Collaboration

The Joel Test

- Do you use source control?
- Can you make a build in one step?
- Do you make daily builds?
- Do you have a bug database?
- Do you fix bugs before writing new code?
- Do you have an up-to-date schedule?
- Do you have a spec?
- Do programmers have quiet working conditions?
- Do you use the best tools money can buy?
- Do you have testers?
- Do new candidates write code during their interview?
- Do you do hallway usability testing?

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Version control











Version control









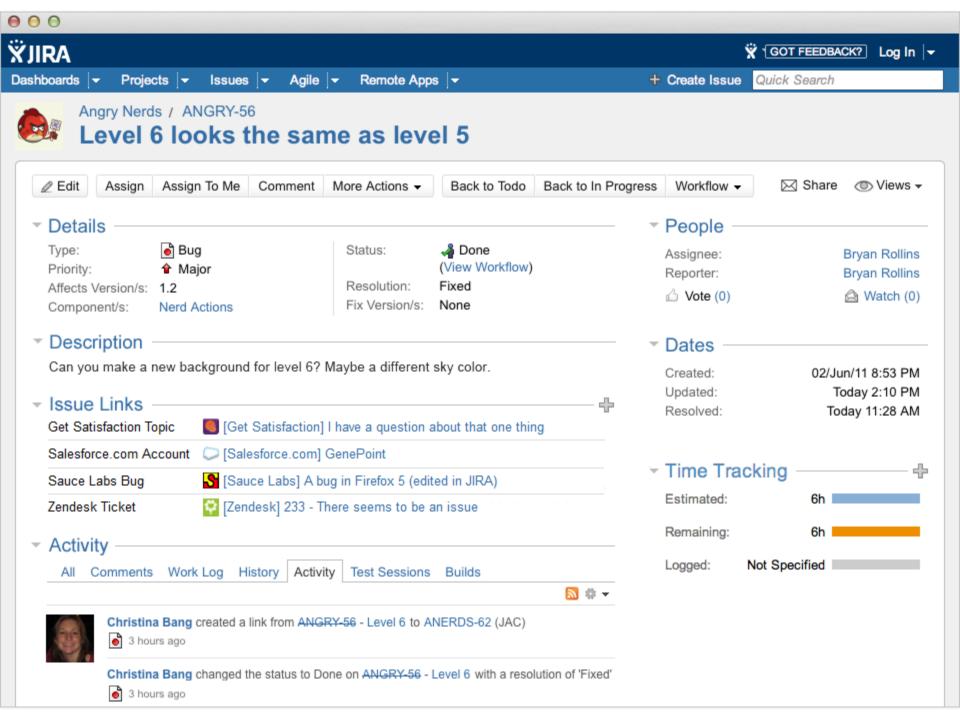


Version control



Issue tracking

"I don't care what you say. If you are developing code, even on a team of one, without an organized database listing all known bugs in the code, you are going to ship low quality code. Lots of programmers think they can hold the bug list in their heads. Nonsense. I can't remember more than two or three bugs at a time, and the next morning, or in the rush of shipping, they are forgotten. You absolutely have to keep track of bugs formally."





Sqlite ProgrammingError exception when embedding shell in thread #680

New issue

(Open

juliantaylor opened this issue on Aug 6, 2011 · 10 comments

def start shell():



```
juliantaylor commented on Aug 6, 2011
                                                                                                               Labels
                                                                                                                 bug
when using the embedded ipython shell in scrapy and exit one gets following exception:
                                                                                                               Milestone
   ProgrammingError: SQLite objects created in a thread can only be used in that same thread. The obje-
                                                                                                                wishlist
to reproduce the bug apply the ipython 0.11 compatibilty patch to scrapy 0.12.0.2528:
                                                                                                               Assignees
http://bugs.debian.org/cgi-bin/bugreport.cgi?bug=636719
                                                                                                               No one assigned
then:
                                                                                                               8 participants
  scrapy shell http://www.dmoz.org/Computers/Programming/Languages/Python/Books/
  >>> exit
or use
  from twisted.internet import reactor, threads
```

