Introduction to GitHub:

how to use it,
and why it will improve your coding life

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R Users Group
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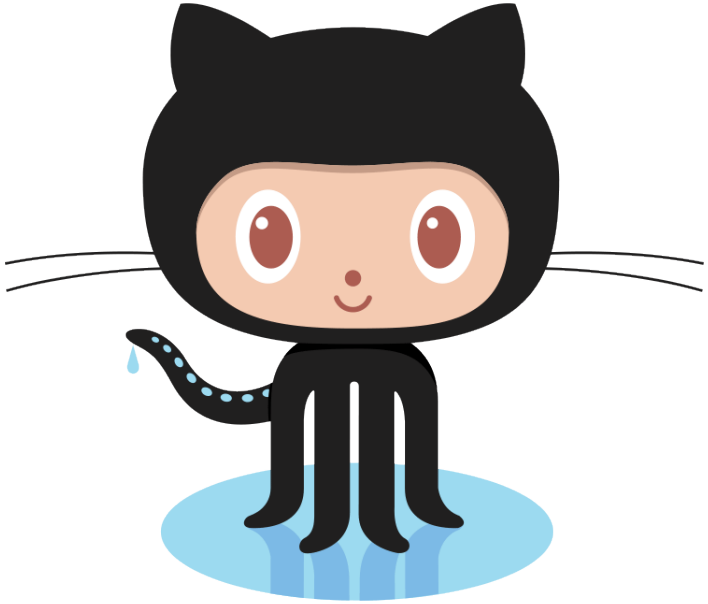
What is GitHub?

- A web based file hosting service, ***with version control***



GitHub

And it has a fun logo

What is Version Control?

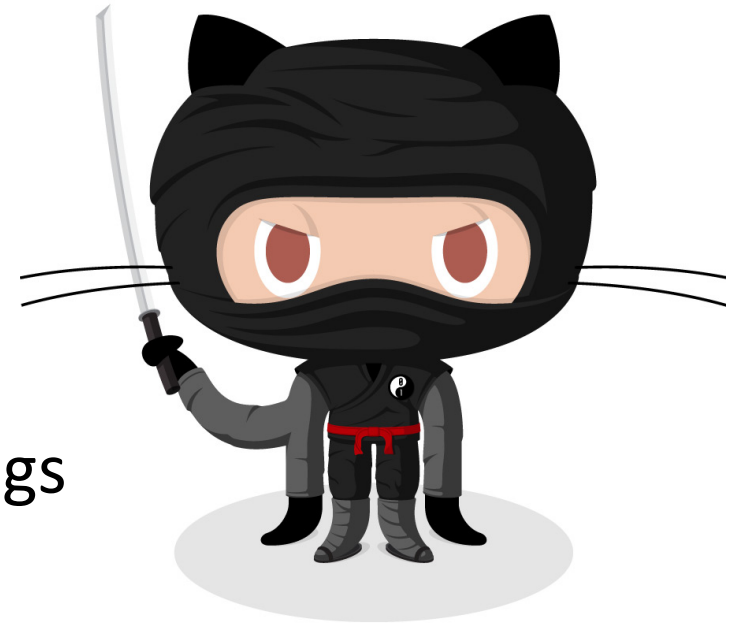
- You can ***see differences*** between versions
  - What is added and what is taken away
- You can '***roll back***' to previous versions when you break stuff
- Two people can ***safely*** work on the same file
  - No stepping on each others toes or saving over other peoples changes

So what is GitHub good for?

- **Storing** your code
  - Like a fancy dropbox
- **Sharing** your code
  - Refer people to exactly what you did (repeatability)
  - Help others solve problems you've already solved
  - **Fork** a repository
- **Showing off** your code
  - Interviewers look at it
  - Some jobs even ask for it on applications!

