IDEAlliance

Publishing Requirements for

Industry Standard Metadata

Guide to the

PRISM Digital Image Management

Metadata Encoding

Version 1.0

Final Prior to Vote

March 2006

(referencing
PRISM Specification Modularized Version 1.3)

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1 Introduction

The PRISM Digital Image Management Metadata project provides a new standard format for publishers to use in coding metadata for the management of digital images. This document describes digital image metadata encoding in detail and provides some examples of how it is used.

1.1 About The Guide to PRISM Digital Image Management Metadata Encoding Version 1.0

The DIM2 Namespace [PRISMDIM2NS] Document within the *PRISM Documentation Package* describes the elements from the DIM2 namespace that are included within PRISM for the description of digital images. This guideline document describes how to apply the full range of metadata fields to digital images to facilitate the management of the images from image submission throughout production, archive and aggregation. Note that in some workflows DIM2 metadata fields are used to communicate parameters of a photo assignment between the editor making the assignment and the photographer. In other workflows these metadata fields are added to images to facilitate archive and reuse.

1.2 How Can I Use this Specification?

This guideline document describes how to apply the full range of metadata fields to digital images. The contributors to this document represented a full range of magazine types—from fashion to travel to sports to news to automotive. Even the concerns of catalogs were considered here. So this document represents a very complete starter set – and one that no single magazine would use in its entirety!

1.2.1 Look at the Top Level

This specification begins by dividing image metadata into groupings based on the user interface metadata entry panels:

- √ General metadata about the image (Most publications use several of these fields!)
- √ Composition metadata for the image (May be used for photo assignments).
- √ Metadata about the location of shoot and place pictured
- √ Metadata about what is IN the picture (Do you want to organize images by the people, events or objects in the image?)
- √ Metadata about the contributors to the image (You may not care about the designers, stylists or other contributors, outside of the photographer!)

1.2.2 Select General Metadata

Since most publishers track and organize images by one or more fields in the general metadata interface, you will need to see which fields you want to use to organize your images. Remember that if you choose to organize your images by the setting or the angle of the shot, you need to have a way to capture that data.

Best Practice is to select metadata fields that you intend to use and that you intend to populate!

1.2.3 Select Composition Metadata

These metadata fields can be used to express parameters of a photo assignment or entered after the fact when you want to organize your images based on their composition.

1.2.4 Select Metadata about the Location of Shoot

These metadata fields describe the location of shoot. Typically this is the same as the place pictured but in some situations may not be. If the place pictured differs from the location of the shoot, you should complete the place pictured as well.

1.2.5 Is the Place Pictured the Same as Location of the Shoot?

These metadata fields describe the place pictured. Typically this is the same as the "Location of Shoot" but in some situations may not be. If the place pictured differs from the location of the shoot, both sets of metadata should be completed.

1.2.6 What is in the Image?

If you want to track images by more than an overall description, headline, and keywords, you might want to capture metadata about what is in the image. Depending on the genre of your publication you might care more about tracking metadata about people than objects, or about places and events than about people. For example, a celebrity magazine would most likely organize images by the people in the image, where an automotive magazine might be organized by the vehicles (objects) in the image and a travel magazine would want to track metadata about places and events.

1.2.7 What Contributed to the Image?

In many cases general descriptive metadata about the image or metadata about what is pictured is sufficient. But depending on your publication, you may want to track contributions to the images. People, places, events and even objects might contribute to an image. If you want to track images to this level of detail, you will need to review the "Contributing" metadata fields and determine which you want to include. Remember to select only those metadata fields that you intend to use and that you intend to populate!

1.3 The Relationship to PRISM

The PRISM Working Group was established in 1999 by a group of companies primarily involved in the production of serial and web-based editorial content. This group includes publishers, other rights holders, systems integrators, software developers and content aggregators who face common content application challenges such as re-use of content in multiple media types, rights and contract management, better access to content archives, and faster, less expensive exchange and integration of disparate sets of content across the enterprise and with

outside business partners. The representatives of these companies believe that developing and adopting a standard set of XML metadata will assist them in managing and automating their labor-intensive content workflow processes.

The result of this collaboration is the PRISM specification. The PRISM specification defines a standard for describing, exchanging, and reusing content in both print and electronic publishing contexts. The Working Group released Version 1.0 of the PRISM specification in April of 2001. Version 1.1 was released a year later and Version 1.2 of PRISM was released in August, 2004.

The PRISM specification is built on a strong foundation of existing standards such as XML, RDF, the Dublin Core, and various ISO specifications for locations, languages, and date/time formats. On top of this base, it defines a small number of XML namespaces and controlled vocabularies in order to meet the goals of interoperability, interchange, and reuse.

In 2005, the PRISM Specification was modularized into to individual documents, each addressing one namespace within PRISM. The modularized specification is known as the *PRISM Documentation Package*. Moving forward, each document in the package will be versioned separately. Over time, new documents may also be added to the documentation set that makes up the PRISM Specification. The most current version of the modularized PRISM Specification is 1.3.

In addition to the documents within the PRISM Specification Package, a number of user guideline documents have been developed. This *Guide to PRISM Digital Image Metadata Encoding V 1.0* is one of the guidelines. This Guide is to be used with The DIM2 Namespace [PRISMDIM2NS] Document within the *PRISM Documentation Package* that describes the elements from the DIM2 namespace that are included within PRISM for the description of digital images.

1.4 Relationship to DISC

The Digital Image Submission Criteria (DISC) specifications specify standard procedures for digital image submission by the photographer or agency. The DISC Metadata Specification provides 16 metadata fields that magazines may require at the time of image submission. Like PRISM, the DISC specification builds upon existing metadata standards including XML, RDF, the Dublin Core, IPTC, Photoshop/XMP and various ISO specifications for locations, languages, and date/time formats. Upon that base, DISC defines only one additional field, disc:originalFileName. The DISC fields can be mapped to fields supported by photo editing software currently in use.

The DIM2 Metadata Specification picks up where DISC leaves off. In other words DISC metadata fields may be applied by the photographer during the image submission process. DIM2 metadata fields are applied either prior to or following image submission, depending on the production workflow. Hence DIM2 is a superset of the DISC metadata fields.

1.5 Relationship to XMP

XMP is an open, extensible framework developed by Adobe Systems to enable capturing and carrying metadata within a digital asset throughout the publishing workflow. XMP is based on the same standards upon which PRISM is based, i.e. XML and RDF. As such, XMP is one viable option for implementing PRISM metadata across assets with different media formats. Currently XMP is one of the few commercial mechanisms for embedding metadata in a digital image. Keeping this in mind, the PRISM Digital Image Management Metadata Working Group has taken great care to define a metadata specification that is compatible with XMP tools to provide an implementation pathway for those who wish to embed metadata directly in the digital images throughout the workflow.

1.6 If you have questions:

If you have a question or comment about these guidelines, please contact info@prismstandard.org.

In your message, please provide the following information:

- √ Your name and company
- √ Telephone contact information
- √ If applicable, reference the document(s) and section(s)

2 Status

2.1 Document Status

The status of this document is:

✓	Draft
✓	Released for Public Comment
✓	Released

2.2 Document Location

The location of this document is:
http://www.prismstandard.org/ specifications/guidelines/DIM2_Guidelines_10.pdf

2.3 Version History

Version Number	***Release Date***	***Editor***	***Description***
1.0 Draft A	Apr 11, 05	Kennedy	Guidelines for Digital Image Metadata Encoding
1.0 Draft B	August 3, 05	Kennedy	Second pass, new structure
1.0 Draft C	August 11, 05	Kennedy	Additional edits
1.0 Draft D	August 17, 05	Kennedy	Additional edits
1,0 Draft	Sept. 1, 05	Kennedy	Resolved final WG comments from Spec walkthrough on Aug 30, 05
1.0 Draft	December 2005	Kennedy	Resolved public comments. Resolved new issues raised as user interface was developed.
1.0 Final Draft	April 2006	Kennedy	Updated spec based on implementation of user interface

3 PRISM Digital Image Management Metadata Encoding

This PRISM Guide addresses PRISM metadata fields that can be applied to digital images to facilitate the management of the images from image submission throughout production, archive and aggregation.

3.1 PRISM Digital Image Encoding Namespaces

Metadata fields that can be used to encode digital images come from a number of namespaces within the PRISM Specification and from outside.

The Table 1 lists the applicable namespaces and document within the PRISM Documentation Set that can be used for the encoding of digital images.

PRISM Document	Element Namespace
The PRISM Subset of the Dublin Core Namespace [PRISMDCNS]	dc:
The PRISM Namespace [PRISMPRISMNS]	prism:
The PRISM Subset of IPTC Namespace [PRISMIPTCNS]	Iptc4XmpCore:
The PRISM Subset of V-Card [PRISMVCARDNS]	vCard:
The PRISM Subset of Photoshop [PRISMPSNS]	photoshop:
The PRISM Digital Image Submission Criteria Namespace [PRISMDISCNS]	disc:
The PRISM Digital Image Management Metadata Namespace [PRISMDIM2NS]	dim2:

Table 1 PRISM Namespaces for Digital Image Encoding

Note: The case of both the namespace and the field name varies depending upon who developed the namespace and field names. For example PRISM, DISC and DIM use lowercase namespaces and camel case property names. Dublin Core uses the same format. Photoshop uses a lowercase namespace but initial cap field names. IPTC uses initial cap namespace and field names while vCard uses its own unique capitalization scheme. Case is significant.

3.2 Fields of PRISM Digital Image Management Encoding

Many kinds of metadata fields are appropriate for digital image encoding. In this specification the metadata fields are organized based on how they will be grouped in the user interface for metadata entry. See Figure 3.1. The user interface panels for metadata entry include:

- General Image Description Metadata (describing the image as a whole)
- Composition Metadata
- Metadata about the Location of the Shoot

- Pictured Place Metadata
- Metadata describing the people, events and objects shown in the image
- Metadata describing the people, events and objects that contributed to image creation

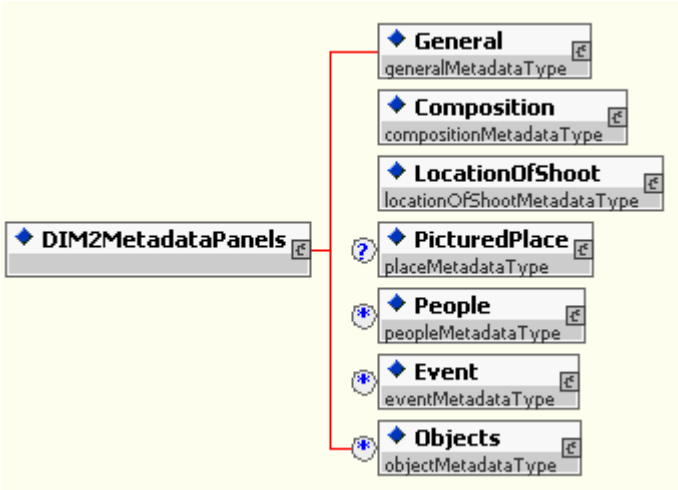


Figure 3.1 DIM2 Metadata Interface Panels

3.3 PRISM Digital Image Encoding for General Image Description

Numerous metadata fields from the identified namespaces can be applied to generally describe the image. These fields will all appear on a single XMP interface panel. See Figure 3.2.

