

The Wave, Slack and GitHub

A discussion on CSCW failures and
successes

Learning from failures!

- **Google Wave.** It could have been Slack.
- **Orkut.** It could have been Facebook.
- **Google+.** It could have been Snapchat or WhatsApp.
- **Google Hangouts on Air.** It could have been Facebook Live or Periscope.
- **Google Answers.** It could have been Quora.
- **Google Catalog Search.** It could have been Pinterest.
- **Dodgeball.** It could have been FourSquare or related social networking site.
- **Google Notebook.** It could have been Evernote.
- **Google Page Creator.** It could have been Squarespace.
- **Google Video.** It wasn't YouTube.
- **Google Glass.** It should have waited until it was Google Contact Lens before it launched in the consumer market.
- **Google Knol.** There's plenty of information that can be Wiki-fied like developer documentation for open-source projects. Cloning Wikipedia was not the first thing that needed to be Wiki-fied.

<https://www.lewis-lin.com/blog/2018/2/26/googles-product-failures-updated-2018>

Google wave....



- Once upon a time... There was a...
- *"collaboration and communication tool consolidating core online features from e-mail, instant messaging, blogging, wikis, multimedia management, and document sharing"*
- <https://www.youtube.com/watch?v=p6pgxLaDdQw>

What Wave tried to do...

Human communications is literally not one-size-fits-all. When someone wants to explore a problem or a new idea, they need an easy way to just start chatting with potential collaborators about it; at that stage, short messages like in Slack or Twitter or IRC are perfect. But if the idea goes anywhere, those short messages need to coalesce into larger units of thought: first “a paragraph or two”, and eventually whole blog posts or design documents or other artifacts whose purpose is to convey the most important parts of the idea to people who weren’t involved in the original conversation.

No one technology today spans this range. Instead we switch between instant messaging and email and Google Docs and wikis and git, none of which really play nicely with each other, and we lose history at every step. Wave was explicitly an attempt to unify all those tools.

<https://jamey.thesharps.us/2018/02/16/how-not-to-replace-email/>

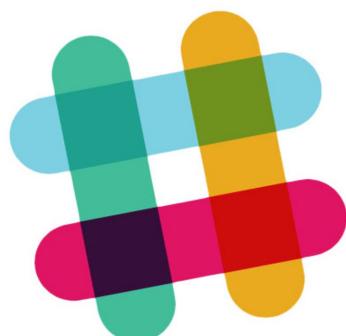
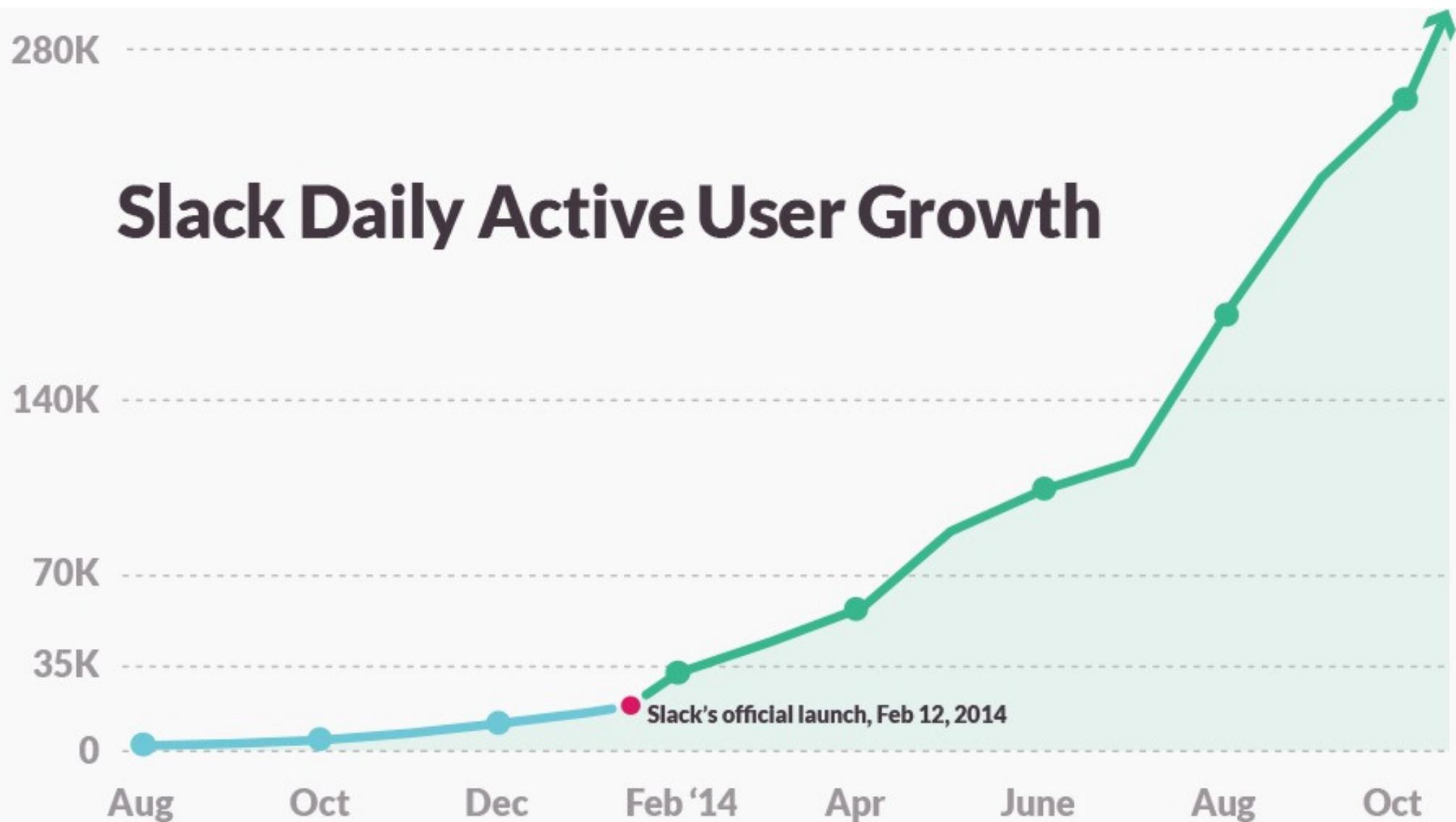
Operational Transformation

- Allowed people to edit documents together in real time though their connections may be slow and unreliable

https://en.wikipedia.org/wiki/Operational_transformation

Why it failed?

