

On recursive analytic affiliation: reflecting on the altered conditions of ethnographies of coding

Introduction

I report here on a deliberately naive attempt to re-count a single number: approximately 29 million code repositories on Github at a particular point in time (late 2015). The number appeared in a research project primarily focused largely on transformations in the social life of coding, programming and software development amidst apps, clouds, virtualization and the troubled life of code commons. In exploring ‘how people build software’ (Github 2015), the project explicitly sought to experiment with data-intensive methods, infrastructures and tools – cloud computing services such as Google Compute, data analytic and visualization tools such as **R**, **Python** and **IPython** notebooks, large data stores such as **BigQuery**, streaming data from social media platform APIs (Application Programmer Interfaces), predictive models especially in the form of machine learning classifiers (support vector machines, Naive Bayes classifiers, random forests) – in making sense of what happens on Github *en masse*.^[12] Somewhat recursively (although I don’t want to make too much of this recursion, since I do not think it amounts to a recursive public (Kelty 2008)), Github happens to be the *platform* that hosts the code development of many big data tools and infrastructures (**hadoop**, **tensorflow**, **ipython**, **flow**, **d3.js**, **spark**, etc.). It also directly hosts all of the text, code, figures, intermediate results and configuration information for the research project I describe, including this chapter in various operational and executable forms (Metacommunities 2016).

The approximate number 29 million will in this chapter serve as a synecdoche for big data in several ways. The number, a count of all the repositories on Github in late 2015, is a small part standing in for the whole. On the one hand, Github as a platform used by millions of people is a typical setting open to, affected and shaped by big data practices. On the other hand, what happens on Github – coding, software development, configuration, modification and transformation of information infrastructures – is very much shapes big data practices. Crucially, because the openness of code repositories is always connected to the closed or private repositories that actually yield revenue for Github as a San Francisco-based business, it is inherently difficult to count all the repositories. ‘All’ here inevitably means ‘some,’ by maybe that is all-ways a problem for big data.

Focusing on just one biggish number – 29 million – that presents itself as the sum of all repositories is inevitably severely myopic. The story of an encounter with this single number will, I hope, evoke and exemplify the appeal, frustrations, hopes and some material configurations associated with contemporary data practices that envision working with ‘all the data’ (Mayer-Schönberger and Cukier 2013). This number, one of a series of similar numbers, exists and exerts effects in different ways on counting and accounting. I’m interested in its composition, its instability, the ‘stories,’ imaginings and materialisations it

authorises, and its practically problematic relation to big data infrastructures.

What kinds of engagement can we have with such numbers today amidst perhaps their deep transformation and re-materialisation in technologies?¹ Given so much computational counting, so many efforts to count all manner of things (species, clicks, stars, likes, cells and bitcoin transactions), and indeed strong injunctions to tell stories about such numbers, what can social researchers do? The key difficulty in developing an ethnographic sensibility around such numbers resides in the many detours, variations and differences they embody, not least for the social researcher who finds him or herself trying to re-count them or account for them. The chapter documents and practically re-enacts a series of queries – both in the technical sense of a statement executed by a database and a question posed to a given state of affairs.

While I’m very drawn to attempts to count things and to weave counts into ethnographic accounts, during this project I often wondered about how to count things whilst paying attention to their composition. Numbers and counts are site of entanglement between device-specific materialities and imaginaries of order, totality, rank, inclusion, boundary and power. This double sense of numbers as both a calculatively ordered cutting-framing-summing-up and as materially specific figuring of differences could well be understood in terms of what Lucy Suchman describes as a ‘configuration’:

the device of *configuration* has two broad uses. First, as an aid to delineating the composition and bounds of an object of analysis, in part through the acknowledgment that doing so so is integral not only to the study of technologies, but to their very existence as objects. And second, in drawing our analytic attention to the ways in which technologies materialize cultural imaginaries, just as imaginaries narrate the significance of technological artefacts. Configuration in this sense is a device for studying technologies with particular attention to the imaginaries and materialities that they *join together*, an orientation that resonates as well with the term’s common usages to refer to the conjoining of diverse elements in practices of systems design and engineering (Suchman 2012, 48).

While Suchman’s examples of configuration come from software systems, I’m suggesting that a single number – 29 million repositories on Github – could be re-counted as a configuration. The argument is that even the listing, enumerating and counting of things in a single number can be seen as a configuration. Practically, a configured number, if such a term is permitted, will need to be counted in ways that hold the two aspects Suchman highlights together. A number would integral to the existence of the ‘technology,’ in this case the ‘social coding’ platform Github. At the same time, that number would, in its counting, call our attention to what is being materialized in terms of an imaginary and

¹A recent special issue of the *Journal of Scandinavian Social Theory* on numbers offers a useful variety of engagements with the status of number. See for instance (Guyer 2014) on percentages or (Gerlitz and Lury 2014) on ‘kudos’ ratings.

all that entails.²

Re-counting a capital number on a platform

On Github, two numbers have cardinal and indeed capital importance: the number of people using the platform, and the number of different code repositories stored there. I deal in this chapter only with the latter. The counting I undertake will focus on problems of copying, duplicating, and imitation that render large numbers a moving substrate.

Github, started in in 2007, epitomises and has indeed been central – as the suffix ‘hub’ suggests – to a mass of configurational events associated with the development of big data practices. Like many social media platforms, it has grown tremendously in the last 7 years to around 38 million software projects (September 2016), although this number – 38 million – is just a later version of the 29 million that I focus on. This growth flows from a tremendous variety of processes that are difficult to summarise or classify partly because the actors, topics or domains of coding are so diverse and partly because much of what flows through Github is both technically and socially ‘innovative’ in the sense that Bruno Latour uses the term: “‘innovative’ means that we do not know the number of actors involved in advance” (Latour 1996, 72). (Again, a problem of counting appears here, albeit only in the limited form of ‘not knowing in advance.’)

Amidst this morass of code, configuration work, copying, collaborating, and much playing around with repositories in sometimes quixotic fashion (as we will see, many repositories are highly transient, and very many have a spam-like quality), Github, like many contemporary assemblages, seeks to describe itself through large numbers. We might call these ‘capital numbers’ since they serve a vital function in attracting investment (Github, with a market value of \$2 billion has received several hundred million dollars in venture capture (Gage 2015)), imbuing the platform with hub-like importance in contemporary innovation systems (see for instance, Quentin Hardy’s writing about Github and ‘open everything’ (Hardy 2012)), and actually, as I will soon suggest, directly lend weight to the injunction to ‘tell stories with the [big] data.’ These numbers in their sometimes daily changes and updates attest to an investment in being innovative or open-ended enumerations.

As Suchman’s concept of a configuration suggests, capital numbers combine with cultural imaginaries in manifold ways. In June 2014, the Github ‘about’ page showed a photo of a women working in an urban office location, with lights and

²What is an imaginary? I will not address that question directly here, but all concepts of imaginary (ranging from Lacan’s to the more recent proliferation of imaginaries in humanities and social science) concern a sense of wholeness or completion that allows formations of identity, inclusion, belonging and otherness to take shape. For an example of the concept of imaginary in an account of software and coding, see (???).

professional camera focused on her work. It described ‘6.1 million people collaborating right now across 13.2 million repositories ... building amazing things together’ (Github 2014). In late November 2015, the same page has a slightly more functional description, and the image seems to be of a press conference in China:

GitHub is how people build software. With a community of more than 12 million people, developers can discover, use, and contribute to over 29 million projects using a powerful collaborative development workflow. (Github 2015)(<https://web.archive.org/web/20151216055610/https://github.com/about>),

The numbers change over time alongside the composition of the actors involved (women coding and working at Github, a sore point for the company as a co-founder was involved in sexual harassment complaints; Chinese developers using Github, but also political activists, leading to a denial of service attack on the Github, allegedly by the Chinese government [^3]). But the changing numbers, alongside the sometimes rather sublime scales of ‘community’ (a ‘community’ of 12 million people?) certainly form part of Github’s description.

The litany of sense-making: enumerating the aggregate through events

In 2013, a time in which the injunction to do things with data was impacting social science research funders as well as many people in media, commerce, industry and government, my aggressively data-analytic ambition with respect to Github was that I could critically re-count the capital numbers – people and repositories – in some way. I planned to use data analytic methods to count people and count things, in this case, software projects on Github. In re-counting them, I wanted to encounter something of their composition in all its heterogeneity and conformity, to show how their scale was an effect of specific dynamics of imitation, to combat the onslaught of ‘technology -> open -> good’ narratives, and perhaps to suggest that such numbers were highly performative in essence. This would be a both political and culturally worthwhile since capital numbers are commonly used in the capitalisation of social media platforms.

How could I actually count software project or people? Like many other people, I turned to data published through the Github API (Application Programmer Interface). APIs were not created as a data resource for social scientists, but for software developers working in convergence cultures (Jenkins 2004) in which connecting different platforms, devices, sites and practices together using code has become standard practice, APIs have great practical significance (Bucher 2013). In Github’s case, data published through the API derives from acts of writing and reading code (although not only code – an extraordinary variety of other documents, texts, images, maps, and other forms of data can be found on the platform). The data is logged as developers write code and move that code in and out of code repositories using the `git` version control system (Git 2014).

Coding today constructs and take place in increasingly complex associative infrastructures. Github seeks to figure coding as a social network practice based on a hub.

By convention much API data from social media sites has an ‘event’ structure that links named actors and named entities to specific infrastructural locations (usually coded as an URL) at a particular time (the ‘timestamp’). While not all big data has this timestamp-actor-location-links texture, it is common enough to stand in as typical of the data that big data infrastructures and practices encounter. As Noortje Marres has persuasively argued, these data formats are not ‘neutral’ or in any way particularly good for social research, since they tend to pre-structure the kinds of engagement that one might have with the data (Marres 2012). Work needs to be done with and against the data format.

```
library(curl)
library(jsonlite)
con2 = curl('https://api.github.com/repos/metacommunities/metacommunities/languages')
lang = fromJSON(readLines(con2), flatten=TRUE)
lang

## $`Jupyter Notebook`
## [1] 5316912
##
## $HTML
## [1] 1215549
##
## $Python
## [1] 352890
##
## $TeX
## [1] 206395
##
## $R
## [1] 164608
##
## $Scala
## [1] 27835
##
## $Shell
## [1] 22508
##
## $JavaScript
## [1] 16699
##
## $`GCC Machine Description`
## [1] 15451
##
```

```

## $VimL
## [1] 4205
##
## $CSS
## [1] 2380

con3 = curl('https://api.github.com/repos/metacommunities/metacommunities/contributors')
people = fromJSON(readLines(con3), flatten=TRUE)
people

##          login      id
## 1      rian39  526523
## 2      Milllss 4489313
## 3      rian32  885027
## 4 MatthewFuller 4973736
## 5      Goffinger 4973562
##
##                                avatar_url gravatar_id
## 1 https://avatars.githubusercontent.com/u/526523?v=3
## 2 https://avatars.githubusercontent.com/u/4489313?v=3
## 3 https://avatars.githubusercontent.com/u/885027?v=3
## 4 https://avatars.githubusercontent.com/u/4973736?v=3
## 5 https://avatars.githubusercontent.com/u/4973562?v=3
##
##                                url
## 1 https://api.github.com/users/rian39
## 2 https://api.github.com/users/Milllss
## 3 https://api.github.com/users/rian32
## 4 https://api.github.com/users/MatthewFuller
## 5 https://api.github.com/users/Goffinger
##
##                                html_url
## 1 https://github.com/rian39
## 2 https://github.com/Milllss
## 3 https://github.com/rian32
## 4 https://github.com/MatthewFuller
## 5 https://github.com/Goffinger
##
##                                followers_url
## 1 https://api.github.com/users/rian39/followers
## 2 https://api.github.com/users/Milllss/followers
## 3 https://api.github.com/users/rian32/followers
## 4 https://api.github.com/users/MatthewFuller/followers
## 5 https://api.github.com/users/Goffinger/followers
##
##                                following_url
## 1 https://api.github.com/users/rian39/following{/other_user}
## 2 https://api.github.com/users/Milllss/following{/other_user}
## 3 https://api.github.com/users/rian32/following{/other_user}
## 4 https://api.github.com/users/MatthewFuller/following{/other_user}
## 5 https://api.github.com/users/Goffinger/following{/other_user}
##
##                                gists_url

```

```

## 1      https://api.github.com/users/rian39/gists{/gist_id}
## 2      https://api.github.com/users/Milllss/gists{/gist_id}
## 3      https://api.github.com/users/rian32/gists{/gist_id}
## 4 https://api.github.com/users/MatthewFuller/gists{/gist_id}
## 5      https://api.github.com/users/Goffinger/gists{/gist_id}
##                                     starred_url
## 1      https://api.github.com/users/rian39/starred{/owner}/{/repo}
## 2      https://api.github.com/users/Milllss/starred{/owner}/{/repo}
## 3      https://api.github.com/users/rian32/starred{/owner}/{/repo}
## 4 https://api.github.com/users/MatthewFuller/starred{/owner}/{/repo}
## 5      https://api.github.com/users/Goffinger/starred{/owner}/{/repo}
##                                     subscriptions_url
## 1      https://api.github.com/users/rian39/subscriptions
## 2      https://api.github.com/users/Milllss/subscriptions
## 3      https://api.github.com/users/rian32/subscriptions
## 4 https://api.github.com/users/MatthewFuller/subscriptions
## 5      https://api.github.com/users/Goffinger/subscriptions
##                                     organizations_url
## 1      https://api.github.com/users/rian39/orgs
## 2      https://api.github.com/users/Milllss/orgs
## 3      https://api.github.com/users/rian32/orgs
## 4 https://api.github.com/users/MatthewFuller/orgs
## 5      https://api.github.com/users/Goffinger/orgs
##                                     repos_url
## 1      https://api.github.com/users/rian39/repos
## 2      https://api.github.com/users/Milllss/repos
## 3      https://api.github.com/users/rian32/repos
## 4 https://api.github.com/users/MatthewFuller/repos
## 5      https://api.github.com/users/Goffinger/repos
##                                     events_url
## 1      https://api.github.com/users/rian39/events{/privacy}
## 2      https://api.github.com/users/Milllss/events{/privacy}
## 3      https://api.github.com/users/rian32/events{/privacy}
## 4 https://api.github.com/users/MatthewFuller/events{/privacy}
## 5      https://api.github.com/users/Goffinger/events{/privacy}
##                                     received_events_url type
## 1      https://api.github.com/users/rian39/received_events User
## 2      https://api.github.com/users/Milllss/received_events User
## 3      https://api.github.com/users/rian32/received_events User
## 4 https://api.github.com/users/MatthewFuller/received_events User
## 5      https://api.github.com/users/Goffinger/received_events User
## site_admin contributions
## 1      FALSE          328
## 2      FALSE          82
## 3      FALSE          27
## 4      FALSE           3

```

```
## 5      FALSE      1

con4 = curl('https://api.github.com/repos/metacommunities/metacommunities/branches')
branches = fromJSON(readLines(con4), flatten=TRUE)
nrow(branches)
```

```
## [1] 30
```

In our/my case – I’m not sure how to report on the work I did with others in this project – I wanted to write code, which I like doing, to gather, aggregate, clean, explore, visualize and model what has happening. The code vignette shown above summarises some of this (I return to the configurative events behind this summary below). And a total ‘all-the-data’ scale, since that is big data practice, and I was interpellated by big data/data science practice. The code vignette shown below gathers the last few hundred events on the Github timeline, and is a typical starting point.

```
library(curl)
req = curl_fetch_memory('https://api.github.com/events')
cat(rawToChar(req$content))

## [
##   {
##     "id": "4607714451",
##     "type": "PullRequestEvent",
##     "actor": {
##       "id": 9959761,
##       "login": "seregazhuk",
##       "display_login": "seregazhuk",
##       "gravatar_id": "",
##       "url": "https://api.github.com/users/seregazhuk",
##     "avatar_url": "https://avatars.githubusercontent.com/u/9959761?"
##   },
##   "repo": {
##     "id": 39557985,
##     "name": "seregazhuk/php-pinterest-bot",
##     "url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot"
##   },
##   "payload": {
##     "action": "opened",
##     "number": 174,
##     "pull_request": {
##       "url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/pulls/174",
##       "id": 86487167,
##       "html_url": "https://github.com/seregazhuk/php-pinterest-bot/pull/174",
##       "diff_url": "https://github.com/seregazhuk/php-pinterest-bot/pull/174.diff",
##       "patch_url": "https://github.com/seregazhuk/php-pinterest-bot/pull/174.patch",
##       "issue_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/issues/174",
```



```

##         "number": 174,
##         "state": "open",
##         "locked": false,
##         "title": "add: response tests",
##         "user": {
##             "login": "seregazhuk",
##             "id": 9959761,
##             "avatar_url": "https://avatars.githubusercontent.com/u/9959761?v=3",
##             "gravatar_id": "",
##             "url": "https://api.github.com/users/seregazhuk",
##             "html_url": "https://github.com/seregazhuk",
##             "followers_url": "https://api.github.com/users/seregazhuk/followers",
##             "following_url": "https://api.github.com/users/seregazhuk/following{/other_user}",
##             "gists_url": "https://api.github.com/users/seregazhuk/gists{/gist_id}",
##             "starred_url": "https://api.github.com/users/seregazhuk/starred{/owner}/{repo}",
##             "subscriptions_url": "https://api.github.com/users/seregazhuk/subscriptions",
##             "organizations_url": "https://api.github.com/users/seregazhuk/orgs",
##             "repos_url": "https://api.github.com/users/seregazhuk/repos",
##             "events_url": "https://api.github.com/users/seregazhuk/events{/privacy}",
##             "received_events_url": "https://api.github.com/users/seregazhuk/received_events",
##             "type": "User",
##             "site_admin": false
##         },
##         "body": "",
##         "created_at": "2016-09-23T10:13:24Z",
##         "updated_at": "2016-09-23T10:13:24Z",
##         "closed_at": null,
##         "merged_at": null,
##         "merge_commit_sha": "a3ebfbd3b9904a885abbf60768ff9e33ba3234fa",
##         "assignee": null,
##         "assignees": [
##
##     ],
##         "milestone": null,
##         "commits_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/pulls/174/commits",
##         "review_comments_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/pulls/174/review_comments",
##         "review_comment_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/pulls/174/review_comments/{review_id}/comment",
##         "comments_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/issues/174/comments",
##         "statuses_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/statuses/9959761",
##         "head": {
##             "label": "seregazhuk:develop",
##             "ref": "develop",
##             "sha": "08313904966d49c5be4b4b1bf089303ec1085897",
##             "user": {
##                 "login": "seregazhuk",
##                 "id": 9959761,

```

```

##      "avatar_url": "https://avatars.githubusercontent.com/u/9959761?v=3",
##      "gravatar_id": "",
##      "url": "https://api.github.com/users/seregazhuk",
##      "html_url": "https://github.com/seregazhuk",
##      "followers_url": "https://api.github.com/users/seregazhuk/followers",
##      "following_url": "https://api.github.com/users/seregazhuk/following{/other_user}",
##      "gists_url": "https://api.github.com/users/seregazhuk/gists{/gist_id}",
##      "starred_url": "https://api.github.com/users/seregazhuk/starred{/owner}/{/repo}",
##      "subscriptions_url": "https://api.github.com/users/seregazhuk/subscriptions",
##      "organizations_url": "https://api.github.com/users/seregazhuk/orgs",
##      "repos_url": "https://api.github.com/users/seregazhuk/repos",
##      "events_url": "https://api.github.com/users/seregazhuk/events{/privacy}",
##      "received_events_url": "https://api.github.com/users/seregazhuk/received_events",
##      "type": "User",
##      "site_admin": false
##    },
##    "repo": {
##      "id": 39557985,
##      "name": "php-pinterest-bot",
##      "full_name": "seregazhuk/php-pinterest-bot",
##      "owner": {
##        "login": "seregazhuk",
##        "id": 9959761,
##      "avatar_url": "https://avatars.githubusercontent.com/u/9959761?v=3",
##      "gravatar_id": "",
##      "url": "https://api.github.com/users/seregazhuk",
##      "html_url": "https://github.com/seregazhuk",
##      "followers_url": "https://api.github.com/users/seregazhuk/followers",
##      "following_url": "https://api.github.com/users/seregazhuk/following{/other_user}",
##      "gists_url": "https://api.github.com/users/seregazhuk/gists{/gist_id}",
##      "starred_url": "https://api.github.com/users/seregazhuk/starred{/owner}/{/repo}",
##      "subscriptions_url": "https://api.github.com/users/seregazhuk/subscriptions",
##      "organizations_url": "https://api.github.com/users/seregazhuk/orgs",
##      "repos_url": "https://api.github.com/users/seregazhuk/repos",
##      "events_url": "https://api.github.com/users/seregazhuk/events{/privacy}",
##      "received_events_url": "https://api.github.com/users/seregazhuk/received_events",
##      "type": "User",
##      "site_admin": false
##    },
##    "private": false,
##    "html_url": "https://github.com/seregazhuk/php-pinterest-bot",
##    "description": "This PHP library will help you to work with your Pinterest account wi
##      "fork": false,
##    "url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot",
##    "forks_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/forks",
##    "keys_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/keys{/key_

```

```

##      "collaborators_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/c
##      "teams_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/teams",
##      "hooks_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/hooks",
##      "issue_events_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/is
##      "events_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/events",
##      "assignees_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/assign
##      "branches_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/branch
##      "tags_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/tags",
##      "blobs_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/git/blobs
##      "git_tags_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/git/ta
##      "git_refs_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/git/re
##      "trees_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/git/trees
##      "statuses_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/status
##      "languages_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/langu
##      "stargazers_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/star
##      "contributors_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/co
##      "subscribers_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/sub
##      "subscription_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/su
##      "commits_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/commits
##      "git_commits_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/git
##      "comments_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/commen
##      "issue_comment_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/i
##      "contents_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/conten
##      "compare_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/compare
##      "merges_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/merges",
##      "archive_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/{archiv
##      "downloads_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/downl
##      "issues_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/issues{/
##      "pulls_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/pulls{/nu
##      "milestones_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/mile
##      "notifications_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/n
##      "labels_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/labels{/
##      "releases_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/releas
##      "deployments_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/dep
##          "created_at": "2015-07-23T09:22:13Z",
##          "updated_at": "2016-09-21T07:51:17Z",
##          "pushed_at": "2016-09-23T10:13:24Z",
##      "git_url": "git://github.com/seregazhuk/php-pinterest-bot.git",
##      "ssh_url": "git@github.com:seregazhuk/php-pinterest-bot.git",
##      "clone_url": "https://github.com/seregazhuk/php-pinterest-bot.git",
##      "svn_url": "https://github.com/seregazhuk/php-pinterest-bot",
##          "homepage": "",
##          "size": 1751,
##          "stargazers_count": 49,
##          "watchers_count": 49,
##          "language": "PHP",

```

```

##         "has_issues": true,
##         "has_downloads": true,
##         "has_wiki": true,
##         "has_pages": false,
##         "forks_count": 18,
##         "mirror_url": null,
##         "open_issues_count": 1,
##         "forks": 18,
##         "open_issues": 1,
##         "watchers": 49,
##         "default_branch": "master"
##     }
## },
##     "base": {
##         "label": "seregazhuk:master",
##         "ref": "master",
##         "sha": "773dc5d41f621c201b3ba78155ee10543f9e2bbb",
##         "user": {
##             "login": "seregazhuk",
##             "id": 9959761,
##             "avatar_url": "https://avatars.githubusercontent.com/u/9959761?v=3",
##             "gravatar_id": "",
##             "url": "https://api.github.com/users/seregazhuk",
##             "html_url": "https://github.com/seregazhuk",
##             "followers_url": "https://api.github.com/users/seregazhuk/followers",
##             "following_url": "https://api.github.com/users/seregazhuk/following{/other_user}",
##             "gists_url": "https://api.github.com/users/seregazhuk/gists{/gist_id}",
##             "starred_url": "https://api.github.com/users/seregazhuk/starred{/owner}/{/repo}",
##             "subscriptions_url": "https://api.github.com/users/seregazhuk/subscriptions",
##             "organizations_url": "https://api.github.com/users/seregazhuk/orgs",
##             "repos_url": "https://api.github.com/users/seregazhuk/repos",
##             "events_url": "https://api.github.com/users/seregazhuk/events{/privacy}",
##             "received_events_url": "https://api.github.com/users/seregazhuk/received_events",
##             "type": "User",
##             "site_admin": false
##         },
##         "repo": {
##             "id": 39557985,
##             "name": "php-pinterest-bot",
##             "full_name": "seregazhuk/php-pinterest-bot",
##             "owner": {
##                 "login": "seregazhuk",
##                 "id": 9959761,
##                 "avatar_url": "https://avatars.githubusercontent.com/u/9959761?v=3",
##                 "gravatar_id": "",
##                 "url": "https://api.github.com/users/seregazhuk",