Figure 3.2 General Metadata Fields

3.3.1 Image Creation / Rights Metadata

These metadata fields describe the creation and submission of the image. They include the photographer's name, the provider or credit, the source, the job ID, the original file name, etc.

3.3.1.1 Creator

Definition	This field should contain your name, or the name of the person who created the photograph. If it is not appropriate to add the name of the photographer (for example, if the identity of the photographer needs to be protected) the name of a company or organization can also be used. Once saved, this field should not be changed by anyone. Note: This field does not support the use of commas or semi-colons as separator.
Element	<dc:creator
Values	Proper Name
Occurrences	0 or more

3.3.1.2 Provider (Credit)

Definition	Identifies the provider of the image, who is not necessarily the owner/creator (official photo credit as it will appear in publication)
Element	<photoshop:Credit
Values	Open text file
Occurrences	0 or 1

3.3.1.3 Date Created

Definition	Designates the date and optionally the time the intellectual content of the news object was created rather than the date of the creation of the physical representation. If you use a digital camera, you can look at the EXIF data for the date stamp
Element	<photoshop:DateCreated
Values	Date/time field in format DD/MM/YYYY
Occurrences	0 or 1

3.3.1.4 Copyright Notice

Definition	Contains any necessary copyright notice for claiming the intellectual property for this news object and should identify the current owner of the copyright for the news object. The Copyright Notice should contain any necessary copyright notice for claiming the intellectual property, and should identify the current owner(s) of the copyright for the photograph. Usually, this would be the photographer, but if the image was done by an employee or as work-for-hire, then the agency or company should be listed. Use the form appropriate to your country. For the United States you would typically follow the form of ©<date of first publication> name of copyright owner, as in "©2005 John Doe." Note, the word "copyright" or the abbreviation "copr" may be used in place of the © symbol. In some foreign countries only the copyright symbol is recognized and the abbreviation does not work. Furthermore the copyright symbol must be a full circle with a "c" inside; using something like (c) where the parentheses form a partial circle is not sufficient. For additional protection worldwide, use of the phrase, "all rights reserved" following the notice above is encouraged.
Element	<dc:rights><prism:copyrightNotice
Values	Open text field (Alt by language, informal rights statement)
Occurrences	0 or one

3.3.1.5 Job ID

Definition	A number or identifier that was created or issued for the purpose of improving workflow handling and image tracking. This ID should be added by the creator or provider for transmission and routing purposes only and should have no significance for archiving.
Element	<photoshop:TransmissionReference
Values	Open text field
Occurrences	0 or 1

3.3.1.6 Original File Name

Definition	The original image file name as submitted by photographer or provider. The intent is to preserve the file name upon submission to assist with tracking later in the workflow in the case that the image file was renamed.
Element	<disc:originalFileName check with Adobe
Values	Open text field
Occurrences	0 or 1

3.3.1.7 Instructions

Definition	The Instructions field is a simple text field that can be used to include any of a number of instructions from the provider or creator to the receiver of the photograph. Any of the following could be included: embargoes (News Magazines OUT) and other restrictions not covered by the “Rights Usage Terms” field; information regarding the original means of capture (scanning notes, colorspace info) or other specific text information that the user may need for accurate reproduction; additional permissions or credits required when publishing.
Element	<photoshop:Instructions
Values	Open text field
Occurrences	0 or 1

3.3.2 Image Sequence Metadata

These metadata fields are used to indicate whether an image is part of a sequence and to relate the images in the sequence. This would be used for “how-to” shots.

3.3.2.1 Sequence Name

Definition	A name given to a sequence of images for descriptive identification and reuse purposes
Element	<dim2:sequenceName
Values	Open text field
Occurrences	0 or 1

3.3.2.2 Sequence Number

Definition	The number of this image in the image sequence. If the number is greater than 0 this image is part of a sequence.
Element	<dim2:sequenceNumber
Values	Non negative integer
Occurrences	0 or 1

3.3.2.3 Sequence Total Images

Definition	The total number of images in the image sequence.
Element	<dim2:sequenceTotalImages
Values	Non negative integer
Occurrences	0 or 1

3.3.3 Image Content Metadata

These metadata fields are used to indicate the content of the image and include a description, headline or caption, subject, genre, keywords, etc.

3.3.3.1 Genre

Definition	Indicates the genre of the image such as “fashion” “sports” “news”
Element	<prism:category
Values	Values come from the PRISM category controlled vocabulary located at ***. Open choice field
Occurrences	0 or 1

3.3.3.2 Headline

Definition	A brief publishable synopsis/summary of the contents of the photograph. This is not the same as the title.
Element	<photoshop:Headline
Values	Open text field
Occurrences	0 or 1

3.3.3.3 Description

Definition	A textual description, including captions, of the news object's content, particularly used where the object is not text. The Description field, often referred to as a “caption” is used to describe the “who, what and why” of what is happening in the photograph. If there is a person or people in the image, this caption might include their names, and/or their role in the action that is taking place. If the image is of a location, then it should give information regarding the location.
Element	<dc:description
Values	Open text field, Alt by language
Occurrences	0 or 1

3.3.3.4 Keywords

Definition	Keywords to express the subject of the content. Keywords may be free text and don't have to be taken from a controlled vocabulary. Keywords can be used as a subcategory to genre. So if the genre is fashion, the keyword may be accessory or beauty.
Element	<dc:subject
Values	List of open text keywords (Bag)
Occurrences	0 or more

3.4 Image Composition Metadata

These metadata fields are used to indicate the composition of the image and include fields such as the elevation of the shot, the angle of the shot, the framing of the shot and the lighting. Note that these fields may be specified by a photo editor before a shoot to give direction to the photographer. Or they may be added by editorial staff after the shoot to facilitate archive and reuse. These fields all appear on the composition panel. See Figure 3.3.

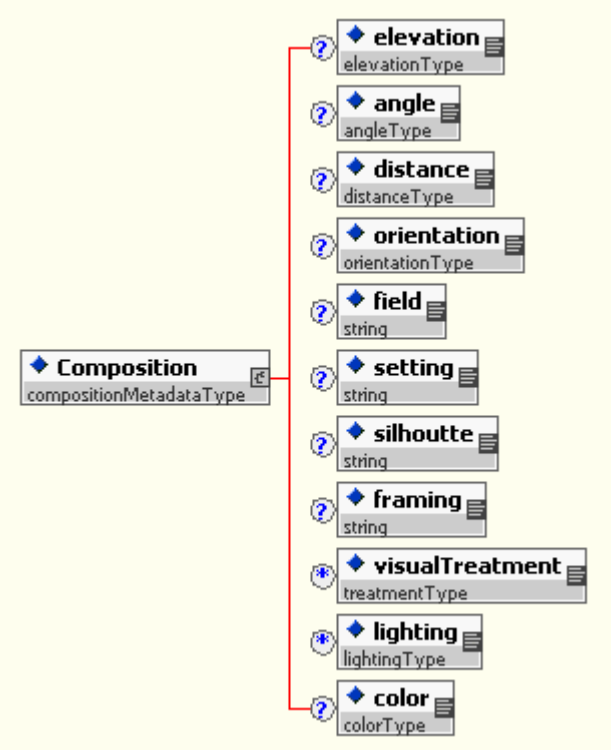


Figure 3.3 Image Composition Metadata

3.4.1 Elevation

Definition	Specifies camera view relative to the subject; moving in the vertical plane; vertical placement
Element	<dim2:elevation
Values	top, above off-center, level, below off-center, bottom
Occurrences	0 or 1

3.4.2 Angle

Definition	Specifies camera view relative to the subject; moving on the horizontal plane; horizontal placement
Element	<dim2:angle
Values	front, right off-center, right profile, rear, left profile, left off-center
Occurrences	0 or 1

3.4.3 Distance

Definition	Specifies distance from the camera to the subject; relative to the nature of the subject
Element	<dim2:distance
Values	detail, close-up, midrange, distant
Occurrences	0 or 1

3.4.4 Orientation

Definition	Specifies the camera orientation
Element	<dim2:orientation
Values	vertical, horizontal, panoramic, square
Occurrences	0 or 1

3.4.5 Field

Definition	Describes the field and/or background of the image. May be used to provide direction to the photographer as well as to describe an image for archive.
Element	<dim2:field
Values	Open text field
Occurrences	0 or 1

3.4.6 Setting

Definition	Describes the setting of the image such as runway, backstage, bedroom, landscape. May be used to provide direction to the photographer as well as to describe an image for archive.
Element	<dim2:setting
Values	Open text field
Occurrences	0 or 1

3.4.7 Silhouette

Definition	Describes if the scope of the image is to be a silhouette. May be used to provide direction to the photographer as well as to describe an image for archive.
Element	<dim2:silhouette
Values	yes, no
Occurrences	0 or 1

3.4.8 Framing

Definition	Describes how the image is framed or composed such as half length, full length, and instructions about what to include or exclude from the image. May be used to provide direction to the photographer as well as to describe an image for archive.
Element	<dim2:framing
Values	Open text field
Occurrences	0 or 1

3.4.9 Visual Treatment

Definition	Describes the visual treatment of the image
Element	<dim2:visualTreatment
Values	This is an “open choice” field where users are offered choices but may fill in their own word as well: • soft • sharp • wide-angle • telephoto • normal (Default) • double exposure
Occurrences	0 or more

3.4.10 Lighting

Definition	Describes the lighting for the image
Element	<dim2:lighting
Values	This is an “open choice” field where users are offered choices but may fill in their own word as well: • cool • warm • natural • fluorescent • diffused • sharp/specular • ring • fill • spot • frontal • side • top • under • back
Occurrences	0 or more

3.4.11 Color

Definition	Describes the color of the image.
Element	<dim2:color
Values	B&W, color, sepia, duotone, tritone, quadtone
Occurrences	0 or 1 time

3.5 Location of Shoot

These metadata fields describe the Location of Shoot. These fields are mapped to the DISC/IPTC metadata fields indicating the location of shoot, since generally the place pictured and the location of the shoot are the same. In the case where the location of shoot is different from the place pictured, the fields for Pictured Place should be completed to express the differences. See Figure 3.4.

