MAKING GIT WORK FOR YOU

Keith Miyake
The CUNY Digital Fellows
November 19, 2013

INSTALL THE GITHUB CLIENT

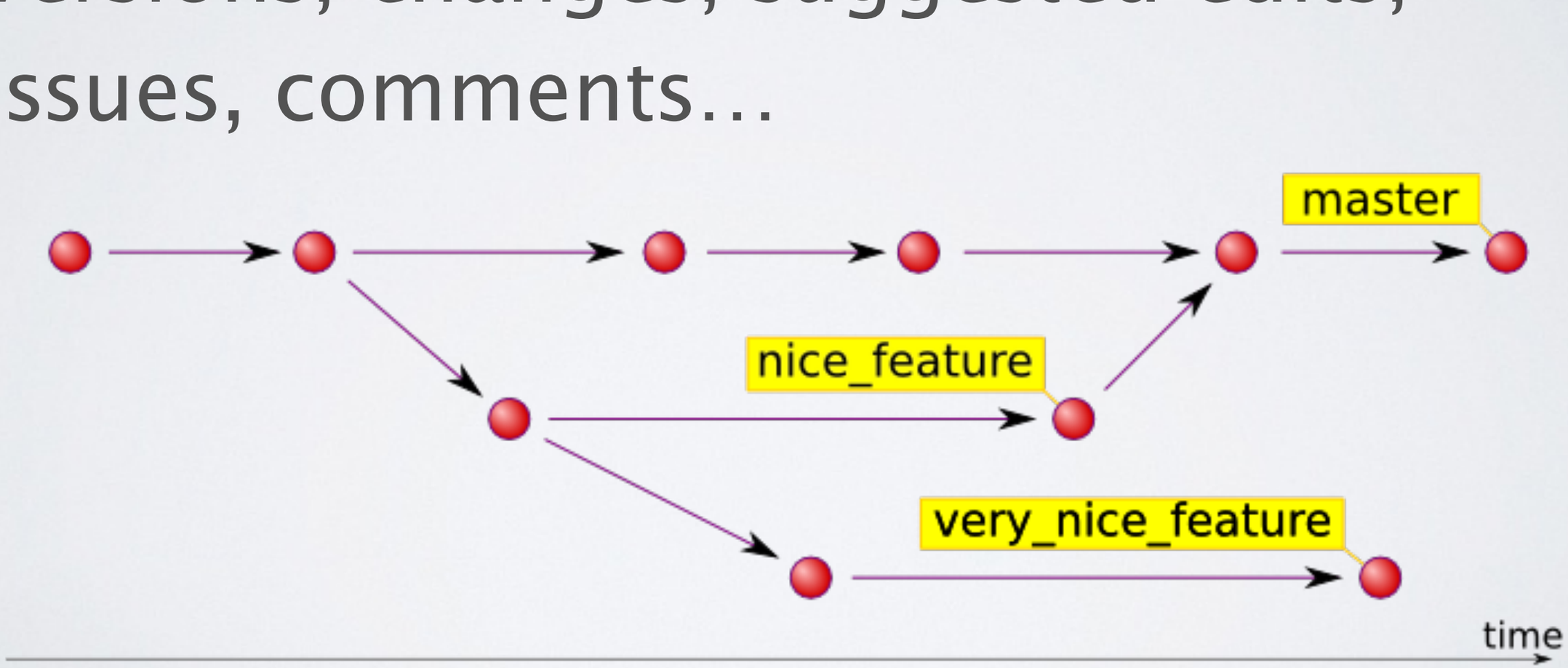
https://windows.github.com/

WHY GIT/GITHUB?

- GitHub: social network for information and tool for collaboratively creating content/knowledge
  - Code
  - Legislation
  - Journal Articles
  - Job Applications
  - Websites
  - Flyers
  - Datasets (!!!!)
  - Images (play spot the difference!!!)

WHY GIT/GITHUB?

- It allows you to keep track of file versions, changes, suggested edits, issues, comments…



WHY GIT/GITHUB?

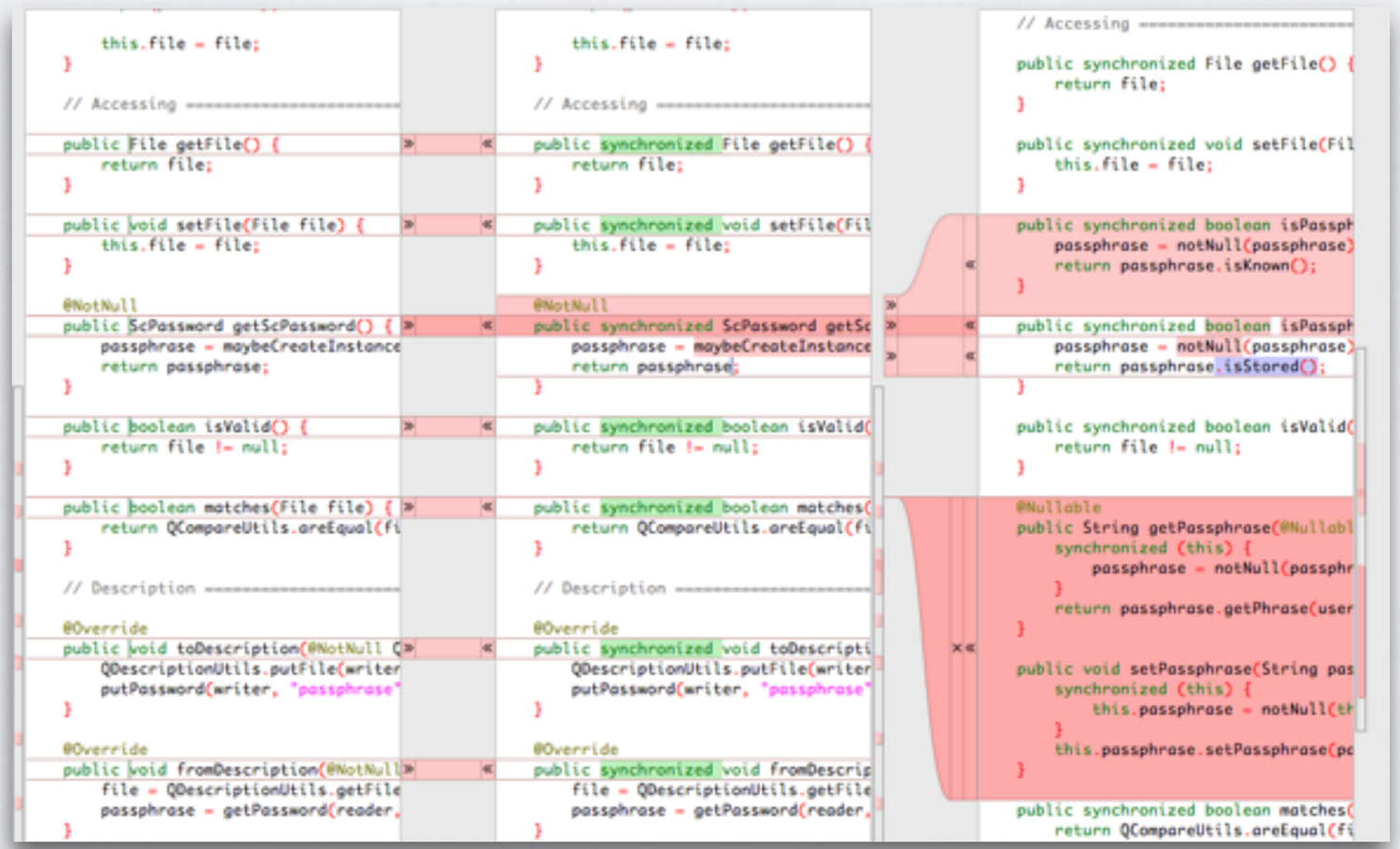
- Built around an Open Source ideology
- Make information freely accessible
- Build off someone else's ideas
- Contribute to others' ideas
- Have others contribute to your ideas

