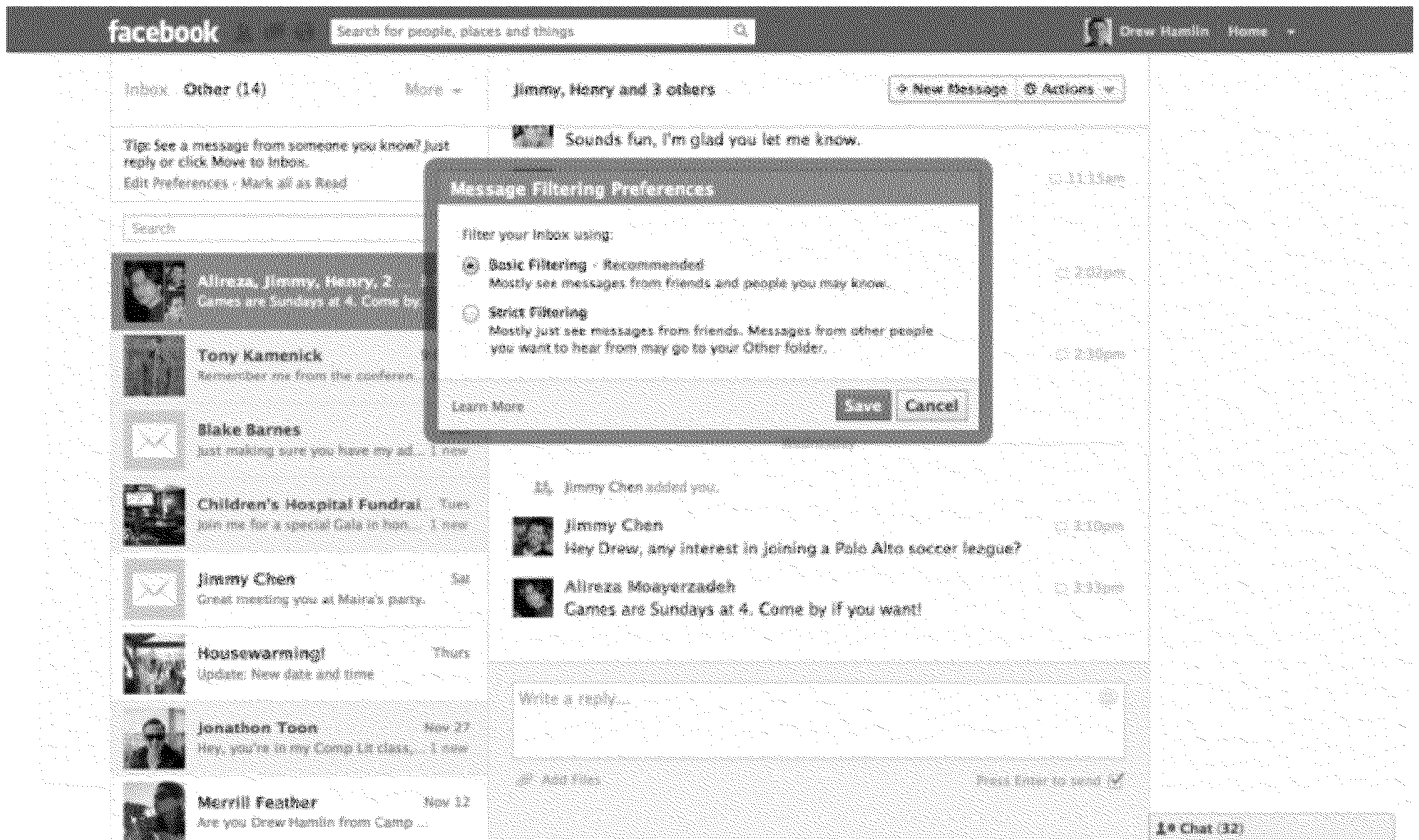


EXHIBIT G



[http://cdn1.tnwcdn.com/wp-content/blogs.dir/1/files/2012/12/Screenshot.png]

Being rolled out to its 1 billion users today are two filters: basic and strict:

- Basic Filtering involves allowing mostly messages from Facebook friends and people you may know (e.g. “friends of friends”) in your inbox. By default, anyone in the current Messages setting that has “friends of friends” or “everyone” set will have this setting.
- Strict Filtering is a “friends only” setting so anyone you’re not Facebook friends with will most likely be sent to the Other messages folder.

A Facebook spokesperson tells us that all current settings will be carried over when filters are implemented. But just how do you know what your settings are? If you go to Privacy settings and go under “How You Connect” and edit settings, you’ll see a field labeled “Who can send me Facebook Messages”. The placement of this setting here doesn’t make sense — Facebook realized this.

Perhaps spurred by its recent privacy control settings update, the company is now moving it so that it’s visible right within the Messages screen. Imagine that, being able to not only view messages, but also control the setting right from the same screen.

Photo credit: Dan Kitwood/Getty Images [http://www.gettyimages.com/detail/news-photo/in-this-

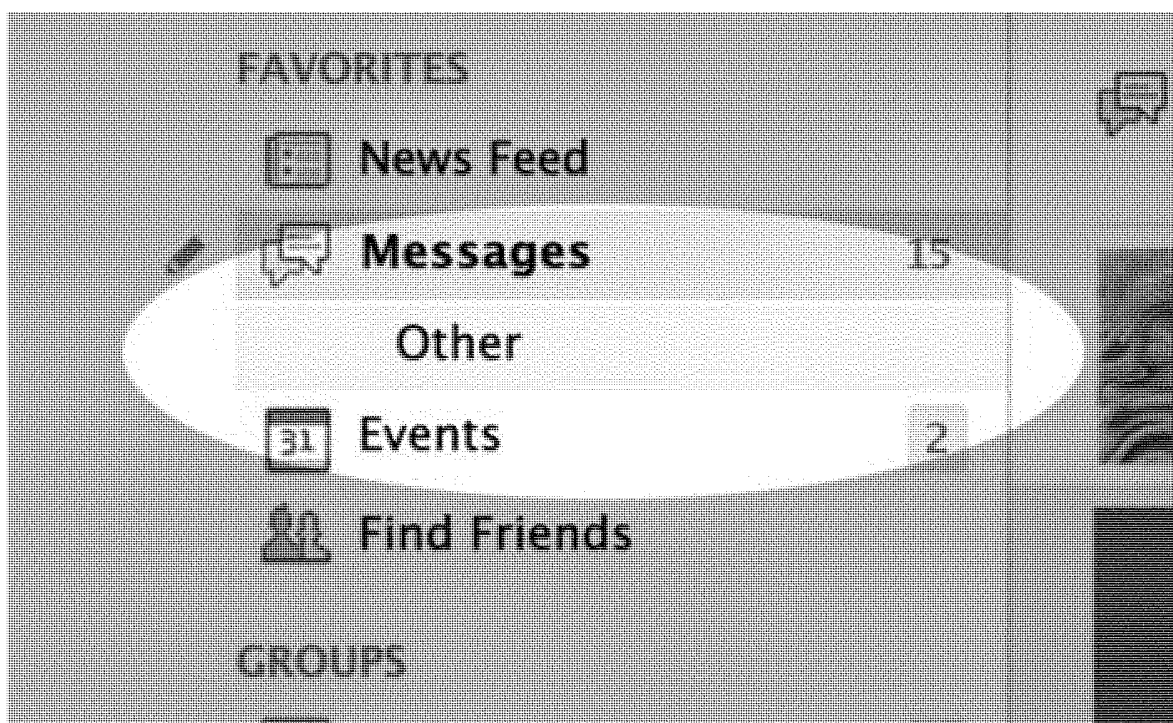
TECHNOLOGY INNOVATION, THE INTERNET, GADGETS, AND MORE.

DEC. 9 2011 11:22 AM

Furious at Facebook Again!

When a man tried to return my lost laptop, Facebook hid his messages from me. How come?

By Elizabeth Weingarten



Where is Facebook storing all those messages?

On Nov. 15 at approximately 11:45 p.m., I left my 1-month-old MacBook Air in the back of a New York City cab. Quickly realizing my error, I freaked out: Hands shaking, I dialed the city's Taxi and Limousine Commission, reported the cab's medallion number (I had a receipt) and jotted down the phone number of city precincts where my cargo could end up (if a good Samaritan turned it in). Then, I slumped against the side of a building and sobbed.

Of course, it was only a computer. But this superficial, expensive thing contained a completed story that I was supposed to send an editor at this magazine the following morning. And all of my notes for said story, which I had come to New York to write. No, I didn't save my files to an external hard drive and no I did not have insurance on the computer. The next morning, I chugged coffee and rewrote the story. I tracked down the cab driver; he claimed he never found it. A week later, I reluctantly purchased a new laptop. And that was that.

Until today, when a colleague at Slate sent an email around about the messages Facebook hides in an obscure folder labeled "Other." Haven't heard of it? Click the Messages tab on the left side of your Facebook screen. "Other" will then appear beneath it. Click on Other and you will unearth months of messages you probably missed. (Blogger Erika Napoletano has great, annotated screengrabs to guide you through this process.) When I did just this, I inhaled sharply: A man had sent me four very important messages: two on Nov. 16, one on the 17th, and another on the 18th.

Advertisement

"Please let me know if you lost something and identify what you lost," said the first one. "Did you forget something?? Please identify what you lost," pleaded the second. "Are you the one who lost something? Please respond and identify. I saw your name in the bag I found," said the third message. Finally, he surrendered to specifics: "Dear Elizabeth, I found your laptop in a taxi. Please call me at xxxxxxxxx."

I dialed the number immediately. A man picked up the phone. "I'm so sorry, I just saw your Facebook message!" I breathed. "Do you still have my laptop?" He said that he did have it, but that I should call him back in a couple of hours—he was in the middle of something important. I told him I'd call him back. Then I sent a series of all-caps emails to my colleagues about the fiasco (so professional), and, of course, updated my Facebook status to reflect my wrath (so meta).

How could Facebook do this? Why would they do this? Facebook messages are the social networking site's version of emails (or at least they were before they introduced a version of Facebook email last November). Users can send them to friends by clicking the "message" icon at the top of a profile, or by clicking the "new message" button at the top of the Messages landing page. I asked a Facebook representative how, when, and why the messaging system was changed to include this sneaky Other tab.

Facebook, the representative told me, switched to the "Social Inbox" in November 2010 to sift out "meaningful" messages from less meaningful ones. She sent along this official explanation, which is also posted on the company's blog:

It seems wrong that an email message from your best friend gets sandwiched between a bill and a bank statement. It's not that those other messages aren't important, but one of them is more meaningful. With new Messages, your Inbox will only contain messages from your friends and their friends. All other messages will go into an Other folder where you can look at them separately. If someone you know isn't on Facebook, that person's email will initially go into the Other folder. You can easily move that conversation into the Inbox, and all the future conversations with that friend will show up there.

Before the Social Inbox, all messages trickled into a user's central inbox. But since the switch, messages don't appear in the main inbox unless they're from friends or friends-of-friends. Messages sent to mailing lists and broad distribution groups are also sifted out. Last November's messaging revamp also introduced Facebook email and text messaging. Both must be activated before they work. If you activate Facebook email (at the top of your Messages landing page) or turn on text messaging, those messages will also filter into your main Social Inbox.

To be clear, I haven't activated those new features: My problem was with only the most basic Facebook messages. And when I sent those angry emails to my colleagues, none of them knew about the Other tab either. Granted, a fair amount of what they discovered there was spam. Double X editor Kate Julian discovered

this gem in her inbox from Scott, a “widow”: “hello kate, hello pretty,how re you ? my name is Scott,am snlge,am a widow...i saw your profile now then i decided to mail you...you look so good,i will love to know more about you ...do take care.”

But not all the missing messages were like this. Slate reporter Will Oremus uncovered two messages of note: one from a recruiter at another news organization asking if he was interested in a job opening there (“Good thing I wasn’t!” Will told me) and one from someone “whose father’s death I reported on a few years ago.” The second message began: “You’re the most disgusting man on this earth. Even three plus years later, hearing your name makes me want to throw up.”

Will wasn’t too upset to have missed these, but other Slate colleagues had missed messages they would actually have liked to receive. “I missed an invitation to be on Israeli TV, about 20 really nice notes about my Facebook birthdays piece, a whole bunch of Gabfest fan mail, and a howdy from some cousin I don’t know,” Slate Editor David Plotz told me. Deputy Editor Julia Turner also missed something she would have liked to get:

I missed a great story circulated by my first New York roommates about how our scuzzball landlord is now embroiled in a legal fracas for renting a 1.5 million Tribeca apartment to a guy who runs a basement sex loft out of it offering “flaming massages.” The neighbors are so mad they keep smearing dog feces on the door! I could have lived without this news, but I’m happier now that I have it.

So how can you make sure you find your lost laptop, appear on Israeli TV, and respond immediately to job offers? Unfortunately, the Facebook rep informed me, you can’t change your settings to get email notifications for your Other messages, the way you can for your main messages. Your best bet: Make checking the Other tab part of your daily Facebook routine.

I called my laptop guardian angel a few hours later. As it turns out, he is Ralph Nakash, one of the Israeli founders of Jordache Enterprises. (They do more than jeans, apparently.) It was his secretary who sent me those helpful Facebook messages. When I spoke to him, he asked me why it took me so long to reply. I explained Facebook's crazy system for filing messages. He invited me to have coffee with him at New York's Jordache offices next time I'm in town. I thanked him profusely. His secretary agreed to FedEx the laptop.

So do I curse Facebook because it hid Nakash's messages, or praise it for allowing him to get in touch? I'm going to do both. Thanks, Facebook, for helping this nice man return my laptop. But please try to explain your services better. I suspect many people would be grateful.

