SciencesPo

Digital Culture

The web: a “common good”?

The Web and Hypertext Links

The Hypertext Link

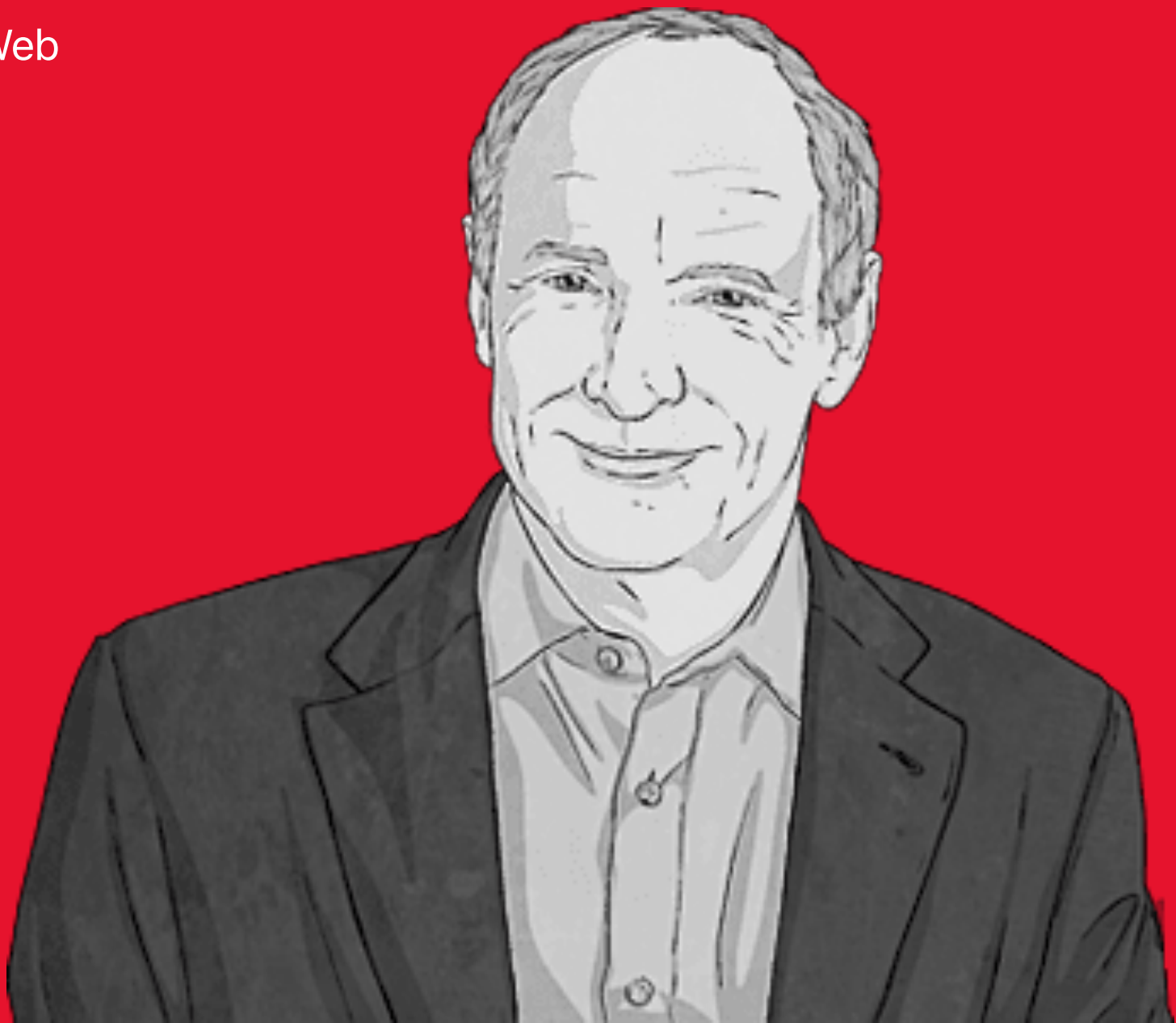
Source: Lifewire

Question

How is the Web different in the way information is arranged?

