

IPTC photo metadata standards and “the art of making standards”

Presentation at
the Photo Metadata Conference 2007
Florence, Italy
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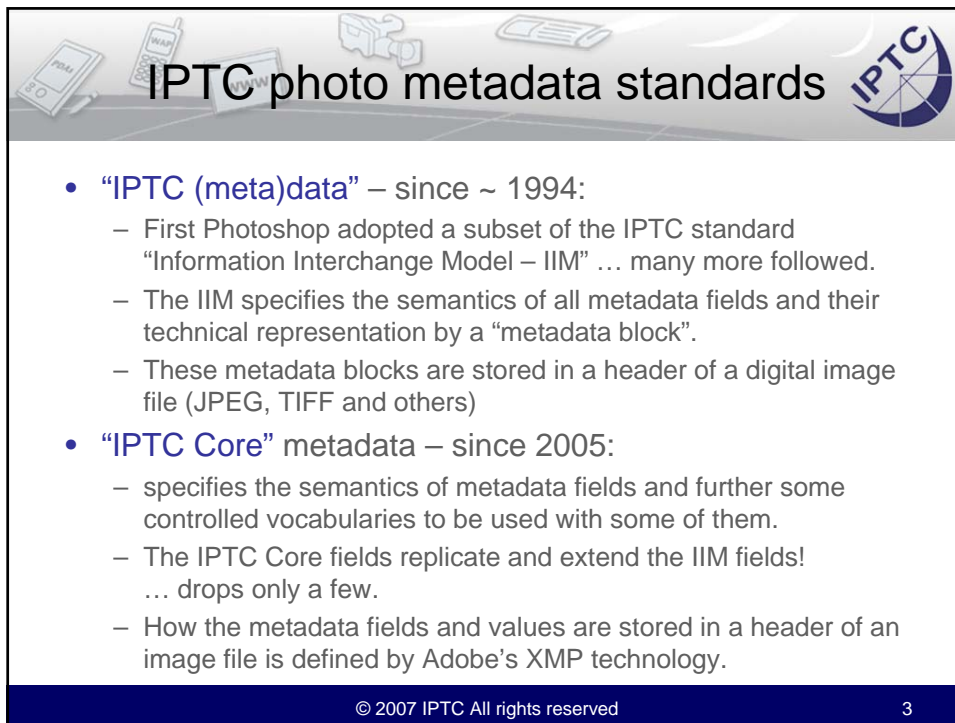


About the IPTC

- The International Press Telecommunications Council (IPTC) was founded in 1965.
- **Goal: to provide global standards for the exchange of news items of all media types** (text, photo, graphics, audio, video)
- IPTC is a not-for-profit consortium with members
 - from the world's major news agencies
 - from news publishers (of any media type) and their associations ... CEPIC, BVPA, BAPLA are members!
 - from news industry system vendors
- IPTC revenues come from membership fees
= **our standards are for FREE**

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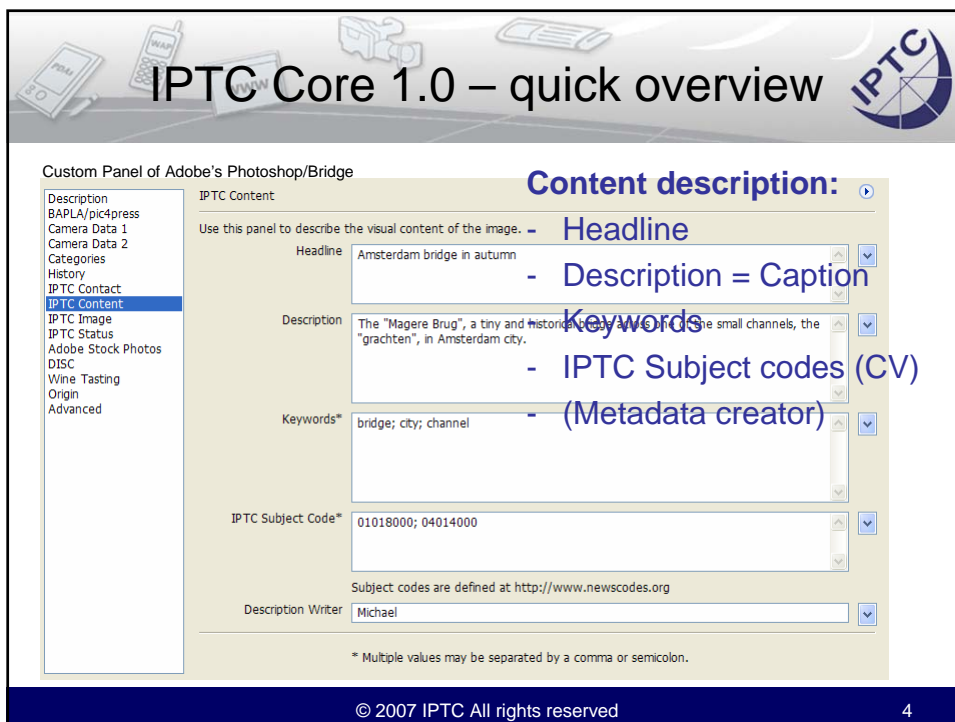
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IPTC photo metadata standards

- “IPTC (meta)data” – since ~ 1994:
 - First Photoshop adopted a subset of the IPTC standard “Information Interchange Model – IIM” ... many more followed.
 - The IIM specifies the semantics of all metadata fields and their technical representation by a “metadata block”.
 - These metadata blocks are stored in a header of a digital image file (JPEG, TIFF and others)
- “IPTC Core” metadata – since 2005:
 - specifies the semantics of metadata fields and further some controlled vocabularies to be used with some of them.
 - The IPTC Core fields replicate and extend the IIM fields! ... drops only a few.
 - How the metadata fields and values are stored in a header of an image file is defined by Adobe’s XMP technology.

