Session 2:

Git and Markdown

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Exam

Some basic info

- Content: you decide what, how etc.
- Hand-in by August 30 at 15 PM.
- More info on exam posting here (https://abjer.github.io/sds2019/post/exam/)
- We will talk exam again on Thursday.

Agenda

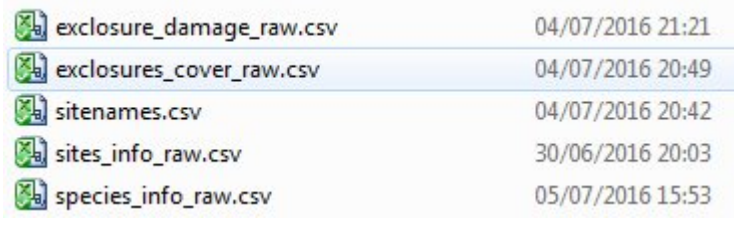
- In this session we will get some useful tools to conduct research.
- `Git` is a version control system
    - It is useful when several people are colaborating on the same code.
    - Today: Motivation for trying Git
- `Markdown` which is an easy to use text operator.
    - Start using Markdown

Git: Version control

Why version control: Track of files/code

Without git

With Git


exclosure_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

What Dropbox/Google Drive etc. does

Synchronize folder (including subfolders)

- All changes are synchronized continuously (no choice)
- If shared you keep the latest copy (one month reversion)

What Git does

- Keeps a log of the entire history of changes to files.
- You can decide **what** and **when** to put in this log.
- You can syncronize the log
    - in a centralized place, e.g. GitHub (which can be public or private).
    - in a decentralized place, e.g. your servers, your computer
- Others can see **who** contributed from this log.

Why is Git useful

Can scale to many people as it solves:

- Handling of confliced copies
- Only keep relevant changes (removes clutter)
- You can revert changes that are very old! (eternal memory)
- Clear attribution of work (who contributed what)
- Less use for space as only relevant changes are saved

Vocabulary

- Git: Git is an open source command line program for version control.
- Repository: the location where your files are stored
- GitHub: Company/web services that hosts Git repositories and enables 'social coding'
- Clone: copy another repositiry to a new location (e.g. from GitHub to your PC)
- Pull: to download the newest version of a repository
- Push: push the changes you have made, to the repository

Git in this course

Homepage hosted on underlying github repo (https://github.com/abjer/sds2019)

- Has all material and info
- Careful: always ***copy*** notebooks if you use(lectures and exercises!!!)

Alternatives

GitHub for Mac/Windows

- A point and click version of Git.

Google's Colab (https://colab.research.google.com/notebooks/welcome.ipynb)

- Is a combination of Google Docs and Jupyter Notebook.
- Plug and play: is an easy to use, less flexible, alternative.

Markdown

Overview

- 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
```

->

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

Our course repo is here (https://abjer.github.io/sds2019)

Images

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

```
This is a cat ![](https://upload.wikimedia.org/wikipedia/commons/a/a2/Cat_Golden_Chinchilla.jpg)
```

This is a cat

The end

Return to agenda