Issue tracking

"Bug databases can be complicated or simple. A minimal useful bug database must include the following data for every bug:

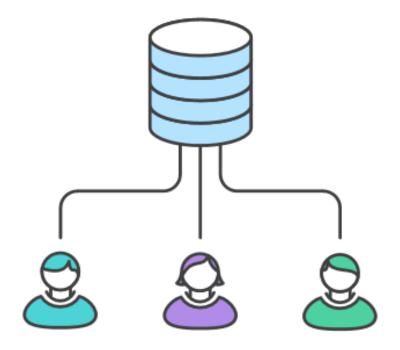
- complete steps to reproduce the bug
- expected behavior
- observed (buggy) behavior
- who it's assigned to
- whether it has been fixed or not

If the complexity of bug tracking software is the only thing stopping you from tracking your bugs, just make a simple 5 column table with these crucial fields and start using it."

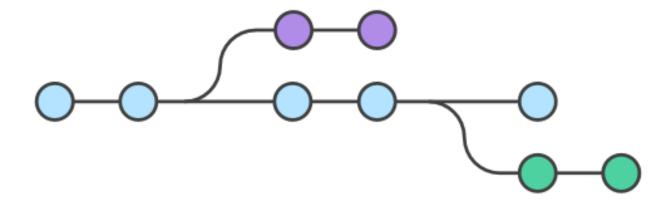
Best practice: establish workflow

"The array of possible workflows can make it hard to know where to begin when implementing Git in the workplace. [...] remember that these workflows are designed to be guidelines rather than concrete rules."

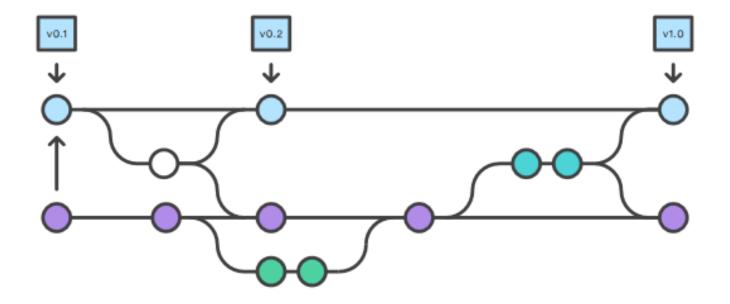
Centralized (master branch)