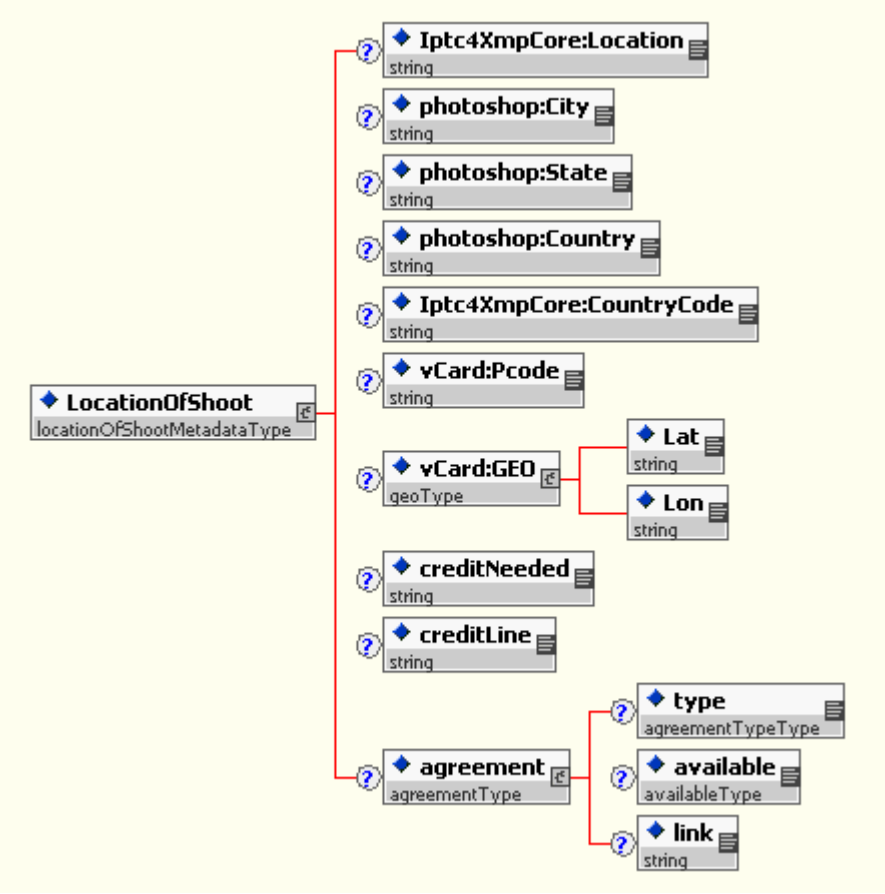


Figure 3.4 Metadata elements about the Location of Shoot

3.5.1 Identifier

Definition	Specifies a unique identifier. Used in creating relationships. Recommended best practice is to identify the resource by means of a string or number conforming to a formal identification system.
Element	<dc:identifier
Values	Text string
Occurrences	0 or 1 time

3.5.2 Location of Shoot

Definition	Specific location of the shoot such as “Times Square”
Element	<Iptc4XmpCore:Location
Values	Open text field
Occurrences	0 or 1 time

3.5.3 City of Shoot

Definition	Specific city of the shoot such as “Chicago”
Element	<photoshop:City
Values	Open text field
Occurrences	0 or 1 time

3.5.4 State of Shoot

Definition	State or Province of the shoot such as “Wisconsin”
Element	<photoshop:State
Values	Open text field
Occurrences	0 or 1 time

3.5.5 Country of Shoot

Definition	Country of the shoot such as “Mexico”. This country name is spelled out.
Element	<photoshop:Country
Values	Open text field
Occurrences	0 or 1 time

3.5.6 CountryCode of Shoot

Definition	International country code for of the location of the shoot such as “DE”.
Element	<Iptc4XmpCore:CountryCode
Values	2 letter alpha code
Occurrences	0 or 1 time

3.5.7 Postal Code of Shoot

Definition	Code for of the location of the shoot such as “61026”.
Element	<vCard:Pcode
Values	Open text field
Occurrences	0 or 1 time

3.5 8 Global Positioning of Shoot

Definition	GPS information for the location of the shoot.
Element	vCard:GEO
Values	This element is made up of Lat and Lon
Occurrences	0 or 1 time

3.5.8.1 Latitude

Definition	Indicates the latitude positioning for the individual
Element	<vCard:Lat
Values	Open text field
Occurrences	1 time

3.5.8.2 Longitude

Definition	Indicates the longitude positioning for the individual
Element	<vCard:Lon
Values	Open text field
Occurrences	1 time

3.5.9 Credit Needed

Definition	Specifies whether this object is to be credited in the credit line.
Element	<dim2:creditNeeded
Values	Enumeration: yes, no or undefined. Default is no
Occurrences	0 or 1 time

3.5 10 Credit Line

Definition	Credit line as it is to appear
Element	<dim2:credit
Values	Open text field
Occurrences	0 or 1 time

3.5.11 Agreement

Definition	Indicates whether there is an agreement available
Element	<dim2:agreement
Values	Empty element; values passed via attributes
Values	This element is made up of a hierarchy of elements.
Occurrences	0 or 1 time

3.5.11.1 Agreement Type

Definition	Specifies the type of agreement for the image
Element	<dim2:type
Values	copyright, license, release
Occurrences	0 or 1 time

3.5.11.2 Agreement Available

Definition	Specifies whether an agreement is available for the image
Element	<dim2:available
Values	yes, no, NA, unknown
Occurrences	0 or 1 time

3.5.11.3 Agreement Link

Definition	Provides a link to the agreement document stored somewhere online
Element	<dim2:link
Values	Open text field
Occurrences	0 or 1 time

3.6 Pictured Place Metadata

These metadata fields are used to provide information about Pictured Place when that is different from the Location of Shoot. See Figure 3.5.

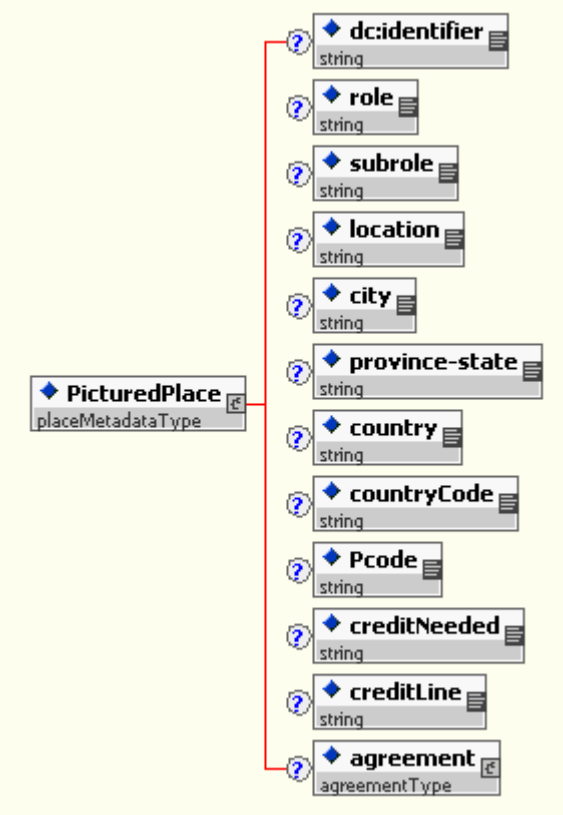


Figure 3.5 Metadata elements about the Pictured Place

3.6.1 Identifier

Definition	Specifies a unique identifier. Used in creating relationships. Recommended best practice is to identify the resource by means of a string or number conforming to a formal identification system.
Element	<dc:identifier
Values	Text string
Occurrences	0 or 1 time

3.6.2 Role

Definition	The primary role played by the contributor to the image
Element	<dim2:role
Values	Values from a controlled vocabulary
Occurrences	0 or more times

3.6.3 Subrole

Definition	Provides a way to further qualify the role
Element	<dim2:subrole
Values	Open text field
Occurrences	0 or 1 time

3.6.4 Location

Definition	Specific location of the shoot such as “Times Square”
Element	<Iptc4XmpCore:Location
Values	Open text field
Occurrences	0 or 1 time

3.6.5 City

Definition	City of the shoot, such as “Chicago”
Element	<Iptc4XmpCore:City
Values	Open text field
Occurrences	0 or 1 time

3.6.6 State

Definition	State or province of the shoot such as “Wisconsin”
Element	<photoshop:State
Values	Open text field
Occurrences	0 or 1 time

3.6.7 Country

Definition	Country of shoot such as “Mexico”. Not the code.
Element	photoshop:Country
Values	Open text field
Occurrences	0 or 1 time

3.6.8 CountryCode

Definition	Country code of the shoot such as “DE”
Element	Iptc4XmpCore:CountryCode
Values	2 letter alpha code
Occurrences	0 or 1 time

3.6.9 Postal Code

Definition	Postal code for the location of the shoot such as “60126”
Element	vCard:Pcode
Values	Open text field
Occurrences	0 or 1 time

3.6.10 Credit Needed

Definition	Specifies whether this object is to be credited in the credit line.
Element	<dim2:creditNeeded
Values	Enumeration: yes, no or undefined. Default is no
Occurrences	0 or 1 time

3.6.11 Credit Line

Definition	Credit line as it is to appear
Element	<dim2:credit
Values	Open text field
Occurrences	0 or 1 time

3.6.12 Agreement

Definition	Indicates whether there is an agreement available
Element	<dim2:agreement
Values	This element is made up of a hierarchy of elements.
Occurrences	0 or 1 time

3.6.12.1 Agreement Type

Definition	Specifies the type of agreement for the image
Element	<dim2:type
Values	copyright, license, release
Occurrences	0 or 1 time

3.6.12.2 Agreement Available

Definition	Specifies whether an agreement is available for the image
Element	<dim2:available
Values	yes, no, NA, unknown
Occurrences	0 or 1 time

3.6.12.3 Agreement Link

Definition	Provides a link to the agreement document stored somewhere online
Element	<dim2:link
Values	Open text field
Occurrences	0 or 1 time

3.7 People Metadata

These metadata fields are used to provide information about people pictured in the image or those who contributed to the image, These fields provide information about who the people are, their role, their agent and credit and contact information. See Figure 3.5.

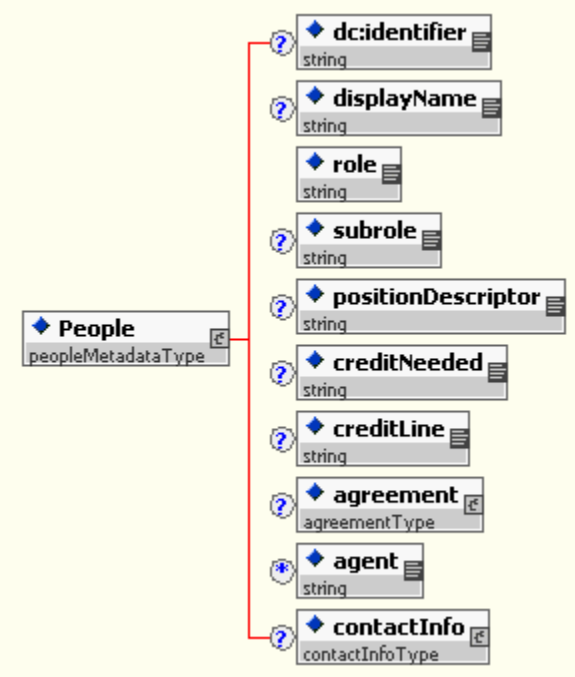


Figure 3.5 Metadata about people pictured

3.7.1 Identifier

Definition	Specifies a unique identifier. Used in creating relationships. Recommended best practice is to identify the resource by means of a string or number conforming to a formal identification system.
Element	<dc:identifier
Values	Text string
Occurrences	0 or 1 time

3.7.2 Display Name

Definition	Specifies name as to be displayed
Element	<dim2:displayName
Values	Open text field
Occurrences	0 or 1 time

3.7.3 Role

Definition	The primary role played by the contributor to the image
Element	<dim2:role
Values	Open Choice with values from a controlled vocabulary:pictured, contributor and ability to enter another role
Occurrences	1 or more times

3.7.4 Subrole

Definition	Provides a way to further qualify the role
Element	<dim2:subrole
Values	Open text field
Occurrences	0 or 1 time per role

3.7.5 Position Descriptor

Definition	Description of the position of the person in the image; such as top left
Element	<dim2:positionDesciptor
Values	Open text field
Occurrences	0 or 1 time

3.7.6 Credit Needed

Definition	Specifies whether this object is to be credited in the credit line.
Element	<dim2:creditNeeded
Values	Enumeration: yes, no or undefined. Default is no
Occurrences	0 or 1 time

3.7.7 Credit Line

Definition	Credit line as it is to appear
Element	<dim2:credit
Values	Open text field
Occurrences	0 or 1 time

3.7.8 Agreement

Definition	Indicates whether there is an agreement available
Element	<dim2:agreement
Values	This element is made up of a hierarchy of elements. See Figure 3.5
Occurrences	0 or 1 time

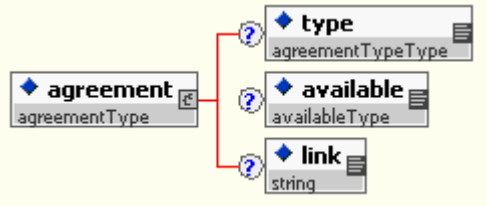


Figure 3.5 Agreement Structure

3.7.8.1 Agreement Type

Definition	Specifies the type of agreement for the image
Element	<dim2:type
Values	copyright, license, release
Occurrences	0 or 1 time

3.7.8.2 Agreement Available

Definition	Specifies whether an agreement is available for the image
Element	<dim2:available
Values	yes, no, NA, unknown
Occurrences	0 or 1 time

3.7.8.3 Agreement Link

Definition	Provides a link to the agreement document stored somewhere online
Element	<dim2:link
Values	Open text field
Occurrences	0 or 1 time

3.7.9 Agent

Definition	Specifies the agent(s) for the person pictured or contributing
Element	<dim2:agent
Values	Open text field
Occurrences	0 or more times

3.7.10 Contact Information

The contact information for a person is a hierarchical metadata field. In other words, this field is made up of a number of more specific fields. The DIM2 Working Group has decided to use fields from the V-Card specification and so these metadata fields come from the vCard: namespace. See Figure 3.7.