- Initially many performance issues...
- Amount of conversation was overwhelming
- Interface was ugly (MDI)
- Difficult to spot the newest messages (they could be nested, and you had to scroll to find them)
- People could watch each other type (no draft preview)
- Completely replaced other communication tools (rather than playing nicely with them)
- Wasn't clear what the real value was!
- Too much hype, launch when ready (but their slow launch was also an issue!)



<https://www.fastcompany.com/3041905/slacks-founder-on-how-they-became-a-1-billion-company-in-two-years>

Why Slack (and other apps) succeed?

<https://medium.com/the-app-bizz-by-appnext/what-we-can-learn-by-looking-at-successes-and-failures-of-app-businesses-with-similar-models-5a9dbfe7b124>

Google Wave looked like this...

The screenshot displays the Google Wave interface with a blue header bar containing the title "Google Wave - Anna-Christi..." and the URL "http://wave.google.com/".

Navigation Panel: Includes links for "Inbox", "Active", "All", "By Me", "History", "Spam", "Settings", and "Trash". It also has sections for "SEARCHES" (To Do's, Triathlon) and "FOLDERS" (Apartment).

Contacts Panel: Shows a list of contacts with their names, profile pictures, and status. Examples include Anna-Christina (drinkin' coffee), Gregory, Jens, Lars, Narelle, Steph, Alec, Andrew M, Ben, and Casey.

Inbox 1 - 17 of 27: A list of messages in the inbox. Some messages are highlighted in green, indicating they are unread or have been selected. The messages include:

- Dinner and board games – Who's up for dinner and board games next week? I'm thinking 3:43 pm 1 msg
- Snapshots! – I'm really impressed with all the nature shots we've put together! Desert 3:39 pm 4 msgs
- BBQ on Sunday! – Our house, 6pm Let us know if you can come! What can I bring? Just 3:22 pm 3 msgs
- Sushi time? – Hey Dan and Jens, I think it's time for our monthly sushi-tasting dinner Tough 3:19 pm 1 msg
- Hey Steph, – Wanna get coffee tomorrow? We can meet by the palm trees 3:16 pm 1 msg
- Wayward music player? – Looking to return Hey, I think your music player ended up left on my desk 1:13 pm 1 msg
- See what turned up on my front lawn yesterday! – It's fairly late in the season to be 1:05 pm 1 msg
- It's Movie Time!!!! – ... Wheee - the 80's are cool again! what about "Confessions of a Shopaholic"? 12:22 pm 9 msgs
- Pics from a walk in Sydney... – Just from walking around in Kirribilli / Milsons Point, 8:05 am 1 msg
- Gallery opening this Thursday – Hey everyone, my show is finally going up and I would love if your 8:05 am 1 msg
- May 26 1 msg
- Any tips for combating jet-lag? – Please share! For the first day, stay up as long as possible. Get 5 May 26 5 msgs
- The Castle (Mandatory Fun) – Speaking of movies, who hasn't seen "The Castle"? Such 5 May 26 2 msgs
- Say, here are some photos from the Kokoda track. – Check out the broken wrist! At the 5 May 26 1 msg
- Favorite Place to Travel -- Poll – Where do you like to go when you have time off? Brazil India 5 May 26 1 msg
- Who wants to see transformers?! – 5 May 25 1 msg
- Offsite pics! – Check out the photos from our offsite Vista Goofy Helmet So fast Hikes SF 5 May 25 1 msg

Snapshots! A panel displaying a grid of thumbnail images representing various nature scenes: Desert Antelope, Toucan Too, Dawn Trees, Waterfall, Winter Leaf, Autumn Avro, Old Creek, and Deserted.

Bottom Navigation: Includes buttons for "Save search", "Day", "Week", "Tags", "Images", and "Files".

Slack looks like:

The screenshot shows the Slack application window for the 'Acme Sites' workspace. On the left, the sidebar lists various channels and direct messages. The '#changes' channel is currently selected and highlighted in green. The main pane displays the messages in this channel. A message from 'stewart' at 1:05 PM links to a Twitter status update about new hairstyles and skin colors added to the Vanity.Taste forum. Another message from 'stewart' at 1:07 PM discusses a Qurazy overlay. 'liz' fixed a bug related to piggies walking in place. A bug report for '#9358' is shown, detailing the title 'Piggies are stuck walking in place', creator 'mackenzie', assignee 'liz', status 'fixed', and priority 'normal'. 'eric' asks for testing on dev.glitch.com, and 'kristel' responds that it's working as expected.

Acme Sites

CHANNELS

- # api
- # changes**
- # general
- # marketing
- # products** 1
- # random
- # sales
- # support
- # web
- +3 more...

