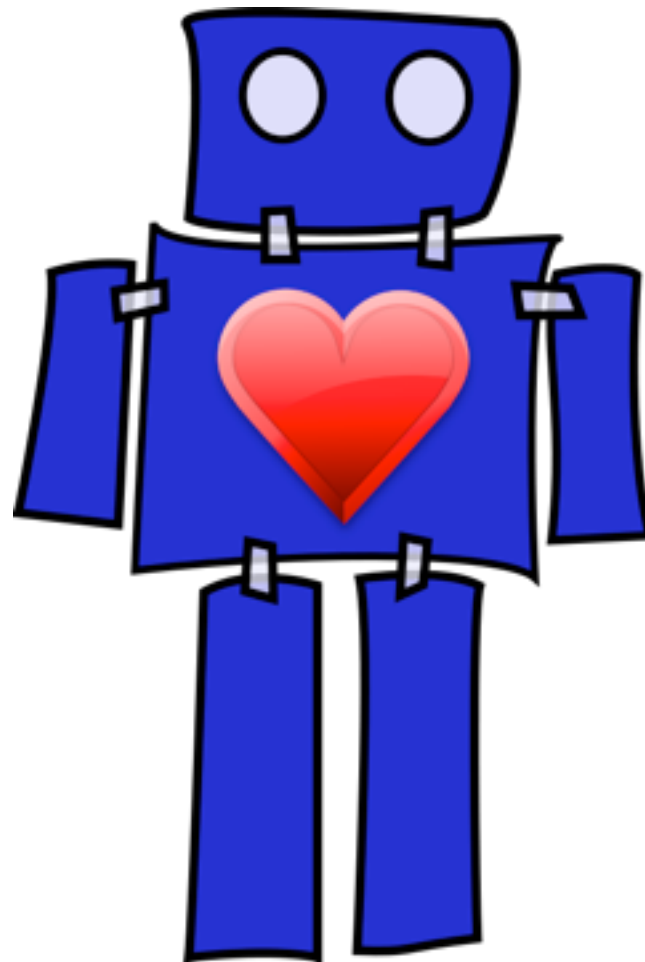
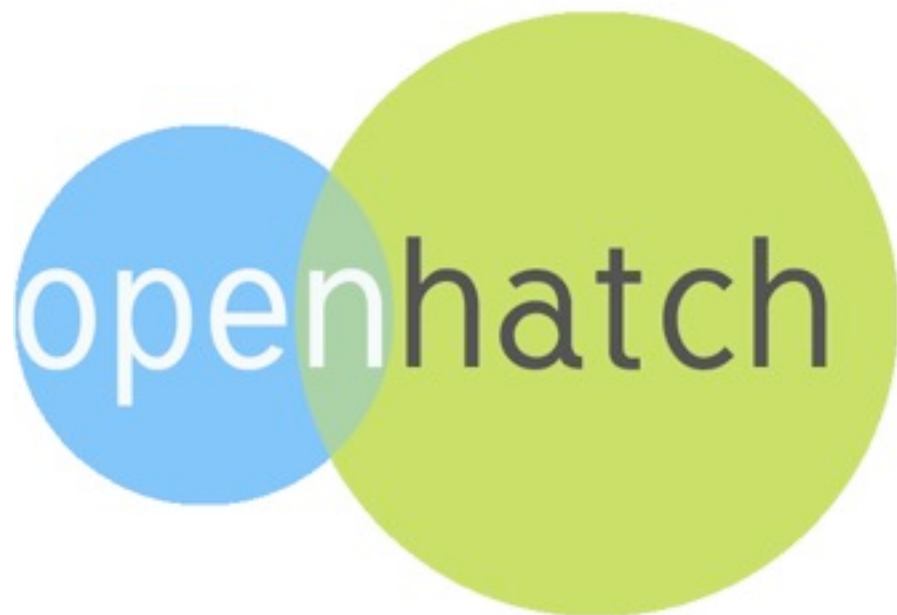


Contribute with me!



Getting started with the tools
of free software development

Hello



@jessicamckellar
<http://jesstess.com>

Why contribute to free software?

