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W3C: Technologies and Standards for the World Wide Web

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W3C WORLD WIDE WEB
consortium

A short introduction to W3C

- Founded in 1994 by Sir Tim Berners-Lee (inventor of the Web)

- W3C is the home of the Web and Semantic Web (http://www.w3.org)

- 400+ members (the usual suspects, SMEs, users, grasroots ...) (http://www.w3.org/Consortium/Member/List)

- Invited experts and volunteers

- 65 groups doing the work (http://www.w3.org/Consortium/activities)

- 18 world offices all over the world (http://www.w3.org/Consortium/Offices)

- a team of ~55 individuals - working and living distributed around the globe - coordinated by 3 hosts

  - MIT (US), ERCIM (Europe), Keio University (Japan)

- 4Mio hits/day on http://www.w3.org/

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World Wide Web Consortium (W3C)

- W3C's Mission: *"to lead the Web to its full potential"*

> *"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 Web and Founder of W3C

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Goals of W3C

- Web for Everyone
  - ✓ enable *human communication*, *commerce* and *knowledge sharing* to all people *independently* of infrastructure, physical or mental abilities

- Web on Everything
  - ✓ facilitate Web access from *any kind of device*

- Knowledge Base
  - ✓ support *diverse user communities* in the *resolution* of hard *problems*

- Trust and Confidence
  - ✓ promote technologies that support *collaborative developments* in *secure* transactions with *trusted* agents

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Goals of W3C (under the hood)

- prevent the Web from breaking apart

- grant interoperability

- make sure that the web is a creative space

- maintain extensibility
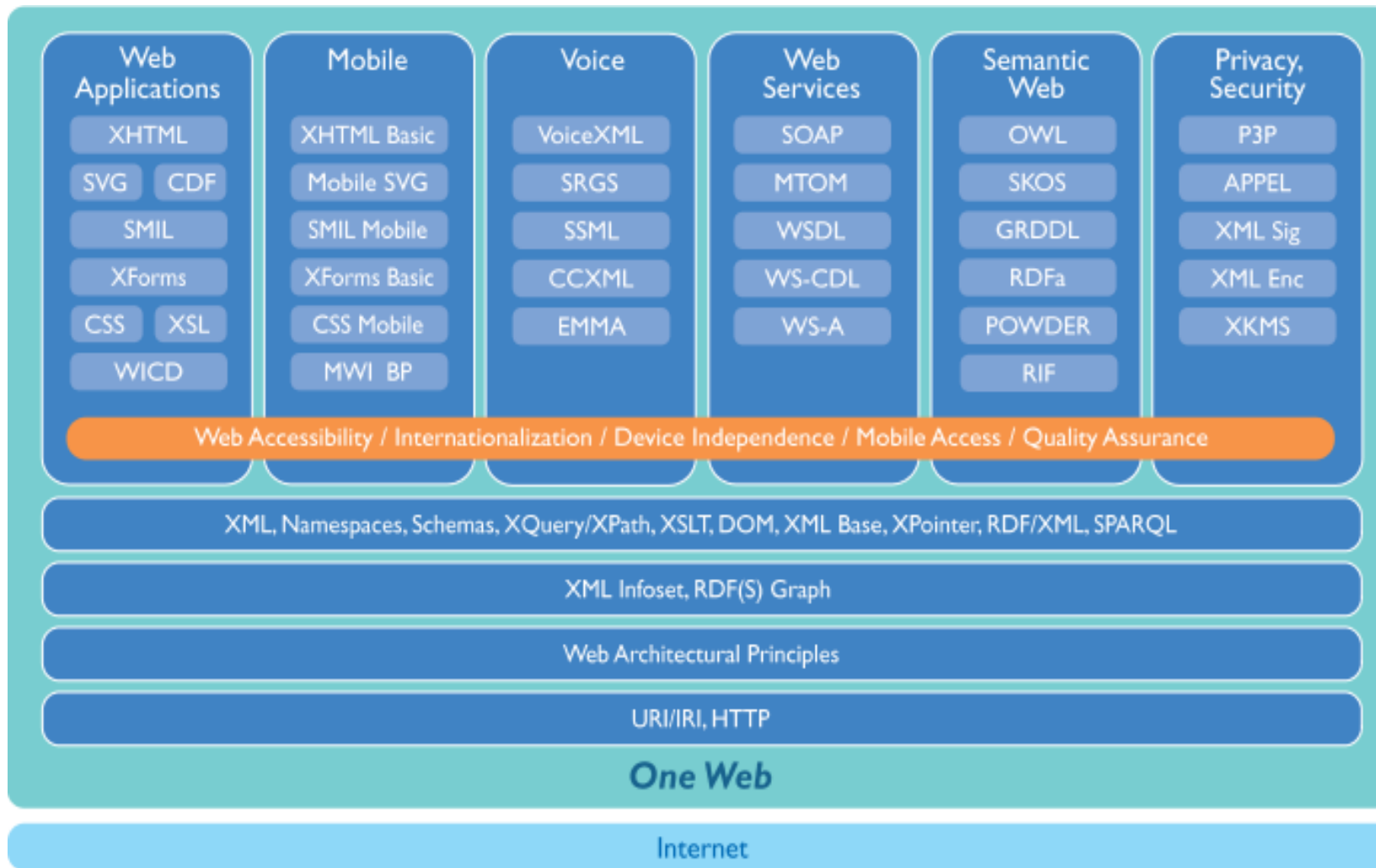
- lead the web to its full potential

