Towards the Ubiquitous Web

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W3C

• Consortium, ~400 members
• Founded and directed by Tim Berners-Lee
• Standards: XML, HTML, Semantic Web, VoiceXML, Web Services, MobileOK …
• Work: Working Groups, Workshops, …
• Staff: 66
• Cooperation between MIT, ERCIM, Keio University
W3C in Europe

• History
  – Since 1995: INRIA host
  – Since 2003: ERCIM host

• Strong European presence
  – ~180 of ~400 Members from Europe
  – ~45% of staff based in Europe

• EU commission support
  – PrimeLife, Prime, WAI-Age, MobiWeb2.0, MWeb, 3GWeb, Copras, QH, AMI, AMIDA, … WebCore
Ubiquitous Computing

• Google: “It was first articulated by Mark Weiser in 1988 at the Computer Science Lab at Xerox PARC”

• A long time ago!

• At inflection point now - both hardware and software issues near solution!
Recent Examples

• Sekai Camera
• Sixth Sense (MIT Media Lab)
How to Write Applications?

- Native Code?
- Java?
- Web Technology!
Ubiquitous Web Applications

- Desktop: Yahoo Mail, Google maps, ...
- Written using HTML, CSS, Javascript, ...
- Advantages over native, Java, ...
  - Easy to deploy and update: Browser reload
  - Incremental updates simple (“perpetual beta”)
  - Big developer base, quick and cheap to develop
Work Needed

• Ongoing: W3C Geolocation, camera API, widgets, ...

• Future research/knowledge transfer
  – Model-based UI design
  – Device-to-device communication
  – ...

Conclusion

• Web brought Internet 1.0 to "average citizen"
• Mobile web applications will play similar role for ubiquitous computing
• Good opportunity for European Research and Industry to get involved