

# Sviluppo e futuro del World Wide Web

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[Pianeta Galileo](#)

Seminario: [Il World Wide Web: una meravigliosa avventura scientifica, tecnologica e umana](#)

[Liceo San Bartolomeo](#)

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10 febbraio 2014

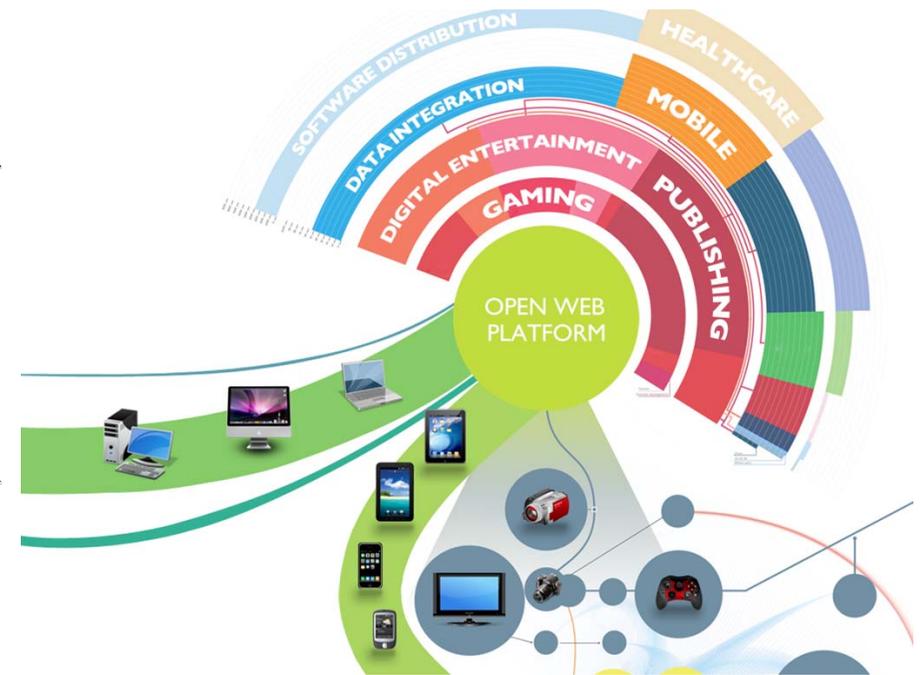
Presentazione: <http://www.w3c.it/talks/2014/pianetagalileo/futuroweb/>

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Vedi [la pagina di aiuto di Slidy](#) per ulteriori informazioni.



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## Ringraziamenti

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  - *presentazioni tenute da Bernard Gidon*
  - *presentazioni e articoli di Tim Berners-Lee*
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## Contenuto

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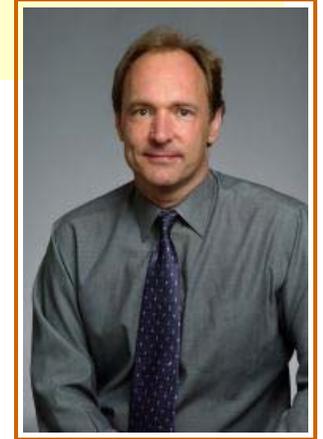
- Il World Wide Web Consortium (W3C)
- One Web
- Gli aspetti sociali
  - *WAI*
  - *Web 2.0 e Web 3.0*
- La visione del W3C: Open Web Platform
- Long Live the Web...