Tim Berners-Lee

Inventor of the Web

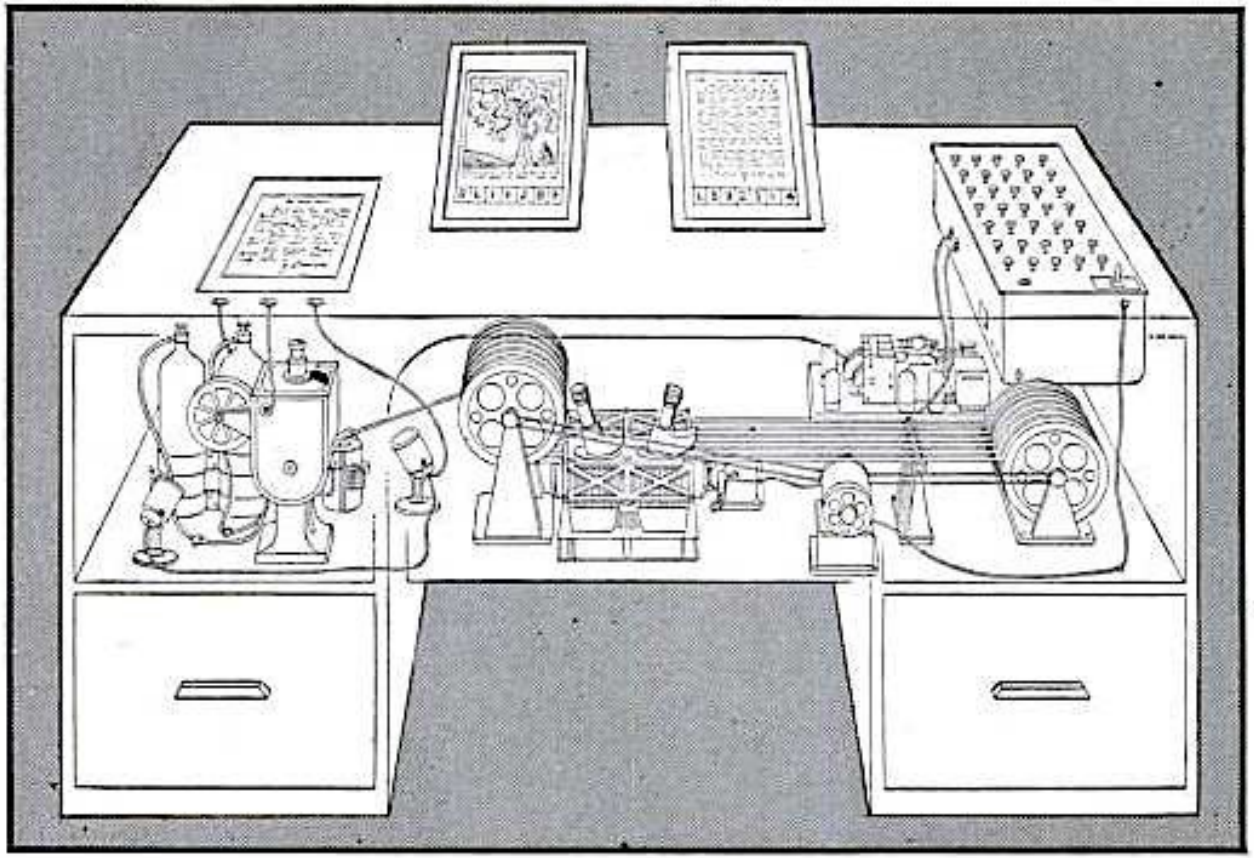


1989

The Mundaneum

Source: visitmons.be

The Memex

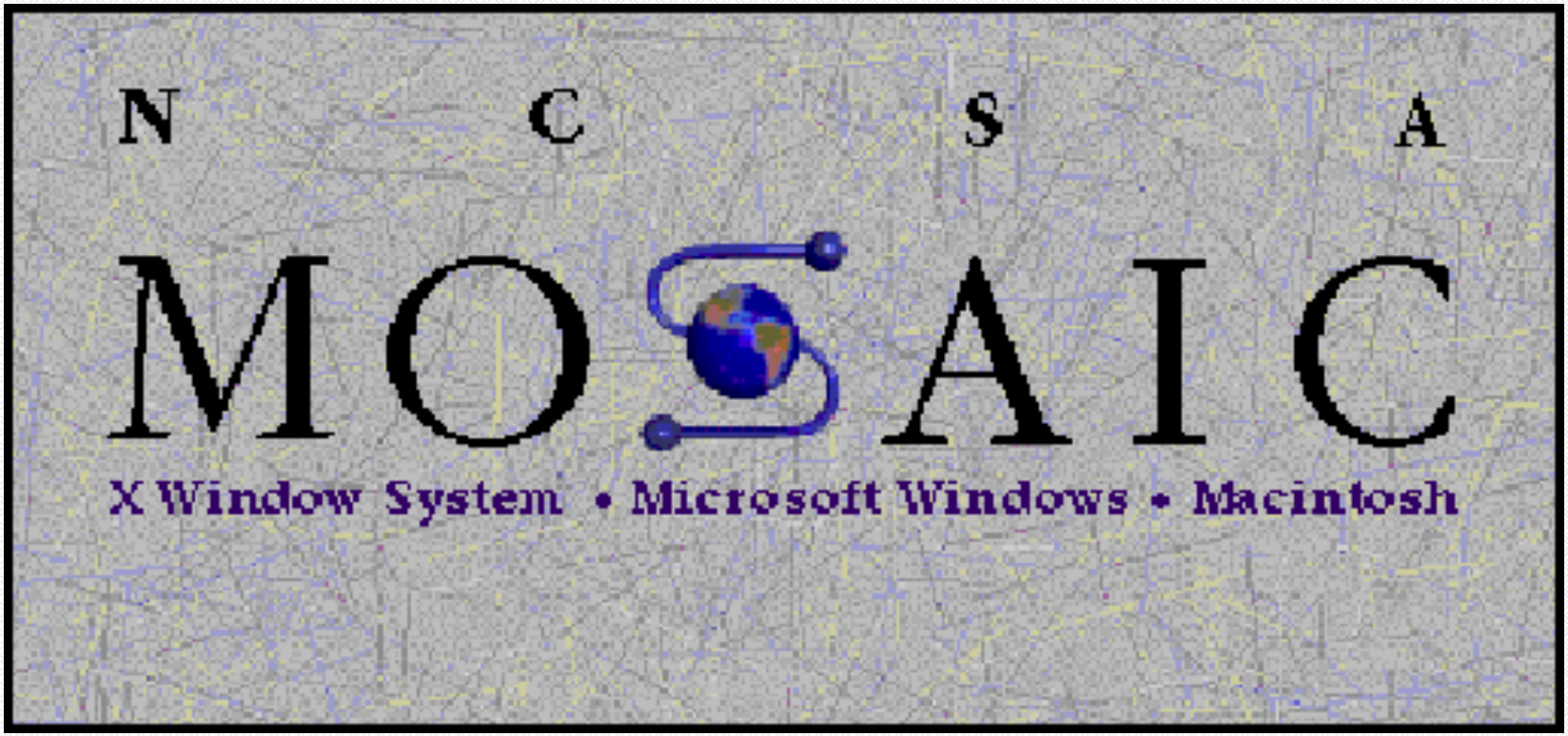


MEMEX in the form of a desk would instantly bring files and material on any subject to the operator's fingertips. Slanting translucent viewing screens magnify supermicrofilm filed by code numbers. At left is a mechanism which automatically photographs longhand notes, pictures and letters, then files them in the desk for future reference.

AS WE MAY THINK CONTINUED

Source: Vannevar Bush, As We May Think (1945)

Mosaic



Source: Vannevar Bush, As We May Think (1945)

HTTP and CERN

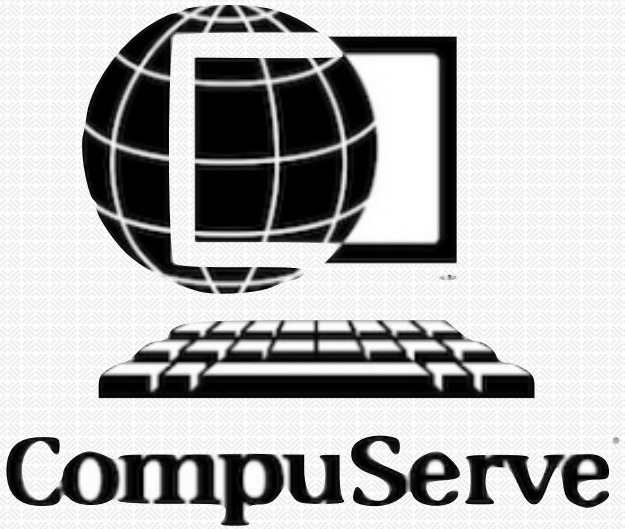
Source: CERN

The New Economy

NSFNet

Source: nsf.gov

First Internet Access Providers (IAP)



