# EXHIBIT I

Once the hole was plugged and new users started on the new system, the migration went fairly smoothly. When a user's messages didn't migrate successfully, the user didn't notice; the messages just stayed on the old system until the engineers figured out what the problem was and fixed it.

This summer, Facebook added a messaging app for mobile phones, further blurring the line between text and chat and e-mail. The biggest trick to that, Bosworth says, was keeping a connection open between the phone and Facebook so messages could be sent seamlessly, without gobbling up the users' data allotments or draining phone batteries. The solution ended up being a technology that minimizes the amount of data transmitted, called MQTT (Message Queue Telemetry Transport) (http://mqtt.org/). MQTT is an open protocol developed by IBM that was originally used for satellite telemetry.

Today, more than 8 billion private messages fly through Facebook Messages daily. Will this kind of messaging platform kill e-mail? Bosworth says no. "The post office is still in service. E-mail won't go away." But, he says, the future of everyday communications will look a lot more like Facebook Messages.

# BUSINESS INSIDER

# How To Find Facebook Messages That Facebook Is Hiding From You



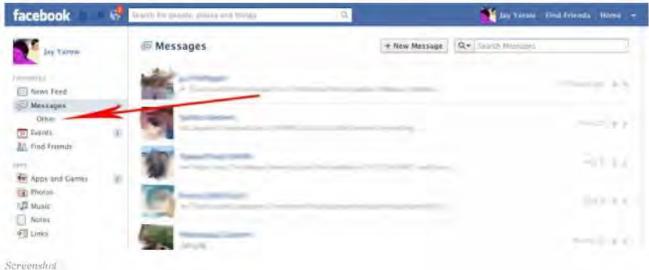
JAY YAROW JUN. 15, 2012, 11:26 AM

Facebook has a pretty aggressive spam filter to keep messages from creepers, and trolls from hitting your Facebook message inbox.

Like any spam filter, though, it's sometimes too aggressive, and grabs messages that aren't spam. (Maybe this is old news to some of you, but for a lot of us in the Business Insider newsroom, we were surprised.)

How can you check these messages? Click on there "other section of messages."

Here's how. Go to messages, and then click on "other."



-----

Then you can see all the creepers who have been trying to talk to you:

#### Facebook Messages Spam Filter - Business Insider



<sup>\*</sup> Copyright © 2015 Business Insider Inc. All rights reserved.

Connect with us



CNET > Internet > Facebook processes more than 500 TB of data daily

# Facebook processes more than 500 TB of data daily

The site manages millions of photos and processes billions of likes each day. That's a whole lot of sharing.

by Donna Tam @Donna YTam / August 22, 2012 2:02 PM PDT















Since Facebook uses this data to build its user experience, it wants teams from across the company -- whether they sell ads or build functions -- to be able to access any of the data as needed. Parikh said this keeps the creation and improvement of Facebook features as fast as possible.

A function like friend recommendations, for example, needs constant data updates, so that when you add a new friend, you see those connections immediately, Parikh said.

These nearly real-time efforts apply to most functions throughout the site because people won't use the site if the personalized experience is poor, or slow, he said.

"We can't afford for your photo be be uploaded and stored next week," Parikh said.



Jay Parikh runs Facebook infrastructure

# THIS WEEK'S MUST READS / Facebook processes more than 500 TB of data daily Samsung bets big on April 10 launch of Galaxy S6, S6 Edge Mobile BlackBerry shows signs of life, posts surprise quarterly profit Mobile Apple's Tim Cook plans to donate his wealth to charity Tech Industry Intel, Micron, Toshiba promise storage that's fast and roomy Computers

#### RELATED STORIES

Reporters' Roundtable: Buzz vs. privacy (podcast) iPhoto to Aperture: Carryover features compared Twitter, Facebook use up 82 percent

Instead of partitioning the data -- essentially dividing it up and storing it based on criteria -- like most companies do to make data more manageable, Facebook keeps it in one place for easy access.

http://www.cnet.com/news/facebook-processes-more-than-500-tb-of-data-daily/

That means an engineer who wants to identify stats or trends in a function, like how quickly people respond to messages, can easily get the data, write a code, and get results.

When pressed by reporters, Parikh said Facebook has a zero-tolerance policy when it comes to any abuse from this broad access. Additionally, all access is logged and monitored heavily, he said.

If you want to see Parikh's short presentation and a flow chart of its data system, see below.

Updated at 3:03 p.m. PT: with more info and a slideshow.

- Embed

of4

Tags: Internet, Facebook

#### ABOUT THE AUTHOR



Donna Tam / 💟 🚹 🚷

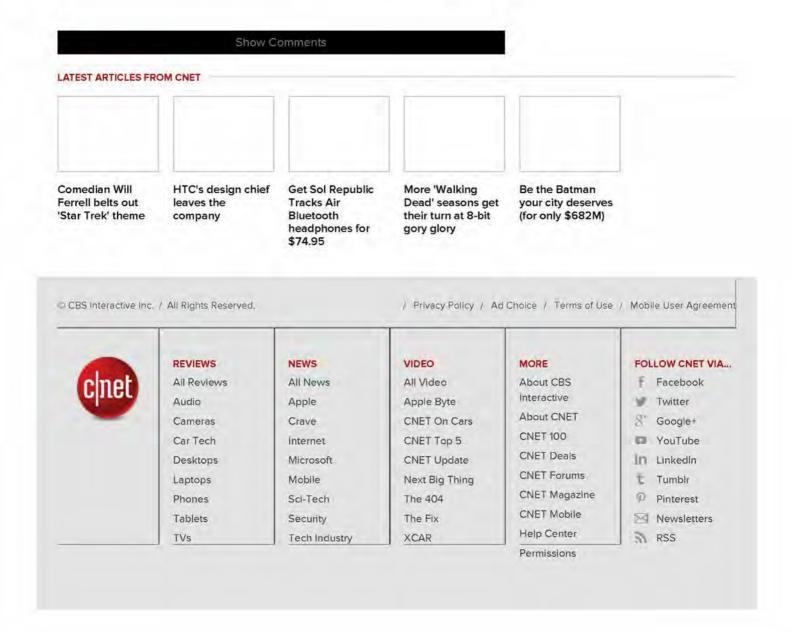






Donna Tam covers Amazon and other fun stuff for CNET News. She is a San Francisco native who enjoys feasting, merrymaking, checking her Gmail and reading her Kindle. See full bio

DISCUSS FACEBOOK PROCESSES MORE THAN 500 TB OF DATA DAILY





## Relevant Ads That Protect Your Privacy

September 30 2012 at 8 55am &

Many sites across the web provide free services by including advertisements. Facebook is no exception, and as we pursue our goal of making the world more open and connected, we have designed our service to show ads that help people discover products that are interesting to them. We also recognize that our users trust us to protect the information they share on Facebook. Maintaining that trust is a top priority as we continue to grow.

