

Privacy could be the next big thing

Stuart Langridge
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kryogenix.org

data collection... a bit much?

data collection... a bit creepy?



Market

Scanner and Service

B 28

Snacks
Nuts

Clearance

C 20

Air Compressor

Power Tools



SAVE
50¢

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CARMEX LIP BALM

\$2.25 OFF

50¢ Off

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TORRANCE
HIGH SCHOOL

LETTERS

SCIENCES



The Incredible Story Of How Target Exposed A Teen Girl's Pregnancy



Gus Lubin    

🕒 Feb. 16, 2012, 10:27 AM  82,733

Target broke through to a new level of customer tracking with the help of statistical genius Andrew Pole, according to a [New York Times Magazine cover story](#) by Charles Duhigg.

Pole identified 25 products



allo

MESSAGING

GOOGLE

ARTIFICIAL INTELLIGENCE

Google's Allo app can reveal to your friends what you've searched

The mobile messaging app lets you include Google Assistant in conversations.

BY TESS TOWNSEND | MAR 13, 2017, 9:00PM EDT



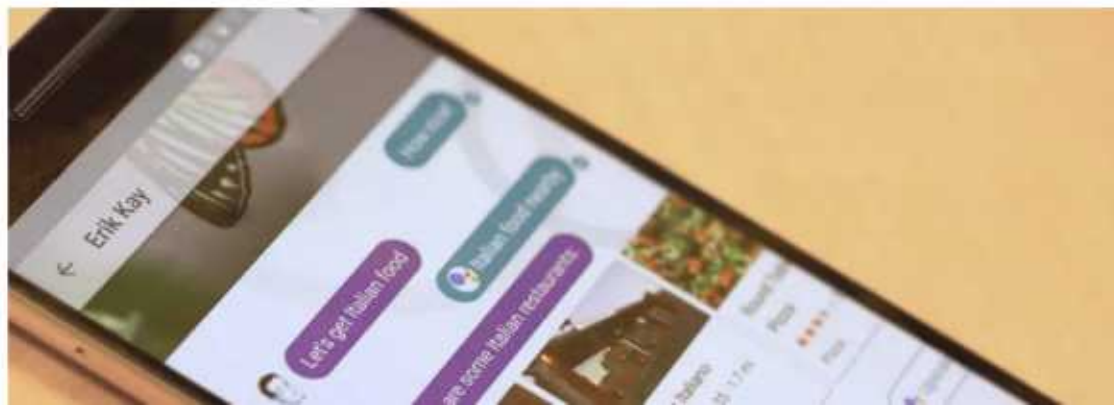
TWEET



SHARE



LINKEDIN



become a supporter

theguardian

news / opinion / sport / arts / life



UK / world / business / environment / tech / UK politics / more



Women less likely to be shown ads for high-paid jobs on Google, study shows

Automated testing and analysis of company's advertising system reveals male job seekers are shown far more adverts for high-paying executive jobs



BUSINESS

CULTURE

GADGETS

FUTURE

Facebook patent: Your friends could help you get a loan - or not

by Ananya Bhattacharya @CNNTech

🕒 August 4, 2015: 6:58 PM ET







Uber Knows Too Much About You

The kind of data that Uber has access to— even if it's not, say, the actual contents of your email or the actual conversations you're having on your phone—is extremely invasive.



Sarah Jeong

May 27 2016, 5:34pm





Alan Garner

@AlanHangover



Isn't it great to live in the 21st century?
Where deleting history has become more
important than making it.

6:32 am - 15 May 2014

86 Retweets 63 Likes



**“If you're not paying for the product, you
are the product.”**

WRONG

“If you’re not paying for the product, you are the product.”

BAD


NO



"There is no correlation between how much money users pay and how well they're treated."