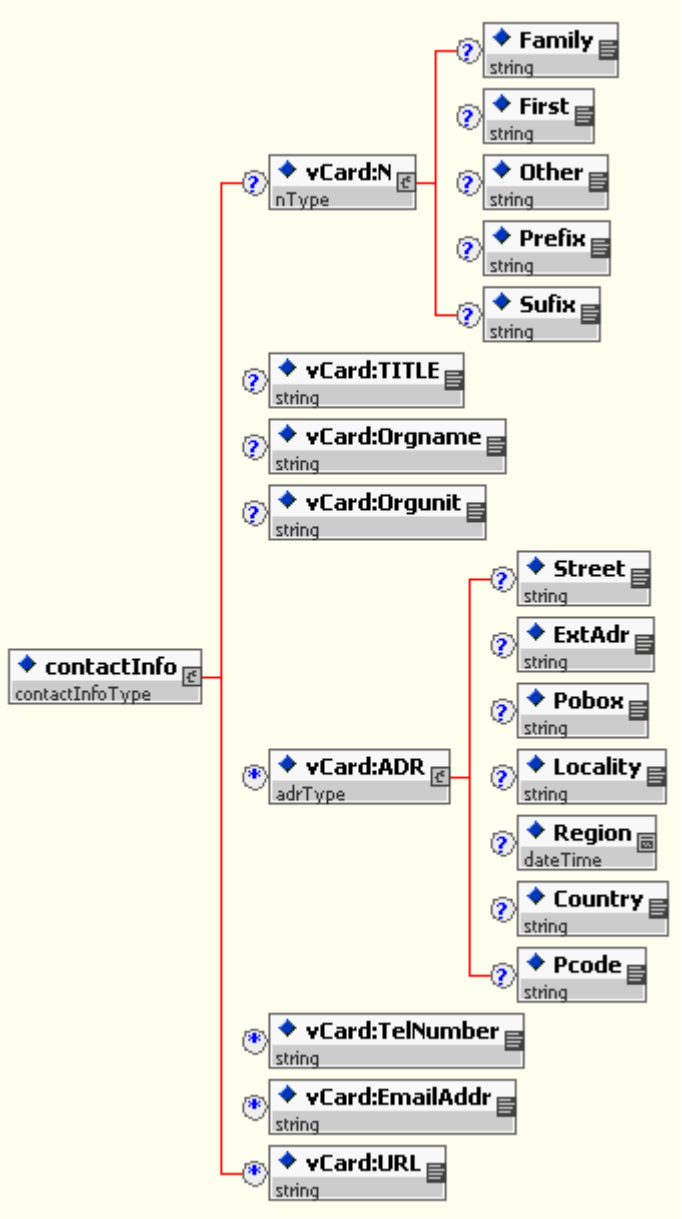


Figure 3.6 V-Card elements that make up contact information

3.7.10.1 Name

Definition	Person's name
Element	vCard:N
Values	This element is a hierarchy of other elements. See Figure 3.7.
Occurrences	0 or 1

3.7.10.2 Family Name

Definition	Family or surname
Element	vCard:Family
Values	Open text field
Occurrences	0 or 1

3.7.10.3 First Name

Definition	Given or first name such as “James”
Element	vCard:First
Values	Open text field
Occurrences	0 or 1

3.7.10.4 Other Name

Definition	Other name such as a maiden name or middle name (not a nick name)
Element	vCard:Other
Values	Open text field
Occurrences	0 or 1

3.7.10.5 Prefix

Definition	Prefix of the name such as “Mr.”
Element	vCard:Prefix
Values	Open text field
Occurrences	0 or 1

3.7.10.6 Suffix

Definition	Sufix of the name such as “Jr.”
Element	vCard:Suffix
Values	Open text field
Occurrences	0 or 1

3.7.10.7 Title

Definition	Person’s formal business title such as “Software Development Assistant”
Element	vCard:TITLE
Values	Open text field
Occurrences	0 or 1

Figure 3.8 V-Card elements that make up ORG

3.7.10.8 Organizational Name

Definition	Name of the employer such as “IDEAlliance”
Element	vCard:Orgname
Values	Open text element
Occurrences	0 or 1

3.7.10.9 Address

Definition	Specifies the address
Element	<vCard:ADR
Values	This element is a hierarchy made up of other elements. See Figure 3.9.
Attributes	TYPE= Home, Work, Pref(erred) Default = Pref
Occurrences	0 or more times

3.7.10.9.1 Street

Definition	Specifies the street address
Element	vCard:Street
Values	Open text field
Occurrences	0 or 1

3.7.10.9.2 Extended Address

Definition	Specifies the extended address such as a suite or apartment number
Element	vCard:Extadr
Values	Open text field
Occurrences	0 or 1

3.7.10.9.3 Post Office Box

Definition	Specifies a post office box number
Element	vCard:Pobox
Values	Open text field
Occurrences	0 or 1

3.7.10.9.4 Locality / City

Definition	Specifies the city or locality
Element	vCard:Locality
Values	Open text field
Occurrences	0 or 1

3.7.10.9.5 Region / State

Definition	Specifies the region, state or province
Element	vCard:Region
Values	Open text field
Occurrences	0 or 1

3.7.10.9.6 Country

Definition	Specifies the country
Element	vCard:Country
Values	Open text field
Occurrences	0 or 1

3.7.10.9.7 Postal Code

Definition	Specifies the postal code
Element	vCard:Pcode
Values	Open text field
Occurrences	0 or 1

3.7.10.10 Telephone Number

Definition	Specifies the telephone number
Element	vCard:TelNumber
Attribute	Type = home, work, Pref(erred) Default = Pref
Values	Open text field
Occurrences	0 or more

3.7.10.11 Email Address

Definition	Specifies the email address
Element	vCard:EmailAddr
Attribute	Type = home, work, Pref(erred) Default = Pref
Values	Open text field
Occurrences	0 or more

3.7.10.12 URL

Definition	Specifies the URL of the website
Element	vCard:URL
Values	Open text field
Occurrences	0 or more

3.8 Event Metadata

These metadata fields are used to provide information about an event pictured in the image or contributing to the image such as what it is and credit and contact information. See Figure 3.7.

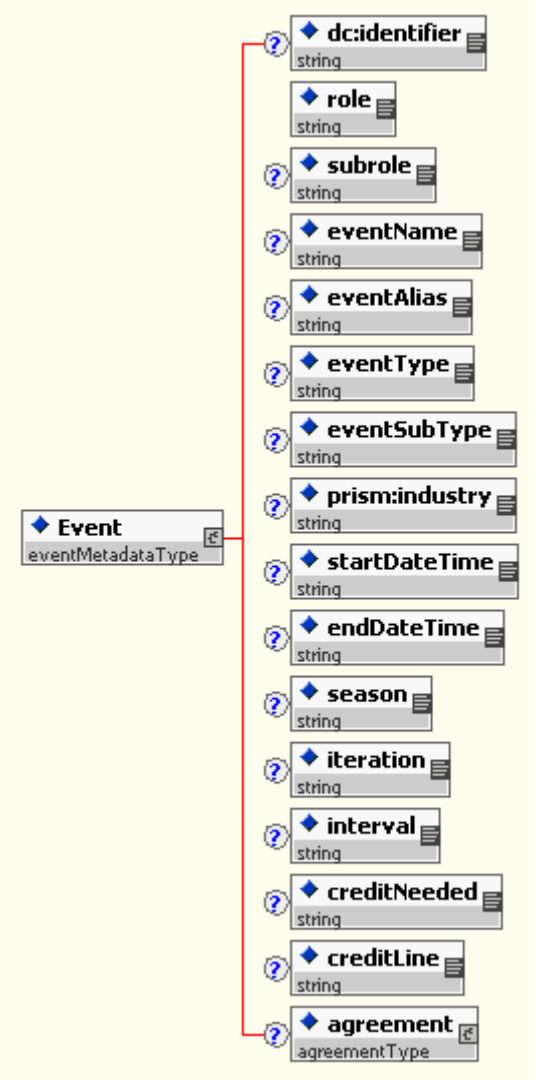


Figure 3.7 Metadata elements about an event that is pictured

3.8.1 Identifier

Definition	Specifies a unique identifier. Used in creating relationships. Recommended best practice is to identify the resource by means of a string or number conforming to a formal identification system.
Element	<dc:identifier
Values	Text string
Occurrences	0 or 1 time

3.8.2 Role

Definition	The primary role played by the event contributing or pictured
Element	<dim2:role
Values	Open Choice with values from a controlled vocabulary:pictured, contributor and ability to enter another role
Occurrences	1 or more times

3.8.3 Subrole

Definition	Provides a way to further qualify the role
Element	<dim2:subrole
Values	Open text field
Occurrences	0 or 1 time per role

3.8.4 Event Name

Definition	Specifies the formal name of the event
Element	<dim2:eventName
Values	Text string
Occurrences	0 or 1 time

3.8.5 Event Alias

Definition	Specifies an alternate name for the event.
Element	<dim2:eventAlias
Values	Text string
Occurrences	0 or more times

3.8.6 Event Type

Definition	Specifies the type of event. Eventually this will be a controlled vocabulary
Element	<dim2:eventType
Values	Text string
Occurrences	0 or 1 time

3.8.7 Event Subtype

Definition	Specifies the subtype of the event. Used to qualify the event type.
Element	<dim2:eventSubtype
Values	Text string
Occurrences	0 or 1 time

3.8.8 Industry

Definition	Specifies the industry for the event
Element	<prism:industry
Values	Values from a controlled vocabulary
Occurrences	0 or 1 time

3.8.9 Event Start Date/Time

Definition	Specifies the start date and time of the event
Element	<dim2:startDateTime
Values	Date and time in the W3C dateTime format
Occurrences	0 or 1 time

