

# Collaborating on code with git

*A very short introduction*

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Social Data Society, 23 March 2020

# "FINAL".doc



FINAL.doc!



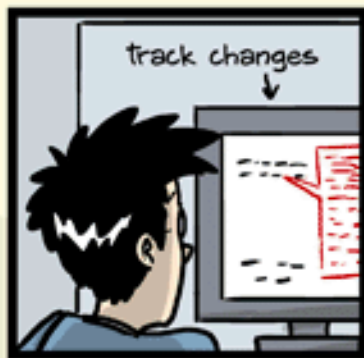
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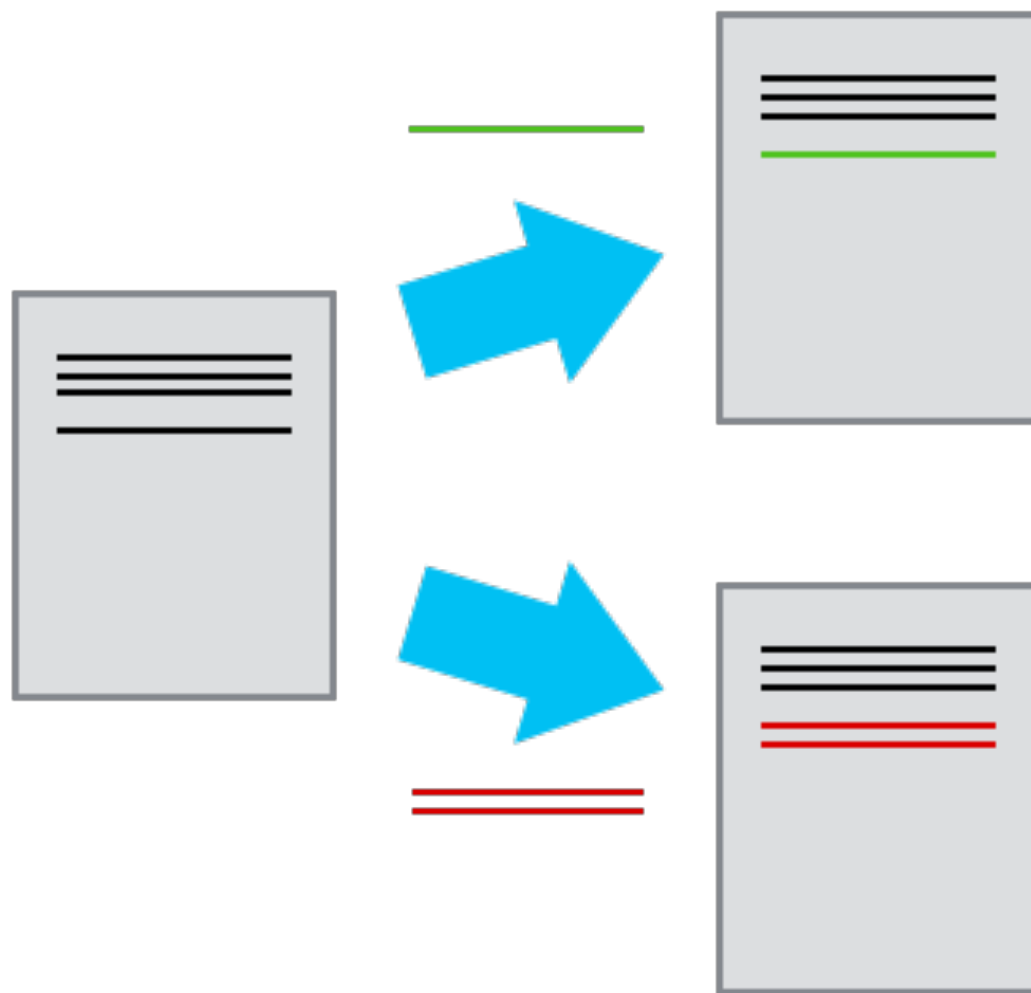


