



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

# History

- 1991-2002: Linux + .zip files
- 2002: Linux + BitKeeper
- 2005: BitKeeper bombed
- Linux community + Linus Torvalds + lessons learned

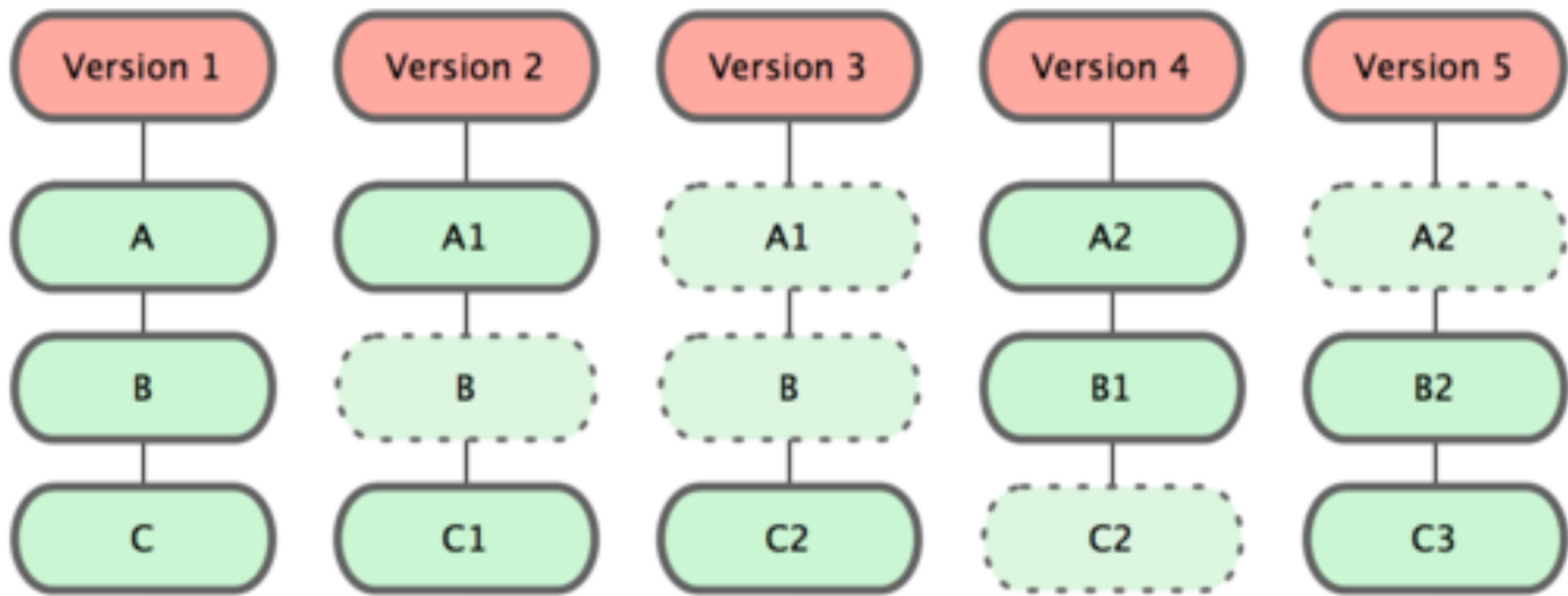
# Goals

- Speed
- Simple design
- Strong support for non-linear development  
(thousands of parallel branches)
- Fully distributed
- Able to handle large projects like the Linux kernel efficiently (speed and data size)

# Basics

- Git thinks of data as a set of snapshots
- Commit = Taking a picture
- Only takes a picture once (Saves space)