NEWS & POLITICS

MARCH 27 2015 11:11 AM

Scalia Fan Fiction

The lovable grouch is a lie.

Mark Joseph Stern

Andreas Lubitz Committed Mass Murder, Not Suicide

Think You're Smarter Than *Slate's* Features Editor? Find Out With This Week's News Quiz.

Why Obama May Be Making His Biggest Middle Eastern Gamble Yet

Ted Cruz Is No Ronald Reagan

A Provocative New Plan to Reduce the Prison Population—Will It Work?

Donating to a Little League Should Not Make You a Moral Monster

What Does Obama Want From Netanyahu?

BUSINESS

MARCH 27 2015 1:35 PM

Marijuana Is Changing the Workplace. Here's How Employers Should Deal With It.

Will Yakowicz

How to Make Americans Love the “Death Tax”

Atlanta Might Be Getting Dumber

Study: When Companies Perform Poorly, Female Execs Face Bigger Docks in Pay

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Millions of Olive Trees Could Be Chopped Down in Italy to Contain a Devastating Blight

Soon, All Your Internet Ads Will Be Prettier—and Maybe Creepier

Maybe the Rich Don't Care About the Middle Class Because They Don't Live Near the Middle Class

LIFE

MARCH 27 2015 12:54 PM

Charm Offensive

Engaging emojis and other points of digital charm.

Simon Doonan

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DOUBLE X

MARCH 26 2015 12:43 PM

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Amanda Marcotte

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Arkansas Legislator Says Single Mothers Should Get Free IUDs for the Sake of

“Taxpayers”

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Monica Lewinsky Is Back and People Love Her. Has America Finally Grown Up on the Subject of Sex?

8,000 Years Ago, Only One Man Had Children for Every 17 Women

Penn State Frat Member Says Pictures of Nonconsenting Nude Women Are “Satire”

SLATE PLUS

MARCH 26 2015 10:01 AM

What We Like Right Now

Our favorite picks for the week of March 23, curated by *Slate* writers and editors.

Ten Years Ago Bernie Mac's *Guess Who Was* No. 1. Does It Hold Up?

Culture Gabfest Bonus Segment: Could the Internet End Plagiarism?

Walking Dead Podcast Early Release: Episode 15, "Try"

What It's Like to Be a Bail Bondsman: Working Podcast Transcript

ARTS

MARCH 27 2015 1:24 PM

The Makers of *Going Clear* on the Evolution and the Future of Scientology

Forrest Wickman and Rob Naylor

Will Noah Baumbach Ever Make a Movie Everyone Can Love?

Watch the Trailer for the HBO Show Based on J.K. Rowling's *The Casual Vacancy*

How *White God* Gives Its Canine Hero a True Character Arc

Women and the Dolls Who Look Like Them

Why *The Walking Dead* Should Kill Off Its Most Beloved Character

Jazz Pianist Robert Glasper on His Role in Kendrick Lamar's *To Pimp a Butterfly*

TECHNOLOGY

MARCH 27 2015 12:48 PM

One Direction Was an Inside Job

The nutty, paranoid, *maaaaaybe* plausible fan conspiracy theories for why Zayn “quit.”

Amanda Hess

Instapaper Joins the Slow Creep of Speed Reading

The iPhone Added Another App You Don't Want and Can't Delete. What Gives?

Thanks to Vulnerable Wi-Fi Routers, Guests at Hundreds of Hotels Face Security Risks

The HTML Tags the *New York Times*, CNN Use During Tragedies

Giant Leap: The Race to Mars and Back—a Future Tense Event

In Light of Germanwings Crash, Should We Feel Safer With No Pilot Than One?

HEALTH & SCIENCE

MARCH 27 2015 10:59 AM

Could Better Psychological Testing Prevent a Tragedy Like the Germanwings Crash?

Probably not.

Alison Griswold

Two Astronauts Head Into Space to Live There for a Year

Do as Angelina Jolie Does, Not as She Says

The Catastrophe That Must Not Be Named

Teaching Evolution to Students Who Tell Me They'll Pray for My Soul

Vigilantes Try to Destroy Mississippi's Only Abortion Clinic

Did Jupiter Destroy the Solar System's First Planets?

SPORTS

MARCH 26 2015 1:19 PM

Best Loss Ever

A Duke-hating aficionado's guide to the sweetest Blue Devils tournament defeats of all time.

Jason Zengerle

Here's What Happened to the Ink-Stained Wretch Who Used to Run Your NCAA Pool

How to Dance Like Your Team Won the NCAA Tournament

In College Basketball, Every Close Call Is the Worst Call Ever

Kentucky Might Make History. But the Wildcats Can't Match the 1990–91 UNLV Team.

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The American Video That Explains Cricket to Americans

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SOCIAL

Facebook's Email Scanning Isn't A Privacy Issue, It's A Credibility Issue

Facebook confirmed on Thursday that it scans private messages for links and records them as likes, according to the Wall Street Journal and other news outlets. The revelation undermines not only Facebook's commitment to remove phony links but the company's very credibility.

DAVE COPELAND · OCT 5, 2012

Facebook confirmed on Thursday that it scans private messages for links and records them as likes, according to the Wall Street Journal and other news outlets. The revelation undermines not only Facebook's commitment to remove phony links but the company's very credibility.

Facebook has not kept secret its scanning of private messages for references to criminal activity. What is new is that it also looks for links and records those as likes. This practice gives the appearance that more people are liking more things on the social network.

Kashmir Hill of Forbes asked, “Do over 6,000 people really ‘Like’ the Placenta Teddy Bear, or is that just reflective of the number of times a link to that page has been sent around in horror?”

Facebook clarified the discovery, noting that the scanned links were counted as engagement, not endorsement. It also said there was a bug that had scanned links being counted as double, but it conceded that this was one of the ways it boosted the number of shares.

But the main thrust of the statement was to stress that no private user information was shared. “Absolutely no private information has been exposed,” the company said, and “when the count is increased via shares over private messages, no user information is exchanged, and privacy settings of content are unaffected.”

This statement misses the point. Facebook's practice of scanning messages and counting links as likes isn't a privacy issue. It's common knowledge that what users do online - even in so-called private messaging - is potentially public. Rather, Facebook's activity raises a *credibility* issue. It shows that the company is fudging the numbers when it comes to advertising.

Last month, when Facebook said it may end up removing as many as 1% of all likes from the site because they were phony, experts were quick to note that the actual number of fraudulent likes, shares and comments was probably much higher, with some estimates exceeding 10% of all likes and shares on the site.

At the time, we suggested Facebook was merely going through the motions of cleaning up the site.

"It's not in Facebook's best interest to proactively solve this problem," said Tom Corson-Knowles, an online marketer who consults with small-business owners on ways to promote products on social networks. "Facebook's revenue is directly proportionate to the number of pageviews the site gets, and banning one percent of [pageviews] will cost the company a lot of missed ad impressions."

The latest news is more than a suggestion of impropriety. it's an outright confirmation.

Digits Tech News & Analysis From the WSJ

COMPANIES MOBILE PRIVACY SOCIAL MEDIA APPS GAMES ASIA EUROPE

HOT TOPICS: WIRELESS SAVINGS CALCULATOR PERSONAL TECHNOLOGY VENTURE CAPITAL APPLE GOOGLE ALIBABA

6:39 pm ET Oct 3, 2012 UNCATEGORIZED

How Private Are Your Private Facebook Messages?

ARTICLE COMMENTS (5)

FACEBOOK PRIVACY

Email Print Facebook Twitter Google+ LinkedIn

Update: This post has been updated with comment from Facebook

When you send a link to someone in a private message on Facebook, just how private is it?

A recent online video shows that the social networking site scans the links you're sending – registering them as though you "Like" the page you sent. It's just one example of how online messages that seem private are often actually examined by computers for data.



— Here, a website owner's Facebook Insights page shows information on links sent through Facebook messages.

Email providers such as Gmail have long reviewed messages in order to spot spam and place ads. Facebook has said previously that its computers analyze messages to filter spam and to detect conversations that could be related to **criminal behavior**. The company's **guidance for developers** also says that "the number of inbox messages containing" a link to a page will count as "Likes" – indicating that the recording of these links isn't some sort of new bug.

But it's not clear from Facebook's **data use policy** that regular users would expect links in their messages to be scanned this way. The policy simply says generally that Facebook gets "data about you whenever you interact with Facebook," including when you "send or receive a message."

Facebook did not immediately provide a comment on the matter. (See update below.)

The video, which was posted this week on **Hacker News**, showed a person who sent links in Facebook messages in order to inflate the number of "Likes" a page had received. Each time the link was sent, the page's "Like" count went up by two, something that the Hacker News poster said allows people to "pump up to 1,800 'Likes' in an hour."

In addition to raising privacy questions, then, the video points to potential problems with "Like fraud."

"If [you're] visiting an online store and you see a lot of likes under the product then this might cloud your judgement," one commenter wrote.

SEARCH DIGITS GO

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Germanwings Plane Crash: The Last 30

The video has since been taken down for violating YouTube's restrictions on the depiction of "harmful activities," but the behavior was also confirmed and recorded by Digits. There's also a page that you can use to test this yourself. As of this afternoon, sending this link in a Facebook message boosted the "Like" count by two each time. The links also increased the count seen on the "insights" dashboard for the page, which shows the owners information on "Likes" and "shares" their page is receiving.

So readers, what do you think? Are you used to your messages being scanned by computers by now, or does that sort of thing surprise you?

Update: Facebook responded on Thursday, saying that "absolutely no private information has been exposed" and that users' privacy settings were not affected.

"We did recently find a bug with our social plugins where at times the count for the Share or Like goes up by two, and we are working on fix to solve the issue now," the company said in a statement. It said the bug is related only to non-Facebook sites and not to "Likes" on Facebook Pages.

Otherwise, the company said, the system is working as expected. "Many websites that use Facebook's 'Like', 'Recommend', or 'Share' buttons also carry a counter next to them. This counter reflects the number of times people have clicked those buttons and also the number of times people have shared that page's link on Facebook," including over private messages.

- Jennifer Valentino-DeVries and Ashkan Soltani

4 Minutes - At A Glance



5 A Three-Question Test of Financial Literacy



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BREAKING NEWS



Sgt. Bowe Bergdahl left unit in Afghanistan in 2009 meaning to walk to U.S. outpost to report wrongdoing, officials tell CNN.

New York City, NY 41°



How you help Facebook make billions

Sign in

By **Doug Gross, CNN**

🕒 Updated 5:57 PM ET, Wed May 16, 2012



12 photos

8 years of Facebook highlights – It all began in a Harvard dorm room in 2004. Mark Zuckerberg and friends Dustin Moskovitz, Chris Hughes and Eduardo Saverin start what then was known as Thefacebook social-networking site spreads to other Ivy League universities the next month.

1 of 12



Story highlights

Facebook's multibillion-dollar business model relies on user data

Experts say the social network's targeted advertising can be uniquely precise

If you have a Facebook account, the company values you at \$4.84 a year

Facebook has to balance targeting ads, user experience, privacy concerns

Every post you "like." Every friend you add or fan page you join. Every place you check in, and every Web page you recommend.

To you, those are ways to enjoy, expand and improve your experience on Facebook. To Facebook, they're the building blocks of a multibillion-dollar company.

In business, there's a well-worn line that could apply to the social-networking behemoth: If you're not paying for it, you're not the customer. You're the product.

In this case, you're a product worth, to Facebook, an average \$4.84 a year.

As Facebook hits Wall Street this week with a public stock offering that could value the company at more than \$100 billion, investors appear dazzled by the company's uncanny ability to put the right advertisements in front of its roughly 900 million users.

"The unique thing about these guys is the accuracy with which they can help advertisers and marketers understand who they're getting," said Arvind Bhatia, an analyst with Sterne Agee Financial Services. "On Facebook, your information is authentic; they are able to basically make the ads, and your experience, more relevant. I think that is unique. It's unprecedented and the reach is unparalleled."



Top 10 reasons not to buy Facebook
02:34

PLAY VIDEO ↘

In documents filed in relation to its stock offering, Facebook says that about 85% of its revenue comes from advertising. The other 15% comes from payments made within apps that run on the site (a head-turning 12% is from a single source - Zynga, makers of social games such as "FarmVille.")

As Bhatia suggests, Facebook's unprecedented advertising advantage is built upon the service it provides. As users interact with the site, they gradually build a fuller and fuller picture of themselves. That, in turn, lets Facebook sell



Explain it to me: IPOs 02:33

PLAY VIDEO ↘



Astonishing rise of Facebook 03:36

PLAY VIDEO ↘

advertisers on its ability to put their product in front of the people most likely to be interested.

[CNNMoney: You're only worth \\$1.21 \(per quarter\) to Facebook](#)

How targeted ads work

For example, say a woman who has listed her hometown as New Orleans changes her relationship status from "single" to "engaged." Facebook suddenly has a hot prospect to offer up to a bridal retailer or caterer in the Big Easy. To dig deeper, if she lists her MBA from Loyola and has "liked" pages for, say, Saks Fifth Avenue and Mercedes Benz, you get a fuller picture of how much she might be willing to spend.

"With a reported 901 million members, Facebook is a great test bed for understanding consumers and their purchasing interests," said Jan Rezab, CEO of Socialbakers, a social-media analytics firm. "Before Facebook, marketers relied on online surveys or focus groups to determine customer interest. Now, they can reach the customer directly on their Facebook page."

Facebook doesn't publicly give away the details of how its system works. But as it has begun wooing potential investors, the company has been more willing to talk about its advertising approach.

Dan Rose, Facebook vice president of partnerships and platform marketing, discussed the appeal of its social ads [at an event recently in Austin, Texas](#).

