



## Embracing Device Diversity

- **MobileAware**  
*Founding Member of W3C MWI*

# Mobile Device

- For the W3C MWI, what is a mobile device?
  - It is a Web-enabled device that was designed to be used while the user is mobile.
  - It uses at least one established Web markup, including traditional HTML, the newer XHTML and the mobile derivatives such as XHTML-MP, XHTML- Basic, cHTML etc.
- Web-enabled
  - HTTP via network
- Browser
  - XHTML-MP, cHTML etc

- Device Description Working Group
- Part of W3C Mobile Web Initiative
- To enable access to device descriptions
- Support for Content Adaptation

[www.w3.org/Mobile](http://www.w3.org/Mobile)

## From the DDWG charter:

The mission of the MWI Device Description Working Group (DDWG) is to enable the development of globally accessible, sustainable data and services that provide device description information applicable to content adaptation.



## The Web on the Move

### About MWI

- [MWI Home page](#)
- [Activity Statement](#)
- [Sponsors](#)
- [Participation and Sponsoring](#)

### Working Groups

- [Best Practices WG](#)
- [Device Description WG](#)
- [MWI Steering Council](#)  
(Sponsors-Only)

### Related

- [Mobile Web Best Practices checker](#)
- [Planet Mobile Web](#)
- [3GWeb IST project](#)
- [Former Mobile Access activity](#)

*"The Mobile Web Initiative's goal is to make browsing the Web from mobile devices a reality", explains **Tim Berners-Lee**, W3C Director and inventor of the Web. "W3C and mobile industry leaders are working together to improve Web content production and access for mobile users and the greater Web."*

### FEATURED SPONSOR



MobileAware fully supports the MWI and its role in the evolution of the Web. Today, MobileAware solutions make the mobile Web a reality for many. We are proud to be sponsors and actively work to achieve the MWI vision.  
[Become a MWI Sponsor](#)

### TIP OF THE DAY

[\[IMAGES RESIZING\]](#) Resize images at the server, if they have an intrinsic size. (Excerpt from the [Mobile Web Best Practices 1.0](#))

### NEXT EVENT

W3C announces a public [seminar on Mobile Web](#), to be held in Paris on 16 November 2006. This half-day event will focus on current results produced by W3C's Mobile Web Initiative. Speakers include representatives of MWI sponsors, such as Bango, France Telecom, Jataayu Software, MobileAware, Opera Software, and Vodafone. Attendance is free but [registration](#) is required.

### Latest News

# Device Diversity

- Screen
  - Dimensions
  - Colour
- Mode of input
  - Stylus
  - Multi-function keypad
  - Rocker switches
- Environment
  - Memory
  - Bandwidth
  - Rendering speed
- Markup
  - Image formats
  - Table / List limits
  - Styles



