

# *What is W3C?*

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# A bit of history...

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- ▶ The Web was created in 1990
- ▶ Technically, it was a combination of a few concepts:
  - ▶ a network protocol (HTTP)
  - ▶ universal naming on the internet (URI)
  - ▶ a markup language for documents with hyperlinking (HTML)
- ▶ Around 1993 it caught up like bushfire...

# Why?

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- ▶ Technically, it was the right set of choices
- ▶ The technology was free for everyone
  - ▶ does anyone remembers gopher?
- ▶ There were vendor neutral standards for each of the technology pieces
  - ▶ developers could rely on independent specifications, without any vendor lock-in

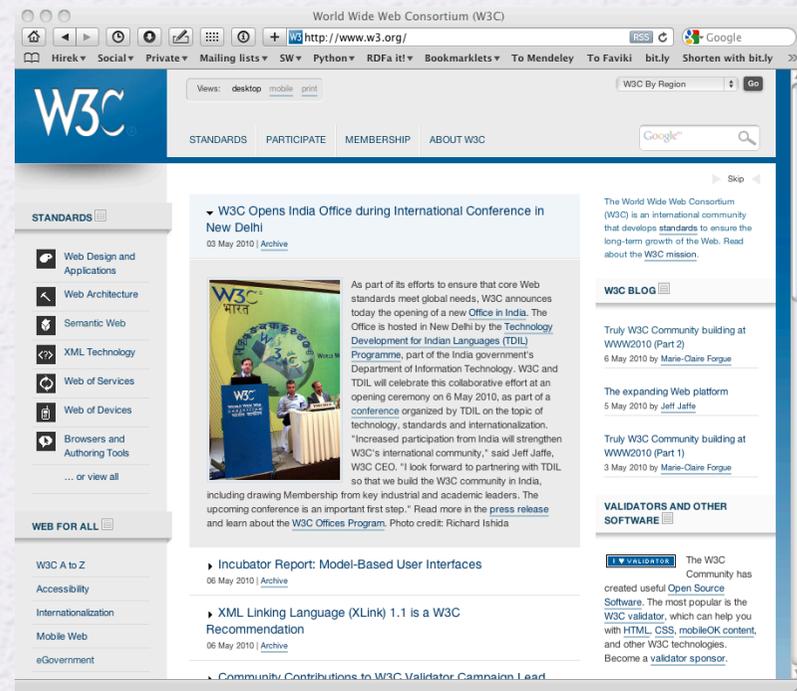
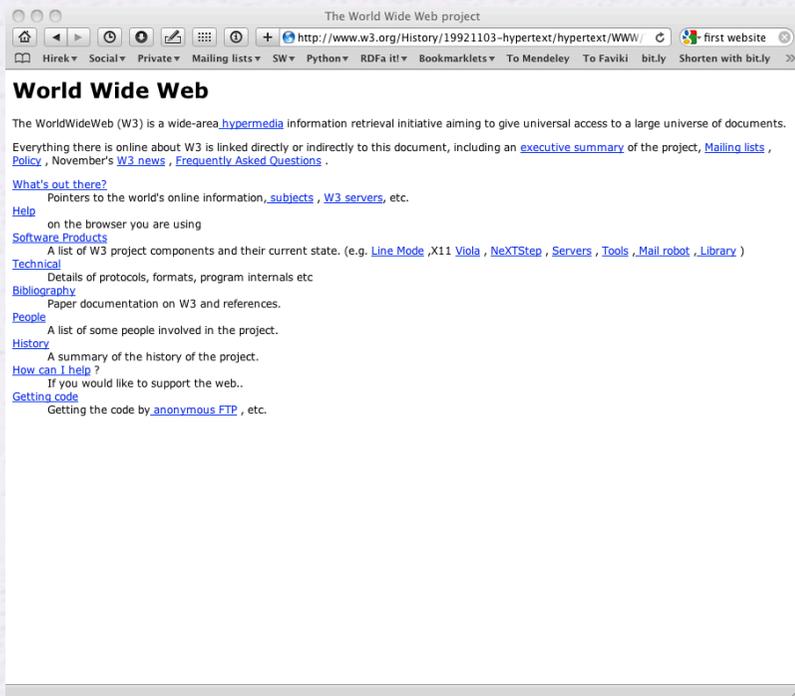
I.e., development of the Web needs free and open technologies

