

# Git-it, Share it

Building servers and tools to teach the Gits!

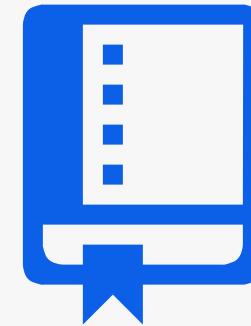


Jessica Lord, GitHub

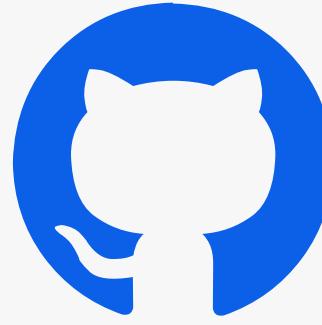
[github/jlord](https://github.com/jlord)



# Why Git-it



# Building Git-it



# Git-it and GitHub



# Why Git-it

Late 2013

# **Wanted: GitHub hosted hack night**

Leave with your first pull request,  
shiny green contribution squares

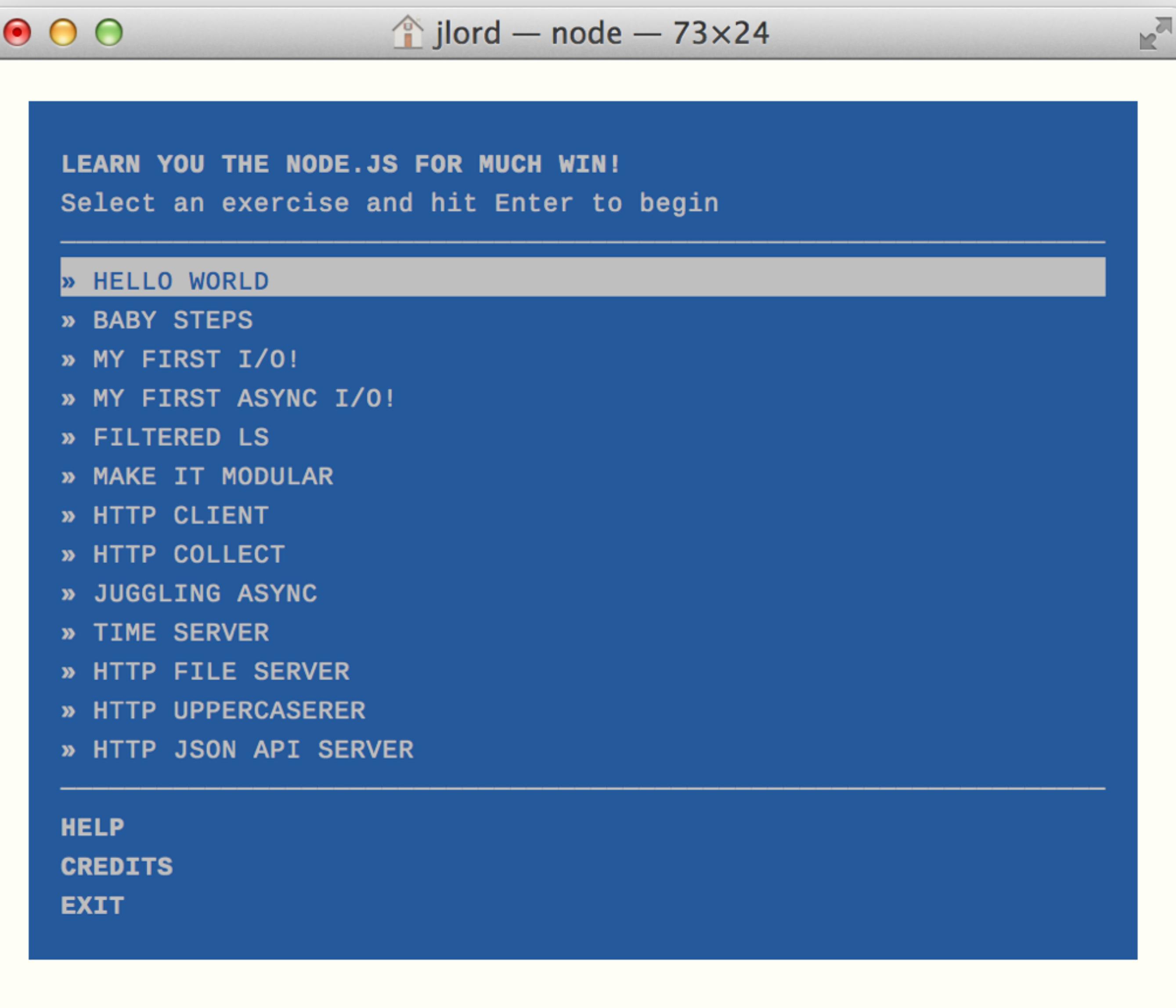
Summer 2013

# NodeConf 2013

@substack creates `stream-adventure` module

@rodvagg creates `workshopper` framework

# NodeSchool



# [www.nodeschool.io](http://www.nodeschool.io)

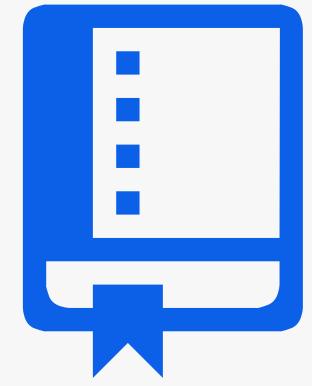
`stream-adventure` `learnyounode` `levelmeup`  
`byewiser` `functional javascript` ...



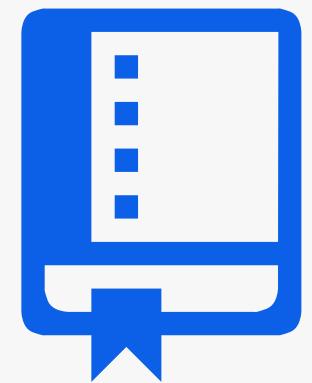
Alternative talk title:

# **jlord finds ways to write Node at GitHub**

(we do a lot of Ruby)



# Building Git-it



# Building Git-it

→ teaching Git

fork`workshopper`

GitHub API

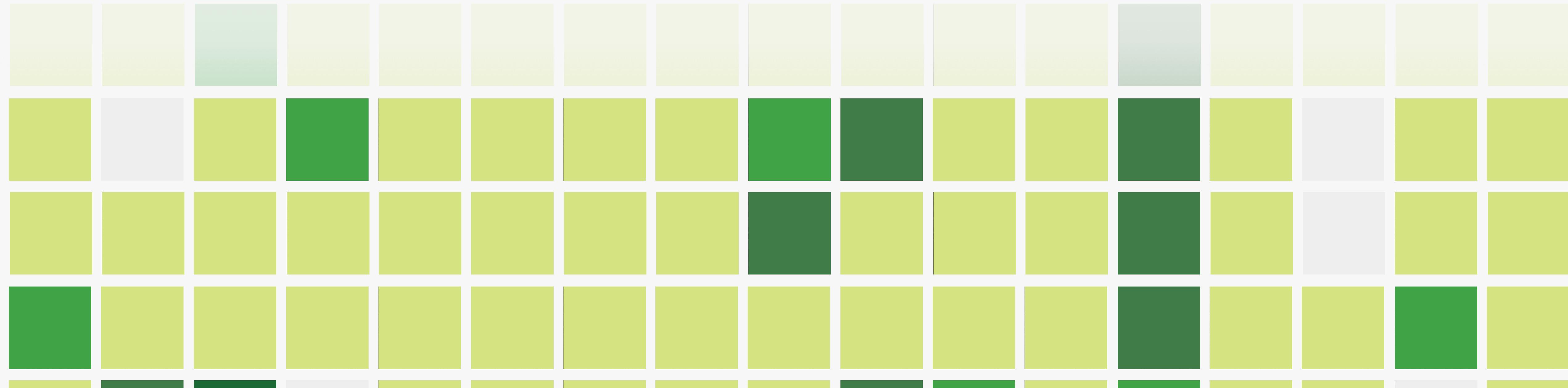
create fork-able repo

@reporobot

# Git Real

Real terminal. Real Git. Real GitHub.

