

3/27/2015

Facebook: We're Not Liking Brand Pages For You

Likes is derived by the number of likes in the URL and the number of shares. This includes copying and pasting a link back to Facebook. It also includes the number of inbox messages containing the URL as an attachment.

Image courtesy of Flickr, [GOIABA \(Goiabarea\)](#)

TOPICS: [FACEBOOK](#), [PRIVACY](#), [SECURITY](#), [SOCIAL MEDIA](#)

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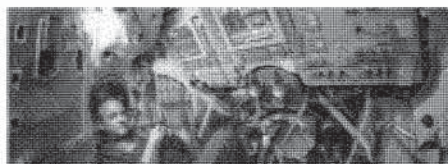
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## What's Hot



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['This is about to get real': NASA twin astronaut prepares for a year in space](#)

Andrew Freedman

NASA astronaut Scott Kelly is set to launch on a yearlong mission to the International Space Station on Friday that will also involve his twin brother, Mark.

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[Mom proudly shares her stretch marks in viral bikini photo](#)

Laura Vitto

The photo of Hollis smiling wide while dressed in a bikini, and its corresponding caption, has been Liked more than 400,000 times, and shared more than 50,000 times.

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<http://mashable.com/2012/10/04/facebook-brand-like/>

3/5

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Woman gets Instagram to accept periods are normal after her photo is removed twice

Andrea Romano

Periods are normal for women, whether Instagram wants to see it or not.

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[Entertainment](#)

Meerkat and Periscope for concerts? Katy Perry says 'embrace the future'

Brian Anthony Hernandez

"You've got to embrace the future or you're left behind," Katy Perry told 'Mashable.' "I think that, when you see a phone, that is like the new applause."

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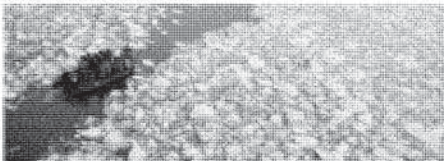
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Hiker's incredible transformation captured in selfies over 2,600 mile journey

Max Knoblauch

The change in the landscape, scenery and Davidhazy's weight and facial hair are incredible to watch.

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[World](#)

West Antarctic ice losses have surged by 70% in the last decade

Andrew Freedman

Antarctic ice melt is proceeding faster than previously known, particularly the thinning of ice shelves that hold back a ticking sea level rise time bomb.

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High-Tech Bridge > Media Center > News and Press Releases > Social networks: can robots violate user privacy?

## Social networks: can robots violate user privacy?

August 27, 2013

Recent news in the international media has revealed numerous Internet privacy concerns that definitely deserve attention and further investigation. This is why we, at High-Tech Bridge, decided to conduct a simple technical experiment to verify how the 50 largest social networks, web services and free emails systems respect - or indeed abuse - the privacy of their users. The experiment and its results can be reproduced by anyone, as we tried to be as neutral and objective as possible.

The nature of the experiment was quite simple: we deployed a dedicated web server and created secret and totally unpredictable URLs on it for each tested service, something similar to:

`http://www.our-domain-for-test.com/secret/18354832319/sqheAsZaLq/`

Then we used various legitimate functionalities (detailed in the table below) of the tested services to transmit the secret URLs, carefully monitoring our web server logs for all incoming HTTP requests (to see which services followed the secret link that was not supposed to be known and accessed by anyone).

During the 10 days of our experiment, we trapped only six services out of the 50. However, among those six were four of the biggest and most used social networks: Facebook, Twitter, Google+ and Formspring. The remaining two were URL shortening services: bit.ly and goo.gl.

If for the URL shortening services such behavior may be part of their legitimate functionalities, it should not also be the case with social networks such as Facebook and Twitter. Taking into consideration that some of the services may have legitimate robots (e.g. to verify and block spam links) crawling every user-transmitted link automatically, we also created a robots.txt file on our web server that restricted bots accessing the server and its content. Only Twitter respected this restriction, all other social networks simply ignored it, accessing the secret URL.

