



The Empowering Web

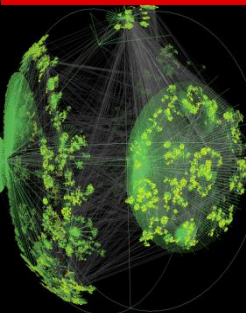
Steve Bratt (steve@webfoundation.org)

Chief Executive Officer

World Wide Web Consortium (<http://w3.org/>)

World Wide Web Foundation (<http://webfoundation.org/>)

April 2009





- **History**
- **Vision**
- **Challenge**
- **World Wide Web Foundation**
 - **Web Science**
 - **Web Standards**
 - **Web for Development**
- **Conclusions**



**WORLD WIDE WEB
FOUNDATION**

History: Growth of the Web



1980s+: Internet Service Providers Offered Controlled Information Access



- Valuable attempt to make the Internet useful to people, but...
- Proprietary solutions
- Lack of Interoperability
- Users stuck in the “walled garden”



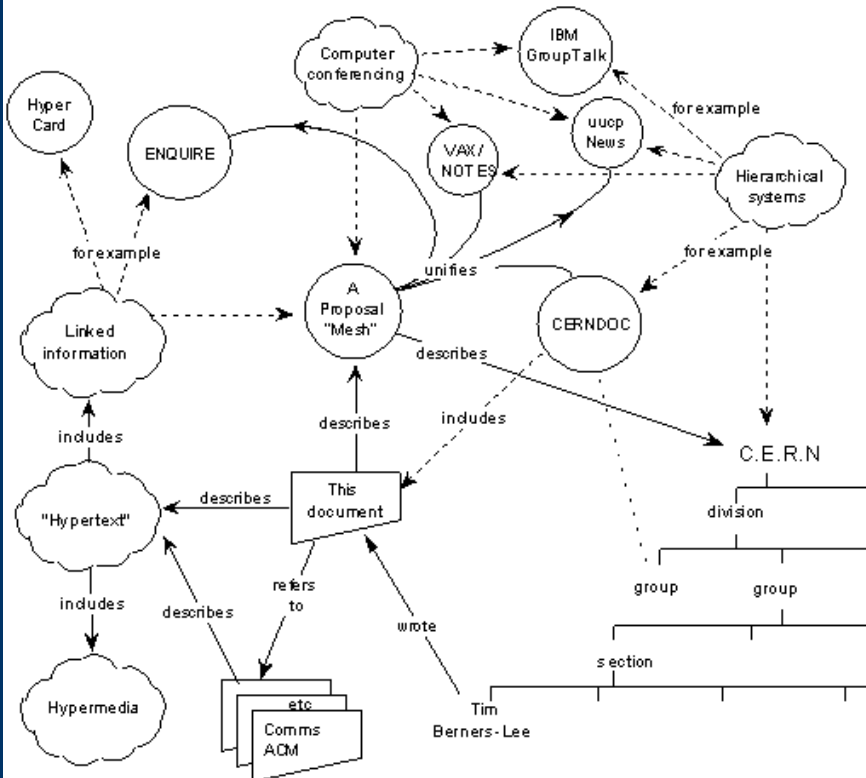
Prodigy
Communications, L.P.



1989: The Web is Born – Killer App for the Internet (eventually) Broke Down the Walls

“Information Management: A Proposal”

By Tim Berners-Lee, March 1989



**HTML, URI
HTTP**

<http://www.w3.org/History/1989/proposal.html>



1.5 Billion Served (by language)

Top Ten Languages Used in the Web
(Number of Internet Users by Language)

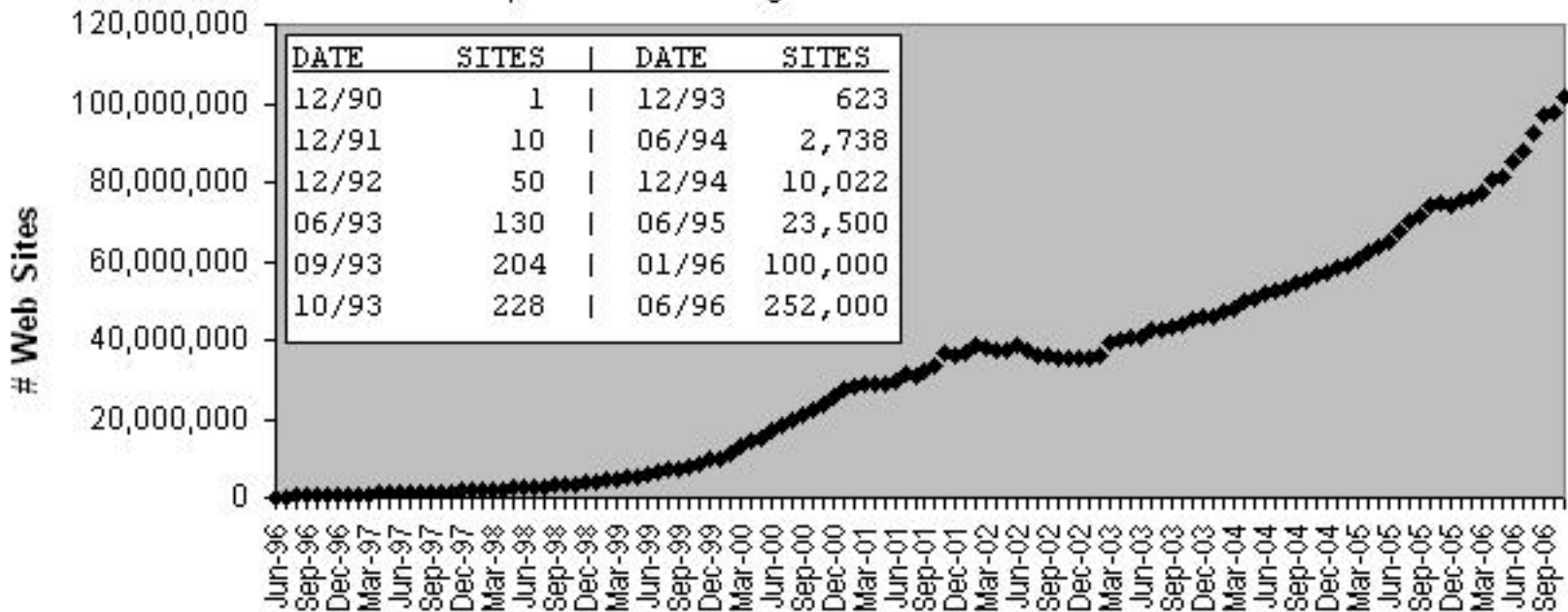
TOP TEN LANGUAGES IN THE INTERNET	% of all Internet Users	Internet Users by Language	Internet Penetration by Language	Language Growth in Internet (2000 - 2008)	2008 Estimated World Population for the Language
<u>English</u>	29.4 %	430,802,172	21.1 %	203.5 %	2,039,114,892
<u>Chinese</u>	18.9 %	276,216,713	20.2 %	755.1 %	1,365,053,177
<u>Spanish</u>	8.5 %	124,714,378	27.6 %	405.3 %	451,910,690
<u>Japanese</u>	6.4 %	94,000,000	73.8 %	99.7 %	127,288,419
<u>French</u>	4.7 %	68,152,447	16.6 %	458.7 %	410,498,144
<u>German</u>	4.2 %	61,213,160	63.5 %	121.0 %	96,402,649
<u>Arabic</u>	4.1 %	59,853,630	16.8 %	2,063.7 %	357,271,398
<u>Portuguese</u>	4.0 %	58,180,960	24.3 %	668.0 %	239,646,701
<u>Korean</u>	2.4 %	34,820,000	47.9 %	82.9 %	72,711,933
<u>Italian</u>	2.4 %	34,708,144	59.7 %	162.9 %	58,175,843
TOP 10 LANGUAGES	84.9 %	1,242,661,604	23.8 %	278.3 %	5,218,073,846
Rest of the Languages	15.1 %	220,970,757	15.2 %	580.4 %	1,458,046,442
WORLD TOTAL	100.0 %	1,463,632,361	21.9 %	305.5 %	6,676,120,288