- Give back to the community
- People
- Education
- Work
- Fun



Ways to contribute



Features

Bugs

Tests

Documentation

Website

Infrastructure

Translation

Artwork

Helping users



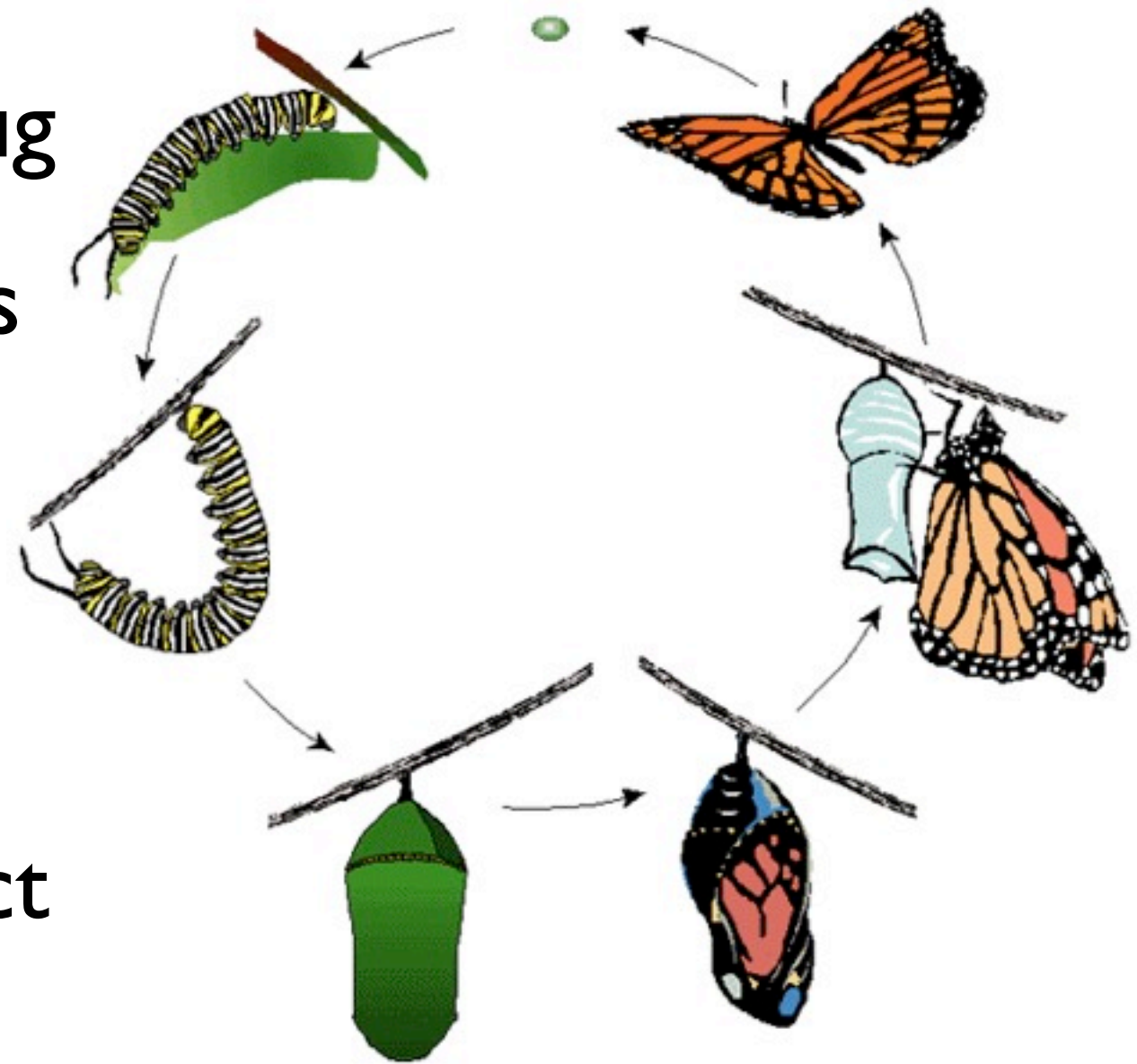
Today

Part I: the life cycle of a bug

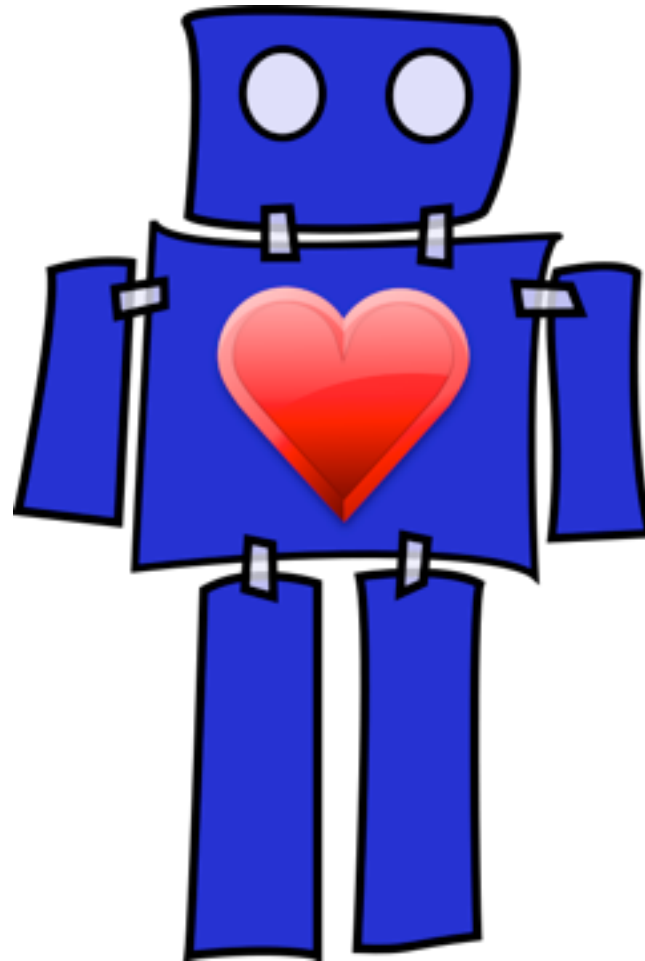
Part II: practicing the tools

Part III: contributing to
toy projects

Part IV: next steps,
contributing to a real project



A note on bonus material



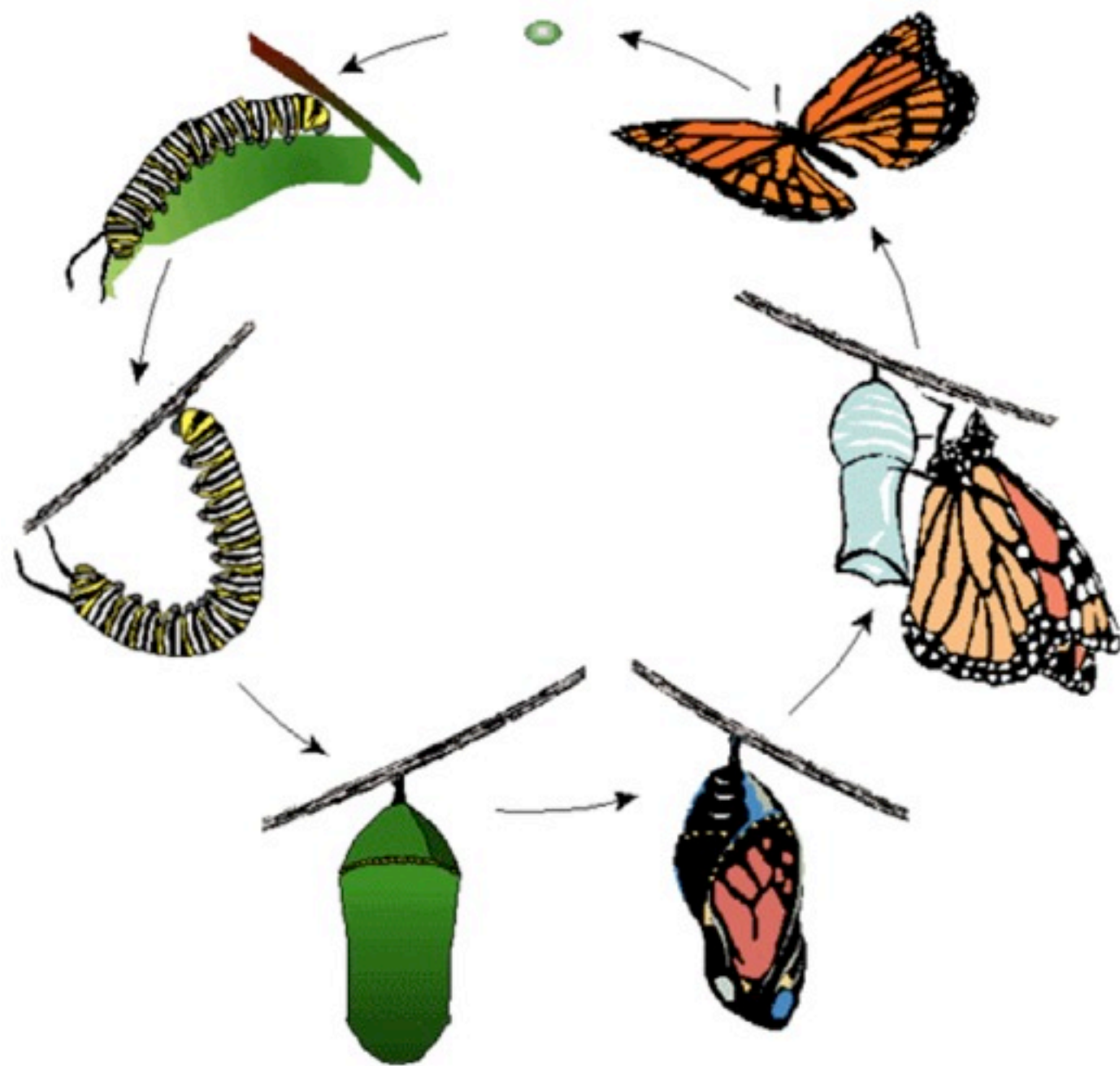
<http://bit.ly/open-source-bonus>

Part I: Lifecycle of a bug



Part I: Lifecycle of a bug

- Report
- Triage
- Patch
- Test
- Review
- Resolve



Report and triage: communication



- mailing lists
- IRC

Report
Triage
Patch
Test
Review
Resolve

Report and triage: issue trackers

Demo!