According to research from Pew, the average Facebook user has 229 friends. When that user likes a product or company's ad, it serves as an endorsement to those friends from someone they know and, presumably, trust.

"When I raise my hand and say, I like Einstein (Bros.) bagels, and then one of my friends sees that ad, they're going to see my name in that ad," Rose said. Through Facebook's partnership with the media-research firm Nielsen, "We found that when my friend's name is in an ad, I'm over 60% more likely to remember the ad, and I'm over four times more likely to purchase the product," he said.

"This is word of mouth. This is word of mouth at scale. This is what, as marketers, we've always been trying to bottle up and find a way to take advantage of. And the social Web is finally allowing us to do that."

In his 2010 book, "The Facebook Effect," David Kirkpatrick recounts chief operating officer Sheryl Sandberg's arrival in 2008, when she sharpened the company's focus on what would become the current advertising model. CEO Mark Zuckerberg, meanwhile, remained focused on growing the site and improving user experience -- a focus he reportedly maintains to this day.



Facebook's rise to the top 02:44

[PLAY VIDEO](#) ↘



Should you 'like' the Facebook stock?

04:37

[PLAY VIDEO](#) ↘



MYB: Facebook looks to diversify board 02:39

[PLAY VIDEO](#) ↘

Kirkpatrick writes of the level of detail a Facebook ad can reach:

"Anybody can pick through endless combinations on Facebook's self-service ad page," he wrote, referring to the tool advertisers use to target their ads. "You can show your ad only to married women aged 35 and up who live in northern Ohio. Or display an ad only to employees of one company in a certain city on a certain day. (Employers aiming to cherry-pick people from a competitor do this all the time).

"Customers for Facebook's more expensive engagement ads can select from even more detailed choices -- women who are parents, talk about diapers, listen to Coldplay and live in cities, for example."

In its Wall Street filing, Facebook listed its Average Revenue Per User at \$1.21 per quarter, or \$4.84 a year. That's less than rivals like Google and Yahoo and miniscule compared to companies with more traditional business models, like wireless providers and cable companies.

But, as Rose says, it's all about scale for a company that will likely reach 1 billion user accounts by the end of the year.

[Are you living without Facebook?](#)

User data and privacy

Not that the model hasn't made some folks antsy. Time and again, tweaks to Facebook's privacy settings have prompted user backlash, occasionally to the point that the site has reversed or modified those changes.

[According to a recent Associated Press/CNBC](#)

poll, three out of five users say they have little or no faith that the company will protect their personal information. Half of those who use the site daily say they wouldn't make a purchase through it and 57% of all users claimed they never click on ads or other sponsored content.

On a page about its advertising approach, Facebook makes it clear that it never sells user data, saying that "if you don't feel like you're in control of who sees what you share, you probably won't use Facebook as much, and you'll share less with your friends."

Facebook officials also emphasize that while advertisers can market to specific users, they don't receive the data that was used to make the selection and never know the actual names of the people they've reached. Facebook's policy is to not actually look at user data except to check whether someone is violating the site's terms of service.

Doubling down on user satisfaction is the most important thing Facebook can do, Bhatia said, even if it occasionally means passing up chances to max out the amount it could earn on the data users provide.

"For them, the user experience does come first and I think that's the right strategy for the long term," he said. "Along the way, putting the user experience first makes a lot of longer-term business sense."

As an analyst, Bhatia is bullish on Facebook, leading the pack with an early "buy" rating at the beginning of this month. With Facebook reportedly looking at expanding into China and at monetizing its mobile app (an untapped resource even though the majority of time on the site is now spent on mobile devices) he expects its data-driven model to keep making money well into the future.


"Facebook is going to become just like search, [which] disrupted online advertising," he said. "What Google did eight years ago -- that is what Facebook is doing now. The reach is unparalleled and they're just scratching the surface."

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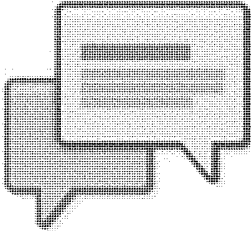
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Inside Facebook Messages' Application Server

By Jiakai Liu on Thursday, April 28, 2011 at 4:38pm



Facebook Messages represents one of the most technically challenging products that we've ever created. As we mentioned when we launched Facebook Messages, we needed to build a dedicated application server to manage its infrastructure.

We recently discussed the Messages back end and how we scaled the service to handle all the communication coming from email, SMS, Facebook Chat, and the Inbox. Today we'll explore the internals of the application server.

The Application Server Business Logic

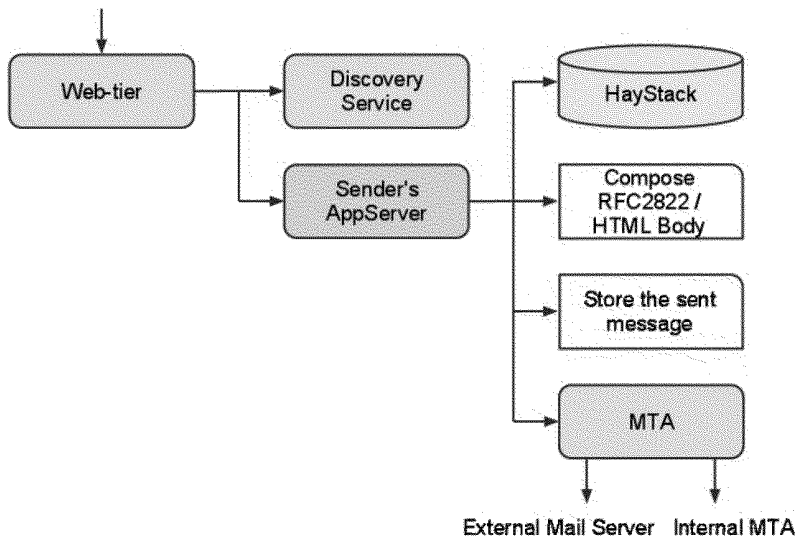
The application server integrates with many Facebook services and shields this complexity from these various clients. It provides a simple interface for its clients to perform standard message operations, including creating, reading, deleting, and updating messages and the Inbox.

The flow for each of them is as follows.

When creating new messages or replying to existing ones, the application server delivers the message to the recipients on behalf of the sending user. If a recipient is specified by his or her email address, the server fetches the attachment from HayStack (if any), constructs the HTML body, and builds an RFC2822 message.

Outgoing Flow

Create New Message / Reply



When messages are sent to a user, the server receives them from external email addresses and dispatches incoming messages to the proper recipients if the address is a reply handler. The server finally delivers the message to the user's mailbox, running all pre- and post-processing as needed, and determining the folder and thread where the message should be routed based on a number of signals.



Facebook Engineering

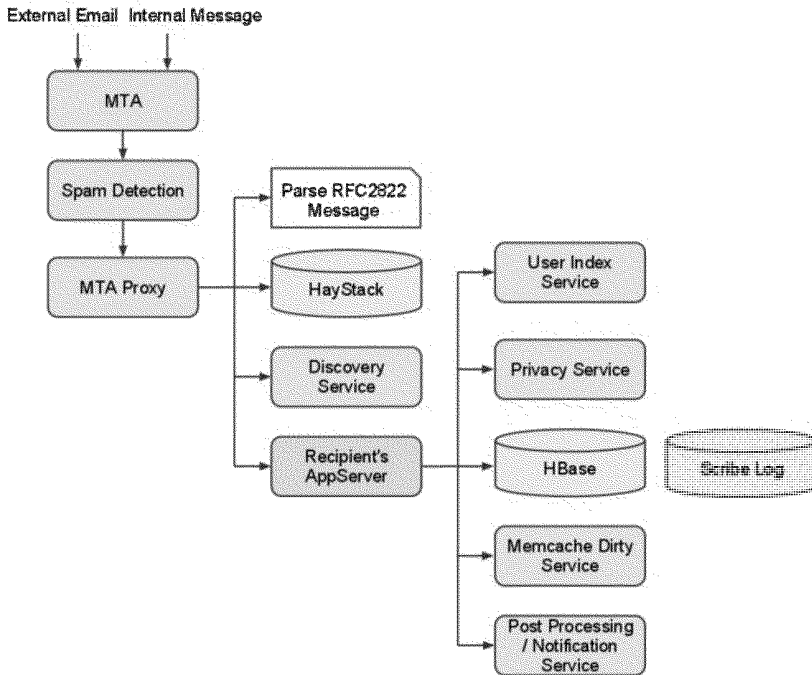
Notes by Facebook Engineering

[All Notes](#)

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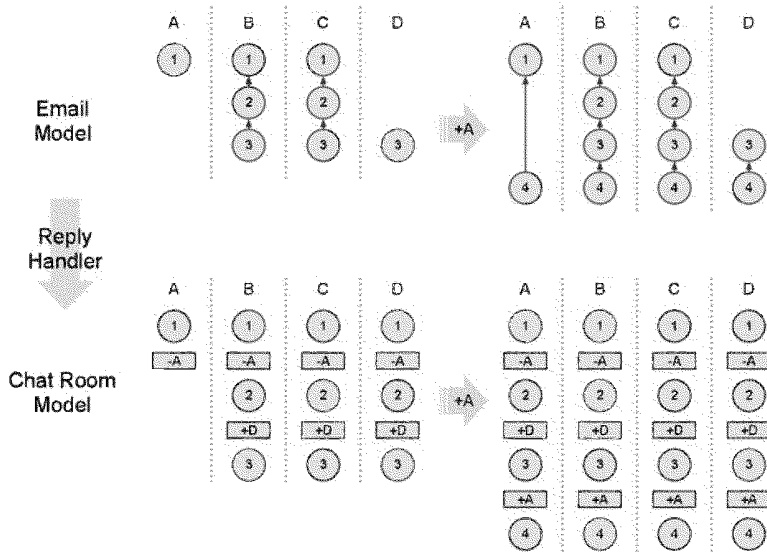
Incoming Flow



When reading messages, the server gets various statistics about the user's mailbox, like its capacity; number of messages, threads and replies; and the number of friends with whom the user has interacted. It also gets folder statistics and attributes, the list of threads by various search criteria (folder, attributes, authors, keywords, and so forth), and thread attributes and the individual messages in the thread.

When deleting messages, the server marks messages and threads as deleted. An offline job actually removes the message contents.

When updating messages and threads, the server changes the message- or thread-level attributes, like its read and archive statuses, any tags, and so forth. It also handles subscribe and unsubscribe requests on threads with multiple users.



Email Model vs. Chat Room Model
 1. A leaves; 2. D is added; 3. A is added back

Managing Group Threads

Facebook Messages manages group message threads using a chat room model. Users can be added (subscribed) to and leave (unsubscribe from) threads. To enforce this model when email addresses are specified for recipients in a thread, the application server creates a reply handler, like a chat room ID. When an email recipient replies to a thread, the message is sent to the reply handler address.

To optimize read performance and simplify migration and backup processes, message threads are stored with a denormalized schema, so each user has his or her own copy of thread metadata and messages. The server broadcasts subscription and unsubscribe events, synchronizing the thread metadata among all recipients so it can handle the subscription and reply handler in a decentralized manner. The server also manages various corner cases when interacting with users who still have the old Inbox or were subscribed by their email addresses.

Caching User Metadata

When a user access his or her Inbox, the application server loads the most common user metadata (called *active metadata*) and stores it in a least recently used cache. Subsequent requests from the same user can be served promptly with fewer HBase queries.

We need to make fewer HBase queries because HBase doesn't support *join*. To serve one read request, the server may need to look up multiple indexes and fetch metadata and the message body in separate HBase queries. HBase is optimized for writes rather than reads, and user behavior usually has good temporal and spatial locality, so the cache helps to solve this problem and improve performance.

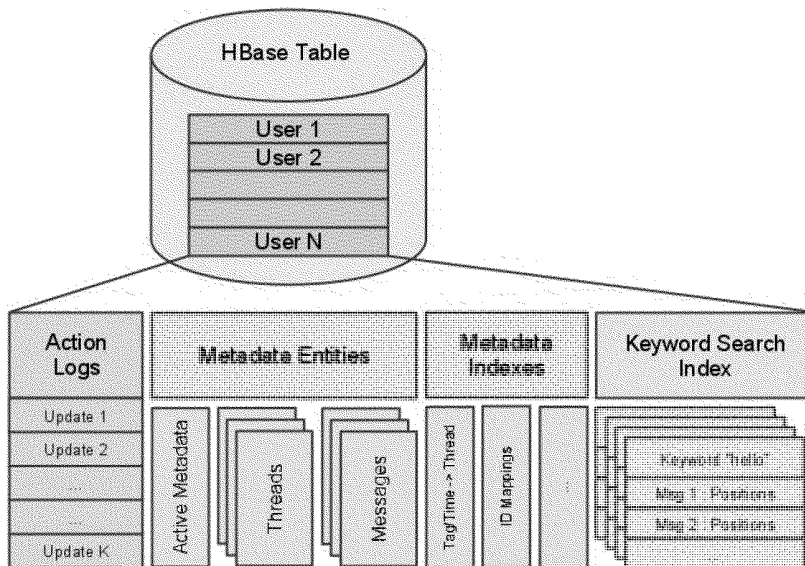
We've also put a lot of effort into improving cache efficiency by reducing the user memory footprint and moving to finer-grained schema. We can cache 5%-10% of our users and have an active metadata cache hit rate of around 95%. We cache some extremely frequently accessed data (like unread message counts displayed on the Facebook home page) in the global memcache tier. The application server dirties the cache when new messages arrive.

Synchronization

HBase has limited support for transaction isolation. Multiple updates against the same user might occur simultaneously. To solve potential conflicts between them, we use the application server as the synchronization point for user requests. A user is served by a particular application server at any given time. This way, requests against the same user can be synchronized and executed in a completely isolated fashion on the application server.

