



CHRISTOPHER PARNIN

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# THE RISE AND FALL OF DEVELOPER COMMUNITIES

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# ACTIVITY

- ▶ How do you learn a new technology?



# TRADITIONAL DOCUMENTATION

- ▶ Project documentation:  
*Created by a few developers to be read by a few future project owners.*
- ▶ API documentation:  
*Created by a few developers to be read by a many developers.*





SOMETHING STARTED TO CHANGE

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# RISE

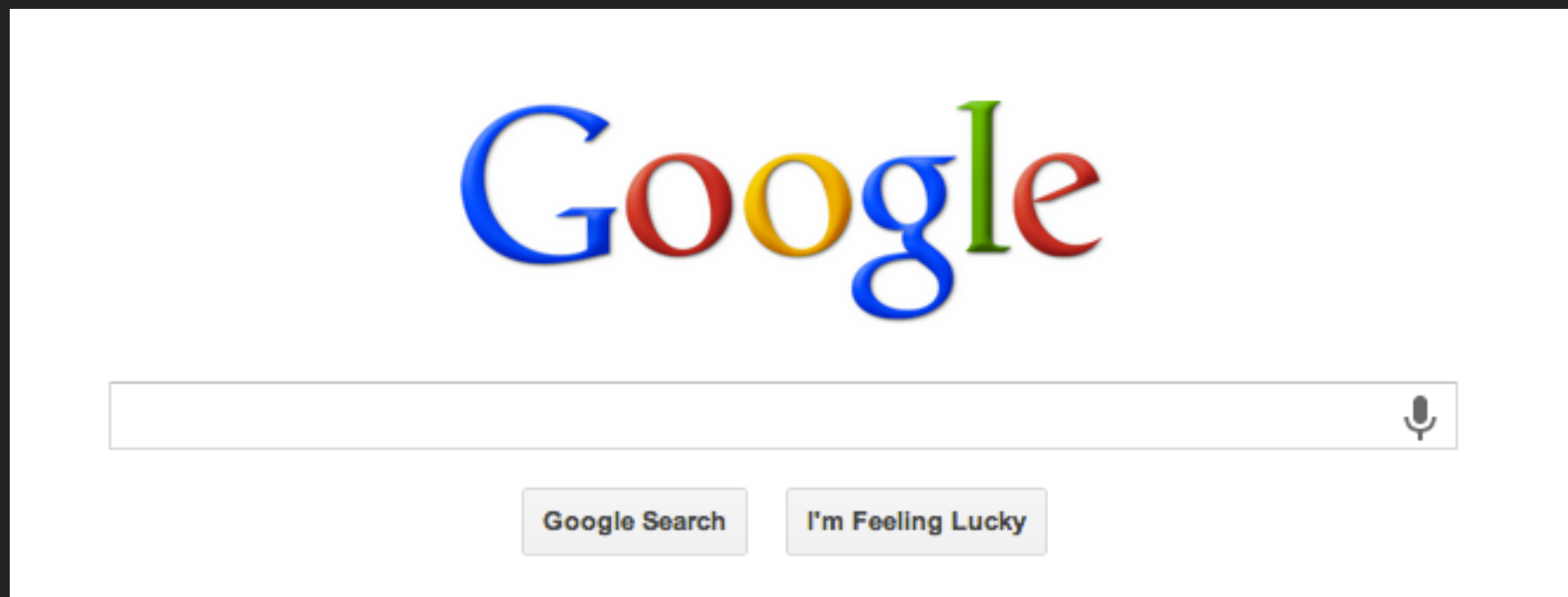




TEXT

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# HOW DO DEVELOPERS FIND KNOWLEDGE NOW?

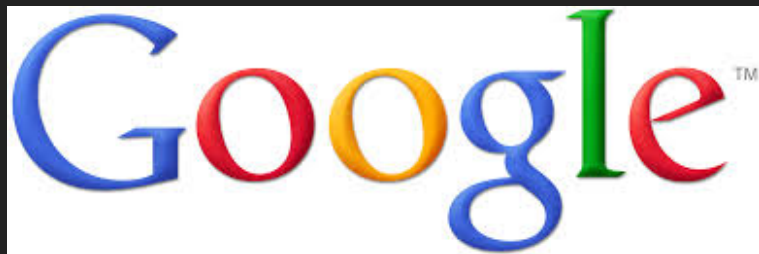




WHEN LEARNING ABOUT API DOCUMENTATION % OF FOLLOWING RESOURCE  
IS USED "OFTEN"

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## MICROSOFT SURVEY



**73.5% (2,224)**



**42.5% (1,289)**

**Code completion (IntelliSense)**



**40.1% (1,212)**

**Microsoft's Official Documentation**



# STUDY

### What is jQuery?

jQuery is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers. With a combination of versatility and extensibility, jQuery has changed the way that millions of people write JavaScript.



unofficial  
doc >

Stack  
Overflow >

blog >

## [jQuery.post\(\) | jQuery API Documentation](#)

[api.jquery.com/jQuery.post/](#) ▼

The success callback function is passed the returned data, which will be an XML root element or a text string depending on the MIME type of the response.

## [jQuery post\(\) Method - W3Schools](#)

[www.w3schools.com/jquery/ajax\\_post.asp](#) ▼

Parameter, Description. URL, Required. Specifies the url to send the request to. data, Optional. Specifies data to send to the server along with the request.

## [jQuery AJAX get\(\) and post\(\) Methods - W3Schools](#)

[www.w3schools.com/jquery/jquery\\_ajax\\_get\\_post.asp](#) ▼

Next Chapter ». The **jQuery** `get()` and `post()` methods are used to request data from the server with an HTTP GET or **POST** request. HTTP Request: GET vs. **POST**.