Feature branches



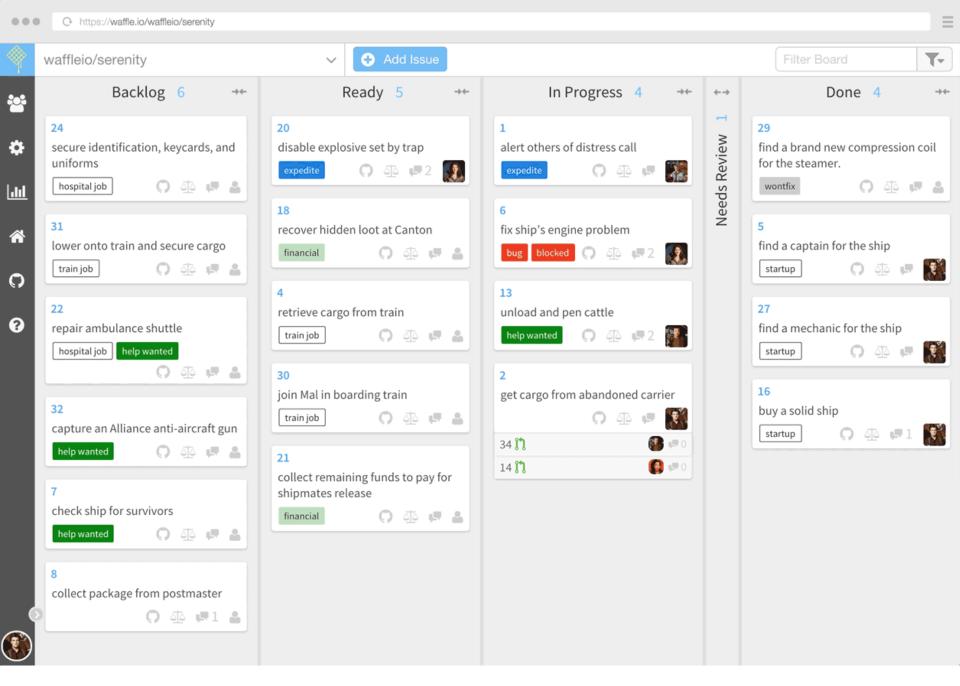
Git flow







bit.ly/py-html-config



http://www.waffle.io

Continuous Integration

"Continuous Integration is a software development practice where members of a team integrate their work frequently, usually each person integrates at least daily - leading to multiple integrations per day. Each integration is verified by an automated build (including test) to detect integration errors as quickly as possible. Many teams find that this approach leads to significantly reduced integration problems and allows a team to develop cohesive software more rapidly."

- Martin Fowler

Continuous Integration

- Maintain a Single Source Repository.
- Automate the Build
- Make Your Build Self-Testing
- Everyone Commits To the Mainline Every Day
- Every Commit Should Build the Mainline on an Integration Machine
- Fix Broken Builds Immediately
- Keep the Build Fast
- Test in a Clone of the Production Environment
- Make it Easy for Anyone to Get the Latest Executable
- Everyone can see what's happening
- Automate Deployment

Continuous Integration

"A continuous integration server acts as a monitor to the repository. Every time a commit against the repository finishes the server automatically checks out the sources onto the integration machine, initiates a build, and notifies the committer of the result of the build. The committer isn't done until she gets the notification - usually an email."









All checks have passed

Show all checks

3 successful checks



This branch has no conflicts with the base branch

Merging can be performed automatically.

}⊸ Merge pull request

or view command line instructions.



Current coverage is 100%

Merging #777 into master will not change coverage

00	master	#777	diff @@
Files	13	14	+1
Lines	585	591	+6
Methods	0	0	
Messages	0	0	
Branches	0	0	
+ Hits	585	591	+6
Misses	0	0	
Partials	0	0	



Powered by Codecov. Last updated by 8a4bd9f...de0f9cf

Best practice: establish norms

project-repo/setup.cfg

```
[flake8]
max-line-length = 120
```

... and enforce them.

```
./src/lol.py:65:80: E501 line too
long (121 > 120 characters)
```