python-twitter

A python wrapper around the Twitter API

[Project Home](#)

[Downloads](#)

[Wiki](#)

Issues

[Source](#)

[New issue](#)

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1 - 99

	ID ▼	Type ▼	Status ▼	Priority ▼	Milestone ▼	Owner ▼	Summary + Labels ▼
☆	13	Defect	Accepted	Medium	---	---	Patch: twisted support
☆	16	Defect	Accepted	Critical	---	bear42	OSError thrown from _GetUsernam accessed from non tty terminal
☆	27	Defect	Accepted	Medium	---	---	Support all available parameters f (with fix)
☆	28	Defect	Accepted	Medium	dev	---	Proxy support missing
☆	29	Defect	Accepted	Medium	dev	---	Proxy authentication setting
☆	33	Enhancement	Accepted	Medium	---	---	python-twitter should catch 401 er
☆	38	Enhancement	New	Medium	---	---	Extended version of lib
☆	43	Enhancement	Accepted	Medium	---	---	get rid of all those java-ish getters
☆	47	Defect	New	Medium	---	---	Get followers for any user

Report

Triage

Patch

Test

Review

Resolve

Report and triage: How to write a good bug report

Demo!

Report
Triage

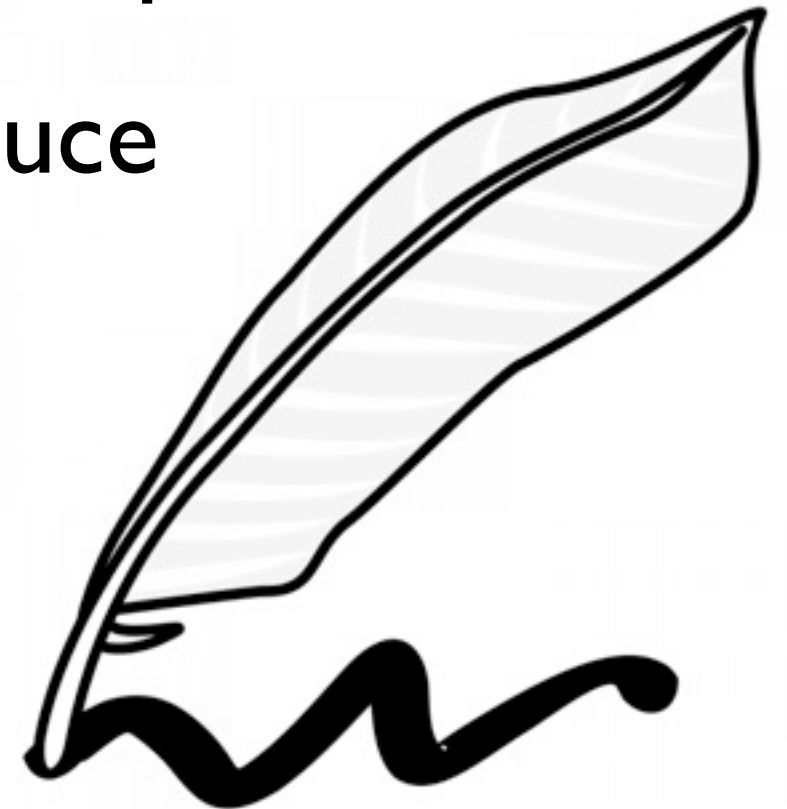
Patch

Test

Review

Resolve

- Short, self-contained example
- Explicit steps to reproduce
- Input
- Expected output
- Actual output



Patch:

diff and patch

Demo!

```
from wall import Wall
-from effects import Effects
+import effects

@@ -20,7 +20,12 @@ if __name__ == "__main__":

    wall = Wall(opts.width, opts.height)

-   for effect in Effects:
+   if args:
+       effects_to_run = [getattr(effects, a) for a in args]
+   else:
+       effects_to_run = effects.Effects
+
+   for effect in effects_to_run:
        new_effect = effect(wall)
        print new_effect.__class__.__name__
        new_effect.run()
```