DIRECT MESSAGES

- slackbot
- david
- don
- eric
- jessica
- liz
- myles
- stewart
- tara
- +7 More...

kristel online

#changes

Search

8

stewart 1:05 PM Im'ma tweeting that
<https://twitter.com/glitchlog/status/223600465462566912>

Glitch Change Log @glitchlog
12 new hairstyles & 19 new skin colors have been added to the Vanity.Taste
the hairy rainbow! Forum post:
<http://www.glitch.com/forum/general/24360/>
Thursday, July 12th, 2012 7:11 PM

myles 1:07 PM Entering a street with a Qurazy for you now shows a pretty animated overlay where the growl used to go, for 10 seconds

liz 1:09 PM Fixed bug #9358. Piggies shouldn't get stuck walking in place any more.

bugbot 1:10 PM Bug #9358

Title	
Piggies are stuck walking in place	
Creator	Assignee
mackenzie	liz
Status	Priority
fixed	normal

eric 1:14 PM @kristel, can you test on dev.glitch.com to see if coat sleeves are now working as expected?

kristel 1:15 PM indeed they are! thanks @eric!

Up arrow

Why else did Slack succeed?

Why GitHub is a CSCW success!

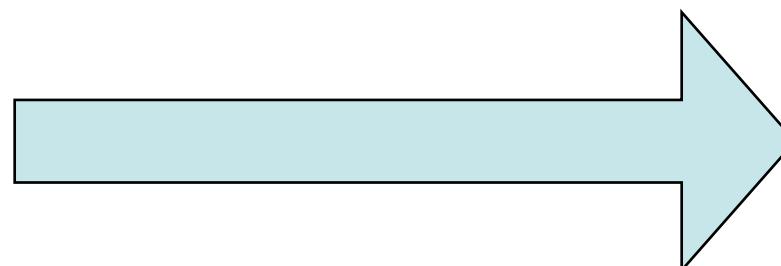
Developer tools over time...



Properties of social dev tools

- Architecture of participation
- Transparency
- Persistence
- Emergence of behaviours

**source
forge**



YouTube



“After just seven years on the net, GitHub now boasts almost 9 million registered users. Each month, about 20 million others visit without registering... GitHub is now among the top 100 most popular sites on earth.”

[wired.com]



“The numbers are staggering. A project (Homebrew) that is just 5 years old has attracted **20.5k** --- the size of a small city! --- people to contribute to it. Ruby on Rails has been collaboratively developed by a community of **15k** people and still works! To compare these numbers with other software engineering projects is futile: most projects, even ones with a very long lifeline are very small in comparison.”

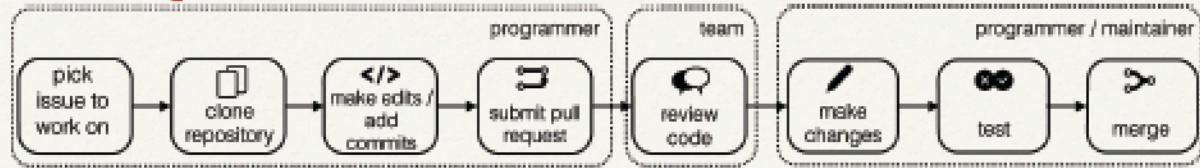
[Georgious Gougios Blog: The Triumph of Online Collaboration]

Github....

Code hosting service, repository handling and collaboration!

- Communication
- Coordination
- Awareness
- Task division
- Conflict resolution

Fork & pull



“When I first **started** we all pushed to one branch, but the **problem** is you push and **nobody knows** what changes are going through and there is **no chance for a review**.

Our current system is that you **don't make any changes without submitting a pull request**[...]and then one or more members will review it and you need **one thumbs up** from another team member to merge it, otherwise it can't go in.”

Workflow

<https://dl.acm.org/citation.cfm?id=2818825>



Transparency and Open Collaboration Environments

- Many of today's environments share transparency in what is happening in people's lives and work (Twitter, Instagram, Facebook...)
- We need awareness of transparency of other people's work, their activities and artifacts they create
- We can gain such transparency in an open environment office, you can look over people's shoulders, but we can also get it through our digital environments (such as Slack and GitHub)

<https://dl.acm.org/citation.cfm?id=2145396>

What digital transparency gives us

- What people are doing, how busy they are, whether we can interrupt or not (Nate!)
- We can follow the activities of people, follow their artifacts – we see a history of edit actions while also being able to coordinate work and discuss decisions and actions
- GitHub was designed with this transparency in mind (social was built in from the get go)

<https://dl.acm.org/citation.cfm?id=2145396>

Technology of transparency

- By signing in, you get different levels of visibility
- People when they know they are “watched”, will change their behaviours
- We see the use of “signals” for them to make decisions about other people but also to signal information about themselves
- How do people “co-opt” the transparency features in open collaboration technologies?

<https://dl.acm.org/citation.cfm?id=2145396>

Signals in GitHub



defunkt (Chris Wanstrath)

GitHub Role: TheMrCEO
Name: Chris Wanstrath
Email: chris@wanstrath.com
Website/Blog: <http://chriswanstrath.com/>
Company: GitHub
Location: San Francisco
Member Since: Oct 19, 2007

99 public repos 5,174 followers

Following 209 coders and watching 536 repositories [view all →](#)



Public Repositories (99)