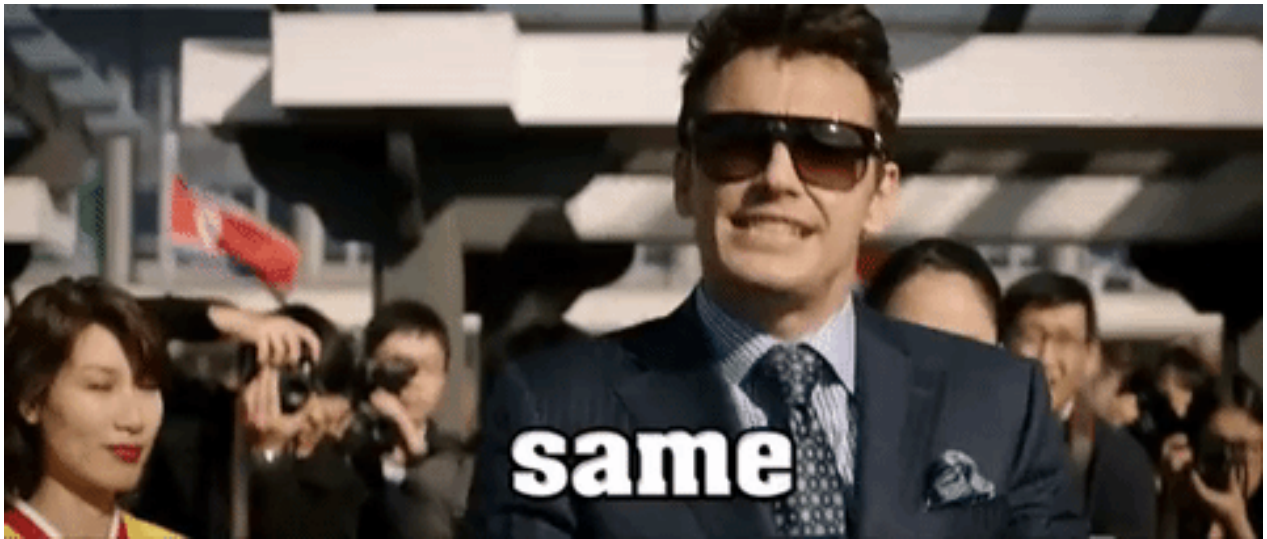
So what is GitHub good for?

- **Group work**
  - People can commit to same file
  - Keeps track of versions and changes for you
  - Don't need to take turns
- **Positive feedback**
  - People can like your stuff
- **Give back (to R libraries)**
  - Make developers aware of bugs
  - Good way to get noticed
  - Contribute to important libraries in your field



GitHub != git

- Github == website
- Git == version control system
- ***Github*** *uses the commands from* ***git*** *to keep track of files and store them on the website*
- **Like the relationship between Rstudio and R**



Ugh now you're going to tell me I need to learn a bunch of code aren't you?

- *No I'm not!*
- If you're a big command line fan here is the tutorial on how to use git that way… go nuts:

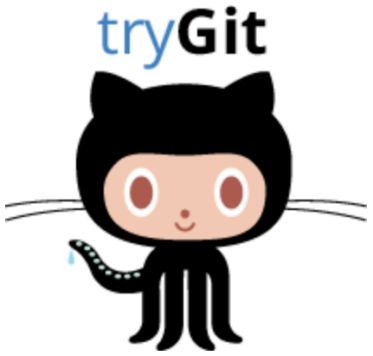
  https://try.github.io

1.1 · Got 15 minutes and want to learn Git?

Git allows groups of people to work on the same documents (often code) at the same time, and without stepping on each other's toes. It's a distributed version control system.

