

Session 2:

Markdown and Git

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Agenda

- In this session we will get some useful tools to conduct research.
- Git is a version control system
 - It is useful when several people are collaborating on the same code.
 - Today: Motivation for trying Git
- Markdown which is an easy to use text operator.
 - Start using Markdown

Git: Version control



































Why version control: Track of files/code

- Helps you to keep track of different version of your code






Enables you to work with several people on the same code or text, at the same time.

- Might sound like a trivial problem, but in reality, there are a lot of challenges.
- Conflicted copies
- Hard to track changes and why there done
- Lots of files, taking up space

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_SM1_Data.csv	20/10/2015 11:55
 Pulido et al_SM1_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 METAANALISYS_14-6-2016_WITH REVIEWS.xlsx	21/06/2016 16:15
 FINAL METAANALISYS_16-6-2016_WITH REVIEWS.xlsx	21/06/2016 16:13
 FINAL METAANALISYS_2016-04-27_WITH REVIEWS.xlsx	25/05/2016 18:05
 FINAL METAANALISYS_2016-04-27_WITH REVIEWS_FRS.xlsx	27/05/2016 18:44
 FINAL METAANALISYS_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

With Git

 enclosure_damage_raw.csv	04/07/2016 21:21
 exclosures_cover_raw.csv	04/07/2016 20:49
 sitenames.csv	04/07/2016 20:42
 sites_info_raw.csv	30/06/2016 20:03
 species_info_raw.csv	05/07/2016 15:53

Why version control: Detailed log

Your closest collaborator is yourself 6 month ago - and you are not answering e-mails.

- Detailed log of all changes
 - When, who, what
- Easy to revert back to previous versions (remembers forever)
- Clear attribution of work (who contributed what)
- Other differences from DropBox/Google Drive etc.? Some files are shared, some not

What is Git

what is git? Git is an open source command line program for version control.

what is github? Company/web services that hosts Git repositories and enables 'social coding'

What is GitHub for Mac/Windows? A GUI (Graphical User Interface) for Git.

Makes it easier to use.

Ultimately just does command line Git.

GitHub for desktop

Vocabulary

- Repository: The place where your files are kept
- Clone: Make a folder on your computer, with the content of a repository
- Pull: To download the newest version of a repository
- Push: Push the changes you have made, to the repository

Alternatives and resources

If you want to keep coding, you will have to get familiar with Git sooner or later. But there are alternatives.

- Google's Colab.Research
(<https://colab.research.google.com/notebooks/welcome.ipynb#recent=true>), which is a combination of Google Docs and Jupyter Notebook.
- Plug and play: is an easy to use, less flexible, alternative.

More about Git

- Google is your friend
- Online tutorials (DataCamps tutorial on Git
(<https://www.datacamp.com/courses/introduction-to-git-for-data-science>), is very useful)
- Try it!

Markdown

- Markdown is an easy to use text editor
 - WYSIWYG (What you see is what you get)
 - Used in Jupyter Notebook
 - Can be used to make Homepages (SDS) or slideshows (like this one)
- Basic functionalities in Markdown
- You try in the exercises

Headlines

This will be the headline

This will be the sub headline

And so on

This will be the headline

This will be the sub headline

And so on

Bold and italics

- ****Text in bold** -> Text in bold**
- **Text in italics* -> Text in italics*

> This text will be indented

This text will be indented

Lists

- fruits
 - apples
 - macintosh
 - red delicious
 - pears
 - peaches
- vegetables
 - broccoli
 - chard

... gives you this list

- fruits
 - apples
 - macintosh
 - red delicious
 - pears
 - peaches
- vegetables
 - broccoli
 - chard

Links

This is how you insert a link [name of link](URL)

The subreddit [DataIsBeautiful](https://www.reddit.com/r/dataisbeautiful/) loves data

->

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Images

It is almost the same, to insert an image ! [] (URL)

This is a cat ! [] (http://drupal-images.imgix.net/2015/07/03/20150622-113315-4_18Mb.jpg?auto=format&crop=faces&fit=crop&ixjsv=1.1.3&q=82&w=620&h=349) is cute

This is a cat



is cute

Now for Exercises 2