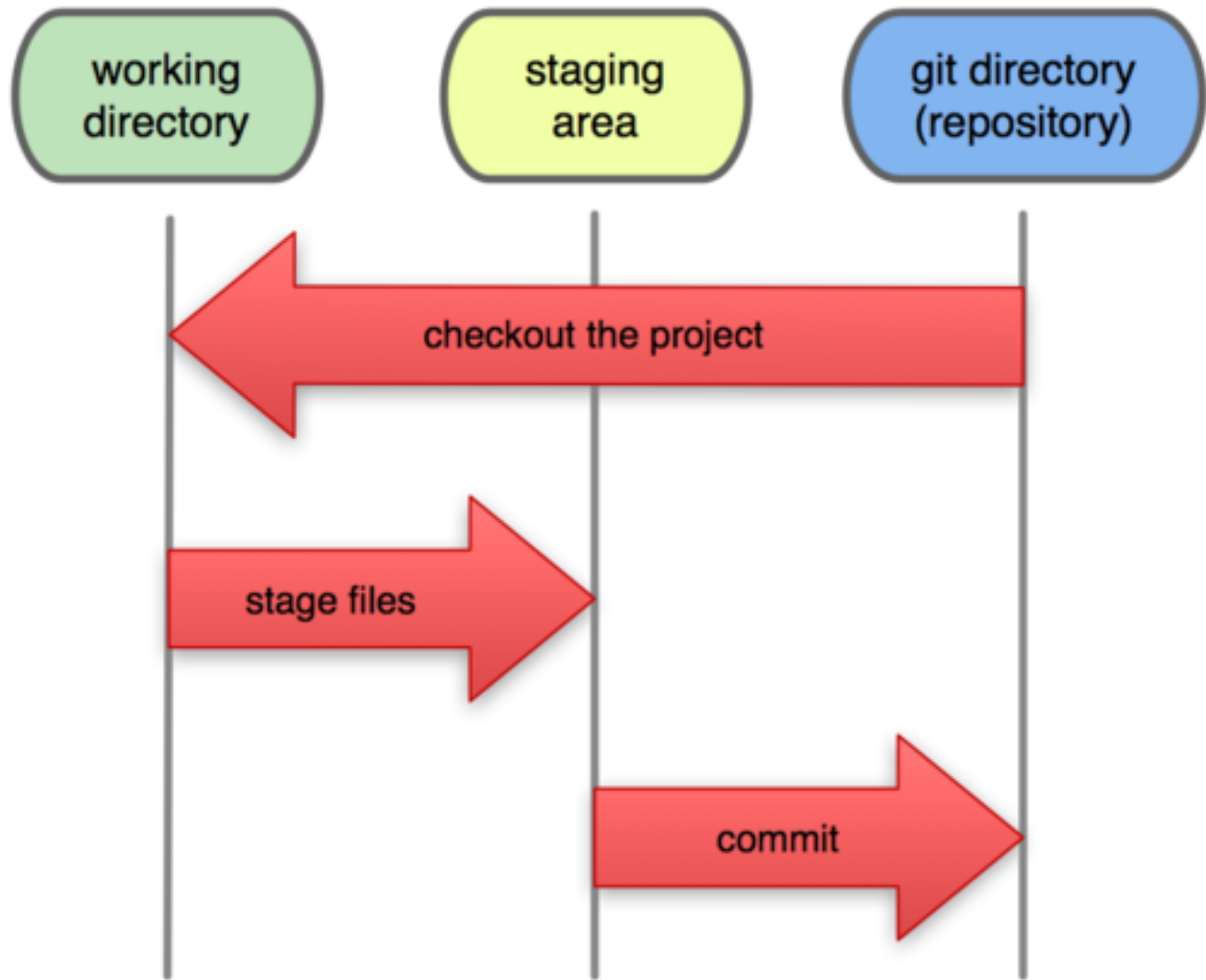
Checks over time



# Workflow

- Three main states
- Modified
  - You have changed the file but have not yet submitted them to git
- Staged
  - You have marked a modified file in its current version to go into your next commit snapshot
- Committed
  - The data is safely stored in your local database

# Local Operations



# Commands

- git init
- vim stuff
- git add
  - git add .
  - git add -p
  - git add myfile
  - etc...
- git status
- git commit
  - git commit -m "Insert message here"