And one non-real human, but real robot.

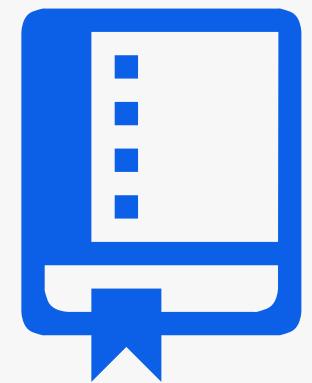




# GitHub

# Flow

- » GET GIT
- » REPOSITORY
- » COMMIT TO IT
- » GITHUBBIN
- » REMOTE CONTROL
- » FORKS AND CLONES
- » BRANCHES AREN'T JUST FOR BIRDS
- » IT'S A SMALL WORLD
- » PULL, NEVER OUT OF DATE
- » REQUESTING YOU PULL, PLEASE
- » MERGE TADA!



# Building Git-it

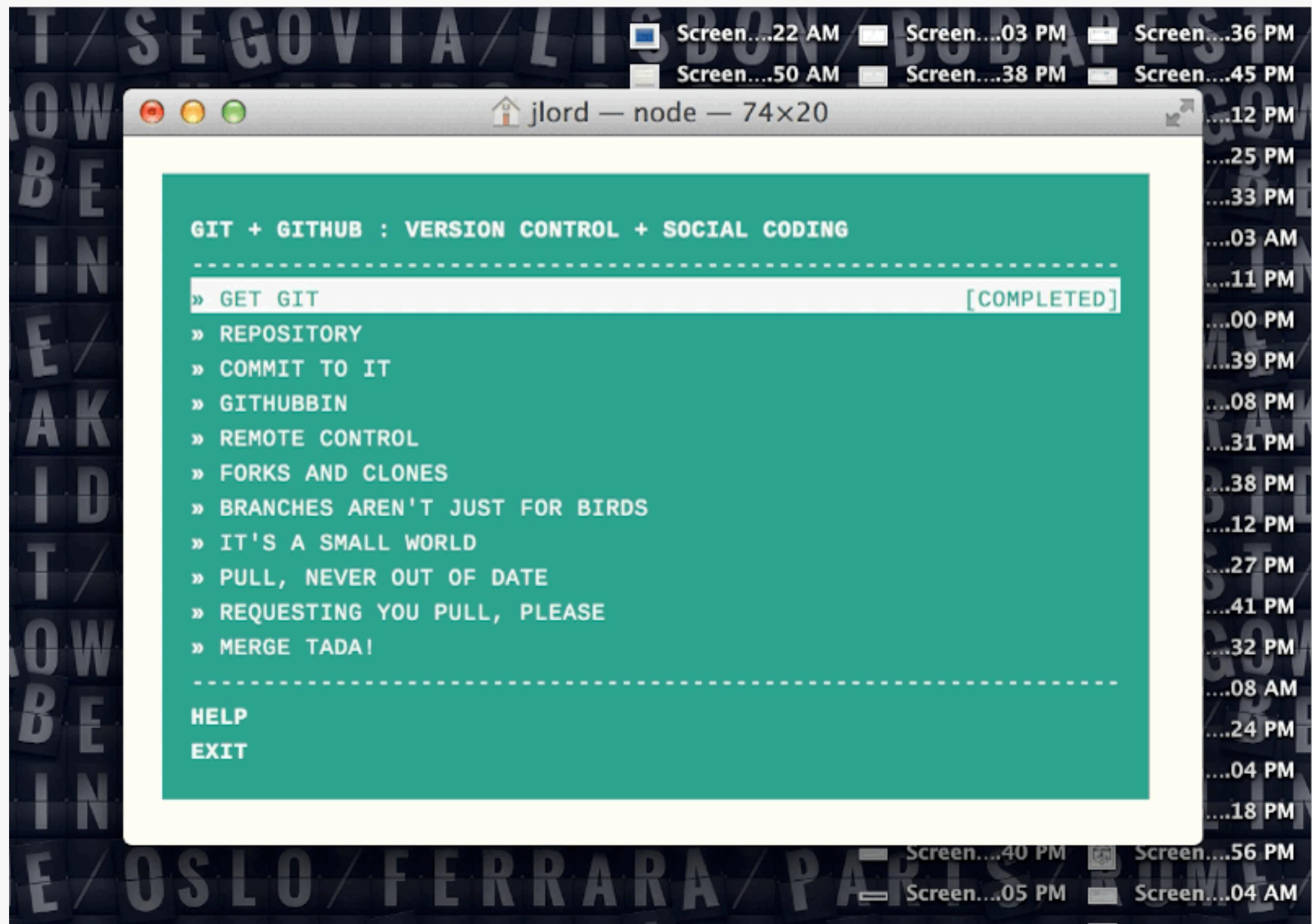
teaching Git

→ **fork`workshopper`**

GitHub API

create fork-able repo

@reporobot



# `workshopper` typical

Submitted:

```
console.log("Hello World")
// Hello World
```

Expected:

```
console.log("Hello World")
// Hello World
```

Compare

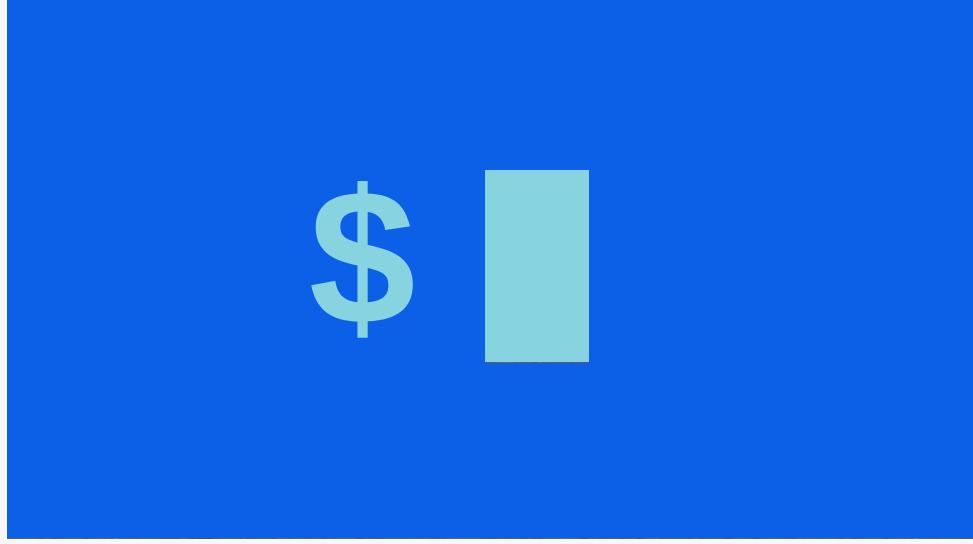


# But Git—

**Is not JS, isn't in files.**

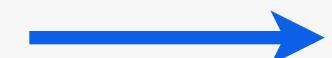
Fork of `workshopper` that lets me  
run Git and requests in the  
background to verify user did the  
right thing.