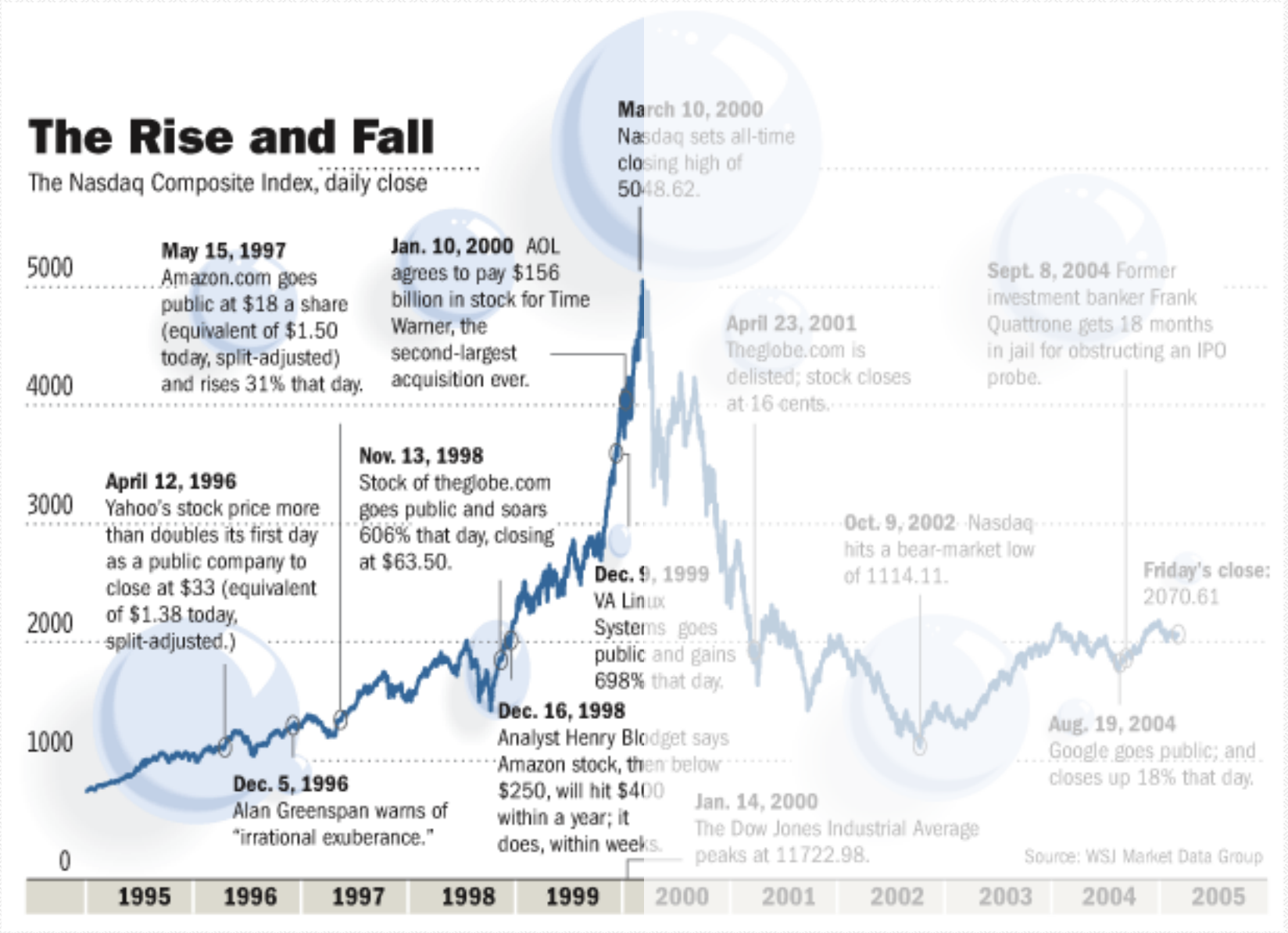
Source: wikipedia.com

First Commercial Companies

Netscape

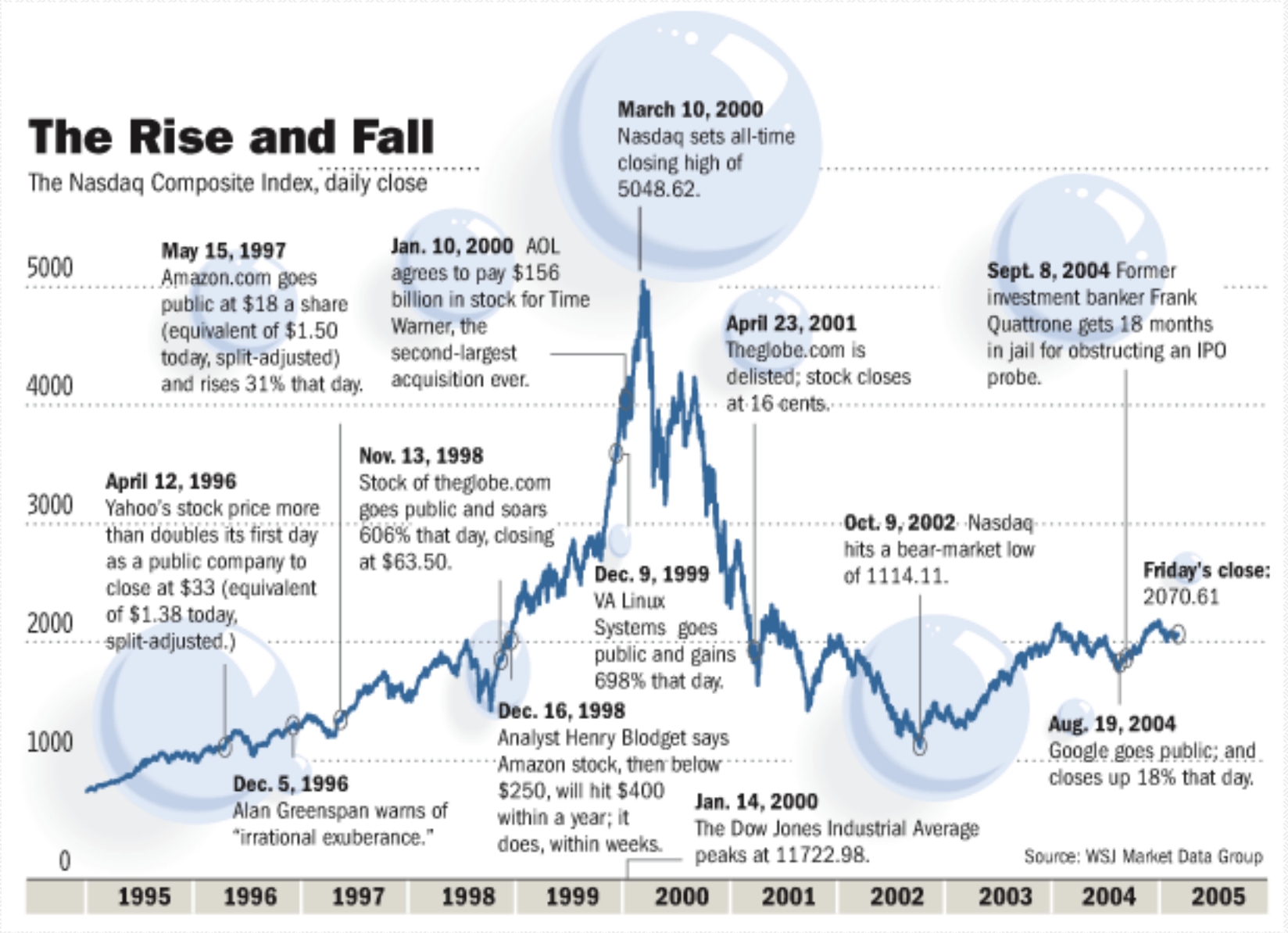
Source: wikipedia.com

The Dot-Com Bubble



Source: The New York Times

The Dot-Com Bubble



Source: The New York Times

Robert Solow

Nobel Prize in Economics

1987

Question

What do you think are examples of unanticipated uses of the Internet?

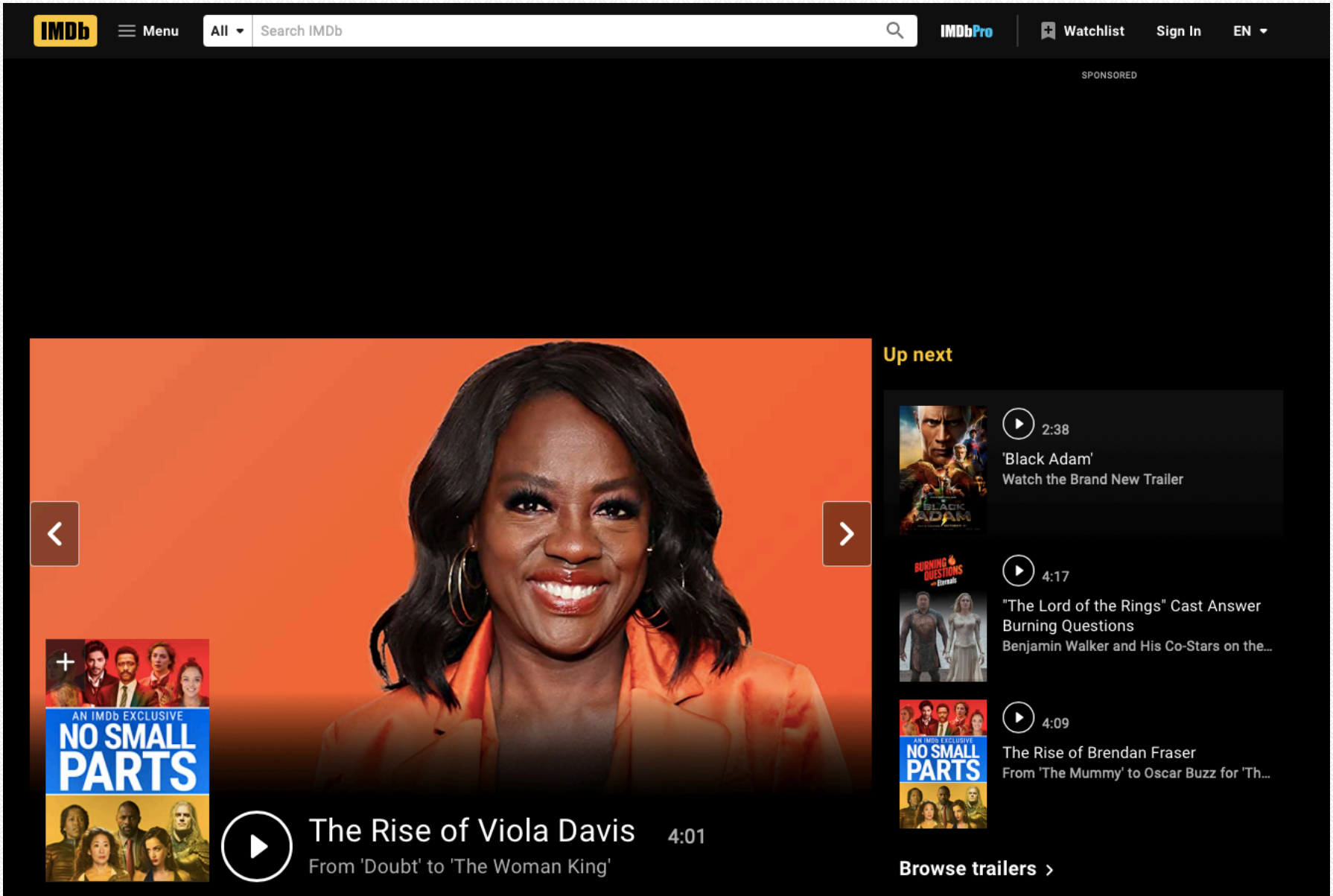
Bottom-Up Innovations

Col Needham

Internet Movie Database (IMDb)

1990

Internet Movie Database (IMDb)