Find a repository...
[All Repositories](#) Sources Forks Mirrors

 **pystache** Python 319 67
Mustache in Python
Last updated about 6 hours ago

all commits commits by owner 52 week participation

 **hub** Ruby 919 68
hub introduces git to GitHub
Last updated 4 days ago

Public Activity

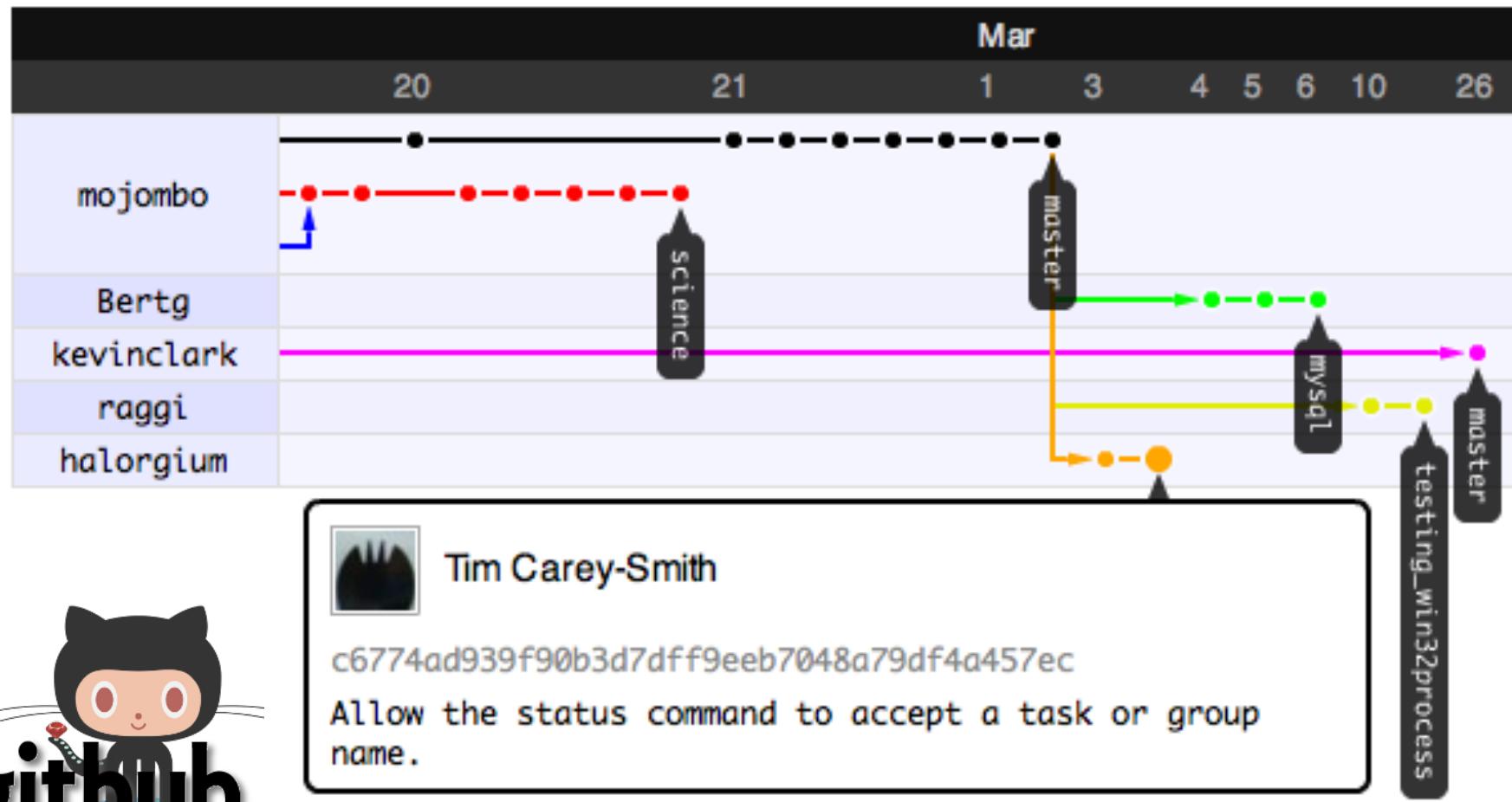
 defunkt added hone to defunkt/redis-namespace **January 12, 2012**
 redis-namespace is at defunkt/redis-namespace

 defunkt added hone to defunkt/resque **January 12, 2012**
 resque is at defunkt/resque

 defunkt opened pull request 5 on github/email_reply_parser **December 16, 2011**
 Condense multiline reply headers to a single line.
1 commit with 30 additions and 0 deletions

 defunkt created branch condensed-reply-headers at defunkt/email_reply_parser **December 16, 2011**

Github network graph visualization



<https://github.com/blog/39-say-hello-to-the-network-graph-visualizer>

Peer production in GitHub

- Participants feel like they are on “stage” when they are working
- We can star repositories, know which ones are forked or watched
- If you watch a repository, you get a feed of activities
- You get an overview of the changes made to the forked versions of repositories
- Centralized or distributed control, with integrators accepting changes from other contributors
- Commit messages matter, they tell a story