WHY GIT/GITHUB?

- Simultaneous edits by different users won't destroy each other.
- Pick and choose which edits stay, which get ignored.
- Undo one set of edits from last week without losing all the other subsequent changes

WHY GIT/GITHUB?

- Emily copy edits while I insert references. Later we can merge our changes!



git vs. GitHub

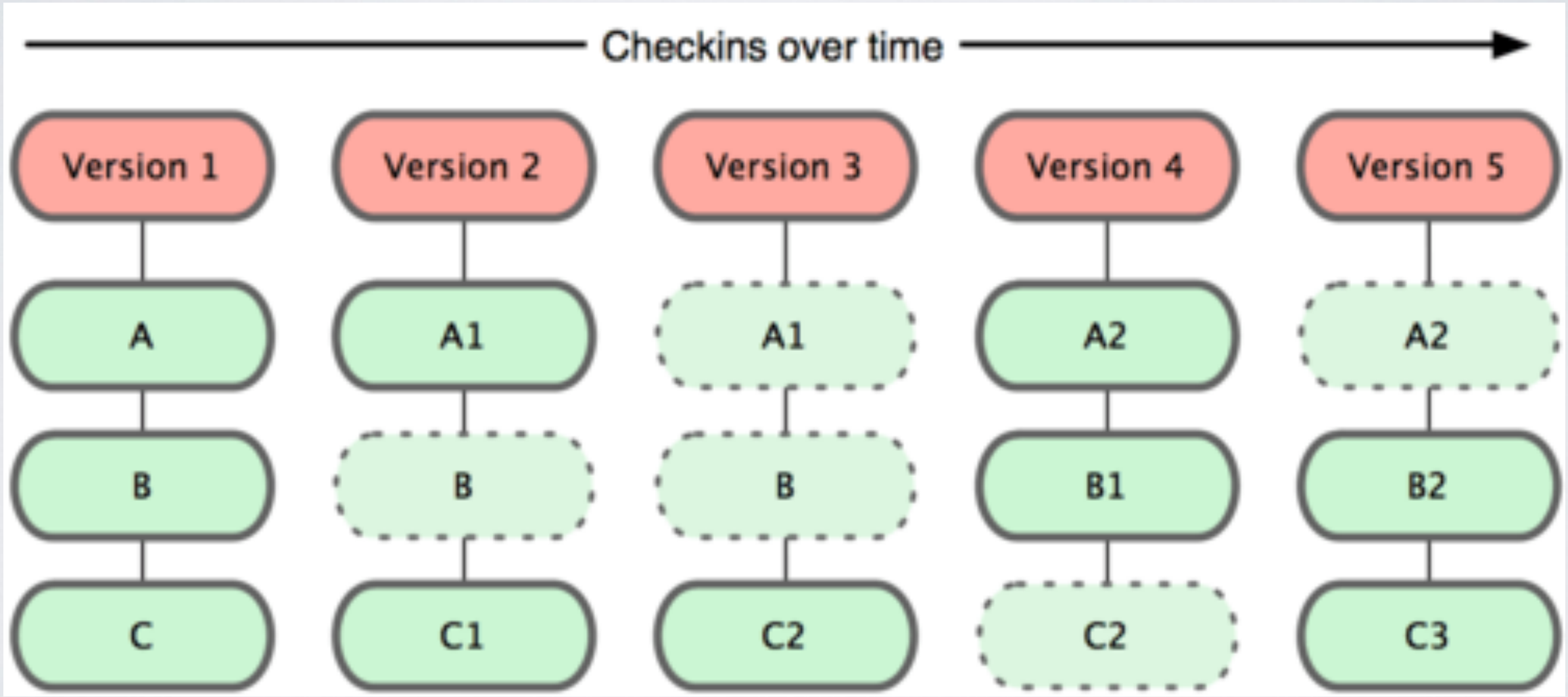
- System for managing code repositories
- Lives on your local computer
- Locally used by the individual
- Command-line based

- Web service to host your Git repositories
- Lives in the “cloud”
- For individuals and groups
- Simplifies sharing and modifying repos
- Web-based plus GUIs or command-line

WHAT IS A REPOSITORY?