Below is our table detailing this experiment's testing results:

Service Name	Functionality Tested	Potential Spying
AOL Mail	Sent email with a link	NO
AOL Web Search	Text search of a link	NO
Ask.com	Text search of a link	NO
Ask.com	Creating new question with a link	NO
Bing	Text search of a link	NO
bit.ly	Shorting the link	YES
Facebook	Private message with a link	YES
Formspring	Creating new question to user with a link	YES
Foursquare	Text search of a link	NO
goo.gl	Shorting the link	YES
Google Calendar	Creating event with a link	NO
Google Disk	Save text with a link on Google disk	NO
Google Docs	Creating document with a link	NO
Google GMail	Sent email with a link	NO
Google Groups	Creating message in a private group	NO
Google Search	Text search of a link	NO
Google Talk	Message with a link	NO
Google Translate	Translate text with a link	NO
Google+	Share text with link to circle with 0 people	YES
Google+	Text with link in Hangouts	NO
ICQ	Offline message with a link	NO
Jabber (jabber.org server)	Unencrypted offline message with a link	NO

Jabber (jabber.ru server)	Unencrypted online message with a link	NO
LinkedIn	Private message with a link	NO
LiveJournal	Private message with a link	NO
Mail.com	Sent email with a link	NO
MS Outlook (mail.live.com)	Sent email with a link	NO
MaiLru Agent	Message with a link	NO
MaiLru Agent	Message with a link to ICQ gate	NO
MaiLru Email	Sent email with a link	NO
MSN	Message with a link	NO
MySpace	Private message with a link	NO
Odnoklassniki.ru	Private message with a link	NO
Pastebin	Creating private HTML doc with a link	NO
Skype	Offline text message with a link	NO
Sourceforge	Private message with a link	NO
Twitter	Private message with a link	YES
Viadeo	Private message with a link	NO
Vimeo	Private message with a link	NO
vk.com (vkontakte)	Private message with a link	NO
Webmoney	Private message with a link	NO
Wikipedia	Text search of a link	NO
Windows Live Messenger	Message with a link	NO
Xing	Reply to a contact message	NO
Xing	Private message with a link	NO
Yahoo Email	Sent email with a link	NO
Yahoo Messenger	Message with a link	NO
Yahoo Web Search	Text search of a link	NO
Yandex Mail	Sent email with a link	NO
Yandex Web Search	Text search of a link	NO
Yandex.Disk	Save text with a link in google disk	NO

Below, you can find HTTP requests of trapped services that accessed the secret URLs:

**Bit.ly:**

**IP:** 50.17.69.56

**User-Agent:** bitlybot

**Facebook:**

**IP:** 173.252.112.114

**User-Agent:** facebookexternalhit/1.1  
(+http://www.facebook.com/externalhit\_uatext.php)

**Formspring:**

**IP:** 54.226.58.107

**User-Agent:** Mozilla/5.0 (Windows NT 6.2; WOW64) AppleWebKit/537.31 (KHTML, like Gecko) Chrome/26.0.1410.64 Safari/537.31

**goo.gl:**

**IP:** 66.249.81.112

**User-Agent:** Mozilla/5.0 (X11; Linux x86\_64) AppleWebKit/537.4 (KHTML, like Gecko; Google Web Preview) Chrome/22.0.1229 Safari/537.4

**Google+:**

**IP:** 66.249.81.112

**User-Agent:** Mozilla/5.0 (Windows NT 6.1; rv:6.0) Gecko/20110814 Firefox/6.0  
Google (+https://developers.google.com/+web/snippet/)

**Twitter:**

**IP:** 199.59.148.211

**User-Agent:** Twitterbot/1.0

Marsel Nizamutdinov, Chief Research Officer at High-Tech Bridge, comments: "The results of this experiment are quite interesting actually. The four trapped social networks justify their activities by "automated verifications". However, it is technically impossible to verify what is really going on and how the information obtained on the user-transmitted URLs is being used. Today, quite a lot of web applications omit authentication and rely on temporary or unpredictable URLs to hide some content and, when users transfer such URLs via social networks, they cannot be sure that their

Social networks: can robots violate user privacy? | High-Tech Bridge

information will indeed remain confidential. Unfortunately there is no way to keep the URL and its content confidential [if there is no authentication of course] while transferring the URL via social networks."

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Share Login



Chris Whissen · 2 hours ago
Google+ automatically generates a snippet and thumbnail(if available) of the link shared. Does this not account for the request from Google+?

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Sarang · 3 days ago
Whatsapp????

^ | v · Reply · Share



One Voice · 4 days ago
Makes one wonder how all those Target cards were exposed. Probably a company 'bot', but they'll never admit it.

^ | v · Reply · Share



Biff Spackle · 4 days ago
Nice work. Have you tried other payloads? Wondering about sending a list of, say, honey-pot email addresses, phone-numbers, even postal addresses to see if they get hit?