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- ▶ And this is exactly what W3C is all about!
- ▶ The place where international, free and open technologies for the World Wide Web are developed

# But technology has changed...

- ▶ In the old days, it was simple
  - ▶ HTTP + HTML + URI = Web
- ▶ But the Web has evolved a lot



# New technological evolutions

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- ▶ **A more interactive, richer Web**
  - ▶ HTML5 with video, audio, graphics
  - ▶ Web Applications
- ▶ **A more diverse environment**
  - ▶ used on computers, mobile devices, home appliances
  - ▶ used in different countries, languages, character sets
  - ▶ used by healthy and disabled, old and young, ...

# New technological evolutions (cont)

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- ▶ **A Web of Data (a.k.a. Semantic Web)**
  - ▶ huge databases, datasets are available on the Web
  - ▶ they should be combined, linked, analyzed on Web scale
- ▶ **Web technologies used by specific communities as core infrastructure**
  - ▶ digital libraries and publications
  - ▶ governmental organizations (“eGovernment”)
  - ▶ health care, drug discovery, life sciences
  - ▶ ...

# Result: W3C's activities have diversified

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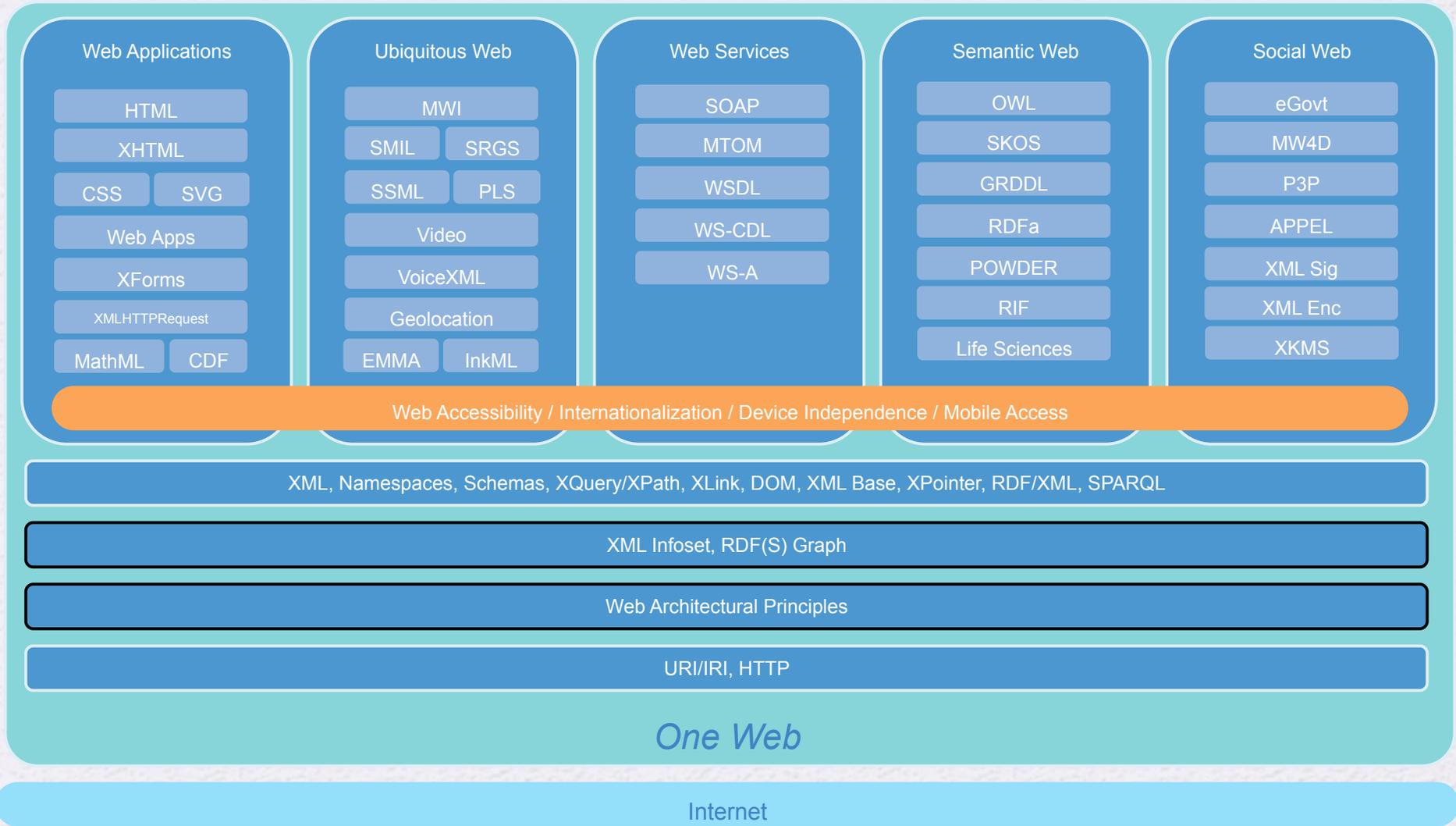
- ▶ **In terms of technologies:**