In the last few weeks, we have introduced several features that give advertisers new ways of reaching people who use Facebook. Many other advertising companies already offer services similar to these new features. We wanted to share some of the ways we have carefully designed our versions of the features with your privacy in mind.

#### **Facebook Exchange**

Facebook Exchange (FBX) gives marketers an opportunity to bid on showing ads in real time. Approved third-party service providers work with Facebook and marketers to enable this process. We agree with a provider on an ID number (separate from your Facebook ID) for each visitor's browser. If someone then visits Facebook and his or her browser has that ID, we notify the service provider, who tells us when a marketer wants to show a particular ad. This allows marketers to show you ads relevant to your existing relationship with them – and without them needing to send us any personal information about you.

When we show an FBX ad on Facebook, it includes an "X" link that lets you provide feedback about ads. We also provide a link that lets you learn more about and choose to opt out of future ads from the service provider responsible for that ad. Also, we only work with providers that agree to technical and policy requirements that protect the privacy of personal information.

#### **Custom Audiences**

Another one of our new features allows marketers to reach people on Facebook using information they already have. For example, a shoe store might want to show a special offer to people who have already bought shoes from them. The store can provide us with "hashes" of their customers' email addresses so that we can show those same people the ad without the store having to send us the actual email addresses.

These hashes are bits of text that uniquely identify a piece of data (such as an email address) but are designed to protect against reverse engineering which would reveal that data. Since Facebook and the store use the same method to create each hash, we can compare the store's hashes to hashes of addresses in our records and show the ad to any group of users that match. If a hash from the store does not match any of ours, we discard it without ever discovering the corresponding email address and without storing any information that we did not have before. And once we no longer need the hashes that do match, we delete them too.

#### **Measuring Advertising Performance**

Finally, we recently partnered with a company called Datalogix to offer marketers a way to measure how their ads on Facebook drive sales for their products in stores. This allows marketers to better understand the value of the investments they are making in Facebook and helps us provide advertising that is more interesting to our users. Companies have long used similar studies for newspaper, TV, and radio ads, and our relationship with Datalogix lets us provide the same kind of information to Facebook marketers at scale.

Importantly, we have designed this process with privacy at the forefront. We compare hashes of some Facebook data with hashes provided to us by Datalogix. Once we



compare, we are able to send corresponding data on the reach of large-scale ad campaigns, which Datalogix uses to create aggregate reports comparing product purchases by large groups of people who did or did not see an ad.

Because of our commitment to privacy, we had an industry-leading auditing firm evaluate the privacy implications of this process. The auditor confirmed that, throughout this process, Datalogix is not allowed to learn more about you from Facebook profile information. Similarly, Datalogix does not send us any of their purchase data, meaning we cannot specifically tell whether or not you purchased a marketer's product. Finally, with this partnership, Datalogix only sends the marketer aggregate information about large groups of people. None of this data is attributable to an individual Facebook user.

#### Creating Value With Privacy

Advertising helps keep Facebook free. We believe we can create value for the people who use our services every day by offering relevant ads that also incorporate industry-leading privacy protections. In our view, this is a win-win situation for marketers and for you.

Joey Tyson, Privacy Engineer

Like - Comment - Share

Sylvia Price, Sasikarn Sakha, Max Guadagnoli and 579 others like this.

♦ 93 shares

View previous comments



Hjen Dao thich





Rakesh Kumar loser face book

November 28, 2012 at 5:06am



Kateřina Kirnagová potřebovala by ch poradit, na hlavní straně jsem fotila příspěvky z kolonky vebkamera a ted se mi ta kolonka vůbec nezobrazuje, jenom náhrát fotky z počítače, neví někdo proč?? See Translation

lovember 28, 2012 at 6:10am



Teresa Batchelor I dont have time to opt out of every ad.....stop this nonsense....its very irritating.....

November 28, 2012 at 9:46am



Iqbal Mirzahamza Iqbal Mirzahamza very nice,...

November 29, 2012 at 9:42am



Mike Faley Are custom audiences currently live?

December 4, 2012 at 2:58pm / 101



Samaila Abubakar you are so wonderfull with beuer job, nicely and brightfull internate system. December 6, 2012 at 4:05am



Karala Faisal Thali hai





Sunil Prasad my fecebook friend request is blocked please help me December 22, 2012 at 12:40am d-71



Acziu Tan tdhgdhgdghdc



December 31, 2012 at 7,35am

Ruben Jr Luminario Asis my.facebook.is...harassing January 3, 2013 at 4:53pm



Nick Mcguire I would love to be able to get rid of all the crap on the right side of my page, I.E. game adds





Ikhlaque Nazīr how do i find out when i will be unblocked can some one guide me please  $\rm January\,14,\,2013\,at\,1.33 pm$ 



Eirini Fanos Panagidou I NEED MY SITUATION UPDATE TO BE VISIBLE TO ALL FACEBOOK AS He was again January 19, 2013 at 11:43pm



Juliana Ferreira Bevilacqua Estão aparecendo fotos explicitas e nojentas no meu feed de noticias...e emotions na minha caisa de mensagem, exluam isso por favor!!!!!!!

See Translation

February 27, 2013 at 2:18pm



FAER design Dear Facebook could just have a look on your security laws for this page that I have now, please! It's been an accident openning this! If it costs me this page, please please immediately block/delete this Jusufi's Graphic Design, right now! Please!

March 15, 2013 at 7:32pm : 1



Susan O'Banion I detest this invasion of ads in my posts.

April 4, 2013 at 5:46pm - 1



Kanhaiya Upadhyay Great innovation, (4)



July 11, 2013 at 3:41pm · 61 Ehab Mansour kod



October 16, 2013 at 5:48pm



Ahmad Tovi bf



Nancy Forsythe Keep it clean and safe for all of your members, please.



