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## Profile

Changeset Consulting leads and collaborates with open source software development projects. We develop and implement sustainable processes, write documentation, sift through bug reports and submitted patches, manage releases, recruit and mentor contributors, market products, and deliver releases of new versions. Essentially, we offer maintainership.

Sumana Harihareswara is the founder of Changeset, and works with other vendors, and subcontractors, to serve clients. Harihareswara is also working on [a book to help new maintainers of open source projects get unstuck](#).

## Selected Experience

### New York University

#### Visiting Scholar, Secure Systems Lab, Fall 2019-present

- Co-authors and facilitates Python Enhancement Proposal (PEP) and Request For Information discussions among volunteers, including cybersecurity proposals in collaboration with SSL, leading to community acceptance of PEP 458
- Coauthored Secure and Trustworthy Cyberspace: Transition to Practice NSF grant proposal with Prof. Justin Cappos
- Presented a 30-minute overview of PyPI's application security model as a guest lecturer to an application security class
- Aided multiple SSL students in preparing for conference talks
- Arranged for an SSL student to present at an NYC Python meetup and at PyGotham 2019

### Changeset Consulting

#### Founder and Principal, November 2015-present

##### Remote/distributed teams

- Participates in (and cofounded) Project Funding Working Group with Python Software Foundation to aid in funding key Python projects
- Led overhaul of dependency resolver within pip, including creating a timeline and overseeing multiple vendors
- Researched and wrote grant proposals to fund Python infrastructure projects, totalling USD\$757,000 (finalized so far)
- Led communications and documentation updates for sunsetting of Python 2
- Expedited releases of Pipenv (18 months since last release) and Autoconf (8 years since last release)
- Advised a scientific Python project on grantwriting, leading to their successful \$250K grant proposal
- Developed and kicked off project plans to rejuvenate PyPI and PlaGMaDa projects
- Assessed software sustainability in PyPI with researcher Mel Chua (RIT/Georgia Tech) for a project funded by the Sloan and Ford Foundations

- Managed development and launch of next-generation Python Package Index platform, including creating a timeline and overseeing multiple vendors
- Publicized Python packaging changes via email reports to working group, staff, and funders, blog posts, a YouTube video, podcast guest booking, social media, conference sessions, and trainings
- Assessed Electronic Frontier Foundation's HTTPS Everywhere project and made recommendations to increase sustainability, including GitHub labels and templates, general workflow and maintainer process
- Grew Zulip and Python packaging communities and contributor diversity through mentorship, online and offline events (sprints, workshops, and office hours), managing internship programs, and outreach
- Wrote and organized Zulip developer documentation and architecture overview
- Researched and led response to bugs on legacy SourceForge tracker for PyPI, potential migration to GitHub
- Led a two-day teleconference anti-racism convening (35 participants) for a US nonprofit organization
- Advised multiple startups and engineering leaders on marketing, workflow, and management, including one-on-one management coaching for a mid-level leader in open source
- Assessed Wikimedia Indonesia curriculum and programming work and wrote report for funder
- Taught new contractors IRC, Subversion, and other tools for Open Tech Strategies

#### **Wikimedia Foundation**

**Senior Technical Writer, March 2014-Sept 2014**

**Engineering Community Manager, 2012-2014**

**Volunteer Development Coordinator, Feb 2011-2012**

#### **Remote/distributed team**

- Managed Engineering Community Team
- Initiated and ran WMF's participation in Outreachy internship program, which increased diversity of open source contributor pool
- Wrote architecture, security, and performance standards, contributor guides, and other developer and user documentation
- Coordinated volunteers and WMF staff to plan agenda and structure for hackfest events
- Researched bots and other volunteer-created tools that interacted with MediaWiki, and elicited responses from those volunteers to improve maintainer sustainability and code quality
- Wrote, tested, and delivered documentation and training for migration from Subversion to Git
- Trained volunteers in Git, MediaWiki, APIs, and related technologies
- Ran Google Summer of Code and Outreachy internship programs (MediaWiki organizational administrator)
- Recruited and mentored interns and volunteers, including guiding volunteers to maintainer status
- Triaged and responded to bugs, support requests, and patches
- Coordinated with Legal department on policy reviews
- Wrote monthly team reports for public dissemination via wiki and email lists
- Initiated first anti-harassment policy for in-person technical events
- Delegated and prioritized work for online and offline volunteers

#### **New York Linux Users Group**

**Project manager for documentation platform, December 2011**

#### **New York City**

- Gathered and sorted member requirements during contentious discussion
- Finalized and announced platform choice and successfully handed off administration

## **GNOME Foundation**

### **GNOME 3.0 Marketing Coordinator, Feb 2011-April 2011**

#### **Remote/distributed team**

- Wrote and disseminated marketing material, including a press release
- Recruited and managed volunteers for marketing tasks

### **WisCon application development**

#### **Project manager, May 2011-August 2011**

#### **Remote/distributed team**

- Migrated, consolidated and organized scattered issues and TODOs into a single prioritized bug tracker
- Oversaw development and regularly reported progress via Basecamp and conference calls

## **QuestionCopyright.org**

### **Fundraising Coordinator, Feb 2011-May 2011**

#### **New York City**

- Managed fundraising process
- Wrote and coordinated grant proposals
- Wrote and recruited articles for website

## **GNOME Journal**

### **Editor and Release Organizer, Nov 2009-June 2011**

#### **Remote/distributed team**

- Planned, organized, and released multiple online magazine issues
- Recruited, edited, and published interviews and technical analysis
- Wrote articles about the GNOME Desktop Environment