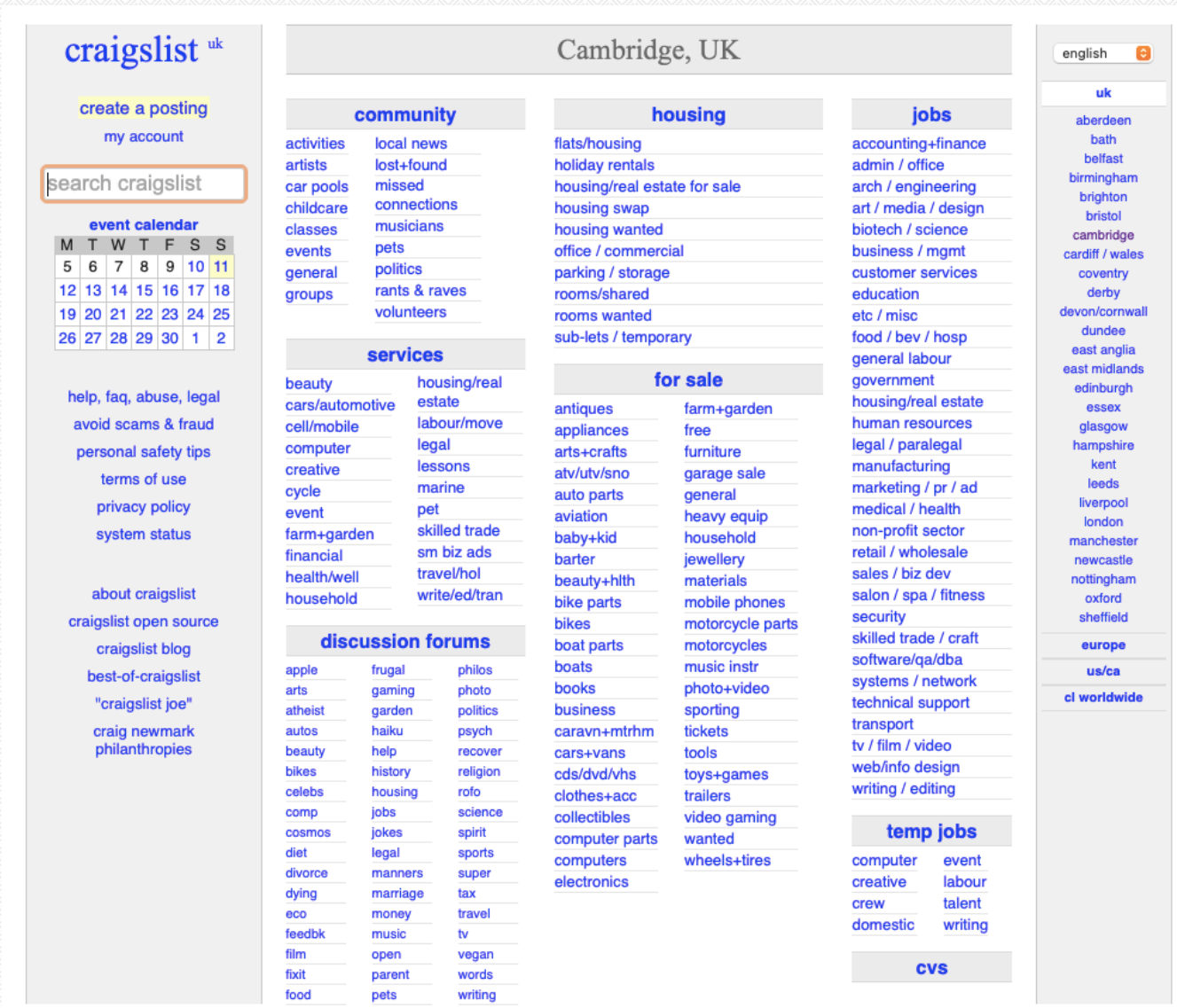


Craig Newmark

Craigslist

1995

Craigslist



craigslist uk

create a posting
my account

search craigslist

event calendar

M	T	W	T	F	S	S
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	1	2

help, faq, abuse, legal
avoid scams & fraud
personal safety tips
terms of use
privacy policy
system status

about craigslist
craigslist open source
craigslist blog
best-of-craigslist
"craigslist joe"
craig newmark philanthropies

Cambridge, UK

community

activities
artists
car pools
childcare
classes
events
general
groups
local news
lost+found
missed connections
musicians
pets
politics
rants & raves
volunteers

services

beauty
cars/automotive
cell/mobile
computer
creative
cycle
event
farm+garden
financial
health/well
household
housing/real estate
labour/move
legal
lessons
marine
pet
skilled trade
sm biz ads
travel/hol
write/ed/tran

discussion forums

apple
arts
atheist
autos
beauty
bikes
celebs
comp
cosmos
diet
divorce
dying
eco
feedbk
film
fixit
food
frugal
gaming
garden
haiku
help
history
housing
jobs
jokes
legal
manners
marriage
money
music
open
parent
pets
philos
photo
politics
psych
recover
religion
rofo
science
spirit
sports
super
tax
travel
tv
vegan
words
writing

housing

flats/housing
holiday rentals
housing/real estate for sale
housing swap
housing wanted
office / commercial
parking / storage
rooms/shared
rooms wanted
sub-lets / temporary

for sale

antiques
appliances
arts+crafts
atv/utv/sno
auto parts
aviation
baby+kid
barter
beauty+hlth
bike parts
bikes
boat parts
boats
books
business
caravn+mtrhm
cars+vans
cds/dvd/vhs
clothes+acc
collectibles
computer parts
computers
electronics
farm+garden
free
furniture
garage sale
general
heavy equip
household
jewellery
materials
mobile phones
motorcycle parts
motorcycles
music instr
photo+video
sporting
tickets
tools
toys+games
trailers
video gaming
wanted
wheels+tires

jobs

accounting+finance
admin / office
arch / engineering
art / media / design
biotech / science
business / mgmt
customer services
education
etc / misc
food / bev / hosp
general labour
government
housing/real estate
human resources
legal / paralegal
manufacturing
marketing / pr / ad
medical / health
non-profit sector
retail / wholesale
sales / biz dev
salon / spa / fitness
security
skilled trade / craft
software/qa/dba
systems / network
technical support
transport
tv / film / video
web/info design
writing / editing

temp jobs

computer
creative
crew
domestic
event
labour
talent
writing

cvs

english

uk
aberdeen
bath
belfast
birmingham
brighton
bristol
cambridge
cardiff / wales
coventry
derby
devon/cornwall
dundee
east anglia
east midlands
edinburgh
essex
glasgow
hampshire
kent
leeds
liverpool
london
manchester
newcastle
nottingham
oxford
sheffield

europe
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cl worldwide

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Jimmy Wales

Wikipedia

2000

Wikipedia

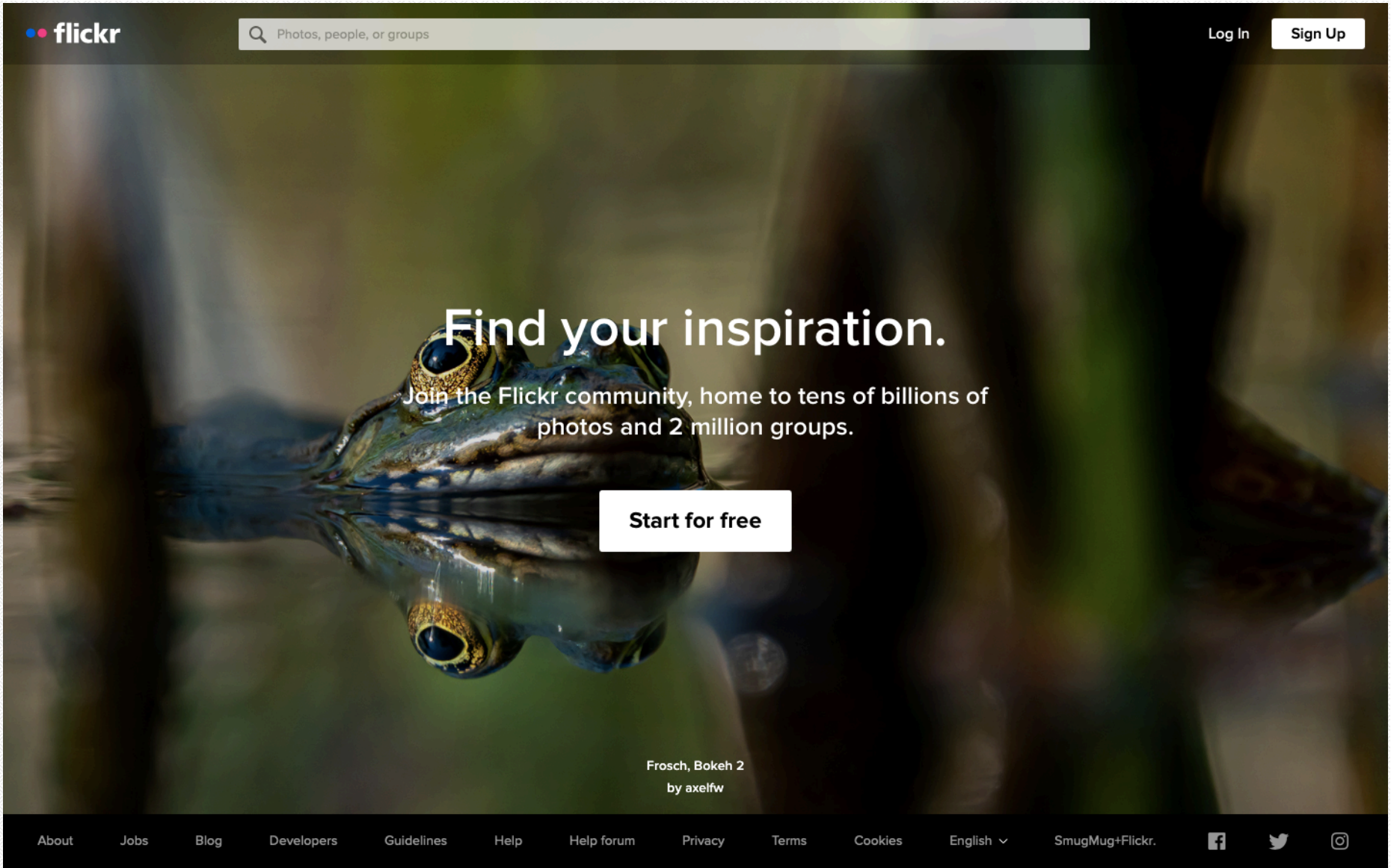
WIKIPEDIA
The Free Encyclopedia
English
6 458 000+ articles
日本語
1 314 000+ 記事
Español
1 755 000+ artículos
Русский
1 798 000+ статей
Deutsch
2 667 000+ Artikel
Français
2 400 000+ articles
Italiano
1 742 000+ voci
中文
1 256 000+ 条目 / 條目
Português
1 085 000+ artigos
العربية
1 159 000+ مقالة
EN
Read Wikipedia in your language