## [jQuery Ajax POST example - Stack Overflow](#)

[stackoverflow.com/.../capture-all-of-the-forms-data-and-submit-it-to-a-p...](#) ▼

Feb 15, 2011 - I am trying to send data from a form to a database. Here is the form I ...  
Basic usage of `.ajax` would look something like this: HTML: `<form id="foo">` ...

## [jQuery - post\( url, data, callback, type \) Method - Tutorials Point](#)

[www.tutorialspoint.com/jquery/ajax-jquery-post.htm](#) ▼

**jQuery** - `post( url, data, callback, type )` Method, Learning JavaScript Framework in simple and easy steps. A beginner's tutorial containing complete knowledge ...

## [Using jQuery to POST \[FromBody\] parameters to Web API » Encosia](#)



[encosia.com/using-jquery-to-post-frombody-parameters-to-web...](#) ▼

by Dave Ward - in 329 Google+ circles

Apr 3, 2013 - ASP.NET Web API has been one of my favorite recent additions to ASP.NET. Whether you prefer a RESTful approach or something more ...

[illegible]



TEXT

	Search Result Type	Coverage	Mean Rank
	code snippet	8.7%	9
	q&a	9.8%	9
	forum	20.2%	8
	official bug tracker	21.4%	3
	mailing list entry	25.4%	7
>	official documentation	30.1%	3
	official forum	37.0%	3
	unofficial documentation	63.6%	6
	stackoverflow	<b>84.4%</b>	6
	blog post	<b>87.9%</b>	5
	official API	99.4%	1

## CROWD DOCUMENTATION

Knowledge is created and curated by a mostly uncoordinated collective.

An example of Peer Production



## WHAT SOURCE OF DOCUMENTATION DO DEVS ACTUALLY USE?

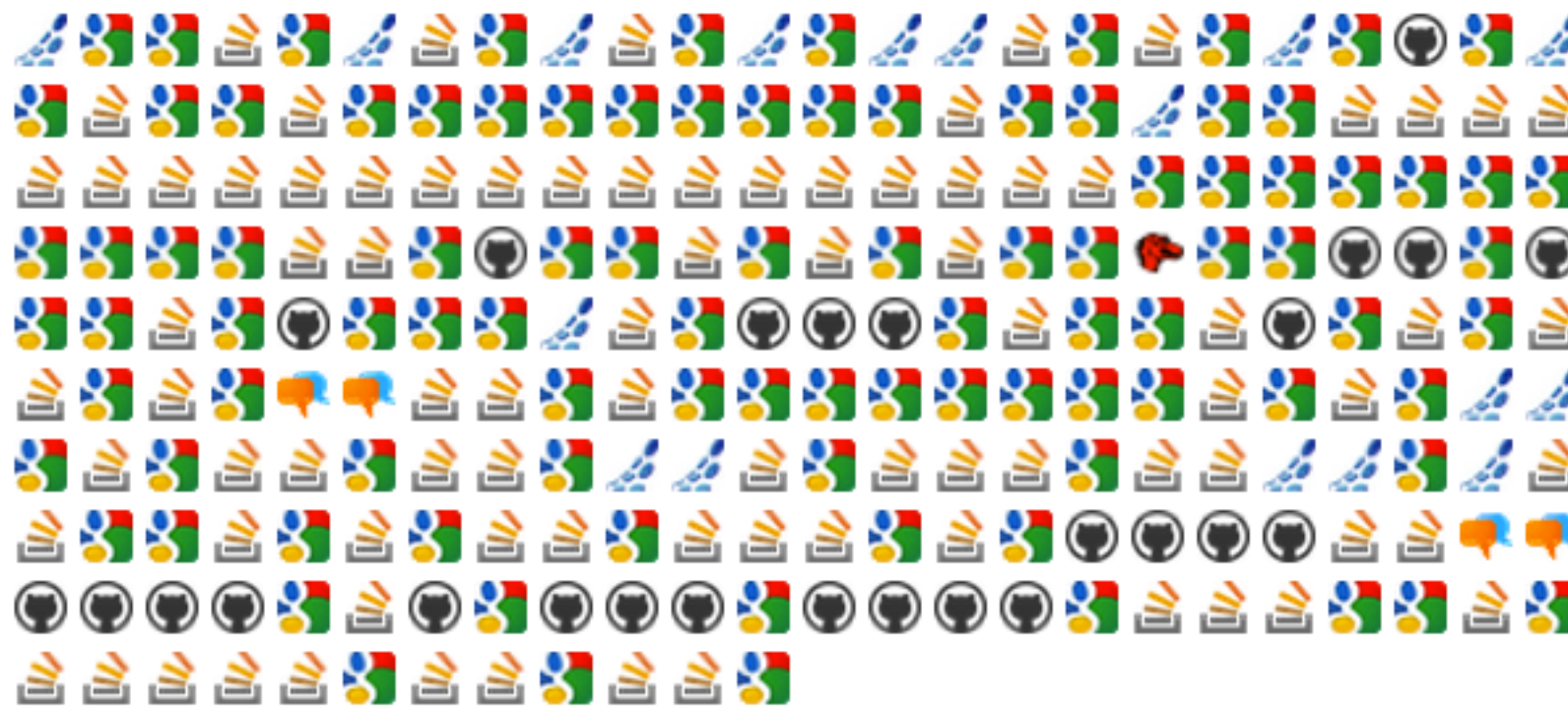
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### STUDY