^ | v · Reply · Share



Ricardo Mesquita · 4 days ago
nice work, nice setup, nice findings. but Im surprised Gmail didnt harvested those links in the email for their publicly known 'data mining quest' and not surprised at all that Facebook did it. Just take note that facebook do scrap urls in the search for metadata that follow their requesites to construct previews of the content to be displayed to the users. Has someone that devs and uses their (bloated) apis its well know that 'preview' effect. And Im pretty sure they run a urls prefetch table. As in 'to accelerate the process of 'construction' those preview media screenshots. Not mentioning that fact on the eula its probably a side effect easily justified by the 'extra bonus' of providing that 'extra bonus' feature to the 'client'. Another use its to run those urls against a malicious signaled table of urls for the 'protection' of their product and users. I can be wrong but I see no space here for a lawsuit

^ | v · Reply · Share

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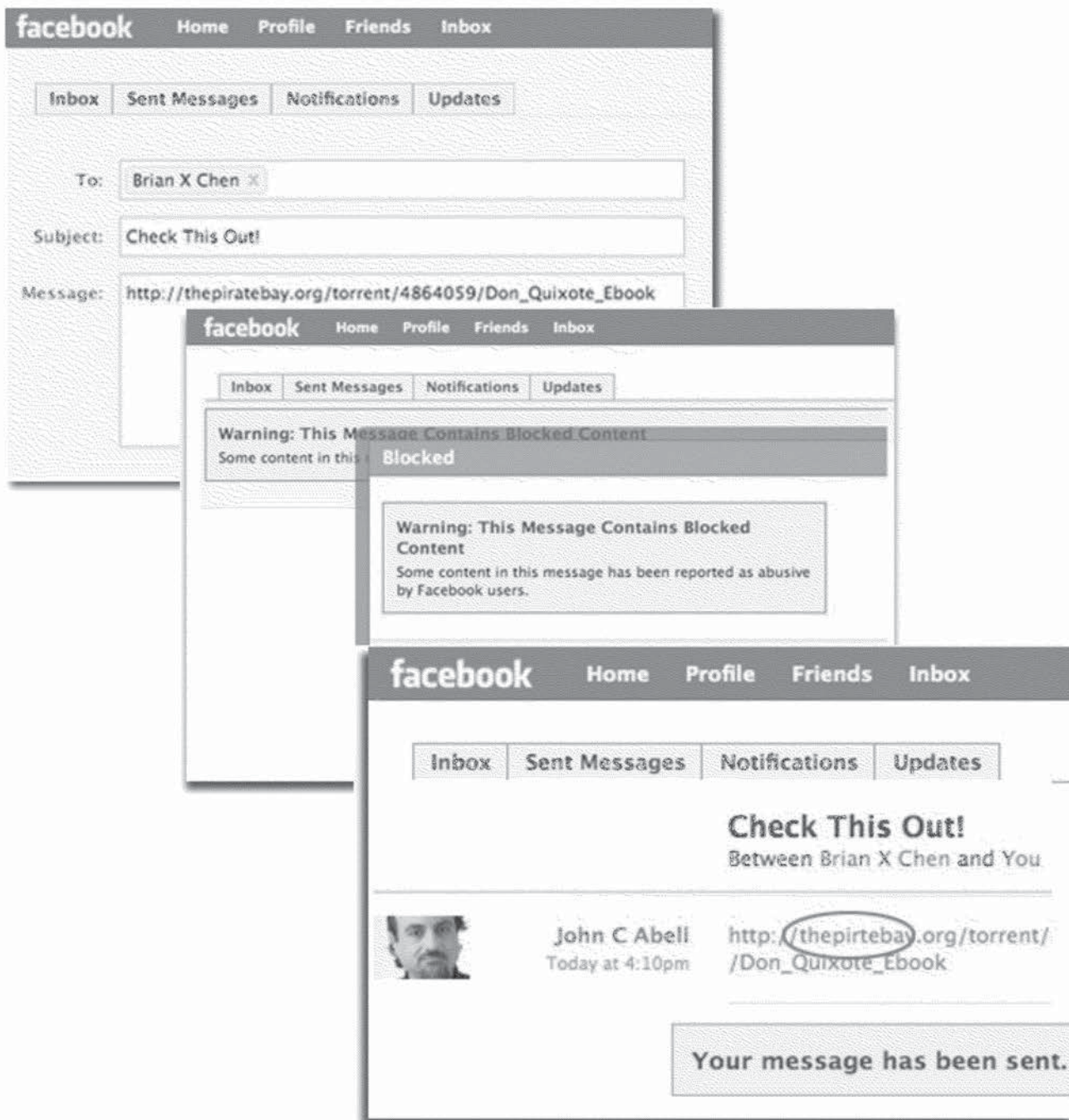
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RYAN SINGEL BUSINESS 05.06.09 5:20 PM

# FACEBOOK'S E-MAIL CENSORSHIP IS LEGALLY DUBIOUS, EXPERTS SAY



When The Pirate Bay released new Facebook features last month, the popular social networking site took evasive action, blocking its members from distributing file-sharing links through its service.