NATIONAL

 MITSUBISHI

POWER VHS Hi-Fi VHS Hi-Fi VHS Hi-Fi VHS Hi-Fi VHS Hi-Fi

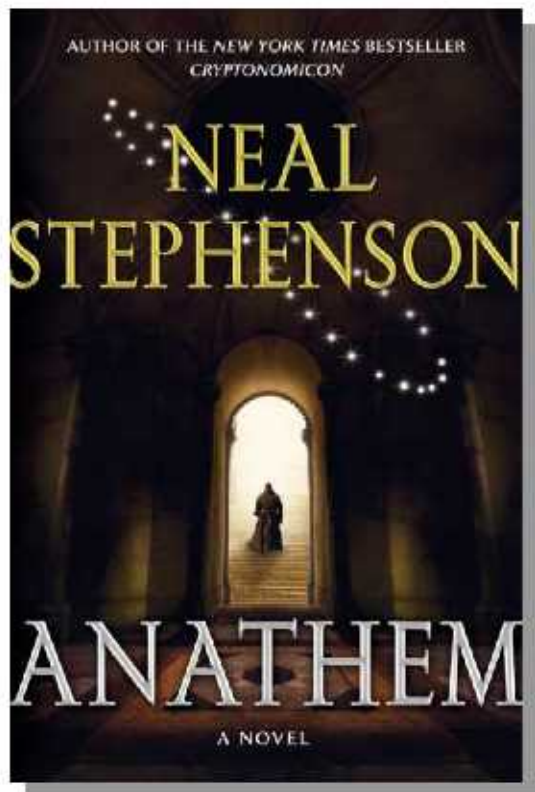
creepy

AUTHOR OF THE NEW YORK TIMES BESTSELLER
CRYPTONOMICON

NEAL
STEPHENSON

ANATHEM

A NOVEL



aggregation





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Power Tools







“Amazing”

**Your data collection is creepy
when you use it to deduce things
you weren't told and shouldn't know**

5

ALCOHOL

CHEMIST

9

10

2

6

4

8

FRUIT & VEG

1

3

7

FLOWERS

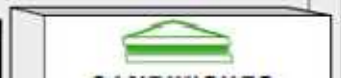
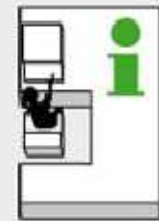
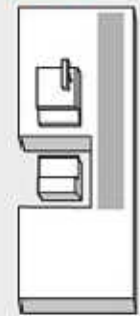
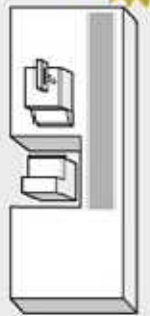
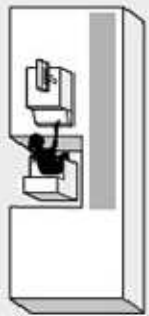
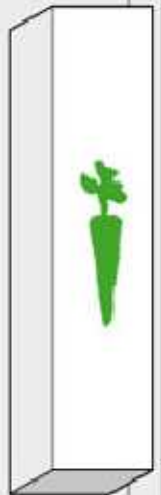
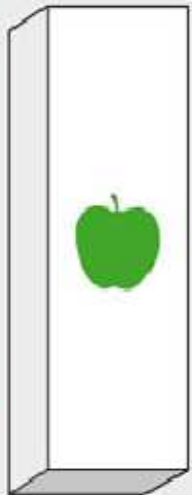
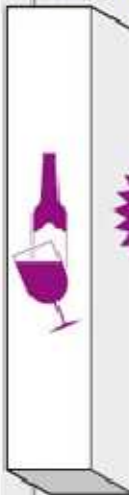
TOBACCO

NEWSPAPERS

INFORMATION

ENTRANCE

CHECKOUTS



SUMMER SQUASH
 A summer variety, yellow squash has a high water content and a smooth, clean flavor. Great when steamed.



BELL PEPPERS
 Very refreshing raw, and a classic flavoring in soups, stews and other cooked dishes. Puffed with powerful antioxidants, plus a hefty dose of vitamin C.



ORGANIC Cucumbers
 \$1.99



CUCUMBER
 Crisp and cool, cucumbers are nice to eat with salads and fresh salsas. Peel off the skin and use to make...