<https://dl.acm.org/citation.cfm?id=2145396>

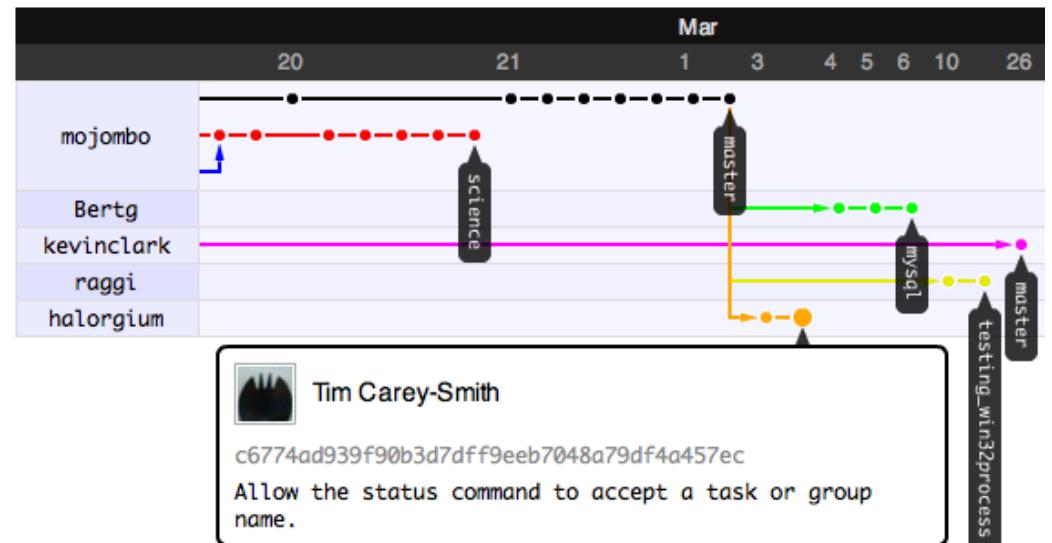
Github's decision and awareness support

- Issue list
 - Commit list
 - Notification emails
 - Chat client integration
-
- But GitHub is not preferred for discussing ideas (more for code centric discussions)

<https://dl.acm.org/citation.cfm?id=2818825>

How project owners use pull requests on GitHub for code review?

Code quality, style, fit... influence decision to accept

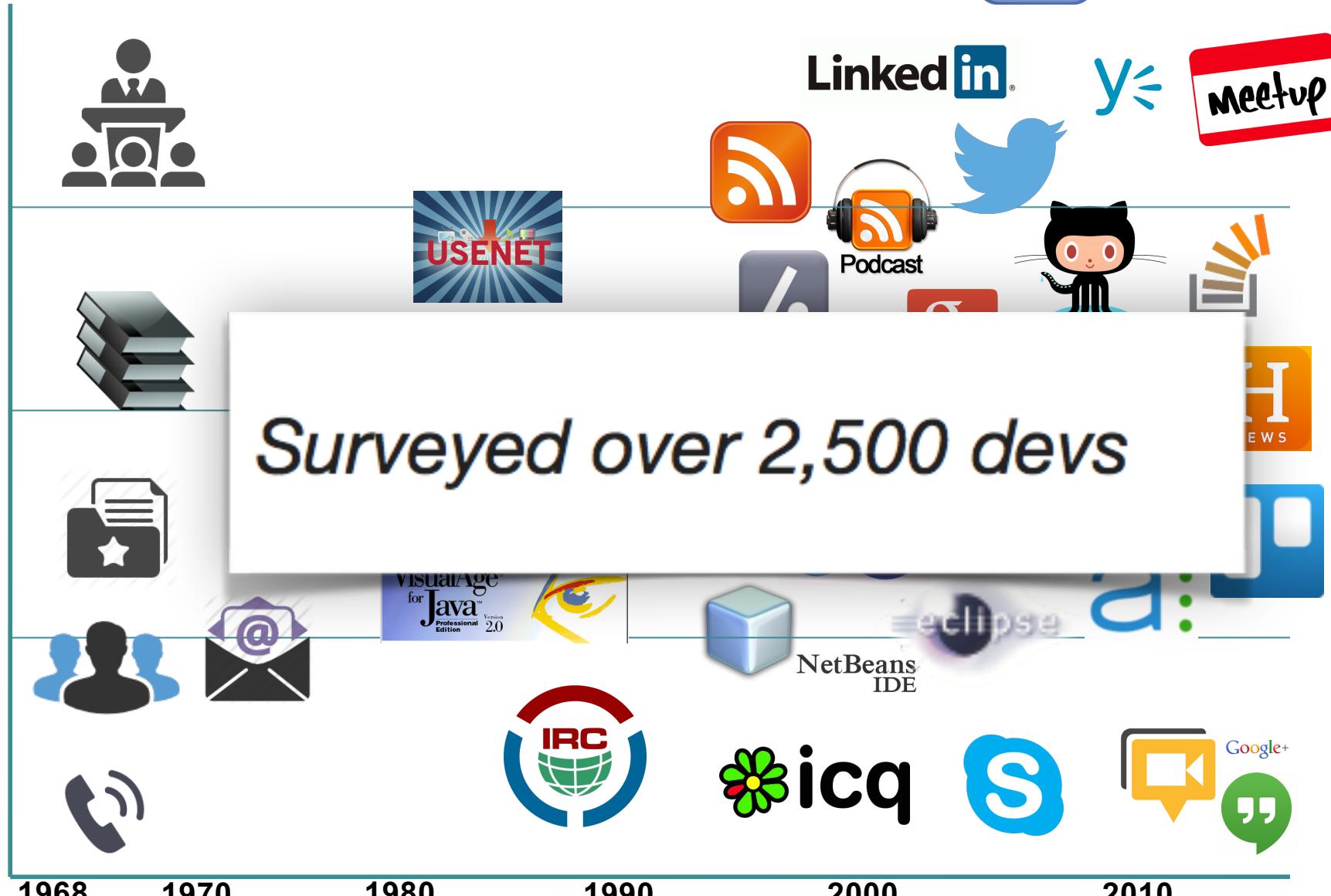


Developer tools over time

Towards the social programmer...