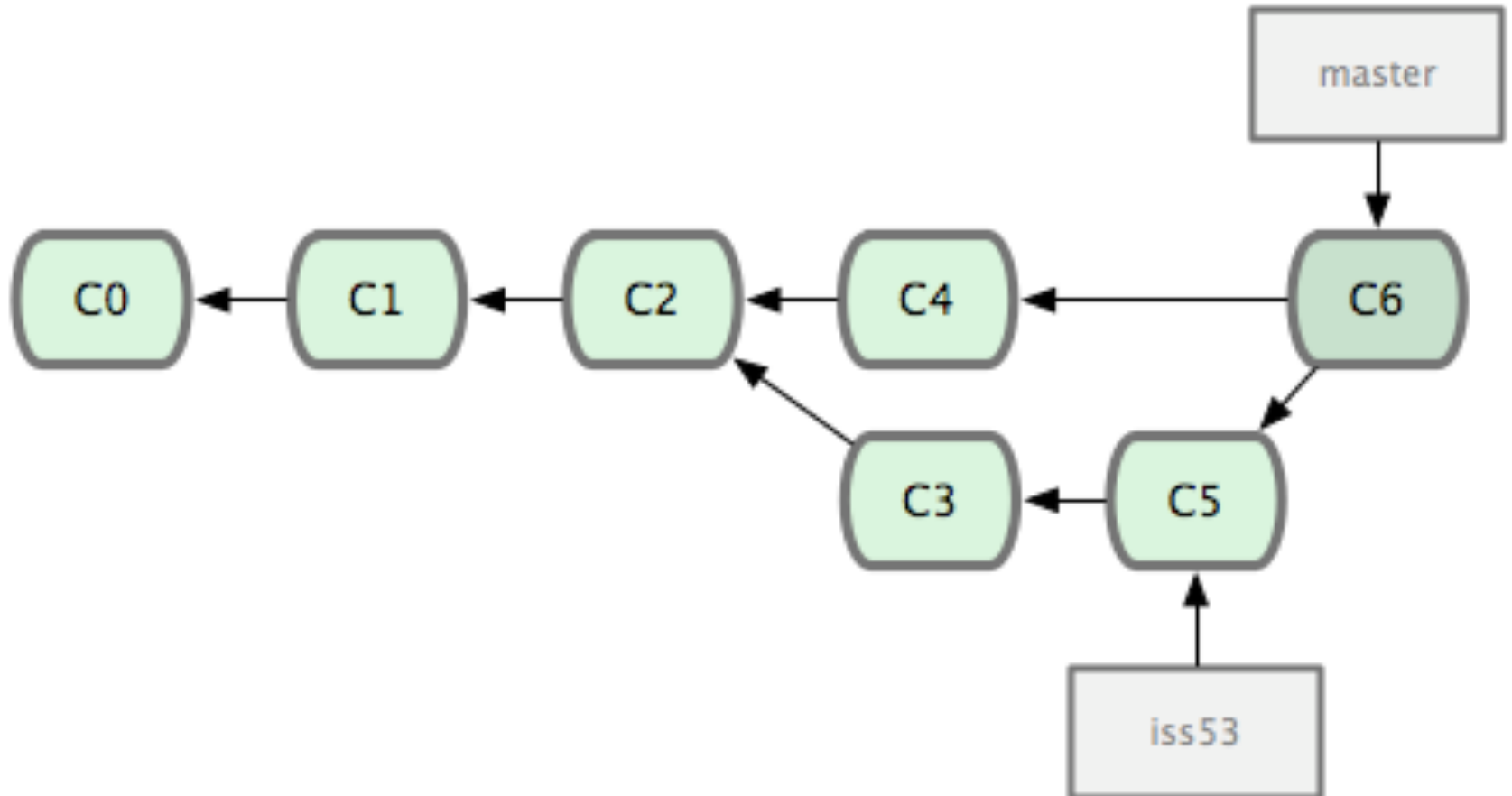
\*For a full list of commands look up some cool cheat sheets.