```

```

##         "html_url": "https://github.com/seregazhuk",
##         "followers_url": "https://api.github.com/users/seregazhuk/followers",
##         "following_url": "https://api.github.com/users/seregazhuk/following{/other_user}",
##         "gists_url": "https://api.github.com/users/seregazhuk/gists{/gist_id}",
##         "starred_url": "https://api.github.com/users/seregazhuk/starred{/owner}/{repo}",
##         "subscriptions_url": "https://api.github.com/users/seregazhuk/subscriptions",
##         "organizations_url": "https://api.github.com/users/seregazhuk/orgs",
##         "repos_url": "https://api.github.com/users/seregazhuk/repos",
##         "events_url": "https://api.github.com/users/seregazhuk/events{/privacy}",
##         "received_events_url": "https://api.github.com/users/seregazhuk/received_events",
##         "type": "User",
##         "site_admin": false
##     },
##     "private": false,
##     "html_url": "https://github.com/seregazhuk/php-pinterest-bot",
##     "description": "This PHP library will help you to work with your Pinterest account wi
##         "fork": false,
##         "url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot",
##         "forks_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/forks",
##         "keys_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/keys{/key_
##         "collaborators_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/c
##         "teams_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/teams",
##         "hooks_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/hooks",
##         "issue_events_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/is
##         "events_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/events",
##         "assignees_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/assign
##         "branches_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/branch
##         "tags_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/tags",
##         "blobs_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/git/blobs
##         "git_tags_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/git/ta
##         "git_refs_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/git/re
##         "trees_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/git/trees
##         "statuses_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/status
##         "languages_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/langu
##         "stargazers_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/star
##         "contributors_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/co
##         "subscribers_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/sub
##         "subscription_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/su
##         "commits_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/commits
##         "git_commits_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/git
##         "comments_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/commen
##         "issue_comment_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/i
##         "contents_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/conten
##         "compare_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/compare
##         "merges_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/merges",
##         "archive_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/{archiv

```

```

##      "downloads_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/downl
##      "issues_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/issues{/
##      "pulls_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/pulls{/nu
##      "milestones_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/mile
##      "notifications_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/n
##      "labels_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/labels{/
##      "releases_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/releas
##      "deployments_url": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/dep
##          "created_at": "2015-07-23T09:22:13Z",
##          "updated_at": "2016-09-21T07:51:17Z",
##          "pushed_at": "2016-09-23T10:13:24Z",
##      "git_url": "git://github.com/seregazhuk/php-pinterest-bot.git",
##      "ssh_url": "git@github.com:seregazhuk/php-pinterest-bot.git",
##      "clone_url": "https://github.com/seregazhuk/php-pinterest-bot.git",
##      "svn_url": "https://github.com/seregazhuk/php-pinterest-bot",
##          "homepage": "",
##          "size": 1751,
##          "stargazers_count": 49,
##          "watchers_count": 49,
##          "language": "PHP",
##          "has_issues": true,
##          "has_downloads": true,
##          "has_wiki": true,
##          "has_pages": false,
##          "forks_count": 18,
##          "mirror_url": null,
##          "open_issues_count": 1,
##          "forks": 18,
##          "open_issues": 1,
##          "watchers": 49,
##          "default_branch": "master"
##      }
##  },
##  "_links": {
##      "self": {
##          "href": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/pulls/174"
##      },
##      "html": {
##          "href": "https://github.com/seregazhuk/php-pinterest-bot/pull/174"
##      },
##      "issue": {
##          "href": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/issues/174"
##      },
##      "comments": {
##          "href": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/issues/174/com
##      },

```

```

##         "review_comments": {
##         "href": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/pulls/174/comm
##         },
##         "review_comment": {
##         "href": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/pulls/comments
##         },
##         "commits": {
##         "href": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/pulls/174/comm
##         },
##         "statuses": {
##         "href": "https://api.github.com/repos/seregazhuk/php-pinterest-bot/statuses/08313
##         }
##     },
##     "merged": false,
##     "mergeable": true,
##     "mergeable_state": "unstable",
##     "merged_by": null,
##     "comments": 0,
##     "review_comments": 0,
##     "commits": 1,
##     "additions": 35,
##     "deletions": 12,
##     "changed_files": 4
## }
## },
## "public": true,
## "created_at": "2016-09-23T10:13:24Z"
## },
## {
##     "id": "4607714448",
##     "type": "ForkEvent",
##     "actor": {
##         "id": 9673411,
##         "login": "shravankumar147",
##         "display_login": "shravankumar147",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/shravankumar147",
##     "avatar_url": "https://avatars.githubusercontent.com/u/9673411?"
##     },
##     "repo": {
##         "id": 13677187,
##         "name": "torch/torch7",
##         "url": "https://api.github.com/repos/torch/torch7"
##     },
##     "payload": {
##         "forkee": {

```

```

##      "id": 69013898,
##      "name": "torch7",
##      "full_name": "shravankumar147/torch7",
##      "owner": {
##        "login": "shravankumar147",
##        "id": 9673411,
##        "avatar_url": "https://avatars.githubusercontent.com/u/9673411?v=3",
##        "gravatar_id": "",
##        "url": "https://api.github.com/users/shravankumar147",
##        "html_url": "https://github.com/shravankumar147",
##        "followers_url": "https://api.github.com/users/shravankumar147/followers",
##        "following_url": "https://api.github.com/users/shravankumar147/following{/other_user}",
##        "gists_url": "https://api.github.com/users/shravankumar147/gists{/gist_id}",
##        "starred_url": "https://api.github.com/users/shravankumar147/starred{/owner}{/repo}",
##        "subscriptions_url": "https://api.github.com/users/shravankumar147/subscriptions",
##        "organizations_url": "https://api.github.com/users/shravankumar147/orgs",
##        "repos_url": "https://api.github.com/users/shravankumar147/repos",
##        "events_url": "https://api.github.com/users/shravankumar147/events{/privacy}",
##        "received_events_url": "https://api.github.com/users/shravankumar147/received_events",
##        "type": "User",
##        "site_admin": false
##      },
##      "private": false,
##      "html_url": "https://github.com/shravankumar147/torch7",
##      "description": "http://torch.ch",
##      "fork": true,
##      "url": "https://api.github.com/repos/shravankumar147/torch7",
##      "forks_url": "https://api.github.com/repos/shravankumar147/torch7/forks",
##      "keys_url": "https://api.github.com/repos/shravankumar147/torch7/keys{/key_id}",
##      "collaborators_url": "https://api.github.com/repos/shravankumar147/torch7/collaborators{/collaborator}",
##      "teams_url": "https://api.github.com/repos/shravankumar147/torch7/teams",
##      "hooks_url": "https://api.github.com/repos/shravankumar147/torch7/hooks",
##      "issue_events_url": "https://api.github.com/repos/shravankumar147/torch7/issues/event",
##      "events_url": "https://api.github.com/repos/shravankumar147/torch7/events",
##      "assignees_url": "https://api.github.com/repos/shravankumar147/torch7/assignees{/user}",
##      "branches_url": "https://api.github.com/repos/shravankumar147/torch7/branches{/branch}",
##      "tags_url": "https://api.github.com/repos/shravankumar147/torch7/tags",
##      "blobs_url": "https://api.github.com/repos/shravankumar147/torch7/git/blobs{/sha}",
##      "git_tags_url": "https://api.github.com/repos/shravankumar147/torch7/git/tags{/sha}",
##      "git_refs_url": "https://api.github.com/repos/shravankumar147/torch7/git/refs{/sha}",
##      "trees_url": "https://api.github.com/repos/shravankumar147/torch7/git/trees{/sha}",
##      "statuses_url": "https://api.github.com/repos/shravankumar147/torch7/statuses/{sha}",
##      "languages_url": "https://api.github.com/repos/shravankumar147/torch7/languages",
##      "stargazers_url": "https://api.github.com/repos/shravankumar147/torch7/stargazers",
##      "contributors_url": "https://api.github.com/repos/shravankumar147/torch7/contributors",
##      "subscribers_url": "https://api.github.com/repos/shravankumar147/torch7/subscribers"

```



```

##      "subscription_url": "https://api.github.com/repos/shravankumar147/torch7/subscription",
##      "commits_url": "https://api.github.com/repos/shravankumar147/torch7/commits{/sha}",
##      "git_commits_url": "https://api.github.com/repos/shravankumar147/torch7/git/commits{/sha}",
##      "comments_url": "https://api.github.com/repos/shravankumar147/torch7/comments{/number}",
##      "issue_comment_url": "https://api.github.com/repos/shravankumar147/torch7/issues/{number}/comments{/number}",
##      "contents_url": "https://api.github.com/repos/shravankumar147/torch7/contents/{+path}",
##      "compare_url": "https://api.github.com/repos/shravankumar147/torch7/compare/{base}..{head}",
##      "merges_url": "https://api.github.com/repos/shravankumar147/torch7/merges",
##      "archive_url": "https://api.github.com/repos/shravankumar147/torch7/{archive_format}/{name}.{ext}",
##      "downloads_url": "https://api.github.com/repos/shravankumar147/torch7/downloads",
##      "issues_url": "https://api.github.com/repos/shravankumar147/torch7/issues{/number}",
##      "pulls_url": "https://api.github.com/repos/shravankumar147/torch7/pulls{/number}",
##      "milestones_url": "https://api.github.com/repos/shravankumar147/torch7/milestones{/number}",
##      "notifications_url": "https://api.github.com/repos/shravankumar147/torch7/notifications{/thread_id}",
##      "labels_url": "https://api.github.com/repos/shravankumar147/torch7/labels{/name}",
##      "releases_url": "https://api.github.com/repos/shravankumar147/torch7/releases{/id}",
##      "deployments_url": "https://api.github.com/repos/shravankumar147/torch7/deployments",
##      "created_at": "2016-09-23T10:13:23Z",
##      "updated_at": "2016-09-23T09:12:32Z",
##      "pushed_at": "2016-09-19T15:24:14Z",
##      "git_url": "git://github.com/shravankumar147/torch7.git",
##      "ssh_url": "git@github.com:shravankumar147/torch7.git",
##      "clone_url": "https://github.com/shravankumar147/torch7.git",
##      "svn_url": "https://github.com/shravankumar147/torch7",
##      "homepage": "",
##      "size": 2747,
##      "stargazers_count": 0,
##      "watchers_count": 0,
##      "language": null,
##      "has_issues": false,
##      "has_downloads": true,
##      "has_wiki": true,
##      "has_pages": false,
##      "forks_count": 0,
##      "mirror_url": null,
##      "open_issues_count": 0,
##      "forks": 0,
##      "open_issues": 0,
##      "watchers": 0,
##      "default_branch": "master",
##      "public": true
##    }
##  },
##  "public": true,
##  "created_at": "2016-09-23T10:13:24Z",
##  "org": {

```

```

##      "id": 4978924,
##      "login": "torch",
##      "gravatar_id": "",
##      "url": "https://api.github.com/orgs/torch",
##      "avatar_url": "https://avatars.githubusercontent.com/u/4978924?"
##    }
##  },
##  {
##    "id": "4607714447",
##    "type": "IssueCommentEvent",
##    "actor": {
##      "id": 129439,
##      "login": "otrosien",
##      "display_login": "otrosien",
##      "gravatar_id": "",
##      "url": "https://api.github.com/users/otrosien",
##      "avatar_url": "https://avatars.githubusercontent.com/u/129439?"
##    },
##    "repo": {
##      "id": 21822723,
##      "name": "spring-gradle-plugins/dependency-management-plugin",
##      "url": "https://api.github.com/repos/spring-gradle-plugins/dependency-management-plugin",
##    },
##    "payload": {
##      "action": "created",
##      "issue": {
##        "url": "https://api.github.com/repos/spring-gradle-plugins/dependency-management-plugin/issues/178804610",
##        "repository_url": "https://api.github.com/repos/spring-gradle-plugins/dependency-management-plugin",
##        "labels_url": "https://api.github.com/repos/spring-gradle-plugins/dependency-management-plugin/labels",
##        "comments_url": "https://api.github.com/repos/spring-gradle-plugins/dependency-management-plugin/comments",
##        "events_url": "https://api.github.com/repos/spring-gradle-plugins/dependency-management-plugin/events",
##        "html_url": "https://github.com/spring-gradle-plugins/dependency-management-plugin/issues/178804610",
##        "id": 178804610,
##        "number": 117,
##        "title": "Accessing importedProperties causes missing dependencies in pom",
##        "user": {
##          "login": "otrosien",
##          "id": 129439,
##          "avatar_url": "https://avatars.githubusercontent.com/u/129439?v=3",
##          "gravatar_id": "",
##          "url": "https://api.github.com/users/otrosien",
##          "html_url": "https://github.com/otrosien",
##          "followers_url": "https://api.github.com/users/otrosien/followers",
##          "following_url": "https://api.github.com/users/otrosien/following{/other_user}",
##          "gists_url": "https://api.github.com/users/otrosien/gists{/gist_id}",
##          "starred_url": "https://api.github.com/users/otrosien/starred{/owner}/{/repo}",

```

```

##      "subscriptions_url": "https://api.github.com/users/otrosien/subscriptions",
##      "organizations_url": "https://api.github.com/users/otrosien/orgs",
##      "repos_url": "https://api.github.com/users/otrosien/repos",
##      "events_url": "https://api.github.com/users/otrosien/events{/privacy}",
##      "received_events_url": "https://api.github.com/users/otrosien/received_events",
##      "type": "User",
##      "site_admin": false
##    },
##    "labels": [
##
##    ],
##    "state": "closed",
##    "locked": false,
##    "assignee": null,
##    "assignees": [
##
##    ],
##    "milestone": null,
##    "comments": 4,
##    "created_at": "2016-09-23T07:29:23Z",
##    "updated_at": "2016-09-23T10:13:24Z",
##    "closed_at": "2016-09-23T09:08:22Z",
##    "body": "This might be related to issue #56, but I'm not sure, so I'm creating a new one.",
##    },
##    "comment": {
##      "url": "https://api.github.com/repos/spring-gradle-plugins/dependency-management-plugin/issues/249154365",
##      "html_url": "https://github.com/spring-gradle-plugins/dependency-management-plugin/issues/249154365",
##      "issue_url": "https://api.github.com/repos/spring-gradle-plugins/dependency-management-plugin/issues/249154365",
##      "id": 249154365,
##      "user": {
##        "login": "otrosien",
##        "id": 129439,
##        "avatar_url": "https://avatars.githubusercontent.com/u/129439?v=3",
##        "gravatar_id": "",
##        "url": "https://api.github.com/users/otrosien",
##        "html_url": "https://github.com/otrosien",
##        "followers_url": "https://api.github.com/users/otrosien/followers",
##        "following_url": "https://api.github.com/users/otrosien/following{/other_user}",
##        "gists_url": "https://api.github.com/users/otrosien/gists{/gist_id}",
##        "starred_url": "https://api.github.com/users/otrosien/starred{/owner}/{/repo}",
##        "subscriptions_url": "https://api.github.com/users/otrosien/subscriptions",
##        "organizations_url": "https://api.github.com/users/otrosien/orgs",
##        "repos_url": "https://api.github.com/users/otrosien/repos",
##        "events_url": "https://api.github.com/users/otrosien/events{/privacy}",
##        "received_events_url": "https://api.github.com/users/otrosien/received_events",
##        "type": "User",

```

```

##         "site_admin": false
##     },
##     "created_at": "2016-09-23T10:13:23Z",
##     "updated_at": "2016-09-23T10:13:23Z",
##     "body": "Thanks alot @wilkinsona! The solution works. Unfortunately the gradle document
##     }
## },
## "public": true,
## "created_at": "2016-09-23T10:13:24Z",
## "org": {
##     "id": 8159037,
##     "login": "spring-gradle-plugins",
##     "gravatar_id": "",
##     "url": "https://api.github.com/orgs/spring-gradle-plugins",
##     "avatar_url": "https://avatars.githubusercontent.com/u/8159037?"
## }
## },
## {
##     "id": "4607714441",
##     "type": "PushEvent",
##     "actor": {
##         "id": 6439310,
##         "login": "teku45",
##         "display_login": "teku45",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/teku45",
##     "avatar_url": "https://avatars.githubusercontent.com/u/6439310?"
##     },
##     "repo": {
##         "id": 64139995,
##         "name": "teku45/Web-DROP",
##         "url": "https://api.github.com/repos/teku45/Web-DROP"
##     },
##     "payload": {
##         "push_id": 1313448515,
##         "size": 1,
##         "distinct_size": 1,
##         "ref": "refs/heads/master",
##         "head": "e94779e7e0c8caf65b2cd175bdd34f73f1d2be3c",
##         "before": "a13d3e0dc69c4aadf3d9c93b08466b54d04f6e6d",
##         "commits": [
##             {
##                 "sha": "e94779e7e0c8caf65b2cd175bdd34f73f1d2be3c",
##                 "author": {
##                     "email": "siddsubra@gmail.com",
##                     "name": "Sidd"

```

```

##         },
##         "message": "Initial Commit",
##         "distinct": true,
##         "url": "https://api.github.com/repos/teku45/Web-DROP/commits/e94779e7e0c8caf65b2cd1
##     }
## ]
## },
## "public": true,
## "created_at": "2016-09-23T10:13:24Z"
## },
## {
##     "id": "4607714440",
##     "type": "WatchEvent",
##     "actor": {
##         "id": 19659596,
##         "login": "yaobo1234",
##         "display_login": "yaobo1234",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/yaobo1234",
##     "avatar_url": "https://avatars.githubusercontent.com/u/19659596?"
##     },
##     "repo": {
##         "id": 61801819,
##         "name": "keepfool/vue-tutorials",
##     "url": "https://api.github.com/repos/keepfool/vue-tutorials"
##     },
##     "payload": {
##         "action": "started"
##     },
##     "public": true,
##     "created_at": "2016-09-23T10:13:24Z"
## },
## {
##     "id": "4607714435",
##     "type": "PullRequestEvent",
##     "actor": {
##         "id": 2320,
##         "login": "alloy",
##         "display_login": "alloy",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/alloy",
##     "avatar_url": "https://avatars.githubusercontent.com/u/2320?"
##     },
##     "repo": {
##         "id": 42728510,
##         "name": "artsy/metaphysics",

```

```

##      "url": "https://api.github.com/repos/artsy/metaphysics"
##    },
##    "payload": {
##      "action": "closed",
##      "number": 412,
##      "pull_request": {
##        "url": "https://api.github.com/repos/artsy/metaphysics/pulls/412",
##        "id": 86471537,
##        "html_url": "https://github.com/artsy/metaphysics/pull/412",
##        "diff_url": "https://github.com/artsy/metaphysics/pull/412.diff",
##        "patch_url": "https://github.com/artsy/metaphysics/pull/412.patch",
##        "issue_url": "https://api.github.com/repos/artsy/metaphysics/issues/412",
##        "number": 412,
##        "state": "closed",
##        "locked": false,
##        "title": "[Schema] Add description to the Gene",
##        "user": {
##          "login": "orta",
##          "id": 49038,
##          "avatar_url": "https://avatars.githubusercontent.com/u/49038?v=3",
##          "gravatar_id": "",
##          "url": "https://api.github.com/users/orta",
##          "html_url": "https://github.com/orta",
##          "followers_url": "https://api.github.com/users/orta/followers",
##          "following_url": "https://api.github.com/users/orta/following{/other_user}",
##          "gists_url": "https://api.github.com/users/orta/gists{/gist_id}",
##          "starred_url": "https://api.github.com/users/orta/starred{/owner}/{repo}",
##          "subscriptions_url": "https://api.github.com/users/orta/subscriptions",
##          "organizations_url": "https://api.github.com/users/orta/orgs",
##          "repos_url": "https://api.github.com/users/orta/repos",
##          "events_url": "https://api.github.com/users/orta/events{/privacy}",
##          "received_events_url": "https://api.github.com/users/orta/received_events",
##          "type": "User",
##          "site_admin": false
##        },
##        "body": "Looks like people aren't adding tests for existing attributes - makes sense, so
##          "created_at": "2016-09-23T08:21:04Z",
##          "updated_at": "2016-09-23T10:13:23Z",
##          "closed_at": "2016-09-23T10:13:23Z",
##          "merged_at": "2016-09-23T10:13:23Z",
##          "merge_commit_sha": "8a580ccf8726e914b6dd7c2a9a19966a9b22cb51",
##          "assignee": null,
##          "assignees": [
##
##        ],
##        "milestone": null,

```

```

## "commits_url": "https://api.github.com/repos/artsy/metaphysics/pulls/412/commits",
## "review_comments_url": "https://api.github.com/repos/artsy/metaphysics/pulls/412/com
## "review_comment_url": "https://api.github.com/repos/artsy/metaphysics/pulls/comments
## "comments_url": "https://api.github.com/repos/artsy/metaphysics/issues/412/comments"
## "statuses_url": "https://api.github.com/repos/artsy/metaphysics/statuses/7da0941e027
##   "head": {
##     "label": "artsy:orta-gene_desc",
##     "ref": "orta-gene_desc",
##     "sha": "7da0941e027a1b109308e1d1b5bc0c174e45b7c3",
##     "user": {
##       "login": "artsy",
##       "id": 546231,
##       "avatar_url": "https://avatars.githubusercontent.com/u/546231?v=3",
##       "gravatar_id": "",
##       "url": "https://api.github.com/users/artsy",
##       "html_url": "https://github.com/artsy",
##       "followers_url": "https://api.github.com/users/artsy/followers",
##       "following_url": "https://api.github.com/users/artsy/following{/other_user}",
##       "gists_url": "https://api.github.com/users/artsy/gists{/gist_id}",
##       "starred_url": "https://api.github.com/users/artsy/starred{/owner}/{repo}",
##       "subscriptions_url": "https://api.github.com/users/artsy/subscriptions",
##       "organizations_url": "https://api.github.com/users/artsy/orgs",
##       "repos_url": "https://api.github.com/users/artsy/repos",
##       "events_url": "https://api.github.com/users/artsy/events{/privacy}",
##       "received_events_url": "https://api.github.com/users/artsy/received_events",
##       "type": "Organization",
##       "site_admin": false
##     },
##     "repo": {
##       "id": 42728510,
##       "name": "metaphysics",
##       "full_name": "artsy/metaphysics",
##       "owner": {
##         "login": "artsy",
##         "id": 546231,
##         "avatar_url": "https://avatars.githubusercontent.com/u/546231?v=3",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/artsy",
##         "html_url": "https://github.com/artsy",
##         "followers_url": "https://api.github.com/users/artsy/followers",
##         "following_url": "https://api.github.com/users/artsy/following{/other_user}",
##         "gists_url": "https://api.github.com/users/artsy/gists{/gist_id}",
##         "starred_url": "https://api.github.com/users/artsy/starred{/owner}/{repo}",
##         "subscriptions_url": "https://api.github.com/users/artsy/subscriptions",
##         "organizations_url": "https://api.github.com/users/artsy/orgs",
##         "repos_url": "https://api.github.com/users/artsy/repos",

