

# Efficient workflows with git & GitHub

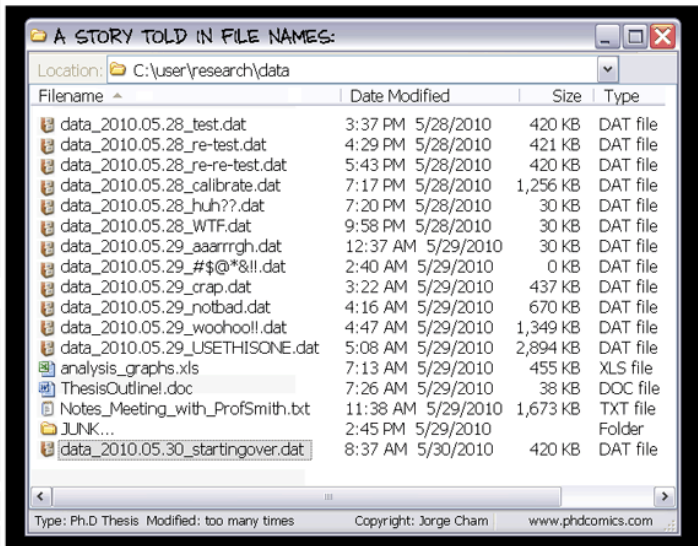
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Francisco Rodriguez-Sanchez

@frod\_san

<https://frodriguezsanchez.net>

# Version control without git



# Version control without git

"FINAL".doc



FINAL.doc!



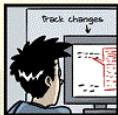
FINAL\_rev.2.doc



FINAL\_rev.6.COMMENTS.doc



FINAL\_rev.8.comments5.  
CORRECTIONS.doc









































FINAL\_rev.18.comments7.  
corrections9.MORE.30.doc



FINAL\_rev.22.comments49.  
corrections.10.#@\$%WHYDID  
ICOMETOGRADSCHOOL?????.doc

# Version control without git

 Coordinates_rawdata.csv	18/05/2015 19:07
 coords_2015-09-09.csv	23/09/2015 17:18
 coords_2015-09-09_modif.csv	05/11/2015 15:20
 coords_2015-10-11_modif_YC.csv	17/11/2015 13:49
 coords_2015-10-18_modif_YC.csv	18/11/2015 17:26
 coords_2015-12-26_modif_YC.csv	28/12/2015 13:33
 coords_2015-12-26_modif_YC_years.csv	30/03/2016 19:38
 Pulido et al_SMI_Data.csv	20/10/2015 11:55
 Pulido et al_SMI_Data_modif_YC_2015-12-26.csv	28/12/2015 13:30
 qualitative_data.csv	04/07/2016 15:50
 cleandata.xlsx	25/06/2015 01:14
 cleandata_YC.xlsx	30/06/2015 16:22
 COORDENADAS PACO_20-05-2016 CON REVIEWS.xlsx	20/05/2016 16:23
 COORDENADAS PACO_20-05-2016 CON REVIEWS_FRS.xlsx	27/05/2016 19:41
 COORDENADAS_paper195(Girella_elevata).xlsx	08/06/2016 13:09
 coordenadas_raw_2016-06-08.xlsx	09/06/2016 15:53
 coordenadas_raw_2016-06-08_old.xlsx	08/06/2016 16:00
 coordenadas_raw_2016-06-21.xlsx	21/06/2016 16:12
 coords_2015-09-09_modif.xlsx	05/11/2015 15:23
 coords_2015-10-11_modif_YC.xlsx	17/11/2015 13:37
 coords_2015-10-11_modif_YC_PACO.xlsx	17/11/2015 17:06
 coords_2015-10-18_modif_YC.xlsx	18/11/2015 17:24
 coords_2015-12-26_modif_YC.xlsx	30/03/2016 19:38
 coords_2016-04-02.xlsx	06/04/2016 17:46
 coords_2016-04-02_YC.xlsx	06/04/2016 18:03
 coords_2016-04-08_YC.xlsx	11/04/2016 13:51
 dataset_y_coords_09_09_15.xlsx	23/09/2015 17:18
 Datos metaanálisis_18-04-2016.xlsx	19/04/2016 16:24
 FINAL METAANALISIS_14-6-2016_WITH REVIEWS.xlsx	21/06/2016 16:15
 FINAL METAANALISIS_16-6-2016_WITH REVIEWS.xlsx	21/06/2016 16:13
 FINAL METAANALISIS_2016-04-27_WITH REVIEWS.xlsx	25/05/2016 18:05
 FINAL METAANALISIS_2016-04-27_WITH REVIEWS_FRS.xlsx	27/05/2016 18:44
 FINAL METAANALISIS_2016-04-29_EXCLUDING REVIEWS.xlsx	08/06/2016 13:06
 FINAL VOTECOUNTING_1-7-2016.xlsx	04/07/2016 15:46
 fitnessdata_2016-06-22.xlsx	22/06/2016 21:00
 IFs for Bastien_19-3-2016_YC.xlsx	28/03/2016 19:26
 Metaanalysis final_01-05-2015 with coordinates.xlsx	18/05/2015 19:20
 Metaanalysis final_22-05-2015 coords.xlsx	24/06/2015 15:50