Git-it

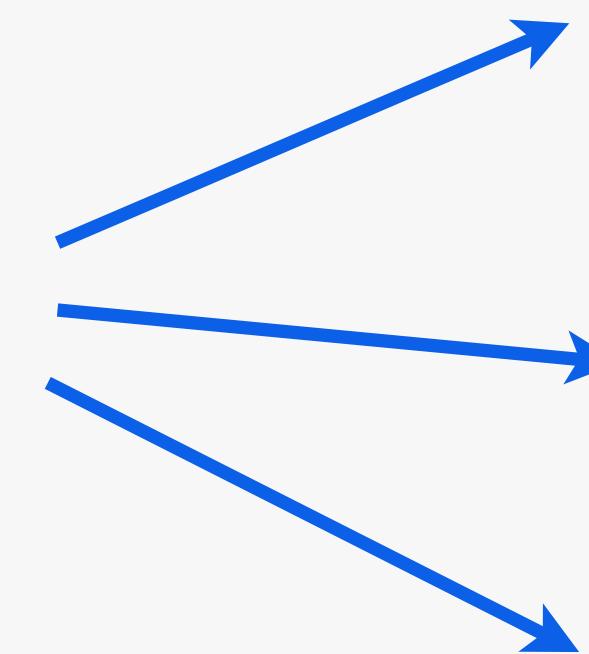


\$ |

git-it verify



the  
**verify.js**  
for each  
challenge



run **Git** in  
background

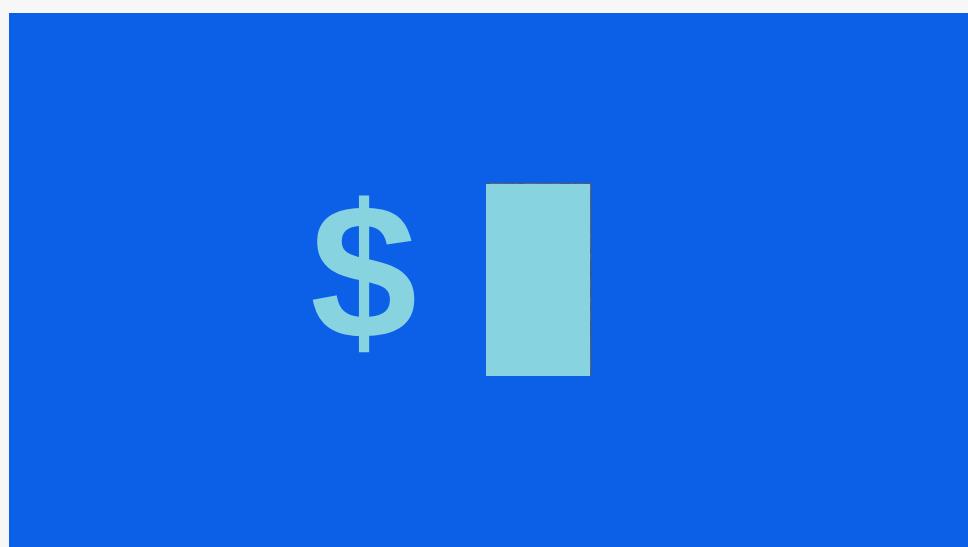
hit **Github API**

hit my **server**

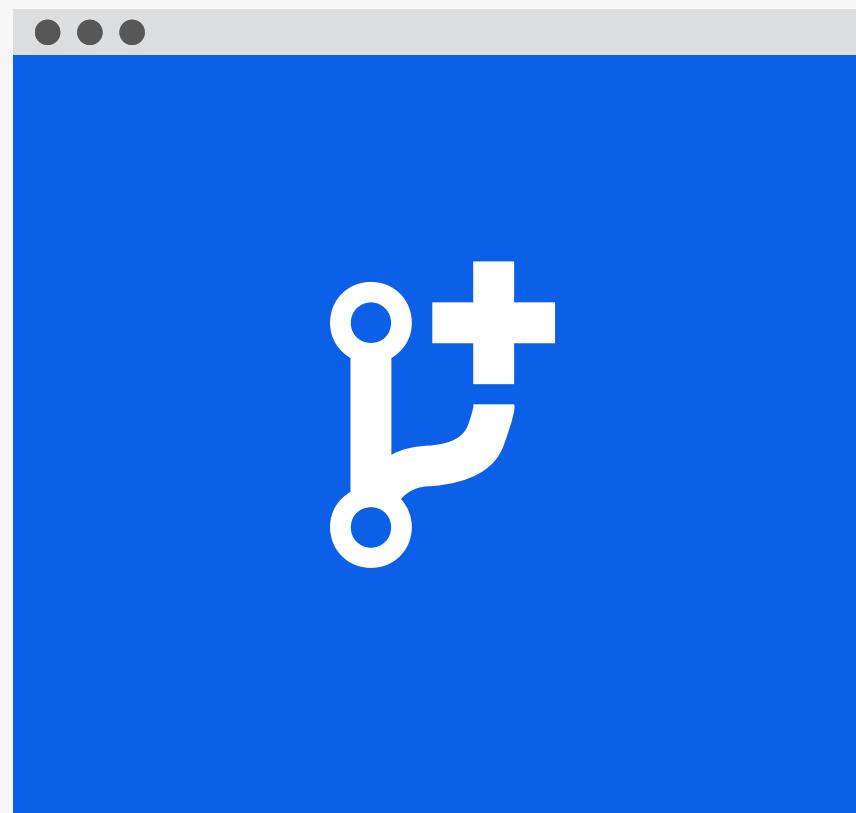


other things