Storage Schema

MTA Proxy strips attachments and large message bodies and stores them in Haystack before they can reach the application server. However, metadata, including search index data and small message bodies, are stored in HBase and maintained by the application server. Every user's mailbox is independent of every other user's; user data is not shared in HBase. A user's data is stored in a single row in HBase, which consists of the following parts:



Metadata Entities and Indexes

Metadata entities contain the attributes of mailbox objects, like folders, threads, messages, and so forth. Each entity is stored in its own HBase column. Unlike a traditional RDBMS, HBase does not have native support for indexes. We maintain the secondary indexes at the application level, where they are stored as key/value pairs in separate columns as well.

For example, to answer the query "loading unread threads on the second page of the Other folder," the application server first looks up the metadata index to get the list of threads that meet the criteria, then fetches the metadata entities of the specified threads, and constructs the response with their attributes.

As we mentioned earlier, caching and effective preloading reduces the number of HBase queries for better performance.

Action Logs

Any update to a user's mailbox (like creating or deleting messages, marking threads as read, and so forth) is immediately appended to a column family in chronological order, called an *action log*. Small message bodies are also stored in action logs.

We can construct or reinstate the current state of user's mailbox by replaying action logs. We use the ID of last action log replayed as the version of metadata entities and indexes. When a user's mailbox is loaded, the application server compares the metadata version and latest action log ID, and updates the mailbox content if the metadata version lags behind.

Storing the action logs at the application level has brought great flexibility:

- We can seamlessly switch to a new schema by replaying the action logs and generating new metadata entities and indexes with an offline MapReduce job or online by the application server itself.
- We can perform large HBase writes asynchronously in batches to save on network bandwidth and reduce HBase compaction cost.
- It is a standard protocol to exchange persistence data with other components. For example, we do application-level backup by writing the action logs to a Scribe log. The migration pipeline converts users' old Inbox data into action logs and generates metadata and indexes with offline MapReduce.

Search Indexing

To support full text search, we maintain a reverse index from keywords to matched messages. When a new message arrives, we use Apache Lucene to parse and convert it into (keyword, message ID, positions) tuples, then add them to an HBase column family incrementally. Each keyword has its own column. All messages, including chat history, email, and SMS, are indexed in real time.

Testing via a Dark Launch

The application server is new software we built from scratch, so we need to monitor its performance, reliability and scalability before we roll it out to more than 500 million users. We initially developed a stress test robot to generate fake requests, but we found that the results could be affected by quite a few factors, like message size, distribution of different types of requests, distribution of user activity rates, and so forth.

In order to simulate the real production load, we did a *dark launch*, where we mirrored live traffic from Chat and the existing Inbox into a test cluster for about 10% of our users. Dark launches help us uncover many performance issues and identify bottlenecks. We also used it as a convincing metric to evaluate various improvements we made. Over time, we'll continue to roll out the new Messages system to all our users.

Jiakai is a software engineer on the Facebook Messages team.

Like · Comment · Share

Srikanth Pai, Josimar Amilcar Jafa, Serge-Emmanuel Eddy M'Tenon Yawo and 514 others like this.

3 shares

View previous comments



Mohammad Hikmat AlHourani where is the folders features, filters, it's not a complete mailbox but it's a good start.,:P
April 28, 2011 at 5:33pm



David Ernesto Arteaga Really nice operations engineered in a usefull software!!
April 28, 2011 at 5:36pm



Solhaedus Risus facebook is full of bugs ... so pls cut that PR with the most and the greatest ... the one u can fule dont care anyway
April 28, 2011 at 5:41pm · 1



Gabrielle Angel @Ryan Jumawan.. Yeah, thats right. I totally agreed they are makes chat room more than add recipient And I think Facebook Team should have more to learn from The Jabber chat room mistakes experience to avoid the flooders and hackers.
April 28, 2011 at 5:42pm



Allen Boggs What is sad about this new messenger is that as soon as it was announced I requested an invite. That was back in November. I still haven't been invited. Even sadder both my wife and kid have been and they never asked for it. So WHEN AM I GOING TO GET INVITED TO THIS NEW MESSENGER!!!!
April 28, 2011 at 5:44pm



Huzefa Fatakawala Does this involve the facebook email addresses they have started rolling out?
April 28, 2011 at 5:51pm



Mujtaba Ahmad I do not have the new messegae feature... Some friends of mine have it and the problem is I am unable to recieve anything from them.
April 28, 2011 at 6:05pm



Honey Mak great.....i thought facebook message was only email-receiving-capable.....after seeing this passage, i knew that facebook message can be sending emails to the outside world.....
April 28, 2011 at 6:33pm



Abdallah Sa my but I reported a problem with the new messages system , that the whole old messages have been deleted and it's a disaster !!
April 28, 2011 at 6:38pm



Gerald MacKenzie Castro This is awesome!
April 28, 2011 at 6:44pm



Gerald MacKenzie Castro Do you update the reverse index through Lucene as each message arrives, or do you run cron-type jobs? Or is Lucene executed from MapReduce? You said you wrote your own server. What's the stack on that?
April 28, 2011 at 6:46pm



Zhiqiu Kong I really really want a PRINT button for the notes page...
April 28, 2011 at 7:13pm · 1



Rishi Baldawa I didn't have the time to go through all the comments so my questions might be repeated. Could point me to someplace where I could get mote details about synchronization and caching of meta data. Also, while group threads, you optimize read but as a shouldn't you be optimizing writes (what good is a fast read if there's no message to read)
April 28, 2011 at 7:31pm · 1



Zhiqiu Kong I am wondering when building indexes for searching, are the keywords pre-generated?
April 28, 2011 at 7:47pm



Buzz Hill ... very nice presentation, FB's. Is this the norm? I am relatively new.
April 28, 2011 at 9:26pm



Alokji Karna FANTASTIC INVENTION BY FACEBOOK. EXCITED TO HAVE THE APPLICATION BROUGHT UP .
April 28, 2011 at 10:16pm



Venkat Pathy And its gonna stink unless u create a db separately fa chat and mail: xxxxx@fb.com
April 28, 2011 at 11:19pm



Erin Ní Chonaill Switch off the fossil fuels and turn on the future! Love FB but do not like the thought of destroying our future by using it.
April 29, 2011 at 12:51am



Tobias J-a It will be up soon, thank you
April 29, 2011 at 4:14am



Vipin Dhiman thanx for posting such a knowledgeable thing...
April 29, 2011 at 6:59am



Paolo Ghezzi Hi i have an idea to propose at facebook can i know how can i do it?
April 29, 2011 at 10:43am · 2



Jennifer Santangelo Make it like Googlewave. Although all messages would not be able to be deleted (which is kind of nice!), make the 'draft' parts of the message only visible through a 'play' button... after editing the sent message, at first glance only the final messag... [See More](#)
April 29, 2011 at 4:45pm · 1



Liyin Tang awesome work !!!
April 30, 2011 at 1:22am



Tushar Pandey thanx
May 1, 2011 at 6:11am



Greg Rose Apache HBase is a great read/write realtime database for hosting huge tables. No join support stinks as well as limited transaction isolation but it is open source so be patient. Caching user metadata is improving efficiency. I am not familiar with Dark launch but it seems like a great testing tool. I am looking forward to seeing the message system evolve in the future.
May 5, 2011 at 9:21pm



Ravi Teja K very nice presentaion.... a lot to know about facebook
May 13, 2011 at 10:57pm



Salma Nehme Get 10 fbml table & All code with video learn,Join now this page =>
<http://www.facebook.com/Static.FBMLs>
May 16, 2011 at 5:05pm



Jaime Maldonado My INBOX chance by MESSAGE and this not work...Can you help me? THANK
May 29, 2011 at 5:12pm



Oliver Beattie It'd be great if it didn't lose messages all the fucking time. I can see people have sent me stuff by the preview line in the Inbox but when I actually go to the thread, missing! Absolutely infuriating.
June 14, 2011 at 11:04am



Blue davy Lin Very good design,It used all products properly!
June 28, 2011 at 3:05am



Malvinder Singh Dhillon Thats good, but the new chat system have problems. we cant all our online friends all ot once like we used too.. many ppl dont like the new one. is there a way that i dont know of ?
July 21, 2011 at 6:06am



Sung W Cha Message-ID: <OF2E9F5282.012C6F94-ON862579B1.004BB5D3-852579B1.004C213E@mutualofomaha.com>
February 28, 2012 at 2:37pm



Sung W Cha Reply-To: Reply All
<100002852883375_of15825e44e130e55b4798963ae9f5fb@replyhandler.facebook.com>
February 28, 2012 at 2:37pm



Irfan Kanwal fafebook
July 30, 2013 at 7:26pm



Raihan Ahmed What's the name of the App Server that Facebook uses?
October 16, 2013 at 4:09pm



Karthik Srirangam wow. .superb. .Great
December 22, 2013 at 12:06am



Presly Ben Very good design.
December 23, 2013 at 9:36am



Jung Hana I deleted my conversation with my friend by mistake and I want it baaack ..
March 6, 2014 at 11:19am · Edited



Jessie Barber oh and dont evne get me started im suprised someone actully messeged me back about the .atter but i told the same thing ive been told for ages i even have prof for my identity i even knwo the email of the account which is still deactivatived but is ont eh site iw ant my account bank
August 11, 2014 at 11:41pm

3/27/2015

Inside Facebook Messages' Application Server

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English (US)

INTERNET ARCHIVE
 waybackmachine
 1,358 captures
 26 May 10 - 25 Mar 15

http://developers.facebook.com/docs/reference/plugins/like/

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Getting Started

Core Concepts

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Social Channels

Authentication

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Facepile

Like Box

Like Button

Live Stream

Login Button

Recommendations

Like Button

Core Concepts > Social Plugins > Like Button

The Like button lets a user share your content with friends on Facebook. When the user clicks the Like button on your site, a story appears in the user's friends' News Feed with a link back to your website.

When your Web page represents a real-world entity, things like movies, sports teams, celebrities, and restaurants, use the Open Graph protocol to specify information about the entity. If you include Open Graph tags on your Web page, your page becomes equivalent to a Facebook page. This means when a user clicks a Like button on your page, a connection is made between your page and the user. Your page will appear in the "Likes and Interests" section of the user's profile, and you have the ability to publish updates to the user. Your page will show up in same places that Facebook pages show up around the site (e.g. search), and you can target ads to people who like your content.

There are two Like button implementations: XFBML and IFrame. The XFBML version is more versatile, but requires use of the JavaScript SDK. The XFBML dynamically re-sizes its height according to whether there are profile pictures to display, gives you the ability (through the Javascript library) to listen for like events so that you know in real time when a user clicks the Like button, and it always gives the user the ability to add an optional comment to the like. If users do add a comment, the story published back to Facebook is given more prominence.

To get started, just use the configurator below to get code to add to your site.

Step 1 - Get Like Button Code

URL to Like (?)

Layout Style (?)

Show Faces (?)

 Show faces

Width (?)

Verb to display (?)

Font (?)

Color Scheme (?)

Attributes

- href - the URL to like. The XFBML version defaults to the current page.
- layout - there are three options.
 - standard - displays social text to the right of the button and friends' profile photos below. Minimum width: 225 pixels. Default width: 450 pixels. Height: 35 pixels (without photos) or 80 pixels (with photos).
 - button_count - displays the total number of likes to the right of the button. Minimum width: 90 pixels. Default width: 90 pixels. Height: 20 pixels.
 - box_count - displays the total number of likes above the button. Minimum width: 55 pixels. Default width: 55 pixels. Height: 65 pixels.
- show_faces - specifies whether to display profile photos below the button (standard layout only)
- width - the width of the Like button.

- **action** - the verb to display on the button. Options: 'like', 'recommend'
- **font** - the font to display in the button. Options: 'arial', 'lucida grande', 'segoe ui', 'tahoma', 'trebuchet ms', 'verdana'
- **colorscheme** - the color scheme for the like button. Options: 'light', 'dark'
- **ref** - a label for tracking referrals; must be less than 50 characters and can contain alphanumeric characters and some punctuation (currently +/=.:_). The ref attribute causes two parameters to be added to the referrer URL when a user clicks a link from a stream story about a Like action:
 - **fb_ref** - the ref parameter
 - **fb_source** - the stream type ('home', 'profile', 'search', 'other') in which the click occurred and the story type ('online' or 'multiline'), concatenated with an underscore.

Step 2 - Get Open Graph Tags

Title (?)

Type (?)

Choose a type ▼

URL (?)

Image (?)

Site name (?)

Admin (?)

Get Tags

Open Graph Tags

Open Graph tags are <meta> tags that you add to the <head> of your website to describe the entity your page represents, whether it is a band, restaurant, blog, or something else.

An Open Graph tag looks like this:

```
<meta property="og:tag name" content="tag value"/>
```

If you use Open Graph tags, the following six are required:

- **og:title** - The title of the entity.
- **og:type** - The type of entity. You must select a type from the list of Open Graph types.
- **og:image** - The URL to an image that represents the entity. Images must be at least 50 pixels by 50 pixels. Square images work best, but you are allowed to use images up to three times as wide as they are tall.
- **og:url** - The canonical, permanent URL of the page representing the entity. When you use Open Graph tags, the Like button posts a link to the og:url instead of the URL in the Like button code.
- **og:site_name** - A human-readable name for your site, e.g., "IMDb".
- **fb:admins** or **fb:app_id** - A comma-separated list of either the Facebook IDs of page administrators or a Facebook Platform application ID. At a minimum, include only your own Facebook ID.

More information on Open Graph tags and details on Administering your page can be found on the Open Graph protocol documentation .

