XMP (eXtensible Metadata Platform) facilitates embedding metadata in files using a subset of RDF. Most notably, XMP supports embedding metadata in PDF and many image formats, though it is designed to support nearly any file type.

Creative Commons recommends XMP as the preferred format for embedded metadata, given its support for numerous file formats and the balkanized state of embedded metadata standards. Others are coming to a similar conclusion; Microsoft has announced support for XMP in Vista applications[1] and Jon Udell notes, "There's also good support in .NET Framework 3.0 for reading and writing XMP metadata."[2] Note that even when embedded with XMP metadata, Creative Commons recommends a licensed document include a visible copyright notice. Format-specific recommendations for visible notices are available in the Creative Commons wiki[3].

The Creative Commons licensing process offers an XMP template as part of the licens selection process which may be used to mark files within XMP-supporting Adobe applications.

Specifying License Information

XMP defines a rights management schema [XMP Spec 42]. Creative Commons sets the following properties:

xmpRights:Marked – Indicates this is a protected resource; False if Public Domain, True otherwise.

xmpRights:WebStatement – The location of a web page describing the owner and/or rights statement for this resource; for example, http://example.com/pdf-metadata.html. Creative Commons recommends this resource contain embedded, machine-readable metadata.

xmpRights:UsageTerms – An optional field describing legal terms of use; Creative Commons recommends that when present this take the form

```
This work is licensed to the public under the Creative
Commons Attribution-ShareAlike license
http://creativecommons.org/licenses/by-sa/2.0/ verify at
http://example.com/pdf-metadata.html
```

(Replace URL following 'verify at' with URL containing metadata about the XMP-embedded file; this is typically the URL specified by xmpRights:WebStatement.)

We also define a Creative Commons schema http://creativecommons.org/ns# whose common prefix is cc. It currently has the following properties:

license – The license URL; for example, http://creativecommons.org/licenses/by-sa/2.0/.

morePermissions – A URL where additional permissions (commercial licensing, etc) are available. This URL should typically be exposed in a "clickable" fashion, providing publishers with an opportunity to drive traffic back to the originating site.

attributionURL – The URL to use when attributing this work.

attributionName – The creator's preferred name to use when attributing this work.

Verification Links and XMP

A publisher can add boost confidence in embedded metadata by providing a verifying web statement. A verifying web statement is a URL which contains metadata with assertions matching those embedded in the file. The difference is that instead of making the assertions about a URL, the assertions are made in reference to the SHA-1 hash of the file.

For example, the example web statement http://example.com/pdf-metadata.html would include metadata encoded as RDFa.

```
<p>The document example.pdf is licensed under a
  <a about="urn:sha1:MSMBC5VEUDLTC26UT5W7GZBAKZHCY2MD"
    rel="license"
    href="http://creativecommons.org/license/by/3.0/">
      Creative Commons Attribution 3.0</a> license.
  </a>
</p>
```

When processing a file containing an embedded web statement, an application can retrieve the statement and parse it for additional metadata. If matching assertions are found which apply to the calculated SHA-1 hash of the file, the application can display an indicator noting increased confidence in the metadata. This approach has the added benefit of taking advantage of an existing mechanism (copyright take-down procedures) in order to break the confidence in the case of inappropriately licensed material, thereby limiting liability.

References

[1] http://blogs.msdn.com/pix/archive/2006/08/23/715340.aspx

[2] http://blog.jonudell.net/2007/02/14/truth-files-microformats-and-xmp/

[3] http://wiki.creativecommons.org/Marking

[XMP Spec] "XMP Specification (September 2005)", http://www.adobe.com/devnet/xmp/

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www.creativecommons.org

More Information

Please visit http://wiki.creativecommons.org/XMP

Or please contact us at http://creativecommons.org/contact.