

# Web 2.0 > Cartography 2.0



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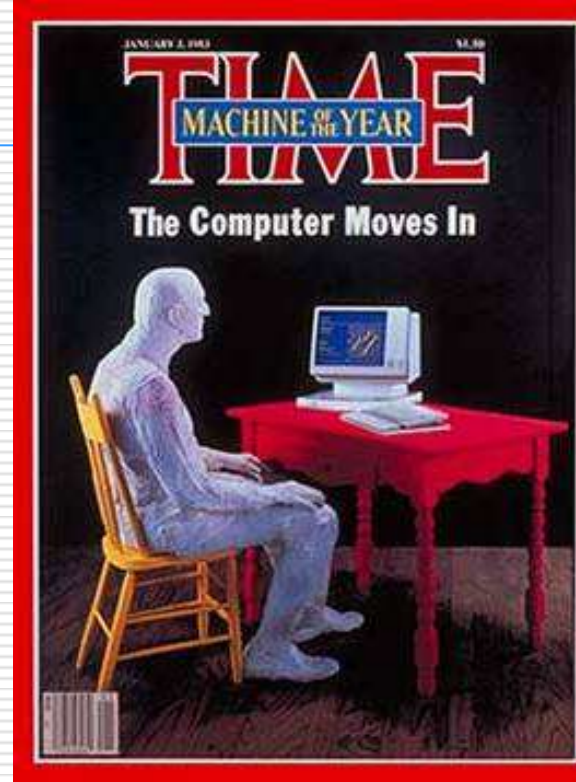
Web site: <http://lazarus.elte.hu>



# 1982: Time – Man of the Year

There are some occasions, though, when the most significant force in a year's news is not a single individual but a process, and a widespread recognition by a whole society that this process is changing the course of all other processes.

That is why TIME has decided that 1982 is the year of the computer. It would have been possible to single out as Man of the Year one of the engineers or entrepreneurs who masterminded this technological revolution, but no one person has clearly dominated those events. More important, such a selection would obscure the main point. TIME's Man of the Year for 1982, the greatest influence for good or evil, is not a man at all. It is a machine: the computer.



[http://www.randomn3ss.com/wp-content/uploads/2007/12/time\\_magazine.jpg](http://www.randomn3ss.com/wp-content/uploads/2007/12/time_magazine.jpg)



<http://www-03.ibm.com/ibm/history/exhibits/pe/images/02101.jpg>



# 2006: Time – Person of the Year

Yes, **you**. You control the Information Age.  
Welcome to your world.

The tool that makes this possible is the World Wide Web. Not the Web that Tim Berners-Lee hacked together as a way for scientists to share research.

It's not even the overhyped dotcom Web of the late 1990s. The new Web is a very different thing. It's a **tool for bringing together** the small contributions of millions of people and making them matter. Silicon Valley consultants call it Web 2.0, as if it were a new version of some old software. But it's really a revolution.



<http://magculture.com/blog/wp-content/uploads/2007/01/timeCoverPoY.jpg>



# 2010: Time – Person of the Year

For connecting more than half a billion people and mapping the social relations among them, for creating a new system of exchanging information and for changing how we live our lives, Mark Elliot Zuckerberg is TIME's 2010 Person of the Year.



# Cartography – the term



[http://gallery.sjsu.edu/cartography/images/main\\_world.jpg](http://gallery.sjsu.edu/cartography/images/main_world.jpg)



# The term: cartography

The term cartography has totally changed in the last centuries. It is part of the natural evolution of subjects, but the recent changes (including the last 30-40 years) in cartography are very characteristic.



# International Cartographic Association

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Definition of cartography

1973:

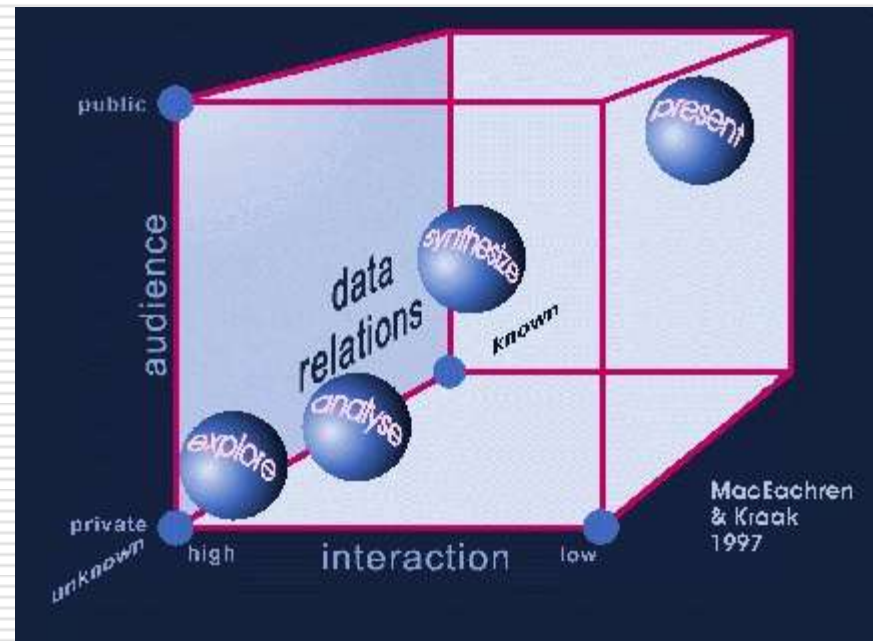
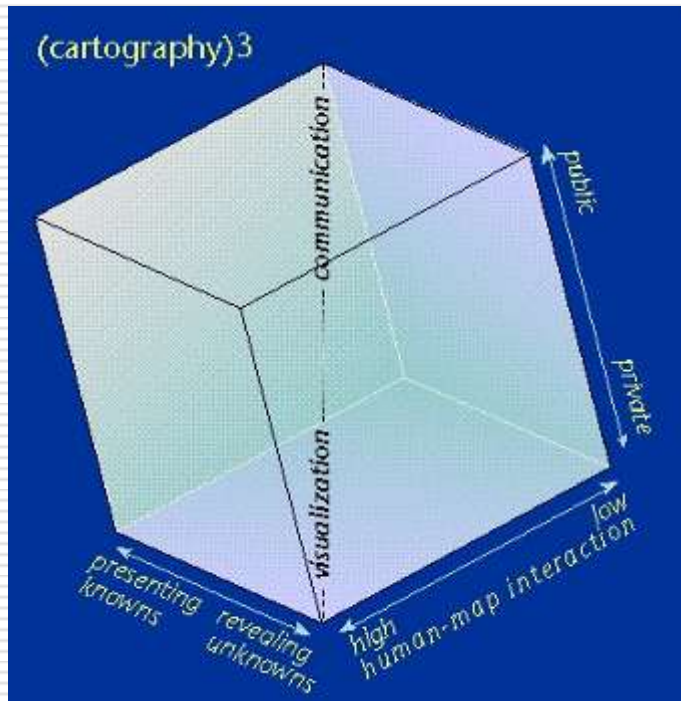
The **art, science and technology** of making maps, together with their study as scientific documents and works of art. In this context maps may be regarded as including all types of maps, charts and sections, three dimensional models and globes representing the Earth or any celestial body at any scale.

*(nothing about digital at that time)*





# Cartography – *around 1995*



Two versions of Cartography.

The original offering showing the **continuum between visualization** (i.e., infinite possible views) and **communication** (i.e., one optimal view) (MacEachren 1994).

*MacEachren & Kraak 1997.*



# Cartography – *Wikipedia (2010)*

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Cartography (in Greek *chartis* = *map* and *graphein* = *write*) is the study and practice of making geographical maps. Combining **science, aesthetics, and technique**, cartography builds on the premise that reality can be modeled in ways that communicate **spatial information** effectively.



# Changes of the last decades

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At that time the term *cartographer* was nearly the synonym of *mapmaker*. As the technical development continued, cartographers had to be familiar with new measuring techniques, although the term still included not only the **technological** and **scientific** part, but an **art** too.

The invention and rapid development of photography and its incorporation into cartography (including the invention of photogrammetry) and the development of offset printing at the end of the 19th century and the beginning of the 20th century were important milestones in the development of cartography.



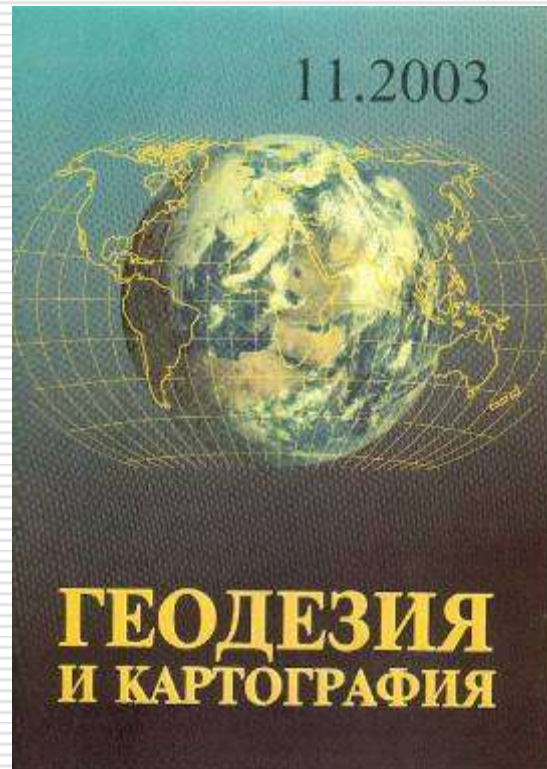
# International organizations

- FIG (Fédération Internationale des Géomètres, the International Federation of Surveyors) was founded in 1878 in Paris.
- The International Society for Photogrammetry (ISP) was founded in 1910, in Austria. The Society changed its name in 1980 to the International Society for Photogrammetry and Remote Sensing (ISPRS).
- The International Geographical Union was established in Brussels in 1922. However, the history of international meetings of geographers is much longer. The first of a series of congresses met in 1871 in Antwerp.
- ICA was founded in 1959. The foundation of the association was closely connected with the substantial development of cartographic technology (plastic drawing materials, phototypesetting).



# Cartographic magazines 1

- ❖ Globen (SWE) - 1922;
- ❖ Polski Przegląd Kartograficzny (POL) - 1923;
- ❖ Geodezia i kartografia (USSR) - 1925;
- ❖ Kartographische Mitteilungen (AUT) - 1930.



# Cartographic magazines 2

- ❖ Most of the recent cartographic magazines were founded around 1950.
  - ❖ Cartographic Perspectives (USA) - 1947;
  - ❖ National mapping bulletin (AUS) - 1950;
  - ❖ Kartographische Nachrichten (GER) - 1950;
  - ❖ Geodézia és Kartográfia (HUN) - 1950;
  - ❖ World Cartography (UN) - 1951;
  - ❖ Revista cartografica (ARG) - 1952;
  - ❖ Cartography (AUS) - 1954;
  - ❖ Geodeticky a kartograficky obzor (CZE) - 1955;
  - ❖ Map (JAP) - 1962;
  - ❖ The Cartographic Journal (GBR) - 1964;
  - ❖ Cartographic Helvetica (SUI) - 1969;
- ❖ New magazines were founded in the GIS era (1980-).
  - ❖ GIM
  - ❖ Location based services



# Cartographic education/institutes

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- ❖ The first scientific organization of cartography, the Swedish Cartographic Society was formed in 1908.
- ❖ The first independent cartographic courses in higher education, MIIGAiK, Moscow in 1923.
- ❖ Institut für Kartografie, ETH Zürich (SUI) - 1925
- ❖ German Cartographic Association - 1937.