(*) NOTES: (1) Internet Top Ten Languages Usage Stats were updated for June 30, 2008. (2) Internet Penetration is the ratio between the sum of Internet users speaking a language and the total population estimate that speaks that specific language. (3) The most recent Internet usage information comes from data published by [Nielsen//NetRatings](#), [International Telecommunications Union](#), [Computer Industry Almanac](#), and other reliable sources. (4) World population information comes from the [U.S. Census Bureau](#). (5) For definitions and navigation help in several languages, see the [Site Surfing Guide](#). (6) Stats may be cited, stating the source and establishing an active link back to [Internet World Stats](#). Copyright © 2008, Miniwatts Marketing Group. All rights reserved worldwide.



Over 100+ Million Serving

Hobbes' Internet Timeline Copyright ©2006 Robert H Zakon
<http://www.zakon.org/robert/internet/timeline/>



Users:Servers ratio=> 1996 ~ 150:1. 2000 ~ 50:1. 2006 ~ 10:1

<http://www.zakon.org/robert/internet/timeline/>
<http://www.internetworldstats.com/stats.htm>



Number of Public Web Pages

1990: 1

1998: 26 million (~26,000,000)

2008: >1 trillion (~1,000,000,000,000)

*... more than the number of
neurons in the human brain*

public pages, <http://googleblog.blogspot.com/2008/07/we-knew-web-was-big.html>



What Led to the Web's Success?

- Simple to use
 - Fun
 - Free/cheap
 - Empowering
-
- Simple architecture
 - Extensible
 - Platform independent
 - Tolerant
-
- Network effect: value grows proportional to n^2
 - Open standards: interoperability and increasing “n”



Vision



The Web Has Changed the [Developed] World

The Web has changed...

- ... the way we connect to people, to information, to services
- ... the way we communicate, buy, sell, learn, meet, work, govern, prevent, cure, move, create, consume, understand
- ... the balance of power from centralized to decentralized, with more individuals creating and consuming of content



*“The social **value of the Web** is that it enables human communication, commerce, and opportunities to share knowledge [and] to make these **benefits available to all people**, whatever their hardware, software, network infrastructure, native language, culture, geographical location, or physical or mental ability.”*



Sir Tim Berners-Lee, inventor of the World Wide Web
[Worldwide Participation in the World Wide Web Consortium](#)



Challenge



State of the Web for the Developing World?

- Huge promise
- Similar to the Web in the developed world
... but in the mid 1990s
 - Base of billions of under-served people
 - Huge potential for value
 - Huge base of potential content providers,
including entrepreneurs, NGO, governments,
individuals
- But many challenges exist ...



Challenge: Limited Usability and Usefulness

- Reach of the Internet is increasing
 - Mobile phones: 4 billion and growing
- Less than 25% of world's people are accessing the Web
 - Smaller percentage are creating content
- Life-critical services on the Web are rare, especially for those who need them most



Challenge: Limited Usability and Usefulness

- Barriers to creating and consuming content:
 - Low computer literacy
 - Low language literacy
 - Literacy in unsupported languages
 - Physical and cognitive disabilities
 - Cost
- Thousands of orgs (gov't and NGOs) are trying to leverage IT in under-served populations, yet ...
 - lack knowledge
 - little sharing of knowledge
 - reinventing the wheel



Challenge: Technology and Policy Threats

- Creative, robust evolution of the Web
 - Impeded by our poor understanding of humanity-technology system
- The Web as a single, universal medium for the sharing of information, is threatened
 - Censorship
 - Insecurity
 - Trustworthiness
 - Uninformed policies
 - Incompatible and proprietary technologies



Until now,
there has been no
coordinated effort
to address the full
range of challenges
for the Web.