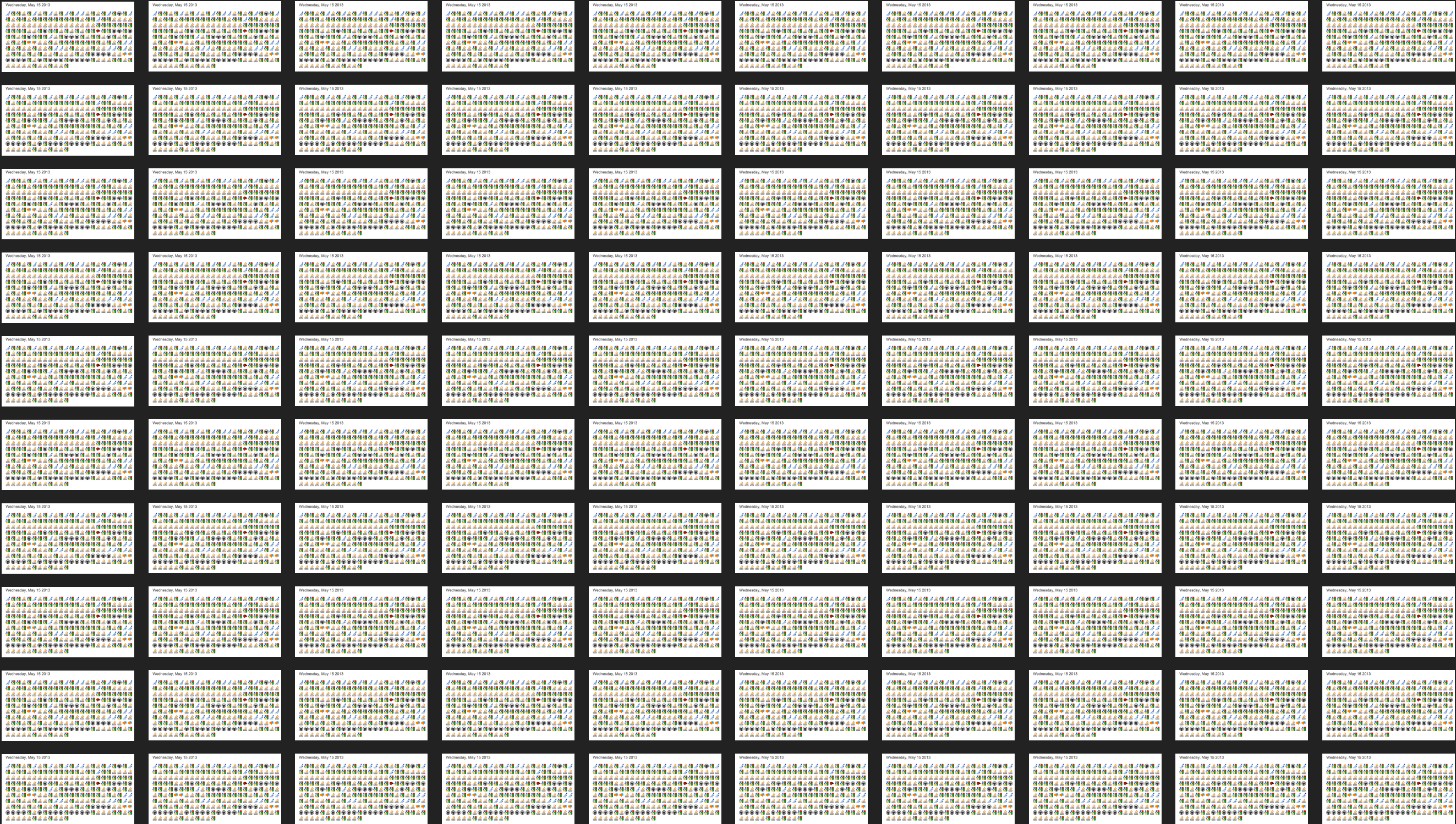
- ▶ Crowd documentation exists, but is it used?