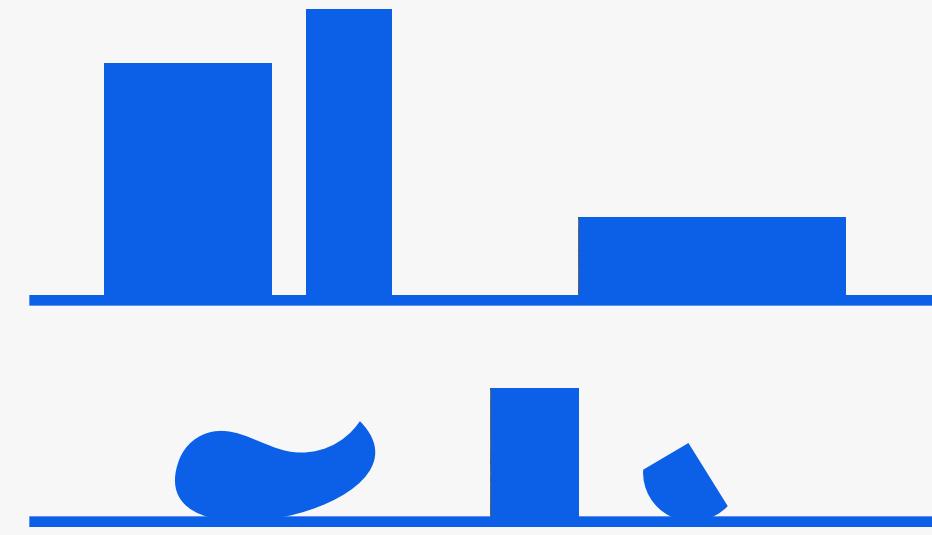
# Toolbox



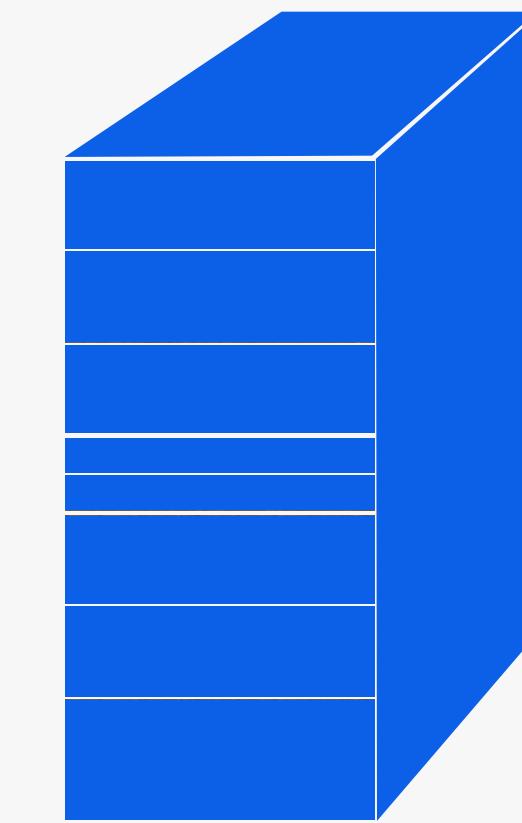
Git-it



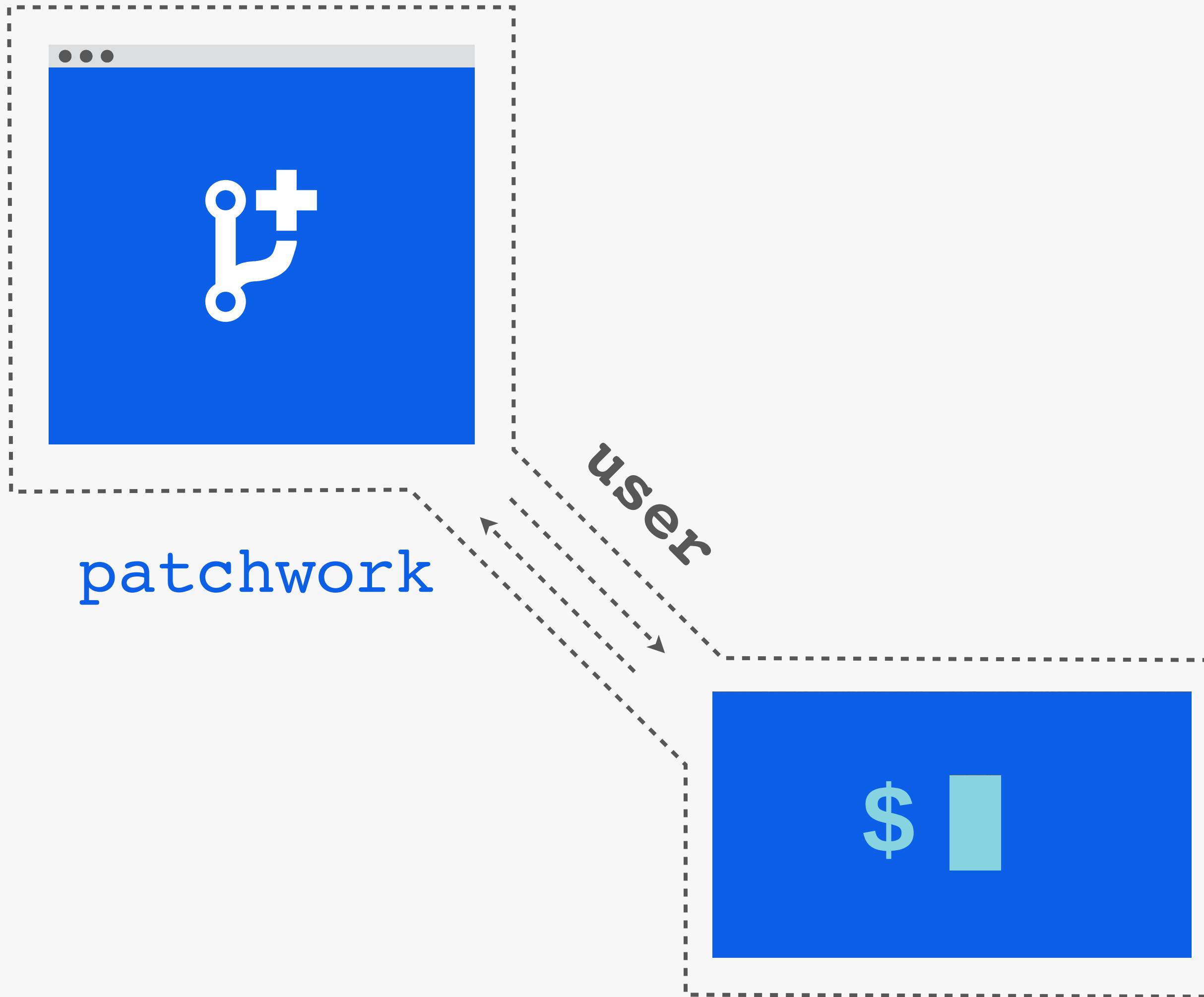
patchwork



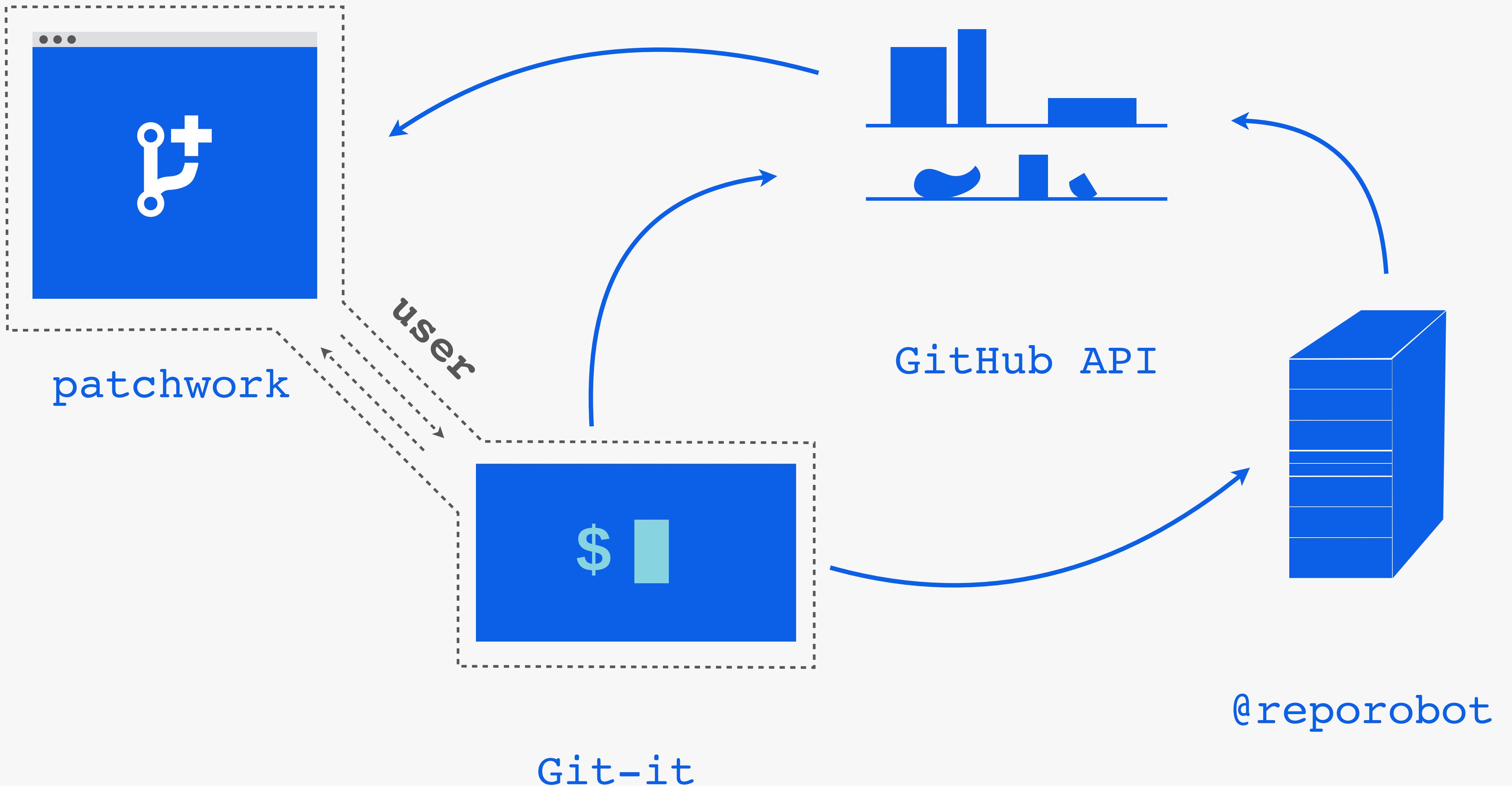
GitHub API



@reporobot



Git-it



# Compare Git Expected/Actual

Git-it, checking user's Git in `verify.js`:

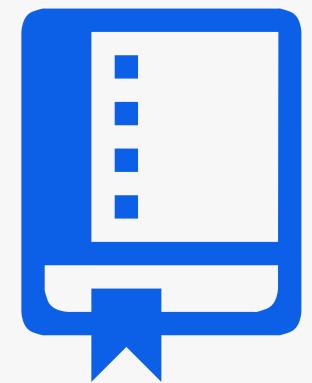
```
exec('git --version', function(err, stdout, stdrr) {  
  var gitOutput = stdout.trim()  
  
  if (gitOutput.match("git version"))  
    console.log("Found Git installed.")  
  else console.log("Found no Git installed."  
})
```

# Useful Made up Thing

```
git --config user.username jlord
```

So that I can always know a user's GitHub  
name for which to make queries with!

```
exec('git config user.username', function(e, so, se) {  
  var user = stdout.trim()  
})
```



# Building Git-it

teaching Git

fork`workshopper`

→ GitHub API

create fork-able repo

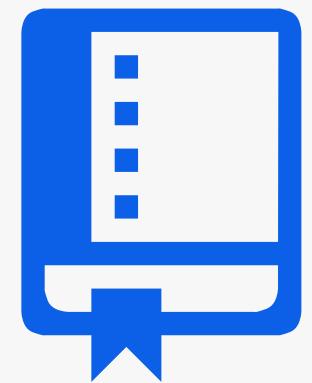
@reporobot

# Git-it to GitHub API

Verify user set up GitHub account

Use `require('request')` directly from app

```
request(url + user + '.json', {json: true}, function (error, response, body) {  
  if (error) return console.log(error)  
  if (!error && response.statusCode == 200) {  
    if (body.error) return console.log("GitHub account matching...")  
    else console.log("You're on GitHub!")  
  }  
})
```



# Building Git-it

teaching Git

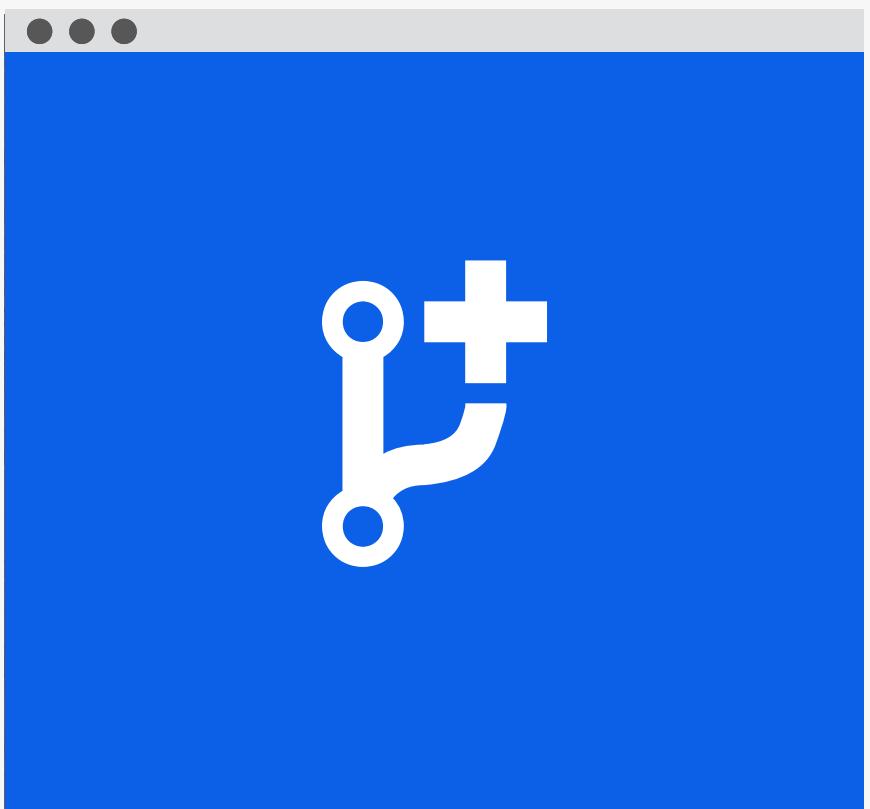
fork`workshopper`

GitHub API

→ **create fork-able repo**

@reporobot

# A repo to fork



**jlord/patchwork**

GH Pages hosted site with the  
names of all who have completed  
the workshop.

User submits name in Pull Request.

Patchwork: Git, GitHub and the Pursuit of Open Source

jlord.github.io/patchwork/ Reader

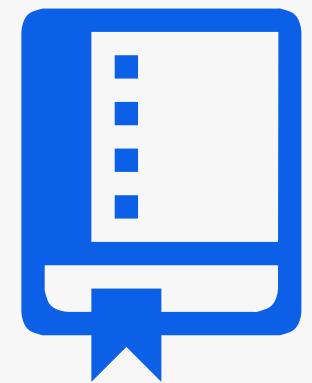
# Congrats, you did it!



You now know alternate meanings for **fork** and **branch**. You've **collaborated** with someone whose location you're unaware of. You, friend, **pull request** with the best of 'em.

**Your pulling and pushing compatriots (give or take 4 million):**

User	Date	User	Date	User	Date
@develmts	2014-05-16T13:04:07Z	@SergeyMoiseenko	2014-04-02T03:01:41Z	03T19:22:43Z	
@SteveBrooks	2014-05-14T03:23:45Z	@svanguri	2014-04-01T19:44:01Z	@mhaidarh	2014-03-03T06:18:31Z
@leshikhacker	2014-05-14T03:09:05Z	@youngneh	2014-04-01T18:21:55Z	@sh0knah	2014-02-27T18:17:51Z
@olesyam	2014-05-13T04:38:05Z	@youngneh	2014-04-01T18:13:14Z	@meilinger	2014-02-27T15:15:05Z
@khalen	2014-05-12T19:43:56Z	@dprats	2014-03-31T23:40:01Z	@RyanHirsch	2014-02-27T12:03:28Z
@pakdavide	2014-05-12T10:51:16Z	@gnomus	2014-02-26T18:21:25Z		
@Nyhtro	2014-05-11T20:26:00Z	@GusjkoA	2014-03-31T16:45:44Z	@guitchicken	2014-02-26T06:38:09Z
		@yodx	2014-03-31T15:57:42Z		
				@saraf	2014-02-25T04:15:23Z