Report

Triage

Patch

Test

Review

Resolve

Patch: revision control



Report

Triage

Patch

Test

Review

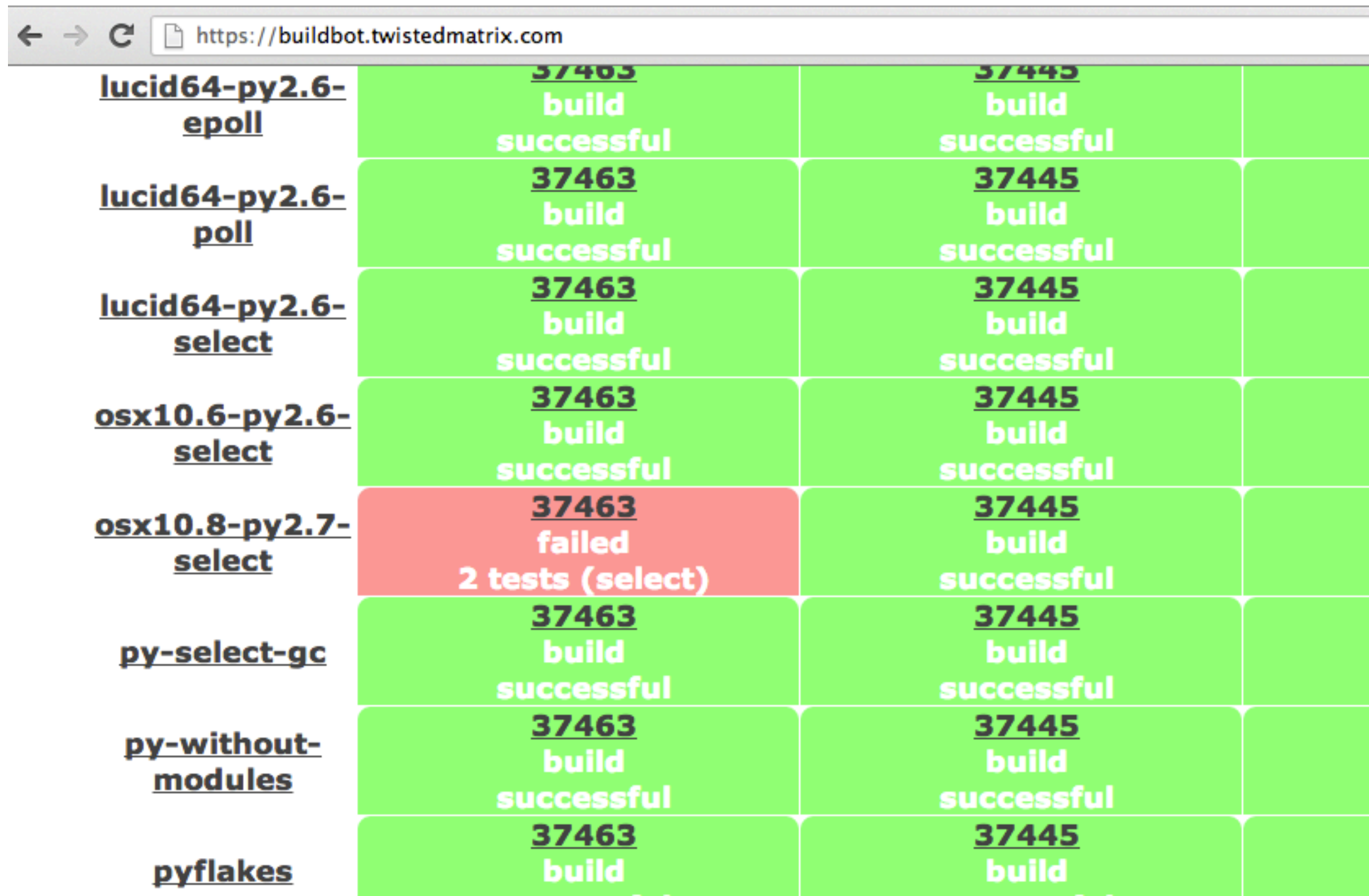
Resolve

- Collaborative development
- Managing changes / history
- Like Wikipedia

Demo!

Test: test suite and automation

Demo!



The screenshot shows a web browser window with the URL <https://buildbot.twistedmatrix.com>. The page displays a table of build results for various configurations. The table has three columns: configuration name, build ID, and build status. The build status is either 'successful' (green background) or 'failed' (red background). The 'osx10.8-py2.7-select' row is highlighted in red, indicating a failure.

Configuration	Build ID	Status
<u>lucid64-py2.6-epoll</u>	<u>37463</u>	build successful
<u>lucid64-py2.6-poll</u>	<u>37463</u>	build successful
<u>lucid64-py2.6-select</u>	<u>37463</u>	build successful
<u>osx10.6-py2.6-select</u>	<u>37463</u>	build successful
<u>osx10.8-py2.7-select</u>	<u>37463</u>	failed 2 tests (select)
<u>py-select-gc</u>	<u>37463</u>	build successful
<u>py-without-modules</u>	<u>37463</u>	build successful
<u>pyflakes</u>	<u>37463</u>	build

Report

Triage

Patch

Test

Review

Resolve

Review

Demo!



Report

Triage

Patch

Test

Review

Resolve

Correct

Clean

Well-documented

Tested

Resolve

Changed [4 days ago](#) by tomprince

- **status** changed from *new* to *closed*
- **resolution** set to *fixed*

(In [\[37445\]](#)) Merge disable-sslv2-6337: Disable SSLv2 with t.i.ssl.CertificateOptions.

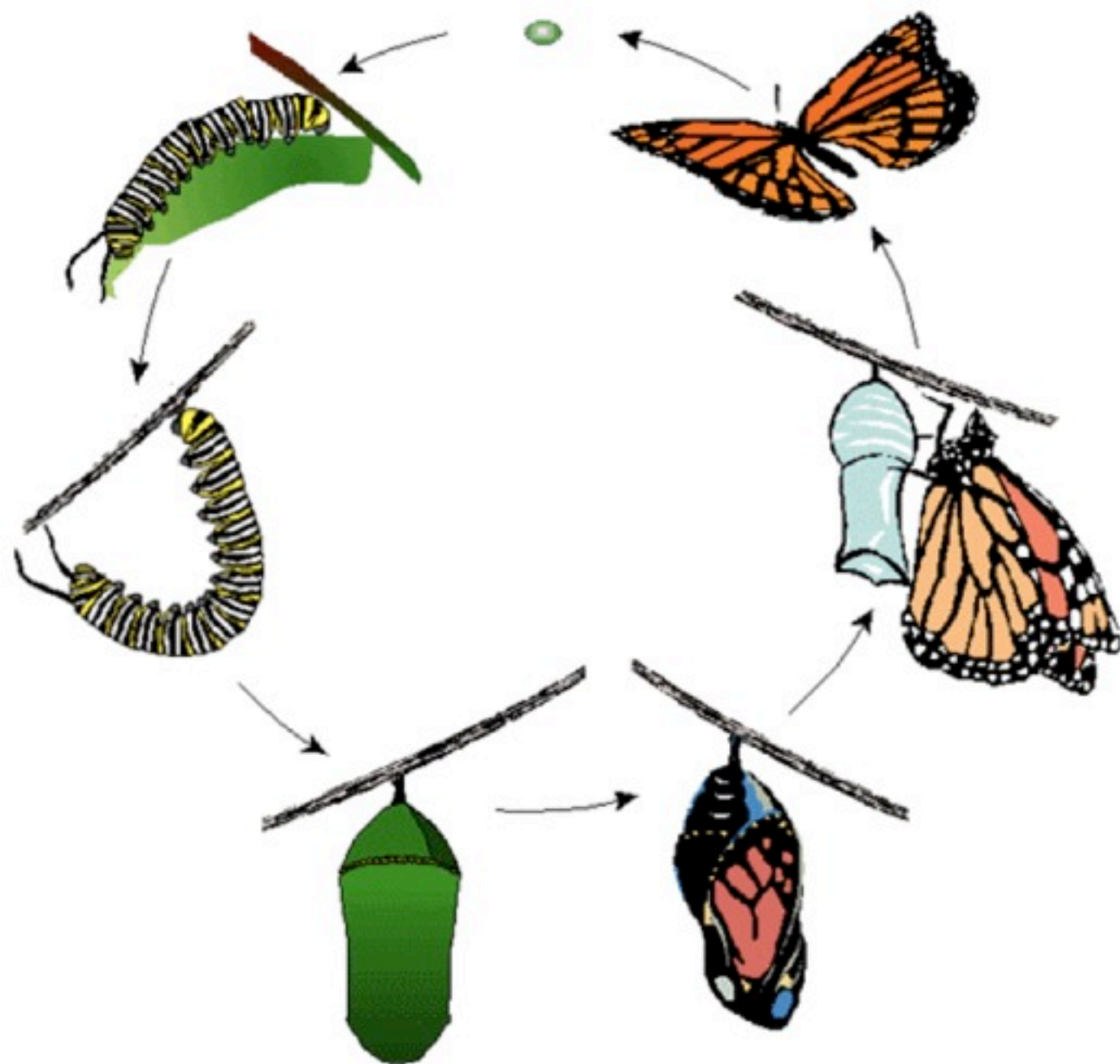
Author: hynek Reviewers: tom.prince Fixes: [#6337](#)

twisted.internet.ssl.CertificateOptions now disables SSLv2 if SSLv23 is selected, allow