3.8.10 Event End Date/Time

Definition	Specifies the end date and time of the event
Element	<dim2:endDateTime
Values	Date and time in the W3C dateTime format
Occurrences	0 or 1 time

3.8.11 Season

Definition	Specifies the season of the event
Element	<dim2:season
Values	Values will be from a controlled vocabulary
Occurrences	0 or 1 times

3.8.12 Iteration

Definition	Specifies the number of the event if it occurs again and again. For example the 25th Chicago Marathon
Element	<dim2:iteration
Values	Positive integer
Occurrences	0 or 1 time

3.8.13 Interval

Definition	Specifies the interval between events, such as “annual”
Element	<dim2:interval
Values	Text string
Occurrences	0 or 1 time

3.8.14 Credit Needed

Definition	Specifies whether this object is to be credited in the credit line.
Element	<dim2:creditNeeded
Values	Enumeration: yes, no or undefined. Default is no
Occurrences	0 or 1 time

3.8.15 Credit Line

Definition	Credit line as it is to appear
Element	<dim2:credit
Values	Open text field
Occurrences	0 or 1 time

3.8.16 Agreement

Definition	Indicates whether there is an agreement available
Element	<dim2:agreement
Values	This element is made up of a hierarchy of elements. See Figure 3.17
Occurrences	0 or 1 time

3.8.16.1 Agreement Type

Definition	Specifies the type of agreement for the image
Element	<dim2:type
Values	copyright, license, release
Occurrences	0 or 1 time

3.8.16.2 Agreement Available

Definition	Specifies whether an agreement is available for the image
Element	<dim2:available
Values	yes, no, NA, unknown
Occurrences	0 or 1 time

3.8.16.3 Agreement Link

Definition	Provides a link to the agreement document stored somewhere online
Element	<dim2:link
Values	Open text field
Occurrences	0 or 1 time

3.9 Object Metadata

These metadata fields are used to provide information about an object pictured in the image or contributing to the image such as what it is and credit and contact information. Note that object may either be a natural object such as a flower or a dog, or it may be a manufactured object such as a sink or a truck. See Figure 3.8.

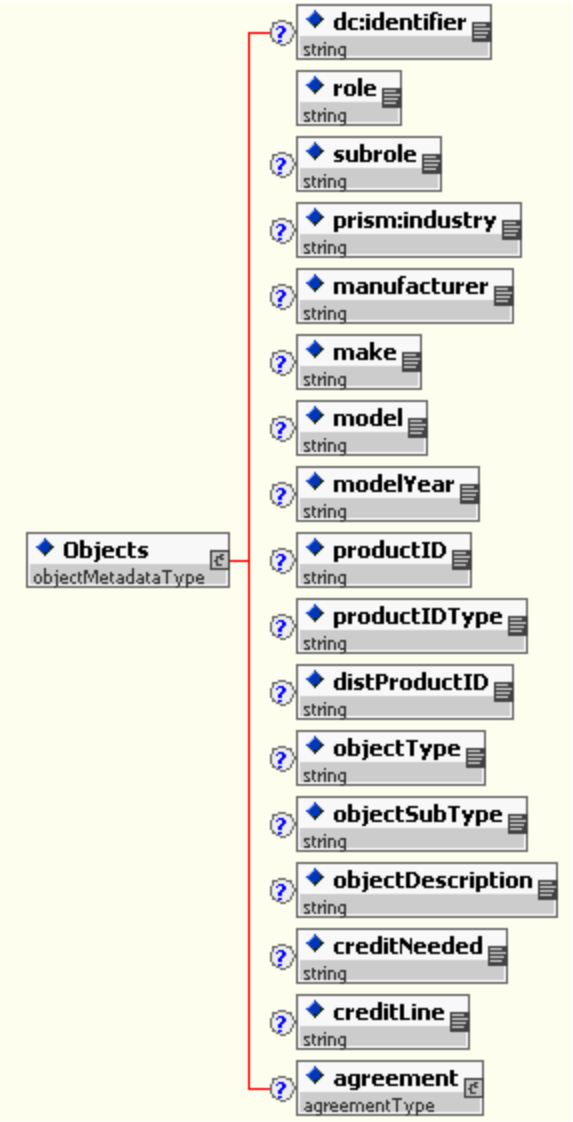


Figure 3.8 Metadata elements about an object that is pictured

3.9.1 Identifier

Definition	Specifies a unique identifier. Used in creating relationships. Recommended best practice is to identify the resource by means of a string or number conforming to a formal identification system.
Element	<dc:identifier
Values	Text string
Occurrences	0 or 1 time

3.9.2 Role

Definition	The primary role played by an object contributing to the image or pictured
Element	<dim2:role
Values	Open Choice with values from a controlled vocabulary:pictured, contributor and ability to enter another role
Occurrences	1 or more times

3.9.3 Subrole

Definition	Provides a way to further qualify the role
Element	<dim2:subrole
Values	Open text field
Occurrences	0 or 1 time per role

3.9.4 Industry

Definition	Industry to which the object belongs such as “automotive”
Element	<prism:industry>
Values	Open text field
Occurrences	0 or 1 time

3.9.5 Manufacturer

Definition	The name brand of a manufactured object such as “Ford Motor Company”
Element	<dim2:model
Values	Open text field
Occurrences	0 or 1 time

3.9.6 Make

Definition	The make of a manufactured object such as “Ford”
Element	<dim2:model
Values	Open text field
Occurrences	0 or 1 time

3.9.7 Model

Definition	Model of a manufactured object such as “Mustang”
Element	<dim2:model
Values	Open text field
Occurrences	0 or 1 time

3.9.8 Model Year

Definition	Model year of a manufactured object such as “2006”
Element	<dim2:modelYear
Values	Open text field
Occurrences	0 or 1 time

3.9.9 Product ID

Definition	Product ID of a manufactured object such as “SKU77-AB-19986”
Element	<dim2:productID
Values	Open text field
Occurrences	0 or 1 time

3.9.10 Product ID Type

Definition	Type of Product ID such as “SKU”
Element	<dim2:productIDType
Values	Open text field
Occurrences	0 or 1 time

3.9.11 Distributor’s Product ID

Definition	Product ID used by the distributor of a manufactured object. May differ from the manufacturer’s product ID
Element	<dim2:distProductID
Values	Open text field
Occurrences	0 or 1 time

3.9.12 Object Type

Definition	Defines what the object is such as “dog”
Element	<dim2:objectType
Values	Open text field
Occurrences	0 or 1 time

3.9.13 Object Subtype

Definition	Refines what the object is such as “poodle”
Element	<dim2:objectSubtype
Values	Open text field
Occurrences	0 or 1 time

3.9.14 Object Description

Definition	Describes the object
Element	<dim2:objectDescription
Values	Open text field
Occurrences	0 or 1

3.9.15 Position Description

Definition	Description of the position of the object in the image; such as top left
Element	<dim2:positionDesciptor
Values	Open text field
Occurrences	0 or 1 time

3.9.16 Credit Needed

Definition	Specifies whether this object is to be credited in the credit line.
Element	<dim2:creditNeeded
Values	Enumeration: yes, no or undefined. Default is no
Occurrences	0 or 1 time

3.9.17 Credit Line

Definition	Credit line as it is to appear
Element	<dim2:credit
Values	Open text field
Occurrences	0 or 1 time

3.9.18 Agreement

Definition	Indicates whether there is an agreement available
Element	<dim2:agreement
Values	This element is made up of a hierarchy of elements. See Figure 3.19
Occurrences	0 or 1 time

3.9.18.1 Agreement Type

Definition	Specifies the type of agreement for the image
Element	<dim2:type
Values	copyright, license, release
Occurrences	0 or 1 time

3.9.18.2 Agreement Available

Definition	Specifies whether an agreement is available for the image
Element	<dim2:available
Values	yes, no, NA, unknown
Occurrences	0 or 1 time

3.9.18.3 Agreement Link

Definition	Provides a link to the agreement document stored somewhere online
Element	<dim2:link
Values	Open text field
Occurrences	0 or 1 time

4 More about PRISM Digital Image Management Metadata

4.1 PRISM Digital Image Management Metadata Compliance

Just as PRISM metadata for encoding articles of magazines or journals can fit one of two compliance profiles, so can PRISM DIM2 metadata. PRISM Profile one encodes data in XML. PRISM Profile two is RDF/XML according to the PRISM subset of RDF.

4.2 PRISM Digital Image Management Metadata Placement

Just as with other kinds of PRISM metadata, there are three common places to use metadata, the choice of which to use depends on your application environment and your level of PRISM compliance.

1. A description of a single resource can be provided as a complete, standalone, XML document that describes another file. Such a use is shown in Sample 1. Metadata encoded as a complete, standalone XML document may be either PRISM profile one (XML only) or PRISM profile two (RDF/XML)
2. A description can be included in the digital asset and travel with the asset. For images, PRISM metadata will most likely be included within the XMP envelope [XMP]. Sample 2 shows a sample of a simple PRISM DIM2 metadata within XMP. When embedding PRISM DIM2 metadata using XMP, we expect PRISM profile two (RDF/XML) with additional restrictions required by XMP
3. Descriptions of a number of files can be collected together in a 'manifest'. Such a collection is shown in Sample 3. Metadata encoded as a standalone manifest may be either PRISM profile one (XML only) or PRISM profile two (RDF/XML).

4.2.1 Standalone XML Metadata for an Image

```
<?xml version="1.0" encoding="UTF-8"?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
      xmlns:dc=http://purl.org/dc/elements/1.1/
      xmlns:prism="http://idealliance.org/prism/Specifications/prismns"
      xmlns:disc="http://idealliance.org/disc/Specs/disc"
      xmlns:photoshop="http://idealliance.org/photoshop"
      xmlns:vCard="http://idealliance.org/vcard"
      xmlns:Iptc4XmpCore="http://idealliance.org/iptc4xmpcore"
      xmlns:dim2="http://idealliance.org/disc/Specs/dim2">
 <rdf:Description rdf:about="http://wanderlust.com/2000/08/Corfu.jpg">
  <dc:identifier rdf:resource="http://wanderlust.com/content/2357845" />
  <dc:description>Photograph taken at 6:00 am on Corfu with two models
  </dc:description>
  <dc:creator>John Peterson</dc:creator>
</rdf:Description>
</rdf:RDF>
```