```

```

##      "events_url": "https://api.github.com/users/artsy/events{/privacy}",
##      "received_events_url": "https://api.github.com/users/artsy/received_events",
##      "type": "Organization",
##      "site_admin": false
##    },
##    "private": false,
##    "html_url": "https://github.com/artsy/metaphysics",
##    "description": "Artsy's GraphQL API",
##    "fork": false,
##    "url": "https://api.github.com/repos/artsy/metaphysics",
##    "forks_url": "https://api.github.com/repos/artsy/metaphysics/forks",
##    "keys_url": "https://api.github.com/repos/artsy/metaphysics/keys{/key_id}",
##    "collaborators_url": "https://api.github.com/repos/artsy/metaphysics/collaborator",
##    "teams_url": "https://api.github.com/repos/artsy/metaphysics/teams",
##    "hooks_url": "https://api.github.com/repos/artsy/metaphysics/hooks",
##    "issue_events_url": "https://api.github.com/repos/artsy/metaphysics/issues/events",
##    "events_url": "https://api.github.com/repos/artsy/metaphysics/events",
##    "assignees_url": "https://api.github.com/repos/artsy/metaphysics/assignees{/user}",
##    "branches_url": "https://api.github.com/repos/artsy/metaphysics/branches{/branch}",
##    "tags_url": "https://api.github.com/repos/artsy/metaphysics/tags",
##    "blobs_url": "https://api.github.com/repos/artsy/metaphysics/git/blobs{/sha}",
##    "git_tags_url": "https://api.github.com/repos/artsy/metaphysics/git/tags{/sha}",
##    "git_refs_url": "https://api.github.com/repos/artsy/metaphysics/git/refs{/sha}",
##    "trees_url": "https://api.github.com/repos/artsy/metaphysics/git/trees{/sha}",
##    "statuses_url": "https://api.github.com/repos/artsy/metaphysics/statuses/{sha}",
##    "languages_url": "https://api.github.com/repos/artsy/metaphysics/languages",
##    "stargazers_url": "https://api.github.com/repos/artsy/metaphysics/stargazers",
##    "contributors_url": "https://api.github.com/repos/artsy/metaphysics/contributors",
##    "subscribers_url": "https://api.github.com/repos/artsy/metaphysics/subscribers",
##    "subscription_url": "https://api.github.com/repos/artsy/metaphysics/subscription",
##    "commits_url": "https://api.github.com/repos/artsy/metaphysics/commits{/sha}",
##    "git_commits_url": "https://api.github.com/repos/artsy/metaphysics/git/commits{/s",
##    "comments_url": "https://api.github.com/repos/artsy/metaphysics/comments{/number}",
##    "issue_comment_url": "https://api.github.com/repos/artsy/metaphysics/issues/comme",
##    "contents_url": "https://api.github.com/repos/artsy/metaphysics/contents/{+path}",
##    "compare_url": "https://api.github.com/repos/artsy/metaphysics/compare/{base}...{",
##    "merges_url": "https://api.github.com/repos/artsy/metaphysics/merges",
##    "archive_url": "https://api.github.com/repos/artsy/metaphysics/{archive_format}/{",
##    "downloads_url": "https://api.github.com/repos/artsy/metaphysics/downloads",
##    "issues_url": "https://api.github.com/repos/artsy/metaphysics/issues/{number}",
##    "pulls_url": "https://api.github.com/repos/artsy/metaphysics/pulls/{number}",
##    "milestones_url": "https://api.github.com/repos/artsy/metaphysics/milestones/{num",
##    "notifications_url": "https://api.github.com/repos/artsy/metaphysics/notification",
##    "labels_url": "https://api.github.com/repos/artsy/metaphysics/labels/{name}",
##    "releases_url": "https://api.github.com/repos/artsy/metaphysics/releases{/id}",
##    "deployments_url": "https://api.github.com/repos/artsy/metaphysics/deployments",

```



```

##         "created_at": "2015-09-18T14:51:48Z",
##         "updated_at": "2016-09-23T06:20:01Z",
##         "pushed_at": "2016-09-23T10:13:23Z",
##         "git_url": "git://github.com/artsy/metaphysics.git",
##         "ssh_url": "git@github.com:artsy/metaphysics.git",
##         "clone_url": "https://github.com/artsy/metaphysics.git",
##         "svn_url": "https://github.com/artsy/metaphysics",
##         "homepage": "",
##         "size": 806,
##         "stargazers_count": 38,
##         "watchers_count": 38,
##         "language": "JavaScript",
##         "has_issues": true,
##         "has_downloads": true,
##         "has_wiki": true,
##         "has_pages": false,
##         "forks_count": 17,
##         "mirror_url": null,
##         "open_issues_count": 33,
##         "forks": 17,
##         "open_issues": 33,
##         "watchers": 38,
##         "default_branch": "master"
##     }
## },
##     "base": {
##         "label": "artsy:master",
##         "ref": "master",
##         "sha": "0d7c2cb996c707071103a9ea0d36aa5327aaf5c8",
##         "user": {
##             "login": "artsy",
##             "id": 546231,
##             "avatar_url": "https://avatars.githubusercontent.com/u/546231?v=3",
##             "gravatar_id": "",
##             "url": "https://api.github.com/users/artsy",
##             "html_url": "https://github.com/artsy",
##             "followers_url": "https://api.github.com/users/artsy/followers",
##             "following_url": "https://api.github.com/users/artsy/following{/other_user}",
##             "gists_url": "https://api.github.com/users/artsy/gists{/gist_id}",
##             "starred_url": "https://api.github.com/users/artsy/starred{/owner}/{/repo}",
##             "subscriptions_url": "https://api.github.com/users/artsy/subscriptions",
##             "organizations_url": "https://api.github.com/users/artsy/orgs",
##             "repos_url": "https://api.github.com/users/artsy/repos",
##             "events_url": "https://api.github.com/users/artsy/events{/privacy}",
##             "received_events_url": "https://api.github.com/users/artsy/received_events",
##             "type": "Organization",

```

```

##         "site_admin": false
##     },
##     "repo": {
##         "id": 42728510,
##         "name": "metaphysics",
##         "full_name": "artsy/metaphysics",
##         "owner": {
##             "login": "artsy",
##             "id": 546231,
##         "avatar_url": "https://avatars.githubusercontent.com/u/546231?v=3",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/artsy",
##         "html_url": "https://github.com/artsy",
##         "followers_url": "https://api.github.com/users/artsy/followers",
##         "following_url": "https://api.github.com/users/artsy/following{/other_user}",
##         "gists_url": "https://api.github.com/users/artsy/gists{/gist_id}",
##         "starred_url": "https://api.github.com/users/artsy/starred{/owner}/{repo}",
##         "subscriptions_url": "https://api.github.com/users/artsy/subscriptions",
##         "organizations_url": "https://api.github.com/users/artsy/orgs",
##         "repos_url": "https://api.github.com/users/artsy/repos",
##         "events_url": "https://api.github.com/users/artsy/events{/privacy}",
##         "received_events_url": "https://api.github.com/users/artsy/received_events",
##         "type": "Organization",
##         "site_admin": false
##     },
##     "private": false,
##     "html_url": "https://github.com/artsy/metaphysics",
##     "description": "Artsy's GraphQL API",
##     "fork": false,
##     "url": "https://api.github.com/repos/artsy/metaphysics",
##     "forks_url": "https://api.github.com/repos/artsy/metaphysics/forks",
##     "keys_url": "https://api.github.com/repos/artsy/metaphysics/keys{/key_id}",
##     "collaborators_url": "https://api.github.com/repos/artsy/metaphysics/collaborator",
##     "teams_url": "https://api.github.com/repos/artsy/metaphysics/teams",
##     "hooks_url": "https://api.github.com/repos/artsy/metaphysics/hooks",
##     "issue_events_url": "https://api.github.com/repos/artsy/metaphysics/issues/events",
##     "events_url": "https://api.github.com/repos/artsy/metaphysics/events",
##     "assignees_url": "https://api.github.com/repos/artsy/metaphysics/assignees{/user}",
##     "branches_url": "https://api.github.com/repos/artsy/metaphysics/branches{/branch}",
##     "tags_url": "https://api.github.com/repos/artsy/metaphysics/tags",
##     "blobs_url": "https://api.github.com/repos/artsy/metaphysics/git/blobs{/sha}",
##     "git_tags_url": "https://api.github.com/repos/artsy/metaphysics/git/tags{/sha}",
##     "git_refs_url": "https://api.github.com/repos/artsy/metaphysics/git/refs{/sha}",
##     "trees_url": "https://api.github.com/repos/artsy/metaphysics/git/trees{/sha}",
##     "statuses_url": "https://api.github.com/repos/artsy/metaphysics/statuses/{sha}",
##     "languages_url": "https://api.github.com/repos/artsy/metaphysics/languages",

```

```

##      "stargazers_url": "https://api.github.com/repos/artsy/metaphysics/stargazers",
##      "contributors_url": "https://api.github.com/repos/artsy/metaphysics/contributors",
##      "subscribers_url": "https://api.github.com/repos/artsy/metaphysics/subscribers",
##      "subscription_url": "https://api.github.com/repos/artsy/metaphysics/subscription",
##      "commits_url": "https://api.github.com/repos/artsy/metaphysics/commits{/sha}",
##      "git_commits_url": "https://api.github.com/repos/artsy/metaphysics/git/commits{/sha}",
##      "comments_url": "https://api.github.com/repos/artsy/metaphysics/comments{/number}",
##      "issue_comment_url": "https://api.github.com/repos/artsy/metaphysics/issues/{number}/comments{/number}",
##      "contents_url": "https://api.github.com/repos/artsy/metaphysics/contents/{+path}",
##      "compare_url": "https://api.github.com/repos/artsy/metaphysics/compare/{base}...{head}",
##      "merges_url": "https://api.github.com/repos/artsy/metaphysics/merges",
##      "archive_url": "https://api.github.com/repos/artsy/metaphysics/{archive_format}/{name}-{ref}.tar.gz",
##      "downloads_url": "https://api.github.com/repos/artsy/metaphysics/downloads",
##      "issues_url": "https://api.github.com/repos/artsy/metaphysics/issues{/number}",
##      "pulls_url": "https://api.github.com/repos/artsy/metaphysics/pulls{/number}",
##      "milestones_url": "https://api.github.com/repos/artsy/metaphysics/milestones{/number}",
##      "notifications_url": "https://api.github.com/repos/artsy/metaphysics/notifications{/thread_id}/updates",
##      "labels_url": "https://api.github.com/repos/artsy/metaphysics/labels{/name}",
##      "releases_url": "https://api.github.com/repos/artsy/metaphysics/releases{/id}",
##      "deployments_url": "https://api.github.com/repos/artsy/metaphysics/deployments",
##      "created_at": "2015-09-18T14:51:48Z",
##      "updated_at": "2016-09-23T06:20:01Z",
##      "pushed_at": "2016-09-23T10:13:23Z",
##      "git_url": "git://github.com/artsy/metaphysics.git",
##      "ssh_url": "git@github.com:artsy/metaphysics.git",
##      "clone_url": "https://github.com/artsy/metaphysics.git",
##      "svn_url": "https://github.com/artsy/metaphysics",
##      "homepage": "",
##      "size": 806,
##      "stargazers_count": 38,
##      "watchers_count": 38,
##      "language": "JavaScript",
##      "has_issues": true,
##      "has_downloads": true,
##      "has_wiki": true,
##      "has_pages": false,
##      "forks_count": 17,
##      "mirror_url": null,
##      "open_issues_count": 33,
##      "forks": 17,
##      "open_issues": 33,
##      "watchers": 38,
##      "default_branch": "master"
##    }
##  },
##  "_links": {

```

```

##         "self": {
##         "href": "https://api.github.com/repos/artsy/metaphysics/pulls/412"
##         },
##         "html": {
##         "href": "https://github.com/artsy/metaphysics/pull/412"
##         },
##         "issue": {
##         "href": "https://api.github.com/repos/artsy/metaphysics/issues/412"
##         },
##         "comments": {
##         "href": "https://api.github.com/repos/artsy/metaphysics/issues/412/comments"
##         },
##         "review_comments": {
##         "href": "https://api.github.com/repos/artsy/metaphysics/pulls/412/comments"
##         },
##         "review_comment": {
##         "href": "https://api.github.com/repos/artsy/metaphysics/pulls/comments{/number}"
##         },
##         "commits": {
##         "href": "https://api.github.com/repos/artsy/metaphysics/pulls/412/commits"
##         },
##         "statuses": {
##         "href": "https://api.github.com/repos/artsy/metaphysics/statuses/7da0941e027a1b10"
##         }
##     },
##     "merged": true,
##     "mergeable": null,
##     "mergeable_state": "unknown",
##     "merged_by": {
##         "login": "alloy",
##         "id": 2320,
##         "avatar_url": "https://avatars.githubusercontent.com/u/2320?v=3",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/alloy",
##         "html_url": "https://github.com/alloy",
##         "followers_url": "https://api.github.com/users/alloy/followers",
##         "following_url": "https://api.github.com/users/alloy/following{/other_user}",
##         "gists_url": "https://api.github.com/users/alloy/gists{/gist_id}",
##         "starred_url": "https://api.github.com/users/alloy/starred{/owner}/{/repo}",
##         "subscriptions_url": "https://api.github.com/users/alloy/subscriptions",
##         "organizations_url": "https://api.github.com/users/alloy/orgs",
##         "repos_url": "https://api.github.com/users/alloy/repos",
##         "events_url": "https://api.github.com/users/alloy/events{/privacy}",
##         "received_events_url": "https://api.github.com/users/alloy/received_events",
##         "type": "User",
##         "site_admin": false

```

```

##         },
##         "comments": 1,
##         "review_comments": 0,
##         "commits": 1,
##         "additions": 3,
##         "deletions": 0,
##         "changed_files": 1
##     }
## },
##     "public": true,
##     "created_at": "2016-09-23T10:13:24Z",
##     "org": {
##         "id": 546231,
##         "login": "artsy",
##         "gravatar_id": "",
##         "url": "https://api.github.com/orgs/artsy",
##         "avatar_url": "https://avatars.githubusercontent.com/u/546231?"
##     }
## },
## {
##     "id": "4607714421",
##     "type": "PushEvent",
##     "actor": {
##         "id": 1468563,
##         "login": "dolittle007",
##         "display_login": "dolittle007",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/dolittle007",
##         "avatar_url": "https://avatars.githubusercontent.com/u/1468563?"
##     },
##     "repo": {
##         "id": 5646582,
##         "name": "dolittle007/dolittle007.github.io",
##         "url": "https://api.github.com/repos/dolittle007/dolittle007.github.io"
##     },
##     "payload": {
##         "push_id": 1313448512,
##         "size": 1,
##         "distinct_size": 1,
##         "ref": "refs/heads/master",
##         "head": "ea5ba55bf7ad00240ea7f3b2566b29d2a1836a9d",
##         "before": "27edd7a2a6ac63dcea894f1607f5804126ce2a54",
##         "commits": [
##             {
##                 "sha": "ea5ba55bf7ad00240ea7f3b2566b29d2a1836a9d",
##                 "author": {

```

```

##         "email": "dolittle007@gmail.com",
##         "name": "Carlos D. Wang"
##     },
##     "message": "Update 2016-09-13-RNA-seq-analysis.md",
##     "distinct": true,
##     "url": "https://api.github.com/repos/dolittle007/dolittle007.github.io/commits/ea5b
##     }
## ]
## },
## "public": true,
## "created_at": "2016-09-23T10:13:23Z"
## },
## {
##     "id": "4607714410",
##     "type": "PushEvent",
##     "actor": {
##         "id": 9099170,
##         "login": "kjf91",
##         "display_login": "kjf91",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/kjf91",
##     "avatar_url": "https://avatars.githubusercontent.com/u/9099170?"
##     },
##     "repo": {
##         "id": 56123473,
##         "name": "kjf91/worknote",
##         "url": "https://api.github.com/repos/kjf91/worknote"
##     },
##     "payload": {
##         "push_id": 1313448508,
##         "size": 1,
##         "distinct_size": 1,
##         "ref": "refs/heads/master",
##         "head": "54a6623f9d865e3290dff879f7a56e6e49d74f4e",
##         "before": "7dca38e8e1007b17e7e5d625f7fe727d40ca48dd",
##         "commits": [
##             {
##                 "sha": "54a6623f9d865e3290dff879f7a56e6e49d74f4e",
##                 "author": {
##                     "email": "kjf91@foxmail.com",
##                     "name": "kjf"
##                 },
##                 "message": "u",
##                 "distinct": true,
##                 "url": "https://api.github.com/repos/kjf91/worknote/commits/54a6623f9d865e3290dff87
##             }

```

```

##     ]
##     },
##     "public": true,
##     "created_at": "2016-09-23T10:13:23Z"
## },
## {
##     "id": "4607714405",
##     "type": "IssueCommentEvent",
##     "actor": {
##         "id": 6526722,
##         "login": "taish",
##         "display_login": "taish",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/taish",
##         "avatar_url": "https://avatars.githubusercontent.com/u/6526722?"
##     },
##     "repo": {
##         "id": 30968293,
##         "name": "ishkawa/APIKit",
##         "url": "https://api.github.com/repos/ishkawa/APIKit"
##     },
##     "payload": {
##         "action": "created",
##         "issue": {
##             "url": "https://api.github.com/repos/ishkawa/APIKit/issues/206",
##             "repository_url": "https://api.github.com/repos/ishkawa/APIKit",
##             "labels_url": "https://api.github.com/repos/ishkawa/APIKit/issues/206/labels{/name}",
##             "comments_url": "https://api.github.com/repos/ishkawa/APIKit/issues/206/comments",
##             "events_url": "https://api.github.com/repos/ishkawa/APIKit/issues/206/events",
##             "html_url": "https://github.com/ishkawa/APIKit/pull/206",
##             "id": 178833830,
##             "number": 206,
##             "title": "fix APIKit2MigrationGuide doc typo",
##             "user": {
##                 "login": "taish",
##                 "id": 6526722,
##                 "avatar_url": "https://avatars.githubusercontent.com/u/6526722?v=3",
##                 "gravatar_id": "",
##                 "url": "https://api.github.com/users/taish",
##                 "html_url": "https://github.com/taish",
##                 "followers_url": "https://api.github.com/users/taish/followers",
##                 "following_url": "https://api.github.com/users/taish/following{/other_user}",
##                 "gists_url": "https://api.github.com/users/taish/gists{/gist_id}",
##                 "starred_url": "https://api.github.com/users/taish/starred{/owner}/{/repo}",
##                 "subscriptions_url": "https://api.github.com/users/taish/subscriptions",
##                 "organizations_url": "https://api.github.com/users/taish/orgs",

```

```

##      "repos_url": "https://api.github.com/users/taish/repos",
##      "events_url": "https://api.github.com/users/taish/events{/privacy}",
##      "received_events_url": "https://api.github.com/users/taish/received_events",
##      "type": "User",
##      "site_admin": false
##    },
##    "labels": [
##
##    ],
##    "state": "closed",
##    "locked": false,
##    "assignee": null,
##    "assignees": [
##
##    ],
##    "milestone": null,
##    "comments": 1,
##    "created_at": "2016-09-23T09:53:13Z",
##    "updated_at": "2016-09-23T10:13:23Z",
##    "closed_at": "2016-09-23T10:10:23Z",
##    "pull_request": {
##      "url": "https://api.github.com/repos/ishkawa/APIKit/pulls/206",
##      "html_url": "https://github.com/ishkawa/APIKit/pull/206",
##      "diff_url": "https://github.com/ishkawa/APIKit/pull/206.diff",
##      "patch_url": "https://github.com/ishkawa/APIKit/pull/206.patch"
##    },
##    "body": "BodyParametersType -> BodyParameters"
##  },
##  "comment": {
##    "url": "https://api.github.com/repos/ishkawa/APIKit/issues/comments/249154362",
##    "html_url": "https://github.com/ishkawa/APIKit/pull/206#issuecomment-249154362",
##    "issue_url": "https://api.github.com/repos/ishkawa/APIKit/issues/206",
##    "id": 249154362,
##    "user": {
##      "login": "taish",
##      "id": 6526722,
##      "avatar_url": "https://avatars.githubusercontent.com/u/6526722?v=3",
##      "gravatar_id": "",
##      "url": "https://api.github.com/users/taish",
##      "html_url": "https://github.com/taish",
##      "followers_url": "https://api.github.com/users/taish/followers",
##      "following_url": "https://api.github.com/users/taish/following{/other_user}",
##      "gists_url": "https://api.github.com/users/taish/gists{/gist_id}",
##      "starred_url": "https://api.github.com/users/taish/starred{/owner}/{repo}",
##      "subscriptions_url": "https://api.github.com/users/taish/subscriptions",
##      "organizations_url": "https://api.github.com/users/taish/orgs",

```



```

##      "repos_url": "https://api.github.com/users/taish/repos",
##      "events_url": "https://api.github.com/users/taish/events{/privacy}",
##      "received_events_url": "https://api.github.com/users/taish/received_events",
##      "type": "User",
##      "site_admin": false
##    },
##    "created_at": "2016-09-23T10:13:23Z",
##    "updated_at": "2016-09-23T10:13:23Z",
##    "body": "sorry... my misunderstanding..."
##  }
## },
## "public": true,
## "created_at": "2016-09-23T10:13:23Z"
## },
## {
##   "id": "4607714383",
##   "type": "CreateEvent",
##   "actor": {
##     "id": 7577479,
##     "login": "dheeraj9198",
##     "display_login": "dheeraj9198",
##     "gravatar_id": "",
##     "url": "https://api.github.com/users/dheeraj9198",
##     "avatar_url": "https://avatars.githubusercontent.com/u/7577479?"
##   },
##   "repo": {
##     "id": 69013896,
##     "name": "dheeraj9198/dynamo_test",
##     "url": "https://api.github.com/repos/dheeraj9198/dynamo_test"
##   },
##   "payload": {
##     "ref": null,
##     "ref_type": "repository",
##     "master_branch": "master",
##     "description": null,
##     "pusher_type": "user"
##   },
##   "public": true,
##   "created_at": "2016-09-23T10:13:22Z"
## },
## {
##   "id": "4607714382",
##   "type": "PushEvent",
##   "actor": {
##     "id": 57483,
##     "login": "tmtmtmtm",

```

```

##      "display_login": "tmtmtmtm",
##      "gravatar_id": "",
##      "url": "https://api.github.com/users/tmtmtmtm",
##      "avatar_url": "https://avatars.githubusercontent.com/u/57483?"
##    },
##    "repo": {
##      "id": 36170900,
##      "name": "everypolitician-scrapers/romanian-parliament",
##      "url": "https://api.github.com/repos/everypolitician-scrapers/romanian-parliament"
##    },
##    "payload": {
##      "push_id": 1313448497,
##      "size": 1,
##      "distinct_size": 1,
##      "ref": "refs/heads/scraped-pages-archive",
##      "head": "355154f1d32ad5a255e62044863ec939933208c7",
##      "before": "e4059b830fb85f9f05f83d4abd8a4eaaca843804",
##      "commits": [
##        {
##          "sha": "355154f1d32ad5a255e62044863ec939933208c7",
##          "author": {
##            "email": "scraped_page_archive-0.3.1@scrappers.everypolitician.org",
##            "name": "scraped_page_archive gem 0.3.1"
##          },
##          "message": "200 OK http://www.cdep.ro/pls/parlam/structura2015.mp?cam=2&idl=2&idm=3",
##          "distinct": true,
##          "url": "https://api.github.com/repos/everypolitician-scrapers/romanian-parliament/"
##        }
##      ],
##    },
##    "public": true,
##    "created_at": "2016-09-23T10:13:22Z",
##    "org": {
##      "id": 18443033,
##      "login": "everypolitician-scrappers",
##      "gravatar_id": "",
##      "url": "https://api.github.com/orgs/everypolitician-scrappers",
##      "avatar_url": "https://avatars.githubusercontent.com/u/18443033?"
##    }
##  },
##  {
##    "id": "4607714381",
##    "type": "CreateEvent",
##    "actor": {
##      "id": 19274031,
##      "login": "renshenhe",

```

```

##      "display_login": "renshenhe",
##      "gravatar_id": "",
##      "url": "https://api.github.com/users/renshenhe",
##      "avatar_url": "https://avatars.githubusercontent.com/u/19274031?"
##    },
##    "repo": {
##      "id": 69013897,
##      "name": "renshenhe/pure",
##      "url": "https://api.github.com/repos/renshenhe/pure"
##    },
##    "payload": {
##      "ref": null,
##      "ref_type": "repository",
##      "master_branch": "master",
##      "description": "react boilerplate",
##      "pusher_type": "user"
##    },
##    "public": true,
##    "created_at": "2016-09-23T10:13:22Z"
##  },
##  {
##    "id": "4607714379",
##    "type": "PushEvent",
##    "actor": {
##      "id": 17866932,
##      "login": "Happyyy",
##      "display_login": "Happyyy",
##      "gravatar_id": "",
##      "url": "https://api.github.com/users/Happyyy",
##      "avatar_url": "https://avatars.githubusercontent.com/u/17866932?"
##    },
##    "repo": {
##      "id": 59186085,
##      "name": "Happyyy/software",
##      "url": "https://api.github.com/repos/Happyyy/software"
##    },
##    "payload": {
##      "push_id": 1313448498,
##      "size": 1,
##      "distinct_size": 1,
##      "ref": "refs/heads/master",
##      "head": "6bdbeb76b35ad7bbbf8f151b478cc399ac30e893",
##      "before": "aa7728be1e61a30cd129f1ed75ea459b4655c98e",
##      "commits": [
##        {
##          "sha": "6bdbeb76b35ad7bbbf8f151b478cc399ac30e893",