EGGPLANT
 Eggplant is a versatile vegetable that can be used in many ways. It's a good source of antioxidants and fiber.

Red Peppers \$3.99

Orange Peppers \$3.99

Yellow Peppers \$3.99

Green Peppers \$2.49

Red Peppers \$1.99

Yellow Peppers \$1.99

Green Peppers \$1.99

Yellow Peppers \$1.99



Orange Bell Peppers \$5.99

Yellow Bell Peppers \$5.99

Red Peppers \$4.99

Yellow Peppers \$4.99

Green Peppers \$4.99

Red Peppers \$4.99

Yellow Peppers \$4.99

Green Peppers \$4.99



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Wholemeal Puff

PICK & MIX
4 for £1.20

White Bread Roll

PICK & MIX
3 for £1.20

Rye Roll

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3 for £1.20

PICK & MIX
3 for £1.20

Roll

Customise your roll
for extra...



PICK & MIX
4 for £1.20

Seeded Wholemeal Roll



PICK & MIX
3 for £1.20

Onion & Herb Ciabatta Roll



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3 for £1.20

Soft Roll



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Green Cabbage Roll



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Cinnamon & Raisin Roll

Customise your roll
for extra...

£2



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Honey & Sunflower Squares



PICK & MIX
3 for £1.20

Bread Roll with Cheese & Onion



PICK & MIX
3 for £1.20

Butter Roll



PICK & MIX
3 for £1.20

Soft Roll



PICK & MIX
3 for £1.20

Cinnamon & Raisin Roll

Customise your roll
for extra...

2



Save £7



FREE
COUPON
OFFER

Food Lion's
TRADITION
continues as we
LOWER
PRICES
throughout
the store.

FEEL CLEANER and FRESHER than with toilet paper and

6 pack
Spic Span
SCENTED CLEANING
WIPES

Ziploc
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STORAGE
BAGS 30
BONUS

Smart
Option



Smart
Option

5
XL
Ziploc
BONUS
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Johnnie Walker
Kings of the
Collection

WALKER & SONS

THE WHISKEY COLLECTION

CIGARS

COGNAC

THE WINE
COLLECTION

WHISKY

WHISKY

WDX

MALT WHISKY

MALT WHISKY

TOP
PICK

VAT
69

14

SAVE
US\$4

Grants

TOP
PICK

TOP
PICK

THE
GLENFETH

“Every aspect of a store’s layout is designed to stimulate shopping serendipity”

trapped

you can't opt out

unrealistic

Back to results

Back to results

the studio.
4.3 ★★★★★ (11 reviews)
Conference Centre

Save Add alert Send to your phone Share

13 flexible conference/training rooms for 2-200 people plus an atrium bar for events and networking.

