GitHub
Business Analytics

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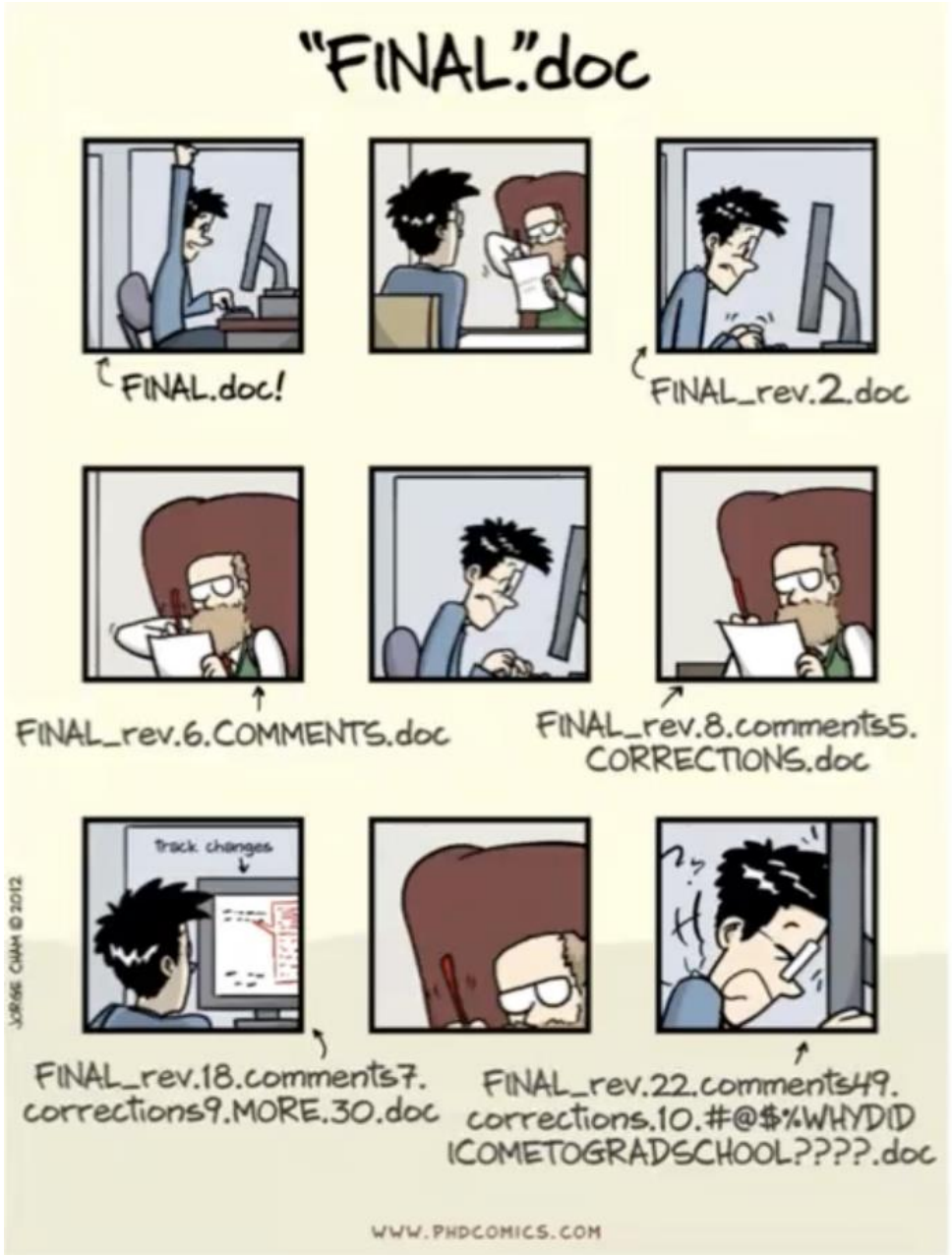
Intro to Git(Hub)

- Motivation



Source: Phdeconomics

Intro to Git(Hub)

- Motivation
- Git:

1. Git is a distributed version control system
2. It is Optimized for the things that economists and data analyst/scientists spend a lot of time working on (e.g. code).

- GitHub

It's important to realize that Git and GitHub are distinct things.

1. GitHub is an online hosting platform built on top of the Git system.

(Like Bitbucket and GitLab)

2. Just like we do not need RStudio to run R code, we don't need GitHub to use Git.

Lets get hands on

Source: http://phdcomics.com/comics/archive_print.php?comicid=1531

Collaboration time

- This is what I want you to do
  - Partner 1: Invite Partner 2 to join you as a collaborator on the GitHub repo that you created earlier. (See the `Settings` tab of your repo.)
  - Partner 2: Clone Partner 1's repo to your local machine. Make some edits to the README (e.g. delete lines of text and add your own). Stage, commit and push these changes. Make sure you change into a new directory first, with a different name so you don't have conflicts with your own
  - Partner 1: Make your own changes to the README on your local machine. Stage, commit and then try to push them (*after* pulling from the GitHub repo first).

Collaboration time

... and we are back

- Did Partner 1 encounter a ‘merge conflict’ error?

Collaboration time

... and we are back

- Did Partner 1 encounter a 'merge conflict' error?
- Check what is going on

```
$ gitstatus

Unmerged paths:
  (use "git add <file>..." to mark resolution)

    * both modified:   README.md
```

- Git is protecting P1 by refusing the merge. It wants to make sure that you don't accidentally overwrite all of your changes by pulling P2's version of the README.

Collaboration time

```
# README
Some text here.
<<<<<<< HEAD
Text added by Partner 2.
=======
Text added by Partner 1.
>>>>>>> 814e09178910383c128045ce67a58c9c1df3f558.
More text here.
```

Collaboration time

- Fixing these conflicts is a simple matter of (manually) editing the README file.
  - Delete the lines of the text that you don't want.
  - Then, delete the special Git merge conflict symbols.
- Once that's done, you should be able to stage, commit, pull and finally push your changes to the GitHub repo without any errors.
  - P1 gets to decide what to keep because they fixed the merge conflict.
  - The full commit history is preserved, so P2 can always recover their changes if desired.
  - Another solution is using `branches`