```

```

##         "author": {
##             "email": "huanhuan.feng@analog.com",
##             "name": "feng"
##         },
##         "message": "add wiznote",
##         "distinct": true,
##         "url": "https://api.github.com/repos/Happyyy/software/commits/6bdbeb76b35ad7bbbf8f1
##     }
## ]
## },
## "public": true,
## "created_at": "2016-09-23T10:13:22Z"
## },
## {
##     "id": "4607714369",
##     "type": "CreateEvent",
##     "actor": {
##         "id": 648662,
##         "login": "petergallagher",
##         "display_login": "petergallagher",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/petergallagher",
##         "avatar_url": "https://avatars.githubusercontent.com/u/648662?"
##     },
##     "repo": {
##         "id": 1237874,
##         "name": "openeyes/OpenEyes",
##         "url": "https://api.github.com/repos/openeyes/OpenEyes"
##     },
##     "payload": {
##         "ref": "feature/OE-6208",
##         "ref_type": "branch",
##         "master_branch": "master",
##         "description": "An Open Source electronic patient record system",
##         "pusher_type": "user"
##     },
##     "public": true,
##     "created_at": "2016-09-23T10:13:22Z",
##     "org": {
##         "id": 551706,
##         "login": "openeyes",
##         "gravatar_id": "",
##         "url": "https://api.github.com/orgs/openeyes",
##         "avatar_url": "https://avatars.githubusercontent.com/u/551706?"
##     }
## },

```

```

## {
##   "id": "4607714366",
##   "type": "MemberEvent",
##   "actor": {
##     "id": 7116349,
##     "login": "stamigos",
##     "display_login": "stamigos",
##     "gravatar_id": "",
##     "url": "https://api.github.com/users/stamigos",
##     "avatar_url": "https://avatars.githubusercontent.com/u/7116349?"
##   },
##   "repo": {
##     "id": 68613496,
##     "name": "stamigos/m-interface_v2.0",
##     "url": "https://api.github.com/repos/stamigos/m-interface_v2.0"
##   },
##   "payload": {
##     "member": {
##       "login": "sofiyakozinets",
##       "id": 21110783,
##       "avatar_url": "https://avatars.githubusercontent.com/u/21110783?v=3",
##       "gravatar_id": "",
##       "url": "https://api.github.com/users/sofiyakozinets",
##       "html_url": "https://github.com/sofiyakozinets",
##       "followers_url": "https://api.github.com/users/sofiyakozinets/followers",
##       "following_url": "https://api.github.com/users/sofiyakozinets/following{/other_user}",
##       "gists_url": "https://api.github.com/users/sofiyakozinets/gists{/gist_id}",
##       "starred_url": "https://api.github.com/users/sofiyakozinets/starred{/owner}/{repo}",
##       "subscriptions_url": "https://api.github.com/users/sofiyakozinets/subscriptions",
##       "organizations_url": "https://api.github.com/users/sofiyakozinets/orgs",
##       "repos_url": "https://api.github.com/users/sofiyakozinets/repos",
##       "events_url": "https://api.github.com/users/sofiyakozinets/events{/privacy}",
##       "received_events_url": "https://api.github.com/users/sofiyakozinets/received_events"
##     },
##     "type": "User",
##     "site_admin": false
##   },
##   "action": "added"
## },
##   "public": true,
##   "created_at": "2016-09-23T10:13:22Z"
## },
## {
##   "id": "4607714367",
##   "type": "PushEvent",
##   "actor": {
##     "id": 22387253,

```

```

##      "login": "0xsh",
##      "display_login": "0xsh",
##      "gravatar_id": "",
##      "url": "https://api.github.com/users/0xsh",
##      "avatar_url": "https://avatars.githubusercontent.com/u/22387253?"
##    },
##    "repo": {
##      "id": 68993849,
##      "name": "0xsh/platypuscon-2016",
##      "url": "https://api.github.com/repos/0xsh/platypuscon-2016"
##    },
##    "payload": {
##      "push_id": 1313448496,
##      "size": 1,
##      "distinct_size": 1,
##      "ref": "refs/heads/master",
##      "head": "3586502693b9116cb55314a22f474c6a2891ee1b",
##      "before": "7120c9f4f523688f4ad278a80eac0a3f59750ebd",
##      "commits": [
##        {
##          "sha": "3586502693b9116cb55314a22f474c6a2891ee1b",
##          "author": {
##            "email": "0xsh0xsh@gmail.com",
##            "name": "0xsh"
##          },
##          "message": "Update README.md",
##          "distinct": true,
##          "url": "https://api.github.com/repos/0xsh/platypuscon-2016/commits/3586502693b9116cb55314a22f474c6a2891ee1b"
##        }
##      ],
##    },
##    "public": true,
##    "created_at": "2016-09-23T10:13:22Z"
##  },
##  {
##    "id": "4607714364",
##    "type": "PushEvent",
##    "actor": {
##      "id": 14346011,
##      "login": "kdesysadmin",
##      "display_login": "kdesysadmin",
##      "gravatar_id": "",
##      "url": "https://api.github.com/users/kdesysadmin",
##      "avatar_url": "https://avatars.githubusercontent.com/u/14346011?"
##    },
##    "repo": {

```

```

##      "id": 42736075,
##      "name": "KDE/plasma-workspace",
##      "url": "https://api.github.com/repos/KDE/plasma-workspace"
##    },
##    "payload": {
##      "push_id": 1313448493,
##      "size": 1,
##      "distinct_size": 1,
##      "ref": "refs/heads/Plasma/5.8",
##      "head": "22c6643ef5395c1e7536c55e963590f01a744a0f",
##      "before": "f684124287e0b6f108688317616479feeb9c2099",
##      "commits": [
##        {
##          "sha": "22c6643ef5395c1e7536c55e963590f01a744a0f",
##          "author": {
##            "email": "kde@davidedmundson.co.uk",
##            "name": "David Edmundson"
##          },
##          "message": "Fix method that calls itself recursively\n\nTest Plan: Read the code.\n\n",
##          "distinct": true,
##          "url": "https://api.github.com/repos/KDE/plasma-workspace/commits/22c6643ef5395c1e7536c55e963590f01a744a0f"
##        }
##      ]
##    },
##    "public": true,
##    "created_at": "2016-09-23T10:13:22Z",
##    "org": {
##      "id": 14312869,
##      "login": "KDE",
##      "gravatar_id": "",
##      "url": "https://api.github.com/orgs/KDE",
##      "avatar_url": "https://avatars.githubusercontent.com/u/14312869?"
##    }
##  },
##  {
##    "id": "4607714359",
##    "type": "WatchEvent",
##    "actor": {
##      "id": 287232,
##      "login": "leesheppard",
##      "display_login": "leesheppard",
##      "gravatar_id": "",
##      "url": "https://api.github.com/users/leesheppard",
##      "avatar_url": "https://avatars.githubusercontent.com/u/287232?"
##    },
##    "repo": {

```

```

##      "id": 5722466,
##      "name": "nomad/houston",
##      "url": "https://api.github.com/repos/nomad/houston"
##    },
##    "payload": {
##      "action": "started"
##    },
##    "public": true,
##    "created_at": "2016-09-23T10:13:22Z",
##    "org": {
##      "id": 1833193,
##      "login": "nomad",
##      "gravatar_id": "",
##      "url": "https://api.github.com/orgs/nomad",
##      "avatar_url": "https://avatars.githubusercontent.com/u/1833193?"
##    }
##  },
##  {
##    "id": "4607714339",
##    "type": "WatchEvent",
##    "actor": {
##      "id": 991427,
##      "login": "hvasconcelos",
##      "display_login": "hvasconcelos",
##      "gravatar_id": "",
##      "url": "https://api.github.com/users/hvasconcelos",
##      "avatar_url": "https://avatars.githubusercontent.com/u/991427?"
##    },
##    "repo": {
##      "id": 2272972,
##      "name": "fredericgermain/LeakTracer",
##      "url": "https://api.github.com/repos/fredericgermain/LeakTracer"
##    },
##    "payload": {
##      "action": "started"
##    },
##    "public": true,
##    "created_at": "2016-09-23T10:13:22Z"
##  },
##  {
##    "id": "4607714338",
##    "type": "PushEvent",
##    "actor": {
##      "id": 384198,
##      "login": "lgatto",
##      "display_login": "lgatto",

```



```

##      "gravatar_id": "",
##      "url": "https://api.github.com/users/lgatto",
##      "avatar_url": "https://avatars.githubusercontent.com/u/384198?"
##    },
##    "repo": {
##      "id": 69005189,
##      "name": "lgatto/EuroBioc2016-Basel-MSnbase2",
##      "url": "https://api.github.com/repos/lgatto/EuroBioc2016-Basel-MSnbase2"
##    },
##    "payload": {
##      "push_id": 1313448487,
##      "size": 1,
##      "distinct_size": 1,
##      "ref": "refs/heads/master",
##      "head": "3366c0d3f0fbd8d3a62aa2f12a4813b3dbec2211",
##      "before": "01576be644d628fb4f3db1866dfa2aa87dc5d56b",
##      "commits": [
##        {
##          "sha": "3366c0d3f0fbd8d3a62aa2f12a4813b3dbec2211",
##          "author": {
##            "email": "lg390@cam.ac.uk",
##            "name": "Laurent"
##          },
##          "message": "abstract",
##          "distinct": true,
##          "url": "https://api.github.com/repos/lgatto/EuroBioc2016-Basel-MSnbase2/commits/3366c0d3f0fbd8d3a62aa2f12a4813b3dbec2211"
##        }
##      ]
##    },
##    "public": true,
##    "created_at": "2016-09-23T10:13:22Z"
##  },
##  {
##    "id": "4607714336",
##    "type": "CreateEvent",
##    "actor": {
##      "id": 10204912,
##      "login": "micro1226",
##      "display_login": "micro1226",
##      "gravatar_id": "",
##      "url": "https://api.github.com/users/micro1226",
##      "avatar_url": "https://avatars.githubusercontent.com/u/10204912?"
##    },
##    "repo": {
##      "id": 69013861,
##      "name": "micro1226/generateCountryCodePlist",

```

```

##      "url": "https://api.github.com/repos/micro1226/generateCountryCodePlist"
##    },
##    "payload": {
##      "ref": "master",
##      "ref_type": "branch",
##      "master_branch": "master",
##      "description": null,
##      "pusher_type": "user"
##    },
##    "public": true,
##    "created_at": "2016-09-23T10:13:22Z"
##  },
##  {
##    "id": "4607714310",
##    "type": "PushEvent",
##    "actor": {
##      "id": 12951693,
##      "login": "chanalaaa",
##      "display_login": "chanalaaa",
##      "gravatar_id": "",
##      "url": "https://api.github.com/users/chanalaaa",
##      "avatar_url": "https://avatars.githubusercontent.com/u/12951693?"
##    },
##    "repo": {
##      "id": 68352603,
##      "name": "chanalaaa/kpi_travel",
##      "url": "https://api.github.com/repos/chanalaaa/kpi_travel"
##    },
##    "payload": {
##      "push_id": 1313448476,
##      "size": 1,
##      "distinct_size": 1,
##      "ref": "refs/heads/master",
##      "head": "30e644341099ce528d5191659e44988eec7dd67a",
##      "before": "d0379d6a67e54108fb406c944c952e8c602ee4d0",
##      "commits": [
##        {
##          "sha": "30e644341099ce528d5191659e44988eec7dd67a",
##          "author": {
##            "email": "c.wilangka@gmail.com",
##            "name": "Chanala Wilangka"
##          },
##          "message": "table fix in firefox",
##          "distinct": true,
##          "url": "https://api.github.com/repos/chanalaaa/kpi_travel/commits/30e644341099ce528d5191659e44988eec7dd67a"
##        }
##      ]
##    }
##  }

```

```

##     ]
##   },
##   "public": true,
##   "created_at": "2016-09-23T10:13:21Z"
## },
## {
##   "id": "4607714308",
##   "type": "IssueCommentEvent",
##   "actor": {
##     "id": 1192354,
##     "login": "ckny",
##     "display_login": "ckny",
##     "gravatar_id": "",
##     "url": "https://api.github.com/users/ckny",
##     "avatar_url": "https://avatars.githubusercontent.com/u/1192354?"
##   },
##   "repo": {
##     "id": 17371819,
##     "name": "mattr-/slate",
##     "url": "https://api.github.com/repos/mattr-/slate"
##   },
##   "payload": {
##     "action": "created",
##     "issue": {
##       "url": "https://api.github.com/repos/mattr-/slate/issues/79",
##       "repository_url": "https://api.github.com/repos/mattr-/slate",
##       "labels_url": "https://api.github.com/repos/mattr-/slate/issues/79/labels{/name}",
##       "comments_url": "https://api.github.com/repos/mattr-/slate/issues/79/comments",
##       "events_url": "https://api.github.com/repos/mattr-/slate/issues/79/events",
##       "html_url": "https://github.com/mattr-/slate/issues/79",
##       "id": 178837352,
##       "number": 79,
##       "title": "OS X El Capitan: Storing the layout of a specific desktop (space)",
##       "user": {
##         "login": "ckny",
##         "id": 1192354,
##         "avatar_url": "https://avatars.githubusercontent.com/u/1192354?v=3",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/ckny",
##         "html_url": "https://github.com/ckny",
##         "followers_url": "https://api.github.com/users/ckny/followers",
##         "following_url": "https://api.github.com/users/ckny/following{/other_user}",
##         "gists_url": "https://api.github.com/users/ckny/gists{/gist_id}",
##         "starred_url": "https://api.github.com/users/ckny/starred{/owner}/{/repo}",
##         "subscriptions_url": "https://api.github.com/users/ckny/subscriptions",
##         "organizations_url": "https://api.github.com/users/ckny/orgs",

```

```

##      "repos_url": "https://api.github.com/users/ckny/repos",
##      "events_url": "https://api.github.com/users/ckny/events{/privacy}",
##      "received_events_url": "https://api.github.com/users/ckny/received_events",
##      "type": "User",
##      "site_admin": false
##    },
##    "labels": [
##
##    ],
##    "state": "open",
##    "locked": false,
##    "assignee": null,
##    "assignees": [
##
##    ],
##    "milestone": null,
##    "comments": 2,
##    "created_at": "2016-09-23T10:09:22Z",
##    "updated_at": "2016-09-23T10:13:21Z",
##    "closed_at": null,
##    "body": "I would like to realize the following use case by leveraging slate (or AppleScr
##    },
##    "comment": {
##      "url": "https://api.github.com/repos/mattr-/slate/issues/comments/249154356",
##      "html_url": "https://github.com/mattr-/slate/issues/79#issuecomment-249154356",
##      "issue_url": "https://api.github.com/repos/mattr-/slate/issues/79",
##      "id": 249154356,
##      "user": {
##        "login": "ckny",
##        "id": 1192354,
##        "avatar_url": "https://avatars.githubusercontent.com/u/1192354?v=3",
##        "gravatar_id": "",
##        "url": "https://api.github.com/users/ckny",
##        "html_url": "https://github.com/ckny",
##        "followers_url": "https://api.github.com/users/ckny/followers",
##        "following_url": "https://api.github.com/users/ckny/following{/other_user}",
##        "gists_url": "https://api.github.com/users/ckny/gists{/gist_id}",
##        "starred_url": "https://api.github.com/users/ckny/starred{/owner}/{repo}",
##        "subscriptions_url": "https://api.github.com/users/ckny/subscriptions",
##        "organizations_url": "https://api.github.com/users/ckny/orgs",
##        "repos_url": "https://api.github.com/users/ckny/repos",
##        "events_url": "https://api.github.com/users/ckny/events{/privacy}",
##        "received_events_url": "https://api.github.com/users/ckny/received_events",
##        "type": "User",
##        "site_admin": false
##      },

```

```

##         "created_at": "2016-09-23T10:13:21Z",
##         "updated_at": "2016-09-23T10:13:21Z",
##         "body": "@tscheffe Thanks a lot for your great feedback! I agree regarding the location
##     }
## },
##     "public": true,
##     "created_at": "2016-09-23T10:13:21Z"
## },
## {
##     "id": "4607714306",
##     "type": "PullRequestReviewCommentEvent",
##     "actor": {
##         "id": 985911,
##         "login": "HSAR",
##         "display_login": "HSAR",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/HSAR",
##     "avatar_url": "https://avatars.githubusercontent.com/u/985911?"
##     },
##     "repo": {
##         "id": 27631673,
##         "name": "Microsoft/vsts-tasks",
##         "url": "https://api.github.com/repos/Microsoft/vsts-tasks"
##     },
##     "payload": {
##         "action": "created",
##         "comment": {
##             "url": "https://api.github.com/repos/Microsoft/vsts-tasks/pulls/comments/80217587",
##             "id": 80217587,
##             "diff_hunk": "@@ -0,0 +1,30 @@\n+/*\n+ We are using a hard-coded findbugs.xml file that
##             "path": "Tasks/Gradle/CodeAnalysis/findbugs.gradle",
##             "position": 2,
##             "original_position": 2,
##             "commit_id": "e9eba1857bc679e193ae57a06fc7f01b59ed3409",
##             "original_commit_id": "e9eba1857bc679e193ae57a06fc7f01b59ed3409",
##             "user": {
##                 "login": "HSAR",
##                 "id": 985911,
##                 "avatar_url": "https://avatars.githubusercontent.com/u/985911?v=3",
##                 "gravatar_id": "",
##                 "url": "https://api.github.com/users/HSAR",
##                 "html_url": "https://github.com/HSAR",
##                 "followers_url": "https://api.github.com/users/HSAR/followers",
##                 "following_url": "https://api.github.com/users/HSAR/following{/other_user}",
##                 "gists_url": "https://api.github.com/users/HSAR/gists{/gist_id}",
##                 "starred_url": "https://api.github.com/users/HSAR/starred{/owner}/{/repo}",

```

```

##      "subscriptions_url": "https://api.github.com/users/HSAR/subscriptions",
##      "organizations_url": "https://api.github.com/users/HSAR/orgs",
##      "repos_url": "https://api.github.com/users/HSAR/repos",
##      "events_url": "https://api.github.com/users/HSAR/events{/privacy}",
##      "received_events_url": "https://api.github.com/users/HSAR/received_events",
##      "type": "User",
##      "site_admin": false
##    },
##    "body": "This shouldn't be here, I'll remove it.",
##    "created_at": "2016-09-23T10:13:21Z",
##    "updated_at": "2016-09-23T10:13:21Z",
##    "html_url": "https://github.com/Microsoft/vsts-tasks/pull/2594#discussion_r80217587",
##    "pull_request_url": "https://api.github.com/repos/Microsoft/vsts-tasks/pulls/2594",
##    "_links": {
##      "self": {
##        "href": "https://api.github.com/repos/Microsoft/vsts-tasks/pulls/comments/8021758",
##      },
##      "html": {
##        "href": "https://github.com/Microsoft/vsts-tasks/pull/2594#discussion_r80217587",
##      },
##      "pull_request": {
##        "href": "https://api.github.com/repos/Microsoft/vsts-tasks/pulls/2594",
##      }
##    },
##    "pull_request": {
##      "url": "https://api.github.com/repos/Microsoft/vsts-tasks/pulls/2594",
##      "id": 86185532,
##      "html_url": "https://github.com/Microsoft/vsts-tasks/pull/2594",
##      "diff_url": "https://github.com/Microsoft/vsts-tasks/pull/2594.diff",
##      "patch_url": "https://github.com/Microsoft/vsts-tasks/pull/2594.patch",
##      "issue_url": "https://api.github.com/repos/Microsoft/vsts-tasks/issues/2594",
##      "number": 2594,
##      "state": "open",
##      "locked": false,
##      "title": "Added FindBugs integration to the Gradle task.",
##      "user": {
##        "login": "HSAR",
##        "id": 985911,
##        "avatar_url": "https://avatars.githubusercontent.com/u/985911?v=3",
##        "gravatar_id": "",
##        "url": "https://api.github.com/users/HSAR",
##        "html_url": "https://github.com/HSAR",
##        "followers_url": "https://api.github.com/users/HSAR/followers",
##        "following_url": "https://api.github.com/users/HSAR/following{/other_user}",
##        "gists_url": "https://api.github.com/users/HSAR/gists{/gist_id}",

```

```

##      "starred_url": "https://api.github.com/users/HSAR/starred{/owner}/{/repo}",
##      "subscriptions_url": "https://api.github.com/users/HSAR/subscriptions",
##      "organizations_url": "https://api.github.com/users/HSAR/orgs",
##      "repos_url": "https://api.github.com/users/HSAR/repos",
##      "events_url": "https://api.github.com/users/HSAR/events{/privacy}",
##      "received_events_url": "https://api.github.com/users/HSAR/received_events",
##      "type": "User",
##      "site_admin": false
##    },
##    "body": "",
##    "created_at": "2016-09-21T15:26:06Z",
##    "updated_at": "2016-09-23T10:13:21Z",
##    "closed_at": null,
##    "merged_at": null,
##    "merge_commit_sha": "5bb79decf27d2b99be6797f9e458df4a6ba86e7c",
##    "assignee": null,
##    "assignees": [
##
##    ],
##    "milestone": null,
##    "commits_url": "https://api.github.com/repos/Microsoft/vsts-tasks/pulls/2594/commits",
##    "review_comments_url": "https://api.github.com/repos/Microsoft/vsts-tasks/pulls/2594",
##    "review_comment_url": "https://api.github.com/repos/Microsoft/vsts-tasks/pulls/commen",
##    "comments_url": "https://api.github.com/repos/Microsoft/vsts-tasks/issues/2594/commen",
##    "statuses_url": "https://api.github.com/repos/Microsoft/vsts-tasks/statuses/e9eba185",
##    "head": {
##      "label": "Microsoft:users/sschen/javatools",
##      "ref": "users/sschen/javatools",
##      "sha": "e9eba1857bc679e193ae57a06fc7f01b59ed3409",
##      "user": {
##        "login": "Microsoft",
##        "id": 6154722,
##        "avatar_url": "https://avatars.githubusercontent.com/u/6154722?v=3",
##        "gravatar_id": "",
##        "url": "https://api.github.com/users/Microsoft",
##        "html_url": "https://github.com/Microsoft",
##        "followers_url": "https://api.github.com/users/Microsoft/followers",
##        "following_url": "https://api.github.com/users/Microsoft/following{/other_user}",
##        "gists_url": "https://api.github.com/users/Microsoft/gists{/gist_id}",
##        "starred_url": "https://api.github.com/users/Microsoft/starred{/owner}/{/repo}",
##        "subscriptions_url": "https://api.github.com/users/Microsoft/subscriptions",
##        "organizations_url": "https://api.github.com/users/Microsoft/orgs",
##        "repos_url": "https://api.github.com/users/Microsoft/repos",
##        "events_url": "https://api.github.com/users/Microsoft/events{/privacy}",
##        "received_events_url": "https://api.github.com/users/Microsoft/received_events",
##        "type": "Organization",

```

```

##         "site_admin": false
##     },
##     "repo": {
##         "id": 27631673,
##         "name": "vsts-tasks",
##         "full_name": "Microsoft/vsts-tasks",
##         "owner": {
##             "login": "Microsoft",
##             "id": 6154722,
##             "avatar_url": "https://avatars.githubusercontent.com/u/6154722?v=3",
##             "gravatar_id": "",
##             "url": "https://api.github.com/users/Microsoft",
##             "html_url": "https://github.com/Microsoft",
##             "followers_url": "https://api.github.com/users/Microsoft/followers",
##             "following_url": "https://api.github.com/users/Microsoft/following{/other_user}",
##             "gists_url": "https://api.github.com/users/Microsoft/gists{/gist_id}",
##             "starred_url": "https://api.github.com/users/Microsoft/starred{/owner}/{/repo}",
##             "subscriptions_url": "https://api.github.com/users/Microsoft/subscriptions",
##             "organizations_url": "https://api.github.com/users/Microsoft/orgs",
##             "repos_url": "https://api.github.com/users/Microsoft/repos",
##             "events_url": "https://api.github.com/users/Microsoft/events{/privacy}",
##             "received_events_url": "https://api.github.com/users/Microsoft/received_events",
##             "type": "Organization",
##             "site_admin": false
##         },
##         "private": false,
##         "html_url": "https://github.com/Microsoft/vsts-tasks",
##         "description": "Build and Release Tasks for Visual Studio Team Services and Team Founda
##         "fork": false,
##         "url": "https://api.github.com/repos/Microsoft/vsts-tasks",
##         "forks_url": "https://api.github.com/repos/Microsoft/vsts-tasks/forks",
##         "keys_url": "https://api.github.com/repos/Microsoft/vsts-tasks/keys{/key_id}",
##         "collaborators_url": "https://api.github.com/repos/Microsoft/vsts-tasks/collabora
##         "teams_url": "https://api.github.com/repos/Microsoft/vsts-tasks/teams",
##         "hooks_url": "https://api.github.com/repos/Microsoft/vsts-tasks/hooks",
##         "issue_events_url": "https://api.github.com/repos/Microsoft/vsts-tasks/issues/eve
##         "events_url": "https://api.github.com/repos/Microsoft/vsts-tasks/events",
##         "assignees_url": "https://api.github.com/repos/Microsoft/vsts-tasks/assignees{/us
##         "branches_url": "https://api.github.com/repos/Microsoft/vsts-tasks/branches{/bran
##         "tags_url": "https://api.github.com/repos/Microsoft/vsts-tasks/tags",
##         "blobs_url": "https://api.github.com/repos/Microsoft/vsts-tasks/git/blobs{/sha}",
##         "git_tags_url": "https://api.github.com/repos/Microsoft/vsts-tasks/git/tags{/sha}
##         "git_refs_url": "https://api.github.com/repos/Microsoft/vsts-tasks/git/refs{/sha}
##         "trees_url": "https://api.github.com/repos/Microsoft/vsts-tasks/git/trees{/sha}",
##         "statuses_url": "https://api.github.com/repos/Microsoft/vsts-tasks/statuses/{sha}
##         "languages_url": "https://api.github.com/repos/Microsoft/vsts-tasks/languages",