# Computer ages

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- ❖ After the integration of photogrammetry into the tools of cartography, the next challenge was the **remote sensing**.
- ❖ During the cold war (1945-1991) it was difficult to get reliable and “mappable” information on certain countries, so the remote sensing technologies were accepted immediately in cartography. The satellite images also helped the cartography to **decrease the role of secrecy**.
- ❖ Cartography was very sensitive to adopting **computer technology**. This process affected all parts of cartography, but new professions (like remote sensing, geographic information system, global positioning system, location-based services) have also come into existence as the technology has managed to serve specific demands.
- ❖ It is also exciting to investigate the process how the terms **GIS**, geoinformatics or GI Science have changed the term ‘cartography’.
- ❖ While **cartographers** were still treated as **mapmakers** (map drawers) 40-50 years ago, the computer has changed it totally.





# Keyword: digital

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- ❖ As soon as the technology made it possible (scanner, hard-disk capacity, hardware and software environment), the **digitizing of existing paper maps** (state cadastral and topographic maps) started.
- ❖ At the beginning only state organizations managed to use the new technology, but as the information technology become more affordable (**PC, 1981**) private companies started to present on that market.
- ❖ Having more data arisen in digital form, a new technology, the **GIS** was invented.
- ❖ We still have areas where the technology is still working on the substitution or facilitation of human work (like **generalization, updating**).
- ❖ These days **cartographers are not only mapmakers** or very few of them are really produces (paper) maps, but cartographers must be familiar with different types of software (GIS, data management, programming etc.).



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# Web evolution



<http://www.bloggiando.com/wp-content/uploads/2007/06/internet-italiani-non-usano.jpg>



# Origins of the web – the concept



<http://media-2.web.britannica.com/eb-media/55/128755-003-146F791B.gif>

Paul Otlet (1868-1944)

The Mundaneum (the analog Google) was created in 1910 out of the initiative of two Belgian lawyers. Paul Otlet and Henri La Fontaine aimed to gather together **all the world's knowledge** and classify it according to a system they developed called the Universal Decimal Classification.



<http://graphics8.nytimes.com/images/2008/06/17/science/17mund.4-650.jpg>



# Origins of the web – the concept



[http://liftlab.com/think/laurent/files/2008/10/vannevar\\_bush.jpg](http://liftlab.com/think/laurent/files/2008/10/vannevar_bush.jpg)

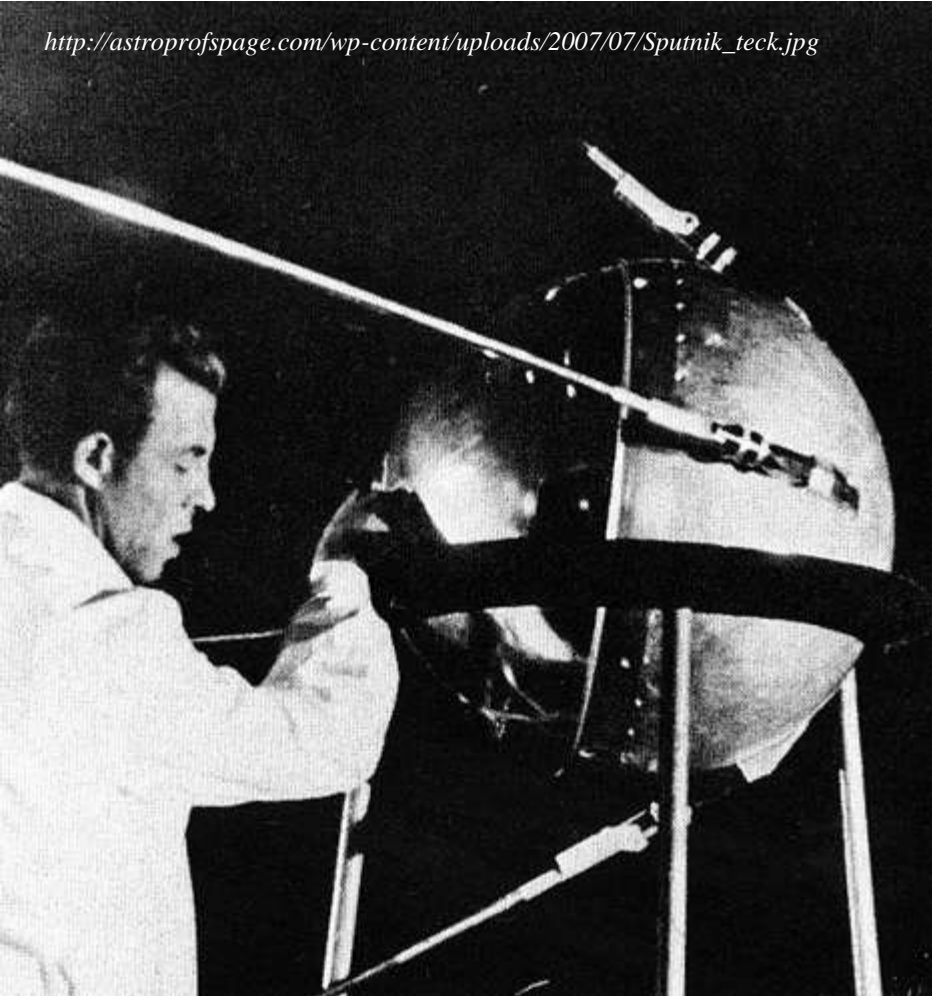
Vannevar Bush (1890-1974)  
He was an American engineer and science administrator known for his work on analog computing, his political role in the development of the atomic bomb as a primary organizer of the Manhattan Project, and the idea of the memex (1944), an adjustable microfilm-viewer which is somewhat analogous to the structure of the World Wide Web. As Director of the Office of Scientific Research and Development, Bush coordinated the activities of some six thousand leading American scientists in the application of science to warfare.



# Start of the internet

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[http://astroprofspage.com/wp-content/uploads/2007/07/Sputnik\\_teck.jpg](http://astroprofspage.com/wp-content/uploads/2007/07/Sputnik_teck.jpg)



## Sputnik 1 (1957)

The American answer - after this shock - was the form of ARPA (Advanced Research Projects Agency). The actual name is Defense Advanced Research Projects Agency (DARPA) is an agency of the United States Department of Defense responsible for the development of new technology for use by the military.



# World Wide Web



[http://obamapacman.com/wp-content/uploads/2009/08/Tim-Berners-Lee-World-Wide-Web-Inventor-Apple-Mac-User\\_April\\_2009.jpg](http://obamapacman.com/wp-content/uploads/2009/08/Tim-Berners-Lee-World-Wide-Web-Inventor-Apple-Mac-User_April_2009.jpg)

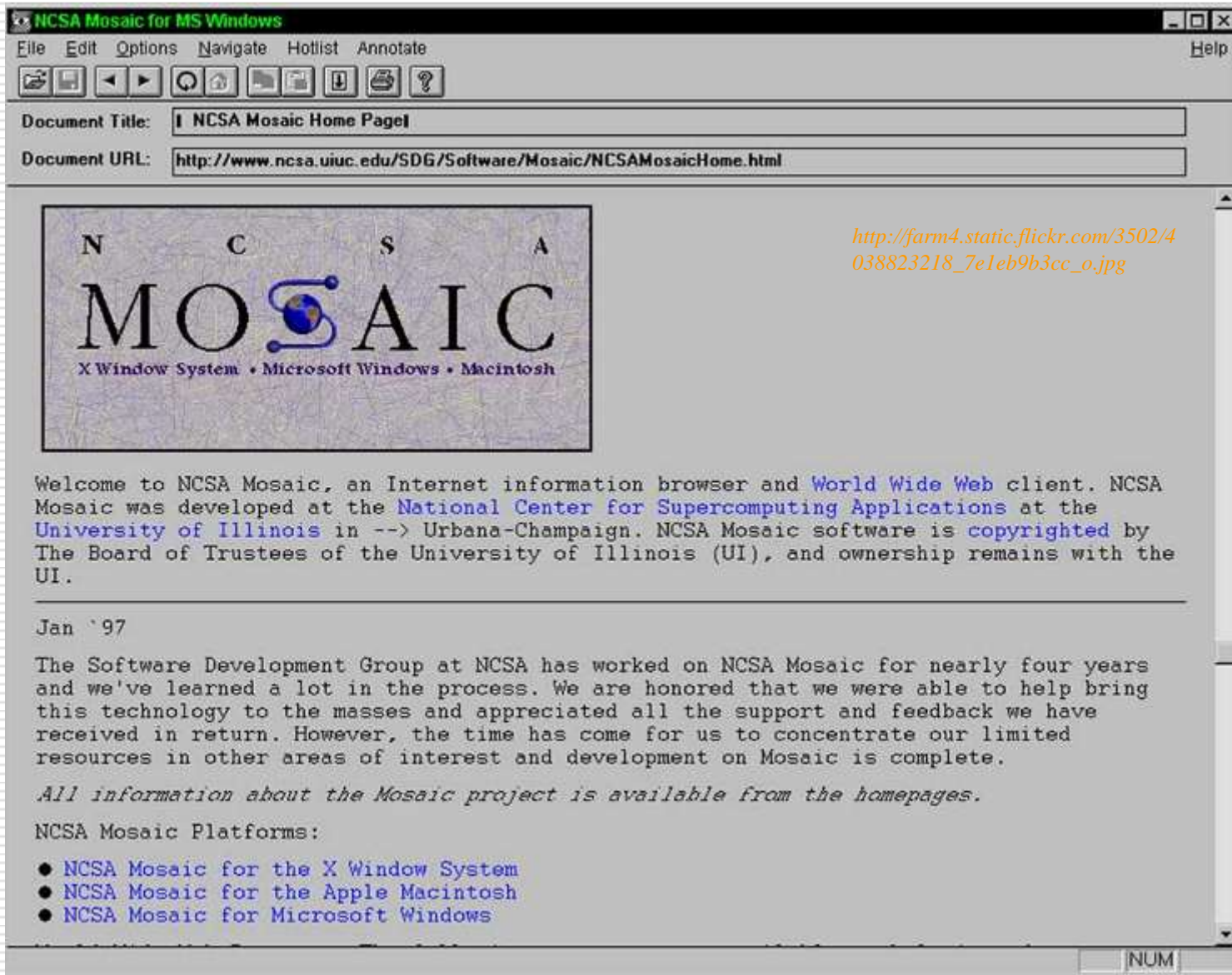
**Tim Berners-Lee (1955-)**

While an independent contractor at CERN in 1980, Berners-Lee proposed a project based on the concept of hypertext, to facilitate sharing and updating information among researchers.