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W3C Technologies

- from the Triple
  - HTTP to communicate
  - URL to identify resources
  - HTML as a document language

- to The Technology Stack

+ the W3C Technology Stack

Web Applications	Mobile	Voice	Web Services	Semantic Web	Privacy, Security
XHTML	XHTML Basic	VoiceXML	SOAP	OWL	P3P
SVG CDF	Mobile SVG	SRGS	MTOM	SKOS	APPEL
SMIL	SMIL Mobile	SSML	WSDL	GRDDL	XML Sig
XForms	XForms Basic	CCXML	WS-CDL	RDFa	XML Enc
CSS XSL	CSS Mobile	EMMA	WS-A	POWDER	XKMS
WICD	MWI BP			RIF	

Web Accessibility / Internationalization / Device Independence / Mobile Access / Quality Assurance

XML, Namespaces, Schemas, XQuery/XPath, XSLT, DOM, XML Base, XPointer, RDF/XML, SPARQL

XML Infoset, RDF(S) Graph

Web Architectural Principles

URI/IRI, HTTP

One Web

Internet

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+ W3C Standards

- More than 100 Standards
  - HTML, XHTML, XML, XML Schema, XPath, XQuery, XSLT, RDF, RDF Schema Language, SPARQL, OWL, among others

1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
PNG	HTML 3.2	XML 1.0	Namespaces	XHTML 1.0	MathML2	XML Sig.	DOM-Level-2-HTML	CC/PP	SMIL 2.0 (2nd ed.)	XForms 1.0 (2nd)	XPath 2.0	SPARQL Language	XML Base (2nd)
PICS Labels	HTML 4.0	MathML 1.0	WebCGM	ATAG 1.0	Canonical XML	P3P 1.0	SVG 1.1	DOM 3 Validation	RRSHB	WSA Core	XQuery 1.0	SPARQL Protocol	EMMA
PICS Rating	PICSRules	HTML 4.0	RDF (Old Version)	XML 1.0	Schema Primer	XML Canonicalization	SVG Mobile	Infoset (2nd)	SOAP MTOM	WSA SOAP Binding	XQuery Data Model	SPARQL Return Format	
CSS 1		HTML 4.0	WCAG 1.0	DOM 2 Core	Schema Struct.	XHTML 1.0	XPTR Element	Namespaces 1.1	XOP	Namespaces (2nd)	Query Formal Semantics	CSS2	
		PICS DSig	Style Sheets PI	DOM 2 Events	Schema Types	XPath Filter	XPTR Framewk.	XML 1.0 (3rd)	Char Model	Namespaces 1.1 (2nd.)	XQuery Functs. and Ops	REC-CSS1	
		SMIL 1.0	MathML 1.01	DOM 2 Style	Ruby	Decrypt Transform	XPTR Xmlns	XML 1.1	XKMS	XML 1.0 (4th)	XQuery Serialization	Canonical XML 1.1	
		DOM 1	XPath 1.0	DOM 2 Traversal	XHTML 1.1	XML Encryption	SOAP Adjuncts	OWL Guide	XKMS Bindings	XML 1.1 (2nd.)	XQueryX	XML Sig. (2nd.)	
			XSLT 1.0	DOM 2 Views	XLink 1.0	UAAG1.0	SOAP Framewk.	OWL Overview	QA Framework	XHTML-Print	XSLT 2.0	MobiWeb BP	
			HTML 4.01	XHTML Basic	XML Base		SOAP Primer	OWL Reference	xml:id	XInclude (2nd)	WebCGM 2.0	XHTML Basic 1.1	
					SMIL 2.0		SOAP Tests	OWL Semantics	SMIL 2.1	XSL 1.1	ITS	XHTML M12n 1.1	
					SMIL Animation		XForms 1.0	OWL Tests			SISR	PLS	
					SVG 1.0		XML Events	OWL Use Cases			SOAP Adjuncts (2nd)	RDFa	
					XSL 1.0		MathML 2.0	RDF Concepts			SOAP Framewk. (2nd)	XML 1.0 (5th)	
					Infoset		PNG (2nd)	RDF Primer			SOAP Primer (2nd)	SMIL 3.0	
					WebCGM			RDF Schema			SOAP Tests (2nd)	DDR API	
								RDF Semantics			VoiceXML 2.1	mobileOK tests	
								RDF Test Cases			WSDL 2.0 Adjuncts	WCAG 2.0	
								RDF/XML			WSDL 2.0 Core	Element Traversal	
								Speech Recognition			WSDL 2.0 Primer	SVG Tiny 1.2	
								VoiceXML 2.0			SAWSDL		
								DOM 3 Core			WSA Metadata		
								DOM 3 L & S			WSP 1.5 Attachment		
								Speech Synthesis			WSP 1.5 Framework		
								Schema Primer (2nd)			GRDDL		
								Schema Struct. (2nd)			GRDDL Tests		
								Schema Types (2nd)			XForms 1.0 (3rd)		
								WebArch					
								XInclude					

Making Standards at W3C

- a very open and transparent process to form consensus
  http://www.w3.org/Consortium

- global focus

- responsive to the public

- a transparent patent policy
  http://www.w3.org/2004/02/05-patentsummary.html that
  protects IPRs and promotes proliferation of standards

- standards are available for free (might be essential for their
  success!) - find all of them here: http://www.w3.org/TR/ (use
  and implement!)

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For more information, contact the W3C Greece Office at w3c@w3c.gr