Example 1: Basic PRISM Description

4.2.2 Embedded XMP Image Metadata

The following sample shows how the image would be coded with metadata. Note that in this sample, metadata from PRISM, DISC, IPTC and Dublin Core Specifications are used as the basis to code the image, with DIM2 metadata fields added where required.


```
<rdf:RDF xmlns:prism=”http://prismstandard.org/namespaces/1.2/basic/”
         xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
         xmlns:dc=”http://purl.org/dc/elements/1.1/”
         xmlns:Iptc4xmpCore= “http://www.iptc.org/IPTC4XMP/”
         xmlns:photoshop="http://idealliance.org/photoshop"
         xmlns:vCard=”http://idealliance.org/vcard”
         xmlns:dim2="http://idealliance.org/disc/Specs/dim2">

 <rdf:Description rdf:about="">
  <dc:creator>D. Kennedy</dc:creator>
  <photoshop:Credit>CameraMasters, Inc.</photoshop:Credit>
  <photoshop:Source>D. Kennedy</photoshop:Source>
  <photoshop:DateCreated>20050401</photoshop:DateCreated>
  <dc:rights>©2005 CameraMasters, all rights reserved
  </dc:rights>
  <photoshop:TransmissionReference>KK1212< photoshop:TransmissionReference>
  <photoshop:Headline>GRACoL Press Run<photoshop:Headline>
  <photoshop:Description>This picture shows the press sheet produced at the
GRACoL Press Run hosted by MAN Roland.  Pictured are the Chair and CoChair of
the GRACoL Committee, the Roland 700 Press and the MAN Roland
Staff.</photoshop:Description>
  <dc:subject>GRACoL, Color Management, Printing Specifications, MAN Roland
Presses,Press Run, Offset Lithography, IDEAlliance<dc:subject>
  <disc:originalFileName>DSC02467.jpg<disc:originalFileName>
<rdf:Bag>
 <rdf:li>
  <dim2:peopleMetadata>
    <dim2:displayName>Don Hutcheson</dim2:displayName>
    <dim2:role>Pictured</dim2:role>
    <dim2:creditNeeded>no</dim2:creditNeeded>
    <dim2:positionDescriptor>first row, second from the
left</dim2:positionDescriptor>
```

```
    <dim2:contactInfo>
      <vCard:EMAIL>
         <vCard:EmailAddr>don@gracol.org</vCard:EmailAddr>
       </vCard:EMAIL>
      <vCard:TEL>
          <vCard:Type>work</vCard:Type>
          <vCard:TelNumber>767-555-1212</vCard:TelNumber>
      </vCard:TEL>
    </dim2:contactInfo>
  </dim2:peopleMetadata>
</rdf:li>
<rdf:li>
  <dim2:peopleMetadata>
    <dim2:displayName>Gerry Gerlach</dim2:displayName>
    <dim2:role>Pictured</dim2:role>
    <dim2:creditNeeded>no</dim2:creditNeeded>
    <dim2:pictured>yes</dim2:pictured>
    <dim2:positionDescriptor>first row, right</dim2:positionDescriptor>
    <dim2:contactInfo>
      <vCard:EMAIL>
         <vCard:EmailAddr>gerry@gracol.org</vCard:EmailAddr>
       </vCard:EMAIL>
      <vCard:TEL>
          <vCard:Type>work</vCard:Type>
          <vCard:TelNumber>799-505-1200</vCard:TelNumber>
      </vCard:TEL>
    </dim2:contactInfo>
  </dim2:peopleMetadata>
</rdf:li>
<rdf:li>
  <dim2:peopleMetadata>
    <dim2:displayName>Dianne Kennedy</dim2:displayName>
    <dim2:role>photographer</dim2:role>
    <dim2:contactInfo>
     <rdf:Bag>
      <rdf:li>
       <vCard:EMAIL>
          <vCard:Type>work</vCard:Type>
          <vCard:EmailAddr>dianne@gracol.org</vCard:EmailAddr>
       </vCard:EMAIL>
      </rdf:li>
      <rdf:li>
       <vCard:EMAIL>
          <vCard:Type>home</vCard:Type>
          <vCard:EmailAddr>dianne@aol.com</vCard:EmailAddr>
       </vCard:EMAIL>
      </rdf:li>
     </rdf:Bag>
      <vCard:TEL>
          <vCard:Type>work</vCard:Type>
          <vCard:TelNumber>630-555-1941</vCard:TelNumber>
      </vCard:TEL>
    </dim2:contactInfo>
```

```
    <dim2:creditNeeded>yes</dim2:creditNeeded>
    <dim2:creditLine>Photographed by D. Kennedy</dim2:creditLine>
  </dim2:peopleMetadata>
  </rdf:li>
 </rdf:Bag>

  <dim2:placeMetadata>
    <Iptc4xmpCore:Location>MAN Roland, NA</Iptc4xmpCore:Location>
    <Iptc4xmpCore:City>Westmont</Iptc4xmpCore:City>
    <photoshop:State>IL</photoshop: State>
    <photoshop:Country>USA</photoshop:Country>
    <vCard:Pcode>60559</vCard:Pcode>
  </dim2:placeMetadata>

  <dim2:eventMetadata>
    <dc:identifier>GRA033105</dc:identifier>
    <dim2:role>pictured</role>
    <dim2:eventName>GRACoL Press Run</dim2:eventName>
    <dim2:eventType>Test</dim2:eventType>
    <dim2:eventSubType>Press Run</dim2:eventSubType>
    <prism:industry>Printing</prism:industry>
    <dim2:startDateTime>20050331</dim2:startDateTime>
    <dim2:endDateTime>20050401</dim2:endDateTime>
    <dim2:iteration>2</iteration>
    <dim2:interval>unknown</dim2:interval>
    <dim2:creditNeeded>yes</dim2:creditNeeded>
    <dim2:creditLine>Thanks to MAN Roland NA for Contributing Press
Time</dim2:creditLine>
  </dim2:eventMetadata>

  <dim2:objectMetadata>
    <dim2:role>pictured</dim2:role>
    <prism:industry>Printing</prism:industry>
    <dim2:brand>MAN Roland</dim2:brand>
    <dim2:model>700</dim2:model>
    <dim2:modelYear>2005</dim2:modelYear>
    <dim2:productID>MRU700</dim2:productID>
    <dim2:objectType>Printer</dim2:objectType>
    <dim2:objectDescription>sheetfed, offset, medium
format</dim2:objectDescription>
    <dim2:positionDescriptor>background</dim2:positionDescriptor>
  </dim2:objectMetadata>

</rdf:Description>
</rdf:RDF>
```

Example 4.2 PRISM DIM2 Metadata in an XMP Packet

4.2.2.1 Encoding Groups of Property Values with XMP

There is often a need to describe **groups** of things as a property value. If there are several objects pictured in an image, how could we indicate that? RDF provides several predefined (built-in) types and properties that can be used to describe a group of property values. XMP uses these mechanisms when multiple field values are to be entered. If there are multiple values for a metadata field for the resource

PRISM recommends listing the multiple values inside a single PRISM element using the RDF Bag, Alt or Seq containers to be compatible with XMP. Bag is used when the items have no order, Seq is used to indicate an order and Alt is used when there are alternate, equivalent values (usually in different languages). In fact XMP will NOT allow for multiples for any field name. They must be inside a container structure.

4.2.2.2 XMP and XML Attribute Values

Another restriction imposed by XMP is that metadata fields will be "elements" and not attribute values. Because the DIM2 Working Group has a goal to be compatible with the XMP toolset, we have followed that restriction of XMP in modeling our metadata. The result is that we are encoding the various types of VCard fields as nested elements rather than as attributes as is recommended by the W3C Note of 22 February 2001, "Representing vCard Objects in RDF/XML http://www.w3.org/TR/2001/NOTE-vcard-rdf-20010222 .

4.2.3 A PRISM Image Manifest

```
<?xml version="1.0" encoding="UTF-8"?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
         xmlns:dc="http://purl.org/dc/elements/1.1/"
         xmlns:photoshop="http://idealliance.org/photoshop"
         xmlns:dim2="http://idealliance.org/disc/Specs/dim2">
<rdf:Description rdf:about="pressrun01.jpg">
  <dc:creator>D. Kennedy</dc:creator>
  <photoshop:Credit>CameraMasters, Inc.</photoshop:Credit>
  <photoshop:Source>D. Kennedy</photoshop:Source>
  <photoshop:DateCreated>20050401</photoshop:DateCreated>
  <dc:rights>©2005 CameraMasters, all rights reserved
  </dc:rights>
  <photoshop:TransmissionReference>KK1212< photoshop:TransmissionReference>
  <photoshop:Headline>GRACoL Press Run<photoshop:Headline>
  <dim2:sequenceName>Man Roland Press Run 04/05</dim2:sequenceName>
  <dim2:sequenceNumber>1</dim2:sequenceNumber>
  <dim2:sequenceTotalImages>3</dim2:sequenceTotalImages>
</rdf:Description>

<rdf:Description rdf:about="pressrun02.jpg">
  <dc:creator>D. Kennedy</dc:creator>
  <photoshop:Credit>CameraMasters, Inc.</photoshop:Credit>
  <photoshop:Source>D. Kennedy</photoshop:Source>
  <photoshop:DateCreated>20050401</photoshop:DateCreated>
  <dc:rights>©2005 CameraMasters, all rights reserved
  </dc:rights>
```

```
  <photoshop:TransmissionReference>KK1212< photoshop:TransmissionReference>
  <photoshop:Headline>GRACoL Press Run<photoshop:Headline>
  <dim2:sequenceName>Man Roland Press Run 04/05</dim2:sequenceName>
  <dim2:sequenceNumber>2</dim2:sequenceNumber>
  <dim2:sequenceTotalImages>3</dim2:sequenceTotalImages>
</rdf:Description>

<rdf:Description rdf:about=”pressrun03.jpg”>
  <dc:creator>D. Kennedy</dc:creator>
  <photoshop:Credit>CameraMasters, Inc.</photoshop:Credit>
  <photoshop:Source>D. Kennedy</photoshop:Source>
  <photoshop:DateCreated>20050401</photoshop:DateCreated>
  <dc:rights>©2005 CameraMasters, all rights reserved
  </dc:rights>
  <photoshop:TransmissionReference>KK1212< photoshop:TransmissionReference>
  <photoshop:Headline>GRACoL Press Run<photoshop:Headline>
  <dim2:sequenceName>Man Roland Press Run 04/05</dim2:sequenceName>
  <dim2:sequenceNumber>3</dim2:sequenceNumber>
  <dim2:sequenceTotalImages>3</dim2:sequenceTotalImages>
</rdf:Description>
</rdf:RDF>
```

Example 4-3: Describing Multiple Resources in a Manifest

Appendix A: Sample User Interface Panels

XMP Custom Panels provide a user interface to support the entry of metadata into a digital image. Due to the complexity of the DIM2 Specification, Adobe's custom panels cannot provide either the hierarchy for metadata entry that is required nor can they enforce the rules for metadata entry that is required.

This appendix documents panels created with the Poundhill Software plugin for Adobe products that provide both for the hierarchy that is required and will enforce rules for metadata entry.