FAQ

How do I know when a user clicks a Like button?

If you are using the XFBML version of the button, you can subscribe to the 'edge.create' event through `FB.Event.subscribe`.

When will users have the option to add a comment to the like?

If you are using the XFBML version of the Like button, users will always have the option to add a comment. If you are using the IFrame version of the button, users will have the option to comments if you are using the 'standard' layout with a

width of at least 400 pixels. If users do add a comment, the story published back to Facebook is given more prominence.

What analytics are available about the Like button?

If you visit [facebook.com/insights](https://www.facebook.com/insights) and register your domain, you can see the number of likes on your domain each day and the demographics of who is clicking the Like button.

Can I link the Like button to my Facebook page?

Yes. Simply specify the URL of your Facebook page in the href parameter of the button.

What is the best way to know which Like button on my page generated the traffic?

Add the 'ref' parameter to the plugin (see "Attributes" above).

Examples:

```
<fb:like ref="top_left"></fb:like>
<iframe src="...&ref=top_left"></iframe>
```

When a user clicks a link back to your website, we will pass back both the ref value as a fb_ref parameter and the fb_source parameter in the referrer URL. Example:

```
http://www.facebook.com/l.php?fb_ref=top_left&fb_source=profile_online
```

Aggregated stream stories contain all ref parameters, concatenated with commas.

When does Facebook scrape my page?

Facebook needs to scrape your page to know how to display it around the site.

Facebook scrapes your page every 24 hours to ensure the properties are up to date. The page is also scraped when an admin for the Open Graph page clicks the Like button and when the URL is entered into the Facebook URL Linter. Facebook observes cache headers on your URLs - it will look at "Expires" and "Cache-Control" in order of preference. However, even if you specify a longer time, Facebook will scrape your page every 24 hours.

The user agent of the scraper is: "facebookexternalhit/1.1 (+http://www.facebook.com/externalhit_uatext.php)"

How do I display the Like button in different languages?

If you are using the XFBML version include the language code when you instantiate the library. Replace 'en_US' in this line with the correct locale code:

```
'//connect.facebook.net/en_US/all.js';
```

If you are using the Iframe version include a locale parameter with the proper country code in the src URL. Example:

```
src="http://www.facebook.com/widgets/like.php?locale=fr_FR&..."
```

You may need to adjust the width of the Like button to accommodate different languages.

What makes up the number shown on my Like button?

The number shown is the sum of:

- The number of likes of this URL
- The number of shares of this URL (this includes copy/pasting a link back to Facebook)
- The number of likes and comments on stories on Facebook about this URL
- The number of inbox messages containing this URL as an attachment.

The Like button is replacing ad units or Flash, what should I do?

Provide a channel URL when you init the Javascript library. Details on this can be found [here](#).

By using the Like Button, you agree to the general guidelines and terms found [here](#). You also agree that you will not modify the Like Button in any way beyond the customization options provided on this page.

Getting Started

Core Concepts

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- Social Plugins
- Social Channels
- Login
- Open Graph
- Dialogs

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- Facepile
- Like Box
- Like Button
- Live Stream
- Login Button
- Recommendations Bar
- Recommendations Box
- Registration
- Send Button
- Share Links
- Shared Activity
- Subscribe Button
- fb:name
- fb:profile-pic

Beta Plugins

Migrations

Like Button

Core Concepts > Social Plugins > Like Button

Migration: We recently updated how the Like button social plugin will function with respect to content restrictions, publishing updates to users and integration with the Built-in Like action. Please read the following developer doc about the Like Button Migration.

The Like button lets a user share your content with friends on Facebook. When the user clicks the Like button on your site, a story appears in the user's friends' News Feed with a link back to your website.

When your Web page represents a real-world entity, things like movies, sports teams, celebrities, and restaurants, use the Open Graph protocol to specify information about the entity. If you include Open Graph tags on your Web page, your page becomes equivalent to a Facebook page. This means when a user clicks a Like button on your page, a connection is made between your page and the user. Your page will appear in the "Likes and Interests" section of the user's profile, and you have the ability to publish updates to the user. Your page will show up in same places that Facebook pages show up around the site (e.g. search), and you can target ads to people who like your content. Note: The count on the Like button will include all likes and shares whereas the Like connection on the Graph API includes only the number of likes for the object.

There are two Like button implementations: XFBML and IFrame. The XFBML (also available in HTML5-compliant markup) version is more versatile, but requires use of the JavaScript SDK. The XFBML dynamically re-sizes its height according to whether there are profile pictures to display, gives you the ability (through the Javascript library) to listen for like events so that you know in real time when a user clicks the Like button, and it always gives the user the ability to add an optional comment to the like. If users do add a comment, the story published back to Facebook is given more prominence.

Note: The URLs in the code are protocol relative. This lets the browser load the SDK over the same protocol (HTTP or HTTPS) as the containing page, which will prevent "Insecure Content" warnings. Missing http and https in the code is intentional.

To get started, just use the configurator below to get code to add to your site.

Step 1 - Get Like Button Code

URL to Like (?)

Send Button (XFBML Only) (?)

Send Button

Layout Style (?)

standard

Width (?)

450

Show Faces (?)

Show faces

Verb to display (?)

like

Color Scheme (?)

light

Font (?)

Get Code

Attributes

- `href` - the URL to like. The XFBML version defaults to the current page.
- `send` - specifies whether to include a Send button with the Like button. This only works with the XFBML version.
- `layout` - there are three options.
 - `standard` - displays social text to the right of the button and friends' profile photos below. Minimum width: 225 pixels. Minimum increases by 40px if action is 'recommend' by and increases by 60px if send is 'true'. Default width: 450 pixels. Height: 35 pixels (without photos) or 80 pixels (with photos).
 - `button_count` - displays the total number of likes to the right of the button. Minimum width: 90 pixels. Default width: 90 pixels. Height: 20 pixels.
 - `box_count` - displays the total number of likes above the button. Minimum width: 55 pixels. Default width: 55 pixels. Height: 65 pixels.
- `show_faces` - specifies whether to display profile photos below the button (standard layout only)
- `width` - the width of the Like button.
- `action` - the verb to display on the button. Options: 'like', 'recommend'
- `font` - the font to display in the button. Options: 'arial', 'lucida grande', 'segoe ui', 'tahoma', 'trebuchet ms', 'verdana'
- `colorScheme` - the color scheme for the like button. Options: 'light', 'dark'
- `ref` - a label for tracking referrals; must be less than 50 characters and can contain alphanumeric characters and some punctuation (currently +/-=:._). The `ref` attribute causes two parameters to be added to the referrer URL when a user clicks a link from a stream story about a Like action:
 - `fb_ref` - the `ref` parameter
 - `fb_source` - the stream type ('home', 'profile', 'search', 'ticker', 'tickerdialog' or 'other') in which the click occurred and the story type ('online' or 'multiline'), concatenated with an underscore.

Step 2 - Get Open Graph Tags

Title (?)

Type (?)

URL (?)

Image (?)

Site name (?)

Admin (?)

Open Graph Tags

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If you use Open Graph tags, the following six are required:

- `og:title` - The title of the entity.
- `og:type` - The type of entity. You must select a type from the list of Open Graph types.
- `og:image` - The URL to an image that represents the entity. Images must be at least 50 pixels by 50 pixels (though minimum 200px by 200px is preferred). Square images work best, but you are allowed to use images up to three times as wide as they are tall.
- `og:url` - The canonical, permanent URL of the page representing the entity. When you use Open Graph tags, the Like button posts a link to the `og:url` instead of the URL in the Like button code.
- `og:site_name` - A human-readable name for your site, e.g., "IMDb".
- `fb:admins` or `fb:app_id` - A comma-separated list of either the Facebook IDs of page administrators or a Facebook Platform

application ID. At a minimum, include only your own Facebook ID.

More information on Open Graph tags and details on Administering your page can be found on the Open Graph protocol documentation .

FAQ

How do I know when a user clicks a Like button?

If you are using the XFBML version of the button, you can subscribe to the 'edge.create' event through `FB.Event.subscribe`.

When will users have the option to add a comment to the like?

If you are using the XFBML version of the Like button, users will always have the option to add a comment. If you are using the `Iframe` version of the button, users will have the option to comment if you are using the standard layout. If users do add a comment, the story published back to Facebook is given more prominence.

What analytics are available about the Like button?

If you visit facebook.com/insights and register your domain, you can see the number of likes on your domain each day and the demographics of who is clicking the Like button.

Can I link the Like button to my Facebook page?

Yes. Simply specify the URL of your Facebook page in the `href` parameter of the button.

What is the best way to know which Like button on my page generated the traffic?

Add the 'ref' parameter to the plugin (see "Attributes" above).

Examples:

```
<fb:like ref="top_left"></fb:like>
<iframe src="...&ref=top_left"></iframe>
```

When a user clicks a link back to your website, we will pass back both the ref value as a `fb_ref` parameter and the `fb_source` parameter in the referrer URL. Example:

```
http://www.facebook.com/l.php?fb_ref=top_left&fb_source=profile_online
```

Aggregated stream stories contain all ref parameters, concatenated with commas.

When does Facebook scrape my page?

Facebook needs to scrape your page to know how to display it around the site.

Facebook scrapes your page every 24 hours to ensure the properties are up to date. The page is also scraped when an admin for the Open Graph page clicks the Like button and when the URL is entered into the Facebook URL Linter. Facebook observes cache headers on your URLs - it will look at "Expires" and "Cache-Control" in order of preference. However, even if you specify a longer time, Facebook will scrape your page every 24 hours.

The user agent of the scraper is: "facebookexternalhit/1.1 (+http://www.facebook.com/externalhit_uatext.php)"

How do I display the Like button in different languages?

If you are using the XFBML version include the language code when you instantiate the library. Replace 'en_US' in this line with the correct locale code:

```
'//connect.facebook.net/en_US/all.js';
```

If you are using the `Iframe` version include a locale parameter with the proper country code in the `src` URL. Example:

```
src="http://www.facebook.com/plugins/like.php?locale=fr_FR&..."
```

You may need to adjust the width of the Like button to accommodate different languages.

What makes up the number shown on my Like button?

The number shown is the sum of:

- The number of likes of this URL
- The number of shares of this URL (this includes copy/pasting a link back to Facebook)

- The number of likes and comments on stories on Facebook about this URL
- The number of inbox messages containing this URL as an attachment.

What happened to the old Share button?

We deprecated the Share Button when we launched the Like button, because the Like button improves clickthrough rates by allowing users to connect with one click, and by allowing them to see which of their friends have already connected. For reference, the Share button documentation is still available [here](#).

When I click the Like button, the popup window (or "flyout") doesn't show. Why?

If the Like button is placed near the edge of an HTML element with the `overflow` property set to `hidden`, the flyout may be clipped or completely hidden when the button is clicked. This can be remedied by setting the `overflow` property to a value other than `hidden`, such as `visible`, `scroll`, or `auto`.

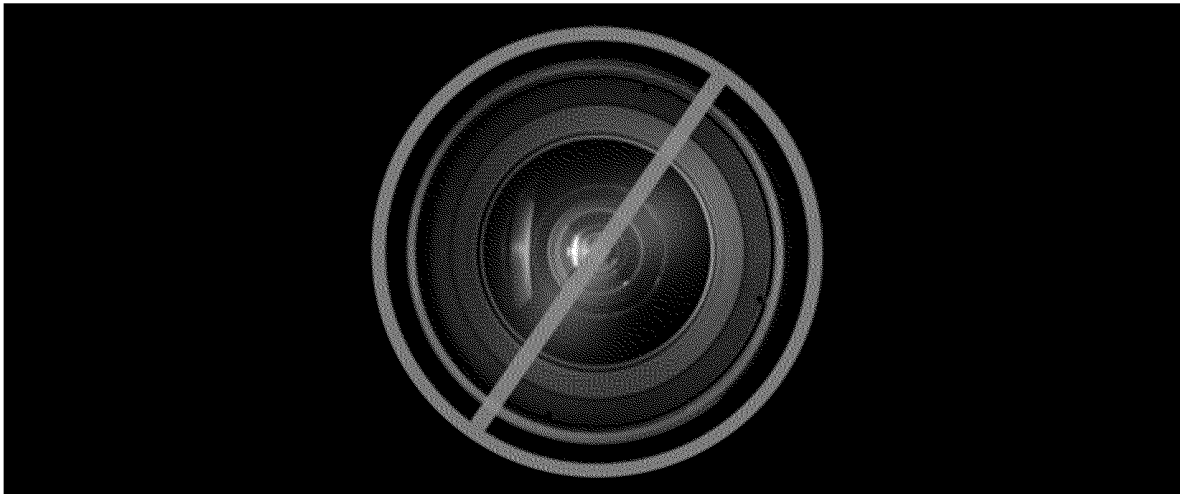
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New Facebook Bug Scans Messages, Increases 'Likes': What You Need To Know

The
Huffington
Post | By
Britney
Fitzgerald



Posted: 10/04/2012 5:17 pm
EDT | Updated: 10/04/2012
5:17 pm EDT



59

Like

27

1

15

Tweet

LinkedIn

Comment

13

Share

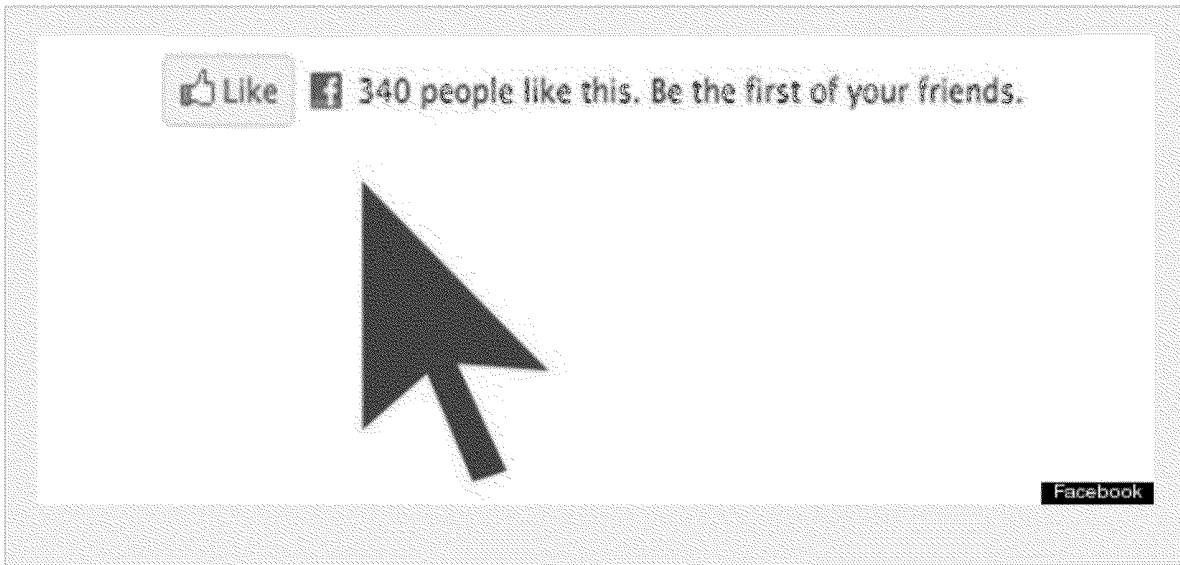
bug -- but it's not quite the privacy breach that's been previously reported by multiple news sources. Here's what's going on.