The World Wide Web Foundation



Announcing the creation of the **World Wide Web Foundation**

- **\$5 million seed grant from John S. and James L. Knight Foundation**

Awarded on 14 Sep 2008 by Knight President Alberto Iburgüen to Web Foundation founder Tim Berners-Lee (right) ([press release](#))

- **5 yrs funding for operations, raising program funds and creating an endowment**
- **Operational launch of the Web Foundation planned for 2009**



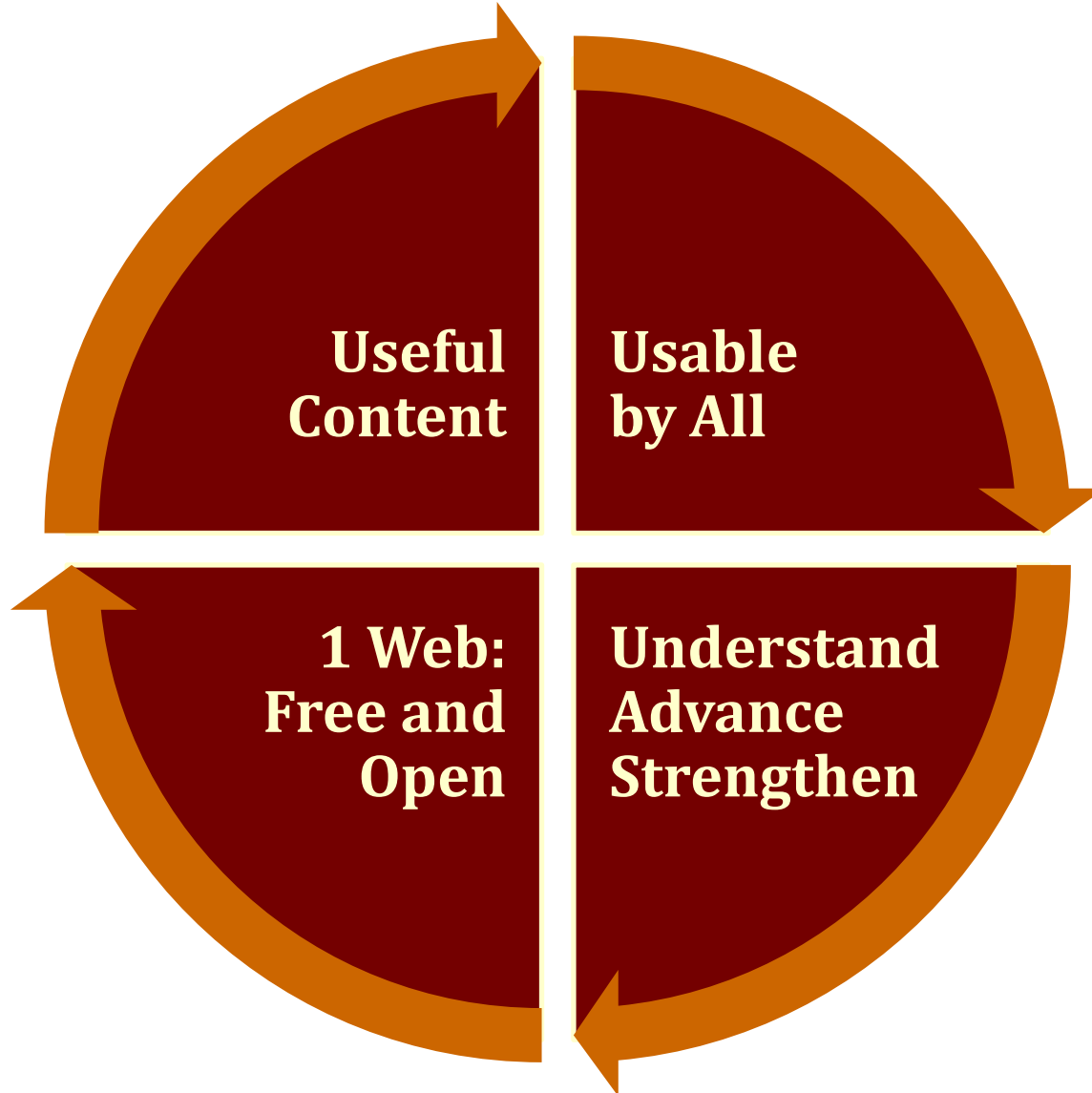


The Mission of the
World Wide Web Foundation is to:

- Advance the Web
- Connect Humanity
- Empower People



4 Objectives to Engage Challenges





- Web Science
- Web Standards
- Web for Development

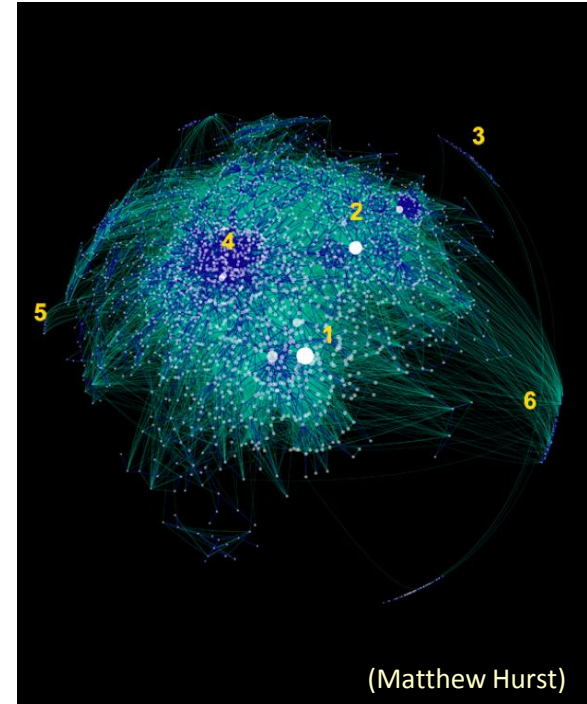


Web Science



Sample Questions

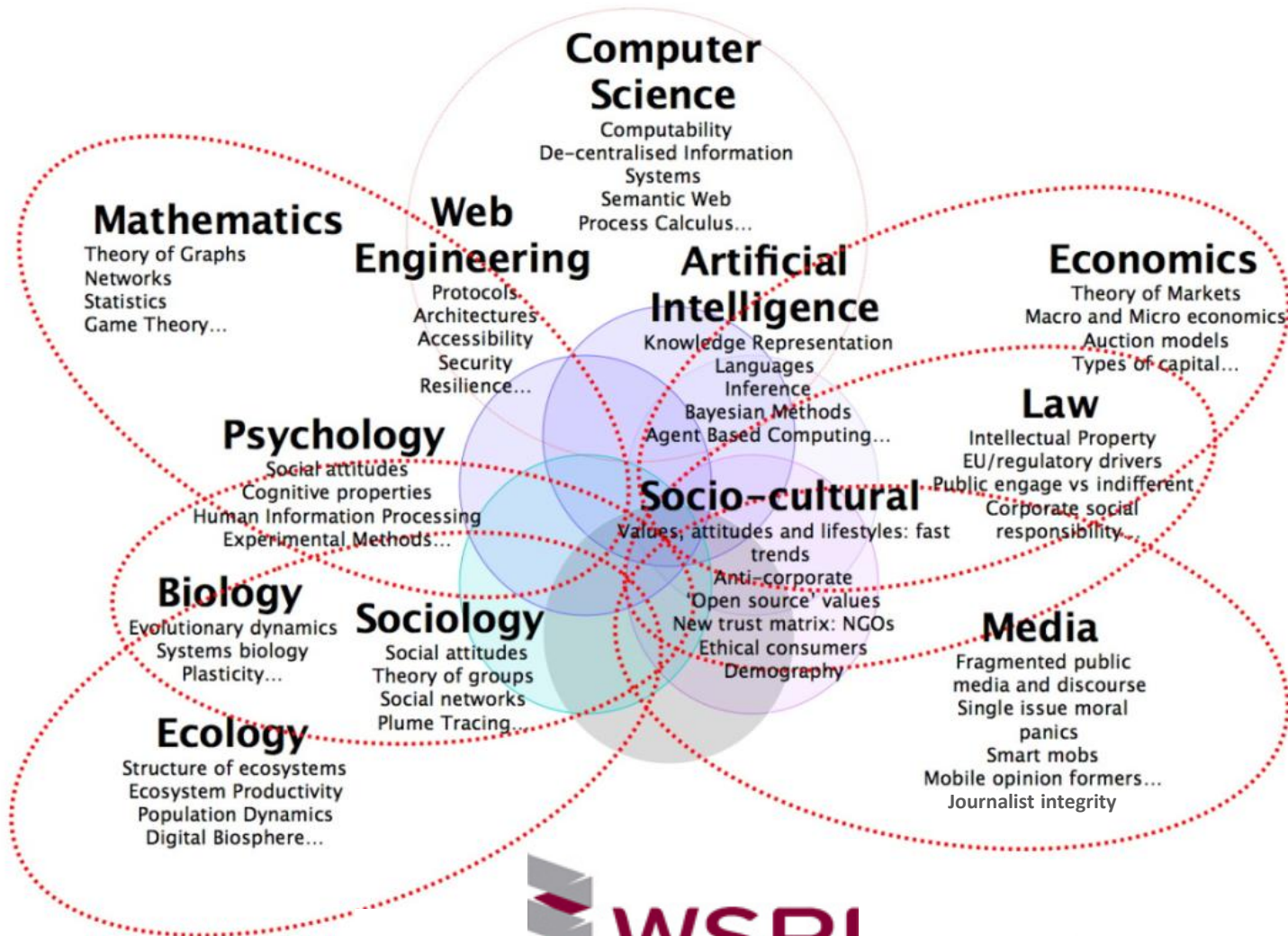
- How has/will the Web evolve?
- How has/will it work?
- How could it break?
- Cause / effect?
- Opportunities / barriers?
- Transparency / accountability?
- Privacy (Get over it!)?
- Ownership (“I want my data back!)?
- Security, phishing, annoyances?
- What level of trust can be placed on data?



(Matthew Hurst)



Support of Web Science





Web Standards



- Founded in 1994 by
Tim Berners-Lee
 - inventor of the Web
(current W3C Director)
- Fair and effective process
- Royalty-free patent policy
- Global focus
- 400 Member organizations
- Tens of thousand participating
- 60 groups working on Web technologies





Future of Web Technologies



Expanding from a
Web of linked
documents,

to **One Web:**

- of creators and consumers
- of Linked Data
- on Everything
- for Everyone



Social Networking

A chaque continent ses préférences

LES SITES DE RÉSEAUX SOCIAUX LES PLUS FRÉQUENTÉS...

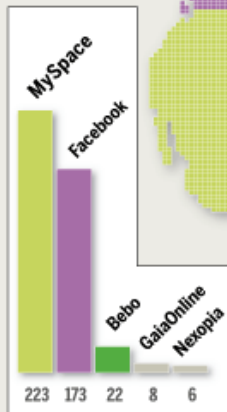
... PAR PAYS	Nom du site	MySpace	Facebook	Bebo	Cyworld	Skyblog	Hi5	Friendster	Orkut	Live Journal
Nationalité de l'entreprise :	Etats-Unis	Etats-Unis	Etats-Unis	Corée du Sud	France	Etats-Unis	Etats-Unis	Etats-Unis	Etats-Unis	Russie

... PAR CONTINENT

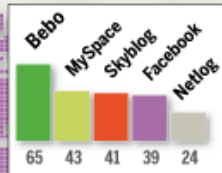
En millions d'heures par mois
(août 2007)

AMÉRIQUE DU NORD

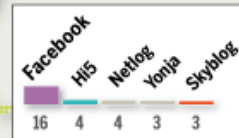
Un quart des inscrits dans le monde.