A.1 General DIM2 Metadata Entry

The entry of general image metadata is supported by this panel:

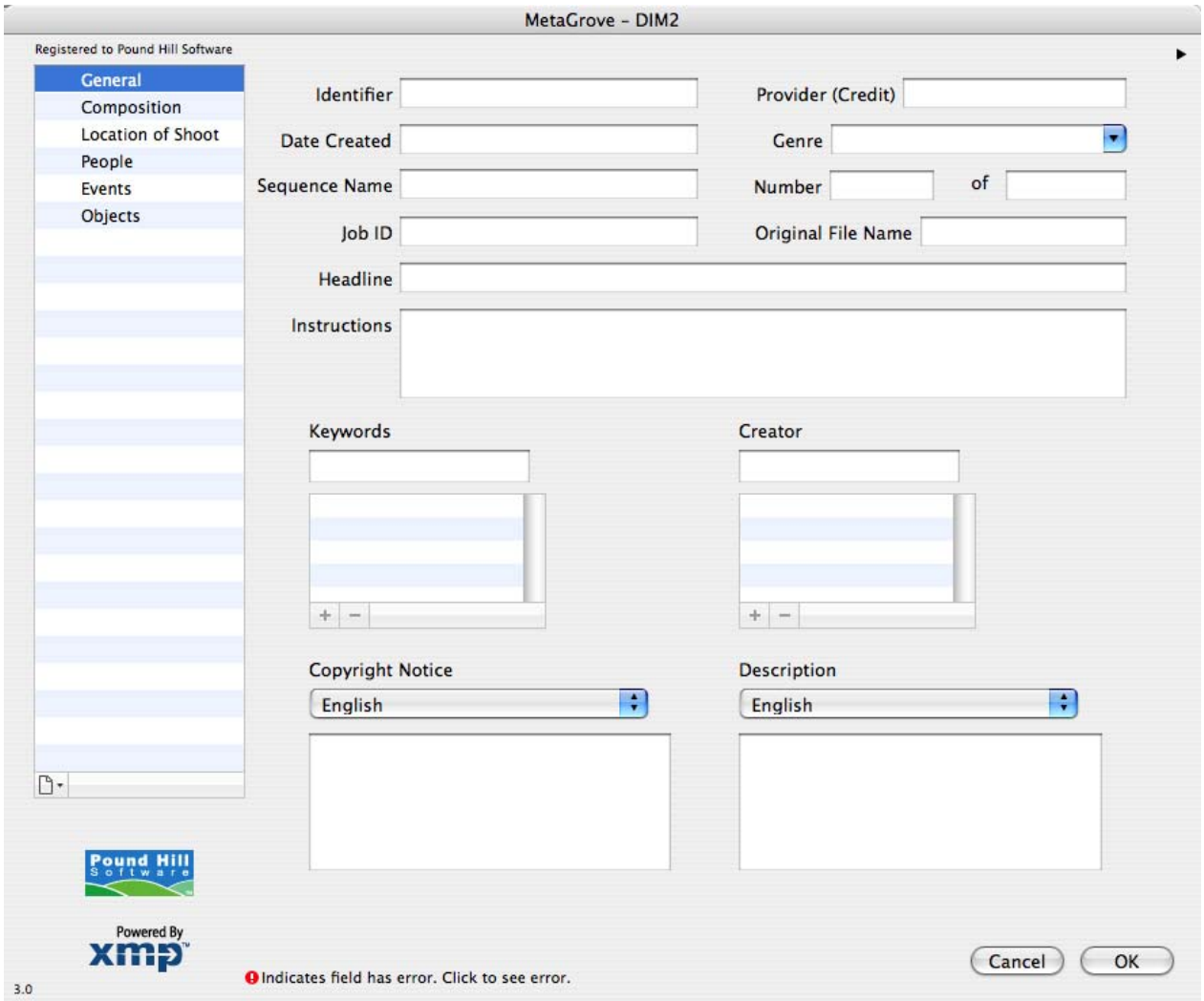


Figure A.1 User Interface to enter DIM2 General Metadata

A.2 Composition DIM2 Metadata Entry

The entry of composition image metadata is supported by this panel:

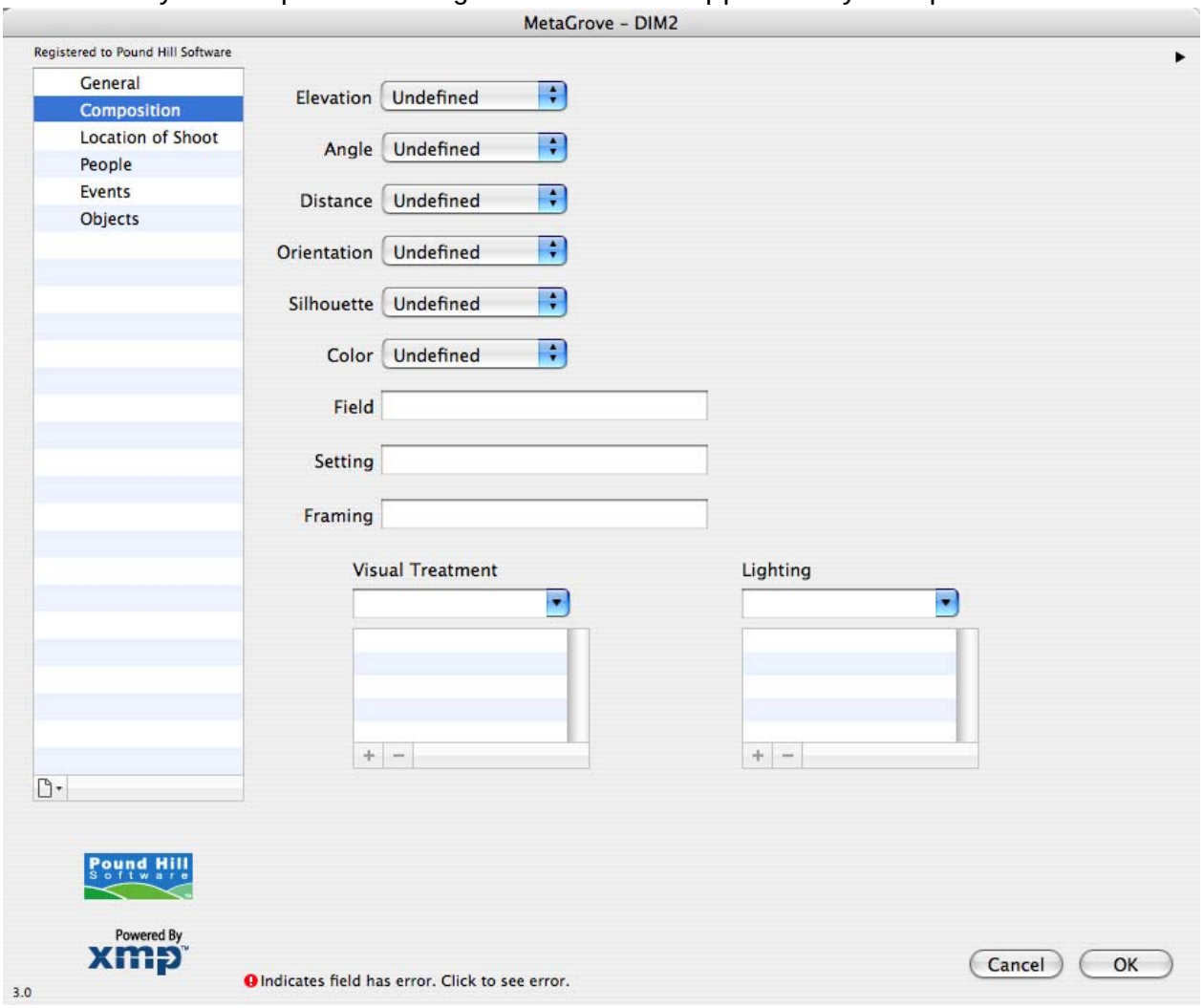


Figure A.2 User Interface to enter Dim2 Composition Metadata

A.3 Location DIM2 Metadata Entry

The entry of image metadata for the location of shoot and place pictured is supported by this panel:

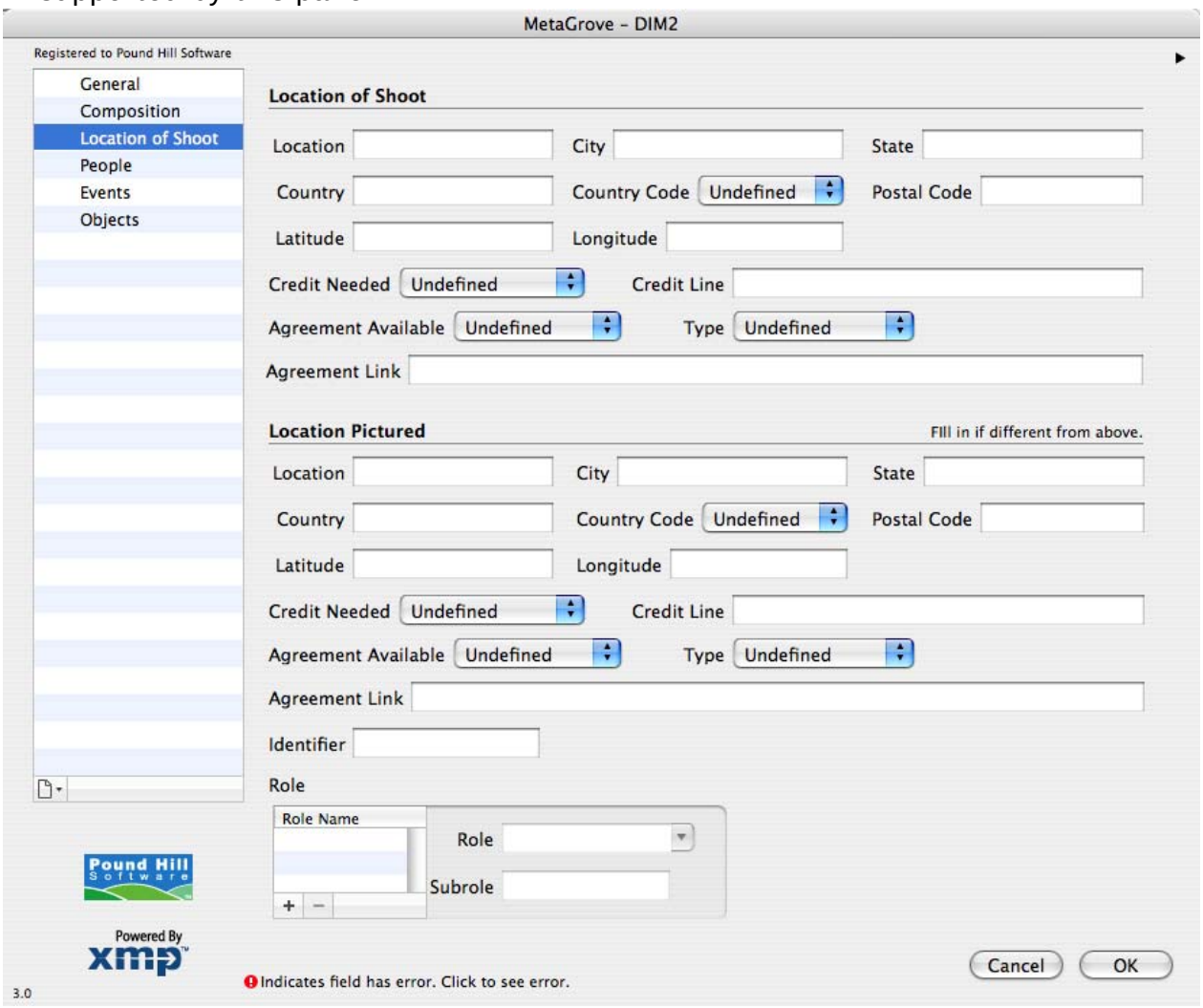
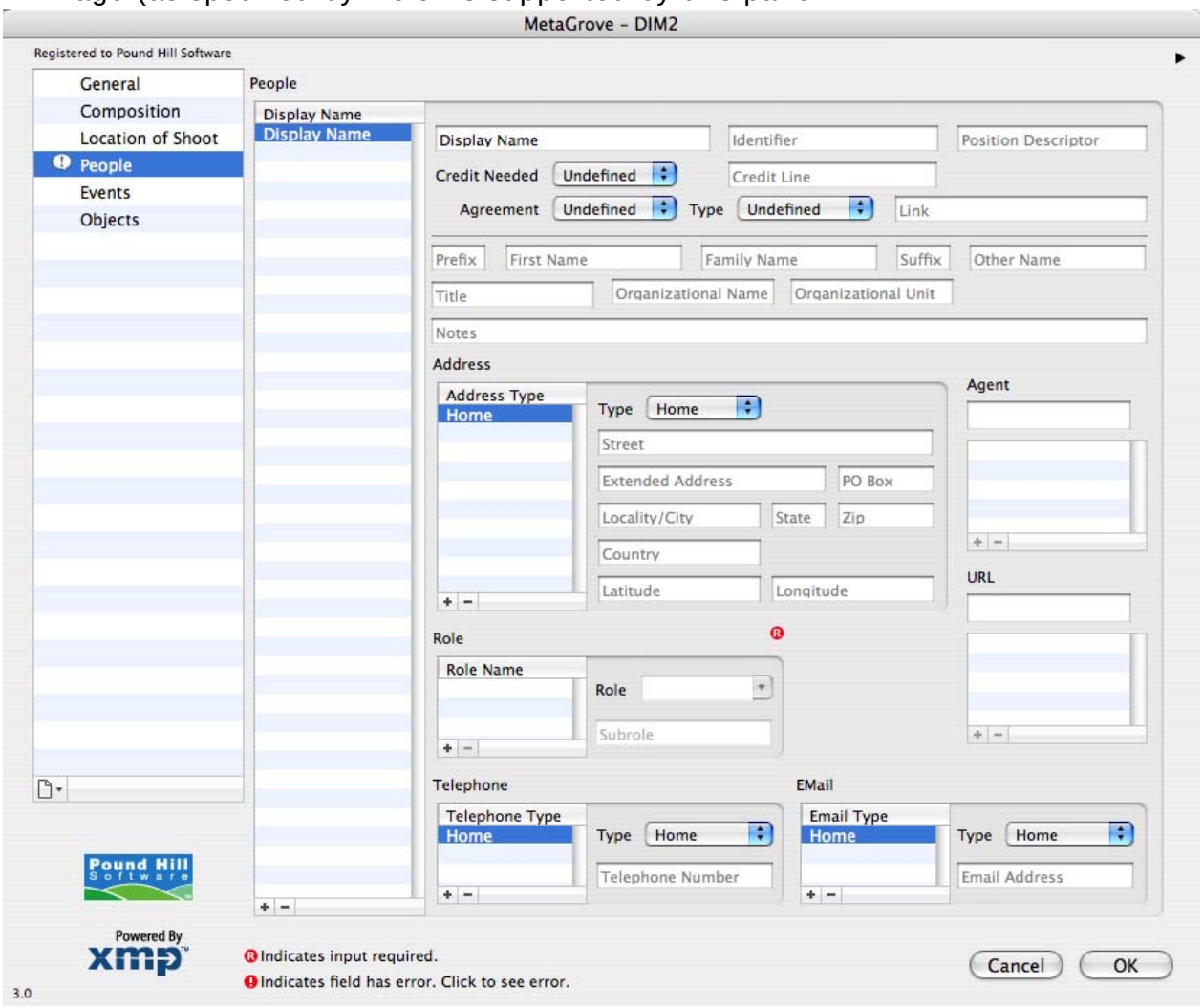