## World Wide Web Consortium (W3C)

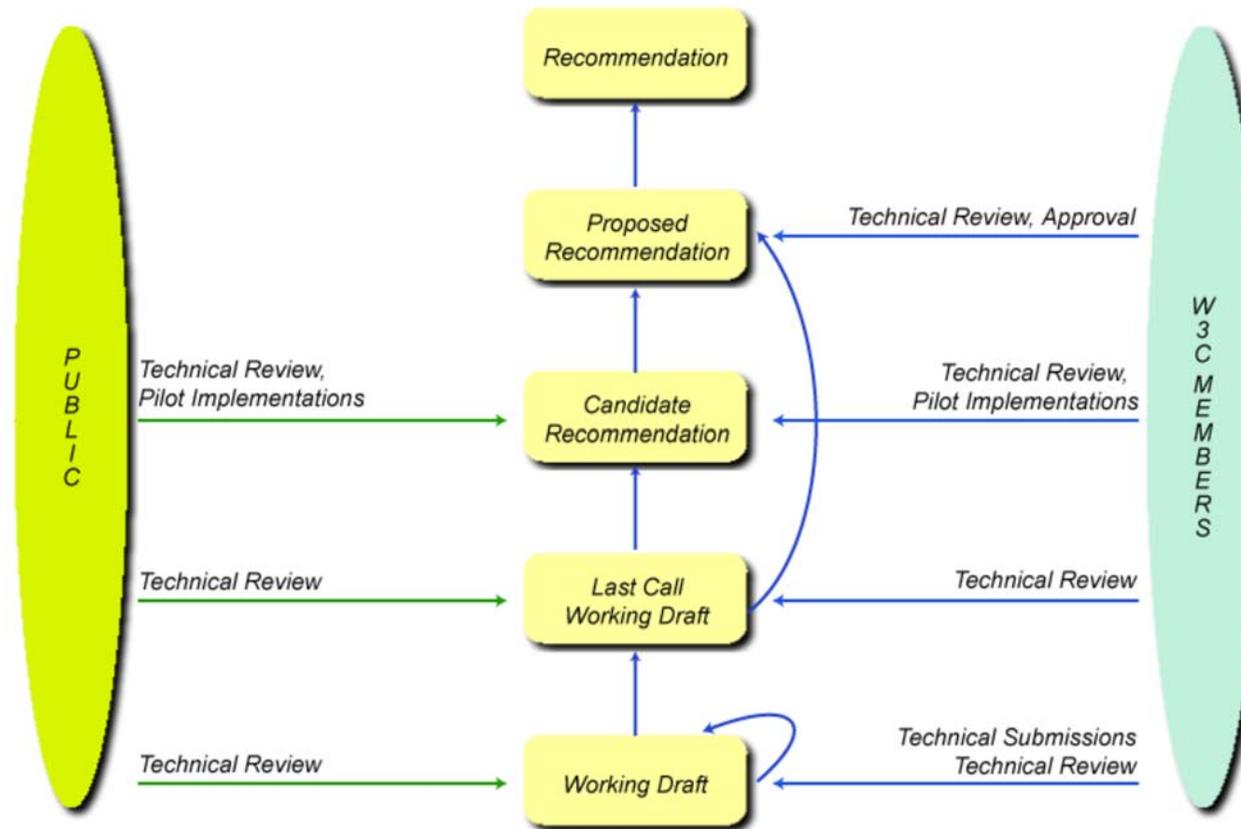
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*“To lead the World Wide Web to its full potential by developing protocols and guidelines that ensure long-term growth for the Web”*

- Fondato da Tim Berners-Lee nel [1994](#)
- Definisce *Recommendation* aperte ([Web Standards](#))
- Svolge attività di formazione, sviluppa linee guida...
- *È un forum neutrale per creare consenso sugli standard web*
- Gli standard proposti *non derivano da posizioni dominanti* sul mercato
- *World Wide Web Consortium*
  - 4 host ([MIT](#), [ERCIM](#), [Keio](#), [Beihang University](#))
  - 20 [offices](#)



## Nascita di una Recommendation



## L'evoluzione del Web



- Da un Web di:
  - *linked documents*
  - *creatori & consumatori*
- ...a *One Web*
  - *of Linked Data*
  - *on Everything*
  - *for Everyone*