Caterina Fake and Stewart Butterfield

Flickr

2001

Flickr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by axelfw
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Guidelines
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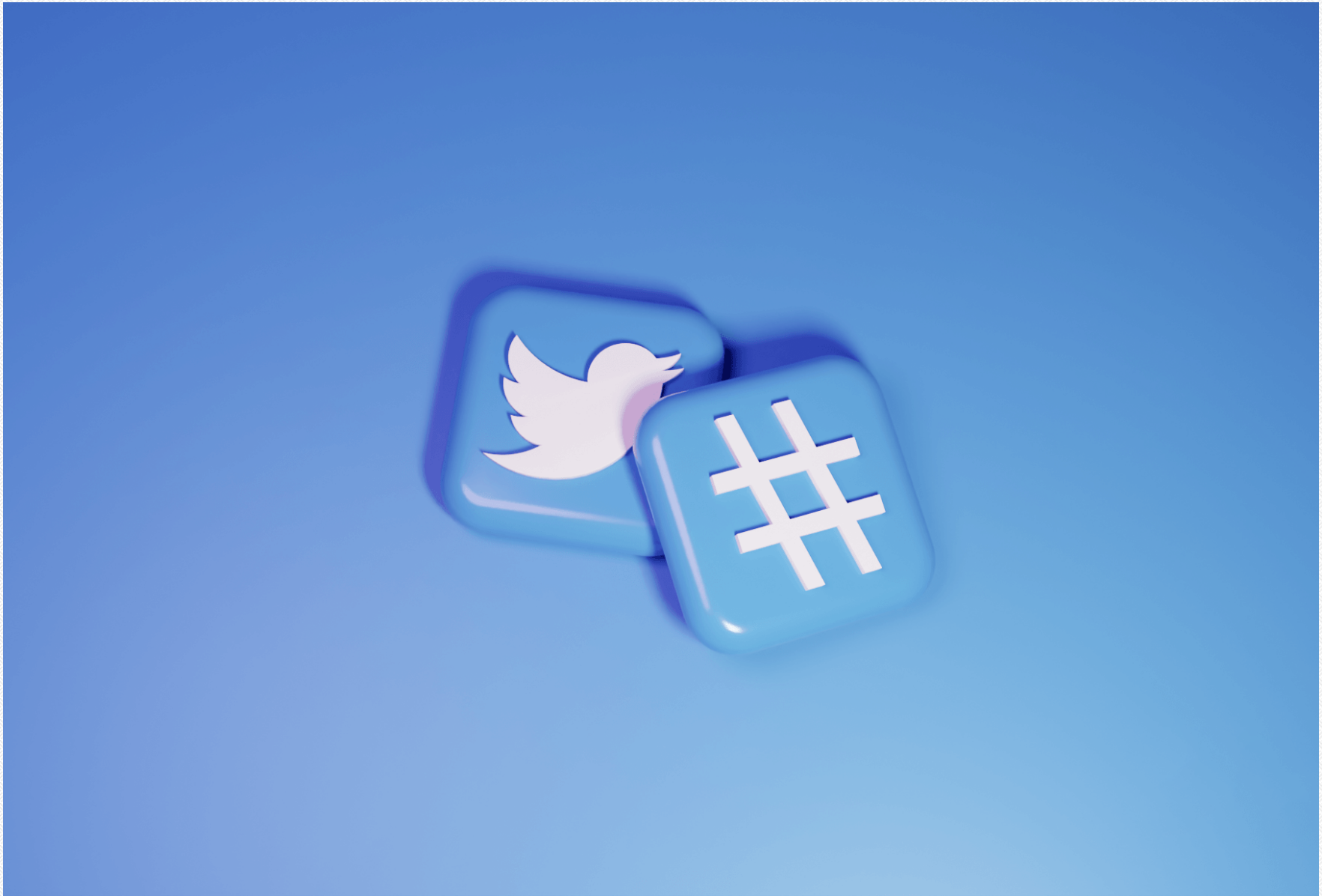
Help forum
Privacy
Terms
Cookies
English
SmugMug+Flickr.

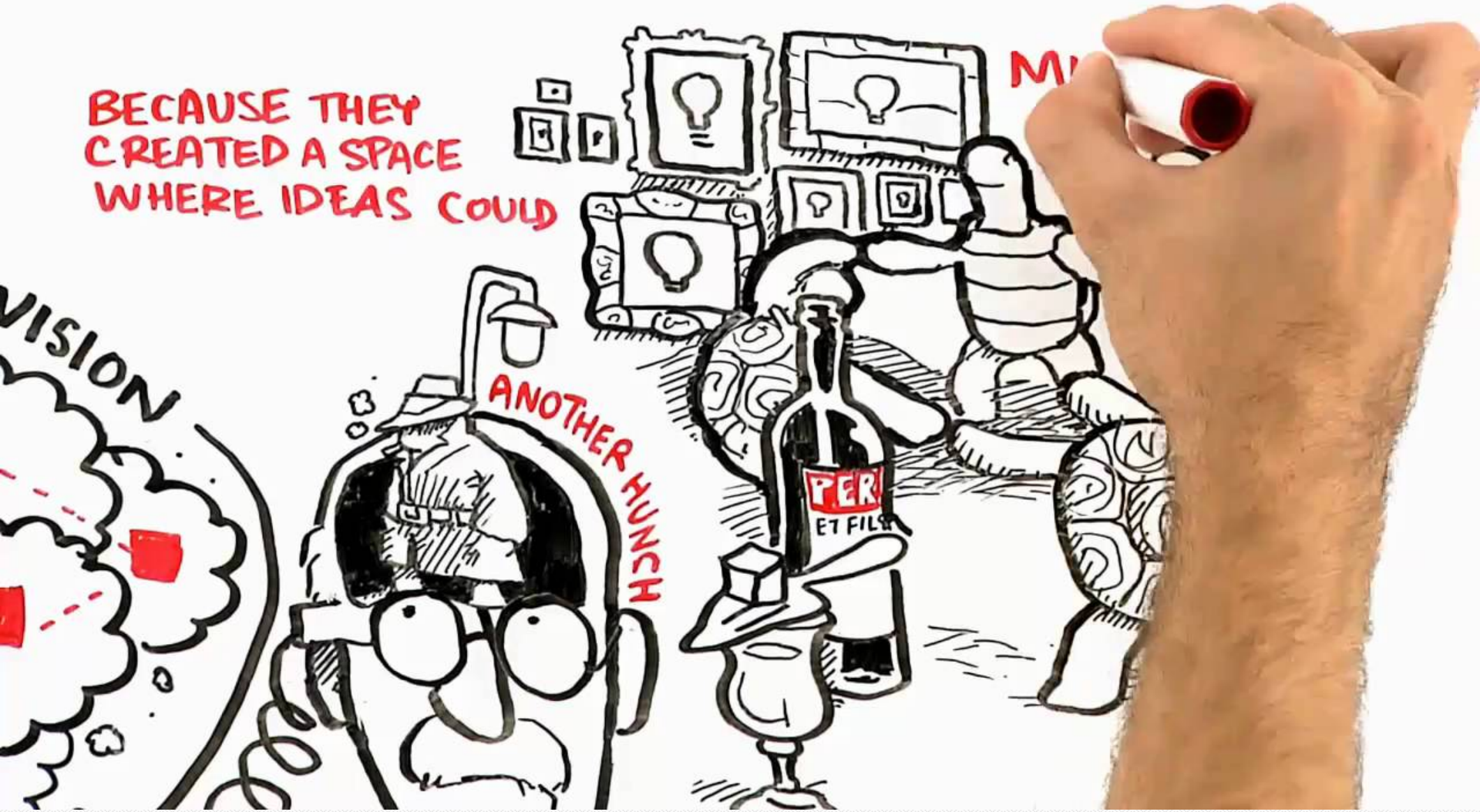
Chris Messina

Hashtag feature

2006

Twitter Hashtag Feature




BECAUSE THEY
CREATED A SPACE
WHERE IDEAS COULD
VISION
ANOTHER HUNCH

Open Source Software and Data

Bill Gates' Open Letter

February 3, 1976

An Open Letter to Hobbyists

To me, the most critical thing in the hobby market right now is the lack of good software courses, books and software itself. Without good software and an owner who understands programming, a hobby computer is wasted. Will quality software be written for the hobby market?