# What is version control?

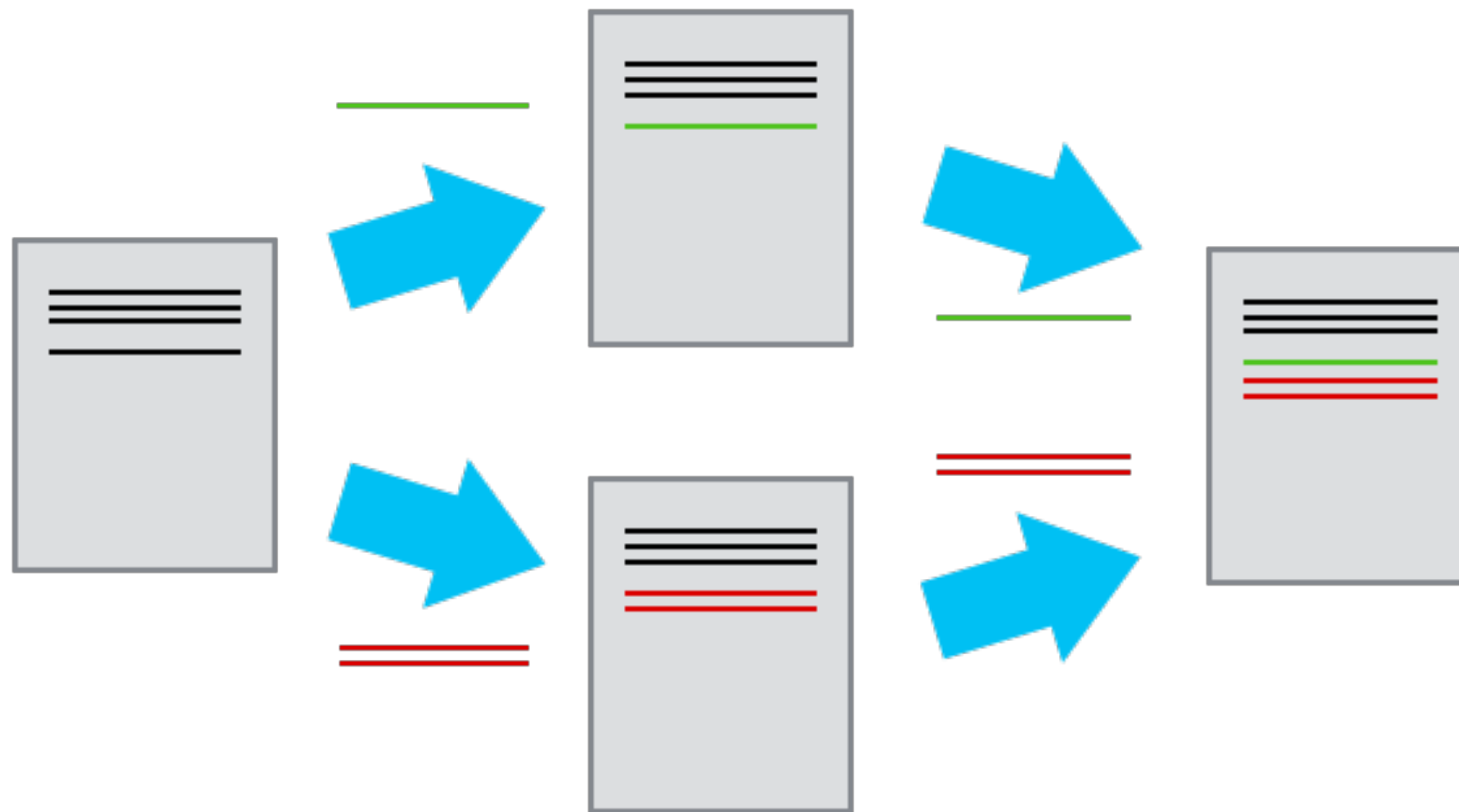


- Version control systems keep track of changes to files
- It's like an unlimited 'undo'!

# What is version control?



# What is version control?



- Version control systems keep track of changes to files
- Version control allows many people to work in parallel

# Version control basics

- There's one main repository for all the project files
- Team members: check out files, make changes, and check them back in
- VCS keeps track of changes
- Repositories can be kept in sync across different computers, facilitating collaboration among different people.

# Benefits of version control

- **Common repository** with up-to-date files
- **Complete change history** of every file (for every user, including creation/edits/deletion)
- **Revert back** to a previous version
- **Traceability:** annotated history of code helps you understand purpose
- **Branching & merging:** team members can work on independent 'branches' of code *simultaneously* and then 'merge' the work back together