# Building Git-it

teaching Git

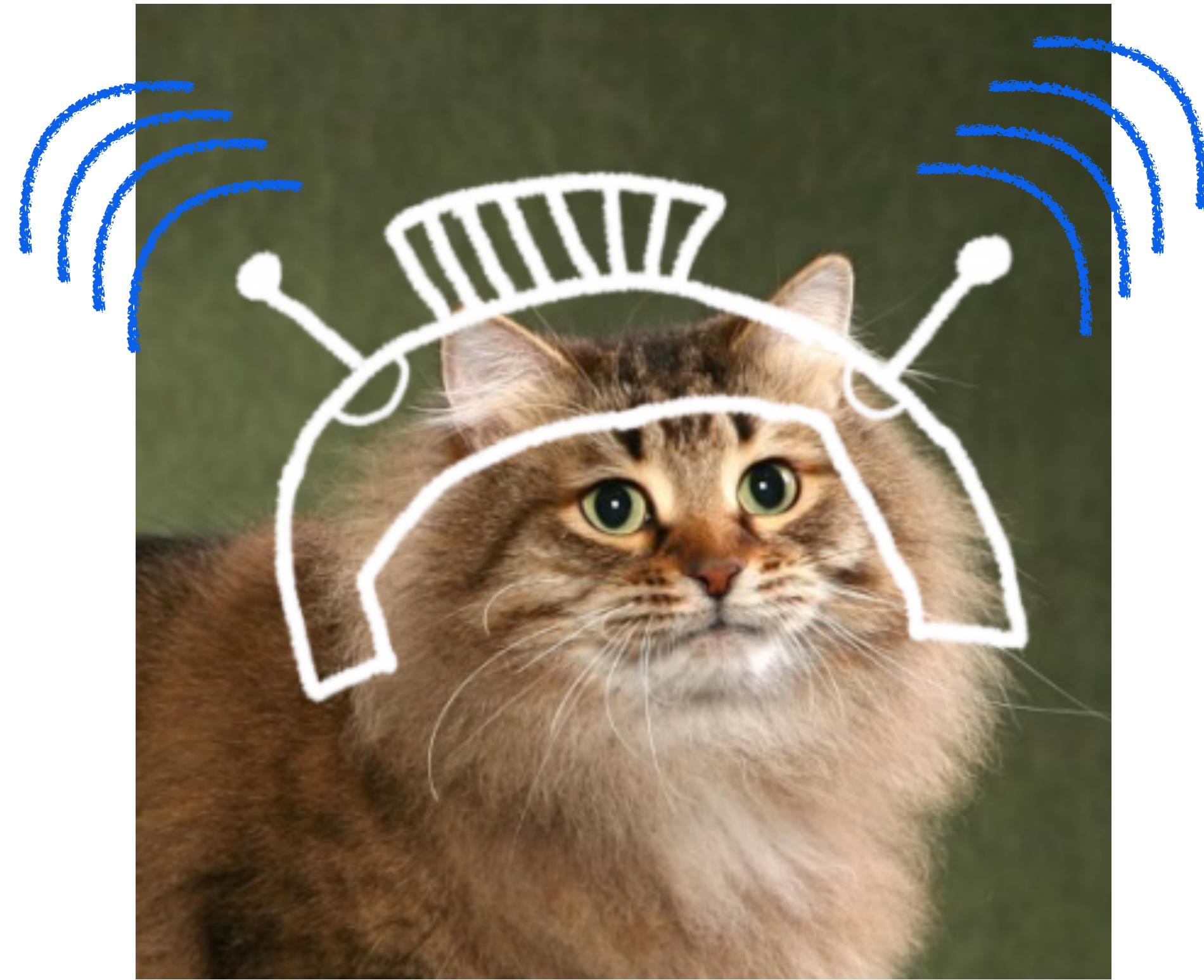
fork`workshopper`

GitHub API

create fork-able repo



@reporobot



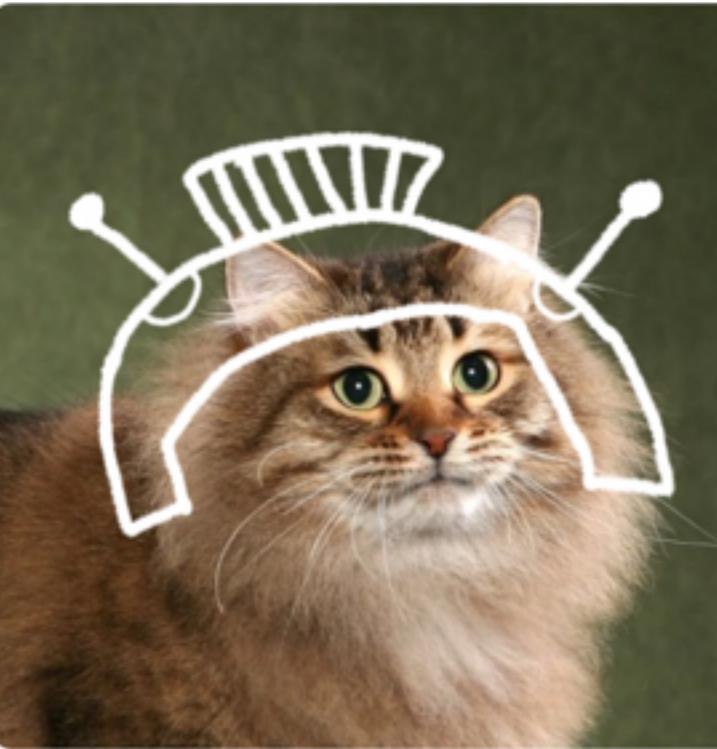
@reporobot

reporobot (meow) · GitHub

GitHub, Inc. [github.com/reporobot](https://github.com/reporobot)

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Contributions Repositories Public activity Follow

Popular repositories

-  [reporobot](#) Robot that interacts with repos for much ... 2 ★
-  [patchwork](#) All the Git-it Workshop completers! 0 ★

Repositories contributed to

-  [jlord/patchwork](#) All the Git-it Workshop completers! 15 ★
-  [jlord/reporobot](#) Robot that interacts with repos for much ... 4 ★

Public contributions

May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr

M  
W  
F

Summary of Pull Requests, issues opened, and commits. [Learn more](#).