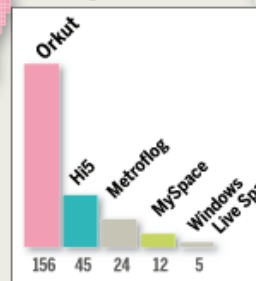
EUROPE



AFRIQUE - PROCHE-ORIENT

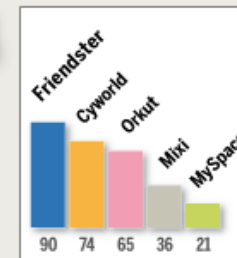


AMÉRIQUE LATINE



ASIE - PACIFIQUE

Un tiers des inscrits dans le monde.

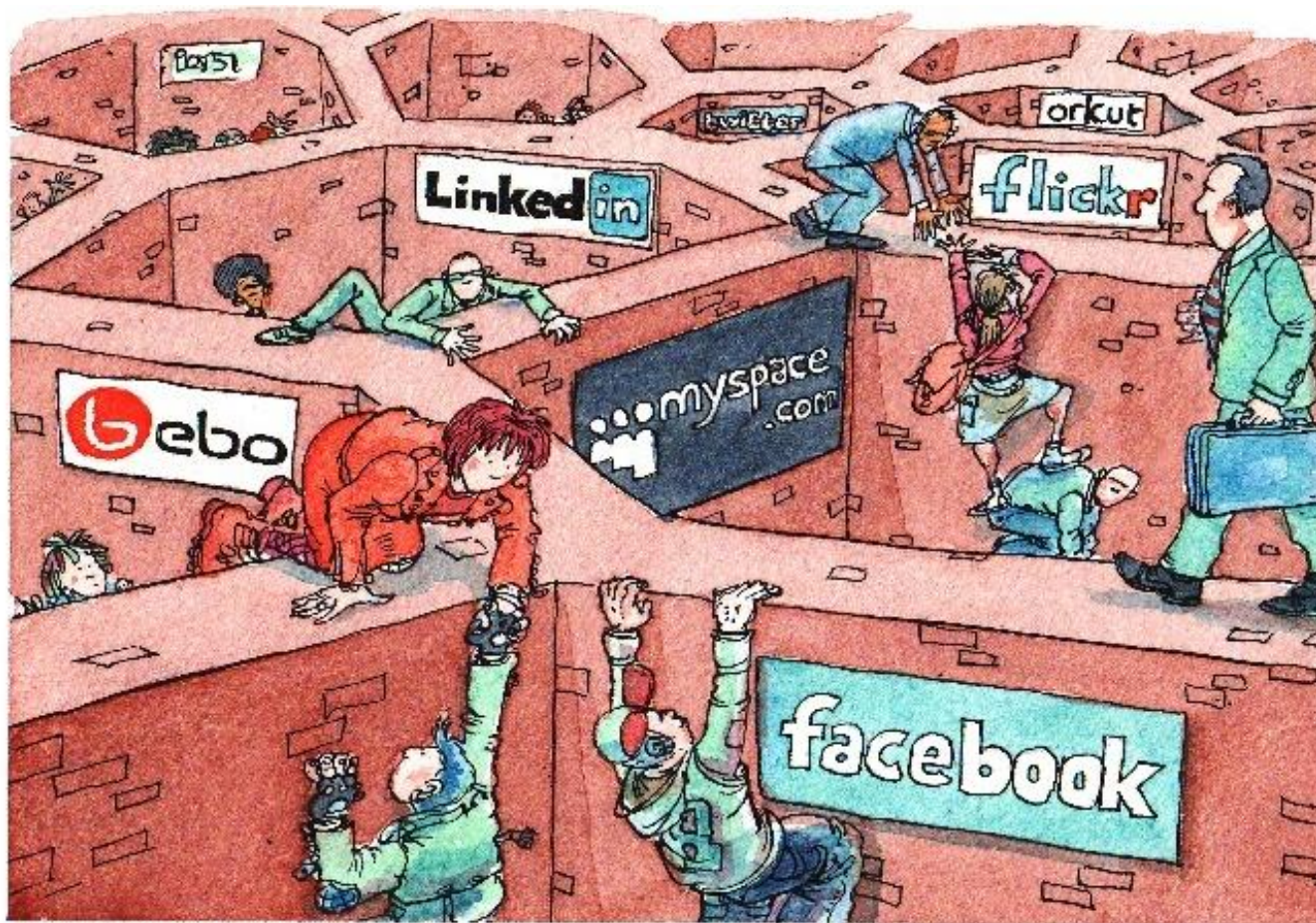


Infographie Le Monde

Sources : ValleyMag août 2007, Datamonitor



Return to “Walled Gardens”?





Web 3.0*

The Semantic Web

- Web 1.0 = Linked Documents
- Web 3.0 = Linked Data (Semantic Web)
 - Web becomes a global, relational database
 - Potential to break down walled gardens of Web 2.0 applications



*New York Times, InternetNews



Put Government Data into Web 3.0

- Movement to make non-confidential **government data available** to public, and in **machine-readable** formats
- Use of free, open, semantic **Web standards** will facilitate **search, integration, discovery, transparency**
- “Open data”: a focus of W3C eGovernment Interest Group meeting, 12-13 March 2009





Delivering Web Content to Simple Mobile Phones

10 ways to mobilize



Design for One Web



Rely on Web standards



Stay away from known hazards



Be cautious of device limitations



Optimize navigation



Check graphics & colors



Keep it small



Use the network sparingly



Help & guide user input



Think of users on the go

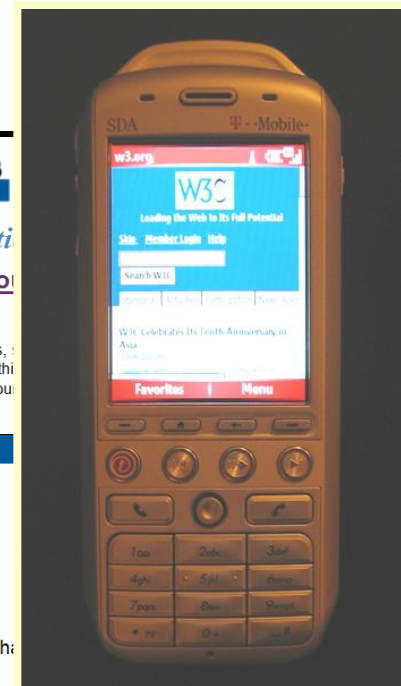



W3C WORLD WIDE WEB consortium
Leading the Web to Its Full Potential

[Activities](#) | [Technical Reports](#) | [Site Index](#) | [New Visitors](#) | [About W3C](#)