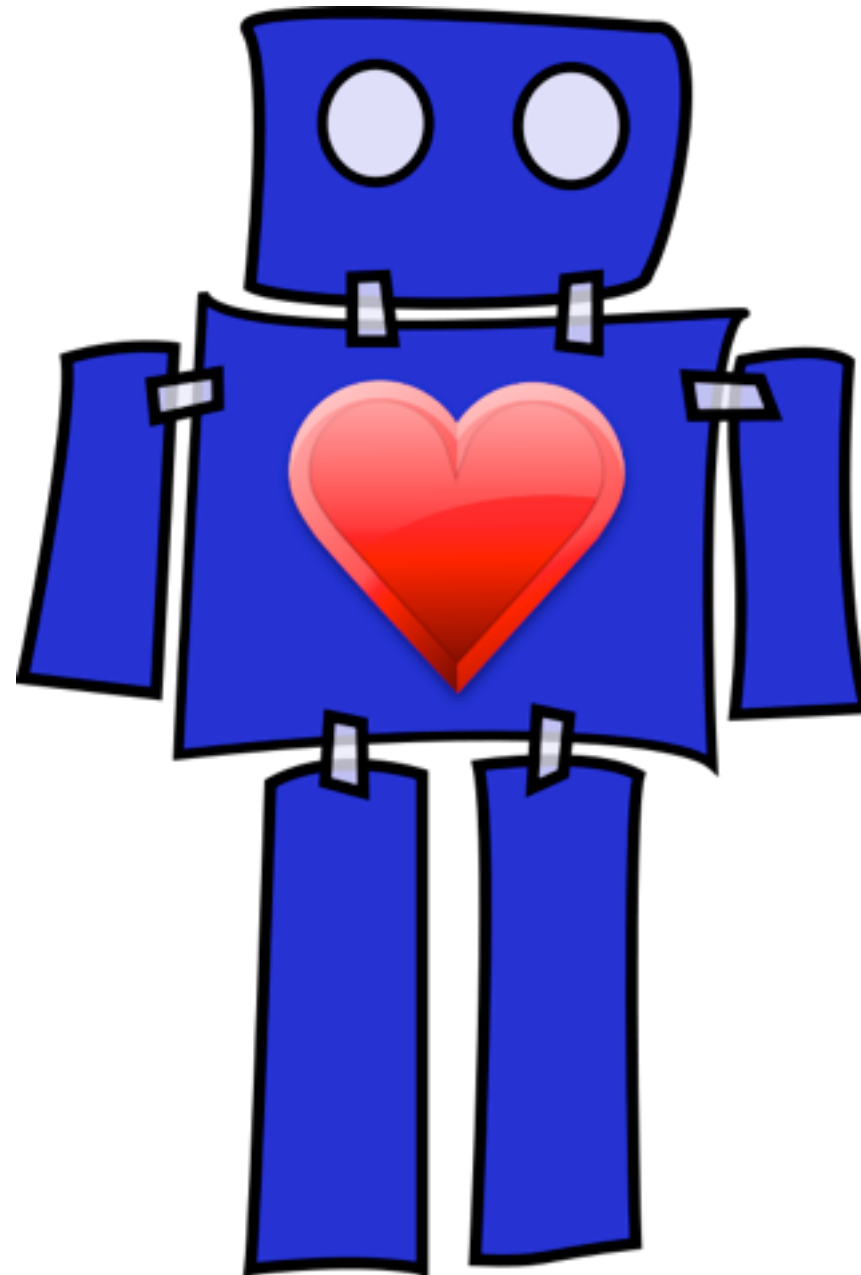
Report
Triage
Patch
Test
Review
Resolve

Part I: Lifecycle of a bug

- Report
- Triage
- Patch
- Test
- Review
- Resolve



Questions?



Part II: practicing the tools

- Command line navigation
- Text editors
- IRC



<http://bit.ly/open-source1>

Part II: practicing the tools

- Create an account on **openhatch.org**
- Complete the `diff/patch` mission
- Complete the `git` mission



<http://openhatch.org/missions>

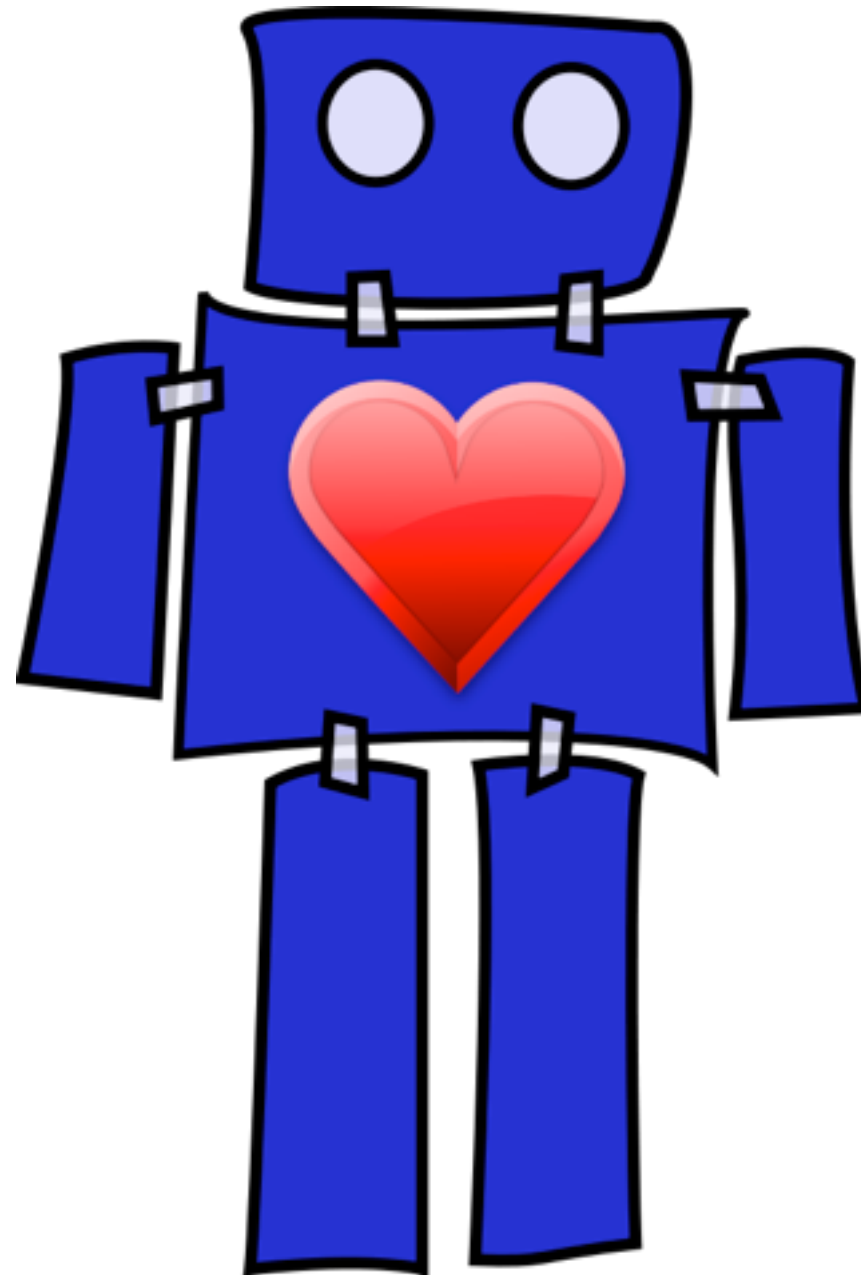
Bonus practice!