Less More

Year of contributions  
1,106 total  
May 17 2013 - May 17 2014

Longest streak  
9 days  
March 27 - April 04

Current streak  
0 days  
Rock - Hard Place

Followers: 6 Starred: 0 Following: 2

Joined on Jan 03, 2014

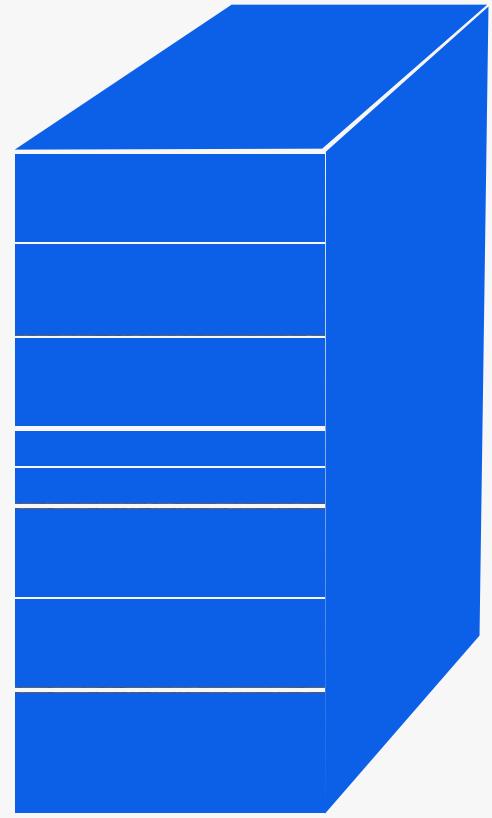
Contribution activity

Period: 1 week

25 commits

Pushed 25 commits to jlord/patchwork May 11 - May 16

# @reporobot



Node.js server  
Digital Ocean Droplet  
**maxogden/taco**

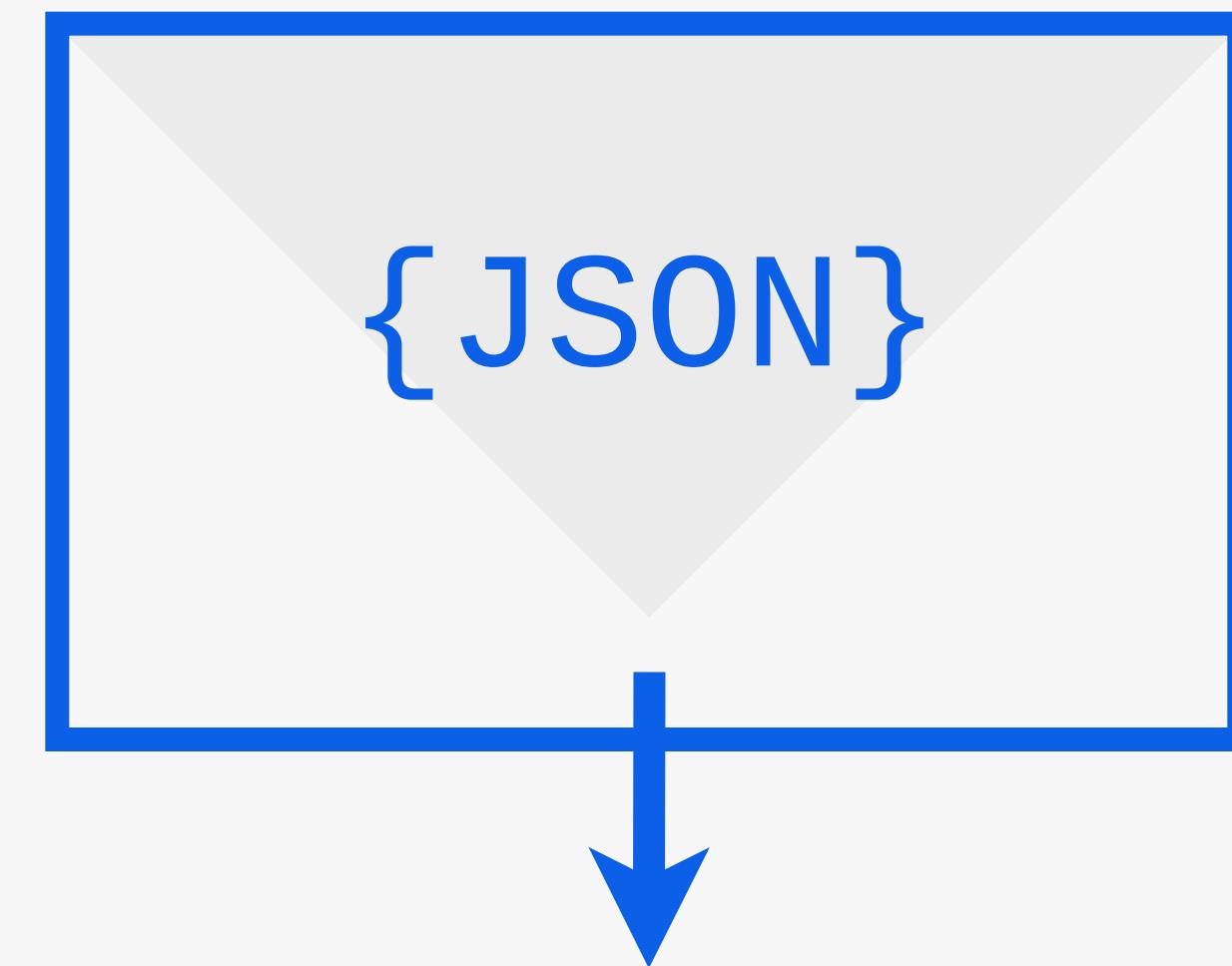


GitHub API via  
**michael/github**

# #8: It's a small world

No hooks on added as a collaborator :(

@reporobot account email  
with **cloudmailin.com** which  
sends JSON to server.



reporobot.jlord.us/push

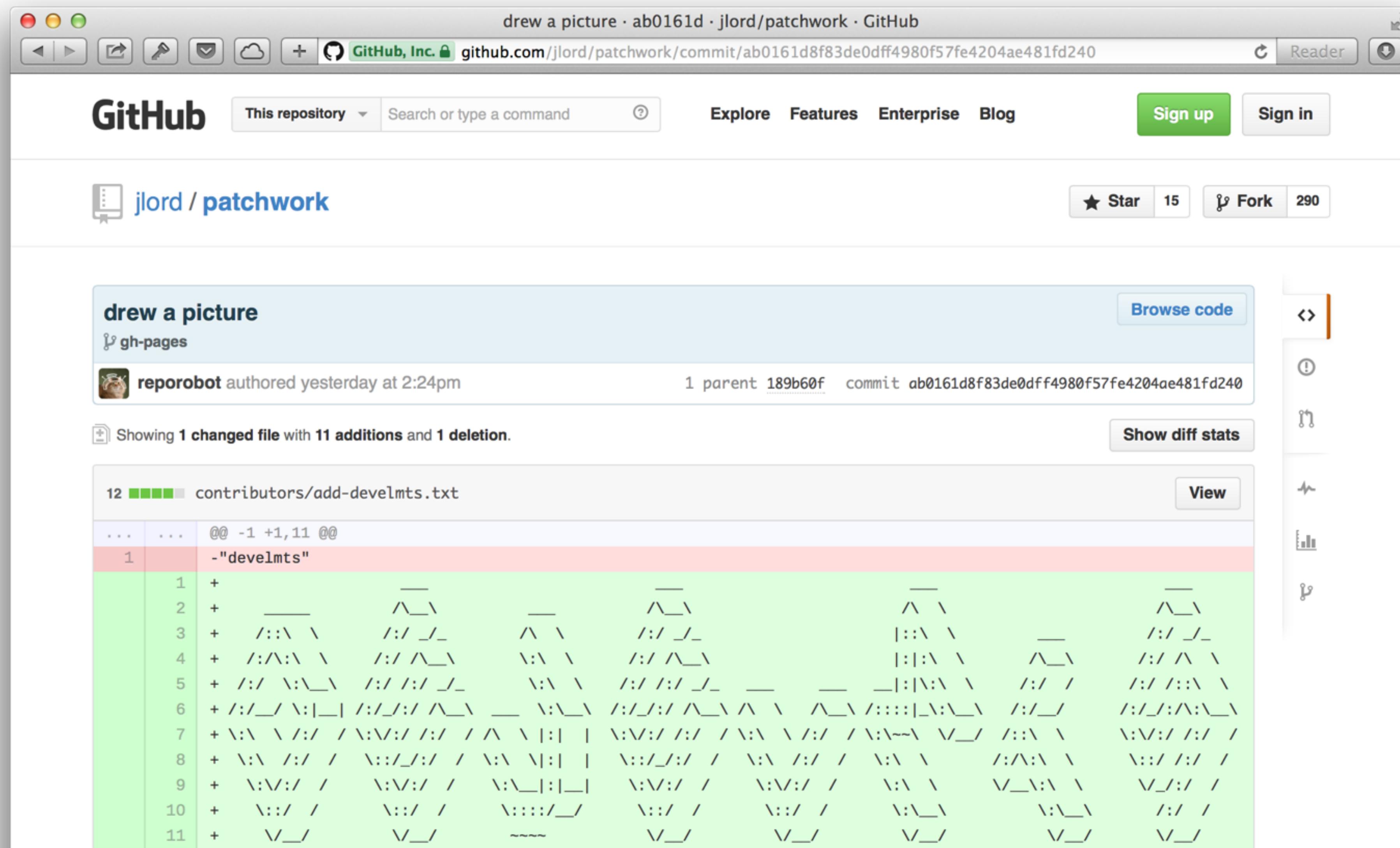
# #8: It's a small world

Check if user added **@reporobot** as **collaborator**

**Git-it verify** → <http://reporobot.jlord.us/collab?username=>

**@reporobot**, GitHub API → permissions.push?

**@reporobot**, GitHub API → write to repo



# #10: Request you pull

**Git-it** sends request to @reporobot who hits the GitHub API to check for a PR, responds true/false

→ <http://reporobot.jlord.us/pr?username=>

**Webhook** on **patchwork** sends push on PR to @reporobot

→ <http://reporobot.jlord.us/orderin>

# #10: Request you pull

Check **filename** (`contributors/add-username.txt`)

Check **file content** (ascii art)

Not Ok? **Comment**. All ok? **Merge!**

The screenshot shows a web browser window with the following details:

