How to engage Python contributors in the long term?

Tech is easy.
People are complex.

Devconf.CZ 2019, Brno
Victor Stinner
Python is all about code
Python is all about code

Python is about people

LIAR

Python is about people
Burnout
Burnout

- February 2018
- Unsubscribed from 7 Python mailing lists
- Closed all my pull requests
- Notifications → /dev/null
- Doctor → One month off
- No commit for 3 months ½
Burnout

Previous typical INBOX:

- PyBB (15)
- PyBPO (25)
- PyBZ (114)
- PyCommitters (1)
- PyCoreMentor
- PyDev (3)
- PyGitHub (5)
- PyMaint (115)
- PySecurity (1)
- PythonList
Burnout

- Time to step back
- Too many responsibilities
- Working 13h per day in average
- A burnout is complex (other reasons omitted here)
Open Source
Problem

- I don’t scale
- Increase of the workload
- Decrease of the number of new core developers
Open issues (2011-2018)

6916 open issues
995 open PR

New core devs per year (2007-2018)

96 core devs on GitHub
(totals, including inactive)
How you think Open Source apps are maintained

We said we would ship tonight, let's do this!

The validation flow is bla bla bla bla bla bla

I've assigned a team to bla bla bla bla bla
How Open Source apps are really maintained

Just one more ticket before going to bed...
“We are all volunteers”

- Contributors give their free time to Python: evenings, weekends, maybe also part of their nights.
- Trade time between family/friends and Python.
- Few employers allow to contribute to Python upstream.
"We are all volunteers"

- Red Hat: I am paid full time to maintain Python upstream and downstream.
- Microsoft: Brett Cannon, Barry Warsaw, Eric Snow, Steve Dower have one day per week.
- Dropbox: Guido van Rossum has one day per week.
- → 2 full time dev
- TIOBE: Python is #3
“Think of a contribution like a puppy: you might view it as this cute, wonderful thing you're giving me while I'm looking at it as over a decade of feeding, walking, and vet bills.” – Brett Cannon
Past Actions

- Developer Guide
- Migrate to Git on GitHub
- CI Linux and Windows run on pull requests
- ... core devs remain the bottleneck

“You can’t solve people problems with software.”
– Baldur Bjarnason
Diversity Problems
There is no public complain, so there is no diversity problem!
“When women speak out about diversity and the community, they get penalized and branded as non-technical. Some women chose not to speak out because of this. We will not be silenced.” – Mariatta Wijaya
Toxicity

- Attack a person, rather than their arguments
- Attack in public space or private space
- Bullying
- Misogyny
- Racism
- # master pattern object
+ # main pattern object

- in master process and freeze before fork ...
+ in parent process and freeze before fork ...

- multiprocessing: stop the master process somehow
+ multiprocessing: stop the parent process somehow

- # This method (and its pliant slaves, like 'finalize_unix()',
+ # This method (and its helpers, like 'finalize_unix()',

- # OptionParser: create the master option mappings
+ # OptionParser: create the main option mappings

- # test_ssl: Force different suites on client and master
+ # test_ssl: Force different suites on client and server

-buildbot Batchfiles for running on Windows buildslaves.
+buildbot Batchfiles for running on Windows buildbot workers.
- 30+ articles in 1 week: The Register, Russia Today, Breitbart, developpez.com, Hacker News, Motherboard VICE, Slashdot, 4chan, OSChina, Twitter, Weibo, ...

- English, Russian, Japanese, Mandarin, German, French, Czech, ...

- Mention my full name and my employer

- Slashdot: 1200 comments in 2 days
"Fuck you Victor Stinner. You're the enemy of /g/ now. Eat shit. I'll probably make a video about this gay shit."
– Anonymous, 4chan
"I would like him dead."
– Anonymous, 4chan
short break with an adorable panda...
Diversity Solutions
“Unconscious biases are social stereotypes about certain groups of people that individuals form outside their own conscious awareness.”
– diversity.ucsf.edu
“Imposter syndrome is a psychological pattern in which an individual doubts their accomplishments and has a persistent internalized fear of being exposed as a "fraud".” – Wikipedia
Code of Conduct

- No Code of Conduct (CoC)
- CoC applied to mailing lists, bug tracker and python.org
- CoC applied to Pycon events
- May 2018: Pycon US used the service of a company to help to manage CoC incidents
- The PSF now requires a CoC on « Pycon » events
- Discussions on how to handle incidents and bans
Diversity of points of view: documentation, reference counting (C), compatibility, API, language consistency, simple solution, corner cases, performance, security, PyPy, etc.
Diversity of **use cases**: CLI running less than one second (startup time), server running for multiple days, GUI, machine learning, REST server, games, etc.
INADA Naoki (Japan) promoted as core dev in 2016: BDFL-delegate of PEP 538 (C locale coercion) and PEP 540 (UTF-8 mode). English speakers are satisfied with ASCII, Japanese speakers care more about Unicode.
Mentoring
Positive Action

- Pycon US 2016, Guido van Rossum encouraged women to contact him for mentoring.
- He mentored Mariatta Wijaya who became the first woman core dev in January 2017.
Positive Action

- May 2017: Carol Willing
- Sept 2018: Lisa Roach and Emily Morehouse

- 2016: 0 woman core devs
- 2017: 2 woman core devs
- 2018: 4 woman core devs
“Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime.”
I mentored Pablo Salgado, between January and June 2018. He became a core dev in June.
The development of an Open Source project is a matter of trust.
Communities
• “Women Who Love Coding in Python”
• Events in Australia, Brazil, France, India, Netherlands, Nigeria, Taiwan, ...
• pyladies.com
“The event that aims to help draw attention to transgender issues through a topic-focused hackday.”

- Latest event: PyLondonium (London, UK)
- trans-code.github.io
Creation of trans.tech (previous website)
“We inspire women to fall in love with programming.”

733 events: Cameroon, Finland, France, Ghana, India, Japan, Spain, Switzerland, ....

djangogirls.org
Conclusion
Take Away

- Core devs are the bottleneck.
- We are aware that Python has “people issues”.
- Mentoring is efficient to train contributors as future core developers.
- The Code of Conduct reduces the toxicity.
“Increasing the core’s diversity is a very important goal to ensure the future health of Python.”
– Guido van Rossum
“Come for the Language, Stay for the Community”
– Brett Cannon & Naomi Ceder
What’s Next?

- Promotion Process
- Mentoring Guide
- Contributor Tutorial

cpython-core-tutorial.rtfd.io