`https://github.com/cloudkick/agent-plugins`)
- Worked on the Cloudkick Python library (`https://github.com/cloudkick/cloudkick-py`)
- Developed a Cloudkick curses client during the first hack-day (`https://github.com/cloudkick/cloudkick-cli`, `https://www.cloudkick.com/labs/cloudkick-cli`)
- Helped with maintaining and writing Puppet manifests
- Helped with customer support
- Helped with debugging and fixing different ongoing operational issues
- Wrote and maintained FreeBSD port for the agent ("cloudkick-agent") and the changelog tool ("ckl")

Tovarna Idej d.o.o.   Software developer   October 2008 - October 209
Maribor, Slovenia

- Developed multiple client side widgets and applications written in JavaScript using jQuery and ExtJS framework
- Developed and maintained a PHP content management system
- Developed and maintained scripts for converting videos using ffmpeg for a local Slovenian video hosting website
- Advocated a switch to a version control system (SVN)

- Advocated a more maintainable and test-driven approach to writing code (previously, developers didn't write any tests)
- Maintained and developed multiple other intranet websites, portals and scripts primary written in PHP

PROJECTS

Apache Libcloud   Project Chair, Committer   January 2011 - present

- Helped project to graduate from Apache Incubator to a Top Level Project
- Organized and held a development sprint at PyCon 2011 in Atlanta, USA
- Organized and held a development sprint at EuroPython 2011 in Florence, Italy
- Organized and held a meet-up at the Rackspace San Francisco office in January 2011
- Organized and held a design day at Rackspace San Francisco office in June 2013
- Ported the website to Apache CMS
- Wrote big chunks of the available user-facing documentation
- Wrote big chunks of content available on the website
- Proposed and implemented the base API and reference drivers for "storage" and "dns" API
- Implemented multiple provider drivers for all of the APIs
- Contributed large chunks of code
- Maintained online presence on Twitter, Google+ and other websites
- Worked as a release manager for all the releases since 0.5.0
- Acted as a first contact and handled multiple security vulnerabilities
- Led the efforts and developed a new website

Ubuntu Slovenia   http://www.ubuntu.si   2005 - present

- One of the founders of the Slovenian Ubuntu community
- Developed a custom CMS for second generation of the website
- Developed custom plugins and theme for the punBB forum software
- Helped with installing SSL certificates and operating the website

FreeBSD Slovenia   http://www.freebsd.si   2005 - 2010

- Founder of the Slovenian FreeBSD website and community
- Wrote multiple articles and guides about FreeBSD
- Wrote a custom CMS for the website which used punBB database as a data-store

Open Blog   http://www.open-blog.info   2008 - 2010

- Developed a popular open-source blogging platform written in PHP using CodeIgniter framework

Erepublik Slovenia   http://www.erepublik.si   2008 - present

- Founder of the Slovenian Erepublik (`http://www.erepublik.com`) community
- Developed a CMS which powers the website
- Developed multiple custom plugins for the phpBB forum system

- Developed a custom IRC-like chat solution for the forum written in PHP using Redis as a primary data-store
- Developed multiple PHP scripts which helped with logistics and organizing in-game army

Munin Exchange   http://exchange.munin-monitoring.org 2010 - 2011

- Wrote a new website for Munin plugin repository (`https://github.com/Kami/munin_exchange`)
- Maintained, operated and ran the website

Stargate Resistance Stats   http://www.sgrstats.com   2010 - 2010

- Reverse-engineered a protocol which the game used to communicate with the player ranking system
- Wrote a website for player leaderboards and real-time rankings using Python, Django, MongoDB, Redis and Celery

OTHER CONTRIBUTIONS

- Submitted a fix for properly handling large responses with incremental zone transfers (AXFR) to the Twisted Python project
- Submitted a patch which fixed multiple issues with the Redis backend to the carrot / kombu project
- Submitted a patch for "Maximum Private Message recipients" bug in phpBB 3.0.x
- Developed a client library written in Python and Node.js for validating Yubico One Time Passwords (OTPs)
- Developed a Yubikey PAM module written in Python
- More at `https://github.com/Kami`

HONORS, AWARDS, OTHER

- Golden high school graduate (2008)
- Zend Certified PHP Engineer (ZEND011223)
- BSc thesis about distributing source code and files using BitTorrent protocol (`http://dkum.uni-mb.si/Dokument.php?id=24353`)