October 25, 2013 at 7:15pm - 61



Zanfir Elisa cum pot bloca o persoana care nu o am in lista de prieteni? See Translation



November 21, 2013 at 2:46am



Thanapat Piriyatutskul I agree, I prefer Law UNSW (The University of New South Wales) thank-you . i Love you .Jesusธนะพัฒน์ พิริยะตรีสกุล Thanapat Piriyatutskul Lord .

See Translation December 2, 2013 at 11;50pm



Nafish Akram Hello



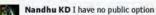


Ch Jajja balk rack book





Ch Jajja yes December 13, 2013 at 4:31pm





December 20, 2013 at 5:39am





Barbara Holmes this is too time you have took my money i post \$50 to Fashland and got nothing for my money, please facebook look in to this, some one there is taking my money and not giving me nothing for it it have been taking from my account. this is were it was t... See  $\,\mathrm{Mo}$ 

February 21, 2014 at 7; 46am : 🖒 1



Maksimovic Blagoie < div id="fb-root"> </div> <script>(function(d, s, id) { var is, fis = d.getElementsByTagName(s)[0]; if (d.getElementById(id)) return; js = d.createElement(s); js.id = id; js.src = "//connect.facebook.net/sr\_RS/all.js#xfbml=1"; fjs.parentNode.insertBefor... See More



Мару Геворгуан I am the new ruler of this profile and would like to change the name of the month and date of birth please help mey

April 12, 2014 at 3:02am



Мару Геворгуан v April 12, 2014 at 3:02am



Мару Геворгуан I am the new ruler of this profile and would like to change the name of the month and date of birth please help me

April 12, 2014 at 3:02am



Mapy Геворгуан I am the new ruler of this profile and would like to change the name of the month and date of birth please help mevy April 12, 2014 at 3:02am



 ${f Mapy \, \Gamma e Bopryah} \, {f I} \, {f am} \, {f the} \, {f new \, ruler} \, {f of this \, profile} \, {f and \, would \, like \, to \, change \, the \, name \, of \, the \, month \, and}$ date of birth please help me April 12, 2014 at 3:02an



Roberto Carlos Marquez Por favor traducir los textos al aespañol



May 1, 2014 at 4:01am



Roberto Carlos Marquez Traducir textos al idioma español. No conozco el idioma ingles.

May 1, 2014 at 4:03am - 🖒 1



Patricia Ranatza Helmstetter I blocked a friend by mistake, and don't how to get him back. Please advise all help appreciated Name Len Guidroz. Didn't know what option to go to for this to be corrected.



Richard Ballard Frankly I don't see how flooding MY page with stuff counter to what I believe because someone I know "liked" a page is protecting my privacy. In fact it does just the opposite. And ad targeting only helps those running the ads so quit trying to blow sm... See More

Places

Cookies

March 12 at 5:50pm - Edited

Sign Up Log In Mobile Find Friends Badges People Pages Locations About Create Ad Create Page Developers Careers Privacy Help

Facebook ( 2015 English (US)

# GIZMODO

# Facebook Is Reading Your Messages and Liking Things For You (Updated: Not as Bad as We Thought)



Sam Biddle

Filed to: FACEBOOK 10/04/12 10:41am



You might think clicking "Like" is the only way to stamp that public FB affirmation on something—you're wrong. Facebook is checking your private messages and automatically liking things you talk about. **Update:** Sort of.

The scanning which is either an oversight on Facebook's part of a deliberate effort—we're waiting to hear back from FB increases the Like count for a given page
Like-able link just by you talking about it. Auto-scanning is nothing new: Gmail

has done it since day one to serve us ads. But there are serious potential personal consequences here—what if I'm talking about something disgusting, loathsome, and offensive with a friend? Do I want Facebook to automatically chalk that up as a Like? No. And I doubt you do either.

The auto-liking could also be a big deal for those who want to artificially inflate their popularity online—say, people with something to sell. "Yeap, it won't drive any traffic to your website. But if your [sic] visiting an online store and you see a lot of likes under the product then this might cloud your judgement," notes one commenter on Hacker News, where the mechanism was first reported.

To test the auto-seanning, message this link to a friend—it should increase the like count by two. I was able to independently verify the same effect by messaging a link to singer The-Dream's official page to a friend. It increased his Likes without me ever clicking the button. As much as I truly to Like (and love!) The-Dream, this isn't how it's supposed to work, Facebook. It turns out this was just a very unlikely coincidence that played out in more than one place—the auto-liking only applies to external links with embedded Facebook liking. So, say I send someone a private Facebook message with a Gizmodo post, which contains a Like button. *That* will increase the counter, not talking about The-Dream on FB itself.

So your name isn't being associated publicly with something you're talking about privately—but if even a mention is enough to kick up a Like, it seems like that's pretty heavily diluting (even further) what "like" even means—from preference to mere reference. Would you say every single proper noun you utter each day should be something you like? [Hacker News via Forbes]

**Update:** According to a Facebook spokesperson, although messaging will autoincrease a page or link's Like count, it won't publicly associate you with that Like. In other words, your identity won't be exposed. The full statement is below: 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.

**Update 2:** Facebook has further clarified the auto-like mechanism, explaining that Facebook Pages aren't affected:

Absolutely no private information has been exposed and Facebook is not automatically Liking any Facebook Pages on a user's behalf.

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. When the count is increased via shares over private messages, no user information is exchanged, and privacy settings of content are unaffected. Links shared through messages do not affect the Like count on Facebook Pages.

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.

Powered by Kinja



Menu +

Q

# **NEWS**

# Technology

# Facebook 'likes' automatically added without user-clicks

4 October 2012 Technology

Facebook "likes" are being added to webpages even if a user has not clicked a like button, or even visited the page in question, the company has admitted.

A US security researcher found that simply sending a web address to a friend using Facebook's private messaging function would add two likes to that page.

Leaving a comment on a story within Facebook also adds to the tally.



The site told the BBC that no private information had been exposed.

The revelations coincided with the news that the network has surpassed one billion monthly active monthly users.

"Many websites that use Facebook's 'like' or 'recommend' buttons also carry a counter next to them," the site explained.

"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.

"When the count is increased via page shares, no user information is exchanged.

"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 on fix to solve the issue now."