- ▶ mobile web, graphics, video, audio, semantics...
- ▶ accessibility, internationalization

- ▶ **In terms of constituencies:**

- ▶ core Web developers (browsers, tool providers, etc)
- ▶ major Web user communities (“verticals”)

# Lots of technologies developed at W3C...



## But there are also “community” groups

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- ▶ Groups concentrating on a specific community
- ▶ Not necessarily developing standards, but playing a vital role nevertheless

# Good example: HCLS Interest Group

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- ▶ Originally chartered in 2005
- ▶ Re-chartered in 2008
  - ▶ Chairs: Scott Marshall and Susie Stephens
- ▶ Over 100 participants, and mailing list of >600
- ▶ Information about the group:
  - ▶ <http://www.w3.org/2001/sw/hcls/>
  - ▶ <http://esw.w3.org/topic/HCLSIG>

# Mission of HCLS IG

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- ▶ Develop, advocate for, and support the use of Semantic Web technologies for
  - ▶ Biological science
  - ▶ Translational medicine
  - ▶ Health care
  - ▶ Drug development process
  - ▶ ...

# HCLS Activities

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- ▶ Document use cases and guidelines
- ▶ Implement a selection of the use cases as proof-of-concept demonstrations
- ▶ Develop high-level vocabularies
- ▶ Disseminate information about the group's work at government, industry, and academic events

# HCLS IG Task Forces

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- ▶ **BioRDF**

- ▶ look at database integration structures and usage

- ▶ **Linking Open Drug Data**

- ▶ make major databases available to the Web of Data

- ▶ **Clinical Observations Interoperability**

- ▶ model for the re-use of common observation models across the clinical trials and clinical practice contexts



# HCLS IG Task Forces (cont)

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- ▶ **Scientific Discourse**
  - ▶ Semantic Web platform for biomedical discourse
- ▶ **Translational Medicine Ontology**
  - ▶ high level patient-centric ontology for the pharmaceutical industry
- ▶ **Terminology**
  - ▶ extract Semantic Web representations from existing, standard medical record terminologies, e.g. UMLS

# Future Plans for an HCLS IG

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- ▶ Promoting and enhancing the Translational Medicine Ontology
- ▶ Creation of an ontology for sharing information about drugs with collaborators
- ▶ Make more data sources available in RDF
- ▶ Extend policy/security in patient recruitment scenarios
- ▶ Explore hosting of a vocabulary server
- ▶ Strengthen ties with regulatory authorities, HL7, CDISC

# How is that done at W3C?

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- ▶ **W3C is a membership organization**
  - ▶ it has members (334 today) from all over the globe
    - ▶ companies, universities, public institutions, ...
  - ▶ W3C itself has a small staff (cca. 50)