The World Wide Web Consortium (W3C) develops interoperable technologies (specifications, guidelines, potential. W3C is a forum for information, commerce, communication, and collective understanding. On the technologies and ways to [get involved](#). New visitors can find help in [Finding Your Way at W3C](#). We encourage about W3C Membership.

Validator Donation Program	News
<p>VALIDATOR Make a donation or become a sponsor of the W3C Validator.</p>	<p>Improving Access to Government through Better Use of the Web: First Public Draft</p> <p>2009-03-10: The eGovernment Interest Group has published the First Public Working Draft of Improving Access to Government through Better Use of the Web. The term "eGovernment" refers to the use of the Web or other information technologies by governing bodies (local, state, federal, multi-national) to interact with their citizenry, between departments and divisions, and between governments themselves. Recognizing that governments throughout the World need</p>
<p>W3C Supporters</p> <p>Help W3C by making a donation through the W3C Supporters Program.</p>	
<p>Employment</p> <p>W3C is seeking a Managing Director.</p> <p>Current W3C Fellows Program openings are Business and Technology Communications Specialist; Software Engineer.</p>	
<p>W3C A to Z</p>	<p>Standards and Technology (NIST)</p> <p>NIST National Institute of Standards and Technology Technology Administration U.S. Department of Commerce</p> <p>NIST, a world-class research and technology laboratory within the U.S.</p>





Mobile Web Growing

- Challenges - Space, standards
- Wildly-varying growth projections (AccuraCast)
 - Global now:
 - \$1 to 2B ?
 - Global by 2112:
 - \$1B (Forrester)
 - VS.
 - \$21B for Google alone (Thomson)



Ad Demand Meter



Page views per second across the AdMob network

Every day tens of millions of ads are delivered to mobile device users through the AdMob Marketplace. This sampling of live ad requests illustrates the volume and diversity of available inventory on the AdMob network.

- Learn more about advertising on mobile sites.
- Learn about serving ads on your mobile site.

[AdMob Live Map](#)



Accessibility for People with Disabilities



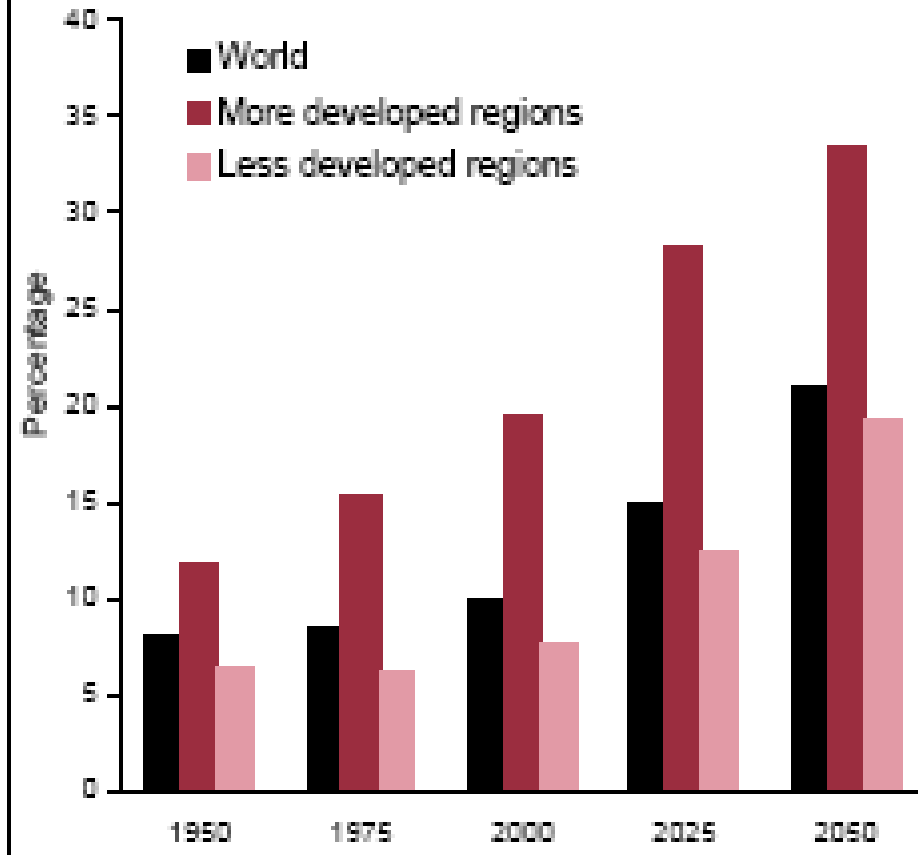
- Barriers for millions with disabilities
- Aging population = more disabilities
- Often mandated
- Huge carry-over benefits

Developing a Web Accessibility Business Case

- Web Accessibility Initiative @ W3C
 - New Web Content Accessibility Guidelines 2.0



Figure 10. Proportion of population aged 60 or over: world and development regions, 1950-2050



More developed regions have relatively high proportions of older persons



Web for Development



Web for Development

- Focus on under-served populations at the tipping point
- Achieve measurable impact





- **Accelerate the number of:**
 - People who can create content
 - Web sites and applications providing useful content
 - Health care/nutrition
 - Education
 - Government services
 - Commerce
 - Web sites that are accessible and usable by people on mobile phones and other devices
 - Web-connected and -empowered people