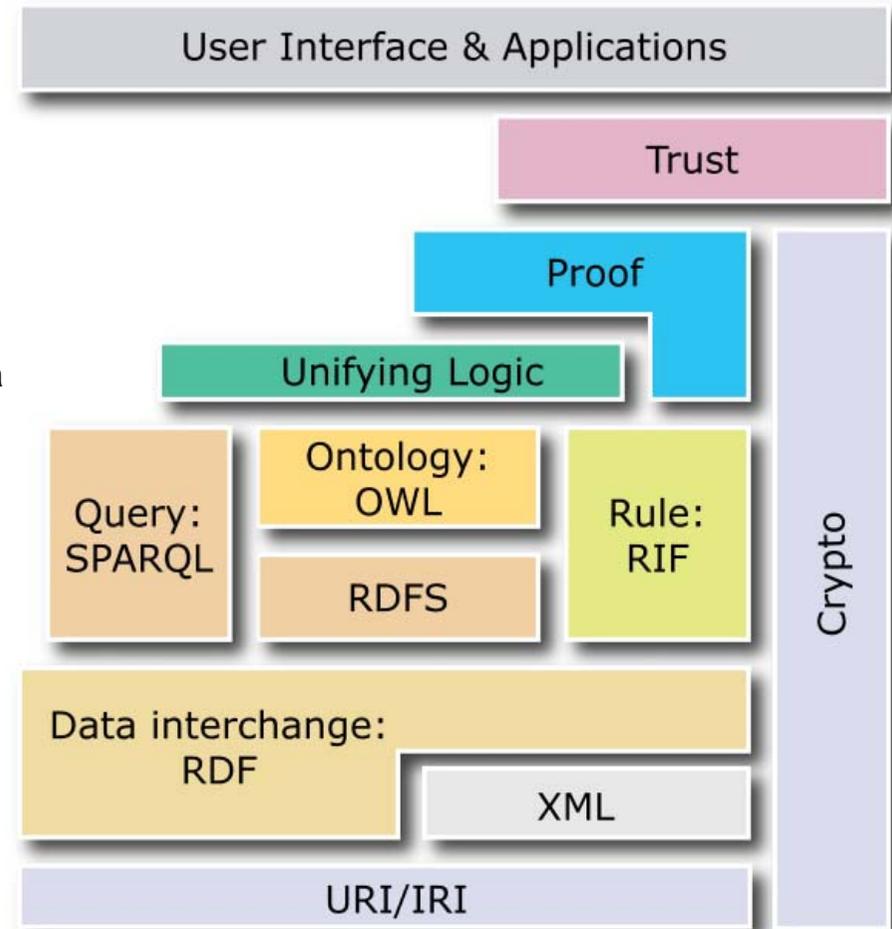
# One Web: of Linked Data

## Il Semantic Web ...

- è un' infrastruttura basata su metadati per poter svolgere *ragionamenti* sul Web
- *estende*, non sostituisce il web attuale

## I metadati sono:

- Informazioni, elaborabili automaticamente (*machine understandable*), relative a una risorsa web o a qualche altra cosa
- ... *data about data*
- ... informazioni che possono essere utilizzate da *intelligent software agents* per fare un uso appropriato delle risorse
- ... *dati* ...
- ... che possono essere *descritti da altri metadati* ...
- Per chi è interessato:
  - [Una introduzione al Semantic Web](#)
  - [Un'introduzione al Semantic Web e ai Linked Data](#) (con audio)
  - [I principi di base dei LOD e del Web semantico](#) (area umanistica)



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## One Web on Everything...

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## ...on every surface



## ...on every device



## ...working seamlessly across and between all devices



[http://www.efront.com.au/web-design-melbourne/uploaded\\_images/iphone-776924.jpg](http://www.efront.com.au/web-design-melbourne/uploaded_images/iphone-776924.jpg)

## ...accessible via a range of interactions



Tom Cruise in Minority Report Spielberg (2002)

## One Web for Everyone (Connecting & Empowering All People)

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- And this is for everyone...
- 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



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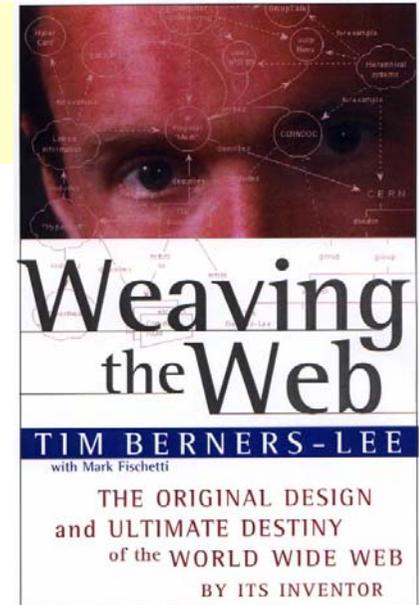
## Il Web e i suoi aspetti sociali

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## Il Web è uno strumento sociale