- Title Bar:** Add mrack92 by mrack92 · Pull Request #399 · jlord/patchwork · GitHub
- Address Bar:** GitHub, Inc. [github.com/jlord/patchwork/pull/399](https://github.com/jlord/patchwork/pull/399)
- Comment by reporobot:** commented Tuesday at 6:19am  
Filename is different than expected: contributors/add-mrack92.txt
- User Actions:** Collaborator
- Labels:** None yet
- Milestone:** No milestone

# Rebuild Patchwork Site

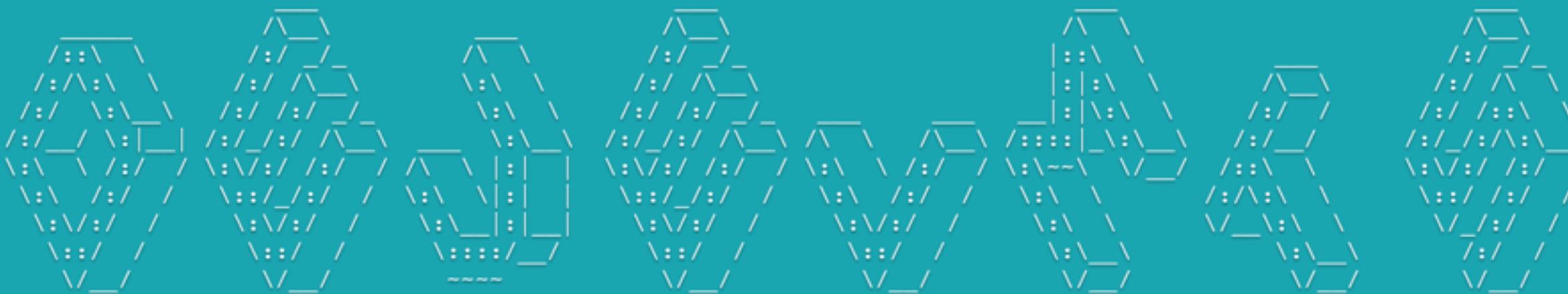
@reporobot also a static site generator

add name, date, ascii to **contributors.json** on server

@reporobot is a **collaborator** on **jlord/patchwork**

rebuids /patchwork site

# Congrats, you did it!



You now know alternate meanings for **fork** and **branch**. You've **collaborated** with someone whose location you're unaware of. You, friend, **pull request** with the best of 'em.

## Your pulling and pushing compatriots (give or take 4 million):

@develmts 2014-05-16T13:04:07Z

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@khalen 2014-05-12T19:43:56Z

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@Nyhtro 2014-05-11T20:26:00Z

@MehLON 2014-05-10T21:06:54Z

@SergeyMoiseenko 2014-04-02T03:01:41Z

@svanguri 2014-04-01T19:44:01Z

@youngneh 2014-04-01T18:21:55Z

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@dprats 2014-03-31T23:40:01Z

@GusjkoA 2014-03-31T16:45:44Z

@yodx 2014-03-31T15:57:42Z

03T19:22:43Z

@mhaidarh 2014-03-03T06:18:31Z

@sh0knah 2014-02-27T18:17:51Z

@meilinger 2014-02-27T15:15:05Z

@RyanHirsch 2014-02-27T12:03:28Z

@gnomus 2014-02-26T18:21:25Z

@guitchicken 2014-02-26T06:38:09Z

@saraf 2014-02-25T04:15:23Z

# Node.js, GitHub API FTW

**requests in**

- email json
- collab. check
- PR check

**requests out**

- ← write ascii
- ← permission.push
- ← loop PRs
- ← comment PR
- ← merge PR
- ← push patchwork

# Testing

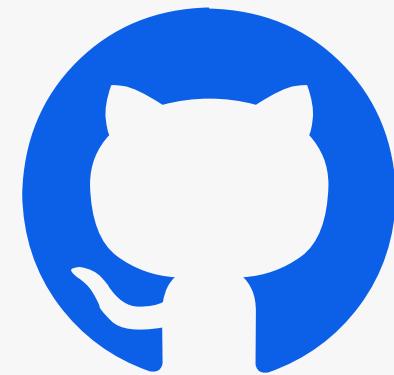
a little crazy

use test accounts and run through: **create branch**, **create file** (with ascii art), **create PR.**

then **delete** it all & repeat.

@reporobot is doing the writing which means each test account must have patchwork fork & RR as a collaborator.

# Share Git-it





# Patchwork Night



# NUX Team

**NUX Team:** designers, developers,  
user research

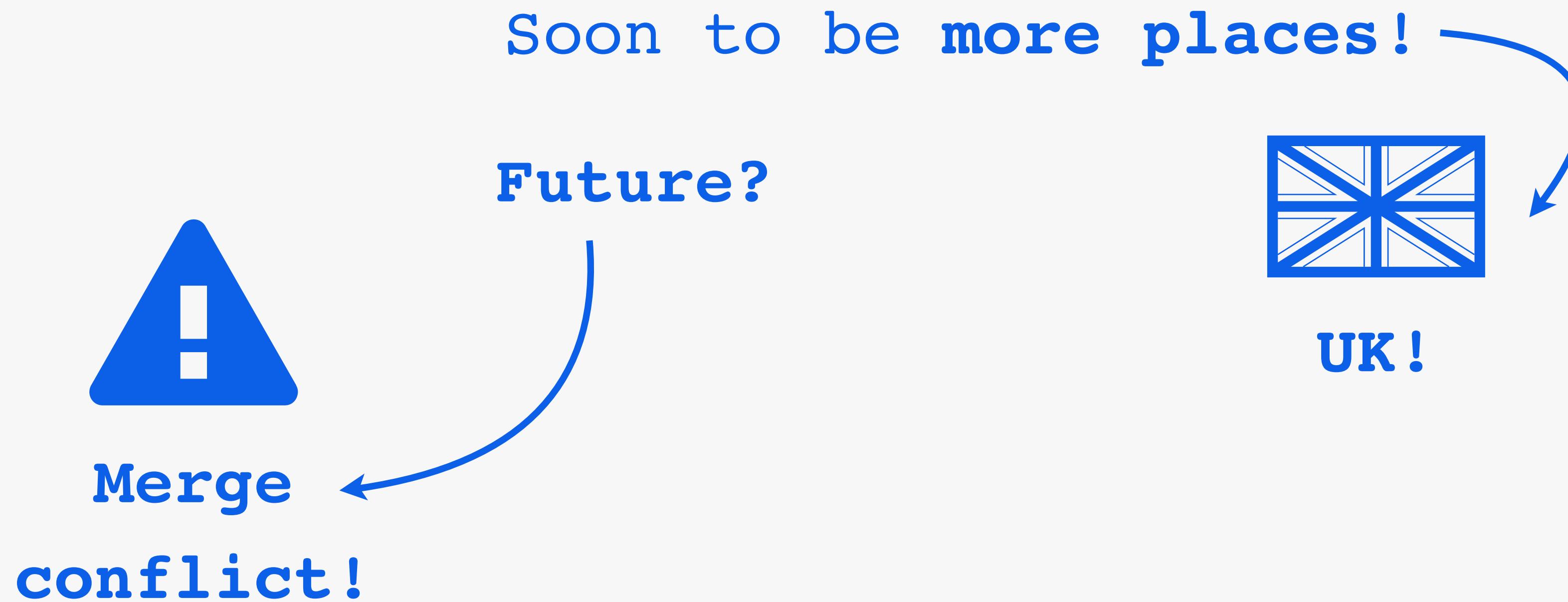
How can GitHub.com be **easier,**  
**better for new users?**

What is being new to GitHub like?

What tools can we make to help?

Experiment!

# Patchwork at GitHub



# Share what you know

Host an event! [nodeschool.io/events](http://nodeschool.io/events)

Mentor at an event! [nodeschool.io/events](http://nodeschool.io/events)

**Build a workshop!**

Watch the GitHub blog - [github.com/blog](http://github.com/blog)

# Takk!

@jllord

gh/jlord