"I don't want to get my copyright stripped off"

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IPTC – who's that?

The global standards body for the news media

- A not-for-profit organisation with more than 50 members
- … from news agencies, newspapers, broadcasters and systems vendors

… only a subset
of members
is shown

IPTC Photo Metadata Standard

- … defines a schema of metadata properties
- … by 3 major groups:
  1. Describes what can be seen in an image: caption, persons, locations, artwork, products …
  2. Writes down administrative data: when created, identifier(s), job id, instructions …
  3. Defines data relevant for rights: creator, copyright owner, licenses, credit line, model release, property release …

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Photo workflow/supply chain

Photog takes photo, initial metadata (e.g. creator + copyright + who is shown)

Photo library in country ABC: gets local copyright, modifies metadata
(e.g. adds location …)

International photo agency EPA: gets international copyright, modifies metadata

Online news XYZ in country KLM: publishes the photo on their website. May modify metadata.

Mary Miller: sees photo, likes it, downloads it, cannot get aware of a copyright and shares the photo by Pinterest

The Challenge

Looking at the photo
downloaded by Mary Miller,
a party from the supply chain may shout:
"I don't want to get my copyright stripped off"

IPTC

The Real Challenge

How to guarantee
that Mary Miller
has the correct metadata
in the image file

Clarification

IPTC

- … has as long experience and strong knowledge about the data used to describe and manage a photo …

- … but only little knowledge about how to secure metadata against modifications without permission.

We want to forward the needs of people using the IPTC metadata schema to security experts.

What needs to be secured

IPTC sees the need for different levels of protection

- "never ever change the value of property X" (after the initial application of the value)

- "property Y may be changed only with an agreement by the prior editor of this property value"

- Protected history of changes which allows to track back

Limit editing metadata

- Top Level „never ever change"
  - E.g. Initial Globally Unique Identifier
- Second Level: change only with an explicit permission by the last editor of this value (maybe: using a shared key)
  - Creator
  - Core rights properties: Copyright Owner + Notice, Licensing
- Third Level: at least show a warning and keep records (history) of any change
  - Model & Property Releases
  - Credit Line

Control editing metadata

- IPTC's wish-list:
  - Each (protected) metadata field should get a security level assigned
  - Editing a metadata field should only be possible with a permission of the previous editor of the metadata values – depending on the security level.

Show alarm if a change was not permitted

- IPTC knows: as long as bits and bytes of a file can be changed also the bits and bytes of embedded metadata can be changed.

- Sealing metadata does not protect it against changing its bytes but a modification can be detected!

- IPTC's wish: if sealed metadata have been changed an alarm should be shown to the user. The user has to draw conclusions.

Implementation

- IPTC's wish-list:
  - The security features should be implemented by a widely supported standard/technology.
  - The implementation should be a planned joint action of standardization bodies and software implementers. (To overcome the usual chicken-egg business discussion: what's first, the need for that feature or the software providing the feature.)

Thank you
for listening to IPTC.

We are happy to join a discussion of next steps.

Meet IPTC at www.iptc.org/photometadata