*“The Web is more a **social** creation than a technical one. I designed it for a social effect - to **help people work together** - and not as a technical toy. The ultimate goal of the Web is to **support and improve our weblike existence in the world.**”*  
(Tim Berners-Lee - *Weaving the Web*, p. 123)

- **Valore sociale del Web**: comunicazione interpersonale, commercio, **condivisione di conoscenza**
- Rendere questi benefici **disponibili a tutti**, indipendentemente da hardware, software, infrastruttura di rete, lingua madre, cultura, posizione geografica, capacità fisiche o mentali



## La Web Accessibility

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- Fra i tanti, due principi di base:
  - *l'interazione* deve essere sempre possibile con una interfaccia di “*tipo tastiera*”  
(*non significa* che vada utilizzata una tastiera)
  - *l'informazione* deve essere sempre presentabile mediante un'*alternativa testuale*  
(*non significa* che vada preparato un sito testuale parallelo)
- <http://www.w3c.it/education/2012/upra/wai/>

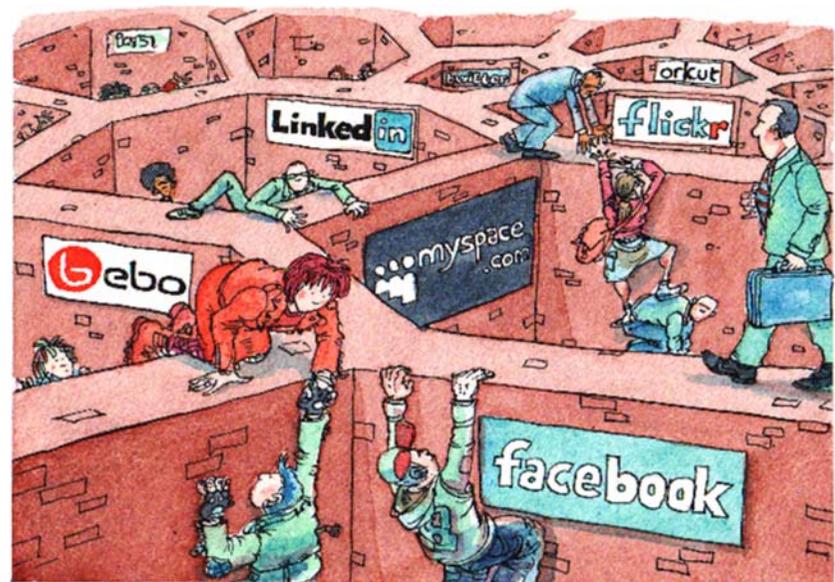
## Web 2.0

### Pro

- Social networking
- User Generated Content (UGC)
- Social tagging e folksonomy
  - *Emerge automaticamente il vocabolario preferito dagli utenti*
  - *Basso costo e rapidità di modifica delle folksonomy*

### Contro

- Mantenere viva l'attenzione utente:
  - *"Telecommunications bandwidth is not a problem; human bandwidth is"*
- Limiti intrinseci delle folksonomy
  - *sinonimie, polisemie, term-oriented, ...*
- Utente "dipendente" dal sito
  - *problemi di migrazione, duplicazione del lavoro*
- Frazionamento su più reti
  - *Legge di Metcalfe: il valore di una rete è proporzionale al quadrato del numero di nodi presenti*