## 'Like fraud'

The site explained that the figure represented how many times an item was shared - not how often users had clicked "like" on the page.

However, the number appears next to the word "like" and the site's distinctive thumbs up icon.

The system means that users who may be sharing pages to highlight negative content - such as campaigners - are inadvertently making the page appear more popular.

In documentation relating to the function of the like button, Facebook details four criteria which cause the likes number to increase - only one of which involves clicking the like button.

Facebook stressed that the added likes were anonymous, and would not appear on the user's timeline.

The site also said that its figure of 1.13 trillion likes - which was publicised as part of its announcement of having one billion active users - was not affected.

But researcher Ashkan Soltani, writing in the Wall Street Journal, argued that inflating the numbers in this way raises the prospect of "like fraud".

He quoted an online commenter who pointed out that "if [you're] visiting an online store and you see a lot of likes under the product then this might cloud your judgement".

One expert told the BBC the findings were "disturbing".

"Something intended for one purpose is being used for something completely different," said Prof Alan Woodward from the University of Surrey.

"What else is being done automatically that we don't know about?"

# Share this story About sharing



# More on this story

Facebook surpasses one billion users as it tempts new markets

5 October 2012

Facebook deleting fake 'likes', independent data suggests

27 September 2012

Facebook acts on fake 'likes'

3 September 2012

# More Technology stories

Safari users win right to sue 27 March 2015

Children on screens six hours a day 27 March 2015

Tinder prank 'tricked flirting men' 26 March 2015

# More Videos from the BBC



Flooding in Brazil



Tornadoes rip through Oklahoma



Prince's vault 'full of treasure'



New 3D printer 'grows' its objects



Nigeria elections: Economy explained



Bringing Russian bathhouses to Britain

Recommended by Outbrain

# **Top Stories**

Alps crash co-pilot 'had depression'

Boko Haram HQ in Nigeria 'retaken'

Duo ready for one year in space

# Features & Analysis



Dresden drama How Vladimir Putin's KGB days in Germany left a The life of a rare fruit collector permanent mark



'It tastes like chicken'



'Magic bunny' China's endangered Ili Pika goes viral



Fridge revelations What does your food shopping say about you?



**Essential Cinders** 

Branagh goes back to basics for new Cinderella

# 7 days quiz

What degree did the most billionaires study?

# Tracking Britain's jihadists

The stories behind those who back IS

## Out of service

The rise of fake support animals

# Internet gossip

Why are we so mean online?

# Most Popular

Read Watched

Alps crash co-pilot 'hid illness'

.

http://www.bbc.com/news/technology-19832043

Alps crash co-pilot 'had depression'	2
Vladimir Putin's formative German years	3
Co-pilot 'wanted to destroy plane'	4
Boko Haram HQ in Nigeria 'retaken'	5
Safari users win right to sue	6
Germanwings crash: Investigation latest	7
China's 'magic bunny' goes viral	8
'Two people missing' after NYC blast	9
Top Gear: Tymon 'won't press charges'	10

Elsewhere on the BBC

Earth quiz

BBC News Services	
On your mobile	On your connected TV
Get news alerts	Contact BBC News

# **Explore the BBC**

Sport TV CBBC WW1 History Music Local Weather Radio CBeebies Food Learning Science Full A-Z

Terms of Use

About the BBC

**Privacy Policy** 

Cookies

Accessibility Help

Parental Guidance

Contact the BBC

Copyright © 2015 BBC. The BBC is not responsible for the content of external sites. Read about our approach to external linking.

# Facebook auto-liking pages for users without permission [updated]

Oct 4, 2012





Craig Lloyd

Some more bad news has hit the Facebook front today. It's being reported that Facebook is scanning its users' private messages and searching for links to Facebook fan pages. Once it finds these links, Facebook supposedly automatically likes the pages for you without asking for your permission to do so.

This could either be a bug or a deliberate feature, but the scanning of messages is said to increase the Like count for a fan page just by talking about it. However, it only seems that it increases the Like count of a page, and doesn't actually "like" the page on your behalf. Then again, some users are reporting that it actually does like the page for you without your permission.

Obviously, this can be a huge problem if you're talking to a friend about something specific, data:text/html;charset=utf-8,%3Cdiv%20id%3D%22post-prep%22%20style%3D%22box-sizing%3A%20border-box%3B%20padding%3A%2020px%2020px%20: 1/2 like how much you hate a certain band's music. Mentioning the band and linking to its fan page in a private message to a friend could lead to you liking the page without you even knowing.

Scanning itself is nothing new. Gmail does it to provide its users with targeted ads, but this auto-liking debacle takes it to another level that's a little over the line and unnecessary. Then again, a lot of users are reporting that it works and others are saying that it's not truly liking the page for you, so it actually might just be an unfortunate bug on Facebook's end. Either way, hopefully Facebook addresses the issue and brings order to chaos.

UPDATE: Facebook has reached out to us and commented about this issue: "Absolutely no private information has been exposed and Facebook is not automatically Liking any Facebook Pages on a user's behalf...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. When the count is increased via shares over private messages, no user information is exchanged, and privacy settings of content are unaffected. Links shared through messages do not affect the Like count on Facebook Pages."

RYAN SINGEL SECURITY 10.04.12 2:58 PM

# JUKING YOUR FACEBOOK 'LIKE' STATS IS AS EASY AS SENDING A MESSAGE



FOR THOSE LOOKING to artificially inflate their Facebook stats to impress people or drive sales, there's a new alternative to begging or bribing people for "Likes." Now you or your friends can just simply send a raft of private messages that include a link to your page, and Facebook will add +2 to your page's "Like" count for each message.

It's long been known that Facebook scans internal messages for spam and security risks — and that it blocks users from sending links to torrent sites such as The Pirate Bay. But Facebook has never been clear how much data-mining its doing of users' private conversations. It turns out, at least some is provably going on.

The Wall Street Journal's Digits Blog, with the help of researcher Ashkan Soltani, <u>reported on a video</u> showing the "Like" pumping and reproduced it:

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.

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.

That's a pretty great little hack, but evidently, it's not a bug. It's something actually noted in the documentation for developers.

Still, faked stats are better in my book than the bought ones - where companies give discounts or hide music/videos behind a 'Like' wall. But given that Facebook is now letting brands and even people pay to flood their messages onto others' walls, it's way too late to be crying that Facebook is supposed to be a genuine social space.