# Collaborating without git

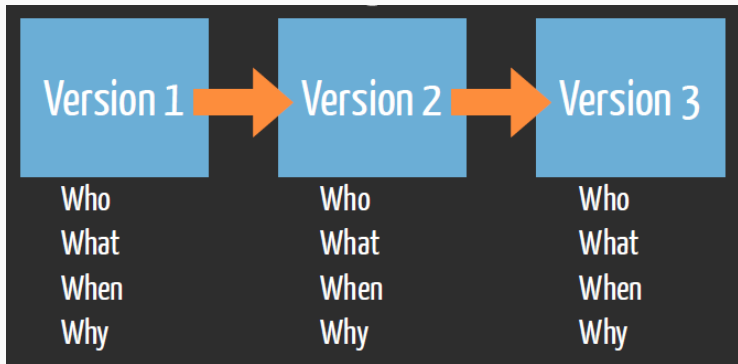
You've got email:

*I'm attaching the final dataset to this email. Hope the analysis goes well!*

Later:

*We just found a mistake in the data so I'm attaching the **revised final** dataset. Sorry about that!*

## Version control with git



R. Fitzjohn

(<https://github.com/richfitz/reproducibility-2014>)

# Why version control

- Who did what, when, and why

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- Who did what, when, and why
- Record all changes



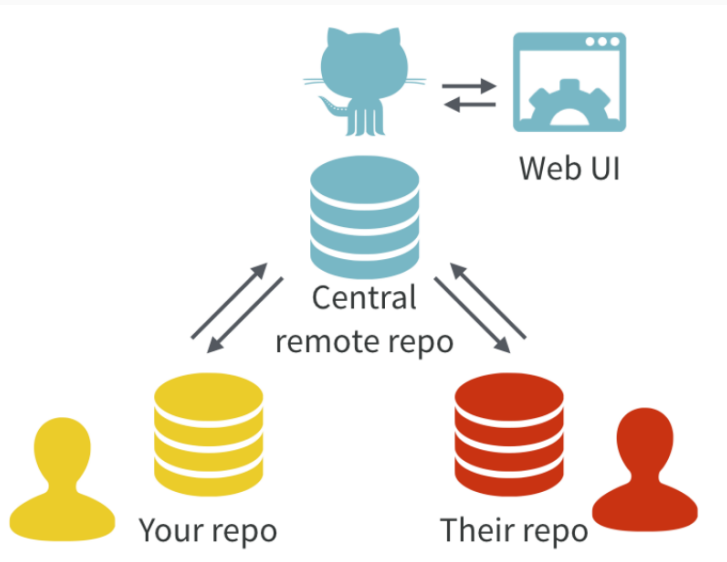
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- Easy collaboration (GitHub, GitLab...)