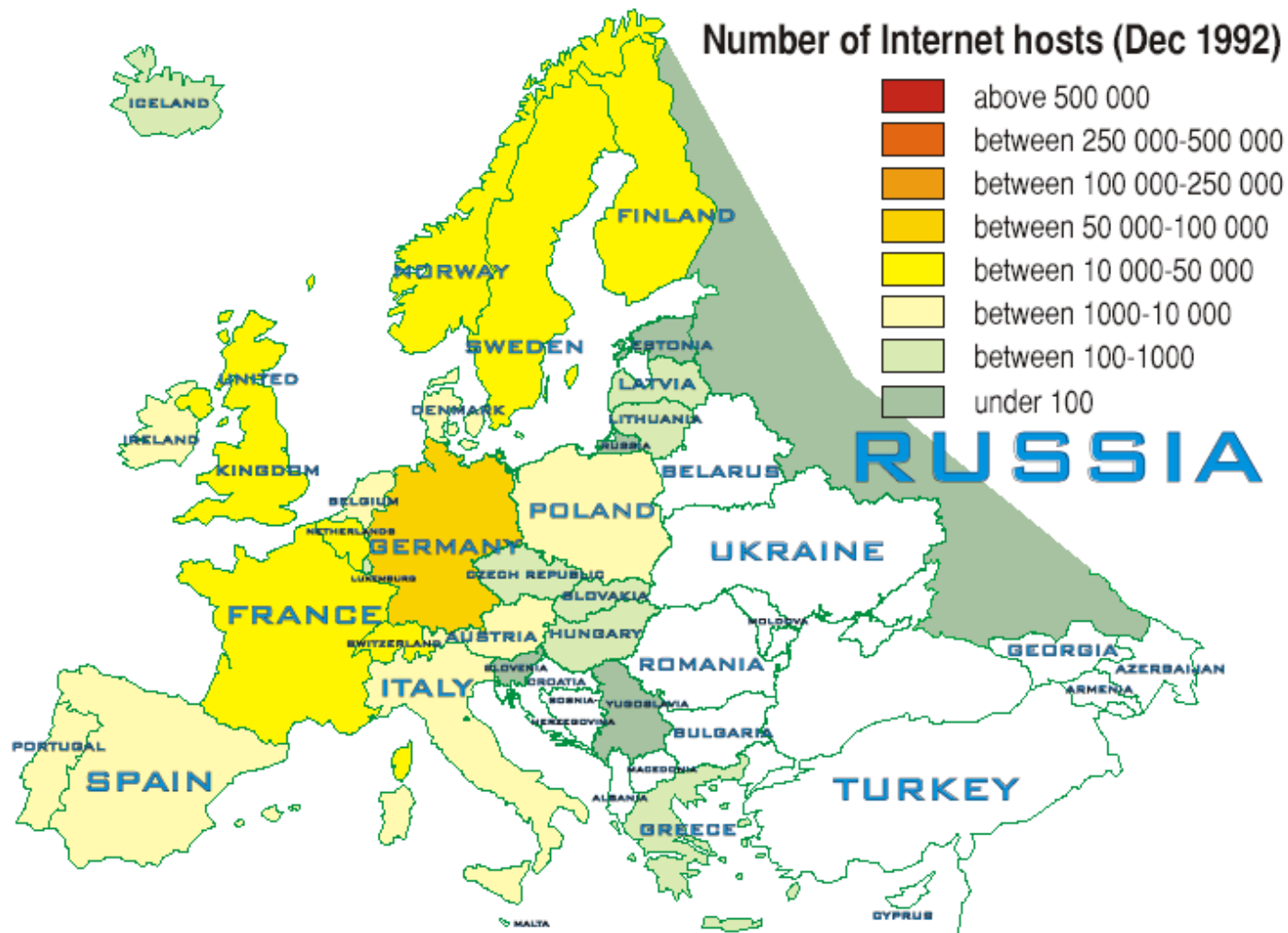
In 1989, CERN was the largest Internet node in Europe, and Berners-Lee saw an opportunity to join hypertext with the Internet. He wrote his initial proposal in March 1989, and in 1990 he produced a revision which was accepted by his manager. He used similar ideas to those underlying the Enquire system to create the World Wide Web, for which he designed and built the first Web browser.



# Mosaic – the first web browser



# Internet distribution (1992)



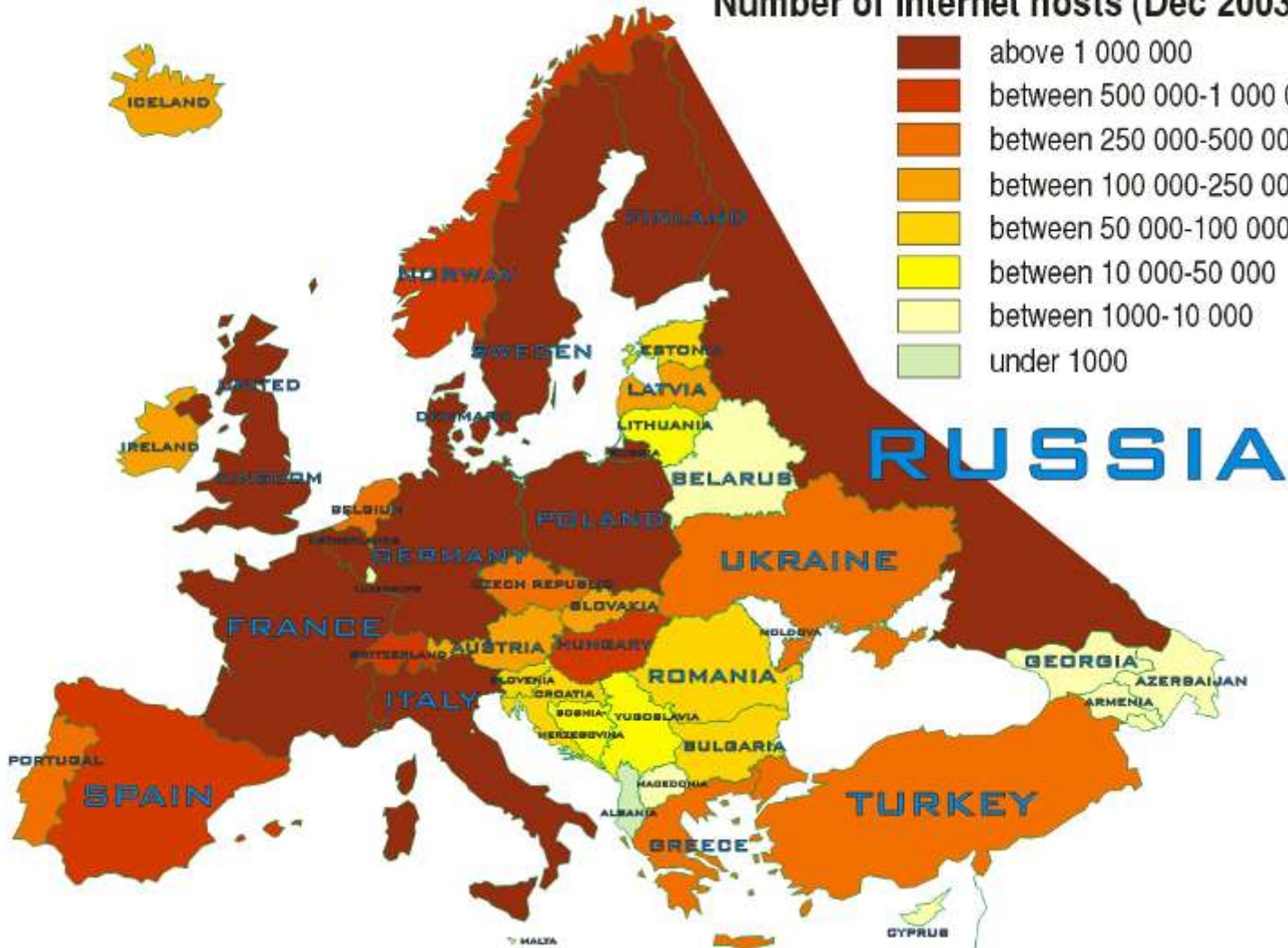
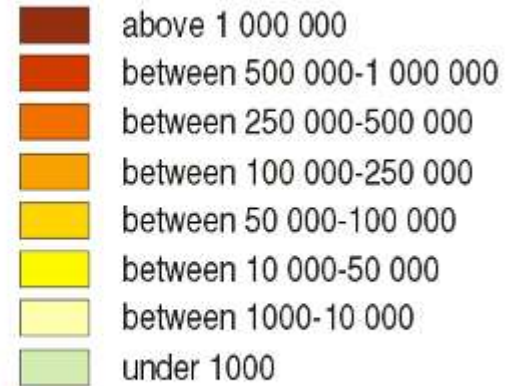
RIPE hostcount data





# Internet distribution (2003)

Number of Internet hosts (Dec 2003)



*RIPE hostcount data*



# Internet distribution (2010)

Country	Total IPs
UNITED STATES	1,515,634,700
CHINA	268,271,984
UNITED KINGDOM	204,549,159
JAPAN	184,943,774
GERMANY	111,641,023
KOREA, REPUBLIC OF	100,267,953
FRANCE	87,612,626
CANADA	79,466,221
ITALY	45,512,603
NETHERLANDS	44,432,964
AUSTRALIA	44,333,456
BRAZIL	38,202,717
RUSSIAN FEDERATION	35,250,784
TAIWAN	30,437,613
MEXICO	27,876,415
INDIA	26,255,222
SPAIN	25,714,986
SWEDEN	25,469,933
SWITZERLAND	21,440,622
SOUTH AFRICA	17,129,264

POLAND	16,269,099
NORWAY	14,693,058
FINLAND	13,059,956
VIET NAM	12,586,355
TURKEY	11,998,085
DENMARK	11,878,608
INDONESIA	11,809,000
AUSTRIA	11,204,100
BELGIUM	10,932,876
ROMANIA	10,556,035
ARGENTINA	10,126,060
HONG KONG	9,762,452
UKRAINE	7,742,536
CZECH REPUBLIC	7,524,736
ISRAEL	7,260,001
THAILAND	6,888,765
NEW ZEALAND	6,777,598
COLOMBIA	6,302,687
IRELAND	5,962,213
MALAYSIA	5,832,328

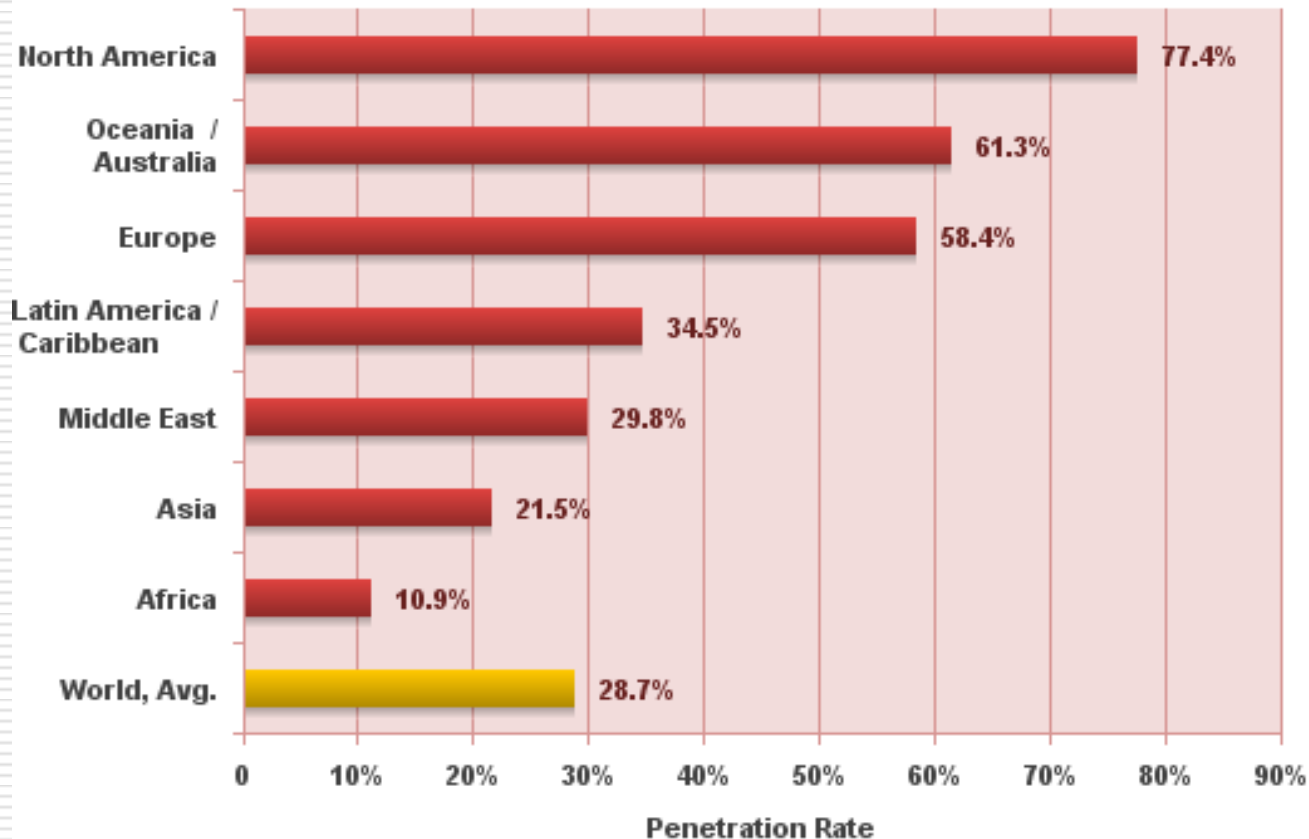
CHILE	5,767,165
PORTUGAL	5,503,269
EGYPT	5,444,563
GREECE	5,321,920
SINGAPORE	5,103,424
PHILIPPINES	4,785,947
HUNGARY	4,765,897
VENEZUELA	4,635,036
BULGARIA	3,806,056
SAUDI ARABIA	3,582,542
PAKISTAN	2,977,085
IRAN, ISLAMIC REPUBLIC OF	2,753,918
TUNISIA	2,733,572
UNITED ARAB EMIRATES	2,597,075
SLOVAKIA	2,392,587
PERU	2,203,592
LITHUANIA	2,173,342
SLOVENIA	2,005,357