# A DAY IN A LIFE OF A DEVELOPER

Wednesday, May 15 2013

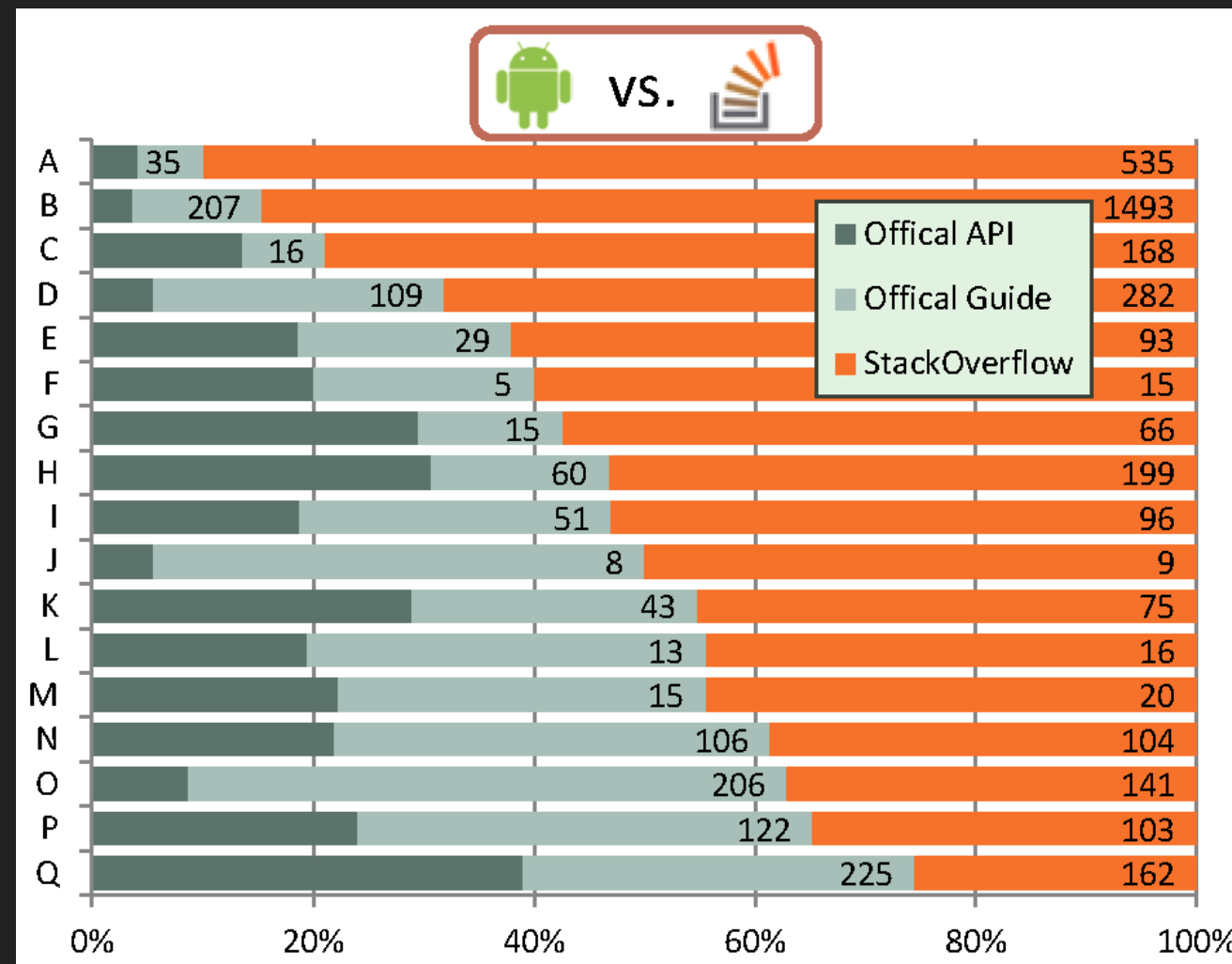


TEXT



...1,316 days of developer browser history

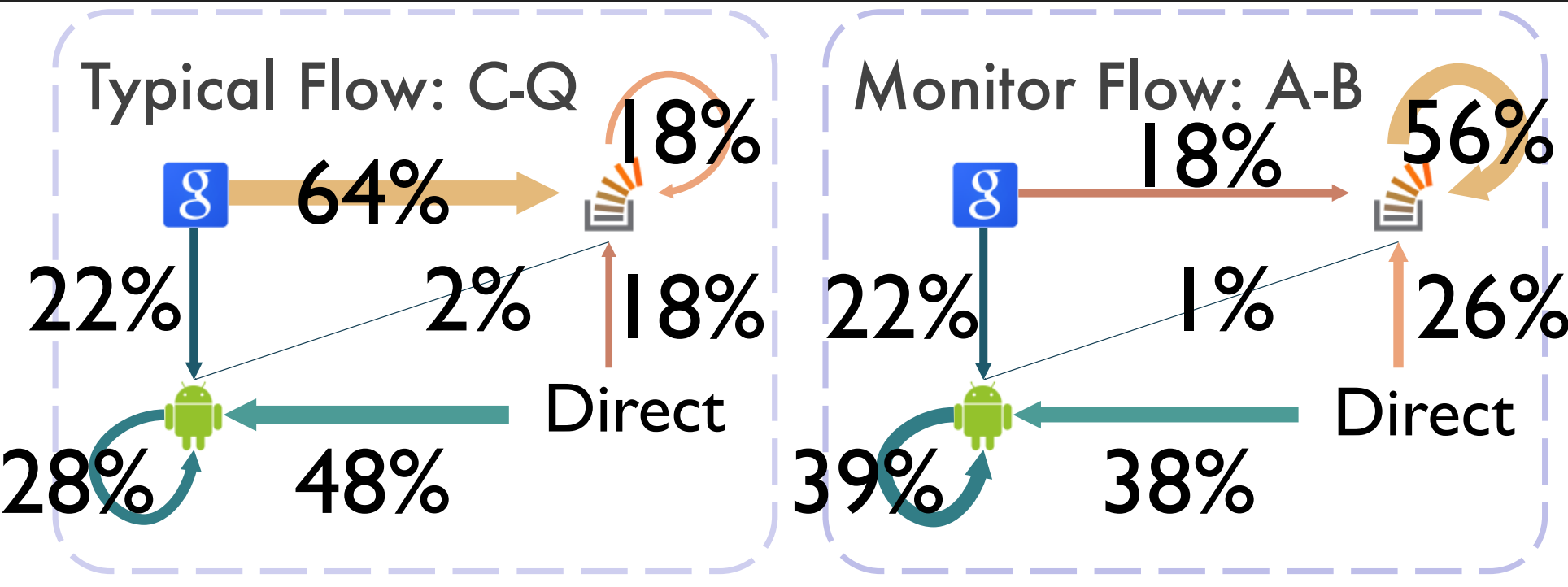




Consistent with self-reported surveys.