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Support an edit

Popular times: **Thursdays**

Less busy than usual

17 photos

Add a photo

Review summary

5 4 3 2 1

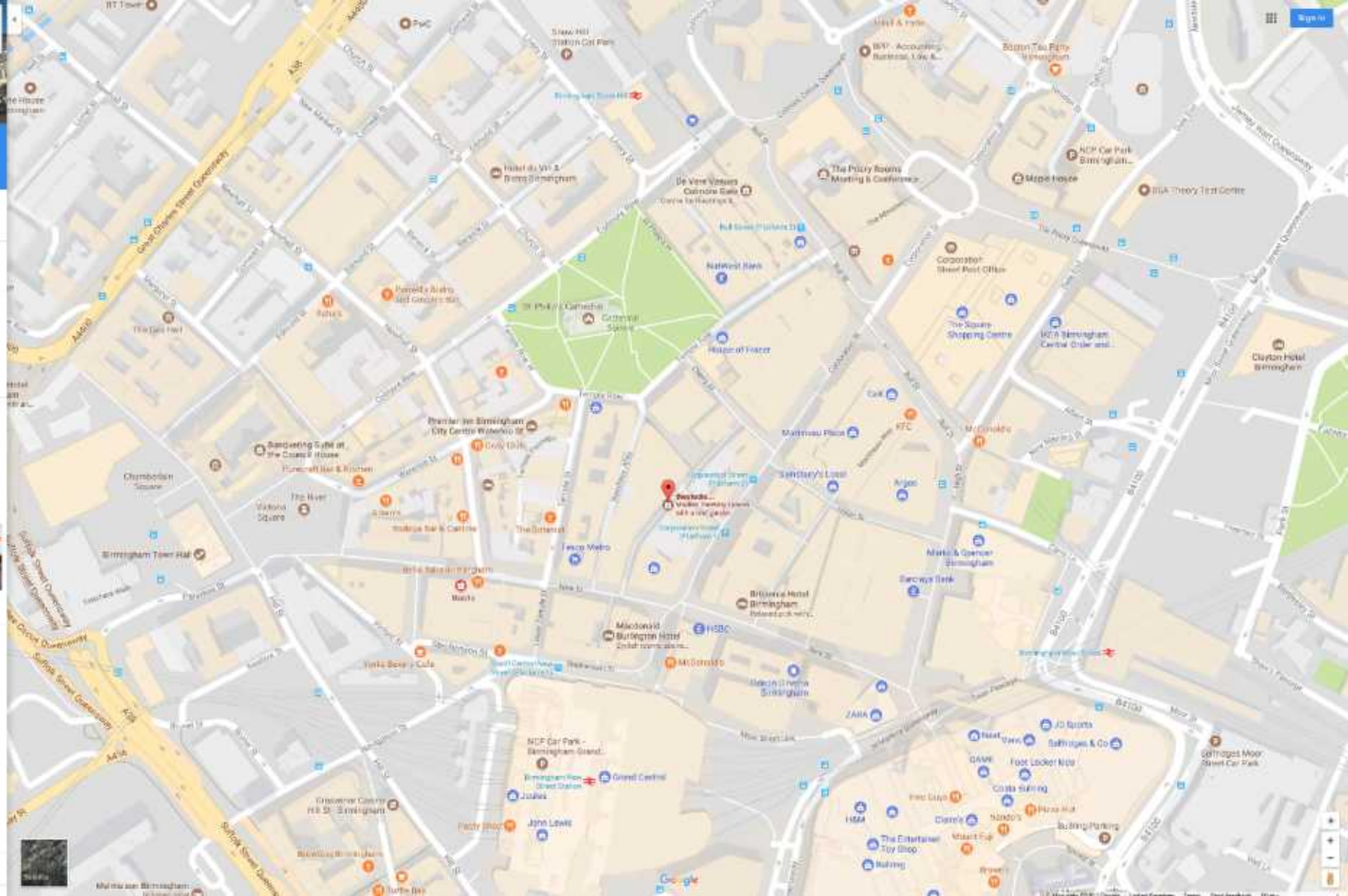
4.3
★★★★★
11 reviews

“Great service by staff!”

“Good food and nice location and friendly environment!”

“Of all the people having to park because there was no room to move.”

Write a review











**“If you leave your phone behind, it’s like
missing limb syndrome”**

you can't regulate it away

THE TIMES OF INDIA
INDIA

Right to Privacy is a fundamental right, it is intrinsic to right to life: Supreme Court