<http://www.domaintools.com/internet-statistics/country-ip-counts.html>



# Internet distribution (2010)

## World Internet Penetration Rates by Geographic Regions - 2010



Source: Internet World Stats - [www.internetworldstats.com/stats.htm](http://www.internetworldstats.com/stats.htm)  
Penetration Rates are based on a world population of 6,845,609,960  
and 1,966,514,816 estimated Internet users on June 30, 2010.  
Copyright © 2010, Miniwatts Marketing Group



# Web 2.0 in general

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Darcy DiNucci (1999): „The Web we know now, which loads into a browser window in essentially static screenfulls, is only an embryo of the Web to come. The first glimmerings of Web 2.0 are beginning to appear, and we are just starting to see how that embryo might develop. The Web will be understood not as screenfulls of text and graphics but as a transport mechanism, the ether through which interactivity happens...”

The concept of web 2.0 was used next time in 2003-04 at a conference where the organizers (O'Reilly and CMP Media) focused on the new generation web services in a conference brainstorming session.



# Web 2.0 in general

It is really difficult to formulate the term and there is still a huge amount of disagreement about just what web 2.0 means, with some experts characterizing it as a meaningless marketing buzzword, and others accepting it as the new term.

Although Web 2.0 is not a clear and easily definable term (the phrase may hint at an improved form of the World Wide Web), we can list new features of the web which has formed this new term.

- Mostly not simple concrete applications, but rather **philosophies**.
- „**Network as platform**” – delivering (and allowing users to use) applications entirely through a browser.
- Users owning the data on a site and exercising control (maintain and distribute) over that data.
- An architecture of **participation** that encourages users to add value to the application as they use it.
- A rich, interactive, **user-friendly interface**.
- **Social-networking** aspects.



# Web 2.0 elements

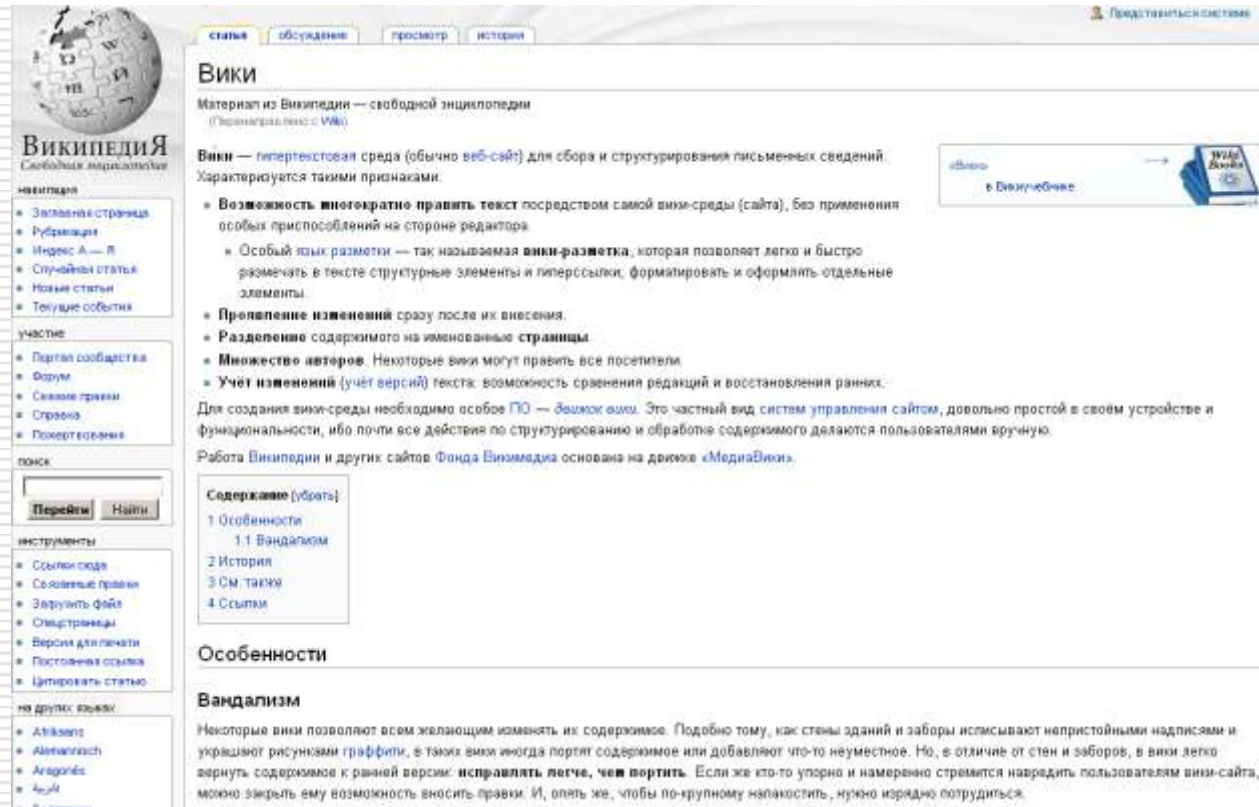


# Web 2.0 elements: wiki

A wiki is a collaborative website which can be directly edited by anyone with access to it (Wikipedia was formally launched on January 15, 2001, as a single English-language edition at [www.wikipedia.com](http://www.wikipedia.com))

„Most people, when they first learn about the wiki concept, assume that a website that can be edited by anybody would soon be rendered useless by destructive input. It sounds like offering free spray cans next to a grey concrete wall. The only likely outcome would be ugly graffiti and simple tagging, and many artistic efforts would not be long lived. Still, it seems to work very well.”

[Lars Aronsson, 2007]



Вики

Материал из Википедии — свободной энциклопедии

(Просмотрено с ВМ)

**Вики** — гипертекстовая среда (обычно веб-сайт) для сбора и структурирования письменных сведений. Характеризуется такими признаками:

- **Возможность многократно править текст** посредством самой вики-среды (сайта), без применения особых приспособлений на стороне редактора.
- Особый язык разметки — так называемая **вики-разметка**, которая позволяет легко и быстро размечать в тексте структурные элементы и гиперссылки, форматировать и оформлять отдельные элементы.
- **Проявление изменений сразу после их внесения.**
- **Разделение содержимого на именованные страницы.**
- **Множество авторов.** Некоторые вики могут править все посетители.
- **Учёт изменений (учёт версий)** текста: возможность сравнения редакций и восстановления ранних.

Для создания вики-среды необходима особое ПО — *движок вики*. Это частный вид систем управления сайтом, довольно простой в своем устройстве и функциональности, ибо почти все действия по структурированию и обработке содержимого делаются пользователями вручную.

Работа Википедии и других сайтов Фонда Викимедиа основана на движке «MediaWiki».

**Содержание** (убрать):

- 1 Особенности
  - 1.1 Вандализм
- 2 История
- 3 См. также
- 4 Ссылки

**Особенности**

**Вандализм**

Некоторые вики позволяют всем желающим изменять их содержимое. Подобно тому, как стены зданий и заборы испещряют непристойными надписями и украшают рисунками граффити, в таких вики иногда портят содержимое или добавляют что-то неуместное. Но, в отличие от стен и заборов, в вики легко вернуть содержимое к ранней версии: **исправлять легче, чем портить**. Если же кто-то упорно и намеренно стремится навредить пользователям вики-сайта, можно закрыть ему возможность вносить правки. И, опять же, чтобы по-крупному запалачить, нужно изрядно потрудиться.



# Web 2.0 elements: blog

Blogs provide commentary or news on a particular subject, as personal online diaries; they can be part of a wider network of social media.

A typical blog combines text, images, and links to other blogs, web pages, and other media related to its topic.

The ability for readers to leave comments in an interactive format is an important part of many blogs.

<http://islamic-cartography.blogspot.com/>

## Islamic Cartography علم الخرائط الإسلامي

Thursday, August 21, 2008

The world map in the muqaddima

more [here](#)...

posted by Tarek 12:59 @ طارق PM 10 comments

Thursday, August 14, 2008

Maps as political arguments



When visiting one of the cartographic collections in Istanbul some years ago I was told that there is some fear that some Arabs might use Ottoman maps as "proofs" in political conflicts... they pointed specifically to Iraqi use of Ottoman maps in the gulf crisis in the summer of 1990 in

### About Me



Name: طارق الكحلوي  
Location: New Jersey  
United States

Tarek grew up in the city of Rades-Tunisia... Currently an Assistant Professor at Rutgers University (a joint position in the Art History and History departments)... He graduated from the University of Tunis (Bach. & DEA in history and archeology) and University of Pennsylvania (PhD in history of art)... طارق نشأ في مدينة رادس-الجمهورية التونسية... أسند في جامعة روتجرز (فلسفي التاريخ و تاريخ الفن)... تلقى تكوينه الجامعي في جامعة تونس (كلية 9 أبريل، إجازة و دراسات مهنية في التاريخ و الآثار) و جامعة (بنسلفانيا) رسالة دكتوراة في تاريخ الفن <http://arthistory.rutgers.edu/faculty/bios/kahlaoui> [http://history.rutgers.edu/index.php?option=com\\_content&task=view&id=2138&Itemid=140](http://history.rutgers.edu/index.php?option=com_content&task=view&id=2138&Itemid=140)

[View my complete profile](#)

### Links

- ◆ [Map History Gateway](#)
- ◆ [Photos of Islamic Cartography](#)
- ◆ [History of Cartography Bern 2007 Conference](#)
- ◆ [Coordinates An Online Journal](#)
- ◆ [Bibliography of Theoretical studies](#)
- ◆ [Other Cartography Blogs: in English](#)





# Cartography blogs

Home Book About Learn More Search

## MAKING MAPS: DIY CARTOGRAPHY

Resources and Ideas for Making Maps

Feeds: Posts Comments



### A Crooked Stick Straightened: Map Making as Juvenile Delinquent Reform

November 17, 2010 by John Krygier

*“From a slouching, unkempt, uncouth, shambling, horrid boy, he emerged into being a respectable, neat, tidy, order-loving, painstaking, and industrious young man.”*

– Miss Winthrop, 1888



I had an ugly, uncouth boy in my room, and he gave me more trouble

<http://makingmaps.net/>

### RECENT POSTS

A Crooked Stick - Straightened: Map Making as Juvenile Delinquent Reform 1910 | Topographic Maps | Map Symbols | Egypt Out Now | Denis Wood | Everything Sings  
A Discourse on Map Pins and Pinnage  
New Atlas | Denis Wood | Everything Sings

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Custom Map Symbols in Google Maps  
Denis Wood: A Narrative Atlas of Boylan Heights  
Making Flat Earth Globes  
Perceptual Scaling of Map Symbols  
More Principles of Map Design

<http://terkepem.blogspot.com/>

Iszakiás jelenése - Kévtelkéző blog

## TÉRKÉPEK

PTOLEMAJÓZISTÓL A GOOGLE MAPS ÉPT-IG

2010. NOVEMBER 27. SZOMBAT

### Google Street View

Megint előkerült a Street View kérdése hazinkban. Az index.hu n megjelent cikk szerint enyhült az ellenállás az adatvédelmi biztos részéről. Érdekes megnézni a cikk mellett elérhető szavazás eredményét (2010.11.27 17:16).