TEXT

Typical dev >

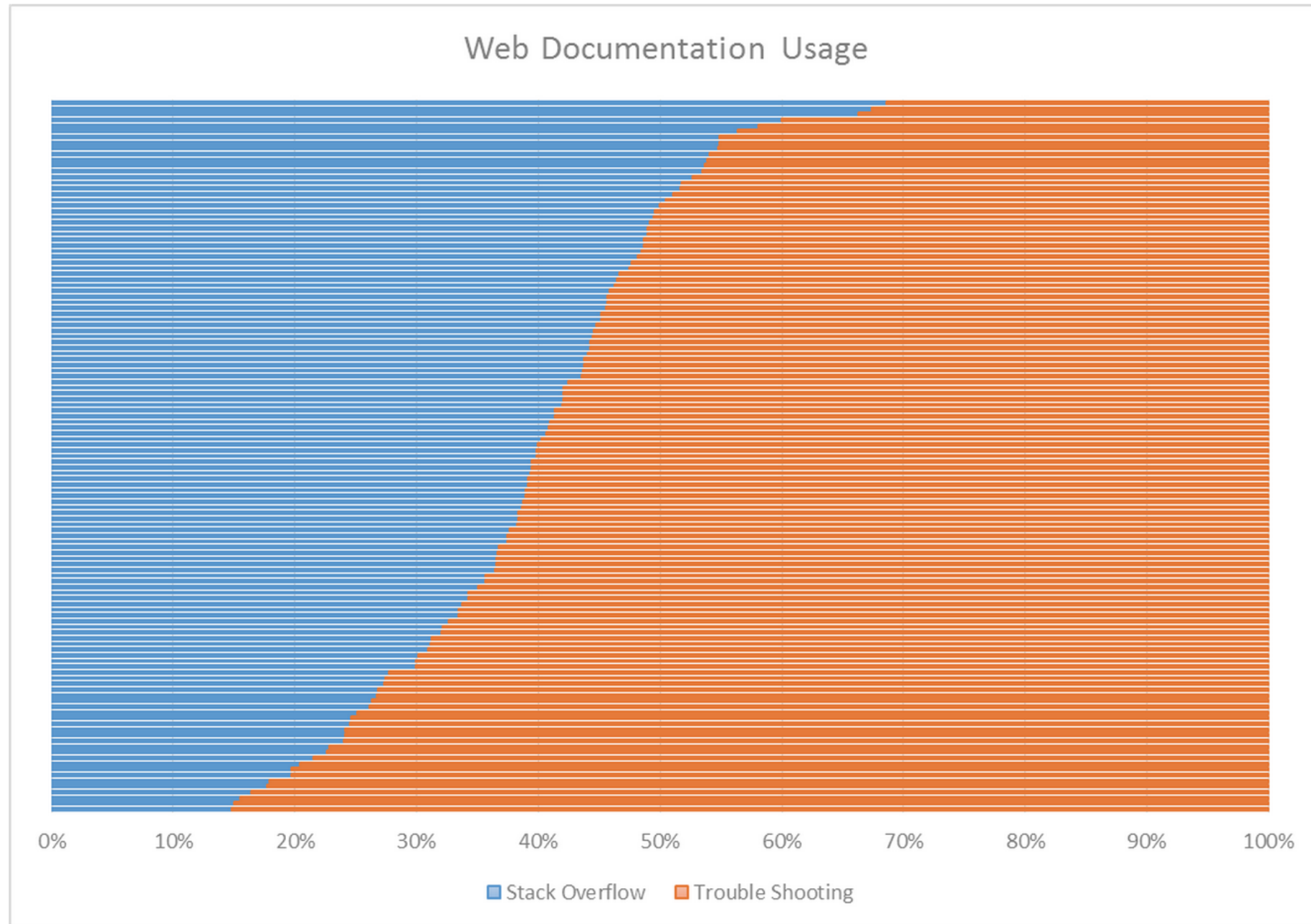




**chrisparnin** commented on Aug 22



This is the data stacked up by percentage. Seems about 50% of people use Stack Overflow for about 40%+ of their documentation needs. Next, we'd need to break down troubleshooting category a little more.



**samrudhisharma** commented on Aug 22



The troubleshooting category may be broken according to



TEXT

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## STUDY

- ▶ What makes it different?

# TRACEABILITY LINKS

## How do I use Android ZoomButtonsController?

Word link

▲ OK, I'm at the end of my wits.

3

I have no idea how to use [ZoomButtonsController](#). All I want is to have a zoom controls which I [show|hide|[enable|disable] zoom [in|out] buttons] for my View. I can't add it to my layout xml, and when I instantiate it in my onCreate, I can't see it on the screen.

★

```
new viewer = ...
ZoomButtonsController controller = new ZoomButtonsController(viewer);
controller.setVisible(true);
```

Href Markup link

android zoom feedback

Code Sample link

### 1 Answer

▲

3

I would expect that you need to call `getZoomControls()` on the `ZoomButtonsController`, then add that to your layout wherever you want the buttons to appear. You can confirm that theory by getting a snapshot of your view hierarchy with `hierarchyviewer` when the zoom controls are theoretically visible -- if they are not in your view hierarchy, then you will need to add them.

✓

Code Markup link

asked Dec 5 '10 at 12:09



Axarydax

3,919 ● 1 ● 10 ● 38

86% acceptance rate

Note: Answered in 6 minutes.

answered Dec 5 '10 at 12:15



CommonsWare

163k ● 6 ● 142 ● 198

## COMMUNITY COVERAGE

- ▶ 88% of Android API classes on Stack Overflow
- ▶ Highly correlated with usage (not necessarily confusion).
- ▶ Twice as many examples can be found in the accepted answer versus official android guide.





## add blobs or trees to a created repository using pygit2 (libgit2)?

---



I am trying to use pygit2 library.

5



seems I got stuck on the first step. its documentation doesn't explain how to create a blob and add it to a tree. It is mostly around how to work with an existing git repository but I want to create one and add

---

### 1 Answer

active

oldest

votes



5



The python bindings don't let you create a blob from a file directly, so you'll have to read in the file to memory and use `Repository.write(pygit2.GIT_OBJ_BLOB, filecontents)` to create the blob.