- Complete the OpenHatch `tar` training mission
- Read about Python's `unittest` module
- Read about packaging and distributing your Python projects

<http://bit.ly/open-source-bonus>



Questions?




Part III: contributing to toy projects

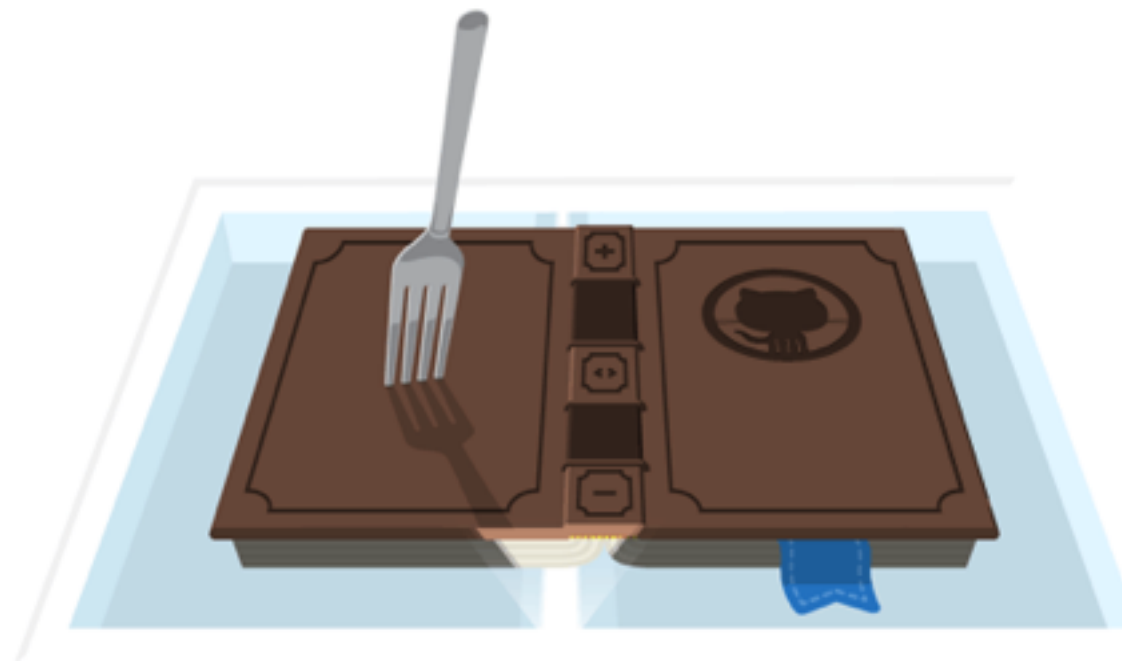
- projects hosted on **github.com**
- First project:
`https://github.com/jesstess/contrib-test`
- Goal: practice “pull-request” contribution model



Part III: Pull request practice

- Please visit

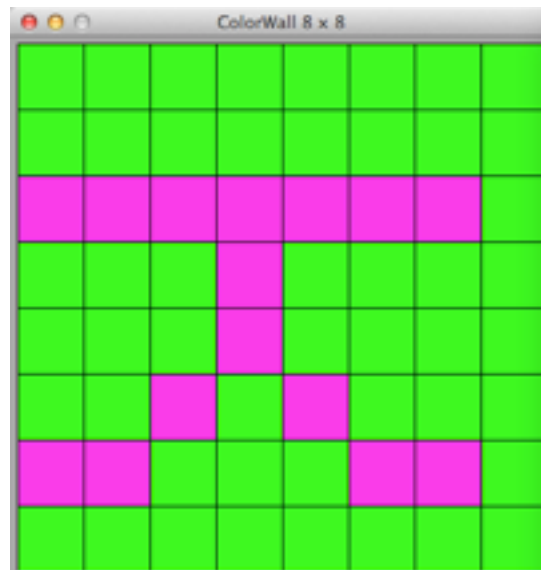
`https://github.com/jesstess/contrib-test`
and follow the instructions in the README. 



`https://help.github.com/articles/fork-a-repo`

`https://help.github.com/articles/using-pull-requests`

Part III: github bug reports and patches



Demos!

- ColorWall project:

<https://github.com/jesstesstest/ColorWall>

- Wordplay project:

<https://github.com/jesstesstest/Wordplay>

Part III: github bug reports and patches

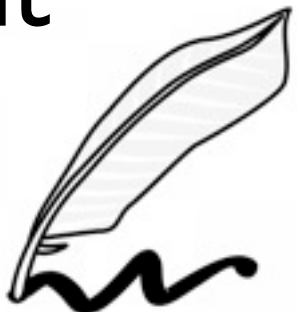
- **ColorWall:** Letters are sideways

Visit

`https://github.com/jesstesstest/ColorWall`
and open a new issue for the ColorWall bug

Remember:

- Short, self-contained example
- Expected output
- Explicit steps to reproduce
- Actual output
- Input



ColorWall

1. Visit

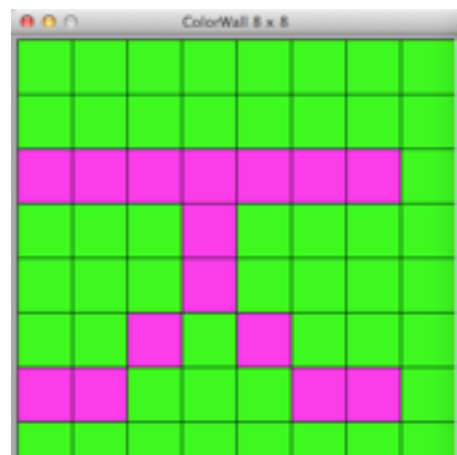
`https://github.com/jesstesstest/ColorWall`

and click the fork button to fork the project 

2. Clone **your forked copy of the repository**, ie.

```
git clone
```


```
https://github.com/<username>/ColorWall
```



ColorWall

```
for y, row in enumerate(font):
    for x, col in enumerate(row):
        if col == '#':
-           wall.set_pixel(y + y_offset, x + x_offset, background)
+           wall.set_pixel(x + x_offset, y + y_offset, background)
        else:
-           wall.set_pixel(y + y_offset, x + x_offset, foreground)
+           wall.set_pixel(x + x_offset, y + y_offset, foreground)
```



1. In `ascii8x8.py`, flip `x` and `y`
2. `python run.py`, confirm that this fixes the bug
3. `git diff`, to check our changes
4. `git add ascii8x8`, to add changes to index
5. `git commit -m "<your commit message>"`
6. `git push origin HEAD:master`
7. Create pull request from GitHub website! 