Legyen Magyarországon Street View?

- Legyen: 7633
- Ne legyen: 1030
- Legyen, csak én ne legyek rajta: 1102

Ruhában járok, lakótelepen lakom (lőpésőház előtt megy el majd az autó, bár az Norc nem jött be élénk) így nincs problémám ezzel :)

ELÍGYEZTE - FRACJETER TAMÁS RÉTUM: 17:27 0 VEGYÉGYÉZ: 0

A RÉFÍGYEZÉST MINTATÓ LINKEK CÍMÉNY: GOOGLE STREET VIEW, MAGYARORSZÁG

### Vásárlóerő Index

Szokás szerint elsőként a GfK jelenik meg a legfrissebb vásárlóerő adatbázissal, majd ezt követi az CID. Továbbra is vannak kérelmeim az első helyezettekkel, most éppen Csopakkal. Az adatbázis mellé nem érhető el a pontos módszertan, így nem tudható hogyan készült, miért éppen Csopak áll az első helyen.

A budapesti kerületek és az agglomeráció tartozó települések megszokottak az első húszban, de néha bekerülnek érdekes települések: Csemő, Teresztenye. Csopak nem rossz hely, de tartozhat a "Csemő kategóriába", mert itt is nagyon sok gépkocsi van, ami miatt "elszállhat" a település.

0520 MEGI

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[Get more content by your tag](#)

KERESS ÉS/ÉV A BLOGBAN

Hasznosított: Google™

BLOGARCHÍVUM

▼ 2010 (220)

▼ november (24)

Google Street View

Vásárlóerő Index

A pályák esélye

Író-olvasó találkozók 2.0

Életem legdrágább autójában

Író-olvasó találkozók

www.geoshop.hu

Az elmúlt ezer év határai

Kinek cűd: Rensűt, TomTom, grafikus?

A hír igaz

Óvatosan a navigációval!



# Microblog

**Yamm!**  
magyar Twitter közösség

Trendek | Keresés | Twitter | Bejelentkezés

## Twitterrezz a Yamm-on!

EGY HELYEN A HÍRSESÉGKÉ, A BARÁTOK, ÉS MINDEN MAGYAR VIDEÓK, FOTÓK A TWITTEREN ELŐZMÉNYES KÖVETÉS, MAGYAR "TRENDING TOPICS"

Ha még nincs Twittered, regisztrálj itt vagy **PRÓBÁLD KI!**

### geocucc2

RT @indextech: Nicaragua megszállta Costa Ricát a Google Maps hibája miatt: Letáboroztak, kifűzték a zászlót, megfeszítőttek a... [http://index.hu/tech/2010/11/05/nicaragua\\_megszallta\\_costa\\_ricat\\_a\\_google\\_maps\\_hibaja\\_miatt/](http://index.hu/tech/2010/11/05/nicaragua_megszallta_costa_ricat_a_google_maps_hibaja_miatt/)  
21 hónapja Válasz RT Lajk

Won the battle for this location [<http://warsquare.r10.railsrubble.com/>] (@ Corvin Tér) <http://4sq.com/bkPYHG>  
1 hónapja Válasz RT Lajk Témák: Várterület

Won the battle for this location [<http://warsquare.r10.railsrubble.com/>] (@ Nav N Go) <http://4sq.com/dnNaab>  
1 hónapja Válasz RT Lajk Témák: Várterület

I just ousted sosbp as the mayor of somlói úti étkezde on @foursquare! <http://4sq.com/9RD2oS>  
1 hónapja Válasz RT Lajk Témák: Újbold

@goldenblog #gbtv Szavazok a Goldenblog Twitter Versenyen: 1. @hh 2. @idokep 3. @kreativmag  
4 hónapja Válasz RT Lajk

<http://maps.google.com/maps/mpl?moduleurl=http://www.blumoon.ee/~aht/touristiness-map/touristiness-map.xml>  
8 hónapja Válasz RT Lajk

jó válogatás <http://www.flexijourney.com/blog/66-beautiful-small-cities-towns-in-europe/>

31 barát | 16 követő | 66 tweet

Geocucc2  
geocucc2  
383 napja regisztrált

Legutóbbi fotók

Barátok

<http://yamm.hu/geocucc2>



# Microblog (Twitter)



The screenshot shows a Twitter profile for 'codemap'. The background is a network graph with green nodes and white edges. The profile header includes the Twitter logo, a 'Sign Up' button, and a promotional message: 'Get short, timely messages from Software Cartography. Twitter is a rich source of instantly updated information. It's easy to stay updated on an incredibly wide variety of topics. Join today and follow @codemap.' Below this is a 'Sign Up' button and a link to get updates via SMS. The profile name is 'Software Cartography', location is 'Plugged in your Eclipse', and website is 'http://scg.unibe...'. The bio is 'Bio Your roadmap to Software!'. The profile has 146 following, 92 followers, and 7 listed. The tweet list shows three tweets: a retweet of @akuhn about #softvis2010, a retweet of @mvandermeuter about a map of European airports, and a tweet about a 'google annotations gallery'.

<http://twitter.com/codemap>



# Web 2.0 elements: mashup

Mashup, a website or web application that combines content from more than one source. Content used in mashups is typically sourced from a third party via a public interface or **API**, other methods of sourcing include Web feeds.

GoogleMaps, eBay, Amazon, Flickr, YouTube, Yahoos API are the most common sources.

**MAPJACK**  
San Francisco (lets)

See the city:

Enter street address

Example: 155 Geary St.

Go

Hot Spots

Pier 39, Chinatown, Maritime Park, & The Embarcadero

Coverage Update

Just added: Golden Gate Park  
More coming soon!

Tips

You see what Jack sees.  
Click blue dot to jump there.  
Blue buttons turn and move.

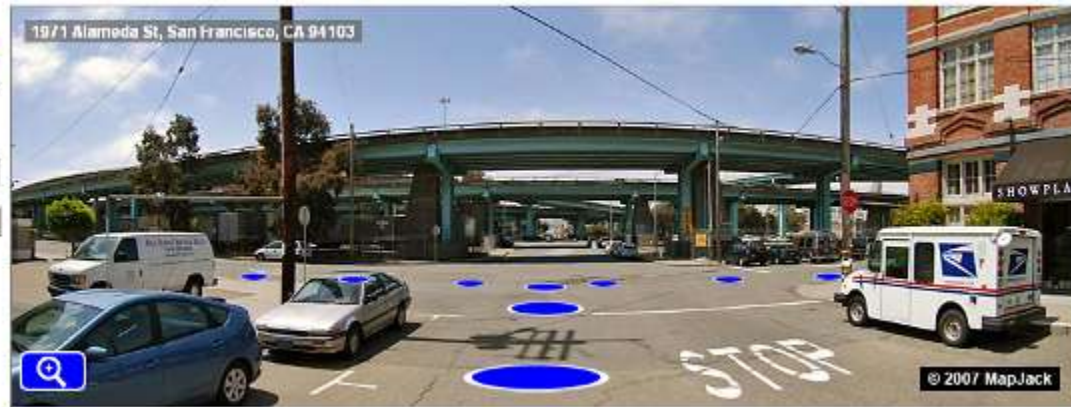
Send the link below to your friends to share the experience!

San Francisco Attractions

Things to do and places to see  
Hotel discounts from only \$48.95

[www.hotels.com](http://www.hotels.com)

Ads by Google



Link to where Jack is: <http://www.mapjack.com/MLHM/MGAs/FsE>

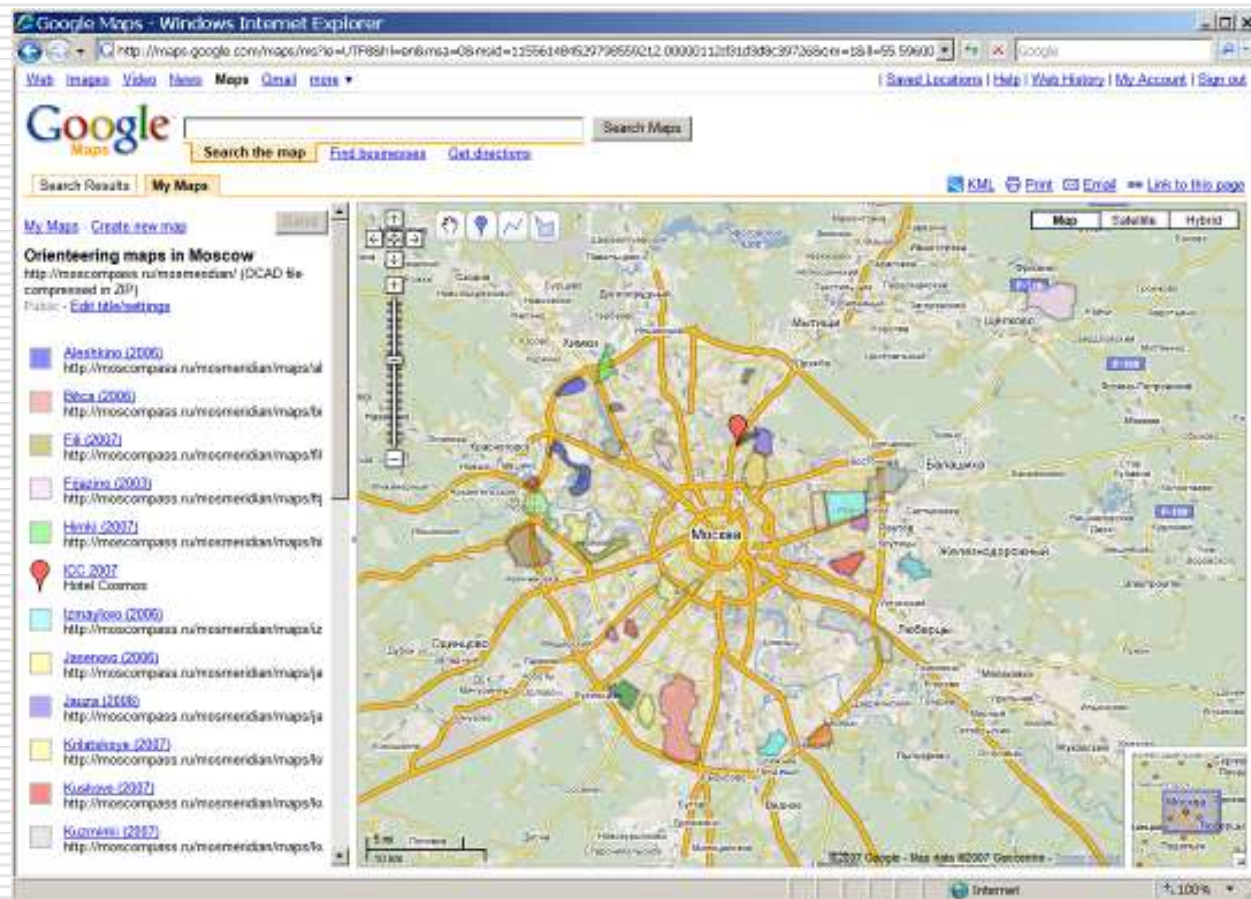
<http://www.mapjack.com/>



# Web 2.0 elements: mashup

Google launched the Google Maps API in June 2005 to allow developers to integrate Google Maps into their websites.