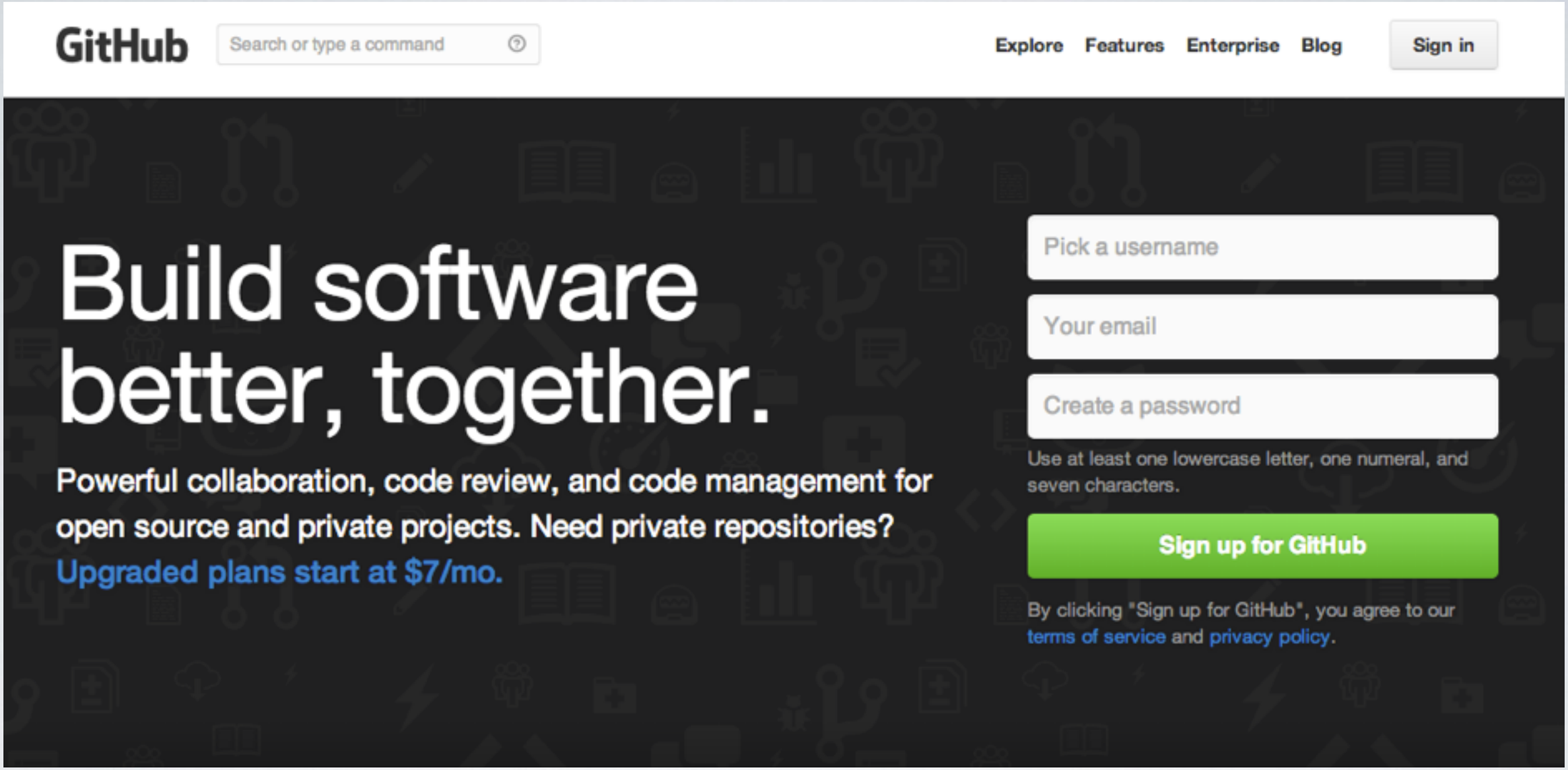
- A set of files and directories.
- Historical record of changes made to the files and directories.
- A set of “commit” objects.
- A set of references to each commit object, called “heads”.

WHAT IS A REPOSITORY?



LET'S GET STARTED!

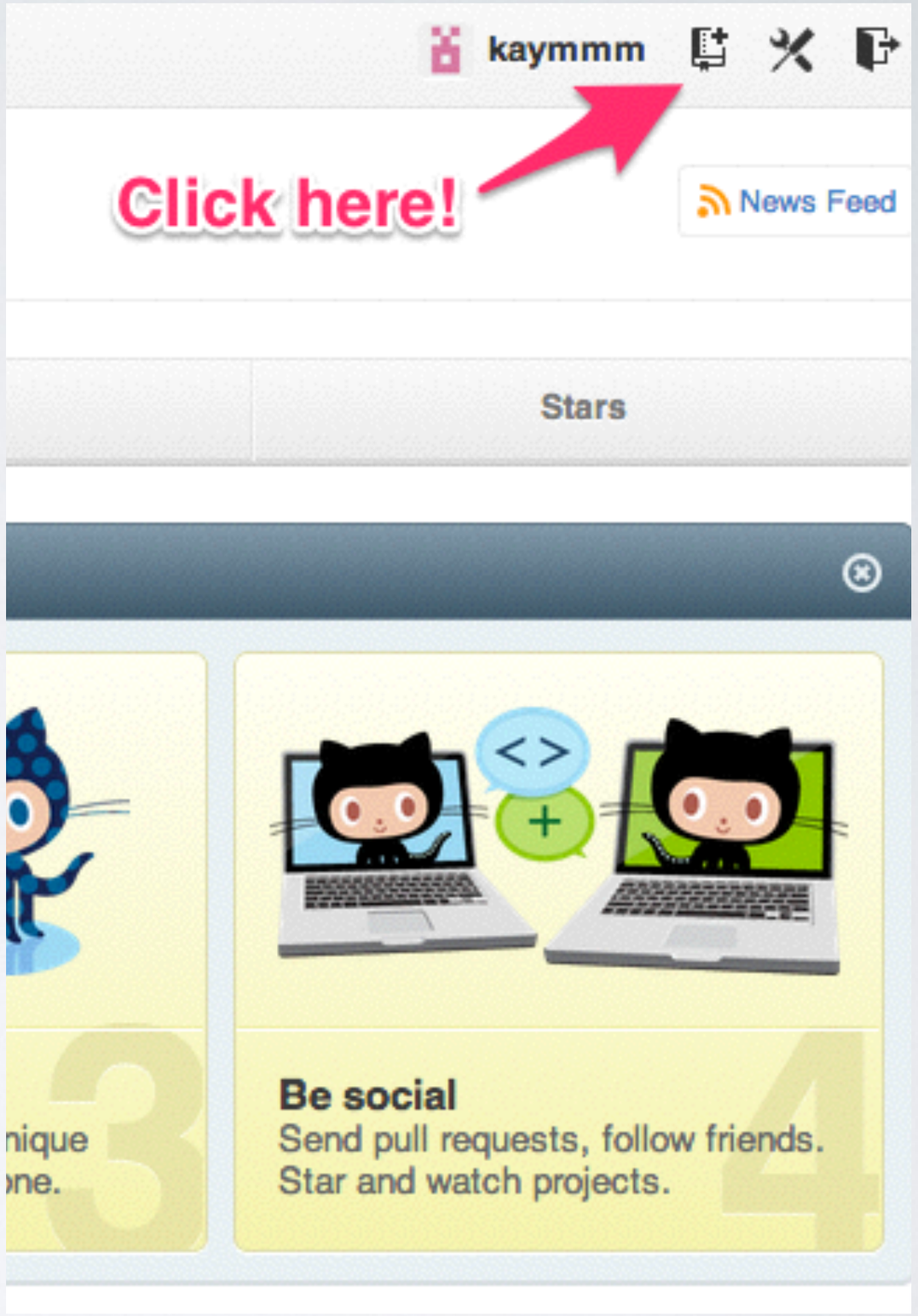
- Create a GitHub account
- Create a new repository
- Make your first commit
- Fork an existing repository