coderwall

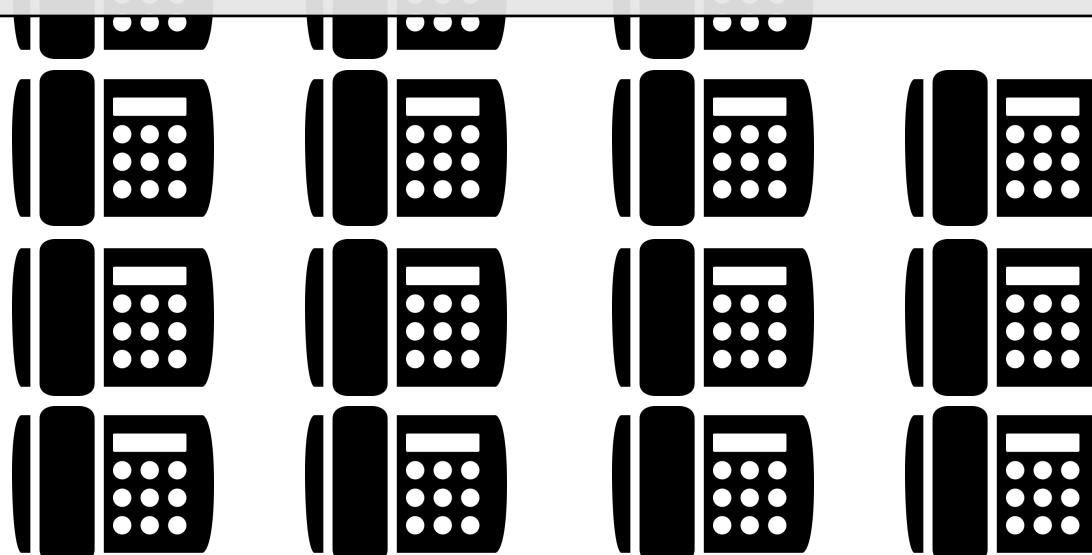


Selected Findings



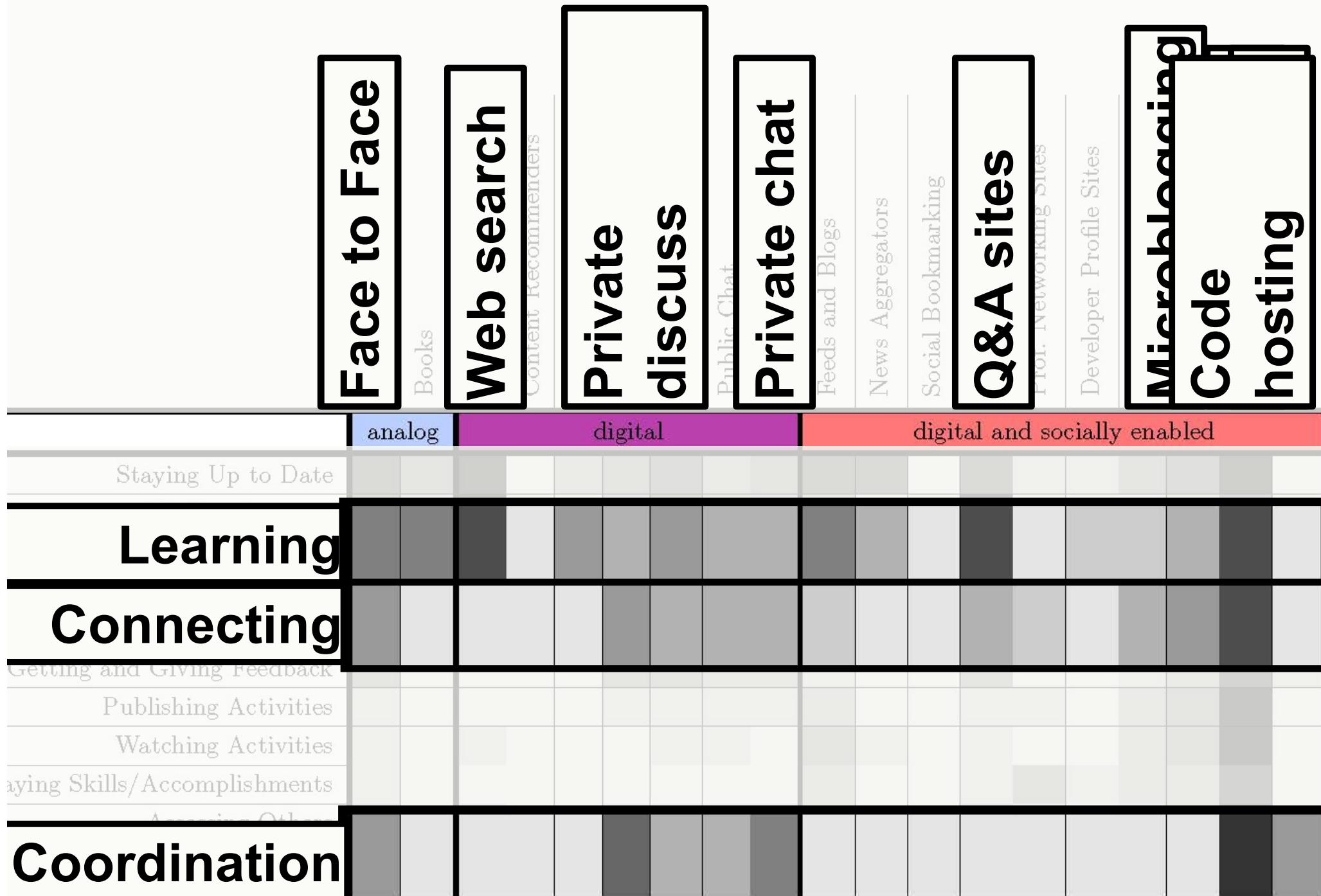
average: 12 channels

top 25%: 14-21 channels

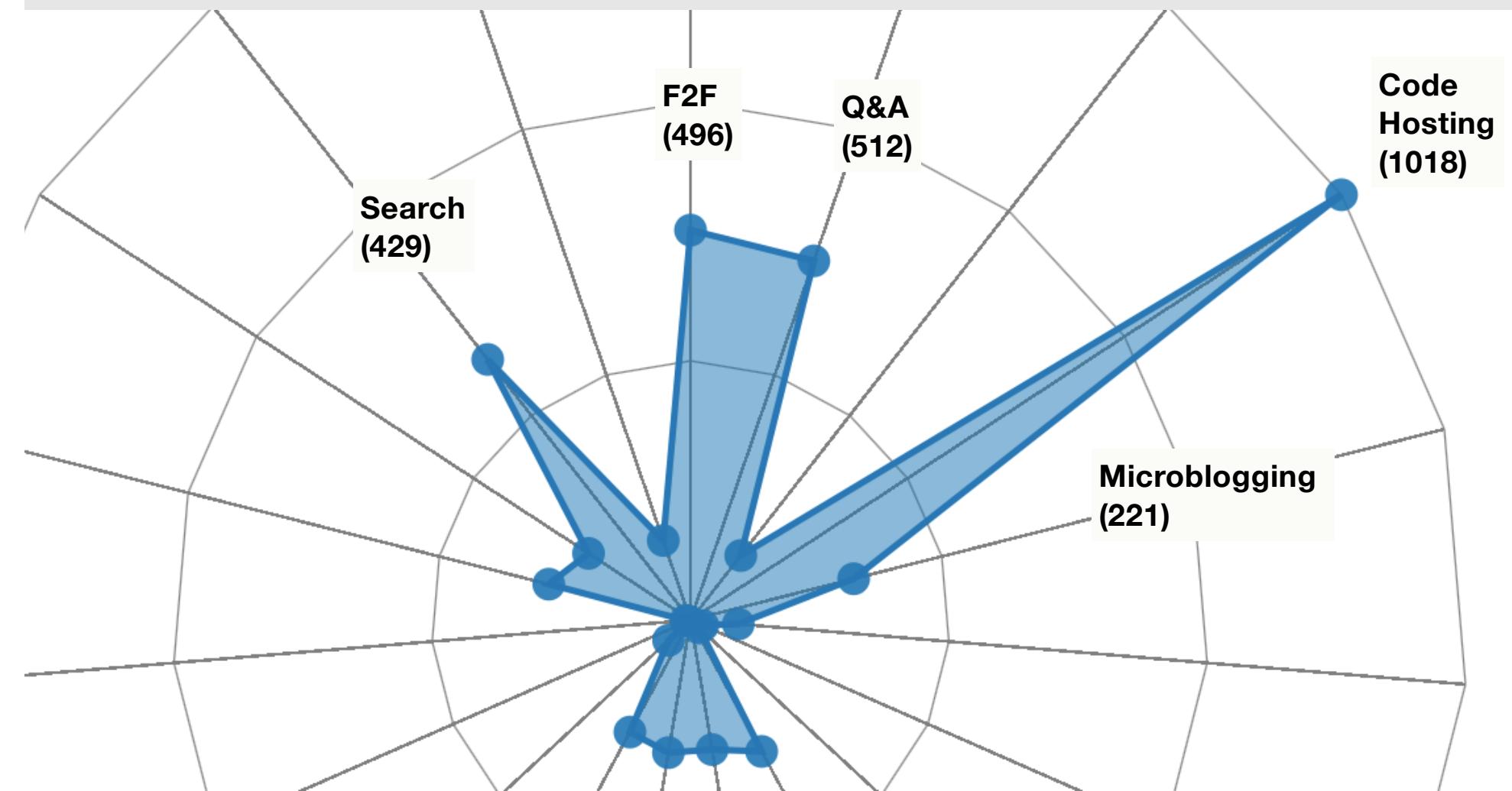


Ecosystem of tools

Ecosystem of tools



Most Important Channels



Interactive visualization: <http://fose2014.thechiselgroup.org>

Opportunities & Challenges



Social network to **curate/find/learn** relevant information but impact on **productivity?**



Community authored resources, but what about information **fragmentation?** What about **quality?**



Participatory culture but when does social become **anti-social?**



Rich social media ecosystems for developers but what about **vendor lock-in, privacy?**