# Distributed version control



## Advantages of GitHub / GitLab...

- Project backup (including history)

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- Continuous integration (GitHub Actions)



# Automatic data checks, integration & website

**(GA) Integrate new data in database**



**GemmaCalvo** committed 3 hours ago

**create Espadaler1983**



**GemmaCalvo** committed 3 hours ago ✓

**(GA) Integrate new data in database**



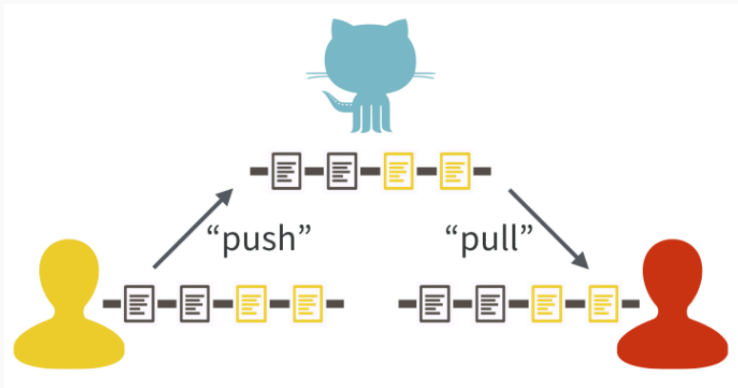
**Pablohomet** committed 3 hours ago

**Create Zapatero-Ramos1978.xlsx**



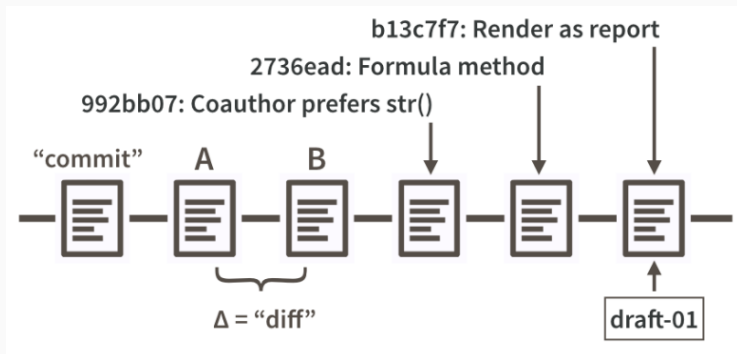
**Pablohomet** committed 3 hours ago ✓

# Distributed version control



J. Bryan (<https://doi.org/10.7287/peerj.preprints.3159v2>)

# Commits save snapshots of project



J. Bryan (<https://doi.org/10.7287/peerj.preprints.3159v2>)

## Set up

---

# Sign up on GitHub

<https://github.com/>

Advice: <https://happygitwithr.com/github-acct.html>

<https://cran.r-project.org/>

[https://www.rstudio.com/products/rstudio/download/  
#download](https://www.rstudio.com/products/rstudio/download/#download)

# Install git

<https://happygitwithr.com/install-git.html>



# Introduce yourself to git

Use same email as GitHub!

```
install.packages("usethis")  
  
library("usethis")  
  
use_git_config(user.name = "Jane Doe",  
               user.email = "jane@example.org")
```

## Create and save Personal Access Token (PAT)

```
usethis::create_github_token()
```

Will open GitHub webpage

Click 'Generate token' (green button)

Paste and store you PAT:

```
gitcreds::gitcreds_set()
```

READY?

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- History

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- Switch to ggplot, commit (closing issue) & push
- History
- Branching & merging

- Issues

# Collaborating via GitHub

- Issues
- Forks & pull requests



# Collaborating via GitHub

- Issues
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- Granting repository access to collaborators

# Collaborating via GitHub

- Issues
- Forks & pull requests
- Granting repository access to collaborators
- Merge conflicts

# Sharing reports on GitHub

output: github\_document

# Website deployment

Repository settings -> Pages

- Follow

- Follow
- Star

- Follow
- Star
- Contribute (issues, pull requests)