CREATE A GITHUB ACCOUNT

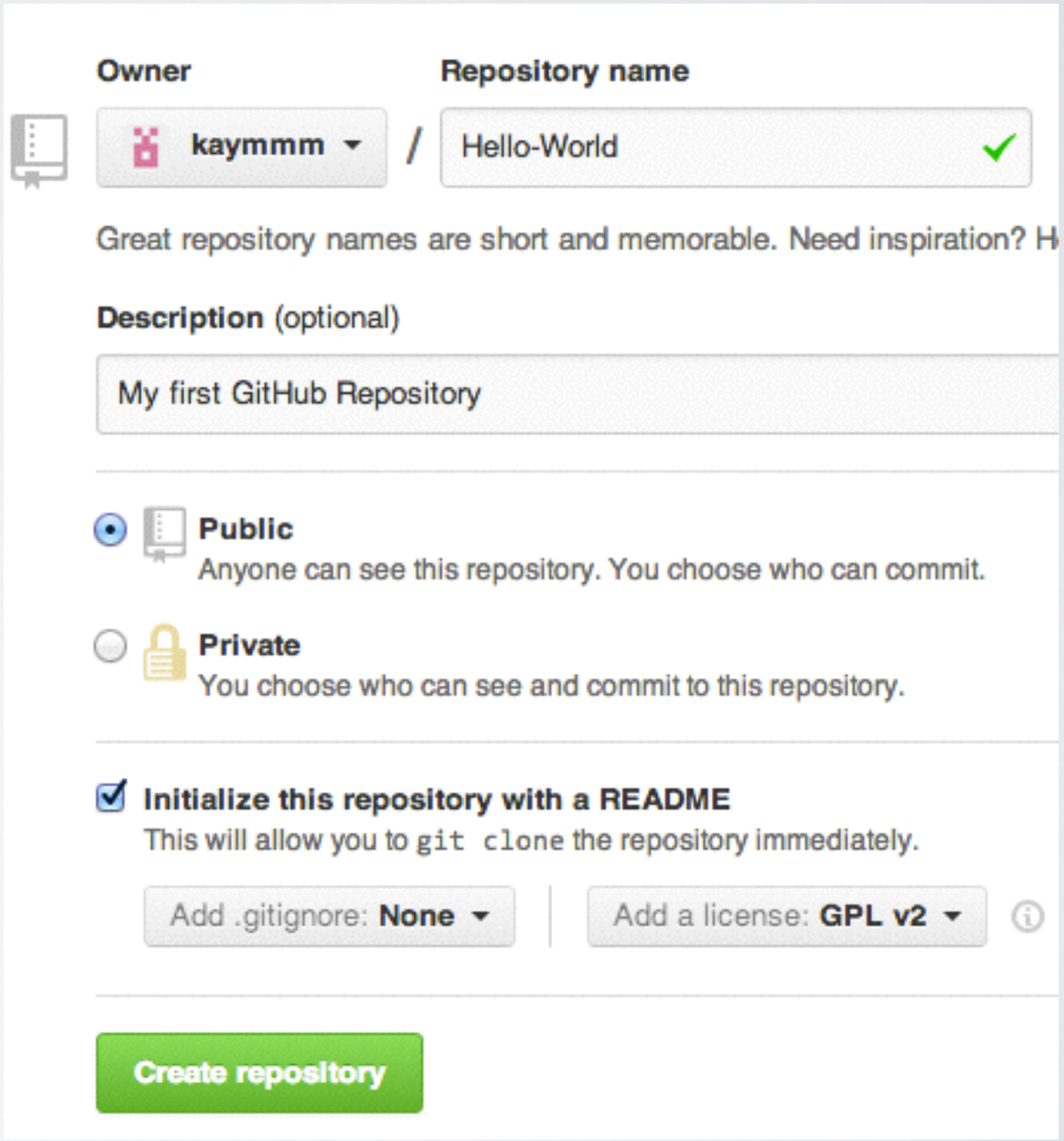
https://github.com/

CREATE A NEW REPO(SITORY)



CREATE A NEW REPO

- Give it a name
- Add a description
- Keep it public for now
- Initialize it with a "README" file
- Add a license!
(I like the GPLv2)



MAKE YOUR FIRST COMMIT

1 commit 1 branch

branch: master Hello-World /

Initial commit

kaymmm authored 2 minutes ago

LICENSE Initial commit

README.md Initial commit

README.md

branch: master Hello-World / README.md

kaymmm 4 minutes ago Initial commit

1 contributor

file | 5 lines (3 sloc) | 0.052 kb Open Edit Raw Blame History Delete

Hello-World

My first GitHub Repository

Hello-World / README.md or cancel

Code Preview

```
1  Hello-World
2  ===========
3
4  My first GitHub Repository
5
6  ## Look at the cool things we can do!
7  * Track changes
8  * Merge different versions
9  * Fork someone's existing project
10
11 # Glossary
12 (taken from [http://r  write.com/2013/09/30/understandi
```

```
you can change it.
24
25 Branch
```

Commit summary:

Update README.md to add List of Features, Glossary, and Git Commands

Extended description: (optional)