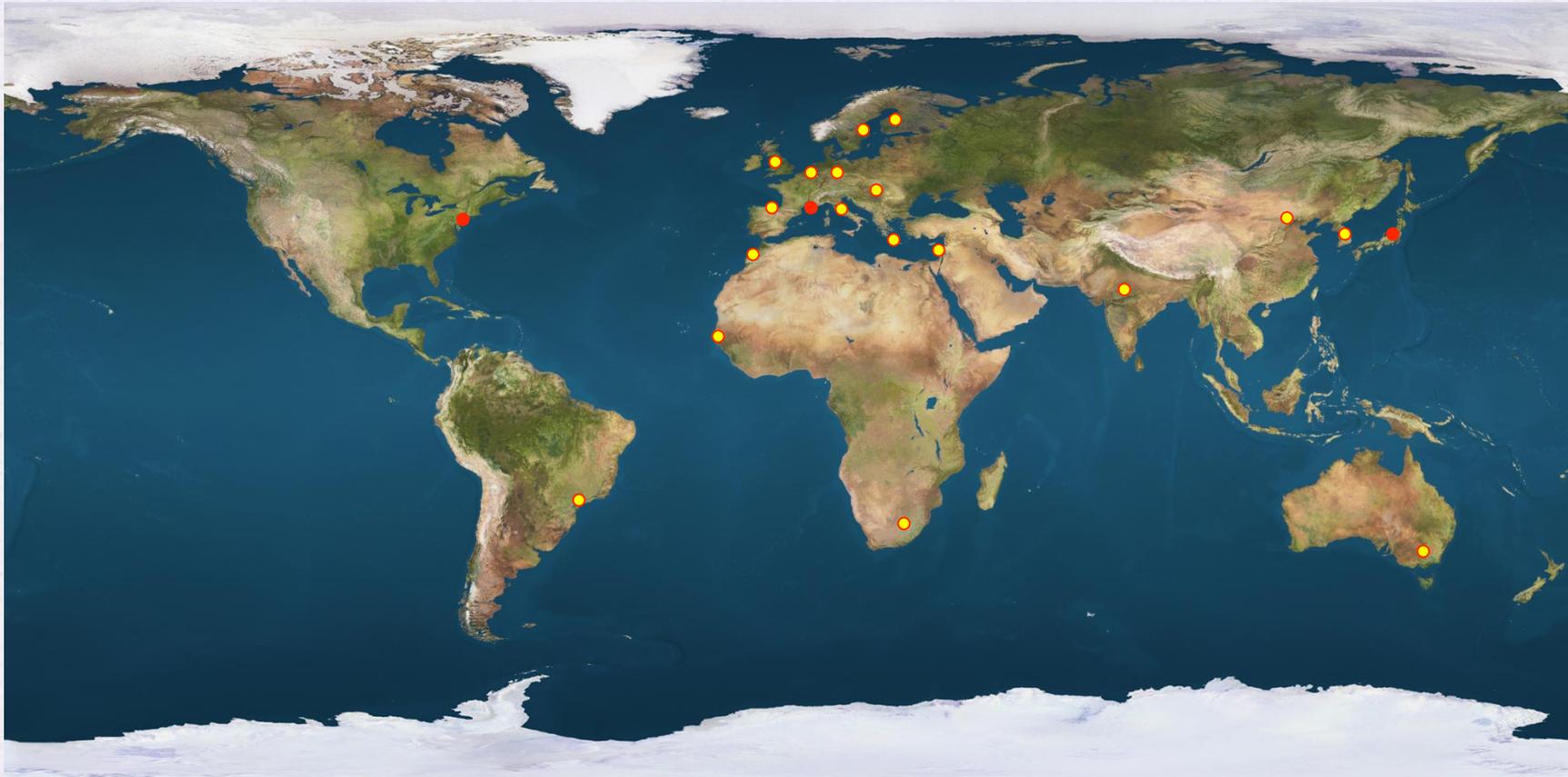
# Membership from all over the World...



# W3C is international

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- ▶ Three “hosts” (in the US, France, and Japan)
- ▶ 18 “offices”



# Technology creation at W3C

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- ▶ **It is done by groups, with members delegating experts**
  - ▶ altogether, we are talking about 6-700 experts from around the globe
  - ▶ each group has also a staff from W3C
- ▶ **Strong relationships among groups when technology requires it**

# There is also a public scrutiny

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- ▶ The public can comment at specific points in the process
- ▶ For standards, groups must take all comments into account
  - ▶ the number of comments can be in the hundreds...

# Life of a group

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- ▶ Regular telecons (usually once a week)
- ▶ Possible 1-2 face-to-face meetings a year
- ▶ Lots of email discussions
- ▶ Editorial to get everything properly written down
- ▶ Average life-span: 2-3 years

# Summary

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- ▶ **W3C is the place where**
  - ▶ open standard technologies are developed for the Web
  - ▶ specific communities can work on their own, specific usage of Web technologies

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# Thank you for your attention!

These slides are also available on the Web:

<http://www.w3.org/2010/Talks/0519-Prism-IH/>