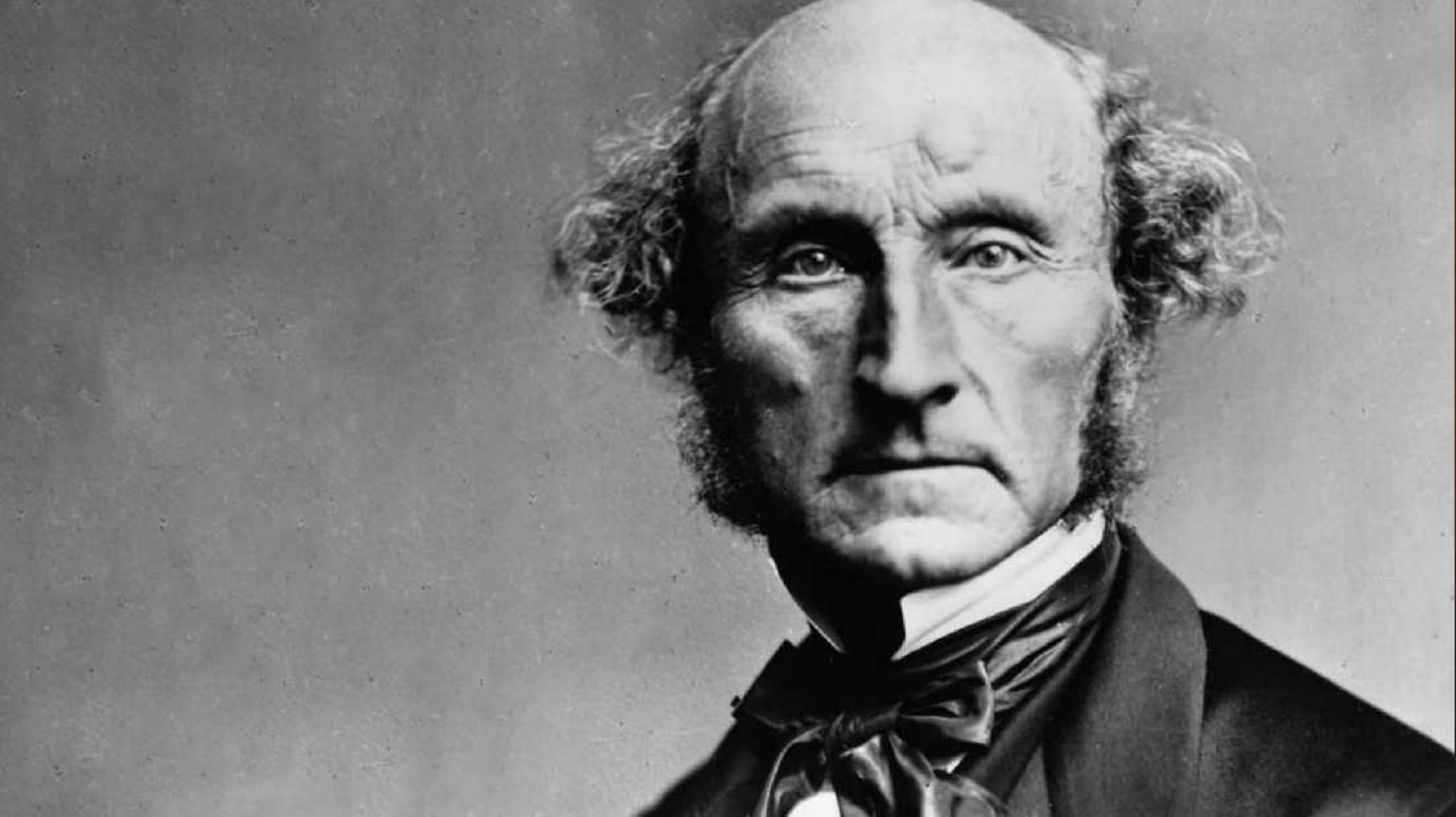
Dhananjay Mahapatra and Amit Anand Choudhary | TNN | Updated: Aug 24, 2017, 23:03 IST



HIGHLIGHTS

- The order affects all 134 crore Indians
- The apex court overruled previous judgments on the privacy issue
- It overruled an eight-judge bench judgment in the MP Sharma case and a six-judge bench judgment in Kharak Singh case
- Both earlier judgments ruled that privacy is not a fundamental right.

