Microformats

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Abstract

This document discusses microformats, a practical approach towards a semantic web. Currently standardised microformats are listed along with a few of the many proposed formats and then some real examples of a few popular microformats are given to provide a concrete idea of what microformats actually look like to the web developer. Finally, some current implementations of these microformats are discussed.

1 Overview

Microformats are standard ways of marking up XHTML documents to contain machine-readable semantic data. This allows information such as contact details, event information, geographical co-ordinates, social relationships and so on to be parsed by software in web browsers and spiders, saving users from manually entering details and allowing more useful search.

The Semantic Web (uppercase) is a vision of the World Wide Web in which all data is available in formats that can be not just parsed but understood by computers. It is based on formats such as RDF, which may be encoded in XML. Microformats provide a more practical path to a (lowercase) semantic web, as they build on existing HTML documents with minimal changes rather than requiring website authors to provide all their content in entirely new and incompatible formats.

2 Status and current work

There are a number of microformats that have been standardised:

- **hCalendar**[1], for marking up event information (based on the standard iCalendar[2] format used by most calendaring software).

- **hCard**[3], for marking up contact details (based on the vCard[4] specification).

- **rel-license**[5], for indicating the copyright license of a web page.

- **rel-nofollow**[6], for indicating that search engines should not count certain links when calculating the weight of the target page.

- **rel-tag**[7], for marking tags on blogs, social media sites, and so on.

- **vote-links**[8], for marking links to vote for or against something.

- **XFN**[1][9], for marking links to friends' pages (such as on a social networking site or a blogroll) according to one's relationship to them.

- **XOXO**[10], for outline documents.

There are also many more that are in draft under disussion. These include, for example:

- **geo**[11], for marking up geographic coordinates (latitude and longitude)

- **hReview**[12], for reviews of products, services etc..

3 Examples

Many microformats work by adding certain specific class attributes to HTML elements, and some are based on setting certain values for the `rel` and `rev` attributes of links. hCard and hCalendar are shown here as examples of the former type, and XFN as an example of the latter.

3.1 hCard

hCard is used to mark up contact details. It is based closely on the vCard specification which is supported by all good PIM and addressbook software: each attribute maps fairly directly to a vCard property.

hCard could be used on a profile page on some social networking site, on a personal website, for a list of employees on a company website, or on any web page where contact details for one or more people are given. The example here shows what I might put on my own website, with and without the use of the microformat. They include only a small selection of the available attributes.

Without hCard, my contact details are only human readable:

```
<div>
  <a href="http://q.geek.nz/">Andrew David Walbran</a>
  (qwandor)<br />
  Email: qwandor@gmail.com<br />
  Phone: +64 4 123 4567
</div>
```

With hCard markup, they look the same to the user, but are now able to be read by software and translated into a vCard or used in some other way:

```
<div class="vcard">
  <a class="fn url" href="http://q.geek.nz/">
    <span class="given-name">Andrew</span>
    <span class="additional-name">David</span>
    <span class="family-name">Walbran</span>
  </a>
  (<span class="nickname">qwandor</span>)<br />
  Email: <span class="email">qwandor@gmail.com</span><br />
  Phone: <span class="tel">+64 4 123 4567</span>
</div>
```

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[1]XHTML Friends Network

3.2 hCalendar

hCalendar is used to mark up details of events. It is based on the standard iCalendar format. If a page about some event or with a list of events uses hCalendar, then users can import them straight into their calendar from their browser. It also allows the event details to be indexed by search engines to be searched in a more useful manner than a simple web search.

A listing for this lecture might look like this, without any microformatting:

```html
<div>
  <div>
    Wednesday 13<sup>th</sup> August 2008, 9:00 am
    &ndash;
    11:00 am
  </div>
  <div>COMP417 lecture</div>
  <div>VUW, CO249</div>
  <p>
    During this lecture, COMP417 students will each present a aspect of
     Internet technology to the rest of the class.
  </p>
  <div>Category: lecture</div>
</div>
```

After adding hCalendar markup:

```html
<div class="vevent">
  <div>
    <abbr class="dtstart" title="20080813T090000">Wednesday 13<sup>th</sup>
     August 2008, 9:00 am</abbr>
    &ndash;
    <abbr class="dtend" title="20080813T110000">11:00 am</abbr>
  </div>
  <div class="summary">COMP417 lecture</div>
  <div class="location">VUW, CO249</div>
  <p class="description">
    During this lecture, COMP417 students will each present a aspect of
     Internet technology to the rest of the class.
  </p>
  <div>Category: <span class="category">lecture</span></div>
</div>
```

3.3 XFN

XFN works on the `rel` attribute of hyperlinks. It requires that pages declare they are using XFN by adding a certain `profile` to their document head. For example:

```html
<head profile="http://gmpg.org/xfn/11">

...

<ul>
  <li><a href="http://fias.co.nz" rel="friend met">
    fiasco
```

```
    </a></li>
    <li><a href="http://frothmouthedlefty.blogspot.com" rel="acquaintance_met">
      froth mouthed lefty
    </a></li>
    <li><a href="http://qwandor.wordpress.com" rel="friend_met_colleague">
      qwandor
    </a></li>
</ul>
```

4 Implementation and deployment

4.1 Websites providing microformats

Many websites provide their content with microformats. Here is a small selection of examples:

- **last.fm**[13] uses hCalendar for concert listings, hCard for user profiles and venues and XFN for marking links to users' homepages. It used to use hAtom as well, for posts on users' and artists' pages.

- The **MCS seminar system**[14] marks up seminar listings with hCalendar.

- **WordPress** (a blog publishing system) uses XFN for blogrolls and rel-tag for article tags.

- **Google Maps** uses hCard for search results (addresses and contact details) [15].

- **Flickr** uses XFN for links to users' contacts, and hCard for users' profiles. It also uses geo for geotagged photos.

There are many others. [16] lists some more examples.

4.2 Microformat consumers

Some software and sites that can use microformats in other pages to do useful things include:

- **Konqueror** can export hCard and hCalendar.

- **Operator**[17] is a Firefox extension to handle a wide range of microformats, with several actions available for each format to use the data with appropriate web services or export it to a file to use with desktop applications. It has the ability to load Javascript plugins (called user scripts) to add support for new formats and actions.

- **Technorati** provide web services to convert hCard to vCard[18] and hCalendar to iCalendar[19]. They also have a microformat search engine[20], supporting hCard, hCalendar and hReview.

- **Yahoo SearchMonkey** indexes a number of microformats [21], [22].

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- Google gathers information about people and social connections from XFN as well as FOAF[2], and makes it available via their **Social Graph API**[23]. One interesting (third-party) application of this is [24], which uses XFN connections to find all pages about a certain person given one URL of theirs, and then shows their recent activity (e.g. on Twitter, Jaiku, last.fm, del.icio.us, Flickr...).

There are many more not listed here.

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