Initial entries in the glossary and commands from readwrite.com

kaymmm
kmiyake@gc.cuny.edu

Cancel Commit Changes

file | 57 lines (35 sloc) | 5.182 kb

Open | Edit | Raw | Blame | History | Delete

Hello-World

My first GitHub Repository

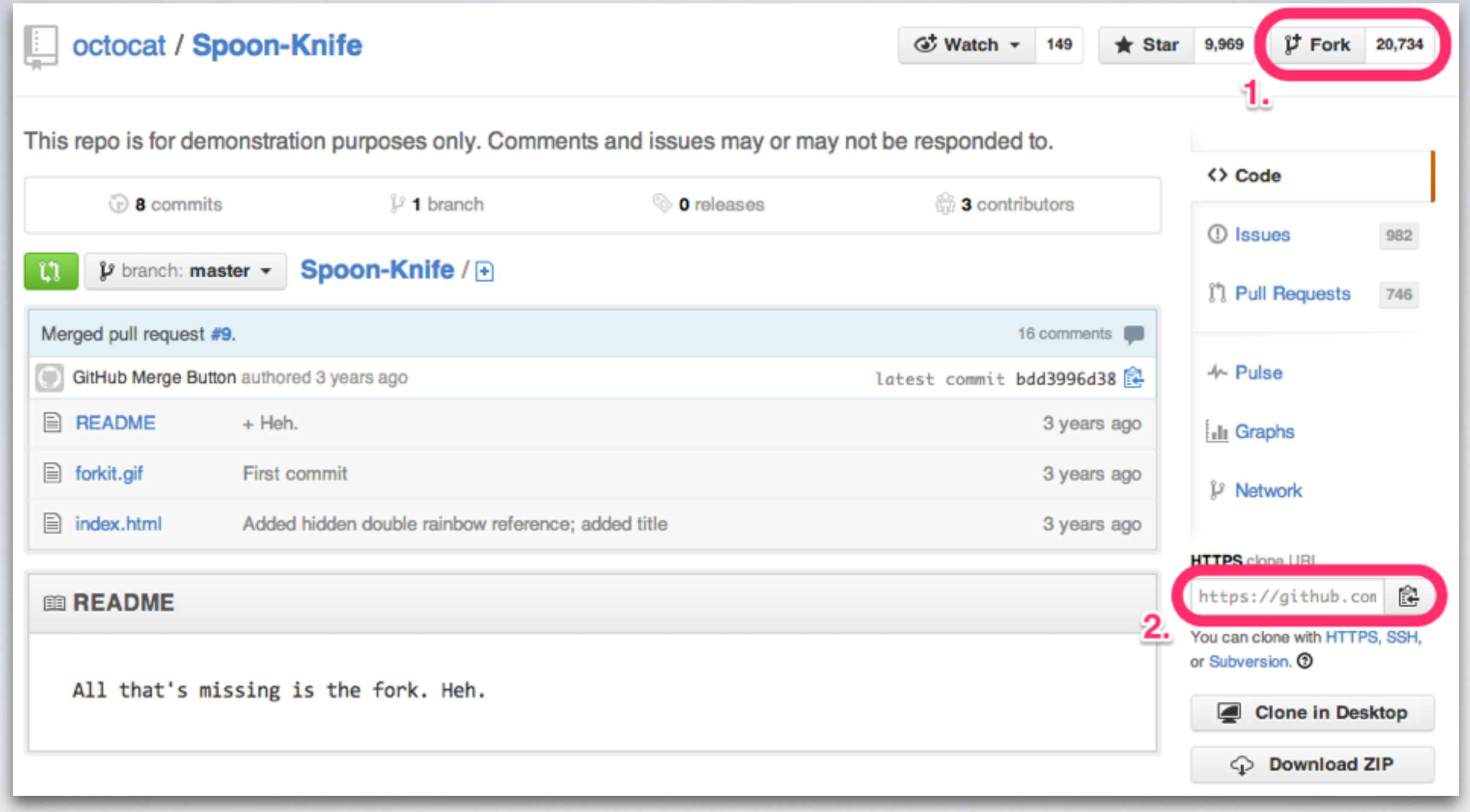
Look at the cool things we can do!

- Track changes
- Merge different versions
- Fork someone's existing project

Glossary

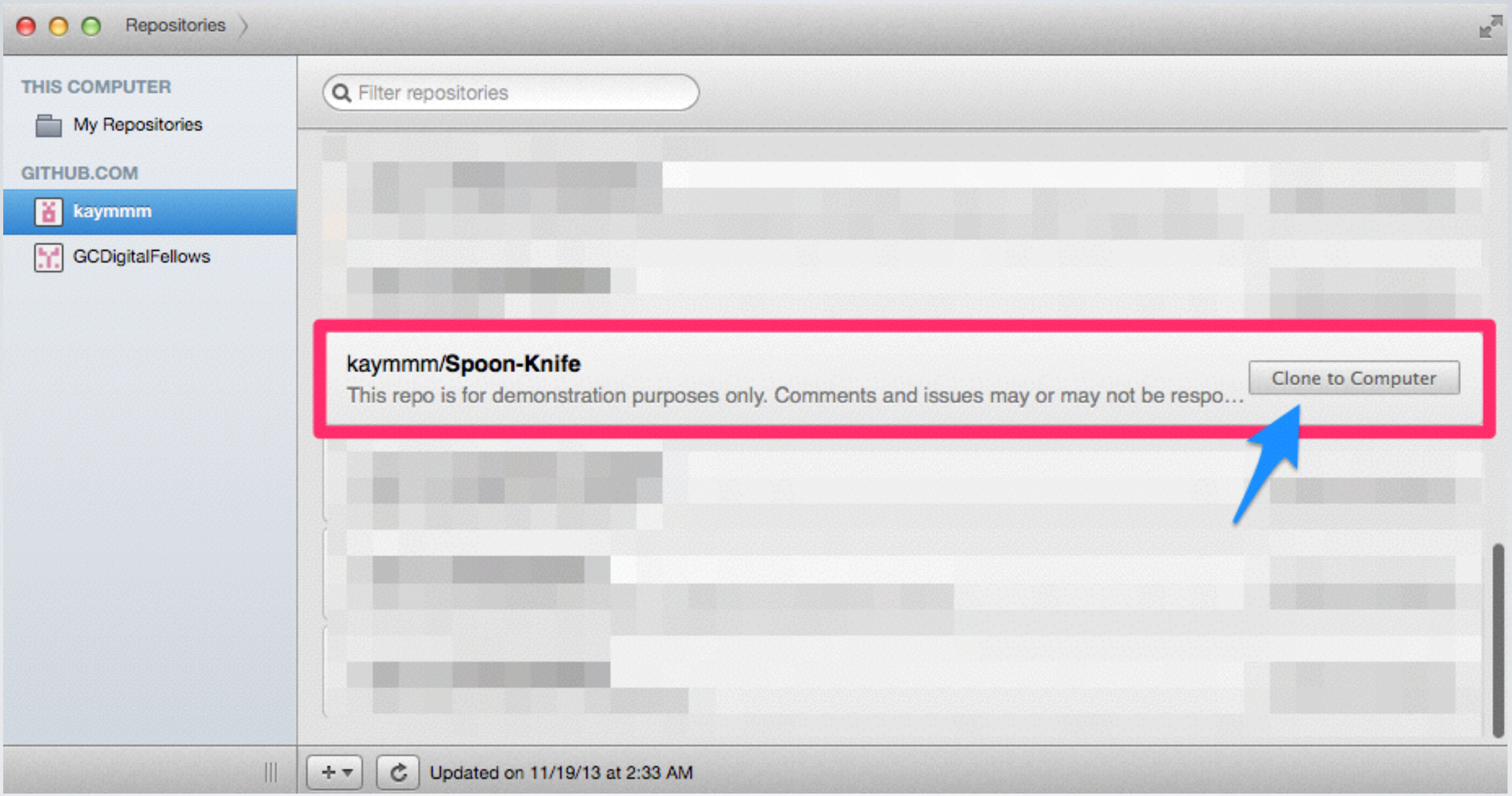
(taken from readwrite.com and knight lab) Repository : A directory or storage space where your projects can live. Sometimes GitHub users shorten this to “repo.” It can be local to a folder on your computer, or it can be a storage space on GitHub or another