The social network has been scanning private messages for links to third-party websites that use Facebook's "Like" button, a social plug-in that lets users interact with a brand's products, news articles and other types of content on webpages (without directly visiting the Facebook Page for that brand). When a user clicks the "Like" button, the number of "Likes," displayed at the right of the button, increases by one. But Likes also increase when a Facebook user sends another user a message containing a URL to a page featuring the "Like" button; this should only up the "Like" count by one, but it's actually inflating the count by two.

"We did recently find a bug with our social plug-ins where at times the count for the Share or Like goes up by two, and we are working to solve the issue now," a Facebook rep said in an email to The Huffington Post. "To be clear, this only affects social plug-ins off of Facebook and is not related to Facebook Page likes. This bug does not impact the user experience with messages or what appears on their timelines."

Again, to clarify some misconceptions about this bug, Facebook says it's inflating social plug-in numbers only...



...not the "Like" count on official Facebook Pages.



This story began when The Wall Street Journal reported on a video that shows how Facebook is "scanning" messages sent between friends and increasing the number of Likes for companies discussed in private conversations.

"The video, which was posted this week on Hacker News, showed a person who sent links in Facebook messages in order to inflate the number of Likes a page had received," the WSJ reads.

While Facebook is (and has been) scanning messages and upping "Likes" based on what it finds, it insists that this is nothing new. "There's one issue going on where counts are jumping by two, and that is a bug," the Facebook rep said. "The actual shares increasing, the actual shares going up when things are sent in messages -- that is standard behavior and you can find that in our documentation "

to share the URL for this article through a Facebook message, Facebook can check out what you're sending and adjust the "Likes" at the top of this page -- whether you clicked "Like" on it or not.

To reiterate, Facebook says that no Facebook Pages are automatically being Liked or added to your profile's Timeline or Like list.

Here is Facebook's statement regarding the privacy of users:

Absolutely no private information has been exposed. Each time a person shares a URL to Facebook, including through messages, the number of shares displayed on the social plug-in for that website increases. Our systems parse the URL being shared in order to render the appropriate preview, and to also ensure that the message is not spam. These counts do not affect the privacy settings of content, and URLs shared through private messages are not attributed publicly with user profiles.

What do you think about Facebook's liking system? Sound off in the comments section or tweet [@HuffPostTech](#). Then check out the slideshow below of what you're probably oversharing on Facebook, or read up on the "Ten Commandments" of Facebook ([here](#)).



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- Investor Relations
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November 21, 2012

Proposed Updates to our Governing Documents

by Elliot Schrage, Vice President, Communications, Public Policy and Marketing/p>

Today we are proposing some updates to two documents which govern our site: our Data Use Policy, which explains how we collect and use data when people use Facebook, and our Statement of Rights and Responsibilities (SRR), which explains the terms governing the use of our services. These updates provide more detailed information about our practices, reflect changes to our products, and improve how we conduct our site governance process.

Improving the Site Governance Process: Our goal has always been to find ways to effectively engage your views when we propose changes to our governing policies. That commitment guided our decision in 2009 to launch an unprecedented process for user feedback. When we held our second global site governance vote in June, we indicated that we would review our site governance process in light of the growth of both our community – to over one billion users – and our company – which is now publicly traded and accountable to regulators around the world. Our intention was to make sure the process still served its original purpose.

As a result of this review, we are proposing to restructure

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press@fb.com

Categories

- Company News
- Events
- News Feed FYI
- Product News
- Q&A with Mark
- Trends

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- 2010
- 2009
- 2008
- 2007
- 2006

our site governance process. We deeply value the feedback we receive from you during our comment period. In the past, your substantive feedback has led to changes to the proposals we made. However, we found that the voting mechanism, which is triggered by a specific number of comments, actually resulted in a system that incentivized the quantity of comments over their quality. Therefore, we're proposing to end the voting component of the process in favor of a system that leads to more meaningful feedback and engagement.

We will continue to post significant changes to our Data Use Policy and SRR and provide a seven-day period for review and comment. As always, we will carefully consider your feedback before adopting any changes. We will also provide additional notification mechanisms, including email, for informing you of those changes. In the coming weeks, we will roll out new ways of responding to your questions and comments about Facebook. These include:

- Ask the Chief Privacy Officer. We'll be launching a new feature on our Facebook and Privacy Page to let you submit questions about privacy to our Chief Privacy Officer of Policy, Erin Egan.
- Facebook Live Events. Erin Egan will host webcasts on a regular basis to address your comments and questions about privacy, safety and security.

Other Proposed Updates: The Data Use Policy also includes updates that provide more descriptions about our practices and reflect changes to our products, including:

- New tools for managing your Facebook Messages – replacing the “Who can send you Facebook messages” setting with new filters for managing incoming messages.
- Changes to how we refer to certain products, like instant personalization.
- Reminders about what's visible to other people on

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January 28, 2015

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July 21, 2014

Save what you discover on Facebook to explore later.

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Facebook. For instance, when you hide things from your timeline, those posts are visible elsewhere, like in news feed, on other people’s timelines, or in search results.

- Tips on managing your timeline. For example, you can use tools on your timeline or activity log to delete your own posts, or you can ask someone else to delete a post in which you’re tagged.

We encourage you to read through all the proposed changes under the “Documents” tab of our Site Governance Page. You have a chance to review and comment on these changes before we adopt them. Please leave any comments by 9:00 AM PST on November 28, 2012.

Once the comment period is over, we will be hosting a Facebook Live where Erin Egan, our Chief Privacy Officer of Policy, will respond to your comments live. Please like or follow the Site Governance Page for more details.

Thank you again for continuing to be a part of this process and helping us shape the Facebook community.

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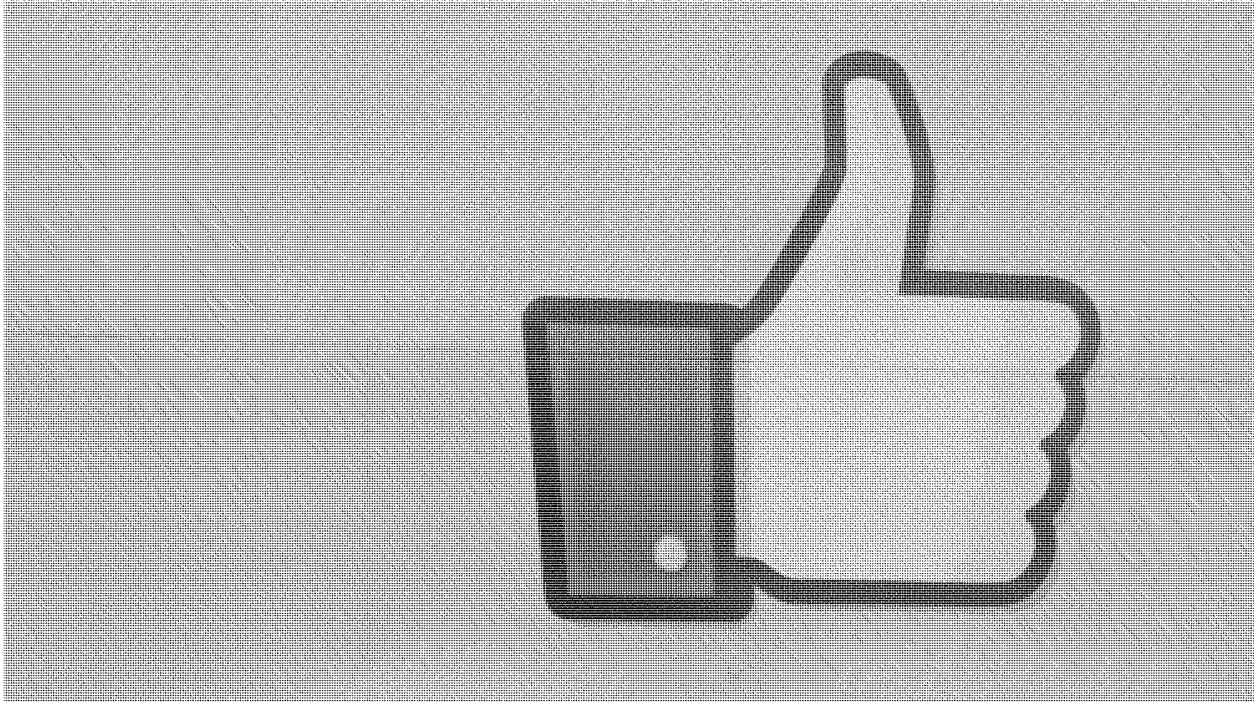
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Facebook explains

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Likes through the inbox

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- The umEer Rf likes Rf this URL
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- The umEer Rf likes D d cRmme ts R stRries R FDceERRk DERut this URL
- The umEer Rf i ERj messDges cR tDi i g this URL Ds D DttDchme t.

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Rescue Messages From Facebook's De Facto Spam Filter

By Phil Villarreal December 15, 2011



(dbldbl)

When

Facebook thinks you don't particularly want to read a message that's sent your way, it redirects it into a folder dubbed "other." Some users forget to check the box regularly, and others may not even be aware that they have it.

[Redhead Writing](#) checks in with a primer on how to retrieve messages from Facebook's version of purgatory.

First, open a message in the "other" folder you want to

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rescue, then open the “actions” menu in the upper right corner and scroll down to “move to messages.”

I found a weeks-old interview request in my “other” folder, and other users report finding notifications of prizes won and job solicitations. Check your “other” messages regularly lest senders think you’re ignoring them.

[How to rescue messages from Facebook’s “other” inbox](#)
[Redhead Writing]

Tell a friend:



Tagged With: [email](#), [social networking](#), [return to sender](#), [facebook messages](#)

[Surveillance Footage To Disprove 1-Star Yelp Review](#)

DON'T PANIC!

We are currently testing a new commenting system. Want to help? Request an invite.

[LOGIN](#)

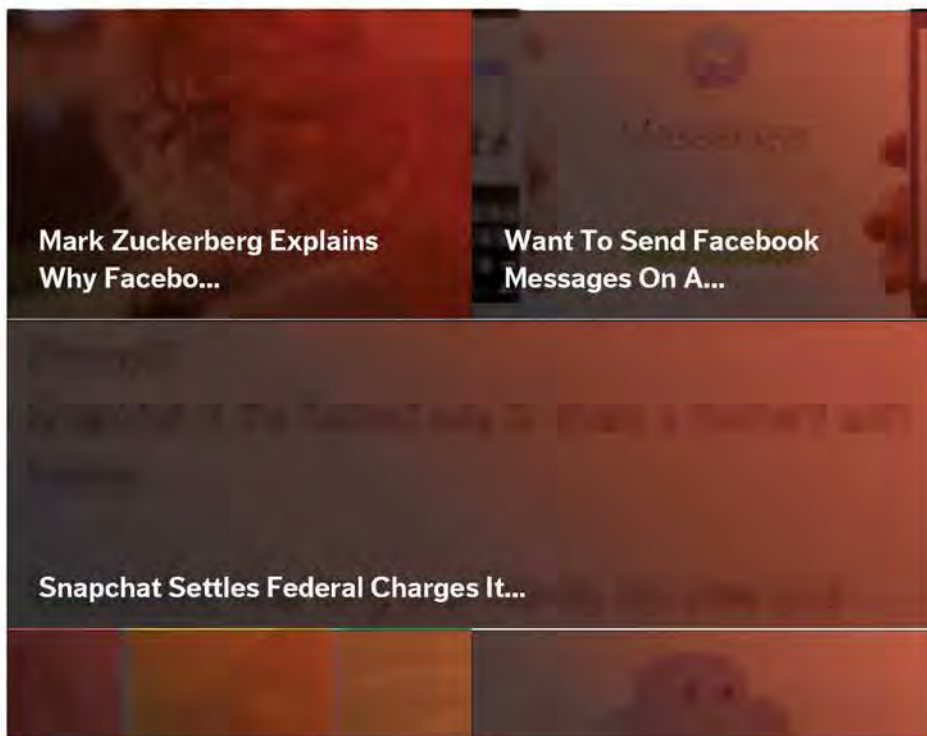
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See the Messages that Matter

By Matt Hicks on Friday, February 11, 2011 at 10:06am

UPDATE on Friday, February 11, 2011: We've begun expanding the rollout of Messages to everyone on Facebook. This will happen gradually over the next few weeks. [Learn more about using Messages in this tour.](#)

Originally Published on Monday, November 15, 2010:

Imagine the kind of family you might see in a modern American sitcom: loving parents trying to maintain a family unit with a teenager engrossed in text messaging, a college-aged child who is always chatting online, and various wacky relatives who spend their days sending "funny" emails to the family.