# Branching and Merging

- Drastic changes, quick fixes
- Branch creates temporary work environment
- Merge easily combines changes with original
  - Conflicts can be tricky, sometimes

# Branching and Merging



# Commands

- `git checkout -b mybranch`
- `vim stuff`
- `git add .`
- `git commit -m "Change complicated things"`
- `git checkout master`
- `git merge mybranch`

# Remote Git

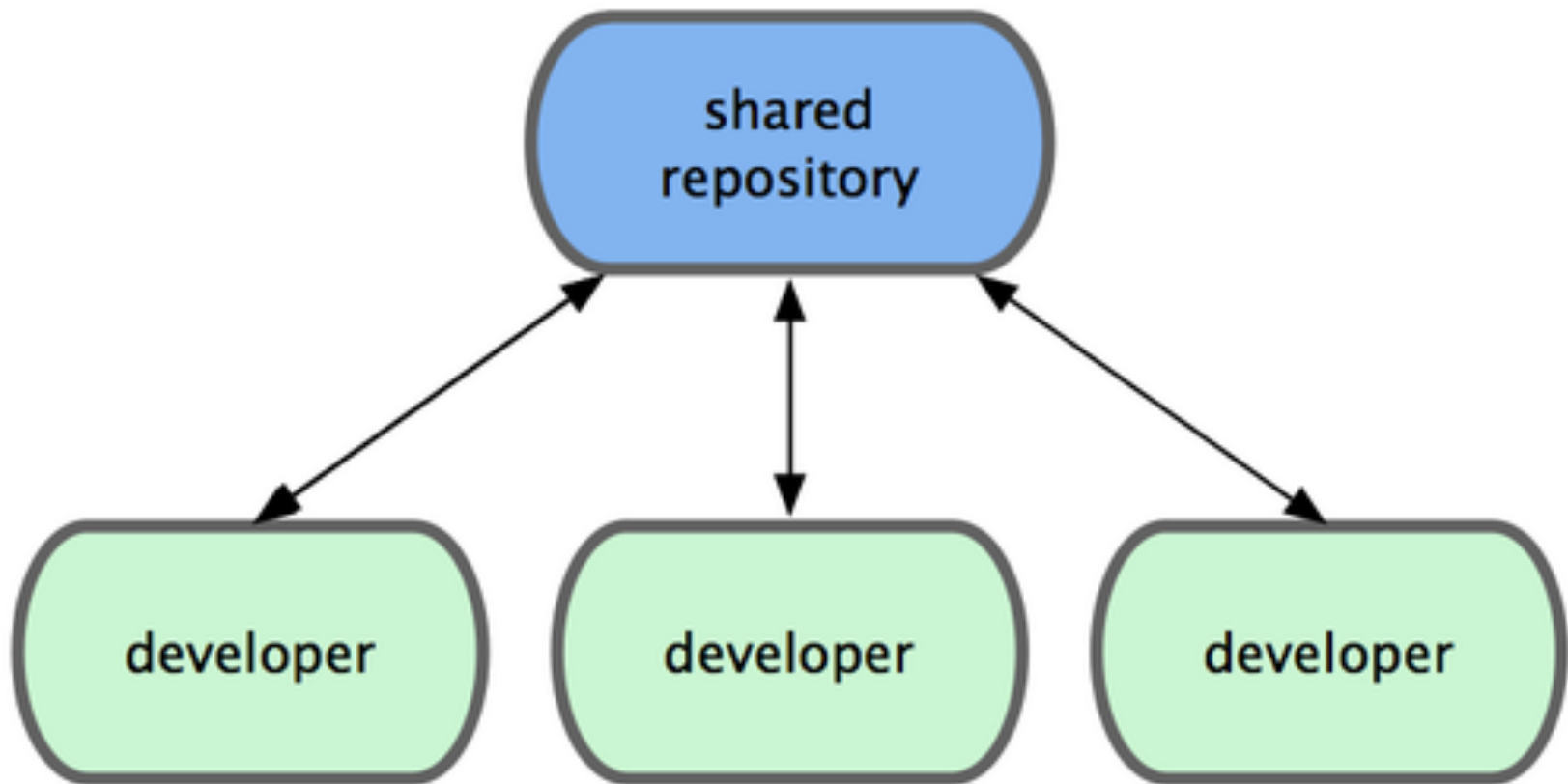


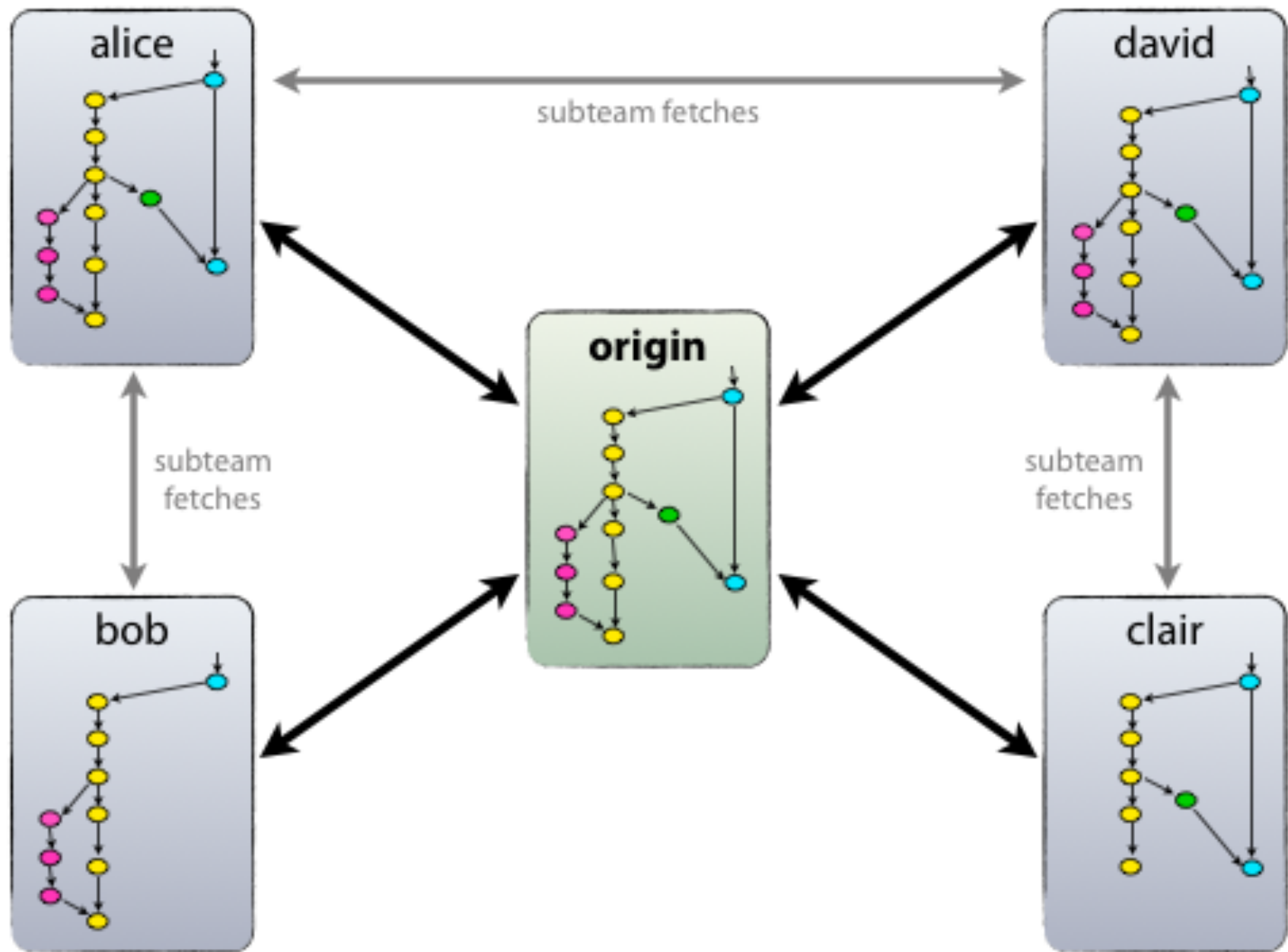
**github**  
SOCIAL CODING

[github.com](https://github.com)