You can then create trees with the `TreeBuilder`, for example, like

```
import pygit2 as g

repo = g.Repository('.')
# grab the file from wherever and store in 'contents'
```

---

5 Thanks a lot, how can I learn more about pygit2? none of what you mentioned is in pygit2 document, How did you learn how to use it? – [Peqi Hash](#) May 5 '12 at 11:29

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1 @PeqiHash Carlos is one of the developers of libgit2 – [T0xicCode](#) Dec 11 '12 at 5:19

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add comment

## Developers May Be Getting 50% of Their Documentation From Stack Overflow

Posted by **Soulskill** on Tuesday March 05, 2013 @03:17PM  
from the not-half-bad dept.



"Software companies, such as Microsoft, create documentation for millions of topics concerning its APIs, services, and software platforms. Creating this documentation comes at a considerable cost and effort. And after all this effort, much documentation is rarely consulted (citation) and lacking enough examples (citation). A new study suggests that developers are increasingly consulting Stack Overflow and crowd-sourced sites over official documentation, using it as much as 50% of time. How should official documentation be better redesigned? What are the implications of software created from unruly mashups?"



**Mary N.**

"Develo  
docume

Expand



**John Patterson** @jasper\_C

MT @Kinvey developers  
from Stack Overflow: go

Expand



**Abby Fichtner** @HackerCh

Yes! RT @Kinvey: Is this t  
be getting 50% of their d

Expand



**Kinvey** @Kinvey

Is this true for you? Study  
50% of their documentat

Expand



**Simon Doods** @sidooms

I sure do! | **Developers** May Be Getting 50% of Their Documentation  
From **Stack Overflow** [developers.slashdot.org/story/13/03/05...](http://developers.slashdot.org/story/13/03/05...)

Expand



**Jeff Atwood** ✓

@codinghorror



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Developers get 50% of their documentation  
from Stack Overflow?

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143

RETWEETS

67

FAVORITES



11:34 PM - 4 Mar 13

7 Mar



Isso é tão babadamente óbvio o porquê, que não preciso nem  
comentar. [fb.me/2x70Aji9y](https://fb.me/2x70Aji9y)

Expand

8 Mar

り **Stack Overflow** と  
者コミュニティから  
ジャパン デベロッパ

8 Mar

であったのに対し、Android 用の公式ド  
47 回であった": プログラマの多くは開  
以上の情報を集める [goo.gl/VJW1d](http://goo.gl/VJW1d)

7 Mar

トでしょう。"@slashdotjp:  
3/03/08... #プログラミング  
多くは開発者コミュニティから 50 % 以

7 Mar



RISE

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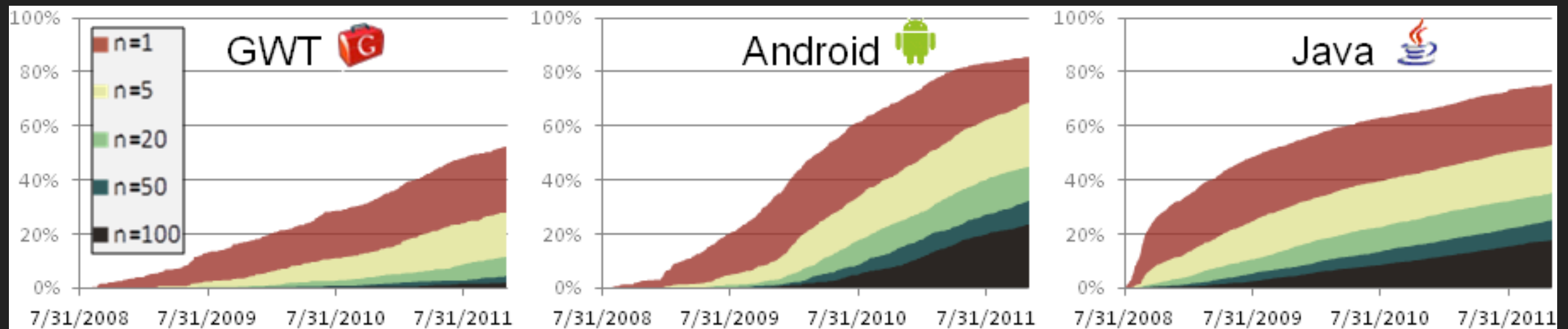
FALL





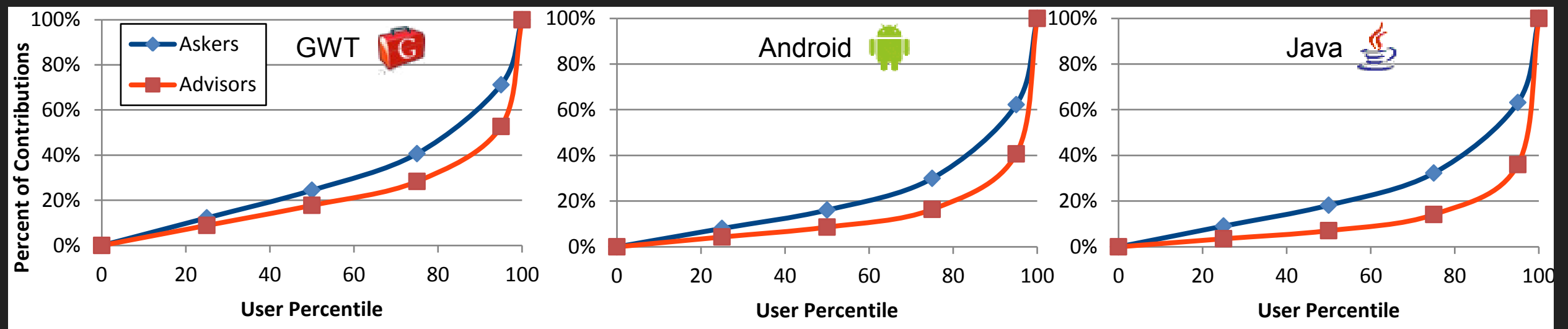
## COVERAGE IS SLOW AND HAS GAPS

- ▶ 3 years to just get 50% community coverage on GWT classes
- ▶ Doesn't cover topics like accessibility



# CONTROLLED BY A HIGHLY GAMIFIED CORE

- ▶ 60% of questions answered by 5% of users.