Update: Facebook's PR firm writes in to add comment:

Absolutely no private information has been exposed and Facebook is not automatically Liking any Facebook Pages on a user's behalf.

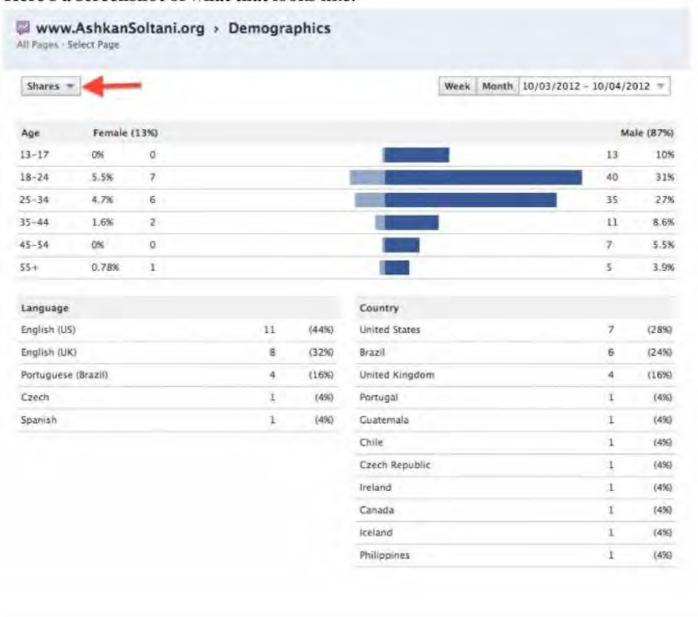
Many websites that use Facebook's 'Like', 'Recommend', or 'Share' buttons also carry a counter next to them. This counter reflects the number of times people have clicked those buttons and also the number of times people have shared that page's link on Facebook. When the count is increased via shares over private messages, no user information is exchanged, and privacy settings of content are unaffected. Links shared through messages do not affect the Like count on Facebook Pages.

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.

That said, user demographics of those who share via Facebook messages are included in the stats seen by page owners, according to Soltani.

Here's a screenshot of what that looks like:



#THE RIDICULOUS

# Facebook Confirms Peeking At **Private Messages**

By: Paul Shea

date: October 04, 2012 04:48:28 PM

In: Technology No Comments



In a surprise announcement today, Facebook Inc (NASDAQ:FB) confirmed that it scans private messages between users. The statement from the Menlo Park company comes in response to a video released yesterday, which showed the effects private messages containing links had on the Like counter of the linked content.

Facebook, which today announced it had reached 1 billion users, has been battling with privacy concerns even more fervently since its IPO in may. The company today announced it would allow users to pay to have some of their comments appear higher up on the website for the first time. The news was first reported bythenextweb.com today.



The video, released by a Polish start up company, called Killswitch.me, was removed from Youtube, because of some objectionable content. anybody who would still like to view it in its entirety, it's just over 2 minutes long, can see it on Vimeo.

In a rare move toward openness, Facebook Inc (NASDAQ:FB) has taken the initiative and confirmed that it does in fact read the private messages that are sent from user to user. It is these scans that caused the likes of linked content to increase.

Facebook Inc (NASDAQ:FB) is using a series of bots that scan private messages for links to content that contains "Like" buttons. If a Like button is detected, however, a bug is activated, whereby the linked content has its likes increased by two.

A tutorial on how to activate the glitch, and thereby artificially increases the Likes of specific

content, appears in the video. It is unlikely that this will lead to an extended period of "Like" inflation however. It appears from the video that the process is time consuming and repetitive.

The glitch acknowledged by Facebook is not in the increase in "Likes", or the scanning of messages. It is, in fact, in the magnitude of the increase in "Likes". According to Facebook Inc (NASDAQ:FB), when a link is shared in a private message it should increase the "Like" counter by one, rather than two.

This may be news to some long time Facebook users. The company's famous "Like" counter measures not just clicks on a Like button, but takes into account sharing of the content, as well as comments on the content, and now private messages.

Emil Protalinski, the writer at thenextweb.com who originally picked up on this story, rightly points out that the scanning of private messages for data on content is not the same as scanning for the same data on comments, or public declarations of "Like".

This is not the first time a company has been indicted for scanning the content of users' private messages. Google Inc (NASDAQ:GOOG) and other web mail providers have been scanning users' emails for years, in order to pick the advertisements best suited to them.

Facebook responded quickly to privacy questions, sternly asserting that no user information was shared, and summarized a definition of a "Like" that left it beyond any user's ownership. In the following quote, Facebook essentially claims ownership of the "Likes" of a user through distribution control.

"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. When the count is increased via shares over private messages, no user information is exchanged, and privacy settings of content are unaffected. Links shared through messages do not affect the Like count on Facebook Pages".

Facebook Inc (NASDAQ:FB) has certainly not crossed a line with this latest news, any more than they have on hundreds of other occasions. Because of the nature of the business, the company will be dodging privacy issues for as long as it operates. A satisfactory solution to who owns what, and who gets to read what, is unlikely to be formed in our life times.

# Social \_\_\_\_

(http://www.adweek.com/socialtimes/tumblr-has-an-official-analytics-tool/107021)

# FACEBOOK (/SOCIALTIMES/CATEGORY/FACEBOOK)

# Facebook clari feis how Like plugin works, addresses privacy concerns



By <u>Brittany Darwell (http://www.adweek.com/socialtimes/author/brittany-darwell)</u> on Oct. 4, 2012 - 2:51 PM

Comment (http://www.adweek.com/socialtimes/facebook-clarifies-how-like-plugin-works-addresses-privacy-concern



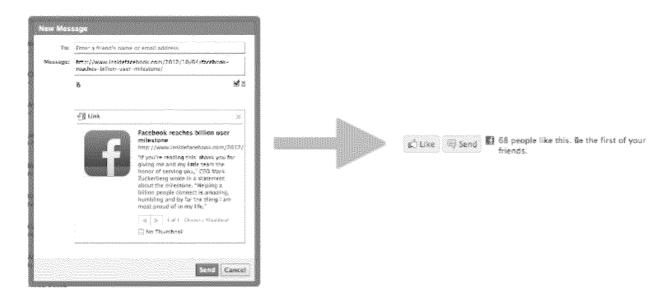
Facebook responded to reports (http://gizmodo.com/5948948/facebook-is-reading-your-messages-and-liking-things-for-you) today (http://thenextweb.com/facebook/2012/10/04/facebook-confirms-it-is-scanning-your-private-messages-for-links-so-it-can-increase-like-counters) that alleged the social network was scanning private messages and Liking pages on users' behalf.