David Simonds, The Economist

## Web 2.0 o Web Semantico?

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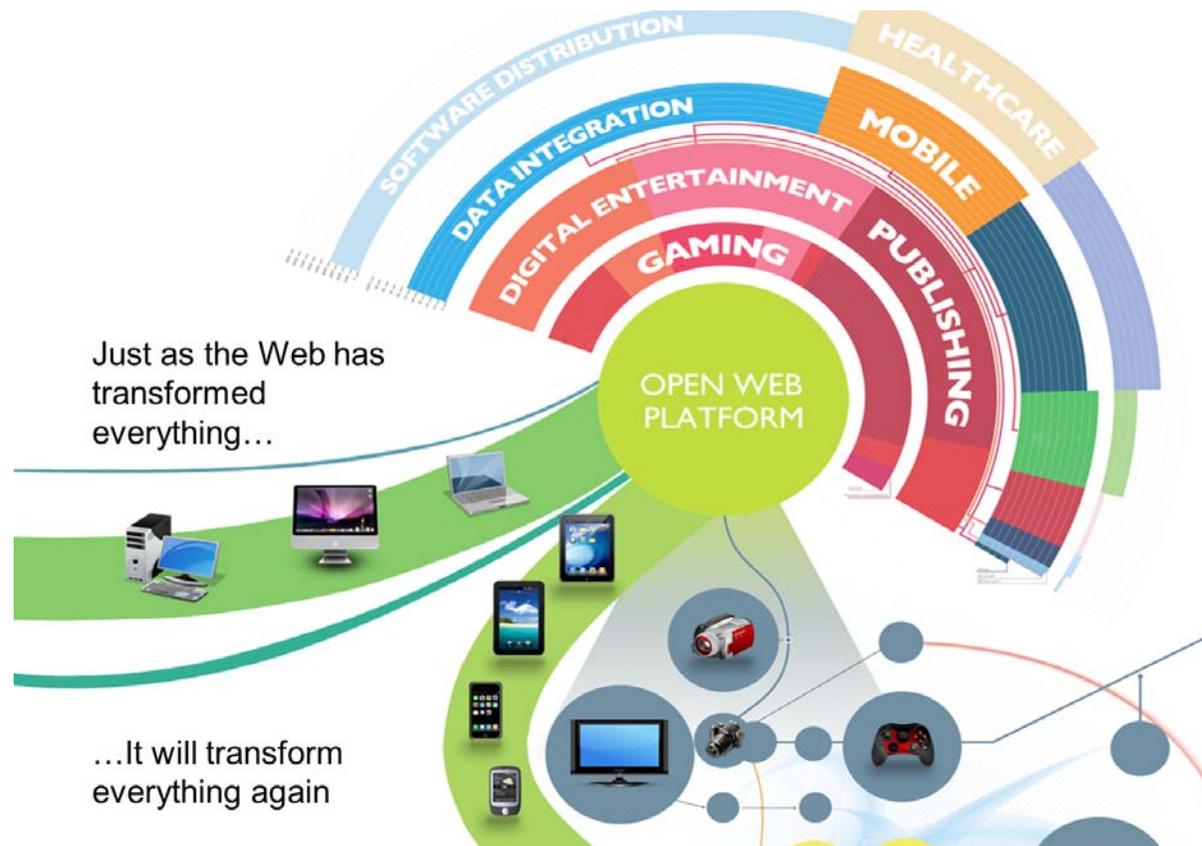
### Web 2.0

- livello d'ingresso meno costoso
- orizzonti limitati

### Web Semantico

- investimenti iniziali rilevanti
- potenziale superiore

## La visione del W3C: the Open Web Platform



## Open Web Platform significa...

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- Le pagine Web diventano più *attraenti, interattive, intelligenti*
- *HTML5* consente l'*interoperabilità cross-browser*, e tutti i maggiori produttori di browser lo supportano
- I *contenuti video* hanno pieno diritto di cittadinanza (“first-class citizen”)
- La *data integration* diventa più semplice
- I vari dispositivi possono *interagire* e diventano *interoperabili*
- Il *social networking* è l'asse portante
- Privacy, security, identity contribuiscono ad aumentare la *fiducia* (trust)

## Le proprietà della Open Web Platform

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- Ubiquità (computer, smartphone, elettronica di consumo, TV, automobili...)
- Accessibilità and Internazionalizzazione
  - *Attenzione!*, l'internazionalizzazione non è un semplice problema di traduzione, ma un problema di *multiculturalità*, e deve considerare vari aspetti:
    - *tecnici: differenze di codifica e di orientamento del testo*
    - *culturali: diversa percezione di colori, termini, etc.*
- Interoperabilità: funziona nello stesso modo su tutti i dispositivi
- Controlla le risorse giuste
- Fornisce agli sviluppatori tecnologie Multi-purpose

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## Long Live the Web...