Now legal experts say Facebook may have gone too far, blocking not only links to torrents published publicly on member profile pages, but also examining private messages that might contain them, and blocking those as well.

“This raises serious questions about whether Facebook is in compliance with federal wiretapping law,” said Kevin Bankston, a lawyer with the Electronic Frontier Foundation, responding to questions from a reporter about the little-noticed policy that was first reported by TorrentFreak.

Facebook private messages are governed by the Electronic Communications Privacy Act, which forbids communications providers from intercepting user messages, barring limited exceptions for security and valid legal orders.

While the sniffing of e-mails is not unknown — it’s how Google serves up targeted ads in Gmail and how Yahoo filters out viruses, for example — the notion that a legitimate e-mail would be not be delivered based on its content is extraordinary.

Facebook chief privacy officer Chris Kelly acknowledged that the site censors user messages based on links. But he insisted that Facebook has the legal right to do so, because it tells users they cannot “disseminate spammy, illegal, threatening or harassing content.”

“Just as many e-mail services do scanning to divert or block spam, prevent fraudulent, unlawful or abusive use of the service — or in the case of some services, to deliver targeted advertising — Facebook has automated systems that have the capability to block links,” Kelly said in an e-mail. “ECPA expressly allows Facebook to operate these systems.”

“The same automated system that blocks these links may also be deployed where

there is a demonstrated disregard for intellectual property rights,” he added.

Facebook declined to answer questions about whether it similarly searched private messages for references to illegal drugs, underage drinking or shoplifting.

EFF lawyers suggested that the legality of Facebook’s censorship turns on Facebook’s Terms of Service, how and when the blocking takes place, and whether the messaging system affects interstate commerce (thus giving the federal government jurisdiction).

It’s not clear, however, how links to torrents are spammy, harassing or illegal. Torrents themselves are not copyright-infringing, nor would Facebook be liable for their users’ communications under federal law even if the files were infringing.

Wired.com confirmed Facebook is blocking private messages by sending a link to a Pirate Bay torrent feed of a book in the public domain. Such content is freely available to everyone, as all copyrights have expired. Nevertheless, the message bounced twice, returning the following failure notice: “This Message Contains Blocked Content. Some content in this message has been reported as abusive by Facebook users.” (Facebook’s link-censoring system is may be just tilting at windmills, however, because removing a single vowel from the domain name lets the URL go through.)

In the case of Wired.com’s test, there were only two Facebook users who should have been aware of the content — Wired.com editor John C. Abell and his message’s intended recipient, who was sitting five feet from him — and neither had the slightest objection to it whatsoever.

The EFF’s Bankston suggests that the real answer to the legal confusion over what providers can and cannot do with users’ online communications needs to come from federal lawmakers, who authored the statutes about e-mail privacy in the 1980s when the technology was much different.

“It is often unclear whether or how these Web 2.0 companies are covered by federal electronic privacy statutes, and that’s why Congress needs to update and revisit the law,” he said.



Oliver Chiang (<http://www.forbes.com/sites/oliverchiang/>) Forbes Staff

Gaming The System

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11/15/2010 @ 2:52PM | 9,307 Views

## Facebook Messages Isn't A Gmail Killer -- And That's The Problem

Comment Now Follow Comments

Email is broken, this is something Facebook chief Mark Zuckerberg



Image via CrunchBase

(<http://www.forbes.com/profile/mark-zuckerberg?partner=forbesblogs>) knows. At a Facebook press event on Monday, Zuckerberg launched a new messaging system called Facebook Messages. It's not a Gmail killer, says Zuckerberg, and he's right in more ways than one.

Zuckerberg kicked off the press event by talking about how he noticed that for teens, email is "too slow." The process of writing a subject line, addressing the recipient, signing off — "It adds a lot of friction and cognitive load to the process of sending email and communicating," he said. Younger users tend to prefer the more spontaneous SMS or chat systems as a primary method of communicating.