The company clarified that the Like count of an article or webpage will increase when users share the link via direct messages, however no private information is shared. URLs sent through private messages are not shown publicly on user profiles and users will not see a friend's name or photo next to a Like button if the person shared the article privately.

When publishers implement social plugins such as the Like, Recommend, Share or Send buttons, they and site visitors can see a counter of how many actions have been made related to that link. It isn't completely clear to outsiders that the total includes actions that were made by clicking the button directly, as well as the number of times the link was copy-pasted into a Facebook post or message, which is why some users thought the social network had a security flaw. However, Facebook explains this in the FAQ about the Like button plugin

(https://developers.facebook.com/docs/reference/plugins/like/).

# Sending link via Facebook message increases Like count



# But doesn't lead user to Like the link or share it publicly

Facebook notes that no human is reading users' private messages. Its systems parse the URL being shared in order to render the appropriate preview and to ensure that the message is not spam. In the process, it also adds to the link's share total. The company admitted that the feature recently had a bug that led the count for the Share or Like plugin to occasionally increase by two instead of one, but it is working on a fix so that publishers have accurate metrics for their sites. This does not apply to Facebook pages, only to third-party sites that have implemented social plugins.

Some people taken issue (http://techcrunch.com/2012/10/04/theres-a-fine-line-between-private-and-public-and-facebook-might-have-just-crossed-it/) with Facebook adding private shares to the public total for a link, though we

see this as similar to site visitor widgets, which increase whenever a user visits a webpage but do not reveal who visited. Even if the privacy implications are minimal, there is the matter of all these actions being combined under the "Like" or "Recommend" wording, which suggests positive feelings, even though some users might have shared a link that they disagreed with wanted to talk about for reasons besides recommending it. This might look good for publishers but doesn't necessarily reflect the true sentiment about a post.





#### See Also:

1.



<u>Flurry: Phablet Usage Grew 148 Percent in 2014</u> 2 weeks ago <u>adweek.com</u> <u>Adweek.com Brandy Shaul</u> Brandy Shaul Yahoo's mobile analytics and ad platform Flurry has released new data, measuring the growth of phablet devices from January 2014 to January 2015. This...

Analysis

2.





<u>'CBS This Morning' Boss: 'What Are You Doing to Me?'</u> 6 days ago <u>adweek.com Adweek.com Mark Joyella</u> Mark Joyella "CBS This Morning" executive producer Chris Licht has a lot on his plate each morning, including personally stepping in to avert potentially distracting neckwear...
CBS

• 3. <u>Is the NBC News Shakeup Really About Brian Williams?</u> 3 weeks ago <u>adweek.com</u> <u>Adweek.com Sam Thielman</u> Sam Thielman News broke Friday morning that NBC News chairman Pat Fili-Krushel will be replaced by Andy Lack, whose name is more or

## Across the Web:

by Gravity

# Get SocialTimes delivered straight to your inbox

Email address

Submit

# Send an anonymous tip

Describe your tip

Send

# Featured Jobs

Digital Supervising Producer

(http://www.mediabistro.com/joblistings/jobview.asp?

joid=177332&utm\_source=adweek.com&utm\_medium=customjobswidget)

Connection III Entertainment Corp.

Los Angeles, CA

Managing Editor (http://www.mediabistro.com/joblistings/jobview.asp? joid=177331&utm\_source=adweek.com&utm\_medium=customjobswidget)

Connection III Entertainment Corp.

Los Angeles, CA

Senior Project Manager

(http://www.mediabistro.com/joblistings/jobview.asp?

joid=178464&utm\_source=adweek.com&utm\_medium=customjobswidget)

Freelancers Union

Brooklyn, NY

Blog and Community Manager

(http://www.mediabistro.com/joblistings/jobview.asp?

joid=178454&utm\_source=adweek.com&utm\_medium=customjobswidget)

Freelancers Union

Brooklyn, NY

#### **Graphic Designer**

(http://www.mediabistro.com/joblistings/jobview.asp?

joid=178364&utm\_source=adweek.com&utm\_medium=customjobswidget)

# Creative Media Marketing

New York, NY

See more Jobs »

(http://www.mediabistro.com/joblistings?

utm\_source=adweek.com&utm\_medium=customjobswidget)

# Subscribe to Adweek



(http://adweek.com/subscribe-03)

Magazine + iPad App

Subscribe

Ally Issue

Intho://adweek.com/stluttp://ahop.adweek.com/

03)

# **Featured Courses**

# Blogging

# Use blogging platforms to discuss your brand, creative content, or business

Learn more > (http://www.mediabistro.com/courses/blogging/online/8995/? c=ABN&utm\_source=ABN&utm\_medium=featuredcourses&utm\_campaign=Blogging-040215)

# Digital Ad Sales

# Create proposals, analyze campaigns, and move to digital advertising

Learn more > (http://www.mediabistro.com/courses/digital-ad-sales/online/9006/? c=ABN&utm\_source=ABN&utm\_medium=featuredcourses&utm\_campaign=DigitalAdSales-032415)

#### Social Media 101

#### Get hands-on social media training for beginners

Learn more > (http://www.mediabistro.com/socialmedia101/? c=ABN&utm\_source=ABN&utm\_medium=featuredcourses&utm\_campaign=SocialMedia101-050415)

# Marketing with Facebook Insights Use Facebook's analytics tool to track and optimize your marketing efforts

Learn more > (http://www.mediabistro.com/courses/marketing-with-facebook-insights/online/8950/?

c=ABN&utm\_source=ABN&utm\_medium=featuredcourses&utm\_campaign=MarketingwithFace 040715)

See more Courses > (http://www.mediabistro.com/courses/?c=ABN)



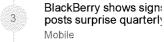


To Facebook, a shared link is as as a Like

Samsung bets big on A launch of Galaxy S6, St

The company's social plug-ins automatically count links you share - on your wall or through Facebook messages – as a "Like" for that page.

by Donna Tam y @DonnaYTam / October 4, 2012 12:42 PM PDT

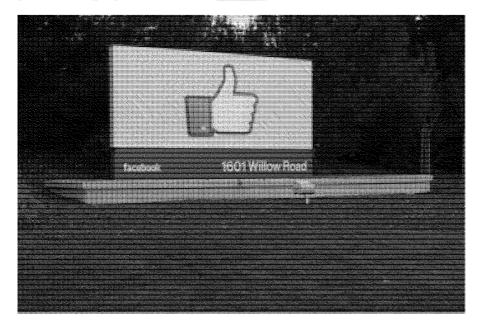


(f) 0 / (m) 0 / (m) 0 /

Apple's Tim Cook plans donate his wealth to ch



Lech Industry



Facebook

Like it or not, Web pages can count your Facebook shares as a "Like."