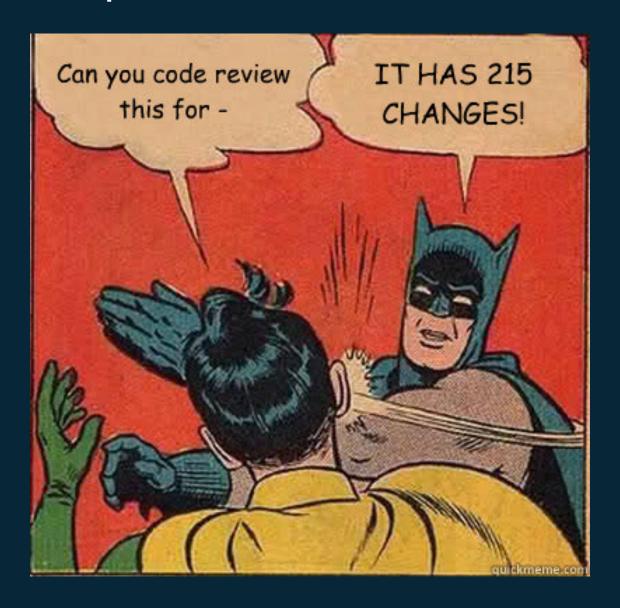


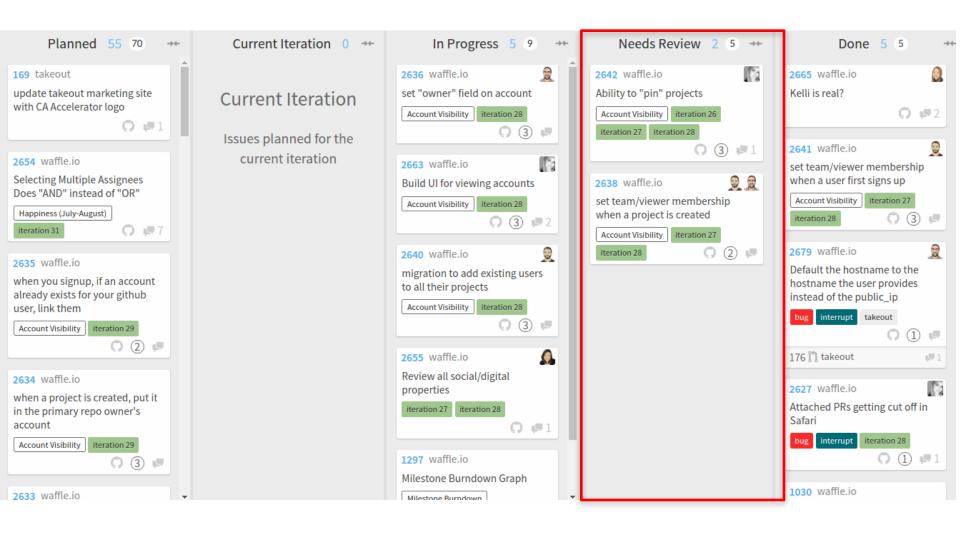
build failing

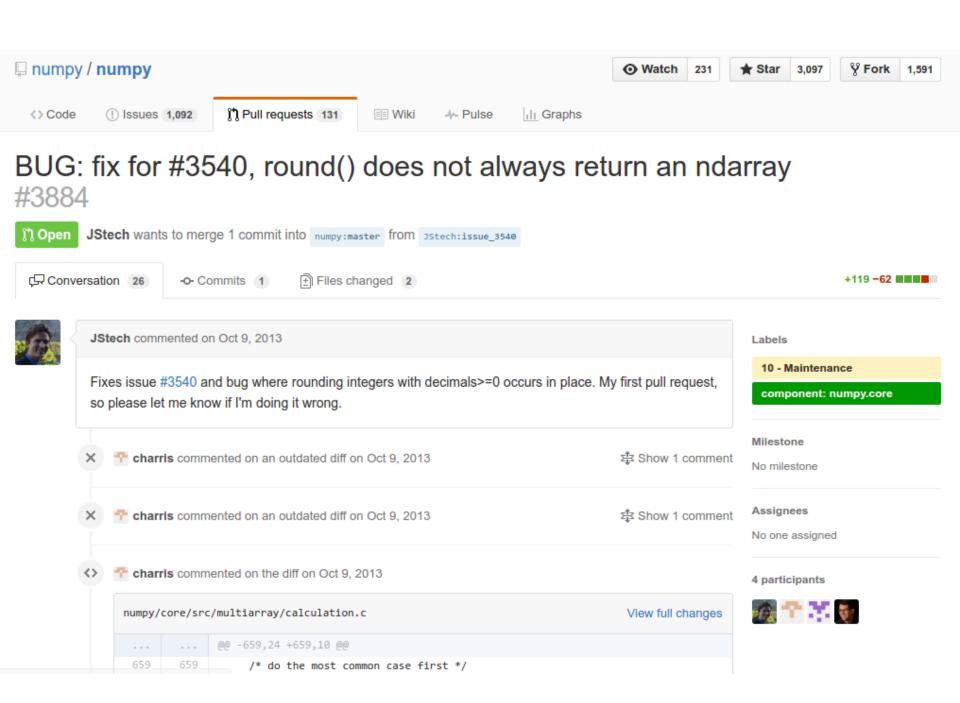
Don't be that team member

```
.git/hooks/pre-commit
#!/bin/sh
flake8 .
```

Best practice: code reviews







Questions?