This is an admittedly exaggerated stereotype but one we see every day in movies, TV and advertising because most of us can relate to parts of it. Between mobile devices and the Internet we can be more connected today than ever before, but there is still a feeling that the technology can also act as a barrier between us. When I want to share with someone it should be as simple as deciding who I want to share with and what I want to say. It should feel more like a human conversation.

Seamless Messaging

Today I'm excited to announce the next evolution of Messages. You decide how you want to talk to your friends: via SMS, chat, email or Messages. They will receive your message through whatever medium or device is convenient for them, and you can both have a conversation in real time. You shouldn't have to remember who prefers IM over email or worry about which technology to use. Simply choose their name and type a message.

We are also providing an @facebook.com email address to every person on Facebook who wants one. Now people can share with friends over email, whether they're on Facebook or not. To be clear, Messages is not email. There are no subject lines, no cc, no bcc, and you can send a message by hitting the Enter key. We modeled it more closely to chat and reduced the number of things you need to do to send a message. We wanted to make this more like a conversation.

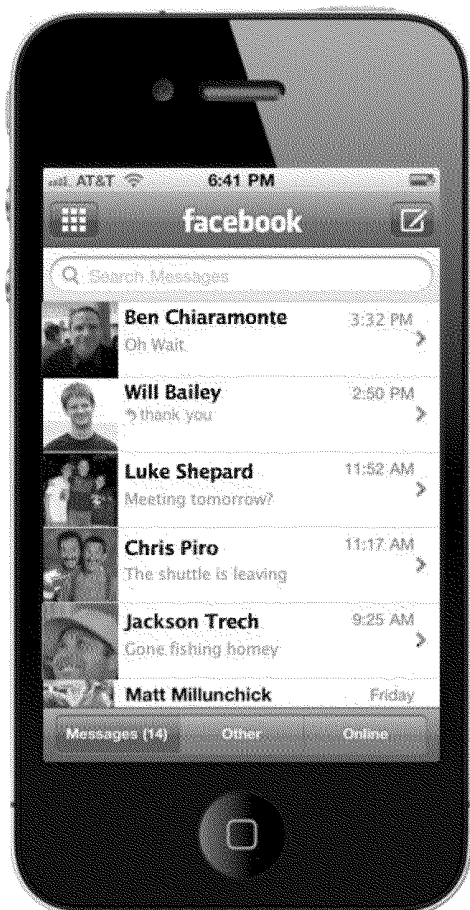


Notes by Facebook

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Conversation History

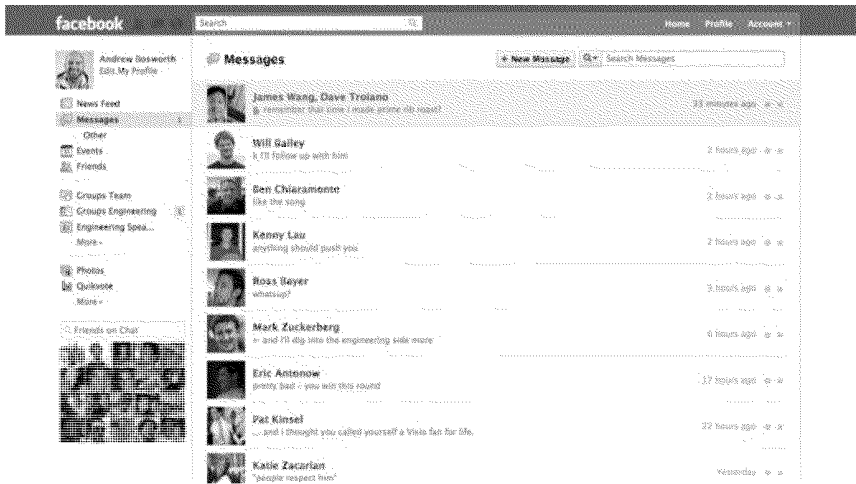
Messages is built for communicating with your friends, so it made sense to organize primarily around people. All of your messages with someone will be together in one place, whether they are sent over chat, email or SMS. You can see everything you've discussed with each friend as a single conversation.

I'm intensely jealous of the next generation who will have something like Facebook for their whole lives. They will have the conversational history with the people in their lives all the way back to the beginning: From "hey nice to meet you" to "do you want to get coffee sometime" to "our kids have soccer practice at 6 pm tonight." That's a really cool idea.

The Social Inbox

It seems wrong that an email message from your best friend gets sandwiched between a bill and a bank statement. It's not that those other messages aren't important, but one of them is more meaningful. With new Messages, your Inbox will only contain messages from your friends and their friends. All other messages will go into an Other folder where you can look at them separately.

If someone you know isn't on Facebook, that person's email will initially go into the Other folder. You can easily move that conversation into the Inbox, and all the future conversations with that friend will show up there.



You can also change your account settings to be even more limited and bounce any emails that aren't exclusively from friends.

This kind of message control is pretty unprecedented and people have been wanting to do this with email (and phone calls) for a long time. Messages reverses the approach to preventing unwanted contact. Instead of having to worry about your email address getting out, you're now in control of who can actually reach you.

The Next Generation

Relatively soon, we'll probably all stop using arbitrary ten digit numbers and bizarre sequences of characters to contact each other. We will just select friends by name and be able to share with them instantly. We aren't there yet, but the changes today are a small first step.

We'll be launching Messages and email addresses gradually and making it available to everyone over the next few months. Once you receive an invitation, you'll be able to get started and also invite your friends to join you.

To learn more, take a tour of Messages. Please share your thoughts and feedback with us here.

Joel Seligstein, a Facebook engineer, is relieved he no longer needs to keep track of which friends like texts vs. email vs. chat.

Like · Comment · Share

, Amit Chaudhary and 11,592 others like this.

35 shares

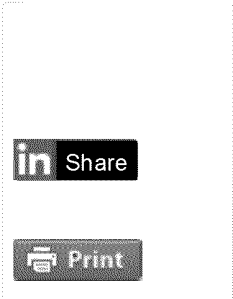
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English (US)

May 25, 2011

The Facebook Like Button, Dissected

Posted by [Jessica Lee](#) on 05/25/2011 @ 9:20 am | [Comments \(34\)](#)



The Facebook Like button. Not since the invention of the word “like” has “like” had so much impact on the human psyche.



Forget friendships — gaining approval by people online via the Like

button is the new popularity gauge, leaving those with less likes than others feeling a bit inferior and even lost.

And since Facebook, Bing and trends tell us we all need to be liked, the only cure for our complex is well, more likes.

So, let’s take a look at this crazy Like button phenomenon, its various uses and why you need to be liked to survive in the age of online marketing.

Two Variations of a Like Button

Aside from the like that people strive for on their Fan pages (more on the [value of a Facebook fan here](#)), two variations of the [Like button](#) exist. The first we’re going to talk about is the Like button that integrates with a website and allows Facebook users to endorse a Web page’s content or an object such as an item for sale, a person, a restaurant and more.

The following image shows the Like button integrated on the BruceClay.com home page:



With this button, you can also use what's called Facebook's Open Graph Protocol to specify what type of content the person is liking, if it represents real-world objects (movies, celebrities and more, versus just content). [Facebook gives a list of categories](#) that you can specify.

Facebook notes that the number of likes shown on any given Web page or object is the sum of:

- The number of likes of this URL
- The number of shares of this URL (this includes copy/pasting a link back to Facebook)
- The number of likes and comments on stories on Facebook about this URL
- The number of inbox messages containing this URL as an attachment

When someone likes something on your Web page, the following happens:

1. The content is published in a person's news feed on Facebook, and therefore, in the news feeds of people that person is connected to. It shows the user liked the page and links back to the original source.
2. For items a person can like that represent real-world objects, once someone endorses it, it follows the same protocol as above, but also treats this liked item as a Facebook page. What that means is the Web page now shows up in the liker's (if that's even a word) interests and activities on their Facebook profile. Companies can use this data to target ads to these people on Facebook, if they wish. The item will also be searchable within the Facebook search bar feature.

The other variation of the Like button is the act of liking within Facebook. The Like button within Facebook allows content to spread even more (including the items that show up in news feeds from your website that someone endorsed).

The reason why more likes within a Facebook post are significant is EdgeRank. EdgeRank is Facebook's algorithm for serving up "top news" in a person's news feed.

There are two views for a person's news feed in Facebook, found in the upper right-hand corner of the feed): "top news," based on the EdgeRank algorithm applied to updates from your network and "most recent," showing the most recent updates from people within your network.



Facebook tell us that the default landing tab is Top News if you haven't logged in for a while or set it to "most recent." Top news is the status updates that have received the most interaction based on criteria in EdgeRank. But before we dive into the significance of this, let's discuss how EdgeRank works.

The Like Button and EdgeRank

One TechCrunch article gives a good analysis of how EdgeRank operates. Keep in mind that EdgeRank is similar to Google's algorithm in that the factors are not entirely divulged.

What we do know is that in EdgeRank, a status update is simply called an "Object" by Facebook until someone interacts with it via a comment or like, at which point it's part of the algorithm and is now called an "Edge."

However, the TechCrunch post points out that the action of creating an Object, say a status update, automatically turns it into an Edge, which is how it gets in peoples' news feeds in the first place.

So that said, an item outside of the Facebook realm, whether it's a Web page, article, person, place or thing online, can be thrown into the Facebook community and Top News algorithm for more exposure just by being liked by someone.

For every item dubbed an Edge, according to the report from TechCrunch, there is an algorithm that is applied to it that consists of affinity, weight and relevancy:

- First, there's an affinity score between the viewing user and the item's creator — if you send your friend a lot of Facebook messages and check their profile often, then you'll have a higher affinity score for that user than you would, say, an old acquaintance you haven't spoken to in years.
- Second, there's a weight given to each type of Edge. A comment probably has more importance than a Like, for example.
- And finally there's the most obvious factor — time. The older an Edge is, the less important it becomes.

The Like and Optimizing for EdgeRank

I stumbled upon a [white paper by Buddy Media](#) via Search Engine Land during my research. The paper shares tips based on research on what factors go into the EdgeRank algorithm.

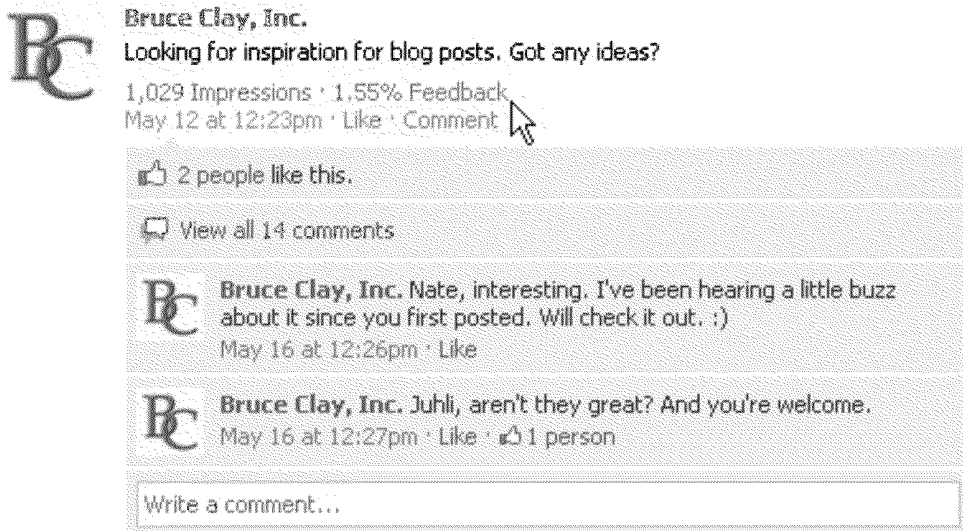
According to Buddy Media's research, each type of Edge carries a different weight in the algorithm depending on what it is. For example, the report states that Facebook assigns a higher weight to images than other types of content such as links.

And some factors increase the Edge's ability to rank when combined, depending on the combination. As we saw outlined in the TechCrunch post, the three factors are affinity, weight and relevancy. And in the Buddy Media report, it states:

An image with dozens of comments will have a higher affinity score than a status update with a few 'Likes'

The report also points out that video carries a weight score that alone can influence the EdgeRank. So what does the Like button have to do with this? The Like is a part of the EdgeRank algorithm that can put your items in the Top News feed.

Plus, likes factor into other metrics such as the percent of feedback on a status update in your [Facebook Insights](#). The feedback percentage is calculated by taking the total number of comments plus likes, divided by the total number of impressions (the raw number of times the update is shown to users; this is different than post views, which can be found by going to Insights > Interactions).



In addition, likes typically beget more likes. According to [a presentation by Justin Osofsky](#) at Facebook in 2010, the type of people who like items visit more URLs from Facebook and have more friends. And voila! More exposure online.

Optimizing the Like Button

Back to the Like buttons you plug into your site. Like buttons have the ability to include Meta data, just like a Web page. I won't get into the nitty gritty here, because Greg Finn put together a step by step post on [how to optimize Facebook's Like functionality](#) and sums it up well.