TA–DA!

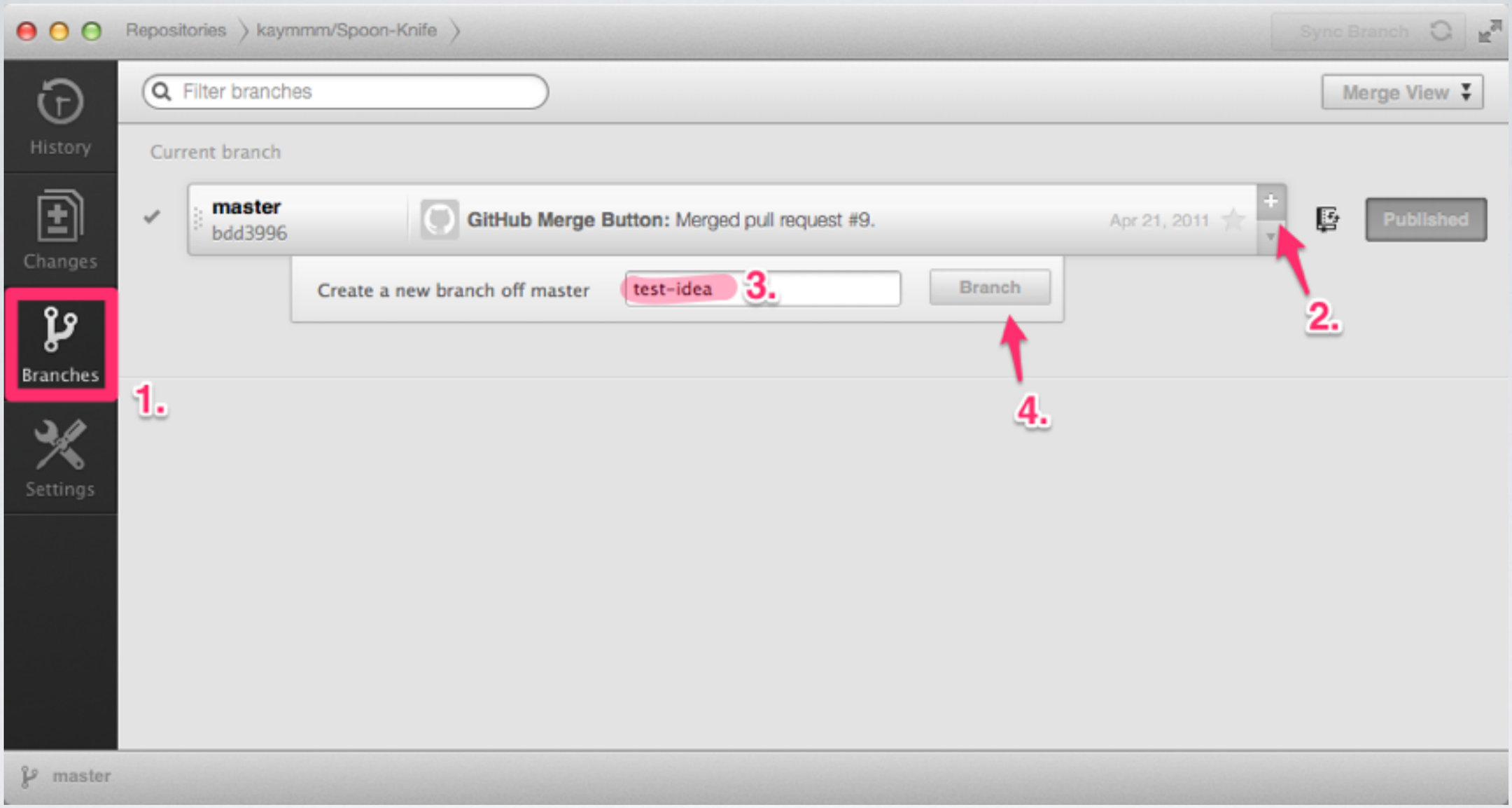


FORK AN EXISTING REPO

https://github.com/octocat/Spoon-Knife



CLONE YOUR FORKED REPO



CREATE A NEW BRANCH

this way your master branch remains clean until you know your branched changes work!

MAKE SOME EDITS

- View index.html in a browser.
- Type the “Konami Code”…
  - up, up, down, down, left, right, left, right, B, A
- Try to get rid of the popup (try escape, etc.)