For whom the creation of mashup application is too complicated Google released Google MyMaps in 2007, which is a simple online map creation tool.



# GoogleMaps mashup

## North Korea v South Korea: every incident mapped

Click on the dots to find out what happened

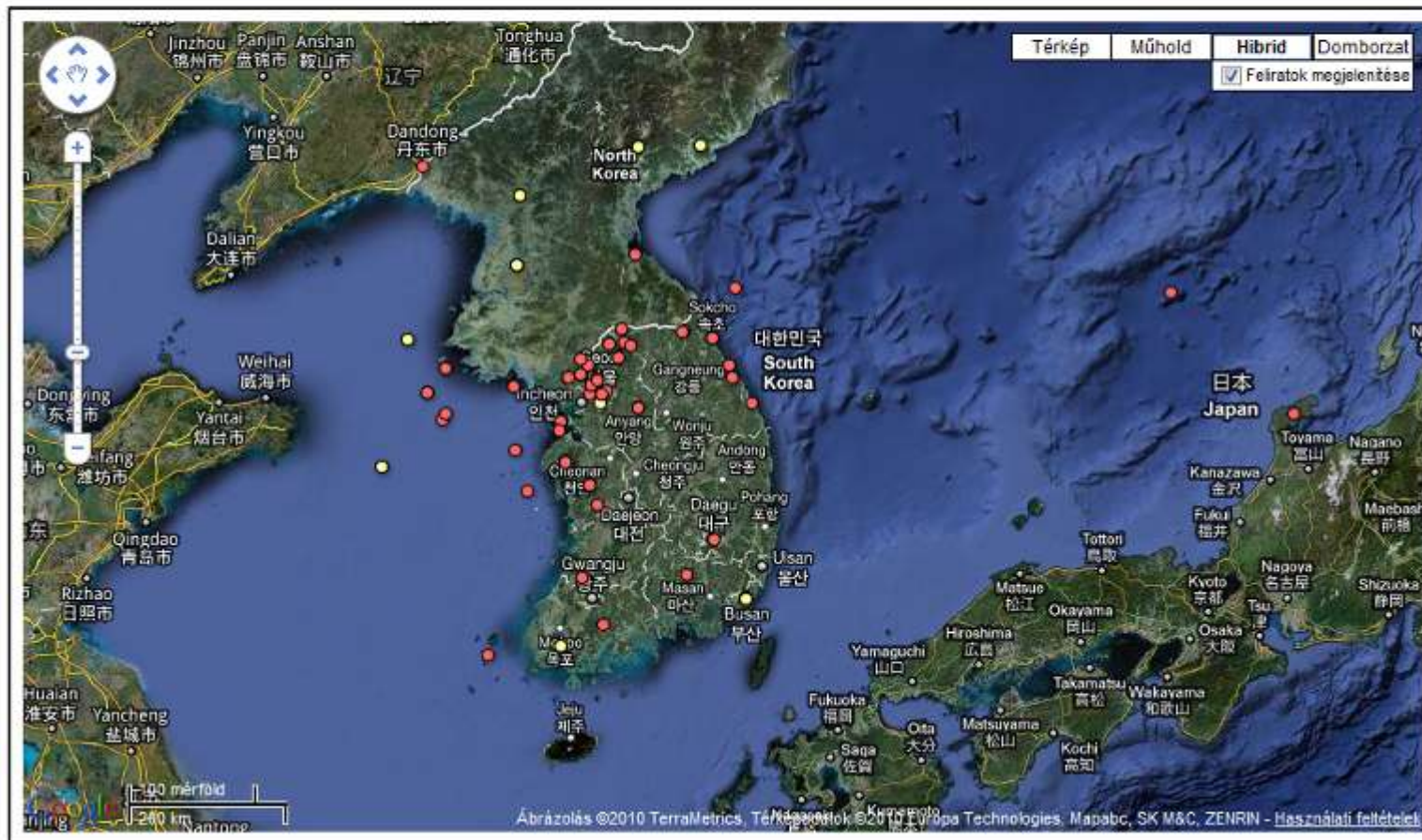
- Get the data - and context - from the datablog



guardian.co.uk, Tuesday 23 November 2010 13:42 GMT



<http://www.guardian.co.uk/world/interactive/2010/nov/23/korea-incidents-map>



# GoogleMaps mashup (NORC)

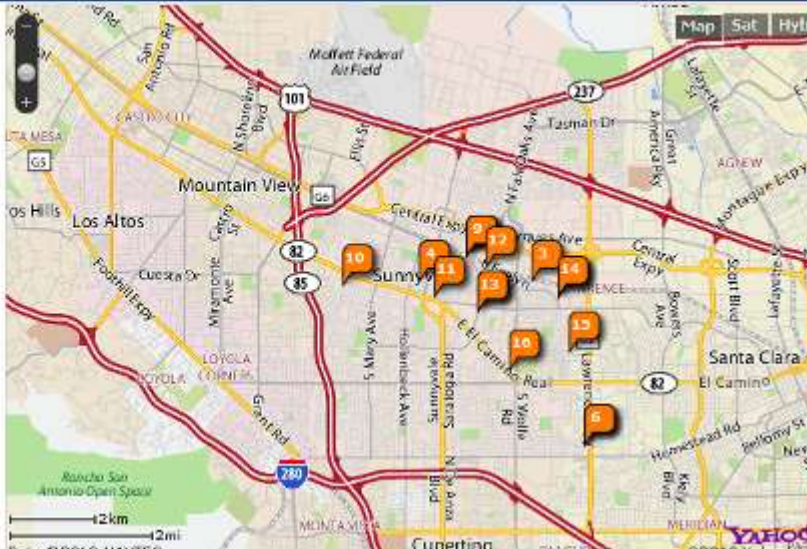
<http://www.norc.ro/street-view/>



# YahooMaps mashup

**Apartments in Sunnyvale, CA**
Sunnyvale

1. # Evelyn Garden~~Swimming Pool & Spa ~Full Fitness Center (sunnyvale) \$1598...
2. # Luxury Apartments - Lock in Great Prices Today!! (sunnyvale)...
3. 1.5Bthr,W/D,DW,Open-Sun,Nov,28 (sunnyvale) \$1650 2bd...
4. Large 2br-2ba Luxury Modern Condo for rent in Cupertino schools! (sunnyvale) \$22...
5. Make a move to a caring team at Woodbridge! (sunnyvale) \$1769 2bd...
6. Experience life with us at Woodbridge Apartments (sunnyvale) \$1374 1bd...
7. Find the perfect apartment at Villa Del Sol (sunnyvale) \$2325 2bd...
8. Great floor plans at Villa Del Sol (sunnyvale) \$2225 2bd...
9. Your perfect apartment, lease now! (sunnyvale) \$2895 3bd...
10. Everything Remodeled! Now w/ Washer/Dryers! Excellent View! (sunnyvale) \$1545 1b...
11. #1314 has an incentive of \$1000 off one time. (sunnyvale) \$2530 2bd...
12. Wonderful living at Heritage Park Apt. Spacious & well maintained. (sunnyval...
13. Resort Living With Movie Theater! (sunnyvale) \$1336 1bd...
14. Avail 12/1 1076 Sq. ft.with pool views, includes W/D, A/C & Storage! (sunnyv...
15. Nice Apt. for Rent! (El Camino and Lawrence) (sunnyvale) \$1250 2bd...



**YAHOO! ANSWERS**

**Appliances at wholesale prices to the public near Sunnyvale, CA?**  
Number of Answers (2)  
 Appliances are sold to builders/contractors at wholesale prices that may sell to the public. (There ...

**where can i get a rental for \$500 or less in sunnyvale,ca.?**  
Number of Answers (2)  
 i need a place to live ,close to my work.i work at a business at homestead and deAnze blvd,all this ...

**How much usually is a pet deposit for a rental house in Sunnyvale, CA?**  
Number of Answers (2)  
 A single family house not an apartment. ...

**Looking for place to rent! Young couple and 2.5 year old dog. Hoping to rent in Sunnyvale, CA area.?**  
Number of Answers (2)  
 Need to move by middle or end ofJanuary. Have a friendly dog who is used to living indoors, housebro...

**How quickly do mobile homes depreciate in value?**  
Number of Answers (7)  
 I'm considering purchasing a mobile home in the Sunnyvale, CA area, but I don't want to make...

[Silicon Valley Mobile Home Parks - good, bad, and ugly ...?](#)

[http://manishranade.com/bay\\_area/apartments.php](http://manishranade.com/bay_area/apartments.php)





# BingMaps mashup

Built on Windows® Azure™

сменете езика: {Български} | разработчици | доставчици | Отказ от поемане на отговорност

**EYE ON EARTH** въведете местоположение

European Environment Agency

Път Въздушен Етикети Изгледи

**YAZOVIR PCHELINA 2**

<b>НАШАТА ОЦЕНКА</b> ДОБРА	<b>ВАШАТА ОЦЕНКА</b> МНОГО ДОБРА
най-близко местоположение Major Road, Bulgaria	Пренаселена Земорсна Скитан Безопасна Чиста Животисн Мръсна Необезопасна
	1 Оценка

Щракнете, за да отворите

2 Kilometers

© 2010 Microsoft Corporation  
© Harris Corp, Earthstar Geographics LLC

bing

СТАНЦИИ повече информация...  
■ СТАНЦИИ ЗА ИЗМЕРВАНЕ СЪСТОЯНИЕТО НА ВЪЗДУХА ● СТАНЦИИ ЗА ИЗМЕРВАНЕ СЪСТОЯНИЕТО НА ВОДАТА

<http://eyeonearth.cloudapp.net/>



# Géoportail mashup

Gustavia : Vue d'avion et carte IGN, de Géoportail, proposées par [ZoomGuadeloupe](#)



Gustavia.



## Comment utiliser l'outil Géoportail :

- Sur la gauche en haut de la carte, sont référencées les trois couches sur lesquelles on peut agir. Cocher pour faire apparaître et décocher pour faire disparaître.
- La couche "cartes" correspond à la carte IGN au 1/25000 ième. La couche "photos" correspond à la vue aérienne. La couche "Pointeur" correspond au pointeur en jaune au centre de la carte.
- S'agissant des couches "Cartes" et "Photos", il est possible de jouer sur le niveau de transparence (ou d'opacité) de chacune de ces 2 couches pour obtenir une superposition

[http://ti.racoon.free.fr/geoportail.php?image\\_id=529&chem=.:galleries/Paysage/StBarth/](http://ti.racoon.free.fr/geoportail.php?image_id=529&chem=.:galleries/Paysage/StBarth/)



# Google StreetView

---

- It was launched on May 25, 2007, originally only in several cities in the United States, and has since gradually expanded to include more cities and rural areas worldwide.
- Integration of high quality photographs into the GoogleEarth environment to combine maps/satellite images and pictures.
- Privacy problems in some country, photographs are to change: delete plate names, depixelize human faces or properties (it is an automatic process due to the huge number of photos, so the result will not be perfect).



# Google StreetView (Paris)



# Mapping APIs – top list (November, 2010)

API	Popularity
Google Maps	2136
MS Virtual Earth	176
Yahoo Maps	133
Yahoo Geocoding	97
GeoNames	76
Google Maps Flash	41
Google Earth	40
Geocoder	35
Google Maps Data	24
Google Static Maps	22
Bing Maps	16
OpenLayers	14

<http://www.programmableweb.com/apis/directory/1?apicat=Mapping&sort=mashups>



# Social networking

---

New social networking methods were quickly developed by the end of the 1990s, which changed the social networking model from ones that simply recommended additions to users to ones they could manage themselves.

These sites included **Epinions.com**, using a system called 'The Web of Trust', which allowed users to build social networks based on who they trusted.

These system began to flourish with the emergence of **Friendster** in 2002, causing such sites to become part of mainstream users globally. Friendster was followed by **MySpace** and **LinkedIn** a year later.