Almost a year ago, Paul Allen and myself, expecting the hobby market to expand, hired Monte Davidoff and developed Altair BASIC. Though the initial work took only two months, the three of us have spent most of the last year documenting, improving and adding features to BASIC. Now we have 4K, 8K, EXTENDED, ROM and DISK BASIC. The value of the computer time we have used exceeds $40,000.

The feedback we have gotten from the hundreds of people who say they are using BASIC has all been positive. Two surprising things are apparent, however. 1) Most of these "users" never bought BASIC (less than 10% of all Altair owners have bought BASIC), and 2) The amount of royalties we have received from sales to hobbyists makes the time spent of Altair BASIC worth less than $2 an hour.

Why is this? As the majority of hobbyists must be aware, most of you steal your software. Hardware must be paid for, but software is something to share. Who cares if the people who worked on it get paid?

Is this fair? One thing you don't do by stealing software is get back at MITS for some problem you may have had. MITS doesn't make money selling software. The royalty paid to us, the manual, the tape and the overhead make it a break-even operation. One thing you do do is prevent good software from being written. Who can afford to do professional work for nothing? What hobbyist can put

Source: wikipedia.org

The Free Software Foundation

Source: fsf.org

Two Main Components

The technical-political construction of free software has two components:

- a political one, through the source code publication
- a legal one, through the creation of specific licenses (GPL, CC, etc...)

Wikipedia: A Collective Enterprise

Nupedia

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Wikipedia
A complementary encyclopedia project

Welcome to Nupedia!

We are building the world's largest international, peer-reviewed encyclopedia. It is free. The project is largely "on hold" but poised to get moving again with renewed vigor when funding is found.

It's not hard to get involved, and we really do need *your* involvement! Basically, we need

- writers
- editors and peer reviewers,
- copyeditors,
- programmers,
- translators, and even
- casual participants.

Just sign up (it's a very short form) and we'll get you started. Or perhaps you need to be convinced?

Nupedia's policy guidelines have been recently updated! Please have a look. We have added a FAQ that answers many of the most frequently-asked questions about Nupedia policy and procedure.

Nupedia is becoming multilingual. To discuss issues related to this, please join Interpret-L. You will be able to unsubscribe yourself from the same page. We also have groups devoted to translation into (and, later, from) French, German, Italian, Portuguese, and Spanish.

You might notice that we have changed our logo/banner slightly. Thanks go to **Sally Milo** of **Milo Design** for the update. The old subtitle for Nupedia, "The Open Content Encyclopedia," is now "The Free Encyclopedia." This is more inviting to people who do not know what "Open Content" means. It is also more inviting to people associated with Richard Stallman's Free Software Foundation (FSF). They prefer "free" (that term) to "open content" and "open source." "Free," as Stallman points out, here means not "free of charge" but instead "unconstrained by (most) legal restrictions on use." We thought it would be nice to please these people who can help Nupedia so much. This change does not represent any sort of change in policy, goals, or outlook. So you can go on referring to Nupedia as "The Open Content Encyclopedia," if you prefer, or as "The Free Encyclopedia"--it's both.

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Source: wikipedia.org

Elinor Östrom

Nobel Prize in Economics

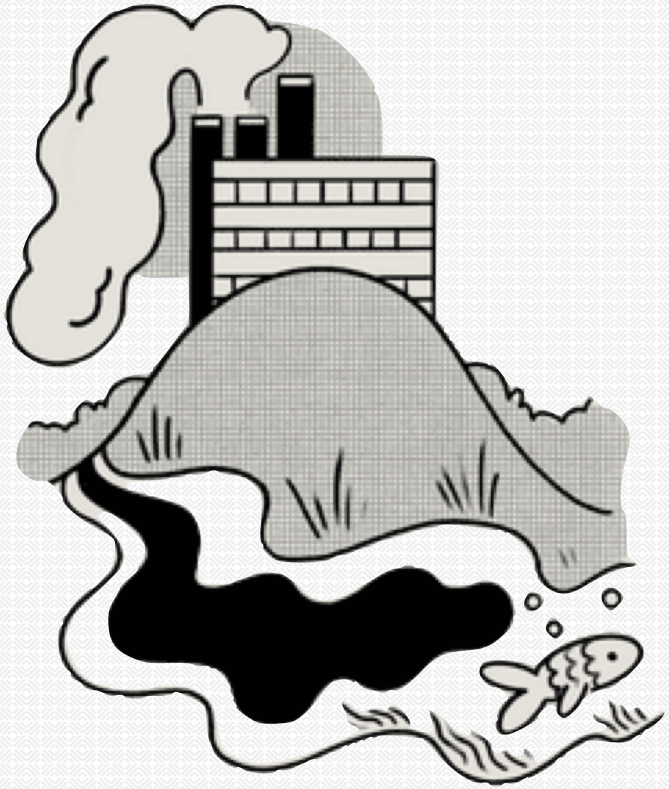
2009

The Web: Market vs. Commons

Rival and Excludable Goods

	Excludable	**Non-excludable**
Rival	**Private Goods** • Clothing • Car • House	**Commons Goods** • Public Waterways • National Parks
Non-rival	**Low-Congestion Goods** • Cable Television • Radio • Online News	**Public Goods** • Public security • Law

Externalities



Externality

[ˌek-stər-nə-lə-tē]

A cost or benefit caused by an economic actor that is not suffered or enjoyed by that same actor.

Question

What positive and negative externalities does the Web have?

WORLD ECONOMIC FORUM
the future of the
SHARING ECONOMY

The Digital Divide

Definition

The term “digital divide” refers to unequal access to information and communication technology based on social, economic, cultural and political factors.

It is “[the] difference between those who have access to the web versus those who do not” (Ragnedda and Muschert, 2013).

Factors

OFFICIAL TRAILER

Theoretical Explanations

Debate

Two Readings

Marxist reading	Bourdieusian reading

• Digital spheres reproduce existing social inequality through repression of the lower class by the dominant class using capital accumulation and cultural hegemony
• The dominant class continue to exercise control in the digital sphere, particularly to promote their own classes way of life
	• Unequal patterns of:
	  • material access to
	  • usage capabilities of
	  • and benefits from
	computer-based information and communication technologies that are caused by certain stratification processes that produce classes of winners and losers of the information society, and of participation in institutions governing ICTs and society

Tutorial on Data Analysis

Twitter Data Collection Tutorial

- Install Python 3.10.7 on https://www.python.org/downloads/

Active Python Releases

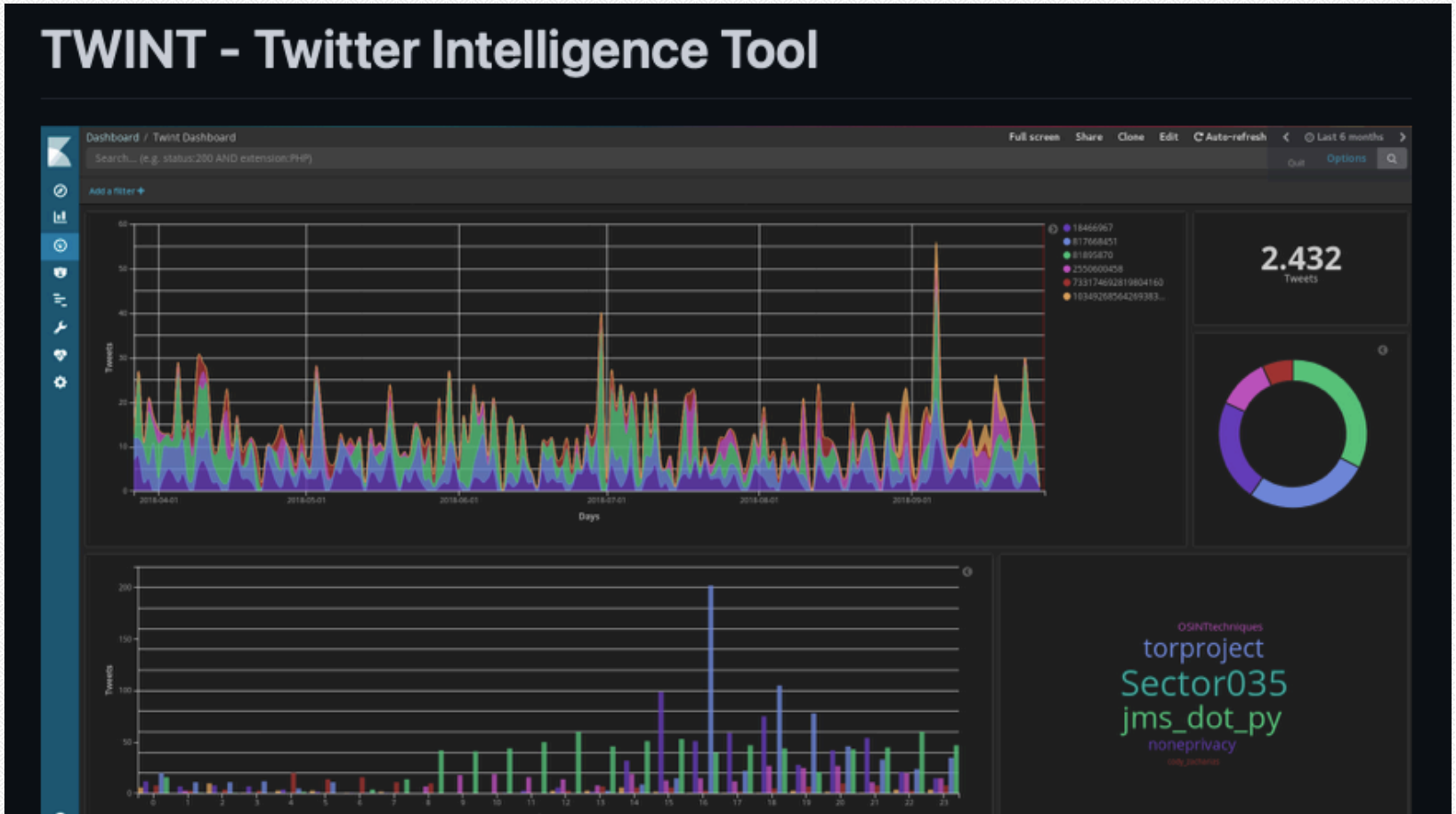
For more information visit the Python Developer's Guide.