```



```

##      "stargazers_url": "https://api.github.com/repos/Microsoft/vsts-tasks/stargazers"
##      "contributors_url": "https://api.github.com/repos/Microsoft/vsts-tasks/contributo
##      "subscribers_url": "https://api.github.com/repos/Microsoft/vsts-tasks/subscribers
##      "subscription_url": "https://api.github.com/repos/Microsoft/vsts-tasks/subscripti
##      "commits_url": "https://api.github.com/repos/Microsoft/vsts-tasks/commits{/sha}",
##      "git_commits_url": "https://api.github.com/repos/Microsoft/vsts-tasks/git/commits
##      "comments_url": "https://api.github.com/repos/Microsoft/vsts-tasks/comments{/numb
##      "issue_comment_url": "https://api.github.com/repos/Microsoft/vsts-tasks/issues/co
##      "contents_url": "https://api.github.com/repos/Microsoft/vsts-tasks/contents/{+pat
##      "compare_url": "https://api.github.com/repos/Microsoft/vsts-tasks/compare/{base}.
##      "merges_url": "https://api.github.com/repos/Microsoft/vsts-tasks/merges",
##      "archive_url": "https://api.github.com/repos/Microsoft/vsts-tasks/{archive_format
##      "downloads_url": "https://api.github.com/repos/Microsoft/vsts-tasks/downloads",
##      "issues_url": "https://api.github.com/repos/Microsoft/vsts-tasks/issues{/number}"
##      "pulls_url": "https://api.github.com/repos/Microsoft/vsts-tasks/pulls{/number}",
##      "milestones_url": "https://api.github.com/repos/Microsoft/vsts-tasks/milestones{/
##      "notifications_url": "https://api.github.com/repos/Microsoft/vsts-tasks/notificat
##      "labels_url": "https://api.github.com/repos/Microsoft/vsts-tasks/labels{/name}",
##      "releases_url": "https://api.github.com/repos/Microsoft/vsts-tasks/releases{/id}"
##      "deployments_url": "https://api.github.com/repos/Microsoft/vsts-tasks/deployments
##          "created_at": "2014-12-06T11:11:46Z",
##          "updated_at": "2016-09-23T09:07:00Z",
##          "pushed_at": "2016-09-23T09:09:52Z",
##      "git_url": "git://github.com/Microsoft/vsts-tasks.git",
##      "ssh_url": "git@github.com:Microsoft/vsts-tasks.git",
##      "clone_url": "https://github.com/Microsoft/vsts-tasks.git",
##      "svn_url": "https://github.com/Microsoft/vsts-tasks",
##      "homepage": "https://aka.ms/tfbuild",
##      "size": 20362,
##      "stargazers_count": 410,
##      "watchers_count": 410,
##      "language": "TypeScript",
##      "has_issues": true,
##      "has_downloads": true,
##      "has_wiki": true,
##      "has_pages": false,
##      "forks_count": 367,
##      "mirror_url": null,
##      "open_issues_count": 95,
##      "forks": 367,
##      "open_issues": 95,
##      "watchers": 410,
##      "default_branch": "master"
##      }
##  },
##  "base": {

```

```

##         "label": "Microsoft:master",
##         "ref": "master",
##         "sha": "8e43cca77cb087885269c0f51ecffd33f18c9634",
##         "user": {
##             "login": "Microsoft",
##             "id": 6154722,
##             "avatar_url": "https://avatars.githubusercontent.com/u/6154722?v=3",
##             "gravatar_id": "",
##             "url": "https://api.github.com/users/Microsoft",
##             "html_url": "https://github.com/Microsoft",
##             "followers_url": "https://api.github.com/users/Microsoft/followers",
##             "following_url": "https://api.github.com/users/Microsoft/following{/other_user}",
##             "gists_url": "https://api.github.com/users/Microsoft/gists{/gist_id}",
##             "starred_url": "https://api.github.com/users/Microsoft/starred{/owner}/{repo}",
##             "subscriptions_url": "https://api.github.com/users/Microsoft/subscriptions",
##             "organizations_url": "https://api.github.com/users/Microsoft/orgs",
##             "repos_url": "https://api.github.com/users/Microsoft/repos",
##             "events_url": "https://api.github.com/users/Microsoft/events{/privacy}",
##             "received_events_url": "https://api.github.com/users/Microsoft/received_events",
##             "type": "Organization",
##             "site_admin": false
##         },
##         "repo": {
##             "id": 27631673,
##             "name": "vsts-tasks",
##             "full_name": "Microsoft/vsts-tasks",
##             "owner": {
##                 "login": "Microsoft",
##                 "id": 6154722,
##                 "avatar_url": "https://avatars.githubusercontent.com/u/6154722?v=3",
##                 "gravatar_id": "",
##                 "url": "https://api.github.com/users/Microsoft",
##                 "html_url": "https://github.com/Microsoft",
##                 "followers_url": "https://api.github.com/users/Microsoft/followers",
##                 "following_url": "https://api.github.com/users/Microsoft/following{/other_user}",
##                 "gists_url": "https://api.github.com/users/Microsoft/gists{/gist_id}",
##                 "starred_url": "https://api.github.com/users/Microsoft/starred{/owner}/{repo}",
##                 "subscriptions_url": "https://api.github.com/users/Microsoft/subscriptions",
##                 "organizations_url": "https://api.github.com/users/Microsoft/orgs",
##                 "repos_url": "https://api.github.com/users/Microsoft/repos",
##                 "events_url": "https://api.github.com/users/Microsoft/events{/privacy}",
##                 "received_events_url": "https://api.github.com/users/Microsoft/received_events",
##                 "type": "Organization",
##                 "site_admin": false
##             },
##             "private": false,

```

```

##      "html_url": "https://github.com/Microsoft/vsts-tasks",
##      "description": "Build and Release Tasks for Visual Studio Team Services and Team Founda
##      "fork": false,
##      "url": "https://api.github.com/repos/Microsoft/vsts-tasks",
##      "forks_url": "https://api.github.com/repos/Microsoft/vsts-tasks/forks",
##      "keys_url": "https://api.github.com/repos/Microsoft/vsts-tasks/keys{/key_id}",
##      "collaborators_url": "https://api.github.com/repos/Microsoft/vsts-tasks/collabora
##      "teams_url": "https://api.github.com/repos/Microsoft/vsts-tasks/teams",
##      "hooks_url": "https://api.github.com/repos/Microsoft/vsts-tasks/hooks",
##      "issue_events_url": "https://api.github.com/repos/Microsoft/vsts-tasks/issues/eve
##      "events_url": "https://api.github.com/repos/Microsoft/vsts-tasks/events",
##      "assignees_url": "https://api.github.com/repos/Microsoft/vsts-tasks/assignees{/us
##      "branches_url": "https://api.github.com/repos/Microsoft/vsts-tasks/branches{/bran
##      "tags_url": "https://api.github.com/repos/Microsoft/vsts-tasks/tags",
##      "blobs_url": "https://api.github.com/repos/Microsoft/vsts-tasks/git/blobs{/sha}",
##      "git_tags_url": "https://api.github.com/repos/Microsoft/vsts-tasks/git/tags{/sha}
##      "git_refs_url": "https://api.github.com/repos/Microsoft/vsts-tasks/git/refs{/sha}
##      "trees_url": "https://api.github.com/repos/Microsoft/vsts-tasks/git/trees{/sha}",
##      "statuses_url": "https://api.github.com/repos/Microsoft/vsts-tasks/statuses/{sha}
##      "languages_url": "https://api.github.com/repos/Microsoft/vsts-tasks/languages",
##      "stargazers_url": "https://api.github.com/repos/Microsoft/vsts-tasks/stargazers",
##      "contributors_url": "https://api.github.com/repos/Microsoft/vsts-tasks/contributo
##      "subscribers_url": "https://api.github.com/repos/Microsoft/vsts-tasks/subscribers
##      "subscription_url": "https://api.github.com/repos/Microsoft/vsts-tasks/subscripti
##      "commits_url": "https://api.github.com/repos/Microsoft/vsts-tasks/commits{/sha}",
##      "git_commits_url": "https://api.github.com/repos/Microsoft/vsts-tasks/git/commits
##      "comments_url": "https://api.github.com/repos/Microsoft/vsts-tasks/comments{/numb
##      "issue_comment_url": "https://api.github.com/repos/Microsoft/vsts-tasks/issues/co
##      "contents_url": "https://api.github.com/repos/Microsoft/vsts-tasks/contents/{+pat
##      "compare_url": "https://api.github.com/repos/Microsoft/vsts-tasks/compare/{base}.
##      "merges_url": "https://api.github.com/repos/Microsoft/vsts-tasks/merges",
##      "archive_url": "https://api.github.com/repos/Microsoft/vsts-tasks/{archive_format
##      "downloads_url": "https://api.github.com/repos/Microsoft/vsts-tasks/downloads",
##      "issues_url": "https://api.github.com/repos/Microsoft/vsts-tasks/issues{/number}"
##      "pulls_url": "https://api.github.com/repos/Microsoft/vsts-tasks/pulls{/number}",
##      "milestones_url": "https://api.github.com/repos/Microsoft/vsts-tasks/milestones{/
##      "notifications_url": "https://api.github.com/repos/Microsoft/vsts-tasks/notificat
##      "labels_url": "https://api.github.com/repos/Microsoft/vsts-tasks/labels{/name}",
##      "releases_url": "https://api.github.com/repos/Microsoft/vsts-tasks/releases{/id}"
##      "deployments_url": "https://api.github.com/repos/Microsoft/vsts-tasks/deployments
##      "created_at": "2014-12-06T11:11:46Z",
##      "updated_at": "2016-09-23T09:07:00Z",
##      "pushed_at": "2016-09-23T09:09:52Z",
##      "git_url": "git://github.com/Microsoft/vsts-tasks.git",
##      "ssh_url": "git@github.com:Microsoft/vsts-tasks.git",
##      "clone_url": "https://github.com/Microsoft/vsts-tasks.git",

```

```

##      "svn_url": "https://github.com/Microsoft/vsts-tasks",
##      "homepage": "https://aka.ms/tfbuild",
##      "size": 20362,
##      "stargazers_count": 410,
##      "watchers_count": 410,
##      "language": "TypeScript",
##      "has_issues": true,
##      "has_downloads": true,
##      "has_wiki": true,
##      "has_pages": false,
##      "forks_count": 367,
##      "mirror_url": null,
##      "open_issues_count": 95,
##      "forks": 367,
##      "open_issues": 95,
##      "watchers": 410,
##      "default_branch": "master"
##    }
##  },
##  "_links": {
##    "self": {
##      "href": "https://api.github.com/repos/Microsoft/vsts-tasks/pulls/2594"
##    },
##    "html": {
##      "href": "https://github.com/Microsoft/vsts-tasks/pull/2594"
##    },
##    "issue": {
##      "href": "https://api.github.com/repos/Microsoft/vsts-tasks/issues/2594"
##    },
##    "comments": {
##      "href": "https://api.github.com/repos/Microsoft/vsts-tasks/issues/2594/comments"
##    },
##    "review_comments": {
##      "href": "https://api.github.com/repos/Microsoft/vsts-tasks/pulls/2594/comments"
##    },
##    "review_comment": {
##      "href": "https://api.github.com/repos/Microsoft/vsts-tasks/pulls/comments{/number}"
##    },
##    "commits": {
##      "href": "https://api.github.com/repos/Microsoft/vsts-tasks/pulls/2594/commits"
##    },
##    "statuses": {
##      "href": "https://api.github.com/repos/Microsoft/vsts-tasks/statuses/e9eba1857bc67"
##    }
##  }
## }

```

```

##     },
##     "public": true,
##     "created_at": "2016-09-23T10:13:21Z",
##     "org": {
##         "id": 6154722,
##         "login": "Microsoft",
##         "gravatar_id": "",
##         "url": "https://api.github.com/orgs/Microsoft",
##         "avatar_url": "https://avatars.githubusercontent.com/u/6154722?"
##     }
## },
## {
##     "id": "4607714300",
##     "type": "DeleteEvent",
##     "actor": {
##         "id": 324957,
##         "login": "bbannier",
##         "display_login": "bbannier",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/bbannier",
##         "avatar_url": "https://avatars.githubusercontent.com/u/324957?"
##     },
##     "repo": {
##         "id": 51297759,
##         "name": "bbannier/mesos",
##         "url": "https://api.github.com/repos/bbannier/mesos"
##     },
##     "payload": {
##         "ref": "t/ssl_env",
##         "ref_type": "branch",
##         "pusher_type": "user"
##     },
##     "public": true,
##     "created_at": "2016-09-23T10:13:21Z"
## },
## {
##     "id": "4607714297",
##     "type": "CreateEvent",
##     "actor": {
##         "id": 3601210,
##         "login": "sixleaves",
##         "display_login": "sixleaves",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/sixleaves",
##         "avatar_url": "https://avatars.githubusercontent.com/u/3601210?"
##     },

```

```

##      "repo": {
##        "id": 69013895,
##        "name": "sixleaves/dismissAlertDylib",
##        "url": "https://api.github.com/repos/sixleaves/dismissAlertDylib"
##      },
##      "payload": {
##        "ref": null,
##        "ref_type": "repository",
##        "master_branch": "master",
##        "description": null,
##        "pusher_type": "user"
##      },
##      "public": true,
##      "created_at": "2016-09-23T10:13:21Z"
##    },
##    {
##      "id": "4607714280",
##      "type": "WatchEvent",
##      "actor": {
##        "id": 5183061,
##        "login": "wuyunfeng",
##        "display_login": "wuyunfeng",
##        "gravatar_id": "",
##        "url": "https://api.github.com/users/wuyunfeng",
##        "avatar_url": "https://avatars.githubusercontent.com/u/5183061?"
##      },
##      "repo": {
##        "id": 507775,
##        "name": "elastic/elasticsearch",
##        "url": "https://api.github.com/repos/elastic/elasticsearch"
##      },
##      "payload": {
##        "action": "started"
##      },
##      "public": true,
##      "created_at": "2016-09-23T10:13:21Z",
##      "org": {
##        "id": 6764390,
##        "login": "elastic",
##        "gravatar_id": "",
##        "url": "https://api.github.com/orgs/elastic",
##        "avatar_url": "https://avatars.githubusercontent.com/u/6764390?"
##      }
##    },
##    {
##      "id": "4607714275",

```

```

##      "type": "CreateEvent",
##      "actor": {
##        "id": 10364016,
##        "login": "shadiqaust",
##        "display_login": "shadiqaust",
##        "gravatar_id": "",
##        "url": "https://api.github.com/users/shadiqaust",
##      "avatar_url": "https://avatars.githubusercontent.com/u/10364016?"
##    },
##    "repo": {
##      "id": 69013005,
##      "name": "shadiqaust/SampleDotNetCoreApplication",
##      "url": "https://api.github.com/repos/shadiqaust/SampleDotNetCoreApplication"
##    },
##    "payload": {
##      "ref": "master",
##      "ref_type": "branch",
##      "master_branch": "master",
##      "description": "It is a simple .net core application for starter. ",
##      "pusher_type": "user"
##    },
##    "public": true,
##    "created_at": "2016-09-23T10:13:21Z"
##  },
##  {
##    "id": "4607714274",
##    "type": "IssueCommentEvent",
##    "actor": {
##      "id": 546129,
##      "login": "mrdoinel",
##      "display_login": "mrdoinel",
##      "gravatar_id": "",
##      "url": "https://api.github.com/users/mrdoinel",
##    "avatar_url": "https://avatars.githubusercontent.com/u/546129?"
##  },
##    "repo": {
##      "id": 46077896,
##      "name": "luruke/barba.js",
##      "url": "https://api.github.com/repos/luruke/barba.js"
##    },
##    "payload": {
##      "action": "created",
##      "issue": {
##        "url": "https://api.github.com/repos/luruke/barba.js/issues/70",
##        "repository_url": "https://api.github.com/repos/luruke/barba.js",
##        "labels_url": "https://api.github.com/repos/luruke/barba.js/issues/70/labels{/name}"

```

```

## "comments_url": "https://api.github.com/repos/luruke/barba.js/issues/70/comments",
## "events_url": "https://api.github.com/repos/luruke/barba.js/issues/70/events",
## "html_url": "https://github.com/luruke/barba.js/issues/70",
##   "id": 178836186,
##   "number": 70,
##   "title": "Links with svgs = Hard refresh",
##   "user": {
##     "login": "mrdoinel",
##     "id": 546129,
##     "avatar_url": "https://avatars.githubusercontent.com/u/546129?v=3",
##     "gravatar_id": "",
##     "url": "https://api.github.com/users/mrdoinel",
##     "html_url": "https://github.com/mrdoinel",
##     "followers_url": "https://api.github.com/users/mrdoinel/followers",
##     "following_url": "https://api.github.com/users/mrdoinel/following{/other_user}",
##     "gists_url": "https://api.github.com/users/mrdoinel/gists{/gist_id}",
##     "starred_url": "https://api.github.com/users/mrdoinel/starred{/owner}/{/repo}",
##     "subscriptions_url": "https://api.github.com/users/mrdoinel/subscriptions",
##     "organizations_url": "https://api.github.com/users/mrdoinel/orgs",
##     "repos_url": "https://api.github.com/users/mrdoinel/repos",
##     "events_url": "https://api.github.com/users/mrdoinel/events{/privacy}",
##     "received_events_url": "https://api.github.com/users/mrdoinel/received_events",
##     "type": "User",
##     "site_admin": false
##   },
##   "labels": [
##
##   ],
##   "state": "open",
##   "locked": false,
##   "assignee": null,
##   "assignees": [
##
##   ],
##   "milestone": null,
##   "comments": 0,
##   "created_at": "2016-09-23T10:03:55Z",
##   "updated_at": "2016-09-23T10:13:21Z",
##   "closed_at": null,
##   "body": "I was wondering why clicking some links was doing an hard refresh instead of loa
##   },
##   "comment": {
##     "url": "https://api.github.com/repos/luruke/barba.js/issues/comments/249154355",
##     "html_url": "https://github.com/luruke/barba.js/issues/70#issuecomment-249154355",
##     "issue_url": "https://api.github.com/repos/luruke/barba.js/issues/70",
##     "id": 249154355,

```



```

##      "user": {
##          "login": "mrdoinel",
##          "id": 546129,
##          "avatar_url": "https://avatars.githubusercontent.com/u/546129?v=3",
##          "gravatar_id": "",
##          "url": "https://api.github.com/users/mrdoinel",
##          "html_url": "https://github.com/mrdoinel",
##          "followers_url": "https://api.github.com/users/mrdoinel/followers",
##          "following_url": "https://api.github.com/users/mrdoinel/following{/other_user}",
##          "gists_url": "https://api.github.com/users/mrdoinel/gists{/gist_id}",
##          "starred_url": "https://api.github.com/users/mrdoinel/starred{/owner}/{/repo}",
##          "subscriptions_url": "https://api.github.com/users/mrdoinel/subscriptions",
##          "organizations_url": "https://api.github.com/users/mrdoinel/orgs",
##          "repos_url": "https://api.github.com/users/mrdoinel/repos",
##          "events_url": "https://api.github.com/users/mrdoinel/events{/privacy}",
##          "received_events_url": "https://api.github.com/users/mrdoinel/received_events",
##          "type": "User",
##          "site_admin": false
##      },
##      "created_at": "2016-09-23T10:13:21Z",
##      "updated_at": "2016-09-23T10:13:21Z",
##      "body": "Wow it seems this point has been fixed in latest release!! Sorry for the noise!"
##  }
## },
## "public": true,
## "created_at": "2016-09-23T10:13:21Z"
## },
## {
##     "id": "4607714271",
##     "type": "PullRequestEvent",
##     "actor": {
##         "id": 7781072,
##         "login": "littlesmilelove",
##         "display_login": "littlesmilelove",
##         "gravatar_id": "",
##         "url": "https://api.github.com/users/littlesmilelove",
##     },
##     "avatar_url": "https://avatars.githubusercontent.com/u/7781072?"
## },
##     "repo": {
##         "id": 63218568,
##         "name": "littlesmilelove/Mvc",
##         "url": "https://api.github.com/repos/littlesmilelove/Mvc"
##     },
##     "payload": {
##         "action": "opened",
##         "number": 1,

```

```

##      "pull_request": {
##        "url": "https://api.github.com/repos/littlesmilelove/Mvc/pulls/1",
##        "id": 86487157,
##        "html_url": "https://github.com/littlesmilelove/Mvc/pull/1",
##        "diff_url": "https://github.com/littlesmilelove/Mvc/pull/1.diff",
##        "patch_url": "https://github.com/littlesmilelove/Mvc/pull/1.patch",
##        "issue_url": "https://api.github.com/repos/littlesmilelove/Mvc/issues/1",
##        "number": 1,
##        "state": "open",
##        "locked": false,
##        "title": "Fetch.",
##        "user": {
##          "login": "littlesmilelove",
##          "id": 7781072,
##          "avatar_url": "https://avatars.githubusercontent.com/u/7781072?v=3",
##          "gravatar_id": "",
##          "url": "https://api.github.com/users/littlesmilelove",
##          "html_url": "https://github.com/littlesmilelove",
##          "followers_url": "https://api.github.com/users/littlesmilelove/followers",
##          "following_url": "https://api.github.com/users/littlesmilelove/following{/other_user}",
##          "gists_url": "https://api.github.com/users/littlesmilelove/gists{/gist_id}",
##          "starred_url": "https://api.github.com/users/littlesmilelove/starred{/owner}{/repo}",
##          "subscriptions_url": "https://api.github.com/users/littlesmilelove/subscriptions",
##          "organizations_url": "https://api.github.com/users/littlesmilelove/orgs",
##          "repos_url": "https://api.github.com/users/littlesmilelove/repos",
##          "events_url": "https://api.github.com/users/littlesmilelove/events{/privacy}",
##          "received_events_url": "https://api.github.com/users/littlesmilelove/received_events",
##          "type": "User",
##          "site_admin": false
##        },
##        "body": "",
##        "created_at": "2016-09-23T10:13:19Z",
##        "updated_at": "2016-09-23T10:13:19Z",
##        "closed_at": null,
##        "merged_at": null,
##        "merge_commit_sha": "0d00e7fd465838cc3c2209fe64aa1328d7d50bd9",
##        "assignee": null,
##        "assignees": [
##
##      ],
##        "milestone": null,
##        "commits_url": "https://api.github.com/repos/littlesmilelove/Mvc/pulls/1/commits",
##        "review_comments_url": "https://api.github.com/repos/littlesmilelove/Mvc/pulls/1/comments",
##        "review_comment_url": "https://api.github.com/repos/littlesmilelove/Mvc/pulls/comments/{number}",
##        "comments_url": "https://api.github.com/repos/littlesmilelove/Mvc/issues/1/comments",
##        "statuses_url": "https://api.github.com/repos/littlesmilelove/Mvc/statuses/9c6c8410e