By 2005, MySpace, emergent as the biggest of them all, was reportedly getting more page views than Google. 2004 saw the emergence of **Facebook**, a competitor, also rapidly growing in size.



# Social networking - Facebook

---

Founded in February 2004, Facebook is a social utility that helps people communicate more efficiently with their friends, family and coworkers. The company develops technologies that facilitate the sharing of information through the social graph, the digital mapping of people's real-world social connections. Anyone can sign up for Facebook and interact with the people they know in a trusted environment.

In 2006, Facebook opened up to the non-US college community, and together with allowing externally-developed add-on applications, and some applications enabled the graphing of a user's own social network - thus linking social networks and social networking, became **the largest and fastest growing site in the world**, not limited by particular geographical followings.



# Facebook

facebook

Keep me logged in

[Forgot your password?](#)

Email

Password

Login

Sign Up

**NACIS - North American Cartographic Information Society is on Facebook**

Sign up for Facebook to connect with NACIS - North American Cartographic Information Society.



The North American Cartographic Information Society, founded in 1980, is an organization comprised of specialists from private, academic, and government organizations whose common interest lies in communicating with maps.

## Information

Founded:  
1980

## 81 People Like This



Lynn Currie Pawelski Erin Haasch Karen Allen



Scott Zilmer Colter Sikora Jon Oetting

## Photos

1 album

[See All](#)

**NACIS - North American Cartographic Information Society**



Wall Info Photos Discussions Boxes

Filters



**NACIS - North American Cartographic Information Society** First grant deadline, July 15: [awards@nacis.org](mailto:awards@nacis.org).



**NACIS: Awards & Grants**

[www.nacis.org](http://www.nacis.org)

NACIS Grants and Awards NACIS has travel/grant/membership initiatives that invest in the future growth and strength of the organization. These initiatives (1) recognize the importance of student membership ...

Yesterday at 6:42am · Comment · Like



**NACIS - North American Cartographic Information Society** Students, the interactive maps you are working on this year will be eligible for the upcoming NACIS map competition: [webmaps@nacis.org](mailto:webmaps@nacis.org).



**NACIS: Student Web Mapping Competition**

[www.nacis.org](http://www.nacis.org)

In only a few years, the World Wide Web has revolutionized how cartographers manage, conceptualize, and present map information. The North American Cartographic Information Society (NACIS) recognizes the growing importance of the Web to the future of cartography. ...

Mon at 2:21pm · Comment · Like



**NACIS - North American Cartographic Information Society**



**URISA Leadership Academy | URISA**

[www.urisa.org](http://www.urisa.org)

Developing Crucial GIS Leadership Skills - The success of any GIS program is largely tied to the capabilities of its leader. Strong leadership is necessary to establish a solid GIS program, operate efficiently ...

Mon at 6:33am · Comment · Like





# **Web 2.0 elements: Ajax, folksonomies, video sharing**

The complex and evolving technology infrastructure of Web 2.0 includes

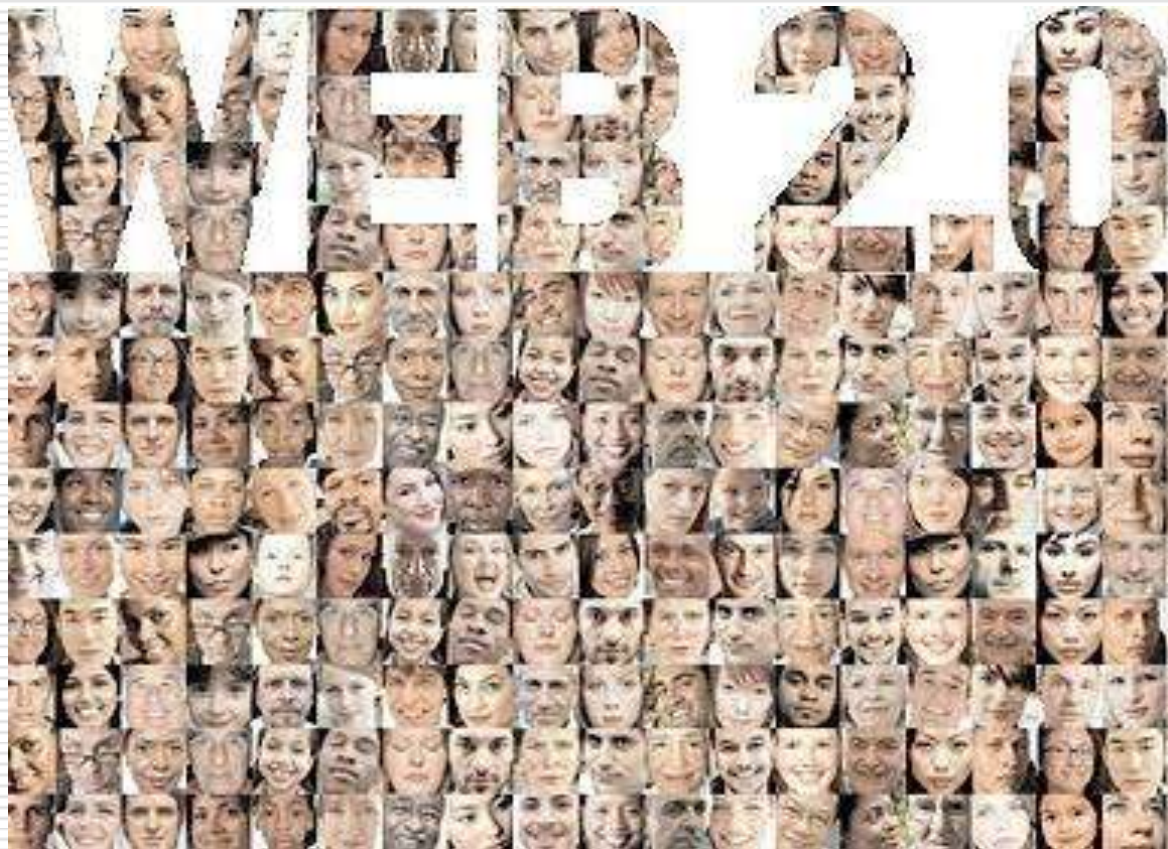
- server-software,
- content-syndication,
- messaging-protocols,
- standards-based browsers with plugins and extensions,
- and various client-applications.

These differing but complementary approaches provide Web 2.0 with information-storage, creation, and dissemination capabilities:

- rich internet applications,
- server-side software,
- new web protocols.



# Cartography 2.0



<http://aliooplv.pbworks.com/f/1210604811/web2.0.jpg>



# Web 2.0 in cartography

---

GIS web environment offers more flexibility and interactions for the users; they may combine their data with map data offered by the map server. But the map availability is limited by the map owners and web users cannot add their own map data on-line in this environment.

The open web standards reacted considerably to the development of web based GIS both in content and in quality. More and more GIS based mapping service is available on the web.

The milestone of Web 2.0 cartographic services in Google Maps started in February 2005. For the simple users we have to emphasize the following advantages:

- Detailed map/satellite image database
- Searching functions
- Simple and intuitive user interface
- Open API (programming interface)
- Free, but reliable service



# Web 2.0 in cartography

Voluntary web communities even make the state cartographic services to rethink their data management policy and business model, hopefully to move to a direction of less strict and less expensive access to official topographic data.

The screenshot displays the OpenStreetMap web application. At the top, there are navigation tabs: 'Térkép' (Map), 'Szerkesztés' (Edit), 'Előzmények' (History), 'Exportálás' (Export), 'Nyomvonalak' (Print), and 'Naplók' (Diary). On the right side, there are links for 'bejelentkezés | regisztráció' (login | register). The main map area shows a detailed street view of Vienna, with labels for various districts and streets in Hungarian. The sidebar on the left contains the following text:

**OpenStreetMap**  
A szabad világtérkép

Az OpenStreetMap egy szabadon szerkeszthető térkép az egész világról. Olyan emberek készítik, mint Te.

Az OpenStreetMap lehetővé teszi, hogy szabadon megtegyél, szerkeszd és használd a földrajzi adatokat, térképeket vagy a Póden.

Az OpenStreetMap hozzájárul a MIT, MIT Carlab és a Harvard támogatásához. A projekt további támogatást a Wikipédia oldalán találhatók.

Sugó és wiki  
Szerzői jog és licenc  
Hírblog  
Bolt  
Jelmagyarázat

Keresés:

Adományozz

<http://www.openstreetmap.org/>



# Google MyMaps and follow-ups

Web Images Video News Maps Gmail more

Saved Locations Help Web History My Account Sign out



e.g. "10 market st, san francisco" or "hotels near lax"  
Search Maps

Search the map Find businesses Get directions

KML Print Email Link to this page

Search Results My Maps **New!**

Add content - Create new map

Created by me

Orienteering maps in Moscow

Wroclaw - XM Cartographic School

Featured content

Google Real Estate Search

Photos from Panoramio

Gas Prices from GasBuddy.com

Distance Measurement Tool

Our Earth as Art

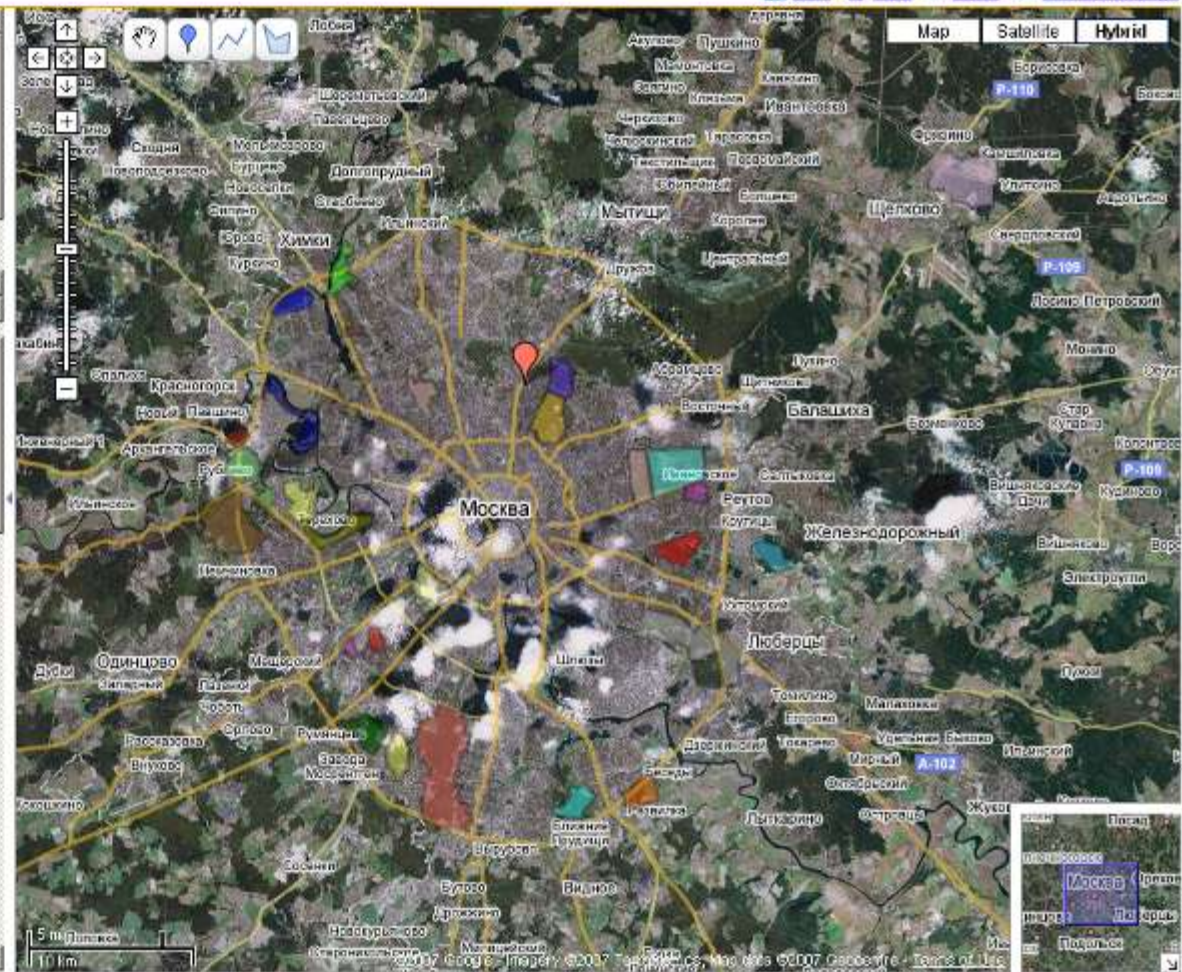
**Orienteering maps in Moscow**

<http://moscompass.ru/mosmeridian/> (OCAD file compressed in ZIP)