Email is also not good at (and was not built for) collecting and storing messages from these multiple systems. Finally, while Gmail has made strides with its spam filtering technology and learning which users are more important and should be at the top of your inbox (see Gmail's Priority Inbox), it's still not a perfect system by far. Email users in general often spend too much of their time sorting through and responding to emails.

Enter Facebook Messages. It doesn't aim to "kill" Gmail — email itself is a worn-down system that needs to evolve. But maybe it should have.

The quick rundown of Facebook Messages is this. Within the next two months, everyone will eventually be able to get a Facebook email address (@facebook.com). But they don't have to if they don't want to, and Messages is not solely about email. Facebook describes it as "seamless messaging" because Messages integrates the various messaging systems you're on — Email, SMS, IM, etc. — into a single conversation thread with the other person (or people if you have group threads).



(<http://blogs-images.forbes.com/oliverchiang/files/2010/11/fbmsgs01.jpg>)

Messages takes all these bits of conversation and keeps a collective conversation history. Vice versa, you can shoot a message back to the recipient at whichever system they're on. It has three main folders, 'Messages,' 'Others' and 'Junk.' It filters messages based on your Facebook social graph, so you will automatically see messages from your mom (if she's on Facebook) in the Messages folder. But people who are not your friends on Facebook will end up in Others. Traditional spam emails will end up in Junk. You will have control over this filtering too; if Facebook places a message you think belongs in a different folder, you can move it manually. The system will remember your choices and change your filtering preferences accordingly.

But Facebook Messages inherits legacy issues from email and messaging systems that came before it, and may even create new problems. The main problem Facebook hasn't solved yet, apparently, is that you not only want to filter who is able to hit the top of your inbox with messages, you also want to be able to filter *what* is hitting the top. Facebook Messages has no way of telling if your mother is sending an important email about your cousin's wedding, or a forwarded email about the billionth funny cat video ever made.

(<http://www.forbes.com/sites/oliverchiang/2010/11/15/facebook-messages-isnt-a-gmail-killer-and-thats-the-problem/2/>)

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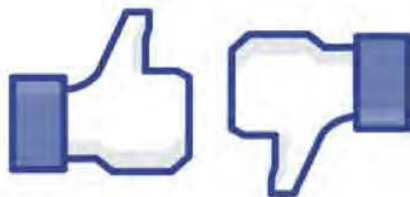


Thomas McMahon – Web Developer



# Facebook's Like number is more than just people clicking Like.

SEO / WEB 2.0 © 8 SEP, 2011



It seems that every site now has a Facebook Like button



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It took until March to get our winter wonderland.

23 MAR, 2015



PHOTOS

Fun at the beach today. Water not included.

15 MAR, 2015



PHOTOS

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13 MAR, 2015



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A Tale of Two Minnesota Winters

9 MAR, 2015

on it, but did you know that the number of Likes is made up of more than just people clicking Like?

The number shown on a Like button is the sum of:

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

So lets say you have a blog post that had a Like button on it. The Like number showing would include:

- The number of times someone clicks the Like button.



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5 MAR, 2015



- The number of times someone shares the blog post URL on Facebook.
- The number of comments that shared blog post gets on Facebook; across all shares.
- The number of comments on the blog post if the user is using the Facebook comment system.
- The number of times someone has sent the blog post URL to a friend via Facebook's messaging system.

Basically, anytime that blog post URL is active on Facebook, a Like is added to the count.

This means that the number can be really inflated.

Some sites have chosen to use the Facebook comment

system instead of their blog's default comment system. So anytime someone leaves a comment, the Like number goes up.

This also means that, with so many factors influencing the Like number, one little change by Facebook could make the share number plummet.

Just yesterday I had a site drop from 250+ Likes to 3. Turns out Facebook temporarily stopped counting shares and comments and were only counting actual clicks. Few hours later it went back up. Facebook's system is fragile; just ask any Facebook developer.

Ohh and then think of the ways you could increase the number of Likes by being creative with your content.

The system is easy to game.