Our terminal prompt below is currently in a directory we decided to name "octobox". To initialize a Git repository here, type the following command:

git init



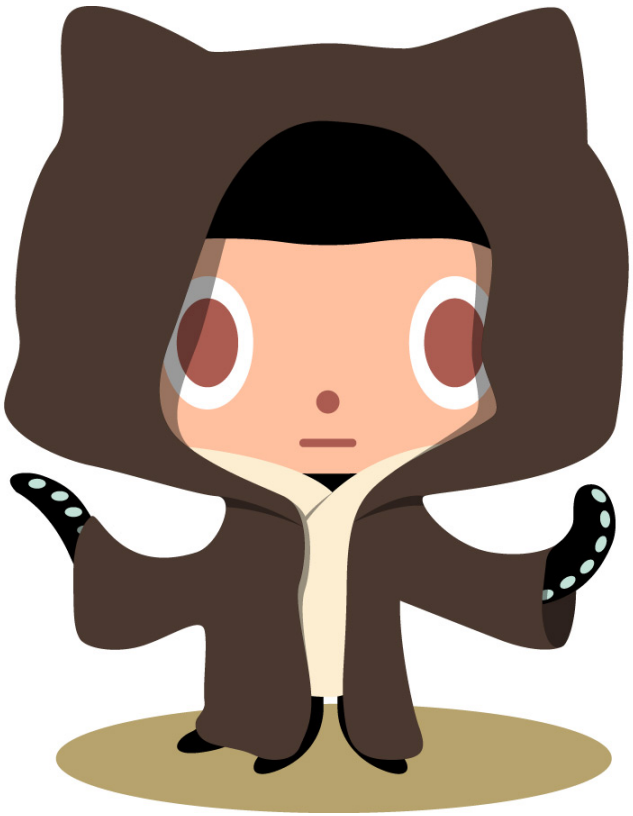
15 minutes is a bold claim… I found it takes a lot longer to master

For everyone else…

GitHub Desktop

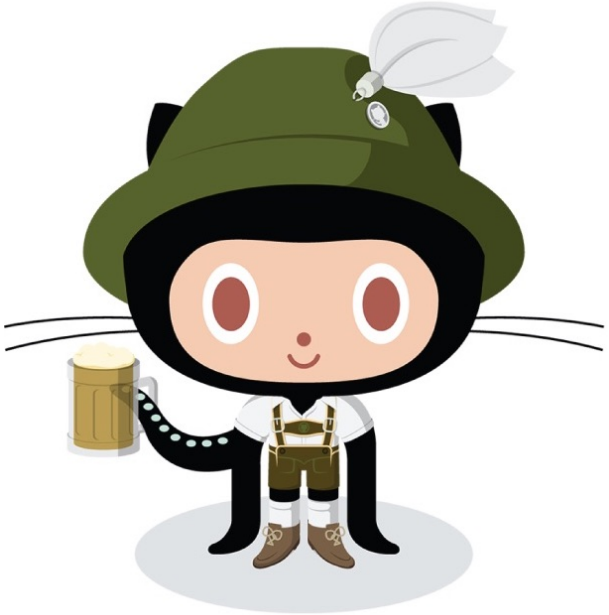
- A Graphical User Interface for GitHub
- desktop.github.com/
- Works for Mac, PC and Linux

- You can use it effectively without being a master!



A tour of using GitHub Desktop

How to do the following:



- Make a repository/folder (**init**)
- Change the file (**commit**)
- Observe the changes (**diff**)
- Undo changes (**revert**)
- Fork other people's code (**fork**)
- Suggest changes to other people's code (**Submit a pull request**)

In summary

- GitHub and the Desktop interface we explored today can be useful in many ways
- For people of all skill levels
- I'd like to propose an UGRU GitHub Repository

  A place for:

  – Sharing code from weekly presentations
  – Help requests
  – Follow up exercises/Collaborations
  – I'm lonely :'(

Follow Up Resources

Trending R github repositories:
https://github.com/trending/r

Free GitHub additions:

*The private repositories perk is a **10/10**

https://education.github.com/pack

Cam's Blog post on making a pro looking GitHub Repository (warning no R in sight)

People to follow

- Tidyverse BDFL: github.com/hadley

- People in the department:
  - Kevin Cazelles: github.com/KevCaz
  - Karl: github.com/karl-cottenie
  - CGG: github.com/cgreysongaito
  - Tim Bartley: github.com/bartleyt
  - Me: github.com/CNuge