16Mb

64Mb

22Mb

236kbps

171kbps

473kbps

48Mb

PNG

GIF

WBMP

Red

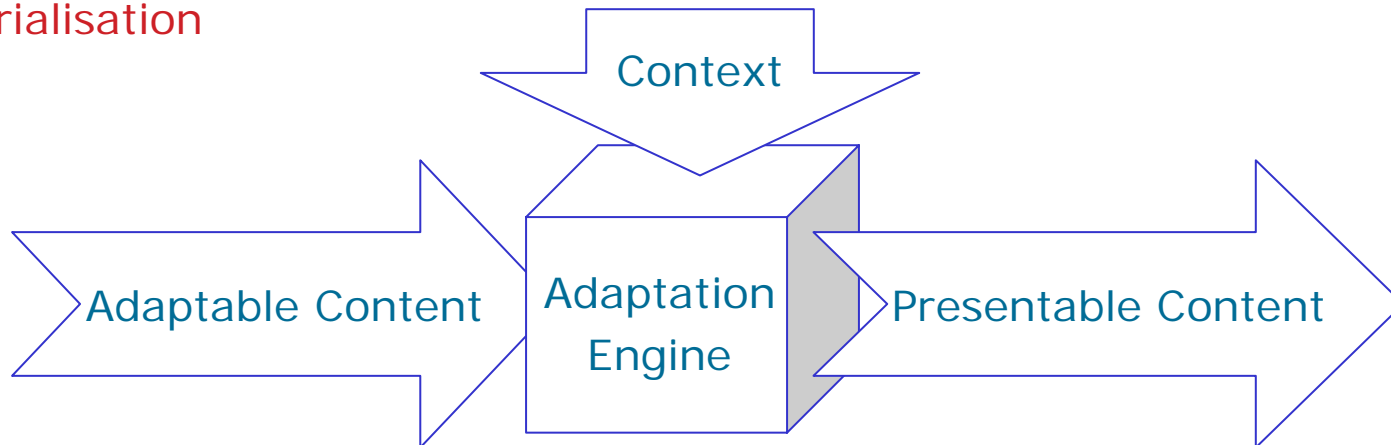
JPEG

Green

Blue

# Adaptation

- Minimal: functional presentations
  - The very least you can do is ensure the page **works** on a mobile
  - The MWI Best Practices may help here
- Choose best options
  - If you can, choose the best options for your content consumers
  - Best option: adapt on a “per-request” basis
- Generate presentations
  - Transcoding
  - Selection
  - Serialisation



# Need for Descriptions

- A “device description” is part of the Delivery Context
  - Context = anything that might influence your content
- Identify target device
  - Example: User Agent header
  - Example: UAProf or CC/PP identifier

} Ask: “What is this device?”
- Determine transcoding target
  - Example: Should image be GIF or PNG?
  - Example: Generate XHTML or XHTML-MP?

} Ask: “What does it want?”
- Guide selection amongst alternatives
  - Example: Use drop-down or checkboxes?
  - Example: Use tables or lists?

} Ask: “What is best?”

## How Many Descriptions?

- How many device descriptions are needed?
- DDWG asked specialist opinions
  - Specialists include mobile operators, manufacturers, adaptation specialists
- Companies had 100s of properties
  - Screen, Markup, Formats, Memory, Speed, Bugs, Layouts, etc., etc., etc.
- Dealing with 1000s of devices
  - And typically adding 10s of new devices *every week*
- Use data for perfect presentations
  - These companies provide high quality (adapted) mobile content
- Professional solutions
  - Most offer commercial quality products
- Mobile Web beyond reach of ordinary authors?
  - Does this mean that non-commercial (e.g. home) authors are excluded from the Mobile Web because they cannot access professional adaptation?

## Simple Adaptation

- DDWG research discovery!
  - For **basic** adaptation, you don't need a lot of context data
- To enable adaptation you need less than 20 properties
  - Compared to the 100s of data on every device maintained by the professional solutions (e.g. MobileAware), a figure of 20 is probably achievable for ordinary people
- This data is available but...
  - Located in different places (e.g. on manufacturer websites)
  - In different formats (some in XML, some in UAProf, some in Text)
  - Varying degrees of quality (some tested, some just guessed)
  - Not available in real-time
    - Have to download the data files
    - Then read through them



## Access to Descriptions

- Need contributions of data
  - Software companies, manufacturers, standards bodies, the public, can all donate data that describes the key properties of mobile devices
- Need vocabulary for contributions
  - To ensure consistency, agree “names” for the device properties, and how they are represented (e.g. numeric)
- Need somewhere to store data
  - Maybe W3C will host a copy (for a while), and maybe some generous donors will provide places to host the data
- Need common run-time interfaces
  - Must ensure that solution will work with Java, C#, PHP, Apache, BEA, IBM, Sun, MS and many more providers of Web Server technology
- DDWG second charter
  - Framework for contribution (how to donate device descriptions)
  - Common Application Programming Interfaces
  - Cooperative storage (share the responsibility of hosting the data)
  - DDWG has 18 months to complete these tasks

## Embracing Device Diversity

- Easy authoring for Mobile Web
  - Basic device descriptions will enable basic content adaptation
- Greater contributions of content
  - More people will be able to create content for the Mobile Web
- Content working on all devices
  - More people will be able to access Web content via mobile devices
- Diversity benefits users
  - People can use whatever mobile device suits their needs
- Diversity not a problem for authors
  - Authors can write content using an adaptable markup language
- Perfect presentations for mobile specialists
  - Professional companies (e.g. MobileAware) can provide enhanced device information and enhance adaptation capabilities
- Active mobile Web good for mobile markets
  - More authors providing more content for more users will be good for the mobile Web and good for markets in the mobile Web