Tip of the Week

Tuesday, October 7th, 2014

Source Code Revision Control

Why? - In general:

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- Permanent history of versions facilitates comparisons

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- Synchronize your work across computers
- Enables regression testing
- Helps fix bugs faster
- Easier than changelogs + diffs

Semantic Versioning

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- See `http://semver.org/`

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- No information on what changed where and how

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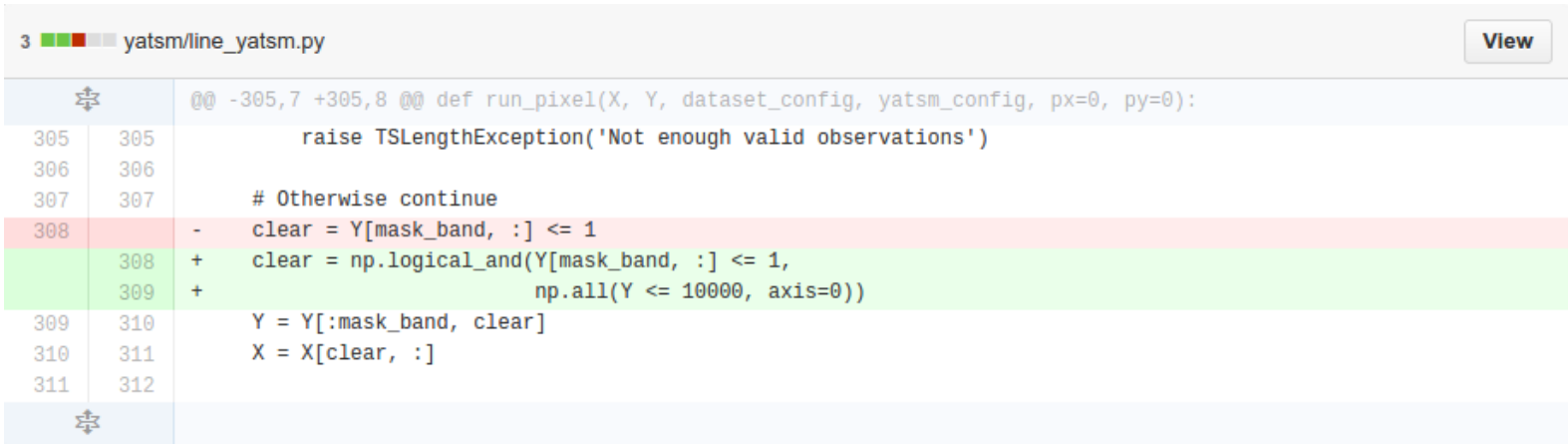

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- **Push**: send your local history to the repository, enabling it to be shared by others
- **Pull** or **Update**: bring changes from the remote repository into your local working copy

Git

A very popularDistributed Version Control System used extensively in open source software (e.g., Linux kernel).

Git

Clone a repository from Github

```
> git clone https://github.com/try-git/try_git.git
Cloning into 'try_git'...
warning: You appear to have cloned an empty repository.
Checking connectivity... done.
> cd try_git/
```

Git

Do some work, then add the text file

```
> echo "some work" > my_file.txt
> git add my_file.txt
```

Git

Check our status

```
> git status
On branch master

Initial commit

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)

    new file:   my_file.txt
```

Git

Commit the change with a message

```
> git commit -m "I did some work. Wow!"
 1 file changed, 1 insertion(+)
 create mode 100644 my_file.txt
```

Git

Check our history

```
> git log
commit 9e0e514d7b54e45d2d8667472376d125939a780a
Author: Chris Holden <ceholden@gmail.com>
Date:   Sun Oct 5 19:23:53 2014 -0400

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Push the changes to our repository

```
> git push origin master
```

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  - Full details: `https://help.github.com/categories/ssh/`

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- http://www.software-carpentry.org/v5/novice/git/index.html