# Version control systems



<https://git-scm.com/>



<https://www.mercurial-scm.org/>



<https://subversion.apache.org/>

<https://biz30.timedoctor.com/git-mercurial-and-cvs-comparison-of-svn-software/>



# Getting started with Git

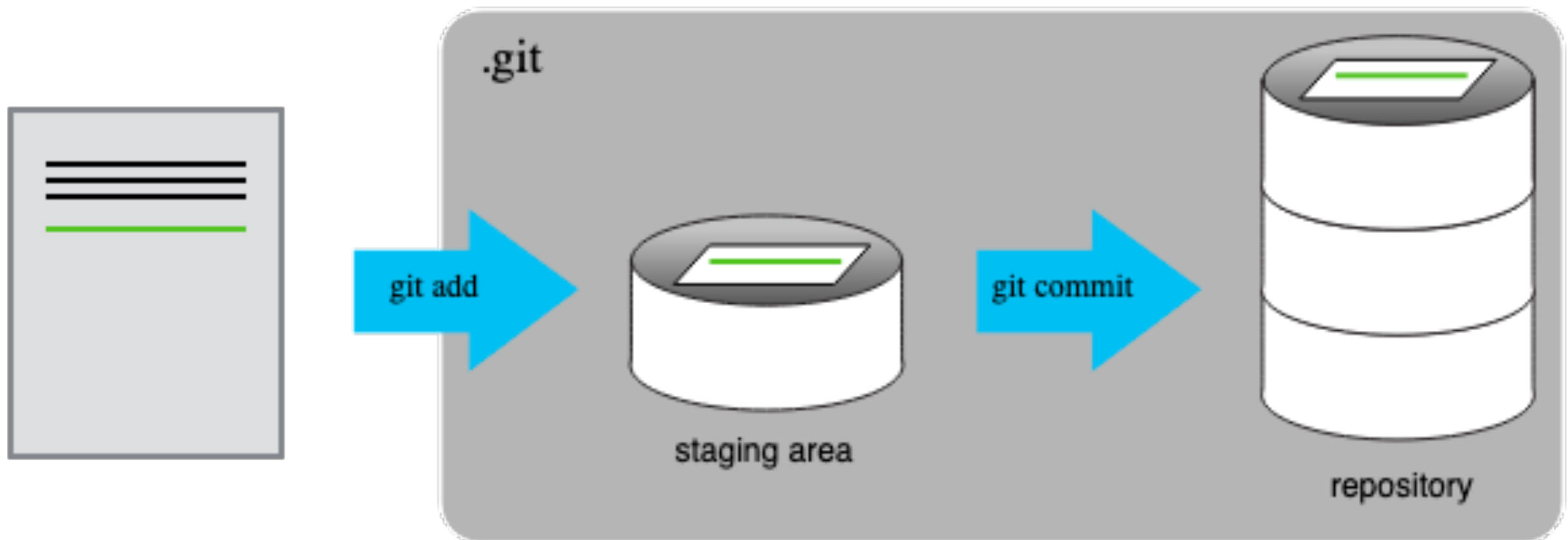
1. Setting up Git
2. Creating a Repository
3. Adding files & Tracking changes
4. Remote repositories & Collaborating

# Git basics


- Git commands are written as **git verb options**
  - **verb**: what we want to do
  - **options**: additional info that might be needed

< to bash terminal >




# Basic workflow





# Collaborating with others



[Pull requests](#) [Issues](#) [Marketplace](#) [Explore](#)





 Set status

**dvousden**

**Overview** Repositories 16 Projects 0 Packages 0 Stars 4 Followers 0 Following 0

Popular repositories

**Scinet-SS-bayesian-neuroimaging-R**  
Forked from Mouse-Imaging-Centre/Scinet-SS-bayesian-neuroimaging-R  
  
Slides for the Scinet Summer School session on bayesian analysis of neuroimaging data with R and Stan  
  
 HTML

**allenCCF**  
Forked from cortex-lab/allenCCF  
  
Tools to work with Allen Inst CCF data in matlab  
  
 MATLAB

**Calman**  
Forked from flatironinstitute/Calman

**numpy-matlab**  
Forked from kwikteam/npy-matlab

[Customize your pins](#)

# More you can do

- Revert changes
- Merge edits from 2+ users
- Create your own branch of a repository (e.g. a dev branch and a master branch)
- Resolve merge conflicts
- Tell git to ignore certain files
- Integrate with Rstudio

# Learn more!



<https://swcarpentry.github.io/git-novice/>



<https://www.atlassian.com/git/tutorials/learn-git-with-bitbucket-cloud>



[\*\*https://www.codecademy.com/learn/learn-git\*\*](https://www.codecademy.com/learn/learn-git)

[\*\*https://thenewstack.io/tutorial-git-for-absolutely-everyone/\*\*](https://thenewstack.io/tutorial-git-for-absolutely-everyone/)