But, it's worth a mention that if given the option to optimize and test variations of the way information is presented to users in their Facebook news feeds when something is liked online, you should probably take it.

Optimizing the Like function on your Web pages or objects includes action items like customizing how the title of the liked item will be presented; what type of object it is, such as a celebrity or restaurant (I mentioned the supported objects earlier in the Open Graph Protocol section); what image will be shown in Facebook for that item; and much more.

The Like Button and Search Engine Rankings

Google and Bing have two very different approaches to search results as it relates to the Facebook like button. Both Google and Bing have said that social cues factor into search. But just last week, [Bing announced Facebook likes](#) will actually affect the results and rankings when signed into Facebook.

In fact, Bing said:

Bing delivers a more personalized search experience by using the interests shown by your friends. Now you won't miss potentially interesting information that may have been buried deep within the search results. Bing will surface results, which may typically have been on page three or four, higher in its results based on stuff your friends have liked. And, how often do you go beyond page one of the results?

And, it's not just friends in your Facebook community Bing is taking cues from. Bing takes likes to the next level by including results with liked items from people who aren't in your direct network of friends.

Bing shows well-liked content, including trending topics, articles and Facebook fan pages, from sites across the web, to help you dig in and quickly find exactly what you're looking for. Looking for a great recipe? Now when you search for a recipe site, you'll see what recipes people have liked on that site, allowing you to cut through the clutter and find the perfect recipe for dinner.

Here's Bing's announcement on video:

On the other hand, while Google's algorithm takes into account social cues and serves data from places like Twitter in its results, the Facebook like in particular has not been confirmed as part of the algorithm.

Some believe that the Like doesn't factor into Google rankings for many reasons; one reason being a Google employee weighing in on the matter in a Google Webmaster Help thread, exposed in [this post by Barry Schwartz at Search Engine Roundtable](#).

I suspect Google is too busy working on its own social search with the likes of Google +1 to make rival Facebook a factor in its algo – but who knows.

The Like Button and ROI

Search Engine Land recently featured a post on how [Facebook says likes and social plugins help websites](#). The numbers, from Facebook, look pretty impressive; their studies show that implementing the Like button increased revenue, traffic and time on site for several of its users.

And aside from the hard numbers (I mean, how do you top the Like button directly generating revenue?), maximum online exposure, brand engagement and potential rankings in the search engines – all the benefits we've spoke about today – are an advantage of implementing the Like button.

The Like Button Controversy

If all of this sounds like rainbows and gumdrops, here's the Debbie Downer part. The opponents to Facebook's Like button have a few things to say:

- Privacy issues: All the information a person has ever liked is stored in one place: Facebook. This leaves a person's "personal" information exposed to whomever would like to view it – including potential advertisers and other parties that may use it to their benefit.
- Site speed: Some say the Facebook code used to implement the Like button can slow down your site's load time, and as many of us know, site speed is a factor in Google's algorithm.
- Dictatorship: K, I don't know if that's the right word, but it's the closest I could come to describing the concept that you can't reap the benefits that the Like button has to offer unless you participate in Facebook. Shouldn't all businesses be able to benefit from the same rewards of social search and endorsement buttons online without having to be a part of some exclusive club?

And there you have it; the Like button in all it's glory. We'd love to hear what you have to say about it – the good, the bad and the ugly.

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The Formula Behind The Facebook "Like" Number

Greg Finn on October 17, 2012 at 11:40 am

Facebook's private messages spawned [quite an uproar last week](#) when it was uncovered that messages were not only being crawled, but also used towards the overall "Like data" of a page. One of the important lessons that marketers learned from the situation was that the "Like count" wasn't really about likes, rather other interactions (and messaging) that occurs on Facebook. This led us to ask the question — Just what does count towards the Facebook Like data?

According to the official Facebook Developers page, four different variables make up the Like number:

The number shown is the sum of:

- The number of likes of this URL
- The number of shares of this URL (this includes copy/pasting a link back to Facebook)
- The number of likes and comments on stories on Facebook about this URL
- The number of inbox messages containing this URL as an attachment.

Upon further review, we've uncovered more variables that affect "Like data" and will clarify the exact formula. We've reached out to a Facebook spokesperson and have confirmed that the following elements all are counted into the overall Facebook Like data.

Number of Page Likes

Where this occurs:

Directly on a web page with the Facebook Like social plugin



How the Like data is influenced:

A user browsing a web page simply clicks on the "Like" button and an additional vote is added to the Like data count.

Number of Page Shares

Where this occurs:

On a web page, using the "send button on the Facebook Social Plugin



How the Like data is influenced:

The Facebook like button social plugin can be configured to show both the "like" and "send" buttons. On pages that have both buttons configures, a user that simply "sends" the post (using the like button) will add 1 to the overall Like data.

Number of Facebook Posts

Where this occurs:

On Facebook



How the Like data is influenced:

A user creates a new post and includes a link in the post. Each post is counted in the overall Like data.

Number of Facebook Post Likes

Where this occurs:

On Facebook, on an existing post



How the Like data is influenced:

A user viewing their news feed sees post with an interesting link and likes the actual Facebook post.

Number of Post Shares

Where this occurs:

On Facebook, from within the News Feed



How the Like data is influenced:

A user finds a shared link in their News Feed and shares with their audience. Each of these shares is counted in the overall Like data.

Number of Post Comments

Where this occurs:

On Facebook Posts



How the Like data is influenced:

A user sees a shared link in their News Feed and comments on it. The overall like data is positively

influenced when the comment is added.

Number of Post Comments with Links

Where this occurs:

On Facebook Posts that do not have a link in the original post



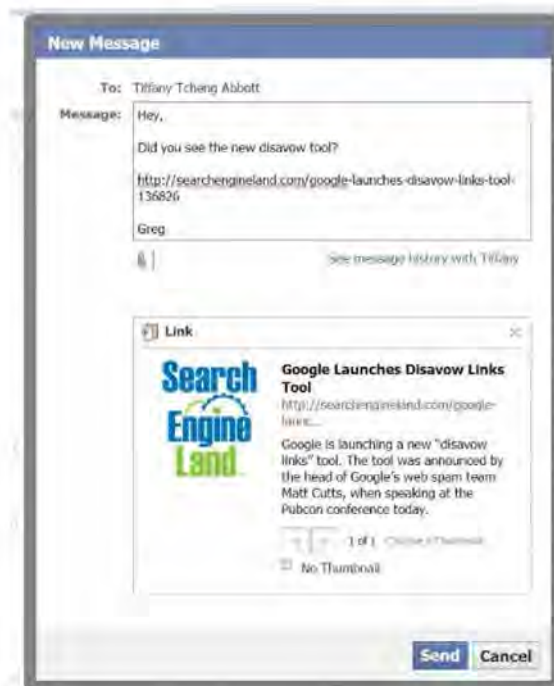
How the Like data is influenced:

A user sees a friend's post that does not have originally have a link included. The user comments on their friend's post with a link included in the comment. The Like Data for the link within the comment is then positively influenced.

Number of Messages

Where this occurs:

Within Facebook chat



How the Like data is influenced:

If a user copies a link to a direct message and sends to another user, like data is increased for the URL being sent. This number is only increased on a per-user basis; user's can't continually send messages to inflate counts.

Number of URL Comments (if using Facebook comments)

Where this occurs:

On a URL that is using the Facebook comments plugin



How the Like data is influenced:

A user is reading an article on a specific website that has the Facebook comments plugin installed. When the comment is made on the page, the like data increases.

So, yes, the Facebook Like button absolutely pulls in much more data than just those simply clicking a button on the page. With the recent [overall reach decreases](#) the value of Facebook engagement couldn't be higher. An engaged user (whether they are in favor of a topic or not) is added to the overall "Like data" of a link, so make sure to get [folks talking about you](#) if trying to boost those Like numbers.



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ABOUT THE AUTHOR



Greg Finn



Greg Finn is the Director of Marketing for Cypress North, a company that provides world-class social media and search marketing services and web & application development. He has been in the Internet marketing industry for 10+ years and specializes in Digital Marketing. You can also find Greg on Twitter (@gregfinn) or LinkedIn.

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AJ Kohn · 2 years ago

I'm really happy to see this covered in greater depth since most don't understand the type of Like inflation that's going on.

I did a small test about two years ago to show how this worked: <http://www.blindfiveyearold.co...>

And if you're really interested in the breakdown you can use the Current Page bookmarklet I created as I was testing all this stuff out: <http://www.blindfiveyearold.co...>

What's disconcerting is that people still want to compare Likes to Tweets or +1s on an equal level and that's just patently not true in the slightest. To me this is really walking the edge of social proof manipulation.

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jsncruz · 2 years ago

The question for a lot of brands and companies still remain though: Are Facebook Likes enough of an engagement metric for them to believe in and therefore act upon, or is there more to it?

 Share ▾



donthe · 2 years ago

Considering how thorough Facebook is about counting their "Likes", it's amazing to me how Facebook has never addressed the problem of transferring the "Like count" when moving a webpage from an old URL to a new URL. Even with a 301 permanent redirect Like Counts will not transfer, same problem with using short URL's

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Muzammil · 2 years ago

But I need to know how this data influences the SEO ranking of a page or website. Please can you explain.

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BUSINESS INSIDER

The Truth About The Latest Facebook Privacy Scare Everyone Is Talking About



NICHOLAS CARLSON

OCT. 4, 2012, 3:44 PM

When a [Facebook](#) user sends a link to a Web page via a private Facebook message, that Web page will get an extra "Like," if it is a Facebook-"Like"-able Web page.

The [Wall Street Journal](#), [Forbes](#), and [Gizmodo](#) are portraying this as a privacy invasion for Facebook users.

It is not.

There is a simple reason why.

That "Like" is only added to the page's counter. There is no way to tell who added the like, however.

If you do not reveal something said or shared in private to others, you are not invading their privacy.

Here is a demonstration.

I sent this private message to my coworker, Alyson Shontell:



In it, I share a link to the [Grantland.com](http://www.facebook.com/Grantland) Facebook page. This message gave Grantland another "like."

However, Grantland was not added to my list of "likes" – viewable to friends.

See for yourself:

 Pine Mountain Lake
Horses · Airport · Restaurant
August 9th, 11:46pm
260 people like this
Emily Long likes this

 The Open
Championship
Company
July 16th, 8:51am
42,543 people like this

 Singularity & Co.
Book Store
July 11th, 9:02am
787 people like this
Noah Robischon and Kaila Hale-Stern like this

 Civilization Revolution
Games/Toys
June 5th, 1:32pm
17,210 people like this

 Infinity Blade II
Games/Toys
June 5th, 1:31pm
6,404 people like this

 Game of Thrones
TV Show
June 5th, 1:31pm
4,180,991 people like this
Matthew W. Caldecutt and 13 other friends like this

 Freedom
Book
June 5th, 1:31pm
39,708 people like this
Benjamin Pollara likes this

 Dubliners
Book
June 5th, 1:31pm
25,173 people like this
Craig Carlson likes this

 Weezer
Musician/Band
June 5th, 1:30pm
2,812,318 people like this
James Del and 9 other friends like this

 Radiohead
Musician/Band
June 5th, 1:30pm
9,031,437 people like this
Patrick Thomas and 30 other friends like this

 Beast
Public Figure
May 18th, 12:41pm
1,018,765 people like this
Nick O'Neill and 8 other friends like this

 Hotel 1898
Hotel · Spa · Bar
March 19th, 10:46am
3,289 people like this

 Airtime
Computers/Internet
February 24th, 3:06pm
18,326 people like this
Galit Adler and 6 other friends like this

 Van Cortlandt Park
Golf Course

There is no reason for anyone to be upset about Facebook doing this. For one, email providers like Gmail scan user emails all the time. Gmail does it to show relevant ads, fight spam, and slow down viruses.

For another, services across the Internet use whatever method they can to keep track of the popularity of Webpages. Google has a list of trends. The New York Times keeps track of most emailed stories:

MOST E-MAILED	RECOMMENDED FOR YOU
1. CRITIC'S NOTEBOOK Wright Masterwork Is Seen in a New Light: A Fight for Its Life	
2. MARK BITTMAN That Flawed Stanford Study	
3. PREOCCUPATIONS Follow a Career Passion? Let It Follow You	
4. The Woman Who Took the Fall for JPMorgan Chase	
5. Meningitis Cases Are Linked to Steroid Injections in Spine	
6. Hollywood Ending, With Meatballs	
7. Bizarre Species of Miniature Dinosaur Identified	
8. NICHOLAS D. KRISTOF Why Let the Rich Hoard All the Toys?	
9. EDITORIAL An Unhelpful Debate	
10. THOMAS L. FRIEDMAN China Needs Its Own Dream	

The truth is, there is nothing to see here. Move along.

UPDATE: Facebook got back to us with the following statement, which confirms my theory:

"Absolutely no private information has been exposed. Each time a person shares a URL to Facebook, including through messages, the number of shares displayed on the social plugin for that website increases. Our systems parse the URL being shared in order to render the appropriate preview, and to also ensure that the message is not spam. These counts do not affect the privacy settings of content, and URLs shared through private messages are not attributed publicly with user profiles.

We did recently find a bug with our social plugins where at times the count for the Share or Like goes up by two, and we are working on fix to solve the issue now. To be clear, this only affects social plugins off of Facebook and is not related to Facebook Page likes. This bug does not impact the user experience with messages or what appears on their timelines."

From our developer documentation
at: <https://developers.facebook.com/docs/reference/plugins/like/>

What makes up the number shown on my Like button?

The number shown is the sum of:

- The number of likes of this URL
- The number of shares of this URL (this includes copy/pasting a link back to Facebook)
- The number of likes and comments on stories on Facebook about this URL
- The number of inbox messages containing this URL as an attachment.

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