## **Collabora, Ltd.**

### **Lead Project Manager and Personnel Manager, Apr 2009-Jan 2010**

#### **Remote/distributed team**

- Managed multiple software projects, including research & development department
- Reported and triaged bugs, documented, and tested Zeitgeist, Telepathy, Empathy, and GNOME open source projects
- Liaised with colleagues and clients globally in a distributed workplace environment
- Led website redesign and wrote or edited all new copy
- Maintained shared documentation on internal and external wikis
- Wrote and managed regular companywide internal communications to highlight teams' accomplishments and clarify strategic and tactical context
- Onboarded new employees
- Mentored team leads
- Created and executed Performance Improvement Plans for underperformers, leading to improvement or termination
- Created and ran the performance appraisal system
- Tracked personnel assignments

## **AltLaw (open source project)**

### **Product Manager, Jan. 2009-Apr. 2009**

#### **New York City**

- Coordinated volunteers
- Advised developer in developing priorities and new features in open source software
- Conceived, and headed development of, new product to publicize nonprofit's services and better serve audience
- Started publicity campaign and publicized organization's work via email and social media

## **Behavior (now part of Orion)**

## **Project Manager, Jan 2008-Nov 2008**

### **New York City**

- Led projects from kickoff through scoping, information architecture, visual design, functional specification, technical build, QA, and deploy phases
- Produced and maintained project plans, status reports, extranets, and other necessary documentation
- Managed information architects, visual designers, developers, QA, and account executives
- Managed several web, animation, interaction design, and print projects of varying sizes simultaneously
- Held projects within budgets
- Recruited, allocated funds for, and fired contractors
- Tested web sites and standalone software, managed other testers, and filed and managed defect reports
- Led company personnel allocation processes and new internal communications on resourcing
- Projected costs and wrote copy for pitches and proposals
- Led technology knowledge-sharing initiative and project postmortem initiative

### **Fog Creek Software (now Glitch)**

#### **Software Management Training Program, Jan 2006-Jun 2007**

### **New York City**

- Tested software and wrote bug reports
- Wrote technical white paper and directed informational video for product release
- Provided technical product support via email, online discussion groups, and phone
- Posted regularly on corporate blog
- Discussed, analyzed and fulfilled customer requirements
- Designed, led and implemented marketing projects

## **Selected Writing**

- **[Getting Unstuck: Advice for Open Source Projects](#)**: a 38-page sample from a forthcoming book. Includes guides to conducting a SWOT analysis (assessing a project's strengths, weaknesses, opportunities, and threats), how to start thinking about budgets and money, and teaching and including unskilled volunteers, with principles, examples, and exercises.
- **[Apply For Grants To Fund Open Source Work](#)**: ten-minute conference talk. Covers some funders for open source projects, a quick case study, key steps in figuring out a good project idea, budgeting, hiring, and submitting, and the role of the Python Software Foundation's new Project Funding Working Group.
- **Project-specific articles in LWN**: "[Rejuvenating Autoconf](#)", "[A new package index for Python](#)", and "[Mailman 3.0 to modernize mailing lists](#)".
- **"Software In Person" in Model View Culture**: How to get the best results from hackathons, sprint weeks, and all-hands meetings.

## **Education**

The Carpentries: Instructor training. November 2016.  
Recurse Center, NY: Participant. 2013 and 2014.

Columbia University, NY: Executive M.S. in Technology Management. 2008.  
University of California at Berkeley: B.A. in political science. 2002.

## Skills

- Fluent in expository and persuasive writing, from keynote addresses and technical specifications to grant proposals, user manuals, and corporate blogs
- Skilled in Linux, Mac OS X, and Windows
- Knows Python (including packaging for PyPI), virtualenv, bash, Bugzilla, Phabricator, OpenProject, GOGS, Mantis, Trac, FogBugz, IRC, Zulip, Slack, Discourse, Basecamp, git, GitHub (including GitHub Pages), OpenOffice, LibreOffice, Microsoft Office, Google Docs, Etherpad, HackPad, Dropbox Paper, wiki markup, Markdown, reStructuredText, pandoc, Sphinx, Towncrier, XML, Kdenlive, Twitter, Tweetdeck, Mastodon, Jitsi, Google Meet, Whereby, and Zoom
- Some proficiency in HTML, CSS, QuarkXPress, bash shell scripts, Subversion, Mercurial, Roundup, Microsoft Project, packaging for conda/Anaconda, Beautiful Soup, Flask, Django, VBScript, ASP, Gradle, Maven, Javadoc, WildFly, FrameMaker, WordPerfect, LaTeX, IIS, SQL, MySQL, SQL Server, Travis CI, PostgreSQL, regular expressions, sed, Russian, French, and Kannada
- Can produce and direct a live or filmed production, and can edit video
- Certified Software Carpentry and Data Carpentry instructor
- Experienced public speaker, teacher and standup comic
- Service on a nonprofit board of directors or trustees (past service on the Ada Initiative board; currently serves on the Otherwise Award's Motherboard)

## Selected Awards and Recognition

- 2020: Better Scientific Software fellowship, Honorable Mention
- 2019-present: Visiting Scholar, Secure Systems Lab, New York University
- 2018: Google Open Source Peer Bonus
- 2017: Keynote speaker, LibrePlanet
- 2017: Guest of Honor, Penguicon
- 2014: Keynote speaker, Wiki Conference USA
- 2014: Keynote speaker, code4lib
- 2012: Keynote speaker, Open Source Bridge
- 2011: Open Source Citizen Award

## References

Available upon request