A Facebook Like multiplier bug going around highlighted a feature of the social network that may seem unfair to some: If you send a Web site's link to a friend via a Facebook message or if you post it to your Facebook wall, that Web page's Like counter ticks upward.

First noticed by The Wall Street Journal, the feature may rankle some users who don't want to be a part of an overinflated count for some Web site tracking its visitors, or users may feel violated that Facebook knows what you're sending a Friend via "private" messaging.

#### **RELATED STORIES**

- Facebook's Zuckerberg disses iPhone, removes post
- > Twitter at a crossroads once again
- ➤ Has AOL finally unloaded Bebo?

The count is for any site that has social plug-ins — those social-media counters usually sitting next to articles or products. Facebook has confirmed that this is all true, and says this method of counting Likes has been in place since Facebook made it possible for Web sites to add Like buttons to their pages. In fact, the social plug-ins counter also counts comments posted in response to a story, in addition to the actual number of Likes and the shares. A recent bug adds two Likes to the count instead of one, and Facebook said it's working to fix that.

But, Facebook says, this feature doesn't affect Like counts on Facebook pages and it's not an invasion of privacy since the Likes on the plugs-ins are anonymous:

Absolutely no private information has been exposed and Facebook is not automatically Liking any Facebook Pages on a user's behalf.

Many Web sites 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. When the count is increased via shares over private messages, no user information is exchanged, and privacy settings of content are unaffected. Links shared through messages do not affect the Like count on Facebook Pages.

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 on a fix to solve the issue now. 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.

Facebook does scan any links that pass through the network to look for spam, according to a Facebook representative. This includes links you send to a friend through messages -- Facebook automatically reviews the links before generating a link preview.

This still leaves the issue of an inflated Like count for links — even if you were sharing a link to show a friend something you don't like, you'd still be adding to the page's Like numbers. The lesson here? If you don't have anything nice to share, don't share it at all.

Tags: Internet, Privacy, Facebook

FEATURED VIDEO



SOFTWARE

# Expect the new Apple TV at WWDC 2015

Reports point to a a brand new Apple TV in June, take a look at an Apple Drone concept, and the App of the Week is Memoji Keyboard. Plus, our Mophie giveaway winners! / WATCH VIDEO

ABOUT THE AUTHOR



Donna Tam / 🔘 🚯 🚷

Donna Tam covers Amazon and other fun stuff for CNET News. She is a San Francisco native who enjoys feasting, merrymaking, checking her Gmail and reading her Kindle. See full bio

#### **Digital Spy**

- Latest
- TV
- <u>Tech</u>
- Movies
- Music
- Gaming
- Comics
- Reality TV
- Celebrity
- Netflix

Search Digital Spy

Digital Spy - Facebook Digital Spy - Twitter

Home / Tech / Internet / News

2 Tech News

# Facebook adding likes on users' behalf, says report

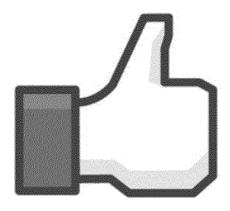
By Mark Langshaw Friday, Oct 5 2012, 4:59am EDT

21Shares

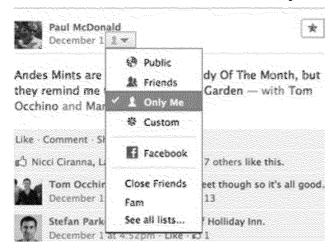
Share on Facebook Share on Twitter Share on Google+

<u>Facebook</u> is adding 'likes' to pages on behalf of its users when a URL is shared via private message, research suggests.

A US security expert discovered that sending a web address to a friend automatically adds two likes to that page, suggesting that the social network is scanning private messages.



© Facebook



Adding a comment to a story within Facebook also adds to the tally, regardless of whether the written remark is positive or negative.

Facebook has responded to the report's findings and issued a statement denying that privacy information has been exposed.

"Absolutely no private information has been exposed," they told <u>TechRadar</u> in a statement. "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."

#### > Facebook clamping down on 'fake likes'

Although Facebook also stressed that the addition likes are anonymous and will not appear on users' timelines, critics have pointed out that people who share pages to highlight negative content are making the site appear more popular.

The revelation follows Facebook's announcement that it now reached 1 billion users worldwide.

Facebook drones successfully tested in UK airspace

Winklevoss twins and Snapchat CEO to cameo in Silicon Valley season 2

Facebook: Hardware for creating VR experiences coming this year

Best new apps for tablets & smartphones: Layout, Vessel, more

21Shares

Share on Facebook Sh

Share on Twitter

Share on Google+

You May Like

More: Tech, Internet, Facebook

Previous: Sony heralds future of television with 84-inch 4K set

Next: 'PocketWarwick' preview: Warwick Davis unveils mobile game - video

Comments

Please login to add your comment

No account yet? Create one now!



#### OR Login with Digital Spy account



L Toby Townrow

I'd really like to see a "Dislike" button. October 7th 2012 at 5:17am



Britter

'Shares', not 'Likes'. They're two different things. See that little 'recommend' button that you have up there above your article? That's what they're talking about.