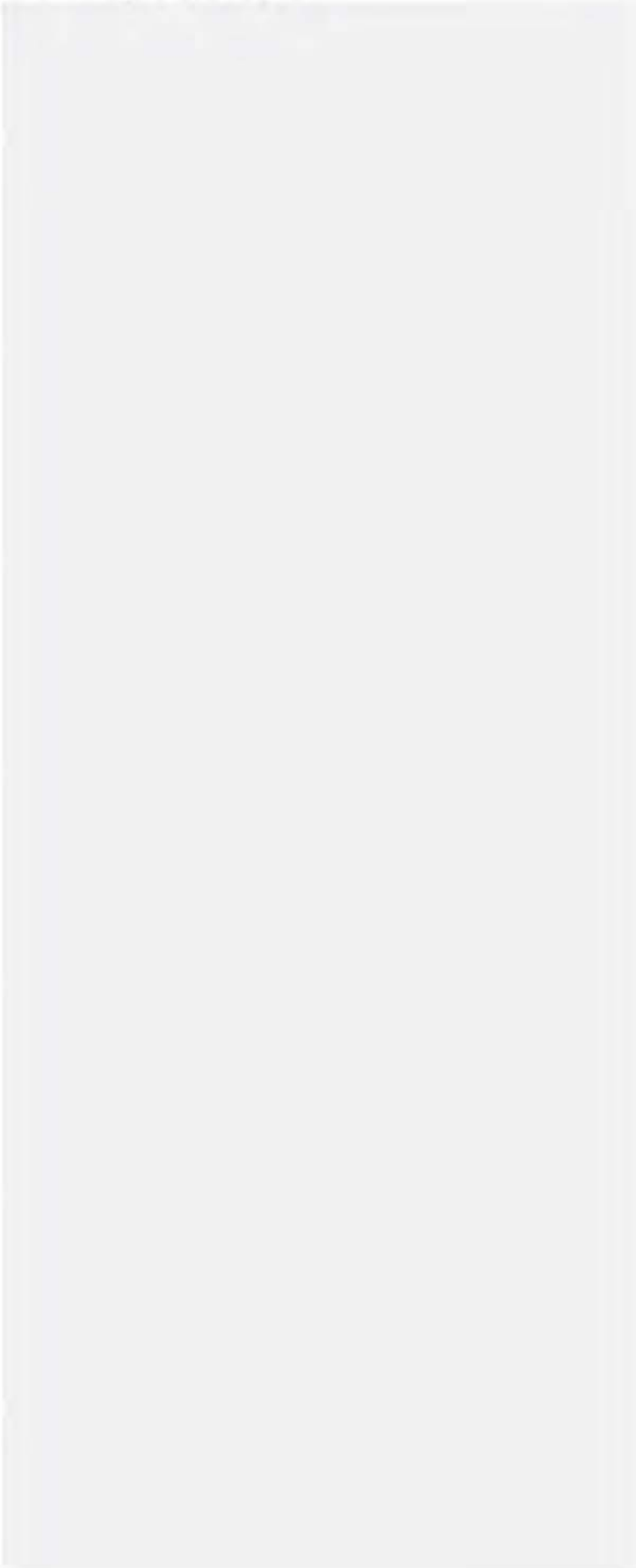
In the end this is all just a big marketing scheme to get people to use Facebook more. They know we are already addicted to the Like button, or actually the number on the Like button, and now they want us to use their comment system and share our URLs on Facebook as much as possible so they are using those to increase the Like number.

It really makes you wonder if the number of Likes is a sign of quality content, or just another number.

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**Thomas**

Thomas is a web developer at The Nerdy specializing in front-end development, WordPress and Facebook.

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**Konr Ness** · 9/9/2011 at 1:20 pm

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Facebook's Like number is more than just people clicking Like.

⌵

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Julian Evans     
Cambridge, United Kingdom.  
Entrepreneur and Information Security Expert.

# Protect your Profile and Internet Status

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## Facebook launches anti-malware URL scanning service

Posted on 10/03/2011 by Julian



Facebook is introducing URL (link scanning) protection for its users as from today (Oct 3rd, 2011). When a user clicks on any link in Facebook, Websense using its ThreatSeeker Cloud Malware Identification Platform, will analyze each URL in real-time for potential malicious content. If ThreatSeeker finds malicious content the

user will be warned "Security Alert: This Link May Not Be Safe". An image of what

this alert will look like can be seen below:



There are a number of Facebook apps from [reputable security vendors that scan URLs](#), protect your privacy and reputation (including comments, posts, messages etc) and then there is the small matter of whether Facebooks relationship with [Web of Trust \(WOT\)](#) is of any benefit now, given this latest announcement. I've never been one for

'community-based website ratings' like WOT, mainly due to the high false positive rates i.e. safe sites can be rated dangerous and dangerous sites rated safe. You can make your own mind up here.