Prioritizing Challenges and Foundation's Response

By looking at people around the globe based on their level of human and ICT development, we are able to identify and prioritize the types of interventions with the greatest potential impact

**Usable by All People
Useful Content and Services**

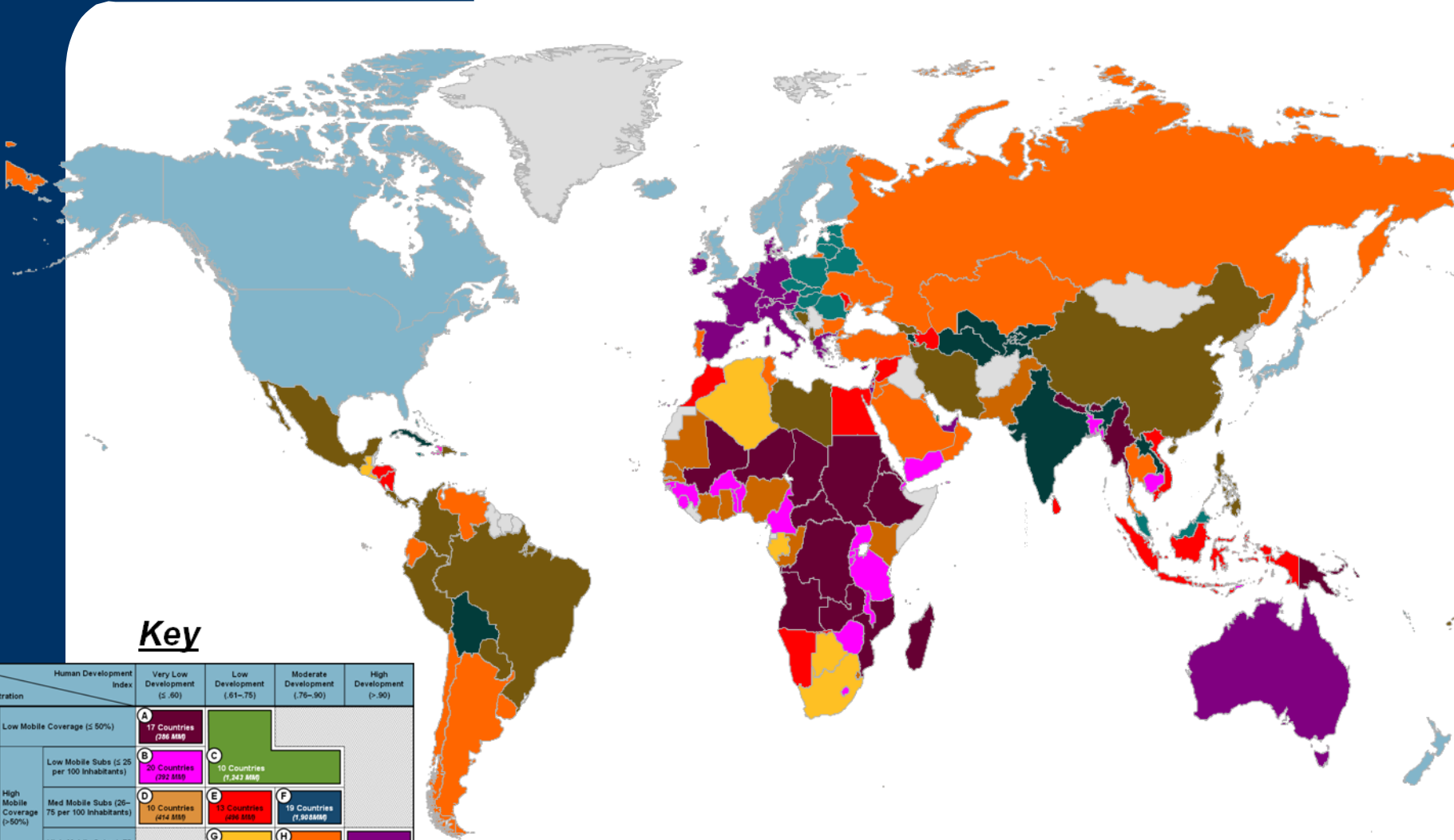
Human Development Index		Internet and Mobile Usage					
		Very Low Development (≤ .60)	Low Development (.61-.75)	Moderate Development (.76-.90)	High Development (>.90)		
Low Internet Penetration (≤ 35%)	Low Mobile Coverage (≤ 50%)	A 17 Countries (386 MM)	C 10 Countries (1,243 MM)				
	High Mobile Coverage (>50%)	Low Mobile Subs (≤ 25 per 100 Inhabitants)				B 20 Countries (392 MM)	
		Med Mobile Subs (26-75 per 100 Inhabitants)	D 10 Countries (414 MM)			E 13 Countries (496 MM)	F 19 Countries (1,908 MM)
		High Mobile Subs (>75 per 100 Inhabitants)	G 7 Countries (106 MM)			H 20 Countries (512 MM)	J 16 Countries (337 MM)
Moderate Internet Penetration (36%-65%)	I 17 Countries (138 MM)						
High Internet Penetration (>65%)				K 14 Countries (621 MM)			

One Web that is Free and Open

Understand Advance, Strengthen



Plotting the Segments Around the Globe



Key

		Human Development Index			
		Very Low Development (≤ .60)	Low Development (.61–.75)	Moderate Development (.76–.90)	High Development (>.90)
Internet Penetration	Low Internet Penetration (≤ 35%)	Low Mobile Coverage (≤ 50%)	A 17 Countries (286 MM)	C	
		High Mobile Coverage (>50%)	B 20 Countries (292 MM)	D 10 Countries (414 MM)	E 13 Countries (494 MM)
	Low Mobile Subs (≤ 25 per 100 Inhabitants)		F 19 Countries (1,908MM)	G 7 Countries (166 MM)	H 25 Countries (312 MM)
	Med Mobile Subs (26–75 per 100 Inhabitants)		I 17 Countries (124 MM)	J 16 Countries (127 MM)	K 14 Countries (821 MM)
Moderate Internet Penetration (36%–65%)	High Mobile Subs (>75 per 100 Inhabitants)				
High Internet Penetration (>65%)					