```

```

##      "head": {
##          "label": "aspnet:dev",
##          "ref": "dev",
##          "sha": "9c6c8410e2ce4f20c73e3ff85688545d2c72f944",
##          "user": {
##              "login": "aspnet",
##              "id": 6476660,
##          "avatar_url": "https://avatars.githubusercontent.com/u/6476660?v=3",
##          "gravatar_id": "",
##          "url": "https://api.github.com/users/aspnet",
##          "html_url": "https://github.com/aspnet",
##          "followers_url": "https://api.github.com/users/aspnet/followers",
##          "following_url": "https://api.github.com/users/aspnet/following{/other_user}",
##          "gists_url": "https://api.github.com/users/aspnet/gists{/gist_id}",
##          "starred_url": "https://api.github.com/users/aspnet/starred{/owner}/{repo}",
##          "subscriptions_url": "https://api.github.com/users/aspnet/subscriptions",
##          "organizations_url": "https://api.github.com/users/aspnet/orgs",
##          "repos_url": "https://api.github.com/users/aspnet/repos",
##          "events_url": "https://api.github.com/users/aspnet/events{/privacy}",
##          "received_events_url": "https://api.github.com/users/aspnet/received_events",
##          "type": "Organization",
##          "site_admin": false
##      },
##      "repo": {
##          "id": 15126429,
##          "name": "Mvc",
##          "full_name": "aspnet/Mvc",
##          "owner": {
##              "login": "aspnet",
##              "id": 6476660,
##          "avatar_url": "https://avatars.githubusercontent.com/u/6476660?v=3",
##          "gravatar_id": "",
##          "url": "https://api.github.com/users/aspnet",
##          "html_url": "https://github.com/aspnet",
##          "followers_url": "https://api.github.com/users/aspnet/followers",
##          "following_url": "https://api.github.com/users/aspnet/following{/other_user}",
##          "gists_url": "https://api.github.com/users/aspnet/gists{/gist_id}",
##          "starred_url": "https://api.github.com/users/aspnet/starred{/owner}/{repo}",
##          "subscriptions_url": "https://api.github.com/users/aspnet/subscriptions",
##          "organizations_url": "https://api.github.com/users/aspnet/orgs",
##          "repos_url": "https://api.github.com/users/aspnet/repos",
##          "events_url": "https://api.github.com/users/aspnet/events{/privacy}",
##          "received_events_url": "https://api.github.com/users/aspnet/received_events",
##          "type": "Organization",
##          "site_admin": false
##      },

```

```

##         "private": false,
##         "html_url": "https://github.com/aspnet/Mvc",
##     "description": "ASP.NET Core MVC is a model view controller framework for building dy
##         "fork": false,
##         "url": "https://api.github.com/repos/aspnet/Mvc",
##     "forks_url": "https://api.github.com/repos/aspnet/Mvc/forks",
##     "keys_url": "https://api.github.com/repos/aspnet/Mvc/keys{/key_id}",
##     "collaborators_url": "https://api.github.com/repos/aspnet/Mvc/collaborators{/coll
##     "teams_url": "https://api.github.com/repos/aspnet/Mvc/teams",
##     "hooks_url": "https://api.github.com/repos/aspnet/Mvc/hooks",
##     "issue_events_url": "https://api.github.com/repos/aspnet/Mvc/issues/events{/numbe
##     "events_url": "https://api.github.com/repos/aspnet/Mvc/events",
##     "assignees_url": "https://api.github.com/repos/aspnet/Mvc/assignees{/user}",
##     "branches_url": "https://api.github.com/repos/aspnet/Mvc/branches{/branch}",
##     "tags_url": "https://api.github.com/repos/aspnet/Mvc/tags",
##     "blobs_url": "https://api.github.com/repos/aspnet/Mvc/git/blobs{/sha}",
##     "git_tags_url": "https://api.github.com/repos/aspnet/Mvc/git/tags{/sha}",
##     "git_refs_url": "https://api.github.com/repos/aspnet/Mvc/git/refs{/sha}",
##     "trees_url": "https://api.github.com/repos/aspnet/Mvc/git/trees{/sha}",
##     "statuses_url": "https://api.github.com/repos/aspnet/Mvc/statuses/{sha}",
##     "languages_url": "https://api.github.com/repos/aspnet/Mvc/languages",
##     "stargazers_url": "https://api.github.com/repos/aspnet/Mvc/stargazers",
##     "contributors_url": "https://api.github.com/repos/aspnet/Mvc/contributors",
##     "subscribers_url": "https://api.github.com/repos/aspnet/Mvc/subscribers",
##     "subscription_url": "https://api.github.com/repos/aspnet/Mvc/subscription",
##     "commits_url": "https://api.github.com/repos/aspnet/Mvc/commits{/sha}",
##     "git_commits_url": "https://api.github.com/repos/aspnet/Mvc/git/commits{/sha}",
##     "comments_url": "https://api.github.com/repos/aspnet/Mvc/comments{/number}",
##     "issue_comment_url": "https://api.github.com/repos/aspnet/Mvc/issues/comments{/nu
##     "contents_url": "https://api.github.com/repos/aspnet/Mvc/contents/{+path}",
##     "compare_url": "https://api.github.com/repos/aspnet/Mvc/compare/{base}...{head}",
##     "merges_url": "https://api.github.com/repos/aspnet/Mvc/merges",
##     "archive_url": "https://api.github.com/repos/aspnet/Mvc/{archive_format}/{ref}",
##     "downloads_url": "https://api.github.com/repos/aspnet/Mvc/downloads",
##     "issues_url": "https://api.github.com/repos/aspnet/Mvc/issues{/number}",
##     "pulls_url": "https://api.github.com/repos/aspnet/Mvc/pulls{/number}",
##     "milestones_url": "https://api.github.com/repos/aspnet/Mvc/milestones{/number}",
##     "notifications_url": "https://api.github.com/repos/aspnet/Mvc/notifications{?sinc
##     "labels_url": "https://api.github.com/repos/aspnet/Mvc/labels{/name}",
##     "releases_url": "https://api.github.com/repos/aspnet/Mvc/releases{/id}",
##     "deployments_url": "https://api.github.com/repos/aspnet/Mvc/deployments",
##         "created_at": "2013-12-12T03:54:00Z",
##         "updated_at": "2016-09-23T05:29:55Z",
##         "pushed_at": "2016-09-22T23:55:17Z",
##         "git_url": "git://github.com/aspnet/Mvc.git",
##         "ssh_url": "git@github.com:aspnet/Mvc.git",

```

```

##         "clone_url": "https://github.com/aspnet/Mvc.git",
##         "svn_url": "https://github.com/aspnet/Mvc",
##         "homepage": "",
##         "size": 58673,
##         "stargazers_count": 3504,
##         "watchers_count": 3504,
##         "language": "C#",
##         "has_issues": true,
##         "has_downloads": true,
##         "has_wiki": true,
##         "has_pages": false,
##         "forks_count": 1389,
##         "mirror_url": null,
##         "open_issues_count": 376,
##         "forks": 1389,
##         "open_issues": 376,
##         "watchers": 3504,
##         "default_branch": "dev"
##     }
## },
##     "base": {
##         "label": "littlesmilelove:dev",
##         "ref": "dev",
##         "sha": "95796744c10087e032f25f861179d6c460ca23a2",
##         "user": {
##             "login": "littlesmilelove",
##             "id": 7781072,
##             "avatar_url": "https://avatars.githubusercontent.com/u/7781072?v=3",
##             "gravatar_id": "",
##             "url": "https://api.github.com/users/littlesmilelove",
##             "html_url": "https://github.com/littlesmilelove",
##             "followers_url": "https://api.github.com/users/littlesmilelove/followers",
##             "following_url": "https://api.github.com/users/littlesmilelove/following{/other_u",
##             "gists_url": "https://api.github.com/users/littlesmilelove/gists{/gist_id}",
##             "starred_url": "https://api.github.com/users/littlesmilelove/starred{/owner}/{/rep",
##             "subscriptions_url": "https://api.github.com/users/littlesmilelove/subscriptions",
##             "organizations_url": "https://api.github.com/users/littlesmilelove/orgs",
##             "repos_url": "https://api.github.com/users/littlesmilelove/repos",
##             "events_url": "https://api.github.com/users/littlesmilelove/events{/privacy}",
##             "received_events_url": "https://api.github.com/users/littlesmilelove/received_eve",
##             "type": "User",
##             "site_admin": false
##         },
##     },
##     "repo": {
##         "id": 63218568,
##         "name": "Mvc",

```

```

##         "full_name": "littlesmilelove/Mvc",
##         "owner": {
##             "login": "littlesmilelove",
##             "id": 7781072,
##             "avatar_url": "https://avatars.githubusercontent.com/u/7781072?v=3",
##             "gravatar_id": "",
##             "url": "https://api.github.com/users/littlesmilelove",
##             "html_url": "https://github.com/littlesmilelove",
##             "followers_url": "https://api.github.com/users/littlesmilelove/followers",
##             "following_url": "https://api.github.com/users/littlesmilelove/following{/other_user}",
##             "gists_url": "https://api.github.com/users/littlesmilelove/gists{/gist_id}",
##             "starred_url": "https://api.github.com/users/littlesmilelove/starred{/owner}{/repo}",
##             "subscriptions_url": "https://api.github.com/users/littlesmilelove/subscriptions",
##             "organizations_url": "https://api.github.com/users/littlesmilelove/orgs",
##             "repos_url": "https://api.github.com/users/littlesmilelove/repos",
##             "events_url": "https://api.github.com/users/littlesmilelove/events{/privacy}",
##             "received_events_url": "https://api.github.com/users/littlesmilelove/received_events",
##             "type": "User",
##             "site_admin": false
##         },
##         "private": false,
##         "html_url": "https://github.com/littlesmilelove/Mvc",
##         "description": "ASP.NET Core MVC is a model view controller framework for building dynamic web applications.",
##         "fork": true,
##         "url": "https://api.github.com/repos/littlesmilelove/Mvc",
##         "forks_url": "https://api.github.com/repos/littlesmilelove/Mvc/forks",
##         "keys_url": "https://api.github.com/repos/littlesmilelove/Mvc/keys{/key_id}",
##         "collaborators_url": "https://api.github.com/repos/littlesmilelove/Mvc/collaborators{/collaborator}",
##         "teams_url": "https://api.github.com/repos/littlesmilelove/Mvc/teams",
##         "hooks_url": "https://api.github.com/repos/littlesmilelove/Mvc/hooks",
##         "issue_events_url": "https://api.github.com/repos/littlesmilelove/Mvc/issues/events{/number}",
##         "events_url": "https://api.github.com/repos/littlesmilelove/Mvc/events",
##         "assignees_url": "https://api.github.com/repos/littlesmilelove/Mvc/assignees{/user}",
##         "branches_url": "https://api.github.com/repos/littlesmilelove/Mvc/branches{/branch}",
##         "tags_url": "https://api.github.com/repos/littlesmilelove/Mvc/tags",
##         "blobs_url": "https://api.github.com/repos/littlesmilelove/Mvc/git/blobs{/sha}",
##         "git_tags_url": "https://api.github.com/repos/littlesmilelove/Mvc/git/tags{/sha}",
##         "git_refs_url": "https://api.github.com/repos/littlesmilelove/Mvc/git/refs{/sha}",
##         "trees_url": "https://api.github.com/repos/littlesmilelove/Mvc/git/trees{/sha}",
##         "statuses_url": "https://api.github.com/repos/littlesmilelove/Mvc/statuses/{sha}",
##         "languages_url": "https://api.github.com/repos/littlesmilelove/Mvc/languages",
##         "stargazers_url": "https://api.github.com/repos/littlesmilelove/Mvc/stargazers",
##         "contributors_url": "https://api.github.com/repos/littlesmilelove/Mvc/contributors",
##         "subscribers_url": "https://api.github.com/repos/littlesmilelove/Mvc/subscribers",
##         "subscription_url": "https://api.github.com/repos/littlesmilelove/Mvc/subscription",
##         "commits_url": "https://api.github.com/repos/littlesmilelove/Mvc/commits{/sha}",

```

```

##      "git_commits_url": "https://api.github.com/repos/littlesmilelove/Mvc/git/commits{
##      "comments_url": "https://api.github.com/repos/littlesmilelove/Mvc/comments{/numbe
##      "issue_comment_url": "https://api.github.com/repos/littlesmilelove/Mvc/issues/com
##      "contents_url": "https://api.github.com/repos/littlesmilelove/Mvc/contents/{+path
##      "compare_url": "https://api.github.com/repos/littlesmilelove/Mvc/compare/{base}..
##      "merges_url": "https://api.github.com/repos/littlesmilelove/Mvc/merges",
##      "archive_url": "https://api.github.com/repos/littlesmilelove/Mvc/{archive_format}
##      "downloads_url": "https://api.github.com/repos/littlesmilelove/Mvc/downloads",
##      "issues_url": "https://api.github.com/repos/littlesmilelove/Mvc/issues{/number}",
##      "pulls_url": "https://api.github.com/repos/littlesmilelove/Mvc/pulls{/number}",
##      "milestones_url": "https://api.github.com/repos/littlesmilelove/Mvc/milestones{/n
##      "notifications_url": "https://api.github.com/repos/littlesmilelove/Mvc/notificati
##      "labels_url": "https://api.github.com/repos/littlesmilelove/Mvc/labels{/name}",
##      "releases_url": "https://api.github.com/repos/littlesmilelove/Mvc/releases{/id}",
##      "deployments_url": "https://api.github.com/repos/littlesmilelove/Mvc/deployments"
##          "created_at": "2016-07-13T05:57:01Z",
##          "updated_at": "2016-07-13T05:57:12Z",
##          "pushed_at": "2016-09-23T10:13:19Z",
##      "git_url": "git://github.com/littlesmilelove/Mvc.git",
##      "ssh_url": "git@github.com:littlesmilelove/Mvc.git",
##      "clone_url": "https://github.com/littlesmilelove/Mvc.git",
##      "svn_url": "https://github.com/littlesmilelove/Mvc",
##      "homepage": "",
##      "size": 57221,
##      "stargazers_count": 0,
##      "watchers_count": 0,
##      "language": "C#",
##      "has_issues": false,
##      "has_downloads": true,
##      "has_wiki": true,
##      "has_pages": false,
##      "forks_count": 0,
##      "mirror_url": null,
##      "open_issues_count": 1,
##      "forks": 0,
##      "open_issues": 1,
##      "watchers": 0,
##      "default_branch": "dev"
##      }
##  },
##  "_links": {
##      "self": {
##      "href": "https://api.github.com/repos/littlesmilelove/Mvc/pulls/1"
##      },
##      "html": {
##      "href": "https://github.com/littlesmilelove/Mvc/pull/1"

```

```

##         },
##         "issue": {
##           "href": "https://api.github.com/repos/littlesmilelove/Mvc/issues/1"
##         },
##         "comments": {
##           "href": "https://api.github.com/repos/littlesmilelove/Mvc/issues/1/comments"
##         },
##         "review_comments": {
##           "href": "https://api.github.com/repos/littlesmilelove/Mvc/pulls/1/comments"
##         },
##         "review_comment": {
##           "href": "https://api.github.com/repos/littlesmilelove/Mvc/pulls/comments{/number}"
##         },
##         "commits": {
##           "href": "https://api.github.com/repos/littlesmilelove/Mvc/pulls/1/commits"
##         },
##         "statuses": {
##           "href": "https://api.github.com/repos/littlesmilelove/Mvc/statuses/9c6c8410e2ce4f"
##         }
##       },
##       "merged": false,
##       "mergeable": true,
##       "mergeable_state": "clean",
##       "merged_by": null,
##       "comments": 0,
##       "review_comments": 0,
##       "commits": 95,
##       "additions": 11474,
##       "deletions": 2650,
##       "changed_files": 264
##     }
##   },
##   "public": true,
##   "created_at": "2016-09-23T10:13:21Z"
## }
## ]

```

The two lines in the vignette or `Gist` as it would be called on Github, fetch the latest public events from the API, and display them. Rather than displaying them big data in practice would feed them all into some datastore awaiting further analysis.

What would it mean to count things using formatted, API data? These JSON records conjoin elements together. The relatively simple `WatchEvent` on Github shown in the data extract above documents how an actor calling themselves `mmemetea` associates as a `Watcher` with a repository called `azondi`, a software project coordinated by the ‘organisation’ `OpenSensorsIO`.^[2] Note that the

event also has various attributes – it is a **public** event, it has a ‘payload’ (often much more complicated than simply **started**) – and includes various indexical references or **ids** that link the event to other groups of people, organisations, repositories and images (**gravatar_id**). The intricate syntax of this data – many brackets, inverted commas, colons, commas – attests to a complex social configuration which links actors, actions, places and times in discrete events ordered in time. The discreteness of components in this event - actor, organisation, repository, payload, gravatar, etc. – attests to the potential for the precise configuration of elements around a given repository to change or rearranged in some way. New actors might be added; relations might appear between entities; the location of entities might shift, and forms of association (‘organizations’) might subsume or grow out of or around all of this. In short, each event in the timeline API suggests another small re-configuration in the totality of elements comprising Github.

Imbuing numbers with importance

When our project started in 2012, we were clearly not the only people interested in counting things amidst the massive stream of event data concerning Github. A dataset purporting to contain the whole public event timeline of Github appeared in mid-2012. Ilya Grigorik, a ‘Web Performance Engineer’ at Google, launched a Github repository `igrigorik/githubarchive` linked to a website `GithubArchive.org` dedicated to archiving all the Github API public event data – the so-called ‘timeline’ – in one place (Grigorik 2012). Grigorik, or `igrigorik` not only published all the data as hourly packages in a cloud-based data store but also copied that data to Google’s newly launched cloud computing data analysis platform, `GoogleBigQuery`.^[1] The Github timeline data was listed, along with all the words in Shakespeare and all the US birth name records, as one of three dataset exemplars that people could use to learn about Google `BigQuery` (Google 2016). Like the data on GithubArchive itself, the Google `BigQuery` copy of the Github public timeline data was updated hourly. Reaching back to 2011, it logs around 400 million public events.³

The archiving, copying and transformation of Github event data into big data-ready format drew the attention many people. The data was publicised through several ‘Github Data Challenges’ (2012-2014). Working to count events in different ways using data analytic techniques and data visualizations, people re-counted events on the Github timeline to in order to tell different ‘stories’ about Github’s millions of repositories and people. These stories include many different configurations. ‘Data challenges,’ hackathons and the like presented difficulties for my project of recounting the Github repositories. In some ways, the entries and projects that respond to the publication of the data threaten to

³Slightly complicating matters, the single Github timeline dataset has now been retired on `GoogleBigQuery` and the data now takes the form of separate tables for each day, month and year since February 2011. More recently, the full contents and histories of over 2 millions Github repositories have been published as a `GoogleBigQuery` dataset [GoogleInc_2016a].

supplant or render redundant the efforts of social researchers. They ‘socialise’ big data in multiple ways, albeit often retaining if not reinforcing aspects of its capitalisation.

For instance, the ‘OpenSource Report Card’ (<http://osrc.dfm.io/>) or **dfm/osrc** by Dan Foreman-Mackay (Foreman-Mackay 2014), is a prize-winning use of the timeline data (see Figure ??). It ingests all the data from the Githubarchive, counting what developers do, when they do it, and using what programming languages. With this data stored, it then builds a predictive model that allows it to both profile a given Github user in terms of the mixture of programming language they use, and to predict who that Github user might be similar to. Here the mass of events in the Github timeline are brought to bear on finding similarities between people, producing numbers and score to suggest similarities in coding work.

In response to the Github Data Challenge in 2012, people looked for feelings or ‘sentiments’ about different programming languages in the timeline data. Feelings associated with coding were mined by counting emotional words present in comments accompanying the Github events (<http://geeksta.net/geeklog/exploring-expressions-emotions-github-commit-messages/>). The presence of words in these message can be cross-linked with programming languages in order to profile how different programming languages elicit different emotional reactions.

Capital numbers were also *nationalised* or regionalised. People mapped coders and repositories by geographic location. The mapping of Github contributions by location performed by David Fischer (<http://davidfischer.github.io/gdc2/#languages/All>) is typical in that it too counts events, but this time puts the emphasis on the geography of the ‘top’ repositories, coders and their programming languages. As the David Fischer puts it ‘this data set contains contributions to the top 200 GitHub repositories during the first four months of 2013 and plots the location based on what the contributor provided’ (Fischer 2013–2013-05-05T02:47:58+00:00).

Logistic numbers can be derived from the data streams. People made live dashboards, a characteristic data analytic visual form, for Github. **Octoboard** (<http://octoboard.com/>) animates changes on Github using the timeline data (Roussell 2015) (see Figure ??). It ornaments the capital numbers with a range of peripheral live enumerations that point to the liveliness of events on Github. It presents a summary of daily activity in major categories on Github – how many new repositories, how many issues, how repositories have been ‘open sourced’ today. It offers realtime analytics on emotions. Like many other dashboards associated with social media analytics, **octoboard** suggests that the constant change in associations and projects in software development can no longer be known through leisurely rhythms of analysis, but is increasingly framed as a problem realtime awareness.

Looking slightly more widely, the Github timeline data has quickly become a

favourite training tool for data mining textbooks books that configure and convey the calculative agencies characteristic of capital numbers. In *Mining the Social Web: Data Mining Facebook, Twitter, LinkedIn, Google+, GitHub, and More*, Matthew Russell makes use of the Github timeline to demonstrate ways of uses social network analysis to highlight the important nodes and links between repositories and users (Russell 2013). Finally and not least for my own projects, academic researchers in computer science and certain parts of management science, GithubArchive and the **BigQuery** publication of Github has been a boon because it permits relatively easy study technologically and economically important practices of software development. Academic researchers in fields such as software engineering do social network analysis in order to gauge productivity, reuse, efficiency and other engineering and management concern (Thung et al. 2013). Like the many Github-hosted projects discussed above, they analyse sentiment (Guzman, Azócar, and Li 2014), collaboration and productivity (Dabbish et al. 2012), and geography (Takhteyev and Hiltz 2010).

All of these re-countings enliven, animate, reactivate, localise and qualify the capital numbers. They potentialise the numbers in terms of work, geography, liveness and further accumulation by summing them up in different ways (realtime status updates and dashboards, networks of associations, geographies of work and affect) commonly found in contemporary data economies and as the outcome of big data practice. Many of the dashboards, maps, sentiment analyses and predictive recommendations are common in big data practice, and the fact that people using Github should so readily analyse Github itself using big data infrastructures such as GoogleBigQuery and other analytic devices is hardly surprising. Coders and software developers are, after all, key workers in the ongoing transformation of systems of controls and configuration associated with big data.

Acts of imagined accumulation

Given this vortex of data-challenged work around the Github data, which I interpret as both symptomatic of big data practices and as a set of parallel ‘storyfications’ of the ‘datafication’ of Github, where would an ethnographic sensibility intervene? Is there any place or point at which it might engage with the code-infrastructure oriented practices associated with flows of data? Given my – and indeed ‘our’, since this project was a team effort, including statisticians and social theorists – propensity or somewhat unwitting interpellation as a white, middle-class, middle-age, relatively technically over-skilled male social researcher long-drawn into information infrastructural transformations, the chances of an ethnographic attentiveness to differences, slippages, experiential ambivalences and ambiguities actually having an chance of purchase were rather slim. Could writing queries for GoogleBigQuery GithubArchive dataset, developing data analytic and visualizing code in **R** and **python**, programming languages commonly used in the big data practices actually generate any auto-

ethnographic resonance?