Part III: github bug reports and patches

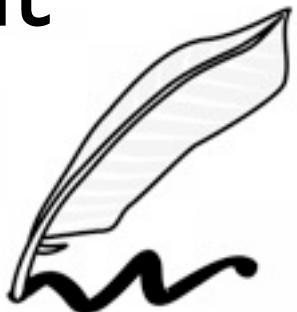
- **Wordplay:** Doesn't work with upper-case letters

Visit

`https://github.com/jesstesstest/Wordplay`
and open a new issue for the Wordplay bug

Remember:

- Short, self-contained example
- Expected output
- Explicit steps to reproduce
- Actual output
- Input



Wordplay

1. Visit

`https://github.com/jesstesstest/Wordplay`

and click the fork button to fork the project 

2. Clone **your forked copy of the repository**, ie.


```
git clone
```


```
https://github.com/<username>/Wordplay
```



Wordplay

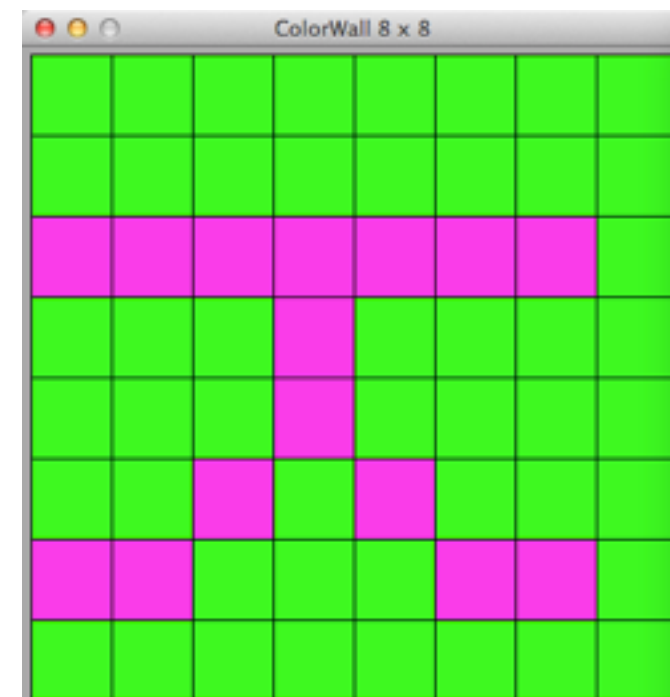
```
- rack = list(sys.argv[1])  
+ rack = list(sys.argv[1].lower())  
valid_words = []
```



1. In `scrabble_cheater.py`, lowercase input
2. `python scrabble_cheater.py ABCDEFG`, confirm that this fixes the bug
3. `git diff`, to check our changes
4. `git add scrabble_cheater.py`, to add changes to index
5. `git commit -m "<your commit message>"`
6. `git push origin HEAD:master`
7. Create pull request from GitHub website! 

Part III: github bug reports and patches

- **ColorWall:** Letters are sideways
- **Wordplay:** Doesn't work if you use upper-case letters



Bonus practice!

- Add a project of yours to GitHub
- Learn about open source licenses
- Submit a patch for a new ColorWall effect
- Submit a patch to support blank tiles in Wordplay

<http://bit.ly/open-source-bonus>



Part III: sharing through packages

```
git clone
```

```
https://github.com/jesstess/Scrabble
```

```
and sudo python setup.py the project!
```



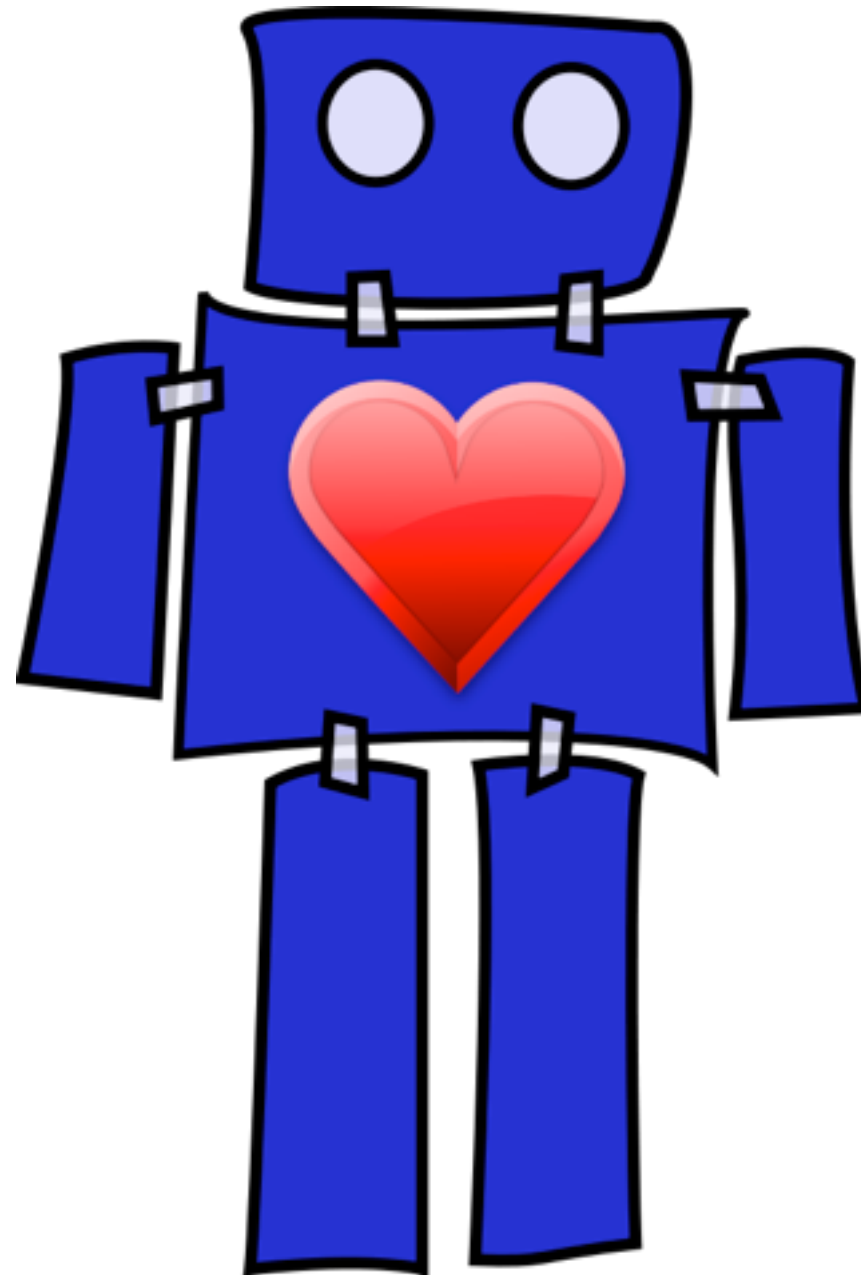
Part III: in summary

- git versus GitHub
- contribution model: diff and patch
- contribution model: pull requests
- sharing code: Python packages

```
- rack = list(sys.argv[1])  
+ rack = list(sys.argv[1].lower())  
valid_words = []
```



Questions?