# Distributed Workflow

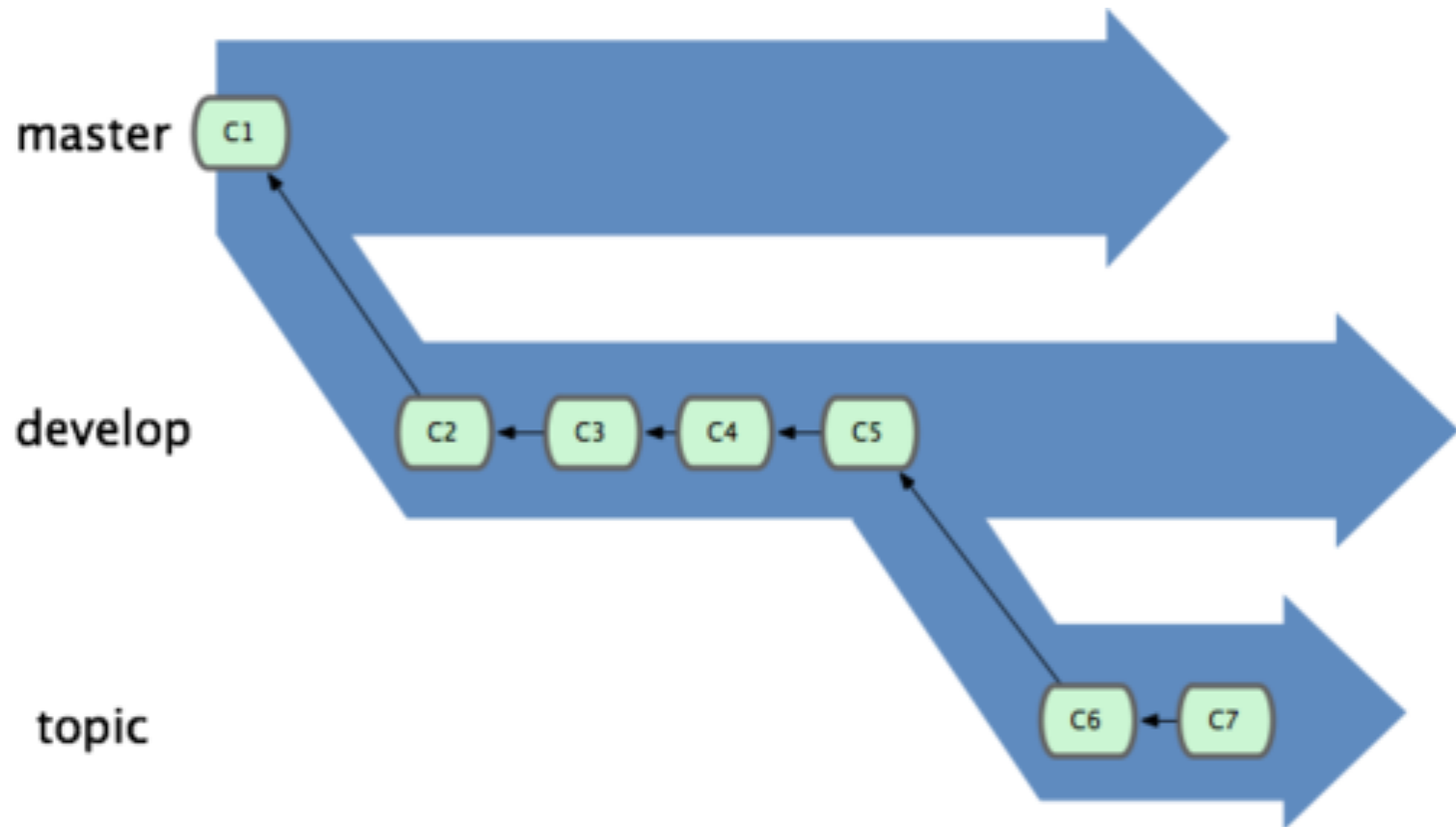
- Many developers, one shared repository