Facebook already scans URLs for malicious links, but by adding Websenses cloud-based malware technology (Websense are not the only company that uses the cloud to scan for malicious content – most if not all security vendors do this in some way or another), they further enhance the security offering to Facebook users. One can only applaud Facebook for continuing to build user privacy and protection, even if it is becoming rather more complex for end users to understand.

## Safe surfing folks!

Julian

This entry was posted in [facebook](#), [malware](#), [privacy](#). Bookmark the [permalink](#).

[← Amazon Kindle Fire Silk browser not so private](#)

[Facebook and Twitter social media API security →](#)

## 2 Responses to *Facebook launches anti-malware URL scanning service*



**Matt Bancroft** says:

10/04/2011 at 09:58

This technology could be useful in helping users from falling for one of the many social engineering scams common on Facebook that seek to trick members into clicking on a malicious link by playing to their curiosity but this has to overlooked because there are some issues still faced by Facebook users, read what kinds of issues are faced

<http://radiomobiletech.com/blogposts/facebook-announces-new-protection-against-malicious-and-malware-sites.html>

Reply

Pingback: [Facebook launches anti-malware URL scanning service | News | IT Security Magazine - Hakin9 www.hakin9.org](#)

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You may use these HTML tags and attributes: <a href="" title=""> <abbr title=""> <acronym title=""> <b> <blockquote cite=""> <code> <del datetime=""> <em> <i> <q cite=""> <strike> <strong>

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## The Reengineering of Facebook Messages

How do you completely redesign the software used by 750 million people—without hitting the pause button?

By Tekla S. Perry

Posted 2 Nov 2011 | 12:51 GMT

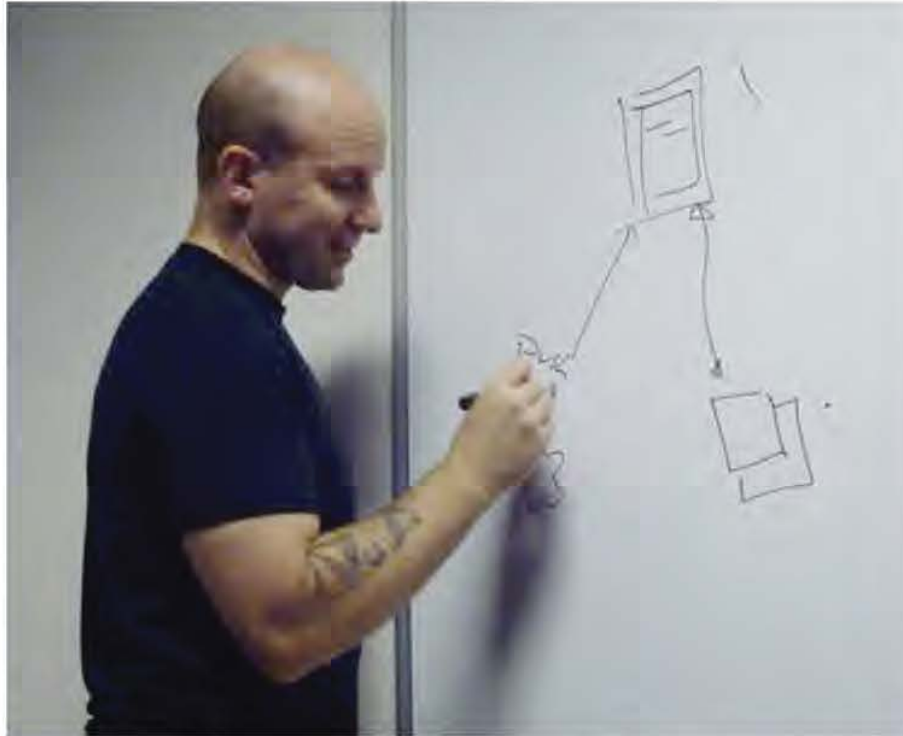


Photo: Tekla S. Perry

**Message Master:** Engineering director Andrew Bosworth.

Upgrading any kind of [software](http://spectrum.ieee.org/computing/software) usually requires that its users stop using it, at least briefly, to enable the new software to replace the old and to transfer any stored information before users start working with the new version. We're all familiar with messages from systems administrators reminding us that servers we're using will be off-line for a couple of hours in the middle of the night for maintenance.

But when you've got three-quarters of a billion users around the world, there's no "middle of the night." And in an era when people have come to expect e-mails and texts and tweets and posts to arrive within seconds of sending them, there's little patience for pauses of any kind.