MAKE SOME EDITS

- Open index.html in a text editor
- Below line 39 enter the following then save:

```
if (e.keyCode==27){
document.getElementByID("rainbow-message").style.display="none";
}
```

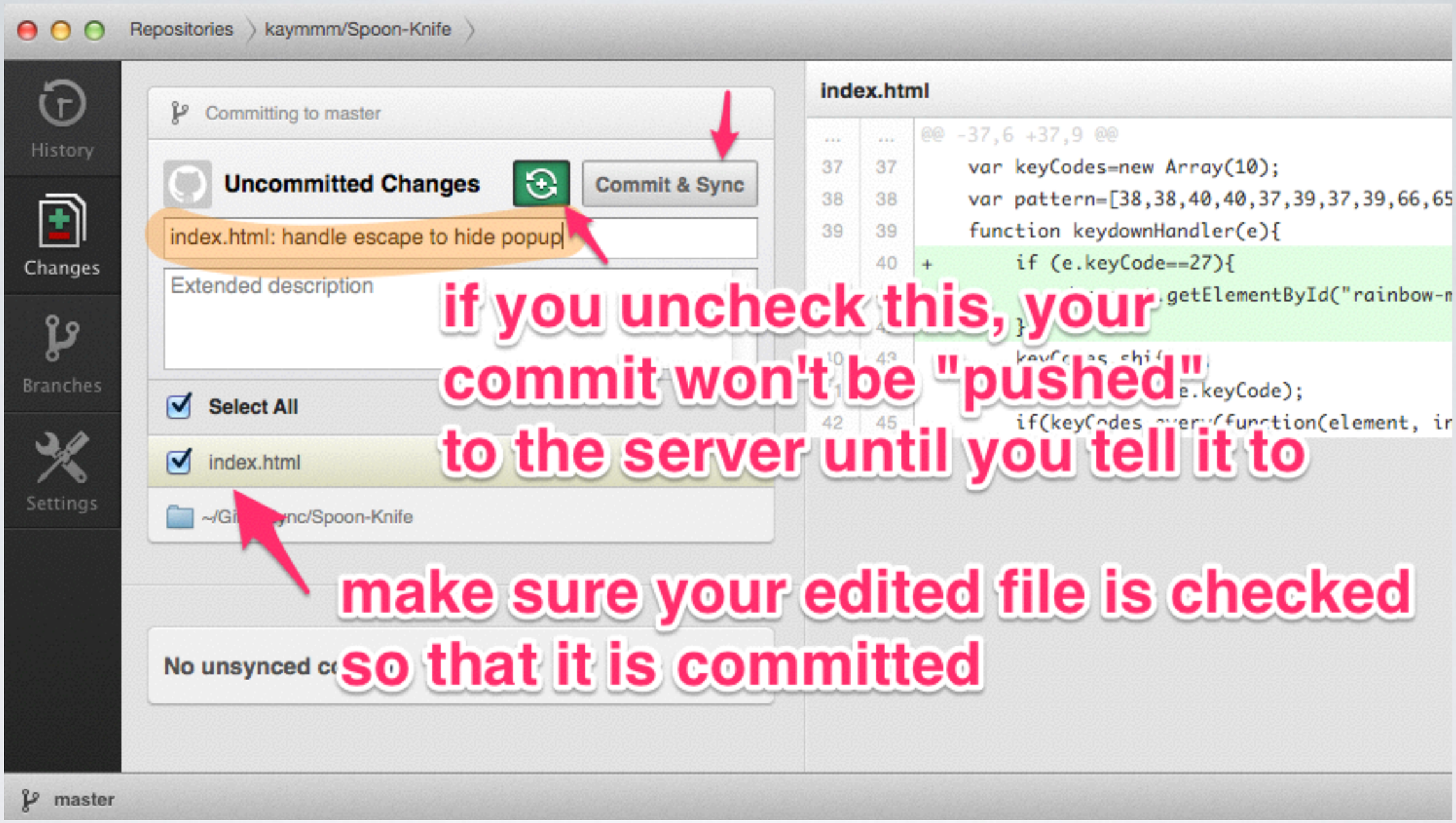
```
36    <script type="text/javascript">
37      var keyCodes=new Array(10);
38      var pattern=[38,38,40,40,37,39,37,39,66,65];
39      function keydownHandler(e){
40          if (e.keyCode==27){
41              document.getElementById("rainbow-message").style.display="none";
42          }
43          keyCodes.shift();
44          keyCodes.push(e.keyCode);
45          if(keyCodes.every(function(element, index, array){return element===pa
46              document.getElementById("rainbow-message").style.display="";
47          }
48      }
49      window.onkeydown=keydownHandler;
50    </script>
```

MAKE SOME EDITS

- Refresh the browser displaying index.html

- Type the Konami code again
    - up, up, down, down, left, right, left, right, B, A

- Now try to get rid of the popup again…!