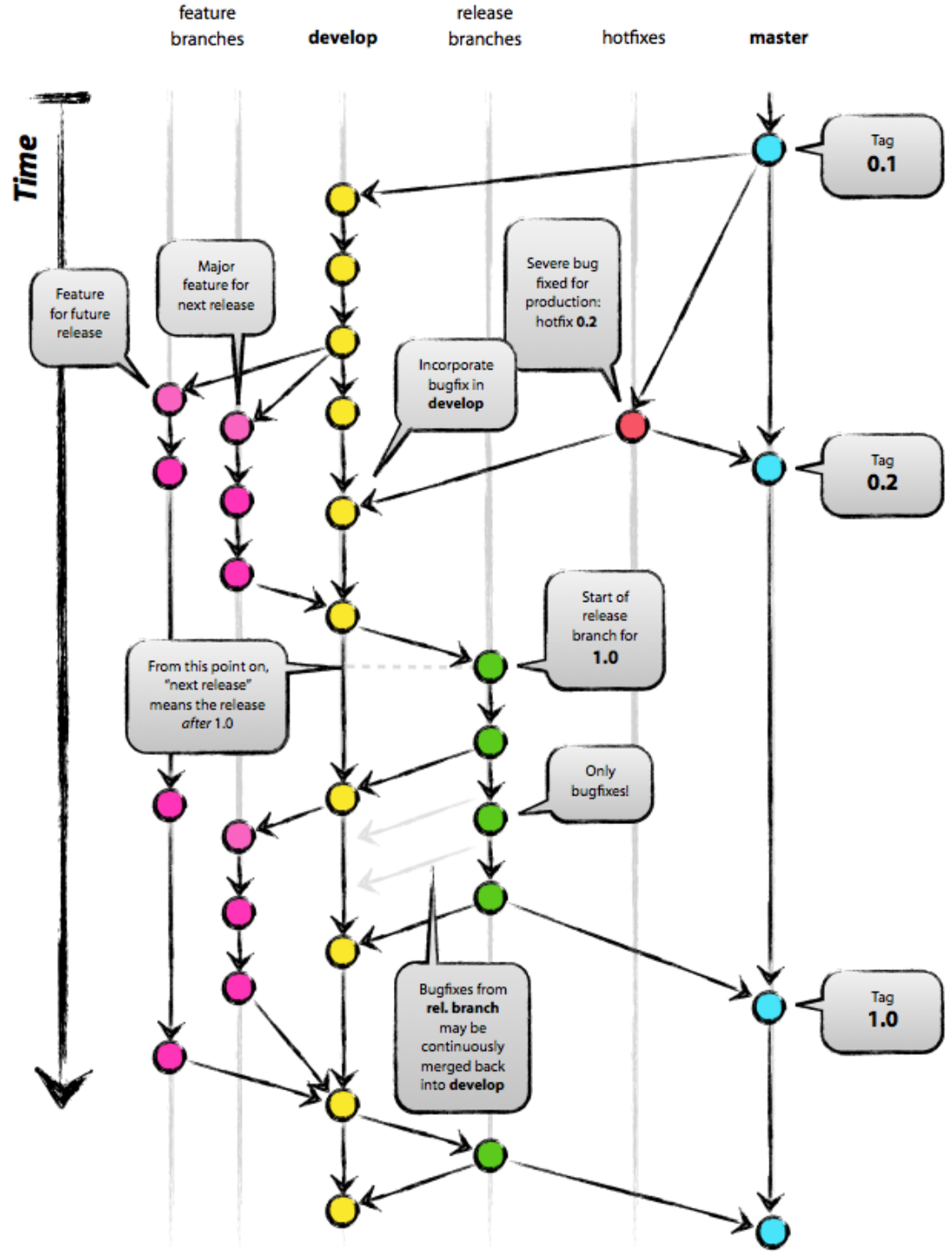




# Distributed Workflow

- Multiple branches







# Commands

- git pull
- git checkout -b mybranch
- vim stuff
- git add .
- git commit
- git checkout <develop>
- git pull
- git merge mybranch
- get latest changes
- create branch
- make changes
- stage changes
- commit changes
- switch back
- get latest changes
- merge your changes