Public - [Edit title/settings](#)

Created by Tajfuto-Arcok Tajfuto-Arcok on May 28

- Alashkino (2006)**  
<http://moscompass.ru/mosmeridian/maps/al>
- Bitca (2006)**  
<http://moscompass.ru/mosmeridian/maps/br>
- Fili (2007)**  
<http://moscompass.ru/mosmeridian/maps/fili>
- Frazino (2003)**  
<http://moscompass.ru/mosmeridian/maps/fr>
- Himki (2007)**  
<http://moscompass.ru/mosmeridian/maps/hi>
- ICC 2007**  
Hotel Cosmos
- Izmaylovo (2006)**  
<http://moscompass.ru/mosmeridian/maps/iz>
- Jasenovo (2005)**  
<http://moscompass.ru/mosmeridian/maps/ja>
- Jauza (2006)**  
<http://moscompass.ru/mosmeridian/maps/ja>



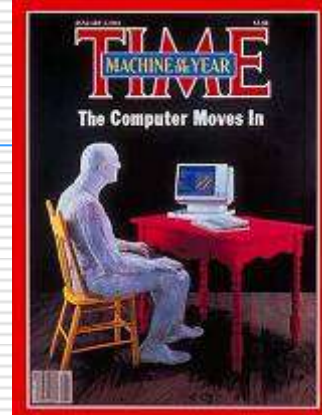
# Is it time for cartography 2.0?

We are the users who reformed the Internet, who looked at the World through a different lens, creating social networks, on-line encyclopaedias; we will not only change the World, but also change the way the world changes.

When 1982, just after one year the release of the first personal computer, Time declared **The computer**, the Person of the Year. Nobody thought how perfect this vote was. Although lot of people disputed the decision today we can declare that the (personal) computer has really changed our life as Time predicted.

The decision of Time at the end of 2006 practically acknowledged the importance of Web 2.0, the importance of the term, which was first used only some years before.

And what about Mark Zuckerberg?



# Is it time for cartography 2.0?

---

Understanding the importance of Web 2.0 we can integrate its most important elements into the cartographic higher education:

- Building mashup applications.
- Blog environments as tools in cartography (map making, map producing, map updating).
- Using wikis as source of information for mapmaking (reliability vs. usability).
- On-line cartographic databases.

**Is it much enough to use the term cartography 2.0?**



# Cartography 2.0

---

The term cartography 2.0 would be as unusual, but easily understandable as the term Web 2.0.

We, cartographers, can probably benefit by using this term to get more interest from the media and business. We can list advances of the contemporary cartography to support this term, although the changes were not as fast and evident as in the case of Web 2.0.

However, taking into account and comparing the some hundred years old tradition of cartography and the revolutionary changes of the last 30-40 years (remote sensing, GIS, computer cartography, GPS) we can adopt the new term.





# Examples

The screenshot displays a web-based mapping application interface. The top section features a large satellite map of a city, with various streets and landmarks labeled in Russian. A navigation toolbar is visible in the top-left corner, and map style options (Map, Satellite, Hybrid) are in the top-right. Below the map, a green navigation bar contains links for Globe Glider, Info, Wikipedia, GeoURL, Guide, Hotels, Flickr, Weather, and Street View. The main content area is divided into two columns. The left column shows a smaller map with a red location pin and a vertical toolbar with options for 2D, 3D, Road, Aerial, and Hybrid views. The right column contains a weather information panel for Moscow, Russia, including coordinates, local time, and a search bar. Below this, a 'WEATHER VIDEO' section displays forecast thumbnails for National Forecast, Northeast Forecast, and Elliot's Elaboration.

Map Type: Map Satellite Hybrid

Map Type: Google Maps Microsoft Virtual Earth

Region: Moskovskaya oblast', Russia 37.6472°E 55.6240°N 140m  
Wall 00:23:20 MSD, SR 05:31:33:33

Weather: Moscow 0km Mytishchi 11km Ilyinskiy 36km Noginsk 50km Istra 50km Sergiyev Posad 63km Kaluga 167km Tula 191km

Google (Loc)  Keresés   
üzemelteti - Google

WEATHER VIDEO

- NATIONAL FORECAST National Forecast (7/31/2007 6:45 AM)
- NORTHEAST FORECAST Northeast Forecast (7/31/2007 6:45 AM)
- ELLIOT'S ELABORATION Elliot's Elaboration - Elliot Abrams



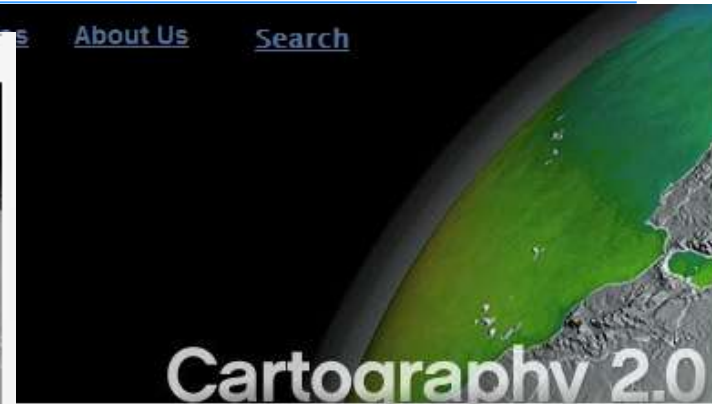
# Examples

## OpenStreetMap:

- collaborative environment
- comments, feedbacks
- common knowledge (wiki-like)
- special software or mashup for the graphic representation



# Cartography 2.0



## Introduction & Overview

by, Penn State University

date: 09/21/09

[next article >](#)

### Welcome

Cartography 2.0 is a free online knowledge base and e-textbook for students and professionals interested in interactive and animated maps. I (Mark) pitched the idea to my co-authors because I knew that, as teachers, we were all frustrated with the inability of traditional textbooks to keep pace with Web technologies. Nor could we find any comprehensive online resources that provided the same breadth and depth we've come to expect from a professionally produced textbook. The kind of knowledge that is needed to make dynamic maps spans many (traditionally separate) fields, and we set out to answer a basic question we've been asked many times: **What's the important stuff I need to know about making great on-demand/interactive maps?**

### Chapters



[Map Animation](#)



[UI & Useability](#)



[Advanced Topics](#)



[3D / Virtual Globes](#)



[Map Interaction Techniques](#)



[Elements of Design](#)

### New Content

[Overview: Animated Maps](#)

[Interface Evaluation 1: Philosophy](#)

[Overview: The User Interface](#)

[Representing Time on Static Maps](#)

[Data Probing and Info Window Design](#)

[Multiple, Coordinated Views, Brushing & Highlighting](#)

[Cartographic Text](#)

view of cartographic interaction, defined as the notation in response to user input. The entry begins with a result of the Digital Revolution. I then provide a brief size the importance and potential of cartographic that cartographic interaction can be conceptualized, entries on cartographic interaction.

on this: [Gennady Andrienko](#), [Natalia Andrienko](#), [Remco van Dykes](#), [Rob Edsall](#), [Alan MacEachren](#), [Mark Monmonier](#),

: cartography, interactive maps, geographic visualization, goals, objectives, operators, user inputs, operands



# Cartography 2.0

indiemapper is now available! Try it out here.

## axismaps

[Home](#) | [Services](#) | [Blog](#) | [Portfolio](#) | [Resources](#) | [About](#)

CARTOGRAPHY. VISUALIZATION. DESIGN.

EXPLORE

[Learn More >>](#)

Restart

Reload

4 COMPARE

INFORMAL I B

Your Fonts

Font Alternatives

Font Info

Type Families: Myriad Pro / Chaparral Pro

T Y R P E E W E F

Size

Density

Tracking

Terrain Highlight Text Only

GET SPECS

[Learn More >>](#)



CREATE

Build brilliant maps. Fast.

GO

### indiemapper

Indiemapper is an online application designed and engineered to help you make better maps. It closes the gap between digital data and map by taking a visual approach to map-making. See your data. Make your map. For the first time ever, it's just that simple.

Indiemapper is the smarter, easier, more elegant way to make thematic maps from digital data. Free yourself from GIS.

SERVICES

Our award-winning custom maps

[learn more](#)



DATA



DESIGN



CODE

Our custom-built maps go beyond GIS or Google Map pushpins. Our strong foundation in the principles of design, our experiences working with a wide range of clients, and

LEARN

Mapping knowledge, straight from the experts

GO

## Cartography 2.0

We publish Cartography 2.0 to share everything we know and use every day to build our award-winning maps. We are constantly updating it to make Cartography 2.0 to most current and up-to-date resource on our fast moving field.

It's free and contains everything we know about making maps.



Get hands-on training at our mapping workshop:

Learn the principles



...and the technology



Our workshop covers what you need to know about cartography today, what technology to implement, and how to deliver great looking custom geographic content over the web.



# Conclusions



# Conclusions 1

---

- ❑ If we look at the history of cartography, the development of the last decades caused the most rapid changes.
- ❑ The meaning of the term cartographer is continuously changing by integrating more and more areas of information technology into cartography.
- ❑ The cartographic approach is somehow built in the human brain (at least the navigational skills), but it will not be built-in totally in software (at least not in our life).
- ❑ It is difficult to predict how the meaning of the term 'cartographer' is changing in the near future. Information technology is still developing rapidly creating new hardware and software to let us invent new chances for cartography.
- ❑ Cartographers are ready to adapt new technologies and keep 'something' from the times when the cartographer was an artist too (ICA Working Group on Art and Cartography).



# Conclusions 2

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- ❑ The web is becoming a platform for unparalleled activity. This kind of activity is not unusual for cartographers.
- ❑ Share our own enthusiasm, excitement, and passion in the education.
- ❑ The wisdom of the collaborative group may replace the expert - do we need cartographers at all?
- ❑ Free software environment - how about free data (Inspire)?
- ❑ Web 2.0 may change the role of the cartographer, we have to prepare for that.



# Web 3.0

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People keep asking what Web 3.0 is. I think maybe when you've got an overlay of scalable vector graphics - everything rippling and folding and looking misty – on Web 2.0 and access to a semantic Web integrated across a huge space of data, you'll have access to an unbelievable data resource..."

*Tim Berners-Lee, 2006*

Not much time passed before "Web 3.0" was coined. Definitions of Web 3.0 vary greatly. Web 3.0 is, among other things, about the Semantic Web and personalization. Some consider the Semantic Web an "unrealisable abstraction" and sees Web 3.0 as the return of experts and authorities to the Web. Others proposes that Web 3.0 will be a "Totally Integrated World" - cradle-to-grave experience of being always plugged onto the net.

Others expects Web 3.0 to emerge from new and innovative Web 2.0 services with a profitable business model. Other users have argued that Web 3.0 is where "the computer is generating new information", rather than humans.





# Thank you for your attention

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