Python version	Maintenance status	First released	End of support	Release schedule
3.10	bugfix	2021-10-04	2026-10	PEP 619
3.9	security	2020-10-05	2025-10	PEP 596
3.8	security	2019-10-14	2024-10	PEP 569
3.7	security	2018-06-27	2023-06-27	PEP 537
2.7	end-of-life	2010-07-03	2020-01-01	PEP 373

Twitter Data Collection Tutorial

- Install Twint by running:

  pip3 install –user –upgrade -e git+https://github.com/twintproject/twint.git@origin/master#egg=twint



Twitter Data Collection Tutorial

- Perform a basic tweet collection:

```
twint -u "SciencesPo" -o tweet_collection_sciencespo.csv --csv
```

115	15656133353	15656133353	2022-09-02	2022-09-02	10:11:21	+0200	126244275	stadedereims	Stade de Reir	⚠️ CHANGEI	fr	[]	['http://bit.ly/3	[]	0
116	15655966363	15655966363	2022-09-02	2022-09-02	09:05:00	+0200	126244275	stadedereims	Stade de Reir	🎙️ #LaConf	fr	[{'screen_nar	[]	['https://pbs.t	0
117	15655878294	15655878294	2022-09-02	2022-09-02	08:30:00	+0200	126244275	stadedereims	Stade de Reir	👮 Eric Watte	fr	[]	[]	['https://pbs.t	1
118	15688873287	15688873287	2022-09-11	2022-09-11	11:01:02	+0200	168619698	sciencespo	Sciences Po	📖 Nathacha	fr	[{'screen_nar	['https://fal.cr	['https://pbs.t	0
119	15685551430	15685551430	2022-09-10	2022-09-10	13:01:03	+0200	168619698	sciencespo	Sciences Po	"There are at	en	[{'screen_nar	['https://fal.cr	['https://pbs.t	0
120	15685324845	15685324845	2022-09-10	2022-09-10	11:31:00	+0200	168619698	sciencespo	Sciences Po	Découvrez "C	fr	[{'screen_nar	['https://fal.cr	[]	0
121	15682624435	15682624435	2022-09-09	2022-09-09	17:37:58	+0200	168619698	sciencespo	Sciences Po	🎉 Feliz anive	fr	[{'screen_nar	[]	['https://pbs.t	0
122	15682219685	15682219685	2022-09-09	2022-09-09	14:57:08	+0200	168619698	sciencespo	Sciences Po	En direct de (	fr	[{'screen_nar	[]	['https://pbs.t	0
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127	15678815676	15678807235	2022-09-08	2022-09-08	16:24:30	+0200	168619698	sciencespo	Sciences Po	@pierregouv_	en	[]	[]	[]	0
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130	15678733177	15678733177	2022-09-08	2022-09-08	15:51:43	+0200	168619698	sciencespo	Sciences Po	Le conseil de	fr	[{'screen_nar	[]	['https://pbs.t	0
131	15678718194	15678718194	2022-09-08	2022-09-08	15:45:46	+0200	168619698	sciencespo	Sciences Po	"L'actualité no	fr	[{'screen_nar	[]	['https://pbs.t	0
132	15678706017	15678706017	2022-09-08	2022-09-08	15:40:55	+0200	168619698	sciencespo	Sciences Po	Le directeur d	fr	[{'screen_nar	[]	['https://pbs.t	0
133	15678485522	15678485436	2022-09-08	2022-09-08	14:13:18	+0200	168619698	sciencespo	Sciences Po	🗓️ Thursday	en	[]	['https://www	[]	0
134	15678485494	15678485436	2022-09-08	2022-09-08	14:13:18	+0200	168619698	sciencespo	Sciences Po	🗓️ Jeudi 15/0	fr	[{'screen_nar	['https://www	[]	1
135	15678485470	15678485436	2022-09-08	2022-09-08	14:13:17	+0200	168619698	sciencespo	Sciences Po	🗓️ Mercredi '	fr	[{'screen_nar	['https://www	[]	1
136	15678485436	15678485436	2022-09-08	2022-09-08	14:13:16	+0200	168619698	sciencespo	Sciences Po	Atteintes à la	fr	[]	[]	['https://pbs.t	2
137	15678008361	15678008361	2022-09-08	2022-09-08	11:03:42	+0200	168619698	sciencespo	Sciences Po	97% des adm	fr	[{'screen_nar	['https://www	['https://pbs.t	0
138	15677703470	15677703470	2022-09-08	2022-09-08	09:02:33	+0200	168619698	sciencespo	Sciences Po	Samedi 17 et	fr	[{'screen_nar	['https://fal.cr	['https://pbs.t	0
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144	15670774730	15670774730	2022-09-06	2022-09-06	11:09:19	+0200	168619698	sciencespo	Sciences Po	Retour en ima	fr	[{'screen_nar	[]	['https://pbs.t	0
145	15668437975	15668437975	2022-09-05	2022-09-05	19:40:46	+0200	168619698	sciencespo	Sciences Po	🔴 Watch live	en	[{'screen_nar	['https://youtu	['https://pbs.t	2
146	15668424725	15668424725	2022-09-05	2022-09-05	19:35:30	+0200	168619698	sciencespo	Sciences Po	🔴 @sgurievi	en	[{'screen_nar	['https://youtu	['https://pbs.t	0
147	15668035923	15668035923	2022-09-05	2022-09-05	17:01:00	+0200	168619698	sciencespo	Sciences Po	Quel bilan poi	fr	[{'screen_nar	['https://fal.cr	[]	0
148	15667741071	15667741071	2022-09-05	2022-09-05	15:03:51	+0200	168619698	sciencespo	Sciences Po	The Global La	en	[{'screen_nar	[]	['https://pbs.t	0
149	15667431949	15667431949	2022-09-05	2022-09-05	13:01:01	+0200	168619698	sciencespo	Sciences Po	Découvrez les	fr	[{'screen_nar	['https://fal.cr	[]	0
150	15667130404	15667130404	2022-09-05	2022-09-05	11:01:11	+0200	168619698	sciencespo	Sciences Po	#FreeFariba T	fr	[{'screen_nar	['https://fal.cr	['https://pbs.t	2
151	15664701785	15664701785	2022-09-04	2022-09-04	18:56:08	+0200	168619698	sciencespo	Sciences Po	Watch this an	en	[]	[]	[]	0
152	15660199303	15660199303	2022-09-03	2022-09-03	13:07:01	+0200	168619698	sciencespo	Sciences Po	🗓️ @science	en	[{'screen_nar	['https://fal.cr	[]	3
153	15656560305	15656560305	2022-09-02	2022-09-02	13:01:00	+0200	168619698	sciencespo	Sciences Po	Quels sont les	fr	[{'screen_nar	['https://fal.cr	[]	1
154	15656258635	15656258635	2022-09-02	2022-09-02	11:01:08	+0200	168619698	sciencespo	Sciences Po	#VendrediLec	fr	[{'screen_nar	['https://fal.cr	['https://pbs.t	0
155	15652936413	15652936413	2022-09-01	2022-09-01	13:01:00	+0200	168619698	sciencespo	Sciences Po	Écouter la pla	fr	[{'screen_nar	['https://fal.cr	[]	0
156	15652739134	15652739134	2022-09-01	2022-09-01	11:42:37	+0200	168619698	sciencespo	Sciences Po	Découvrez le	fr	[]	[]	[]	0

Questions on Digital Explorations

Questions on Digital Explorations

Homework

- read Rus Schuler's guide to How the Internet works:
  - https://web.stanford.edu/class/msande91si/www-spr04/readings/week1/InternetWhitepaper.htm
- read Ethan Zuckerman's op-ed on the Internet:
  - https://www.theatlantic.com/technology/archive/2014/08/advertising-is-the-internets-original-sin/376041/
- read Mozilla's Foundation guide to Net Neutrality:
  - https://foundation.mozilla.org/fr/campaigns/net-neutrality-timeline/

To go further

How Does the Internet Work?