## STAKEHOLDER CONCERNS

- Will we have a job in 5 years?
- What should our voice be?
- How can we "regain" authority over the crowd (e.g. people suggesting unsupported/non-public API methods in android development). [\*]
- Getting feedback from the crowd: sentiment analytics over the frustrating parts, frequent questions, confusing topics, etc.

“DLLs are tossed over the fence to English majors”

“Documentation isn’t meant to be read by everyone, it’s meant to be authoritative”

“We sometimes take a break from documentation and try building something for a month or two. Then we realize how bad it is”

“We contact the top 100 Stack Overflow contributors”

“You don’t understand how much this has impacted us. No, really you don’t.” **HIDDEN RULES**



# PARTICIPATION

What can Stack Overflow do to persuade female programmers to participate more? [closed]

I've been here for a little while, but I've never seen a single f  
some, but I've honestly never seen any.

## Related

29 Well I know why there's so few on Meta - this place looks like a dungeon! Even I don't like coming here, and I get scared when the sun's out. - [Tom Ritter](#) Nov 20 '09 at 4:02

## BARRIERS

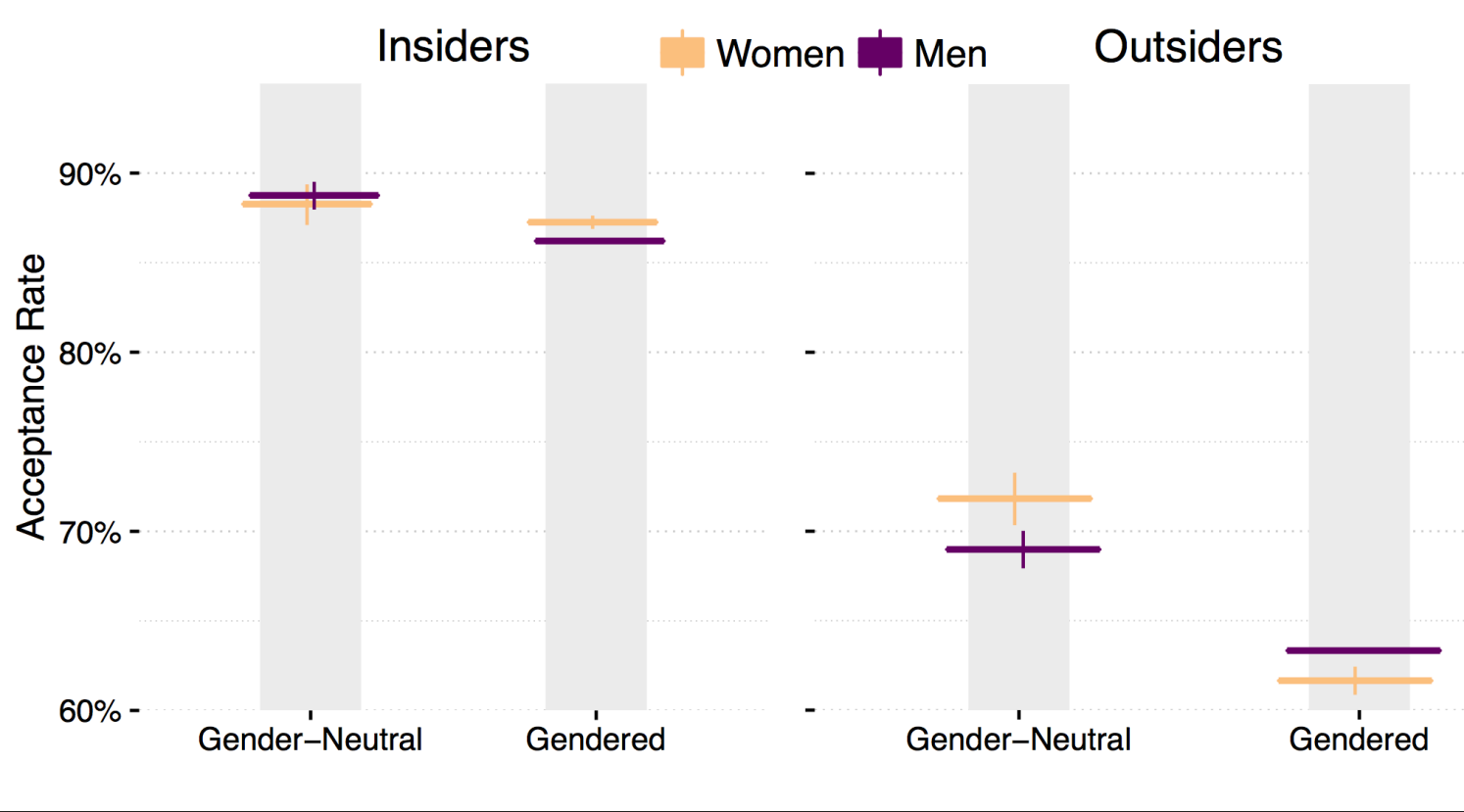
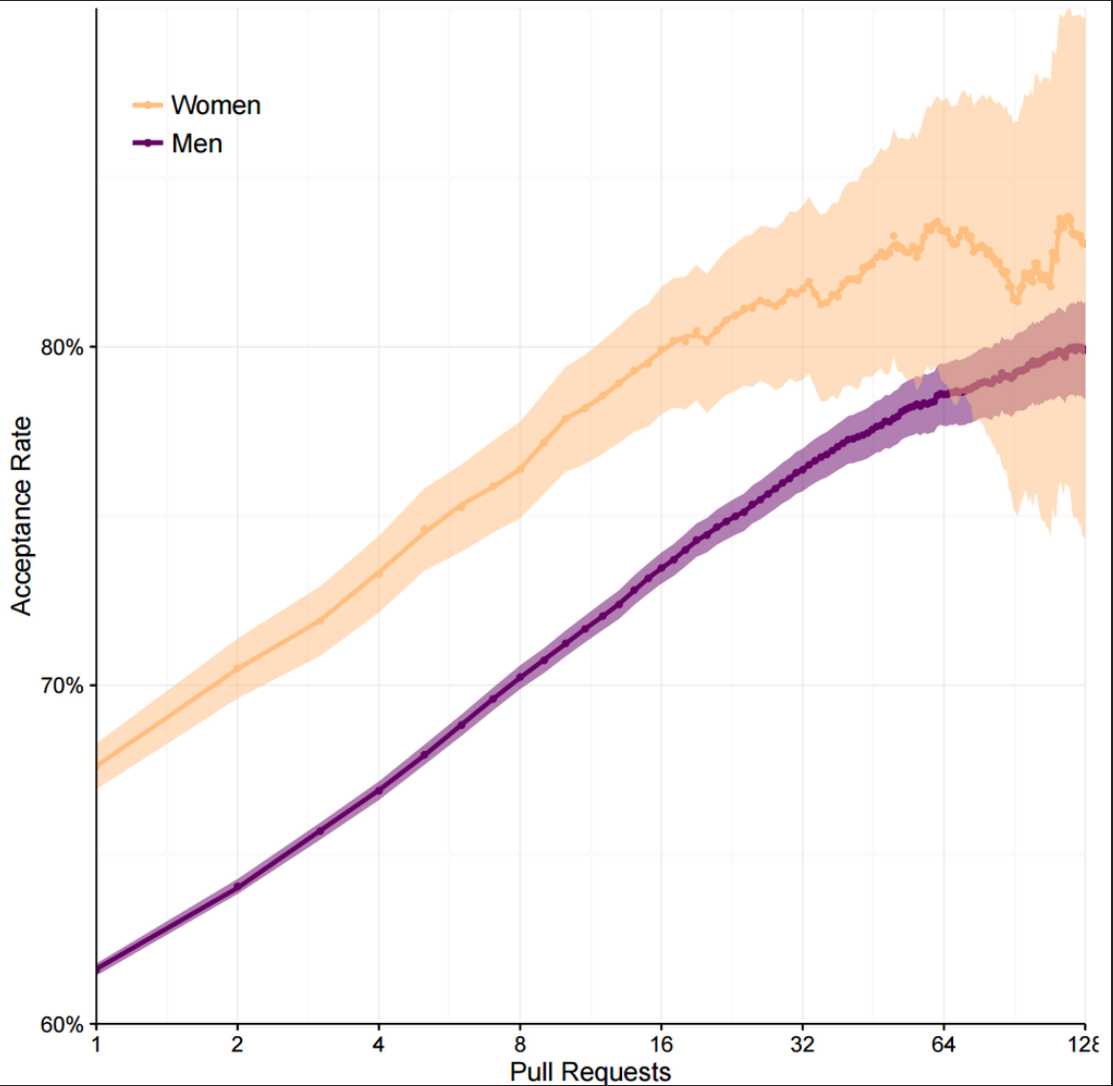
- ▶ Being "Wrong on the Internet" => Fear of Negative feedback.
- ▶ Nothing left to answer => "Saturation"
- ▶ Research Pressure
  - ▶ Instead of quality feedback
- ▶ ...