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# SCIENTIFIC AMERICAN™

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Permanent Address: <http://www.scientificamerican.com/article.cfm?id=long-live-the-web>

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See Inside

## Long Live the Web: A Call for Continued Open Standards and Neutrality

The Web is critical not merely to the digital revolution but to our continued prosperity—and even our liberty. Like democracy itself, it needs defending

By Tim Berners-Lee | Monday, November 22, 2010 | 36 comments

Tim Berners-Lee: “[Long Live the Web: A Call for Continued Open Standards and Neutrality: Scientific American](#)”, Scientific American Magazine, December 2010 [[local version](#)]

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## Long Live the Web: i principi

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- Universality Is the Foundation
- Open Standards Drive Innovation
- Keep the Web separate from Internet
- Electronic Human Rights
- No Snooping
- Linking to the Future

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# Universality Is the Foundation

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- *You can link anything*
- The web should be usable by people with *disabilities*
- Decentralization: you *do not* have to get approved from *any central authority*, just:
  1. *write a page in HTML*
  2. *name with URI*
  3. *serve using HTTP*
- URI is the key to universality
- *Social networking* issues
  - *capture information from users*
  - *organize it and provide value-added-service but only within their sites*
  - *each site is a silo*
- The *isolation* occurs because each piece of information *does not have a URI*
- A related *danger* is that one social-networking site —or one search engine or one browser— gets so big that it becomes a *monopoly*, which tends to limit innovation

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# Open Standards Drive Innovation

- The basic Web technologies that individuals and companies need to develop powerful services must be available for *free*, with *no royalties*
- *Open standards*
- You can build your own Web site or company *without anyone's approval*
- Open, royalty-free standards *do not mean* that a company or individual *cannot* devise a blog or photo-sharing program and *charge you to use it*
- Not using open standards creates *closed worlds*
  - Apple's *iTunes* system, for example, identifies songs and videos using *URIs* that are *open*
  - But instead of "*http:*" the addresses begin with "*itunes:*" which is proprietary
  - You can access an "*itunes:*" link *only* using Apple's proprietary *iTunes* program

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## Keep the Web separate from Internet

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- The *separation of layers*, partitions the design of the Web from that of the Internet.
- The *Web is an application that runs on the Internet*, which is an electronic network that transmits packets of information among millions of computers according to a few open protocols
- The two layers of technology work together but can *advance independently*

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## Electronic Human Rights

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- A Web user is also an Internet user and therefore relies on an Internet that is *free from interference*
- *Net neutrality*

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## No Snooping

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- Accessing the information within an Internet packet is equivalent to wiretapping a phone or *opening postal mail*
- Free speech should be protected, too.  
The Web should be like a white sheet of paper: ready to be written on, *with no control over what is written*
- *Totalitarian governments aren't the only ones* violating the network rights of their citizens
- When your network rights are violated, *public outcry is crucial*
- In October 2010, Finland made *broadband access*, at 1 Mbps, a *legal right* for all its citizens.

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## Linking to the Future

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- As long as the web's *basic principles are upheld*, its ongoing evolution is *not* in the hands of any one person or organization.  
If we can preserve the principles, the Web promises some fantastic future capabilities
- *HTML5* is not just a markup language but a *computing platform* that will make Web apps even more powerful than they are now
- *Wireless access* will be a particular boon to developing countries, where many people do not have connectivity by wire or cable but do have it wirelessly
- *Linked Data*

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## Conclusioni

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- Il *World Wide Web* ha ancora molti margini di evoluzione (*leading the Web to its full potential*)
- Motivazioni tecniche e *ideali*
- Il *W3C* guida l'evoluzione del Web, grazie al contributo dei suoi *membri*
- Il Web non è solo tecnologia, ma...
  - *Humanity Connected by Technology...*
  - *...e cosa possono fare la tecnologia e i collegamenti per dare maggior potere a tutti*
- La *Open Web Platform* è la visione del W3C
  - *html5* è un componente fondamentale
- *Difendiamo i principi del Web*, per assicurarne lo sviluppo e la sopravvivenza!!!



Grazie per l' attenzione

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# Domande?

...e risposte



*Se non è sul Web non esiste ...*

... troverete sul sito dell' Ufficio (<http://www.w3c.it/>)  
le *slide* (<http://www.w3c.it/talks/2014/pianetagalileo/futuroweb/>)  
e un breve *documento* (<http://www.w3c.it/talks/2014/pianetagalileo/webFromPastToFuture.pdf>)

Queste slide fanno parte del materiale predisposto per il seminario:  
[Il World Wide Web: una meravigliosa avventura scientifica, tecnologica e umana](http://www.w3c.it/talks/2014/pianetagalileo/futuroweb.pdf)