Next steps: at PyCon

- Monday - Thursday: development sprints
- Great opportunity even if remote (IRC!)
- Projects include: CPython, Django, Twisted, PyPy, Open Science Framework



<https://us.pycon.org/2014/community/sprints/>

Beginner tickets



- **Python** <http://bit.ly/beginner-python-tickets>



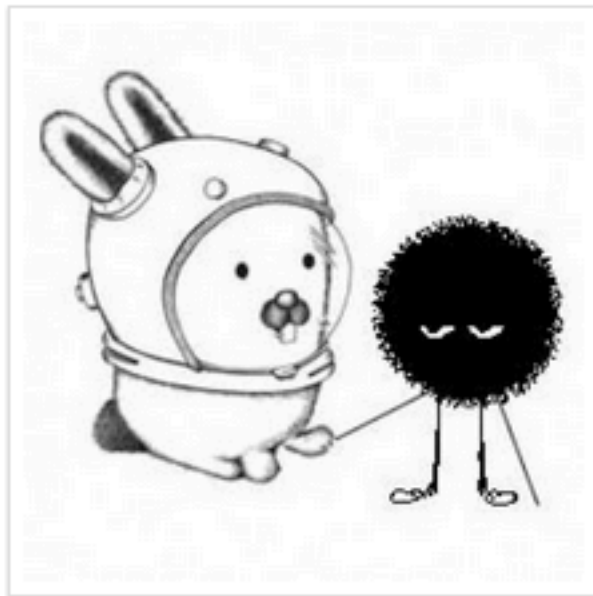
- **Django** <http://bit.ly/beginner-django-tickets>



- **Twisted** <https://bit.ly/easy-twisted-tickets>

<http://bit.ly/open-source-bonus>

Next steps: Put your projects online



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📍 Cambridge, MA

✉ jesstess@mit.edu

🌐 <http://jesstess.com>

🕒 Joined on Jan 23, 2010

[Contributions](#)

[Repositories](#)

[Public Activity](#)

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Popular repositories

lidd3-examples 18 ★
Linux Device Drivers 3 examples library, up...
ColorWall 14 ★
BostonPythonWorkshop 11 ★
vicar2png 9 ★
A VICAR-to-PNG converter.
TwitterAPI 6 ★

Repositories contributed to

openhatch/oh-bpw 3 ★
Boston Python Workshop website
jnoller/talk-mentorship 16 ★
talk-mentorship
zephod/scrabble-tools 41 ★
Dictionary processing in Python.
openhatch/oh-nagios 2 ★
OpenHatch Nagios configuration

jesstess's Open Source Contributions

Next steps: Pick a project

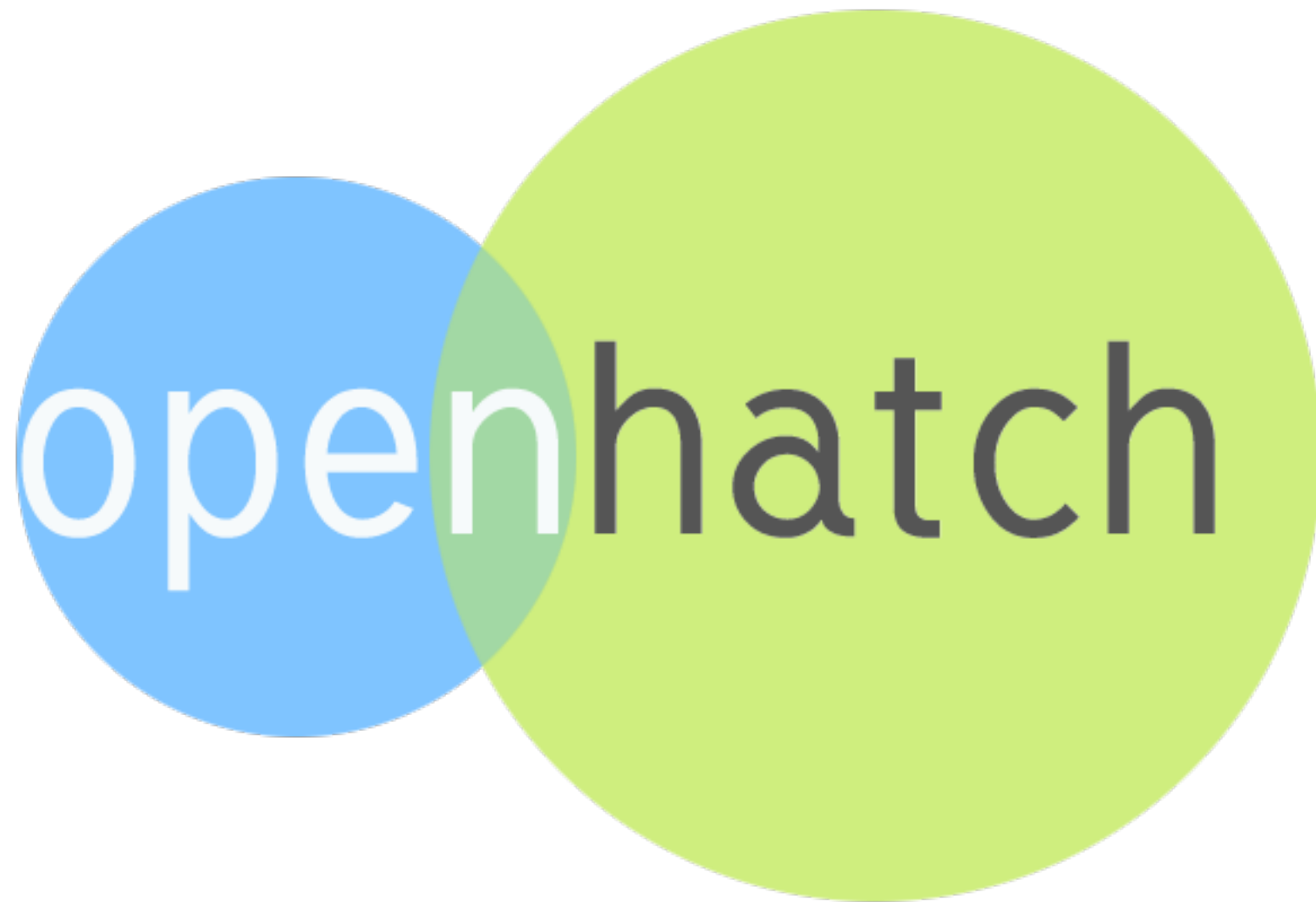
- Python mentors:
<http://pythonmentors.com>
- Django's exceptionally detailed new-contributor guide:
<http://docs.djangoproject.com/en/dev/internals/contributing/>
- Google Summer of Code
- GNOME Outreach Program



Next steps: Work on a bug

- Read new-contributor documentation
- Check out the source code
- Join the IRC channel
- Browse the issue tracker
- Look for “bitesized” or “easy” bugs
- Ask OpenHatch for help! #openhatch





code is fun