Developer challenges

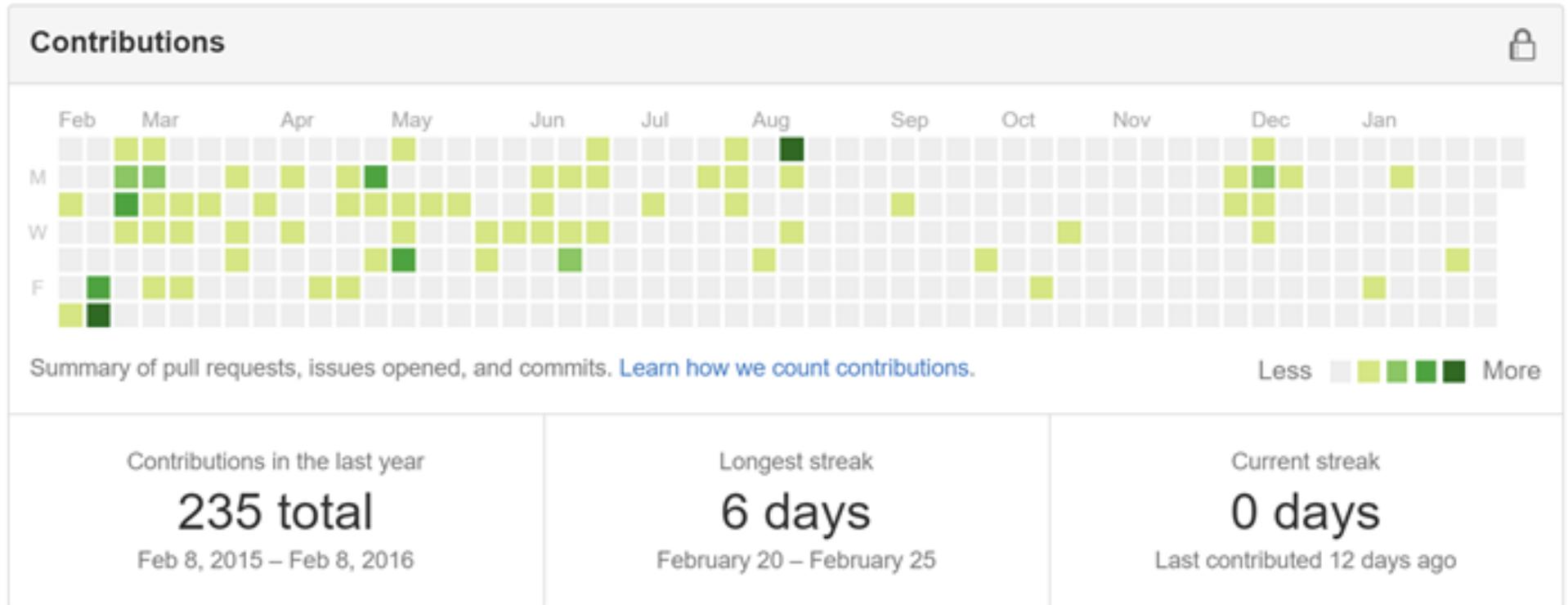
Media literacy skills

Keeping up (information flood, new tools)

Maintaining a state of flow

*"If you have to go to a web browser there is a 10% chance you'll be **distracted**. I use the project "howdoi" to get answers from Stack Overflow on the command line so I can stay out of the browser and keep focus."*

Contributing graphs considered harmful



<http://www.hanselman.com/blog/GitHubActivityGuiltAndTheCodeSmell.aspx>

<https://github.com/isaacs/github/issues/627>





Content challenges

Trustworthy content

Information fragmentation

*“A lot of the answers and guidance I look for when developing code are **scattered** all over the internet, it would be nice if there was a **place** that I could get in touch with an expert developer to ask/discuss questions.”*



Community challenges

Barriers to entry

When does social become anti-social?

*“Misinformation is easy to communicate behavior and propagate. People can be rude or **obnoxious** on social [media], distracting from a discussion.”*

*“The **lone shooter** that misunderstands you and begins shooting at you. Have been called an arrogant dickhead once and have also been informed that I was dictating somebody something when I actually tried to SUGGEST something. So, language is also a challenge because I am a Dane.”*



Tool challenges

Channel confusion and lack of integration

Finding the signal in the noise

Vendor lock-in

*“I worry that we are **relying** on many of these ‘free’ services, which *in the end* are not free, they simply have a different payment model (that appears to change).”*



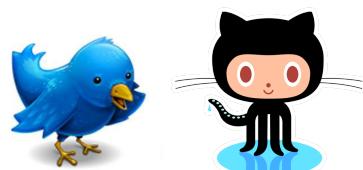
Opportunity: The emergence of the **Social Programmer**

Improve **productivity**?

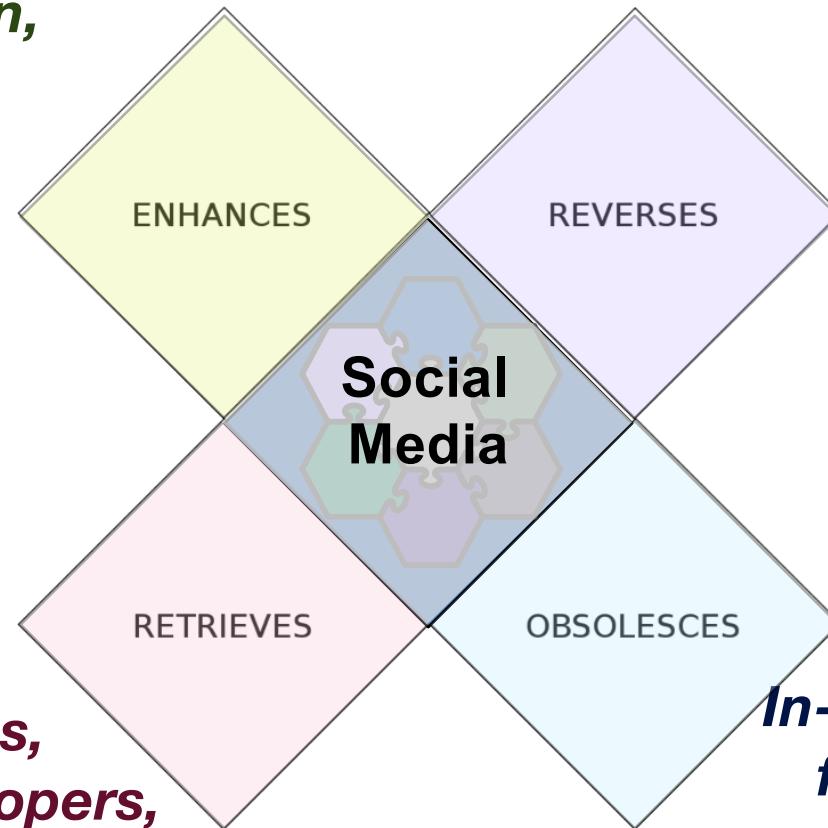
Expanding career opportunities: impact on
education?

Acceleration of *learning, discovery* and
creativity for developers?

*(Distributed) Community formation,
awareness, transparency,
knowledge curation,
learning, reuse,
reputation*



*Programming gurus,
end users as developers,
verbal discussions,
portfolios,
communities of practice*



*Informal processes,
geek culture,
reliance on search,
security concerns,
interruptions,
advertisements*



*In-house expertise/jobs,
formal documentation,
classroom education,
CVs, email lists,
need for co-location*