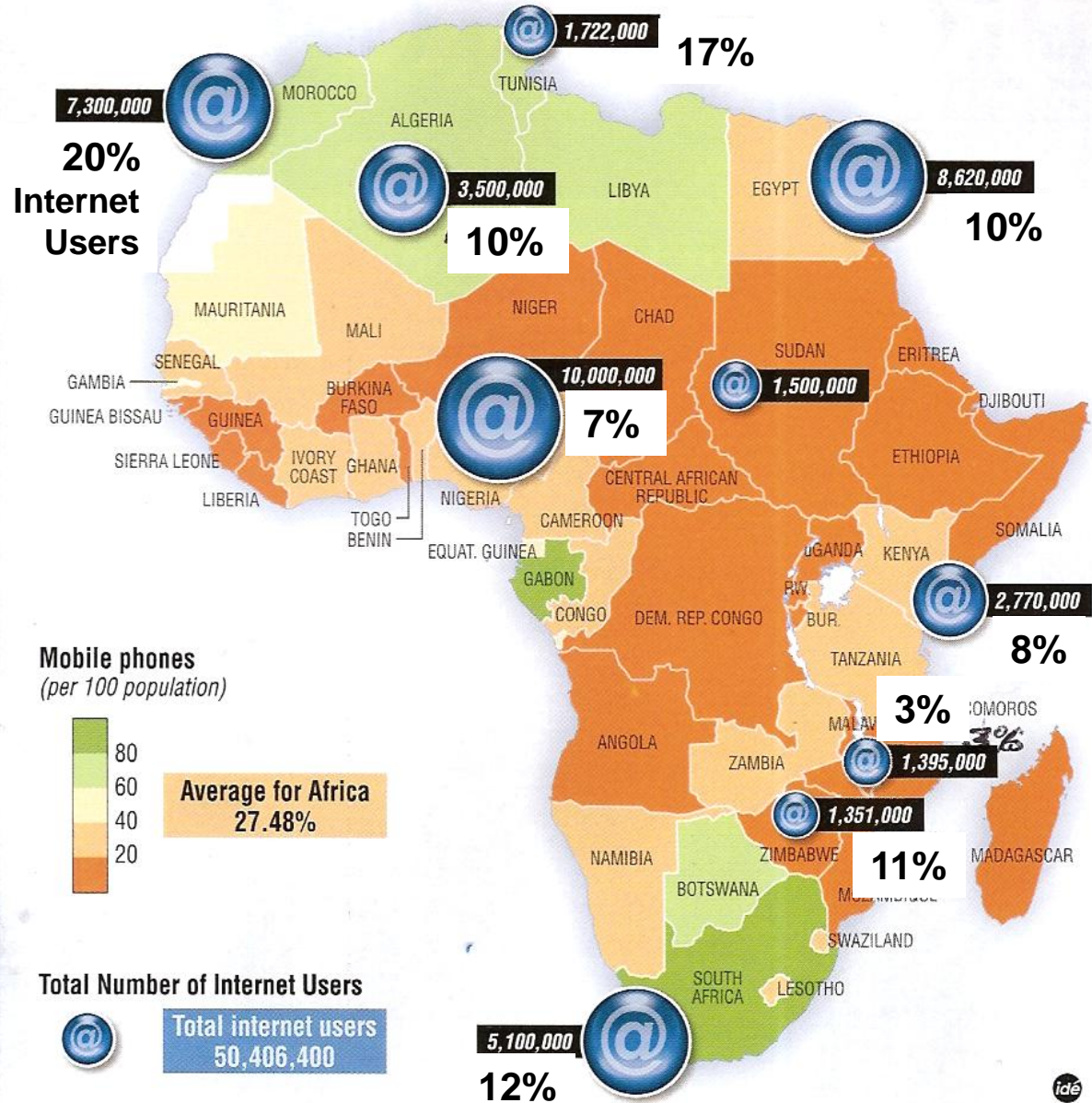
Analysis by Monitor Group, based on data from UNDP; World Bank; ITU



Internet Users and Mobile Phone Owners in Africa

(2008 Sep/Oct)
Africa Report

Mobile phone density and top ten countries in internet use





Web for Development Projects

Break Barriers, Accelerate Opportunities

Community Building

- *Convening groups of thought leaders, developers, users ...*
- *Social networking (wikis, blogs, twitter, fora...)*
- *Annual event and prize for the Innovative mobile Web applications*
- *Travel and study fellowships*

Science

- *Field research on mobile Web usage*

Standards

- *Web for people with low reading skills*
- *Web for people with little experience*
- *Web serving under-served languages*

Tools

- *Software and tools to develop, deploy and access Mobile Web content*
- *Open-source community software development projects*

Training

- *Training on mobile Web technologies for IT sector, NGOs, entrepreneurs...*
- *Curriculum and Degree at Universities*

Deployment

- *Pilot projects*
- *Full-scale projects*





Conclusion



- **The Web Foundation - about ready to launch**
- **Mission = globally unique, critically important**
- **Resources = experienced and world-class**
- **Impact = significant, scalable, multiplicative**
- **There is now a unique opportunity to work with the Web Foundation to advance the Web, connect humanity and empower people**



Thank You

For more information:

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A world in which all people can ...

- communicate with each other on the Web
- create and consume the Web's resources
- regardless of:
 - language
 - ability
 - location
 - gender
 - income ...





A world in which all people are ...

- empowered by the Web through new opportunities for
 - creativity
 - collaboration
 - commerce





A world in which the Web ...

- is of increasing value
 - all human knowledge
 - all languages
- poses fewer risks
 - security
 - privacy
 - trust





A world in which the Web ...

- plays an increasingly vital role in:
 - reducing poverty and conflict
 - providing healthcare and education
 - reversing global warming
 - spreading good governance
 - addressing other grand challenges