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Introduction

How does the Internet work? Good question! The Internet's growth has become explosive and it seems impossible to escape the bombardment of *www.com*'s seen constantly on television, heard on radio, and seen in magazines. Because the Internet has become such a large part of our lives, a good understanding is needed to use this new tool most effectively.

This whitepaper explains the underlying infrastructure and technologies that make the Internet work. It does not go into great depth, but covers enough of each area to give a basic understanding of the concepts involved. For any unanswered questions, a list of resources is provided at the end of the paper. Any comments, suggestions, questions, etc. are encouraged and may be directed to the author at rshuler@gobcg.com.

Source: https://web.stanford.edu/

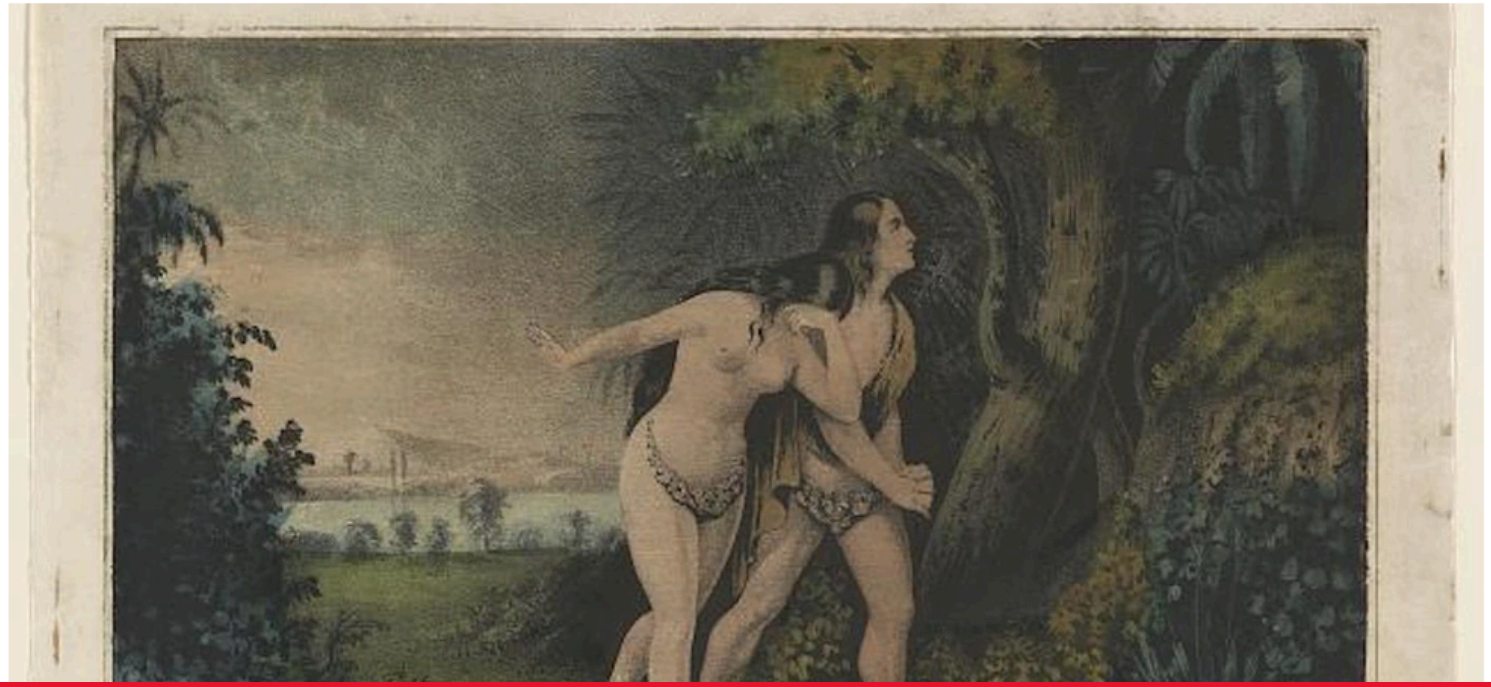
To go further

TECHNOLOGY

The Internet's Original Sin

It's not too late to ditch the ad-based business model and build a better web.

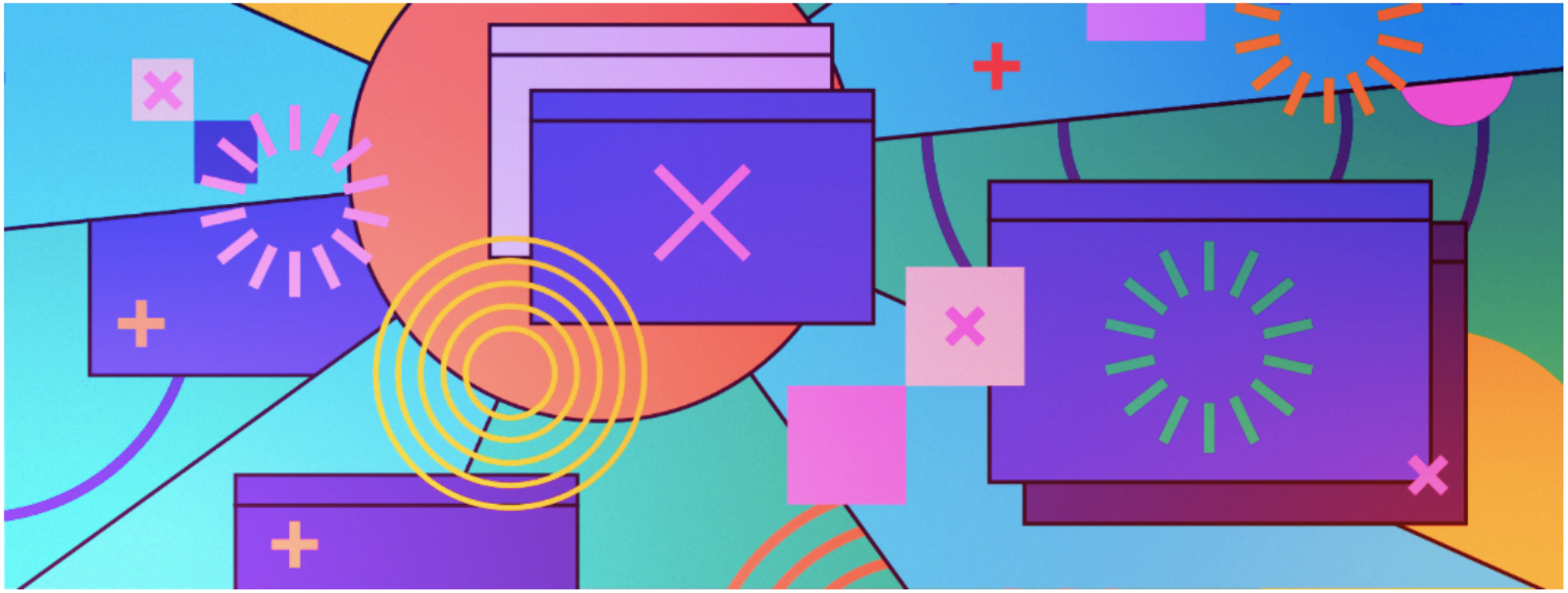
By Ethan Zuckerman



Source: The Atlantic

To go further

A History of Net Neutrality in the United States



What is Net Neutrality?

Net neutrality is the principle that the companies who provide access to the internet (so-called “internet service providers”, or ISPs) cannot block or throttle internet traffic, or prioritize their business partners or other favorite web sites or services. For example, ISPs can’t slow down your connection to Netflix or Zoom, or speed up a connection to their own favored streaming or video conferencing site. Without Net Neutrality, providers could control what people see and do online, not the consumers who pay for their Internet connections.

Source: Mozilla Foundation

Thank you!