SEE TALK ON THURSDAY

Barrier	<i>p</i> -value	W	M	ES	F Likert
Fear Neg. Feedback	.004	4/4	5/3	0.4	
Fear Contrib. Clutter	.013	4/4	4/3	0.3	
Time Constraints	.497	4/4	4/4	0.1	
Nothing Left	.797	4/4	4/4	0.0	
Awareness	<.001	4/4	1/3	0.5	
Research Pressures	.374	4/4	4/4	0.1	
Posting is Hard	.059	4/3.5	4/3	0.2	
Abstraction Process	.729	4/3	4/3	0.0	
Qualifications	<.001	4/3	1/3	0.4	
Onboarding Hoops	.062	4/3	5/4	0.2	
No “Good-Answer”	.239	3/3	2/2	0.1	
Intim. Comm. Size	<.001	4/3	1/2	0.5	
Stranger Discomfort	<.001	1/2	1/1	0.4	
Percept. Slacking	<.001	2/3	1/3	0.4	

**Table 1:** *Statistically significant differences in how women and men rated barriers.*

BIAS





## DETECTION OF COMMUNITY FAULTS

- ▶ Instability
  - ▶ Flaky Documentation
  - ▶ Unstable contributors
- ▶ Participation Barriers
  - ▶ Peer Parity: Bechdel-Ford test
  - ▶ Toxicity Levels + Micro-aggressions (Safety)

# AUTOMATED COMMUNITY REPAIR

- ▶ Repair Bots

- ▶ Annotate or patch flaky docs.

- ▶ Warn about inaccessible or insecure usage

- ▶ Community Bots

- ▶ Defend against toxic comment against first time poster.

- ▶ Help pair up mentors and developers.