So when [Facebook \(http://www.facebook.com/IEEE.Spectrum\)](http://www.facebook.com/IEEE.Spectrum) decided in 2009 to completely redesign its messaging system, the engineers on the project knew that the toughest part of the change was not going to be creating the new software but rather getting it out to users without interrupting their individual message flows in any way.

**A little background:** Since launching in 2004, [Facebook \(http://spectrum.ieee.org/static/special-report-the-social-web\)](http://spectrum.ieee.org/static/special-report-the-social-web) has offered users ways to communicate publicly—albeit to a select audience (the Wall)—and privately (messages). Back in 2009, the messaging function looked a lot like other Web-based e-mail systems—you entered a subject line and a message. Replies were threaded—that is, stacked under each individual subject, and your personal mailbox sorted everything by subject and date.

But [e-mail came out of the business world \(http://spectrum.ieee.org/computing/it/how-to-beat-information-overload\)](http://spectrum.ieee.org/computing/it/how-to-beat-information-overload), and Facebook's goal is to enable social communication, something Facebook software engineer Kenny Lau says is altogether different.

"The genesis," recalls Andrew Bosworth, director of engineering, "was a realization from Zuck [Facebook CEO Mark Zuckerberg] that smaller, real-time, more-contextual messages were just taking over communication. E-mail messages were increasingly seen as too slow—not technological slowness, but philosophical slowness—with a bit of formality to them."

From that realization, Bosworth says, came the idea of a product that combined different technologies, like e-mail and chat, with different devices, like phones and computers. The first thing to go was the subject line.

"Subject lines are a barrier," Lau says. Looking at existing Facebook messages, engineers noticed that 30 or 40 percent had no subject; another significant percentage just used "hey" as a subject. And personally, Lau had found it very stressful to fill in the subject line when he was dating online. "Do I put something witty there? Is it mean if I leave it blank? Sometimes I didn't message people because I couldn't think of something appropriate to put in the subject line."

**"Yes, it's awesome, but it's kind of scary in that your illusions of who you are may get confused with what's actually there."  
—Kenny Lau, Facebook software engineer, on the presentation of messages as a "canonical thread"**

So subject lines were out. Instead, messages are threaded by person. In the new Facebook messaging setup, if you start a new message to one of your contacts, all the messages you've ever sent that person pop up—even if the last one was a year ago or more. The Facebook engineers call this the "canonical thread." "I can look at all the communication I've ever had with my girlfriend in one thread," says Lau, "and see everything we've ever talked about." Of course, sometimes that might bring up discussions you'd just as soon forget, but "that's the reality, and yes, it's awesome, but it's kind of scary in that your illusions of who you are may get confused with what's actually there," he says.

Next up was tearing down the walls between messages (which had been, like e-mail, not conducted in real time),



Photo: Tekla S. Perry

**Keep Calm:** Software engineers Karthik Ranganathan and Kenny Lau.

chat (which is live communication), and texts (which even Facebook users turn to when they are away from their computers or don't want to burden the data plans on their smartphones). The new messaging system stores live chats in the same thread as messages that are sent when one of the users isn't on Facebook, and any message turns into a chat if both users are online and have indicated that they're available. Users can opt to have messages sent as texts to their cellphones when they're not on Facebook and can reply via text as well. (A few months ago, Facebook added a messaging app for smartphones that works better than text for mobile communications—particularly group communications—but the SMS option is still there.)

Essentially, all e-mail became chat in its informal formatting, but all chat and texts became e-mail, in that they are no longer ephemeral.

**That's how the user experience changed.** But for the engineers working on the project, the big change they would have to consider was how all these messages would be stored. Facebook was going to have to hang on to a lot more data—previously, chats weren't saved—and be ready to retrieve it in an instant. Whenever you messaged anybody, you would instantly see all your past shared communications.

"We spent the second half of 2009 figuring out the storage system," recalls Karthik Ranganathan, an engineer on the project. They knew that "the storage system needed to take a lot of writes"; that is, users would be creating vast amounts of new data. In Facebook's other popular communication tool, the Wall, users read more postings than they write; a personal messaging system is more balanced. And, said Ranganathan, we knew "that many of the messages being read would be the most recent, but some would be completely random."

They decided that the messaging system would monitor when users are active on Facebook (not just logged in, because some people stay logged in all the time), predict what messages a user is likely to view (with most recent messages weighted more heavily than older messages), and pull those off disk storage and into a cache so