Figure A.3 User Interface for entry of Place Metadata

A.4 People DIM2 Metadata Entry

The entry of image metadata about people in the image or contributing to the image (as specified by “role” is supported by this panel:



A.4 User Interface for the entry of DIM2 People Metadata

A.5 Event DIM2 Metadata Entry

The entry of image metadata for the event pictured or contributing to the image is supported by this panel:

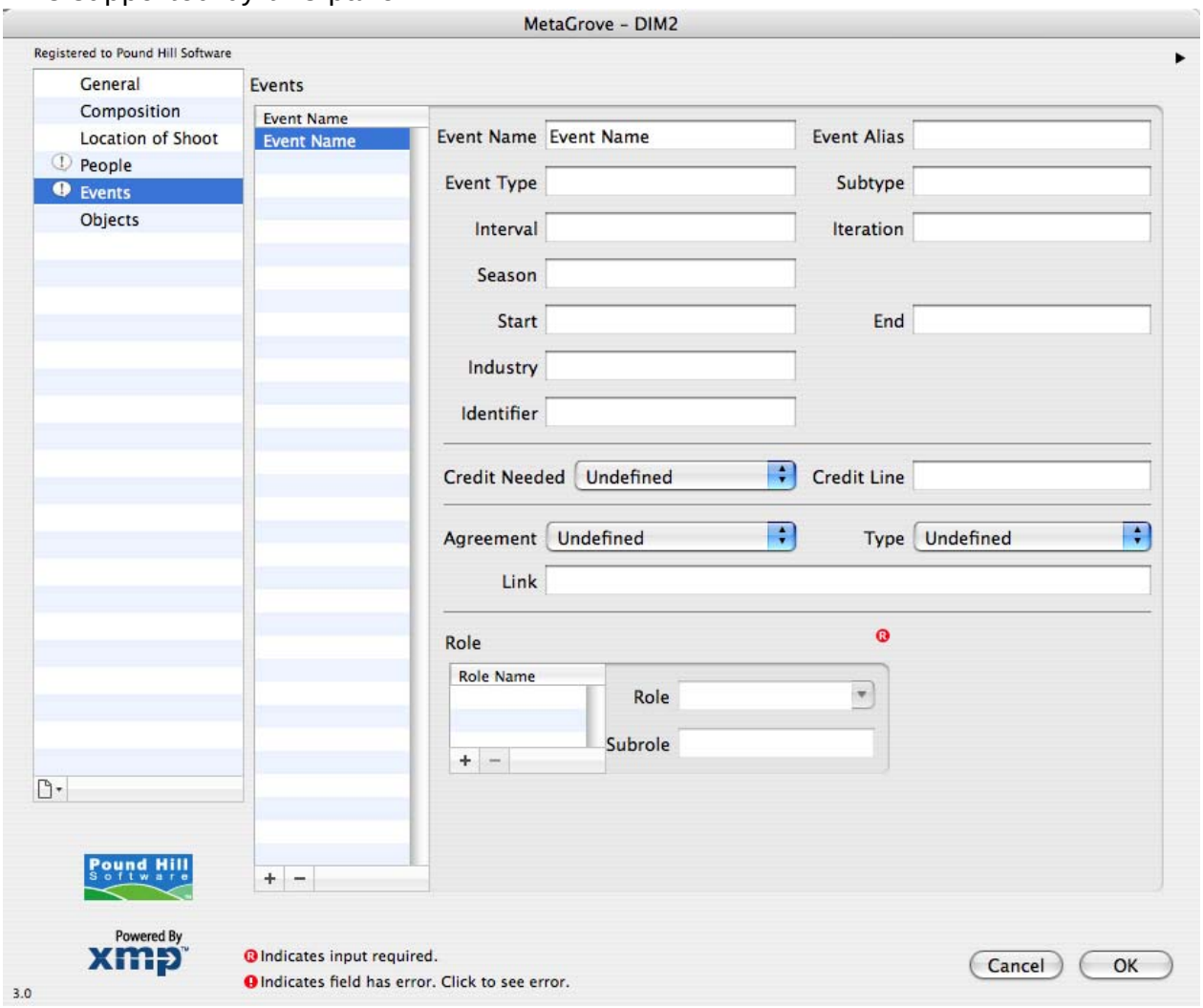
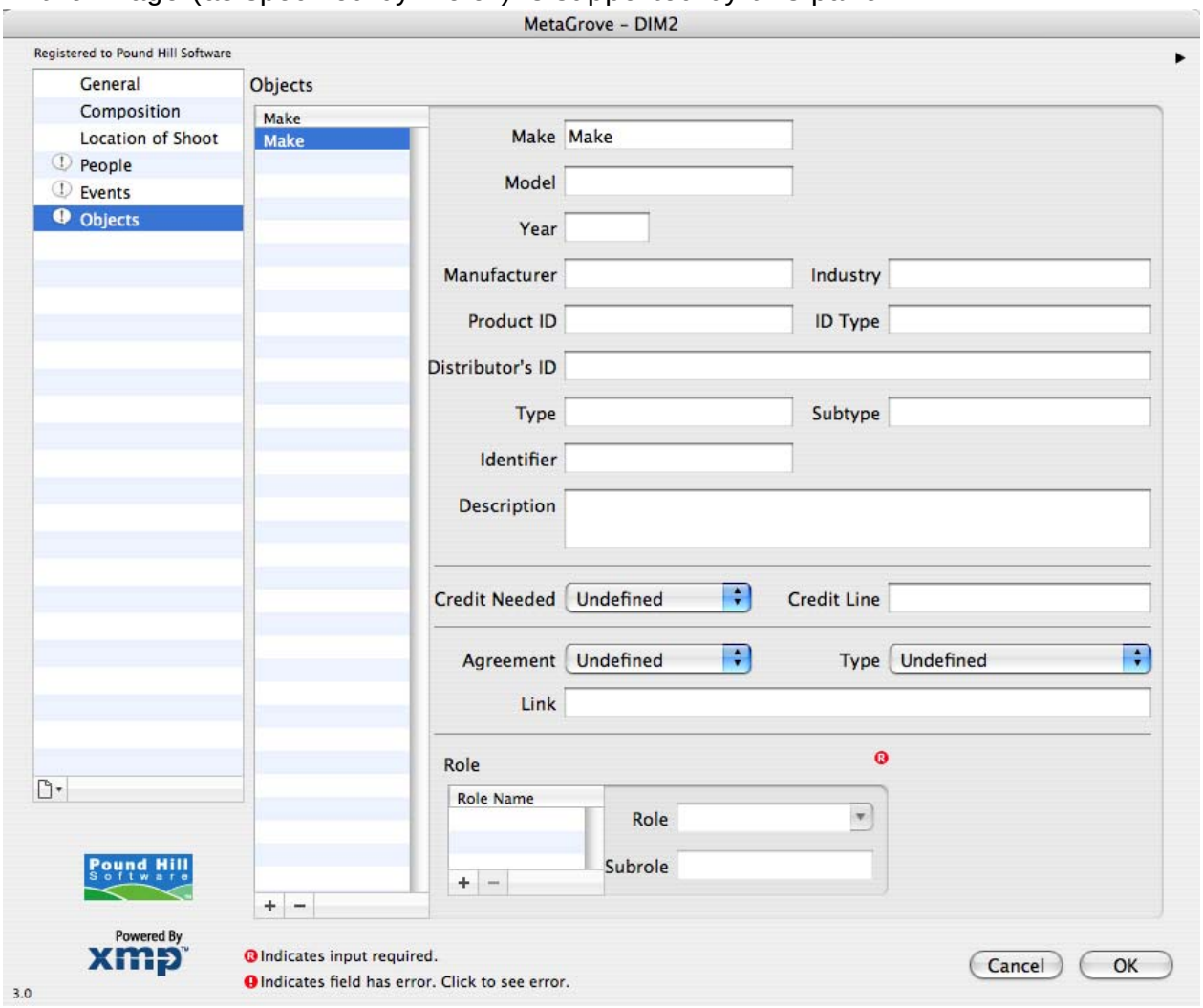


Figure A.5 User Interface for the entry of DIM2 Event Metadata

A.6 Object DIM2 Metadata Entry

The entry of image metadata for a pictured object or object that contributes to the image (as specified by “role”) is supported by this panel:



A.6 User Interface for entry of DIM2 Object Metadata