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IPTC Core 1.0 – quick overview

Custom Panel of Adobe's Photoshop/Bridge

Content description:

Use this panel to describe the visual content of the image.

Headline: Amsterdam bridge in autumn

Description: The "Magere Brug", a tiny and historic bridge spans one of the small channels, the "grachten", in Amsterdam city.

Keywords*: bridge; city; channel

IPTC Subject Code*: 01018000; 04014000



Subject codes are defined at <http://www.newscodes.org>

Description Writer: Michael

* Multiple values may be separated by a comma or semicolon.

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IPTC Core 1.0 – quick overview

Custom Panel of Adobe's Photoshop/Bridge

IPTC Contact

Use this panel to record the photographer's contact information.

Creator: Michael Steidl
 Creator's Job Title: MD
 Address: Royal Albert House
 Sheet Street

IPTC Image

Use this panel for formal descriptive information about the image.

Date Created: 09.10.2004
 Intellectual Genre: Feature
 IPTC Scene*: 011600; 011000

Scene values are defined at <http://www.newscodes.org>

Location: Magere Brug
 City: Amsterdam
 State/Province:
 Country: The Netherlands
 ISO Country Code: NL

Country codes may be either 2- or 3-letter codes as defined by the ISO 3166 standard.



Formal image description:

- Creator + contact information
- Date created
- Genre
- IPTC Scene codes
- Location information

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IPTC Core 1.0 – quick overview

Custom Panel of Adobe's Photoshop/Bridge

IPTC Status

Use this panel to record workflow and copyright information.

Title: AMS-magereBrug-01
 Job Identifier:
 Instructions: sRGB
 Provider: IPTCnews Ltd.
 Source:
 Copyright Notice: (c) 2004 IPTC Ltd., all rights reserved
 Rights Usage Terms:

Content management information:

- Title
- Job Identifier
- Instructions
- Provider
- Source
- Copyright notice
- Usage rights

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Old and new standard: side by side

Metadata block:
IIM metadata

Header section




image file (JPEG,TIFF,PSD)

The same fields and values can reside in the same image files in the old storage way **and** the new XMP way.

The image software has to synchronize the values!

Metadata block:
IIM metadata

XMP packet:
IPTC Core metadata





image file (JPEG,TIFF,PSD)

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What is a “metadata standard” (1)

- Photo metadata are **data about a specific photograph**
They are partitioned into “fields” (user view) or “properties” (technical view)
- **“Metadata field”** standard (or: Metadata Schema)
 - Such a standard defines the **semantics** of fields ...
E.g.: “Date created” is not only a date, it is the date of the creation of the content (the picture) – which may be different from the creation of the digital representation (the digital image data of a scanned print or negative)
 - ... and a **label** for the field on the user interface ...
 - ... a formal **technical identifier** for the property ...
 - ... a **data type** for the content of this property (e.g: text, number, date, or a code from a controlled vocabulary).
 - It may also define how properties are stored by a specific **metadata storage technology** (= the bytes used to identify the fields and to represent its value)

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What is a “metadata standard” (2)



- “Metadata value” standard
 - Such a standard defines a set of sensible values for a specific use (= field) - making a “controlled vocabulary”
 - A “controlled vocabulary” (CV) is a vocabulary controlled by a body: the IPTC, a photo or a news agency, ...

Note: Details of Controlled Vocabularies are beyond the scope of this conference – this would require another day of presentations and discussions.



The Art of Making Standards (1)




Metadata standards are required to provide interoperability = the most important ingredient to make a workflow seamless!

- metadata edited by application A must show exactly the same in application B
- consistent user interfaces:
 - Using the labels “creator”, “author”, “photographer” for actually the same property is very misleading for the users.
- being culture agnostic as possible
 - e.g. dates: June 7, 2007 = 7/6/2007 = 7 June 07 = 2007-06-07

Metadata standards should provide two levels of specifications:

- the semantics, names and processing rules for fields = aiming at users
- the technical implementation of the fields as properties = aiming at software makers

This would allow to implement a metadata schema into different metadata storage technologies – improving cross technology compatibility.



The Art of Making Standards (2)

Where standards makers are **torn** between requirements:

- Metadata standards have to address user requirements
 - the semantics of metadata fields have to be tailored to the use cases and the context of the user – **but: different users have different use cases and contexts.**
 - definitions of semantics must not be too vague — **but: what if a standard may be used in different business sectors = for different media types.**
 - localization: **the specifications in language A should be as identical as possible in language B**
- Standards should be stable over the time – **but: they have to follow new user requirements – the “backward compatibility challenge”**
- Different standards ...
 - shall not compete and “double specify” – for the user’s sake (e.g. having “Date Created” in three different standards) - ...
 - **... and if: a strict mapping of fields should be defined to allow existing side-by-side and software should support this.**



Thank you for your time

All material discussed
is available online

- for the IIM (“old IPTC data”)
www.iptc.org/IIM

- the IPTC Core
www.iptc4xmp.org