NEW DELHI: The [Supreme Court](#) (SC) on Thursday ruled that privacy is a



**“laws passed by governments are about the
ninetieth most important restriction on our
freedom of speech”**

you can't shout



Sarah Mei 

@sarahmei



So....Mozilla knows, right, that "privacy" has never been an effective selling point for software? Like ever?

you can't reboot the public

The children of the revolution were faced with
the age-old problem:

it wasn't that you had the wrong kind of
government, which was obvious, but that you
had the wrong kind of people

More than 70% of people would reveal their password in exchange for a bar of chocolate

technology is not the fix



[matrix]

 **Purism**





NordVPN



LastPass 

 dashlane



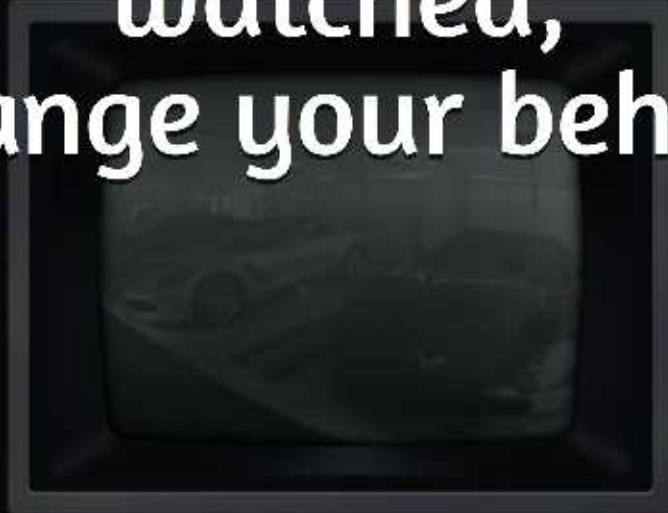
1Password 

Tor



**“Freedoms are not being taken away;
we are just afraid to use them”**

**“If you feel you are being
watched,
you change your behaviour”**



no choice

the next ten years











82% of people are not comfortable with the sale of their data to third-parties in exchange for speed or convenience or product range

Half of all people have avoided doing some basic stuff online because they have concerns about how their data will be used

disrupt





+



=



4,400

**The way you overcome an incumbent business is
by doing battle on a field that they can't
compete on**

a weapon which only hurts bad people



Privacy experts too paranoid even for lunch

29-08-14



The UK's top authorities on privacy law



how?

~\ (ツ) /~

differential privacy



Alice



Bob



Cantrice



Darsh



$4\sqrt[3]{12\epsilon^2 2^{-d}}$, for at least a $1-\alpha$ fraction of the pairs (r, b) . The bit b is unimportant here since it only switches D_r and its complement \bar{D}_r . The distance between $Z(D_r)$ and $Z(D)$ is exactly the same as the distance between $Z(\bar{D}_r)$ and $Z(D)$, since $Z(D)$ is the mid-point between the two. Thus, the statement holds even over pairs of the form $(r, 0)$. This proves Lemma 2.

Proof (Proof of Claim 1). Let p^* be the minimum over x of $p(z|x)$. Let $q_x = p(z|x) - p^*$ and $\bar{q} = p(z) - p^*$. The variance of $\hat{p}(z)$ is the same as the variance of $\hat{p}(z) - p^*$. We can write $\hat{p}(z) - p^*$ as $\frac{2}{2^d} \sum_x q_x \chi_0(x)$, where $\chi_0(x)$ is 1 if $x \in D_{r,b}$. The expectation of $\hat{p}(z) - p^*$ is \bar{q} , which we can write $\frac{1}{2^d} \sum_x q_x$.

$$\text{Var}_{r,b} [\hat{p}(z)] = \mathbb{E}_{r,b} \left[\left(\frac{2}{2^d} \sum_x q_x \chi_0(x) - \frac{1}{2^d} \sum_x q_x \right)^2 \right] = \mathbb{E}_{r,b} \left[\left(\frac{1}{2^d} \sum_x q_x (2\chi_0(x) - 1) \right)^2 \right] \quad (6)$$

Now $(2\chi_0(x) - 1) = (-1)^{r \odot x \oplus b}$. This has expectation 0. Moreover, for $x \neq y$, the expectation of $(2\chi_0(x) - 1)(2\chi_0(y) - 1)$ is exactly $1/2^d$ (if we chose r with

data science

help understand

It's not OK that you're made to feel
uncomfortable

false dilemma

it's us

change the story

UX

explain



the seesaw tips

Talk about how we change the story.

@sil