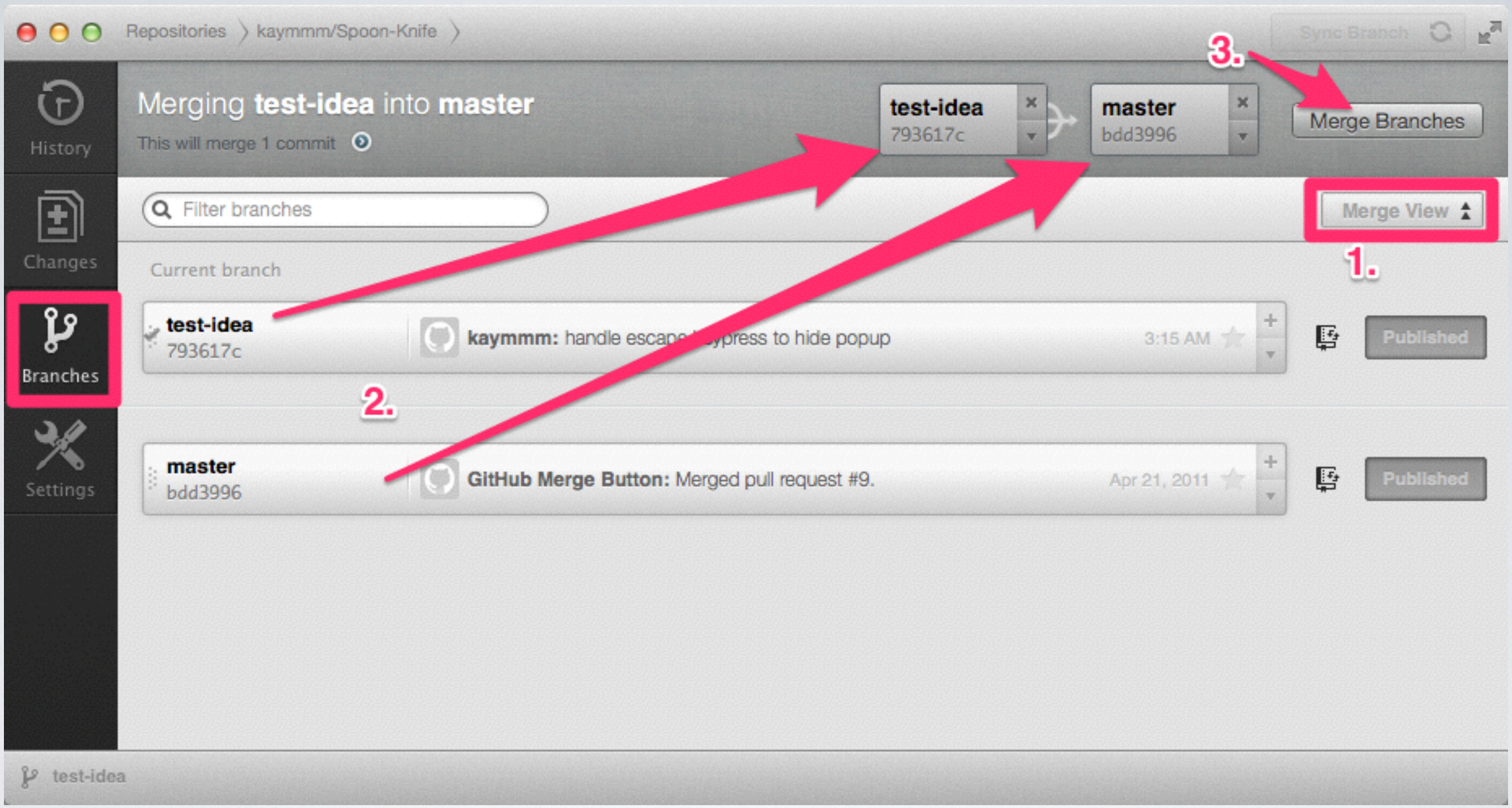


COMMIT YOUR CHANGES

(and push them to the GitHub server)

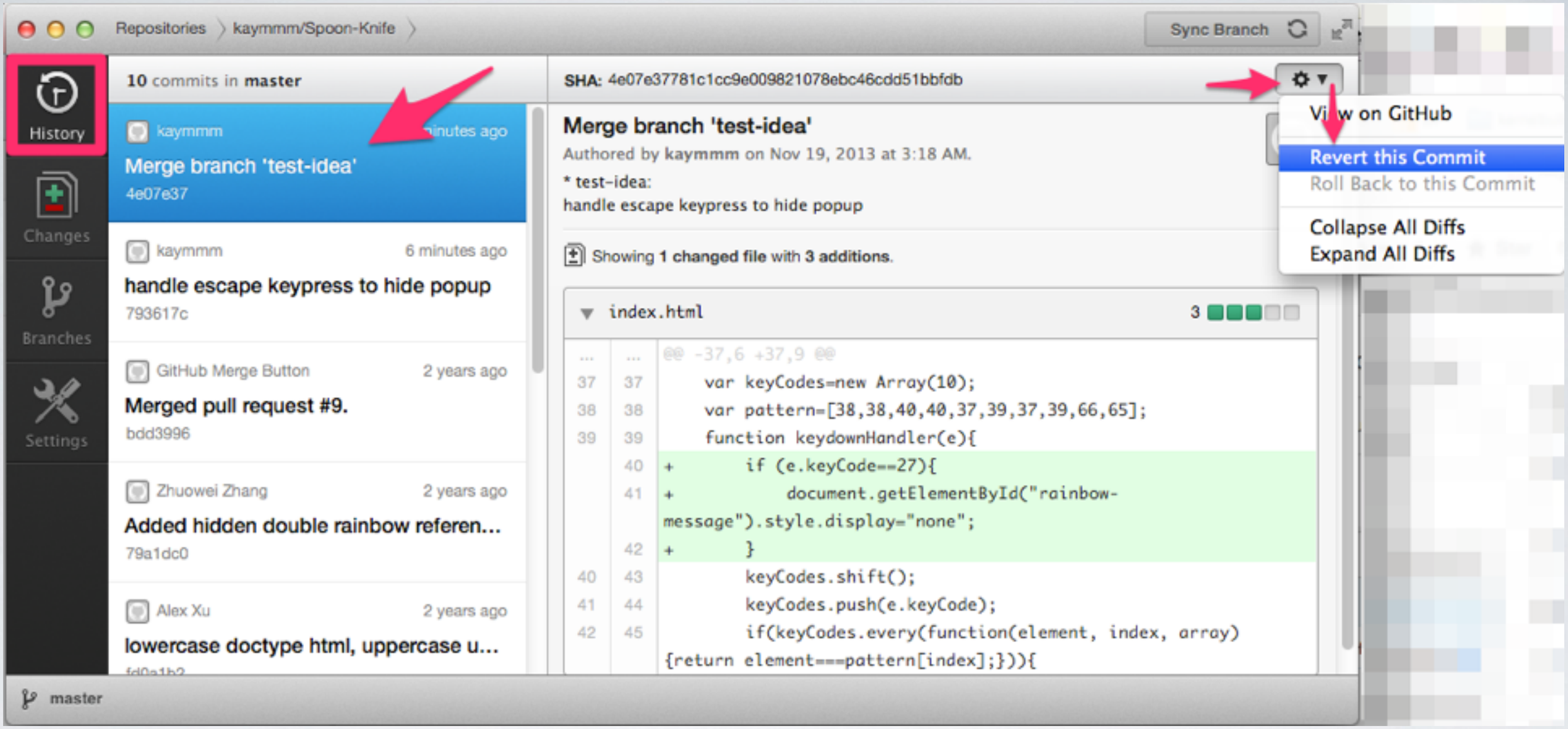
WHEN SHOULD I COMMIT?

- Frequently.
- If you can describe the change you made, then you should commit it.
- Group similar changes into the same commit
- If you undo one commit, you won't have to redo changes unrelated to whatever you don't want.



MERGE YOUR TEST BRANCH

(Don’t forget to sync afterwards)



REVERT A COMMIT

Just for fun.
It doesn't have to be the latest one…

WHAT'S NEXT?

- Add a remote repository (https://github.com/kaymmm/Hello-World)
- Pull/merge upstream
- Submit a pull request
- Create an issue ticket (enable in settings)

COOL GITHUB PROJECTS

- http://digital.cityofchicago.org/index.php/chicago-on-github/
- https://github.com/blog/1601-see-your-csvs
- https://github.com/blog/1528-there-s-a-map-for-that
- https://github.com/lorennorman/octocat-3d/tree/master/stl
- https://github.com/openhatch
- https://github.com/cityofnewyork