The basic capital number of the repository count was usefully grounding. Technically, the number is relatively easy to approximate in the GithubArchive data. A simply GoogleBigQuery produces the number in roughly 2.0 secs having processed around 40Gb of repository URLs:

```
library(bigrquery)
query1 = "SELECT count(distinct(repo.url))
FROM
  [githubarchive:year.2011],
  [githubarchive:year.2012],
  [githubarchive:year.2013],
  [githubarchive:year.2014],
  [githubarchive:year.2015]"
repo_count = query_exec('metacommunities', query = query1)

##
Running query:   RUNNING   2.4s
Running query:   RUNNING   3.3s
## 21.5 gigabytes processed
```

The result: 31490949

How could we re-count such capital numbers in order to both further highlight their dynamic composition through flows of association and to highlight some of the highly reactive, imaginary boundary work they might do as the materialize imaginaries of totality, globality or infrastructural control? Could configurative numbers in both their compositional and imaginary-materialising multiplicity be counted? Whilst there is a much configurational work involved even in beginning to count things heterogeneously on an infrastructural scale, I found myself drawn in two directions, one concerned with transience of configurations and the other with their imitative composition. Both concerns – transience and imitation – are not highlighted in any of the other re-counts of the GithubArchive data, but they only became salient to me amidst many other failures to find any interesting story, stable signal or statistical regularity in the Github timeline data.⁴

When we count people or things (such as software project), the working assumption is that they have some duration and substantial presence. This assumption, however, does not hold very true at the scale of large data-streams, where, like sub-atomic particles in a collision, people and things flash in and out of existence quite rapidly and unpredictably. Frustrated by our seeming inability

⁴Nearly all of our attempts to make sense of the data can be found in the Github repository <https://github.com/metacommunities/metacommunities>. The scripts, plots and pieces of writing found there, however, are not highly ordered. The key results lie scattered across different branches of that repository. The somewhat tangled, messy aggregate of materials there attests to our strenuous but often incoherent efforts to find valid statistical regularities in a dataset characterised by tremendous heterogeneity and messiness.

to find anything in the GithubArchive data apart from the obvious importance of well-known software projects such as `linux` or `android`, we were forced to accept transience and ephemeral visibility as a common mode of existence on Github. The transient visibility of people and things in the data takes many forms. The vast majority of repositories on Github are very short-lived. They attract one or two events. A great proportion of events in the timeline data were absorbed into ephemeral repositories (if that is not too great a contradiction in terms). Millions of repositories flash into visibility on the timeline for a brief period before falling back into obscurity. Yet they remain in the capital number. The diagram shown in the Figure ?? encapsulates this imitative flux. On the left hand side, millions of repositories receive less than five events during the 18 months. On the right hand side, less than 50 repositories receive more than a thousand events. A similar pattern appears in the other capital number: while some ‘people’ emit many thousands of events, others only trigger a few.^[5] Already, then, the capital number of repositories on Github takes on a different composition when viewed from the perspective of duration. In the number ‘29 million,’ 22

The massive asymmetry between the relatively few long duration repositories and the vast mass of transient, abandoned repositories is definitely not another corroboration of ‘the long-tail’ distributions that social media exponents such as Clay Shirky and Chris Anderson began discussing more than a decade ago and that may have had a large part to play in many of the intensely individualizing tendencies of big data analytics, targetted advertising, predictive feeds and recommendations. (For instance, one reason that Amazon.com stocks so many obscure products, is that the long tail of sales of these items is potentially more important than the sales of a smaller number of best-sellers (???, Anderson 2009).) Rather than the long tail of coding, or a scale-free network of code-hubs on Github (itself a hub in networks of code-related infrastructure), or even simply waste, noise or something to be discarded, we might trace the working of associative processes through highly skewed distribution of events. I can only give a brief indication of this here. For instance, counting just the unique names of repositories in the timeline data, counting how often and when they appear as event in the data stream begins to suggest something about the composition of the capital number of repositories. Almost two thirds of the repositories in Github inject only one or two events into the timeline data stream ever. This means that 20 million of the 30 million repositories are just flashes in the timeline data appearing as one or two events.

```
##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##   filter, lag

## The following objects are masked from 'package:base':
##
```

```
##      intersect, setdiff, setequal, union
```

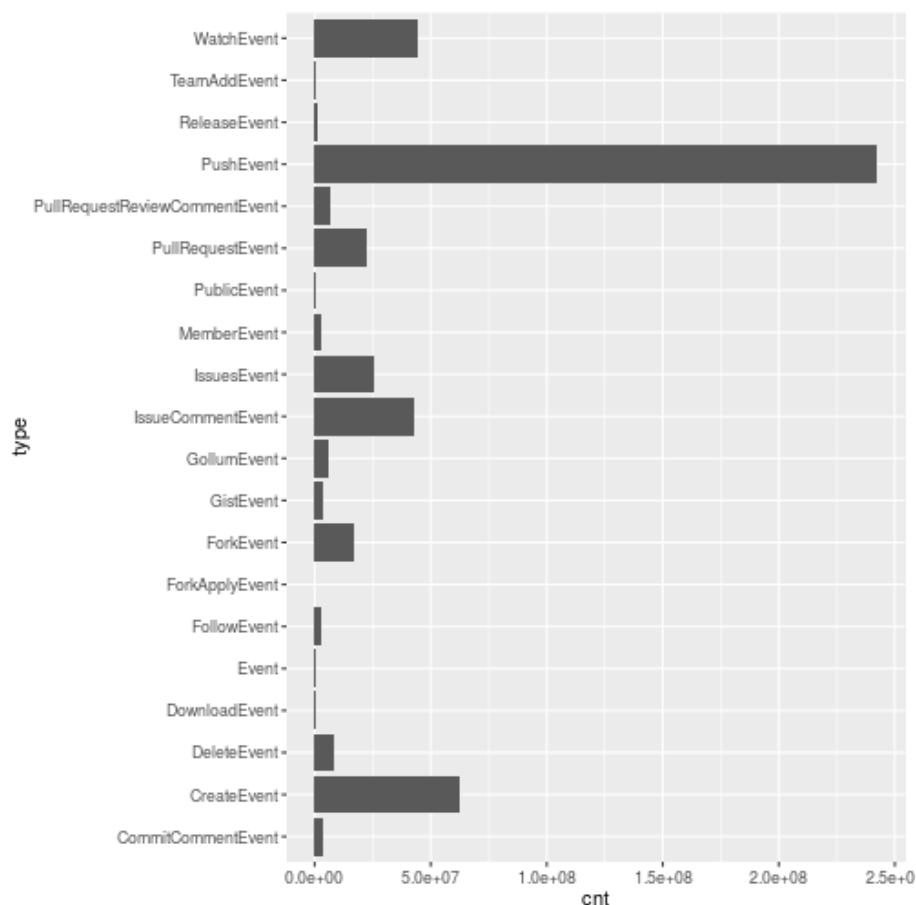


Figure 1: plot of chunk event_count

What are these events? The event of creating a named repository is primary, followed by the event of pushing (putting something into a repository – a ‘commit’), and then act of copying (‘forking’) another repository. People ‘fork’ other repositories frequently. If we just count the event of creating a repository by copying or forking it, more than half all repositories are copies of existing repositories (1.6653437×10^7). If every ForkEvent on Github creates a new repository, more than half of the repositories are direct copies. Acts of copying occur on many scales and at various levels of infrastructural and associative complexity. This copying is vital to the ‘sharing’ practice of Github coding. Of the several hundred million events in the timeline dataset, approximately 151891374 or 31% of all events in the Github timeline data arise from copying, watching, commenting on or otherwise observing other repositories. (See the WatchEvent,

ForkEvent, PullRequestEvent, and IssueEvent counts in figure ??.)

The growth of associative imitation

```
##
## Attaching package: 'readr'
## The following object is masked from 'package:curl':
##
##      parse_date
## Auto-refreshing stale OAuth token.
##
Running query:  RUNNING  2.9s
Running query:  RUNNING  4.1s
Running query:  RUNNING  5.0s
Running query:  RUNNING  6.1s
Running query:  RUNNING  7.1s
Running query:  RUNNING  8.0s
Running query:  RUNNING  9.3s
Running query:  RUNNING 10.2s
Running query:  RUNNING 11.3s
Running query:  RUNNING 12.3s
Running query:  RUNNING 13.3s
Running query:  RUNNING 15.4s
Running query:  RUNNING 16.3s
Running query:  RUNNING 17.3s
## 24.6 gigabytes processed
## Warning: closing unused connection 6 (https://api.github.com/repos/
## metacommunities/metacommunities/branches)
## Warning: closing unused connection 5 (https://api.github.com/repos/
## metacommunities/metacommunities/contributors)
## Warning: closing unused connection 4 (https://api.github.com/repos/
## metacommunities/metacommunities/languages)
##
Retrieving data:  6.5s
Retrieving data: 12.4s
Retrieving data: 18.1s
Retrieving data: 24.3s
Retrieving data: 31.6s
Retrieving data: 37.7s
Retrieving data: 43.7s
Retrieving data: 48.9s
```

Retrieving data: 54.1s
Retrieving data: 61.1s
Retrieving data: 67.5s
Retrieving data: 73.0s
Retrieving data: 84.9s
Retrieving data: 91.0s
Retrieving data: 98.3s
Retrieving data: 105.0s
Retrieving data: 112.0s
Retrieving data: 126.8s
Retrieving data: 147.7s
Retrieving data: 156.4s
Retrieving data: 162.6s
Retrieving data: 168.4s
Retrieving data: 176.2s
Retrieving data: 183.0s
Retrieving data: 191.0s
Retrieving data: 197.6s
Retrieving data: 205.2s
Retrieving data: 211.1s
Retrieving data: 217.2s
Retrieving data: 224.1s
Retrieving data: 230.7s
Retrieving data: 236.5s
Retrieving data: 243.7s
Retrieving data: 249.3s
Retrieving data: 256.2s
Retrieving data: 262.4s
Retrieving data: 269.5s
Retrieving data: 276.8s
Retrieving data: 285.8s
Retrieving data: 294.1s
Retrieving data: 302.1s
Retrieving data: 308.9s
Retrieving data: 317.8s
Retrieving data: 325.1s
Retrieving data: 331.1s
Retrieving data: 337.6s
Retrieving data: 344.0s
Retrieving data: 352.3s
Retrieving data: 358.5s
Retrieving data: 365.0s
Retrieving data: 371.4s
Retrieving data: 377.7s
Retrieving data: 385.6s
Retrieving data: 392.3s


```

Retrieving data: 398.3s
Retrieving data: 404.7s
Retrieving data: 412.9s
Retrieving data: 418.9s
Retrieving data: 425.1s
Retrieving data: 431.3s
Retrieving data: 438.3s
Retrieving data: 446.6s
Retrieving data: 453.4s
Retrieving data: 459.5s
Retrieving data: 466.6s
Retrieving data: 473.9s
Retrieving data: 481.9s
Retrieving data: 489.0s
Retrieving data: 497.8s
Retrieving data: 506.2s
Retrieving data: 515.2s
Retrieving data: 523.5s
Retrieving data: 531.6s
Retrieving data: 541.2s
Retrieving data: 549.2s
Retrieving data: 556.6s
Retrieving data: 564.2s
Retrieving data: 573.3s

```

While it is hard to grasp the texture of imitative processes in event data, they figure deeply in the composition of the capital numbers. We can observe some localised aspects of propagation of imitation by going beyond the formatted data of the API or GithubArchive data. Much social media platform data relies heavily on unique names (hence, for instance, Facebook's insistence that every user has a single unique identity). Yet the associative play of names (of people and things) attests to processes of associative imitations that continually In the years 2012-2015, both mobile devices and user interfaces were being intensively transformed in complex ways (e.g. the growth of apps, and the transformation of webpages from static HTML-formatted text to thoroughly dynamic script-driven surfaces composed for many elements). While these transformation were not directly the work of 'big data' practices, they are intricately connected to it by virtue of the proliferation of devices, the deeper integration of networks of association they implement and not least, the changes in the texture of contemporary experiences of interfaces. Both Figure ?? and ?? attempt to figure something of this proliferating-integrating process of change. Both figures count imitations in the form of copying code, but in ways that go beyond the formal copying mechanisms offered by Github itself (for instance in the 'Fork' button that appears on the top right hand side of any repository on Github).

```

## Parsed with column specification:
## cols(

```

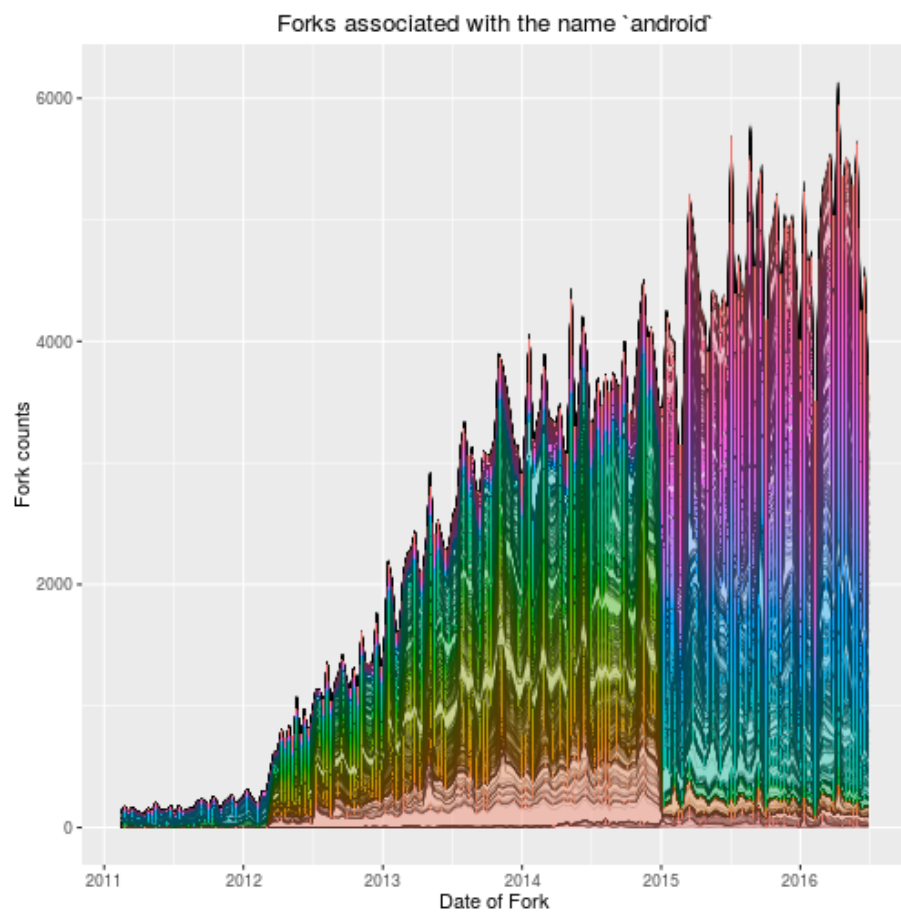


Figure 2: plot of chunk android_associations

```
## repo_name = col_character(),
## created_at = col_datetime(format = ""),
## cnt = col_integer()
## )
```

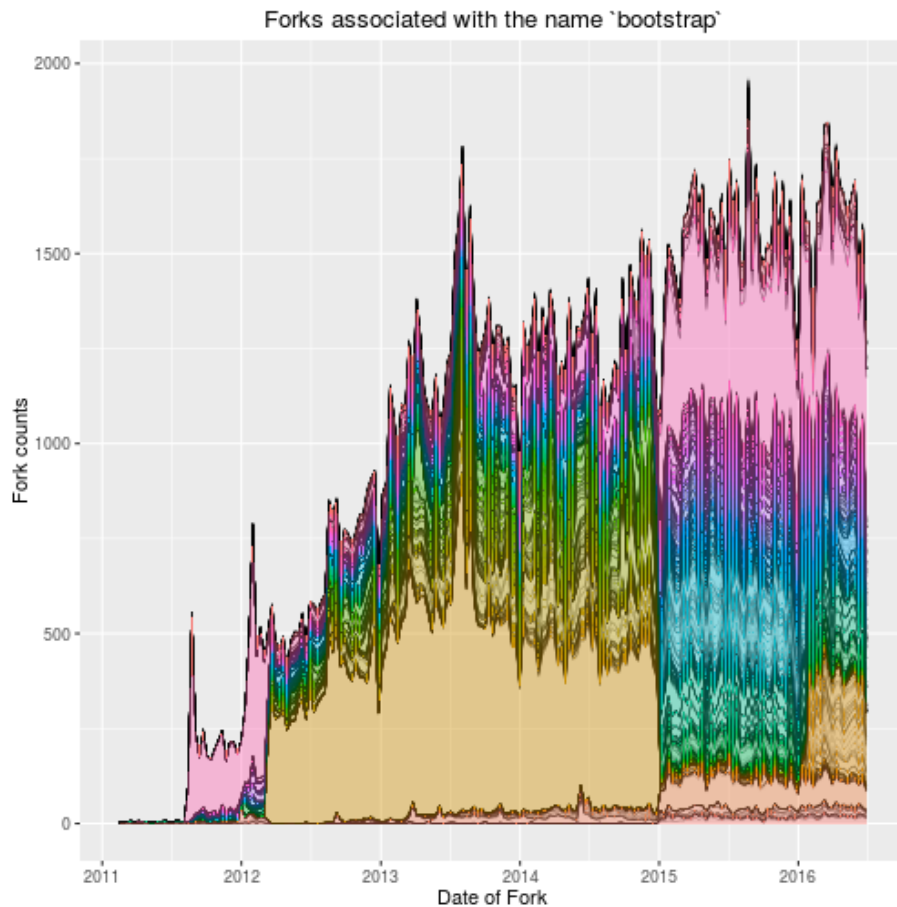


Figure 3: plot of chunk bootstrap_association

We might call this form of composition, as it configures capital numbers, *stacked associative imitation*. Associative imitation appears in two different ways in these figures. The broad bands of color rippling horizontally across the base of the figures graph the counts of copies being made each day on Github of popular repositories such as **android** or **bootstrap** using the Fork action. (In forking, the repository name remains the same.) But the much more dense striations running above the base ribbons, seen for instance in Figure ??, count repositories whose names combine the base repository (e.g. **android**) but vary it in some way. These repositories associate with the base repository, but diverge

from it in a multiplicity of ways. A repository may, for instance, relate to the popular **bootstrap** repository yet combine it with a range of other platforms and devices such as **android** or **jQuery**.

In the striated zones of associo-imitation plotted in the figures, it is possible to count something that is neither the long tail nor a link-based network of affiliations. The cross-ply of repository imitations identify the average everydayness of coding work with forms of associative investment and affective identification that range across many different repositories. In this work, repositories act as high visibility markers around which waves of hybridisation stack up. Unlike the capital numbers with their total aggregates of people or repositories, the imitative fluxes that bulk out and pad in these diagrams have diverse networks of association. The implication here is that by counting elements within the capital numbers, we can begin to glimpse the pathways of generative circulation that enliven and literally join together in contemporary technologies.

De-capitalising configuration

Densely populated with counts of ephemeral repositories, stacked with associative imitations, the capital number 29 million seemed in the light of these re-counting to be a sieve-like entity, full of differently configured processes. Yet still the count was not exhaustively accounted for in these different counts. The very act of counting these imitations has a device-specificity, in its reliance on the Github platform API, the GithubArchive timeline dataset and the GoogleBigQuery cloud analytic's platform, and indeed Github itself as the repository of the code and text comprising this article (Metacommunities 2016). Unlike the network-tracing approach, it can perhaps take into account the ways in which the platform itself works to shape networked associations. Whenever we count or calculate in any form, device-specific configurations materialise in the numbers. The expansively contagious nature of imitation inevitably encounters device-specific configurations.

```
##          f0_  
## 1 493542302  
  
##  
Running query:  RUNNING  2.9s  
Running query:  RUNNING  3.9s  
Running query:  RUNNING  4.9s  
Running query:  RUNNING  5.9s  
Running query:  RUNNING  6.9s  
Running query:  RUNNING  7.9s  
Running query:  RUNNING  8.9s  
Running query:  RUNNING  9.8s  
Running query:  RUNNING 10.8s  
Running query:  RUNNING 11.8s  
Running query:  RUNNING 12.7s
```

Running query: RUNNING 13.7s
Running query: RUNNING 14.7s
Running query: RUNNING 15.6s
Running query: RUNNING 16.5s
Running query: RUNNING 17.5s
Running query: RUNNING 18.5s
Running query: RUNNING 24.5s
Running query: RUNNING 25.5s
Running query: RUNNING 26.4s
Running query: RUNNING 27.4s
Running query: RUNNING 28.4s
Running query: RUNNING 29.4s
Running query: RUNNING 30.4s
Running query: RUNNING 31.3s
Running query: RUNNING 32.3s
Running query: RUNNING 33.2s
Running query: RUNNING 34.2s
Running query: RUNNING 35.2s
Running query: RUNNING 36.1s
Running query: RUNNING 37.1s
Running query: RUNNING 38.1s
Running query: RUNNING 39.0s
Running query: RUNNING 40.0s
Running query: RUNNING 41.0s
Running query: RUNNING 42.1s
Running query: RUNNING 43.1s
Running query: RUNNING 44.0s
Running query: RUNNING 45.0s
Running query: RUNNING 46.0s
Running query: RUNNING 46.9s
Running query: RUNNING 48.0s
Running query: RUNNING 49.0s
Running query: RUNNING 50.0s
Running query: RUNNING 52.1s
Running query: RUNNING 53.1s
Running query: RUNNING 54.1s
Running query: RUNNING 55.1s
Running query: RUNNING 56.0s
Running query: RUNNING 57.0s
Running query: RUNNING 57.9s
Running query: RUNNING 58.9s
Running query: RUNNING 59.9s
Running query: RUNNING 60.9s
Running query: RUNNING 61.9s
Running query: RUNNING 62.8s
Running query: RUNNING 63.8s

Running query: RUNNING 64.8s
Running query: RUNNING 65.8s
Running query: RUNNING 66.8s
Running query: RUNNING 67.7s
Running query: RUNNING 68.7s
Running query: RUNNING 69.6s
Running query: RUNNING 70.6s
Running query: RUNNING 71.5s
Running query: RUNNING 72.6s
Running query: RUNNING 73.5s
Running query: RUNNING 74.5s
Running query: RUNNING 75.5s
Running query: RUNNING 76.4s
Running query: RUNNING 77.4s
Running query: RUNNING 78.4s
Running query: RUNNING 79.5s
Running query: RUNNING 80.5s
Running query: RUNNING 81.4s
Running query: RUNNING 83.7s
Running query: RUNNING 84.6s
Running query: RUNNING 85.6s
Running query: RUNNING 86.5s
Running query: RUNNING 87.5s
Running query: RUNNING 88.5s
Running query: RUNNING 89.5s
Running query: RUNNING 90.5s
Running query: RUNNING 91.4s
Running query: RUNNING 92.4s
Running query: RUNNING 93.3s
Running query: RUNNING 94.3s
Running query: RUNNING 95.3s
Running query: RUNNING 96.4s
Running query: RUNNING 97.4s
Running query: RUNNING 98.3s
Running query: RUNNING 99.3s
Running query: RUNNING 100.3s
Running query: RUNNING 101.2s
Running query: RUNNING 102.2s
Running query: RUNNING 103.1s
Running query: RUNNING 104.1s
Running query: RUNNING 105.1s
Running query: RUNNING 106.0s
Running query: RUNNING 107.0s
Running query: RUNNING 107.9s
Running query: RUNNING 109.0s
Running query: RUNNING 110.3s

Running query: RUNNING 111.3s
Running query: RUNNING 112.2s
Running query: RUNNING 113.2s
Running query: RUNNING 115.9s
Running query: RUNNING 117.0s
Running query: RUNNING 117.9s
Running query: RUNNING 119.0s
Running query: RUNNING 120.0s
Running query: RUNNING 120.9s
Running query: RUNNING 122.0s
Running query: RUNNING 123.0s
Running query: RUNNING 124.1s
Running query: RUNNING 125.6s
Running query: RUNNING 126.6s
Running query: RUNNING 127.6s
Running query: RUNNING 128.5s
Running query: RUNNING 129.5s
Running query: RUNNING 130.5s
Running query: RUNNING 131.4s
Running query: RUNNING 132.4s
Running query: RUNNING 133.3s
Running query: RUNNING 134.3s
Running query: RUNNING 135.3s
Running query: RUNNING 136.2s
Running query: RUNNING 137.2s
Running query: RUNNING 138.2s
Running query: RUNNING 139.1s
Running query: RUNNING 140.0s
Running query: RUNNING 141.1s
Running query: RUNNING 142.1s
Running query: RUNNING 143.0s
Running query: RUNNING 144.0s
Running query: RUNNING 145.0s
Running query: RUNNING 146.7s
Running query: RUNNING 147.7s
Running query: RUNNING 148.6s
Running query: RUNNING 149.6s
Running query: RUNNING 150.5s
Running query: RUNNING 151.5s
Running query: RUNNING 152.4s
Running query: RUNNING 153.4s
Running query: RUNNING 154.4s
Running query: RUNNING 155.4s
Running query: RUNNING 156.3s
Running query: RUNNING 157.3s
Running query: RUNNING 158.2s

Running query: RUNNING 159.1s
Running query: RUNNING 160.1s
Running query: RUNNING 161.1s
Running query: RUNNING 162.1s
Running query: RUNNING 163.0s
Running query: RUNNING 164.0s
Running query: RUNNING 164.9s
Running query: RUNNING 165.9s
Running query: RUNNING 166.8s
Running query: RUNNING 167.8s
Running query: RUNNING 168.8s
Running query: RUNNING 169.7s
Running query: RUNNING 170.7s
Running query: RUNNING 171.6s
Running query: RUNNING 172.5s
Running query: RUNNING 173.6s
Running query: RUNNING 174.5s
Running query: RUNNING 175.5s
Running query: RUNNING 176.5s
Running query: RUNNING 178.3s
Running query: RUNNING 179.3s
Running query: RUNNING 180.2s
Running query: RUNNING 181.2s
Running query: RUNNING 182.1s
Running query: RUNNING 183.1s
Running query: RUNNING 184.0s
Running query: RUNNING 184.9s
Running query: RUNNING 185.9s
Running query: RUNNING 186.8s
Running query: RUNNING 187.8s
Running query: RUNNING 188.8s
Running query: RUNNING 189.7s
Running query: RUNNING 190.7s
Running query: RUNNING 191.7s
Running query: RUNNING 192.7s
Running query: RUNNING 193.7s
Running query: RUNNING 194.6s
Running query: RUNNING 195.6s
Running query: RUNNING 196.6s
Running query: RUNNING 197.5s
Running query: RUNNING 198.5s
Running query: RUNNING 199.4s
Running query: RUNNING 200.4s
Running query: RUNNING 201.4s
Running query: RUNNING 202.3s
Running query: RUNNING 203.4s

