Device Independence and the Mobile Web Initiative

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Agenda

• The Device Independence Working Group Vision
• What DIWG has Learned
• The Technology Gap
• DIWG Specifications
• Conclusions
• References
DIWG Vision: A Scenario

Alison's web site
Materials
Web
Dave's Mobile
Brian's Computer
Catherine's Television
Land's End to John O'Groats by Bike
• There is only one Web!
  – We must not cause fragmentation
• There is a technology gap
  – DIWG is working on bridging it
• Additional terminology is needed
  – DIWG Glossary [5]
• Some fundamental assumptions don't always apply
  – An author's page may be a user's microsite
• Device information is key
  – Publicly available information is patchy
• Device independence is evolutionary technology
  – What authors write and what devices process can be different
  – A user agent 'revolution' is not necessary
  – 'Old' devices can still participate
  – Adaptation can occur anywhere
Some things DIWG has Learned (2)

- **Authoring for device independence must be affordable**
  - lowest effort for 'functional user experience'
  - more effort for 'harmonized user experience'
- **Authoring for device independence is hard**
  - There are challenges [2] and some known techniques [3]
- **Capturing author intent is key**
- **Separation of concerns is key**
  - separation of layout from content is crucial
  - separation of layout from style is valuable
- **Accessibility can benefit from DI technology**
  - Common problems and potential for shared solutions
  - WAI and DIWG have close contacts
  - Significant accessibility input to recent workshop [9]
  - Assistive technologies are just different devices
• **Technology-based solutions are possible**
  – Commercial implementations are existence proofs
    • Software vendors
    • Mobile Network Operators etc.

• **Standards are in the process of catching up**
  – Latest W3C specifications avoid device dependencies
    • XForms and XHTML Version 2

• **DIWG approach**
  – compound document based on these new specifications
    • leveraging the work of the CDF working group
  – additional DI capabilities:
    • content selection [8], layout
    • aggregation and decomposition
    • metadata for content adaptation [9], [6]
The Technology Gap: Device Information

- **Commercial 'repository' implementations exist**
  - Software vendors
  - Mobile Network Operators etc.
- **Some standards do exist**
  - CC/PP [4] and UAProf
- **But**
  - Publicly available information is patchy
- **DIWG approach**
  - normative core vocabulary
    - data types and units included
    - modular extension framework
    - access mechanisms for authors e.g.[8]
    - represented as an OWL ontology [7]
  - updates and extensions to CC/PP specifications
• DIWG's work is highly relevant to the Mobile Web Initiative
  – Specifications under development
    • Authoring
    • Device information aka "Delivery Context"
  – Good working relationships with other key W3C groups
    • XHTML, XForms, CSS, MMI, WAI, ...
  – Experience of the field
  – Results of previous investigations
• By the way, DIWG is offering opportunities for participation
  – to speed up development of its specifications
• Adaptation is the key to evolution
  – Avoid user agent differences
  – Overcome device limitations
  – Migrate towards the device over time
[1] W3C Device Independence Working Group (see http://www.w3.org/2001/di/)


[6] RDF Primer (see http://www.w3.org/TR/rdf-primer/)

[7] OWL Web Ontology Language Overview (see http://www.w3.org/TR/owl-features/)

[8] Content Selection for Device Independence (DiSelect) 1.0 (see http://www.w3.org/TR/2004/WD-cselection-20040611/)

[9] W3C Workshop on Metadata for Content Adaptation (see http://www.w3.org/2004/06/DI-MCA-WS/)