October 5th 2012 at 1:02pm

#### **Related Stories**



Facebook drones tested in UK airspace 0



Winklevoss twins for Silicon Valley cameo 0



Hardware for creating VR experiences coming 0



9 must-have apps for your mobile device 4



PlayStation Network adds verified accounts 1



PS4 suspend resume update available now 19



Facebook wants in on connected appliances 0



Facebook announces embeddable video plaver 0



Facebook opens Messenger to developers 2



Looking not returning for third season 3

#### Level Up



How Tekken popularised the 3D fighter

- A look back at the Magnavox Odvssey
- How does Killzone shape up ten years on?
- Medal of Honor turns 15 years old this week

#### Gaming Reviews



Xenoblade Chronicles 3D reviewed

- Bloodborne review: Terrifying
- Battlefield Hardline reviewed
- Ori and Blind Forest review \*\*\*

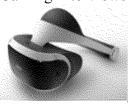
#### **Gaming Features**



What secrets lie in Final Fantasy XV demo?

- 15 most anticipated games of 2015
- 10 biggest gaming releases for December
- What are the 10 best-selling games ever?

#### Gaming Interviews



Shuhei Yoshida on the new Project Morpheus

- Rufus Hound on hosting Gaming BAFTAs
- Paul McCartney talks Destiny, James Bond
- We chat to Ubisoft about Far Cry 4

#### More Tech News



Facebook drones tested in UK airspace 0



YouTube footage now comes in 4K at 60fps 0



What's the first Apple Watch gaming app? 1



PlayStation TV reduced to £44.99 in the UK 3



Android apps for Windows 'being tested' 0



Will HTC launch a new tablet next month? 0



OnePlus appears to be working on a drone 0



Google faces lawsuit from Safari users 0



Beatport launches iOS and Android apps 0



Could this be the LG G4 smartphone? 0

# You May Like

by Taboola



#### Most Popular

- Articles
- Comments



Downton Abbey to end with sixth series 26



Zavn Malik: 'I feel like I'm doing what's right' 26



New Star Wars canon timeline revealed 9



Beginner's guide to surviving in Bloodborne 1



See Hulk vs Hulkbuster in Avengers 2 1



One Direction members speak out on Twitter 1



Liam Pavne: 'One Direction far from done' 4



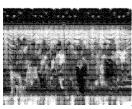
Downton Abbey: Why it had to end 8



Zane Lowe to head up new iTunes Radio? 1



Morrissev pulls out of Alan Carr interview 7



Glee's last ever episode Bid an emotional farewell in 'Dreams Come True'



James Bay: Chaos And The Calm album review A self-conscious debut

#### **Digital Spy**

- Latest
- Movies
- Showbiz
- Gaming
- Soaps
- Tech
- <u>TV</u>
- Video
- Music
- Forums

- Netflix
- About Us
  - · About Digital Spy
  - Advertise
  - Jobs
  - Mobile Site
- Contact Us
  - Contact Digital Spy
  - Terms and Conditions
  - o Privacy
  - Cookie Policy
  - Hearst Empowering Women
  - Complaints
- DS International
  - o UK
  - o USA
  - o Australia

#### Join Us

- Twitter
- Facebook

#### Hearst Magazines UK

© Hearst Magazines UK is the trading name of the National Magazine Company Ltd, 72 Broadwick Street, London, W1F 9EP. Registered in England 112955. All rights reserved. DIGITAL SPY, PART OF THE HEARST UK ENTERTAINMENT NETWORK



- News
- Reviews and Recaps
- Interviews
- Features
- Axed/Renewed Scorecard
- Cult
- Comics

#### Trending in TV



Halt and Catch Fire gets season 2 date



Melissa Joan Hart cast in Mysteries of Laura



Winklevoss twins for Silicon Valley cameo

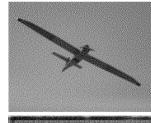


Michael Keaton, Taraji P Henson to host SNL

X

- News
- Reviews
- Features
- Phones
- <u>Tablets</u>
- <u>Television</u>
- Apps
- <u>Cameras</u>
- Tech Forums

#### Trending in Tech



Facebook drones tested in UK airspace



YouTube footage now comes in 4K at 60fps



What's the first Apple Watch gaming app?



PlayStation TV reduced to £44.99 in the UK

#### X

- News
- Reviews
- Interviews
- Features
- Box Office
- Comics
- Bollywood

# Trending in Movies



Watch a new Terminator Genisys trailer



Gyllenhaal gets ripped for Southpaw



Spectre to be released in IMAX



McConaughey for The Billionaire's Vinegar

X

- News
- Features
- Interviews
- Music Videos
- Billboard Chart
- Music Forum

#### Trending in Music



Charlatans, James Bay and more for V Festival



Def Leppard, Whitesnake announce UK tour



1D fans start campaign to buy the band



Ed Sheeran reveals split from girlfriend

X

- News
- Reviews
- Previews
- Features
- Interviews
- Xbox One
- PlayStation 4
- Live stream schedule
- Gaming Forums

## Trending in Gaming



New Hearthstone expansion out very soon



PlayStation TV reduced to £44.99 in the UK



Football Manager team making a hockey game



What's the first Apple Watch gaming app?

X

- News
- Interviews
- Comics Forum

## Trending in Comics



Stringers and Elk's Run come to Oni Press



Mark Waid & Mahmud Asrar take on Avengers



Arkham Knight is digital-only release on PC



Which DC villain is Owain Yeoman playing?

X

- News
- Review and Recaps
- Features
- The X Factor
- The Voice
- Dancing with the Stars

## Trending in Reality TV



American Idol's double elimination results



Dancing with the Stars: Who was eliminated?



Jack Tweed remembers Jade Goody 6 years on



Four acts leave The Voice quarter-final

X

- News
- Features
- 10 Things About

# Trending in Celebrity



100s ask for time off after Zavn's 1D exit



Obama discusses drugs with The Wire creator



WrestleMania 31 preview: Battle Royal



Gyllenhaal gets ripped for Southpaw

# Facebook bug silently tallies up extra "likes"

By Rick Burgess on October 5, 2012, 5:00 PM



Facebook is once again finding itself under investor scrutiny after a U.S. security researcher uncovered a flaw in its "like" system which appears to be responsible for liking sites an unintended number of times.



Although

Facebook has pointed to a feature glitch as the indubitable cause, some cynics believe Facebook has much to gain by padding its social graph via means of "Like fraud".

Researchers found that <u>sending a URL</u> to a friend via Facebook's private message system would add two likes to a page instead of just one. That clearly shouldn't be expected behavior. Comments left on Facebook posts also add to the