Running query: RUNNING 204.4s
Running query: RUNNING 205.3s
Running query: RUNNING 206.3s
Running query: RUNNING 207.3s
Running query: RUNNING 209.9s
Running query: RUNNING 210.9s
Running query: RUNNING 211.8s
Running query: RUNNING 212.7s
Running query: RUNNING 213.7s
Running query: RUNNING 214.7s
Running query: RUNNING 215.7s
Running query: RUNNING 216.6s
Running query: RUNNING 217.6s
Running query: RUNNING 218.5s
Running query: RUNNING 219.4s
Running query: RUNNING 220.4s
Running query: RUNNING 221.3s
Running query: RUNNING 222.3s
Running query: RUNNING 223.3s
Running query: RUNNING 224.3s
Running query: RUNNING 225.3s
Running query: RUNNING 226.2s
Running query: RUNNING 227.3s
Running query: RUNNING 228.2s
Running query: RUNNING 229.2s
Running query: RUNNING 230.1s
Running query: RUNNING 231.1s
Running query: RUNNING 232.1s
Running query: RUNNING 233.0s
Running query: RUNNING 234.0s
Running query: RUNNING 234.9s
Running query: RUNNING 235.9s
Running query: RUNNING 236.8s
Running query: RUNNING 237.8s
Running query: RUNNING 238.7s
Running query: RUNNING 241.3s
Running query: RUNNING 242.2s
Running query: RUNNING 243.2s
Running query: RUNNING 244.3s
Running query: RUNNING 245.3s
Running query: RUNNING 246.2s
Running query: RUNNING 247.2s
Running query: RUNNING 248.1s
Running query: RUNNING 249.0s
Running query: RUNNING 250.0s
Running query: RUNNING 250.9s

Running query: RUNNING 252.0s
Running query: RUNNING 253.0s
Running query: RUNNING 253.9s
Running query: RUNNING 254.8s
Running query: RUNNING 255.8s
Running query: RUNNING 256.7s
Running query: RUNNING 257.7s
Running query: RUNNING 258.7s
Running query: RUNNING 259.6s
Running query: RUNNING 260.5s
Running query: RUNNING 261.5s
Running query: RUNNING 262.5s
Running query: RUNNING 263.4s
Running query: RUNNING 264.4s
Running query: RUNNING 265.3s
Running query: RUNNING 266.3s
Running query: RUNNING 267.3s
Running query: RUNNING 268.2s
Running query: RUNNING 269.2s
Running query: RUNNING 270.4s
Running query: RUNNING 272.9s
Running query: RUNNING 273.8s
Running query: RUNNING 274.8s
Running query: RUNNING 275.7s
Running query: RUNNING 276.6s
Running query: RUNNING 277.6s
Running query: RUNNING 278.6s
Running query: RUNNING 279.5s
Running query: RUNNING 280.5s
Running query: RUNNING 281.5s
Running query: RUNNING 282.5s
Running query: RUNNING 283.4s
Running query: RUNNING 284.4s
Running query: RUNNING 285.3s
Running query: RUNNING 286.4s
Running query: RUNNING 287.4s
Running query: RUNNING 288.4s
Running query: RUNNING 289.5s
Running query: RUNNING 290.5s
Running query: RUNNING 291.5s
Running query: RUNNING 292.5s
Running query: RUNNING 293.5s
Running query: RUNNING 294.6s
Running query: RUNNING 295.6s
Running query: RUNNING 296.5s
Running query: RUNNING 297.5s

Running query: RUNNING 298.5s
Running query: RUNNING 299.5s
Running query: RUNNING 300.6s
Running query: RUNNING 301.8s
Running query: RUNNING 304.9s
Running query: RUNNING 306.2s
Running query: RUNNING 307.2s
Running query: RUNNING 308.2s
Running query: RUNNING 309.4s
Running query: RUNNING 310.3s
Running query: RUNNING 311.3s
Running query: RUNNING 312.3s
Running query: RUNNING 313.2s
Running query: RUNNING 314.2s
Running query: RUNNING 315.1s
Running query: RUNNING 316.1s
Running query: RUNNING 317.0s
Running query: RUNNING 318.0s
Running query: RUNNING 318.9s
Running query: RUNNING 319.9s
Running query: RUNNING 320.9s
Running query: RUNNING 322.0s
Running query: RUNNING 322.9s
Running query: RUNNING 323.9s
Running query: RUNNING 324.8s
Running query: RUNNING 325.9s
Running query: RUNNING 326.9s
Running query: RUNNING 327.9s
Running query: RUNNING 328.8s
Running query: RUNNING 329.7s
Running query: RUNNING 330.7s
Running query: RUNNING 331.7s
Running query: RUNNING 332.6s
Running query: RUNNING 333.6s
Running query: RUNNING 335.9s
Running query: RUNNING 336.9s
Running query: RUNNING 337.8s
Running query: RUNNING 338.8s
Running query: RUNNING 339.8s
Running query: RUNNING 340.8s
Running query: RUNNING 341.7s
Running query: RUNNING 342.7s
Running query: RUNNING 343.7s
Running query: RUNNING 344.7s
Running query: RUNNING 345.7s
Running query: RUNNING 346.7s

Running query: RUNNING 347.6s
Running query: RUNNING 348.7s
Running query: RUNNING 349.7s
Running query: RUNNING 350.6s
Running query: RUNNING 351.5s
Running query: RUNNING 352.5s
Running query: RUNNING 353.4s
Running query: RUNNING 354.4s
Running query: RUNNING 355.4s
Running query: RUNNING 356.4s
Running query: RUNNING 357.5s
Running query: RUNNING 358.5s
Running query: RUNNING 359.5s
Running query: RUNNING 360.4s
Running query: RUNNING 361.4s
Running query: RUNNING 362.4s
Running query: RUNNING 363.4s
Running query: RUNNING 364.3s
Running query: RUNNING 365.3s
Running query: RUNNING 367.3s
Running query: RUNNING 368.3s
Running query: RUNNING 369.3s
Running query: RUNNING 370.2s
Running query: RUNNING 371.2s
Running query: RUNNING 372.2s
Running query: RUNNING 373.1s
Running query: RUNNING 374.1s
Running query: RUNNING 375.0s
Running query: RUNNING 376.0s
Running query: RUNNING 377.0s
Running query: RUNNING 378.1s
Running query: RUNNING 379.0s
Running query: RUNNING 380.0s
Running query: RUNNING 380.9s
Running query: RUNNING 381.9s
Running query: RUNNING 382.9s
Running query: RUNNING 383.9s
Running query: RUNNING 384.8s
Running query: RUNNING 385.8s
Running query: RUNNING 386.8s
Running query: RUNNING 387.7s
Running query: RUNNING 388.7s
Running query: RUNNING 389.7s
Running query: RUNNING 390.6s
Running query: RUNNING 391.6s
Running query: RUNNING 392.6s

```
Running query: RUNNING 393.5s
Running query: RUNNING 394.5s
Running query: RUNNING 395.4s
Running query: RUNNING 396.4s
Running query: RUNNING 398.7s
Running query: RUNNING 399.6s
Running query: RUNNING 400.6s
Running query: RUNNING 401.6s
Running query: RUNNING 402.5s
Running query: RUNNING 403.5s
Running query: RUNNING 404.4s
Running query: RUNNING 405.4s
Running query: RUNNING 406.3s
Running query: RUNNING 407.3s
Running query: RUNNING 408.2s
Running query: RUNNING 409.2s
Running query: RUNNING 410.2s
Running query: RUNNING 411.1s
Running query: RUNNING 412.1s
Running query: RUNNING 413.0s
Running query: RUNNING 414.0s
Running query: RUNNING 414.9s
Running query: RUNNING 415.9s
Running query: RUNNING 416.9s
Running query: RUNNING 417.9s
Running query: RUNNING 418.8s
Running query: RUNNING 419.8s
Running query: RUNNING 420.7s
Running query: RUNNING 421.7s
Running query: RUNNING 422.7s
```

```
## 8.4 gigabytes processed
```

```
##
```

```
Retrieving data: 4.9s
```

```
Retrieving data: 9.9s
```

One sense of how numbers embody device-specific configurations can be seen by examining high event-count repositories on Github. The top 0.1% of repositories attract around 25% of all events during 2011-2015. (The query de-capitalises the repository names for the purposes of aggregation (e.g. a repository called `DotFile` will be counted along with `dotfile`)). Given the flattening of the names to lower case produced by this query, we cannot readily see how those events are distributed. But these highly eventful repositories, which only comprise a tiny percentage of the 29 million on Github, absorb many events. What happens in these high event count repositories?

Several major traits appear in these high event-count repositories. Many events come from off-platform. Github, despite its own figuration as a hub where coding is done socially, functions as an element in wider configurations. For instance, the repository `eclipse.platform.common` accounts for almost 2 million events in the timeline data. A single repository attracting two million events (or almost 1% of the total event count in the timeline data) suggests something highly significant in the geography of coding work. Perhaps the fact that `eclipse` is itself part of the Eclipse Foundation, ‘an amazing open source community of Tools, Projects and Collaborative Working Groups’ (Eclipse Foundation 2016) with almost a thousand of its own projects, might help explain the large number of events. More significantly, the high-frequency event traffic in `eclipse.platform.common` is an example of how Github itself functions as part of a configuration. The `eclipse` repositories are not actively developed on Github. They are mirrored or themselves copied from the hundreds of `git` repositories found at (`git://git.eclipse.org`)[`git://git.eclipse.org`]. Like many other significant repositories (`linux`, `android`, `mozilla`, `apache`), high event counts often configure Github itself as part of a wider network of relations.

Conversely, even where repository events do originate on Github, many of them concern Github or technical configurations closely associated with Github. For instance, the list of names of high-event count repositories centres on a few highly repeated names such as `test`, `dot`, `sample` and `try_git`. For instance, the many repositories that contain the term `dot` as in `dotfile` or `vimdot` suggest that Github repositories act as stores for the settings and configurations specific to coding work (e.g. `vimdot` repositories hold customised settings for the popular `vim` text editor). Terms like `test`, `hello`, and `try` or `demo` also stream through this set of repository names. These repositories often attest to non-code uses of Github and sometimes (for instance, in the case of `KenanSulayman/heartbeat` with its several million commit events) to surprising or experimental re-purposings of the Github platform.

Do configuration-oriented practices around Github affect the capital numbers and the value and importance they are meant to convey? Configuration is, as science and technology studies scholars have emphasised, vital to the very existence of technologies. If many of the 29 million repositories on Github function as elements in the configuration of coding work rather than as bodies of code in their own right, then any account of what happens cannot assume that analysis of Github data primarily concerns ‘how people build software’ (Github 2015). Or, put more constructively, it suggests that much of what counts as software on Github – code repositories – in actuality concerns the arrangements that people make with each and themselves in order to work with software. In this respect, the capital numbers are always also configurative numbers. There is no work on software without the ‘how’ of building software, the configuration work.

In this context, too, our – the five researchers directly involved in the research – work on the Github API, GithubArchive datasets and the GoogleBigQuery

platform was full of configurative events, themselves tending to slightly increase the capital numbers (although we only added one repository to Github). The repository for this project contains thousands of lines of code written in Python, R and in specialized languages such as SQL (Structured Query Language)(Metacommunities 2016) as well as tens of thousands of lines of text distributed across 30 branches of the repository. According to the Github API, user `rian39` added around 10 million lines of code and deleted 8 million, leaving a net contribution of around 2 million lines to the `metacommunities` repository during the years 2012-2016 (???). While those numbers might be read as attesting to extraordinary levels of code productivity, they actually include many lines of data stored in the Github repository, alongside code, drafts of documents and configuration related information. The deletion of 8 million lines suggests that some of the main activities in the repository were changes to do with cleaning up, tidying and re-arranging files and documents in the repository.

```
## opening file input connection.
```

```
##
```

```
Found 500 records...
Found 1000 records...
Found 1500 records...
Found 2000 records...
Found 2500 records...
Found 3000 records...
Found 3500 records...
Found 4000 records...
Found 4500 records...
Found 5000 records...
Found 5500 records...
Found 6000 records...
Found 6500 records...
Found 7000 records...
Found 7500 records...
Found 8000 records...
Found 8500 records...
Found 9000 records...
Found 9500 records...
Found 10000 records...
Found 10500 records...
Found 11000 records...
Found 11500 records...
Found 12000 records...
Found 12500 records...
Found 13000 records...
Found 13500 records...
Found 14000 records...
Found 14500 records...
```

```

Found 15000 records...
Found 15500 records...
Found 16000 records...
Found 16500 records...
Found 17000 records...
Found 17500 records...
Found 18000 records...
Found 18500 records...
Found 19000 records...
Found 19500 records...
Found 20000 records...
Found 20500 records...
Found 21000 records...
Found 21500 records...
Found 22000 records...
Found 22499 records...
Imported 22499 records. Simplifying into dataframe...

## closing file input connection.

## [1] 82.1852

## Source: local data frame [6 x 4]
## Groups: date [2]
##
##           date           vol    gbcumul job_count
##      <date>      <dbl>    <dbl>      <int>
## 1 2013-05-14 100934887 0.1009349         5
## 2 2013-05-14 100934887 0.2018698         5
## 3 2013-05-14 136069750 0.3379395         5
## 4 2013-05-14 136069750 0.4740093         5
## 5 2013-05-14  78660495 0.5526698         5
## 6 2013-05-20  32311066 0.5849808         1

## [1] "82.185196431309"

```

Perhaps this level of contribution activity to a repository suggests something important about configurative numbers in big data practice. Most of the 10 million lines added and 8 million lines deleted were configuration-related work as we – I in particular – sought to make sense of capital numbers such as 29 million, and tried to differentiate that sense-making from the flood of data challenges, hackathons and other usages of the GithubArchive data that were also offering geographical, sentiment, logistic and temporal narratives about ‘how people build software’. In the process of trying to re-count the capital number, we ‘built software’ that generated 400 or images, 100 or so data files, and around 1000 other files. More than 22000 queries on GoogleBigQuery took place. Figure ?? shows something of the flow of data involved in this effort. By mid-2016, 80 terabytes of Github data had been searched, queried, tallied, counted, sorted and

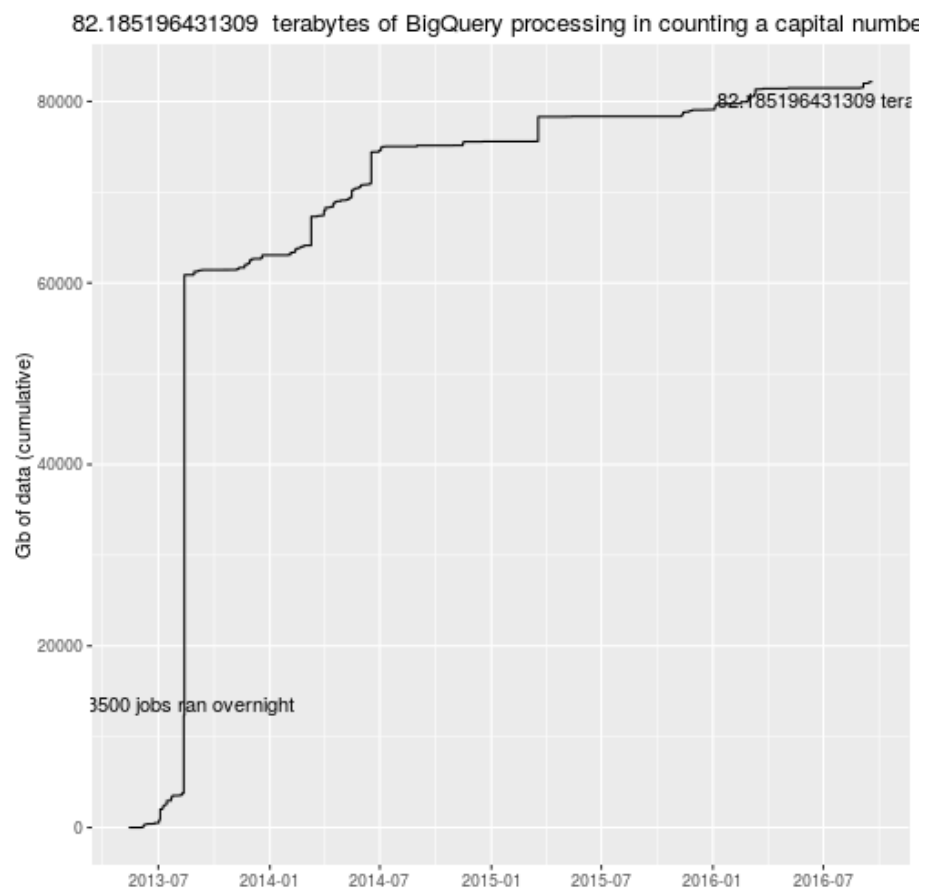


Figure 4: plot of chunk bigquery

arranged according the job logging supplied by the Google Compute Platform. This include one day in August 2013 where 12,000 jobs executed. It appears as a steep ascent on the left hand side of the graph. Traversing 40 terabytes, and generating a bill of around \$US2000, the events of that day triggered a ‘reaching out’ from Google Compute marketing department who were interested in our ‘use case.’ Why write so much code, process so much data, create so many figures and images, and indeed organise all of this work in the sometimes maddeningly precise version control system of a `git` repository on Github?

Conclusion

Suchman’s suggestion that configuration always concerns both composition of elements and materialising imaginaries seems particularly resonant here. It takes work to get contemporary digital data and associated large numbers to do something other than add to the count of capital numbers and their platform-centred aggregates. Configurative numbers, I have suggested, is one term for the versions of enumeration that result from re-countings that seek to identify the composition of capital numbers, and to follow some of the imaginaries aggregating in them. We saw how that re-counting points to many attempts to storify data flows, to associative-imitative fluxes, and to very extensive configuration work that saturate the data stream with links to what happens elsewhere.

Where does this leave 29 million repositories? Halved by all the repositories with no more than a single event, halved again by all the repositories that are a copy of other repositories, hollowed out by all the repositories where people do not build software but use the repository for some other purpose (as a backup site for instance), millions of code repositories remain. Github released the full source code of 2 million repositories on GoogleBigQuery in mid-2016, perhaps reflecting the reality that the 30 million or so other repositories were not going to add new stories to the platform.

References

- Anderson, Chris. 2009. *The Longer Long Tail: How Endless Choice Is Creating Unlimited Demand*. London: Random House Business.
- Bucher, Taina. 2013. “Objects of Intense Feeling: The Case of the Twitter API : Computational Culture.” *Computational Culture*, no. 3. <http://computationalculture.net/article/objects-of-intense-feeling-the-case-of-the-twitter-api>.
- Dabbish, Laura, Colleen Stuart, Jason Tsay, and Jim Herbsleb. 2012. “Social Coding in GitHub: Transparency and Collaboration in an Open Software Repository.” In *Proceedings of the ACM 2012 Conference on Computer Supported Cooperative Work*, 1277–86. ACM. <http://dl.acm.org/citation.cfm?id=2145396>.
- Eclipse Foundation. 2016. “Eclipse - The Eclipse Foundation Open Source

- Community Website.” <https://www.eclipse.org/>.
- Fischer, David. 2013–2013-05-05T02:47:58+00:00. “GitHub Data Challenge II.” *David Fischer Dot Name*. <https://www.davidfischer.name/2013/05/github-data-challenge-ii/>.
- Foreman-Mackay, Dan. 2014. “The Open Source Report Card.” February 14. <https://web.archive.org/web/20140214105201/http://osrc.dfm.io/>.
- Gage, Deborah. 2015. “GitHub Raises \$250 Million at \$2 Billion Valuation.” *Wall Street Journal*. July 29. <http://www.wsj.com/articles/github-raises-250-million-at-2-billion-valuation-1438206722>.
- Gerlitz, Carolin, and Celia Lury. 2014. “Social Media and Self-Evaluating Assemblages: On Numbers, Orderings and Values.” *Distinktion: Journal of Social Theory* 15 (2): 174–88. doi:10.1080/1600910X.2014.920267.
- Git. 2014. “Git.” <http://git-scm.com/>.
- Github. 2014. “Results of the GitHub Investigation.” *GitHub*. April 21. <https://github.com/blog/1823-results-of-the-github-investigation>.
- . 2015. “About · GitHub.” December 16. <https://web.archive.org/web/20151216055610/https://github.com/about>.
- Google. 2016. “Github Timeline Data on Google BigQuery.” <https://bigquery.cloud.google.com/table/githubarchive:github.timeline>.
- Grigorik, Ilya. 2012. “GitHub Archive.” <http://www.githubarchive.org/>.
- Guyer, Jane I. 2014. “Percentages and Perchance: Archaic Forms in the Twenty-First Century.” *Distinktion: Journal of Social Theory* 15 (2): 155–73. doi:10.1080/1600910X.2014.920268.
- Guzman, Emitza, David Azócar, and Yang Li. 2014. “Sentiment Analysis of Commit Comments in GitHub: An Empirical Study.” In *Proceedings of the 11th Working Conference on Mining Software Repositories*, 352–55. MSR 2014. New York, NY, USA: ACM. doi:10.1145/2597073.2597118.
- Hardy, Quentin. 2012. “Dreams of ‘Open’ Everything.” *Bits Blog*. December 28. <http://bits.blogs.nytimes.com/2012/12/28/github-has-big-dreams-for-open-source-software-and-more/>.
- Jenkins, Henry. 2004. “The Cultural Logic of Media Convergence.” *International Journal of Cultural Studies* 7 (1): 33–43. <http://ics.sagepub.com/content/7/1/33.short>.
- Kelty, Christopher. 2008. *Two Bits: The Cultural Significance of Free Software*. Duke University Press.
- Latour, Bruno. 1996. *Aramis, or the Love of Technology*. Translated by Catherine Porter. Cambridge, MA & London: Harvard University Press.
- Marres, Noortje. 2012. “The Redistribution of Methods: On Intervention in Digital Social Research, Broadly Conceived.” *The Sociological Review* 60 (S1):

139–65. <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-954X.2012.02121.x/full>.

Mayer-Schönberger, Viktor, and Kenneth Cukier. 2013. *Big Data: A Revolution That Will Transform How We Live, Work, and Think*. Boston: Eamon Dolan/Houghton Mifflin Harcourt. http://books.google.co.uk/books?hl=en&lr=&id=uy4lh-WEhhIC&oi=fnd&pg=PP1&dq=schonberger+big+data&ots=Jrk7hiJVHT&sig=QVKugcrFF4Jq5eO7xd8exEEG_Hk.

Metacommunities. 2016. “Metacommunities/Metacommunities.” *GitHub*. <https://github.com/metacommunities/metacommunities>.

Roussell, Dennis. 2015. “Octoboard.” *GitHub Activity Dashboard*. August 1. <https://web.archive.org/web/20150801193208/http://octoboard.com/>.

Russell, Matthew A. 2013. *Mining the Social Web: Data Mining Facebook, Twitter, LinkedIn, Google+, GitHub, and More*. “O’Reilly Media, Inc.” http://books.google.co.uk/books?hl=en&lr=&id=_VkrAQAAQBAJ&oi=fnd&pg=PR4&dq=github&ots=JqiqtzTxmK&sig=sfea4ce1ue2XYt_dERD41VpSTS4.

Suchman, Lucy. 2012. “Configuration.” In *Devices and the Happening of the Social*, edited by Celia Lury and Nina Wakeford, 48–60. Routledge.

Takhteyev, Yuri, and Andrew Hilt. 2010. *Investigating the Geography of Open Source Software Through GitHub*. <http://takhteyev.org/papers/Takhteyev-Hilt-2010.pdf>.

Thung, Ferdian, Tegawendé F. Bissyandé, David Lo, and Lingxiao Jiang. 2013. “Network Structure of Social Coding in GitHub.” In *Software Maintenance and Reengineering (CSMR), 2013 17th European Conference on*, 323–26. IEEE. http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=6498480.