



PRISM:
Publishing Requirements for Industry Standard Metadata

PRISM Specification: Modular: Version 2.0

PRISM Introduction

FINAL

2008 02 19

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1 Acknowledgements

A number of sections were drawn from the XMLNews tutorials and specifications. The working group thanks David Megginson for his permission to use that material.

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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/2.0/PRISM_introduction_2.0.pdf

2.3 Version History

<i>Version Number</i>	<i>Release Date</i>	<i>Editor</i>	<i>Description</i>
1.2	1/26/05	McConnell	Converted from unmodularized PRISM spec v 1.2
1.3A	6/28/05	Kennedy	Enhance element descriptions and examples. Include RDF discussion as per edits to [PRISM/PRISMNS]
1.3B	7/13/05	Kennedy	Resolve Group comments
Final	10/01/05	Kennedy	Resolved Industry Comments; added PRISM metadata to examples 1-3.
2.0 A	7/06/07	Kennedy	Updated for WG Review
2.0 Final Draft	07/12/07	Kennedy	Prepared for Public Comment
2.0 FD with Editorial	9/14/07	Kennedy	Prepared for Comment Resolution
2.0 Final	10/15/07	Kennedy	Final with Comments resolved
2.0 Release	2/19/08	Kennedy	Final Release Version

2.4 What's New in PRISM 2.0?

PRISM 2.0 includes the following changes from PRISM 1.3:

- Added Profile Three for PRISM XMP
- Added discussion of XMP for PRISM
- Documentation for PRISM metadata elements clarified based on profile one, profile two, profile three
- A new field has been added to the documentation to indicate whether an element is used in the PRISM Aggregator Message (PAM)
- New controlled vocabularies have been added for PRISM Compliance Profile, PRISM Genre, PRISM Aggregation Type, PRISM Resource Type, PRISM Platform and PRISM Role
- A prism:role= attribute and prism:place= attribute have been added to dc:creator and dc:contributor to facilitate more granular encoding of creators and contributors and their datelines
- prism:category has been replaced with prism:genre and prism:aggregationType
- The attribute platform= has been added to elements such as prism:originPlatform platform=, prism:teaser platform= and prism:alternateTitle platform=

- dc:date has been deprecated in favor of more specific prism: date fields
- The elements prism:isReferencedBy and prism:References have been deprecated due to lack of specificity to cite another source
- The element dc:coverage has been deprecated in favor of prism:timePeriod that more precisely describes the metadata field used by WG members. A pim:timePeriod was also added.
- The element prism:receptionDate has been deprecated in favor of prism:dateReceived to more precisely describe the metadata field
- PRISM relations elements that were originally based on work undertaken by the Dublin Core Metadata Initiative and documented in the Relations Working Draft [DCMI-R] have been deprecated. See PRISM Introduction [PRISMINTRO] for more details
- The element prism:objectTitle was renamed as prism:object
- New elements prism:pageRange, prism:versionIdentifier, prism:genre, prism:aggregationType, pim:keyword, prism:keyword, pim:ticker, prism:ticker, pam:mediaTitle, pam:nonpublishedMediaTitle, pam:caption, prism:timePeriod, pim:timePeriod, prism:subsection3, and prism:subsection4 were added to meet user requirements
- The element pam:mediaRef was changed to pam:mediaReference for consistency with the naming of other elements.
- The element pam:textDesc was changed to pam:textDescription for consistency with the naming of other elements.
- New elements prism:url, prism:doi, prism:originPlatform, prism:killDate, prism:channel and prism:alternateTitle were added to support online content
- Teaser was added as an available header class for the PRISM Aggregator Message
- prism:publicationDate was added as an available element for the PRISM Aggregator Message, and the definition was broadened to include online content
- An XSD will be developed to accompany the DTD for the PRISM Aggregator Message 2.0.

2.5 Deprecating Redundant Elements within PRISM 2.0

In PRISM 1.0 – 1.2 the following statements outlined the origin of PRISM Dublin Core elements and, in particular, the PRISM relations elements.

“The Dublin Core Metadata Initiative [DCMI] established a set of metadata to describe electronic resources in a manner similar to a library card catalog. The Dublin Core includes 15 general elements designed to characterize resources. PRISM uses the Dublin Core and its relation types as the foundation for its metadata. Many of the relations provided within PRISM come from work undertaken by the Dublin Core Metadata Initiative and documented in the Relations Working Draft [DCMI-R].”

When PRISM 1.3 was published, the Working Group discovered that the Dublin Core Relations Working Draft, upon which many PRISM relations elements were based, had moved to a final specification. At that time the official Dublin Core elements were included in the PRISM Dublin Core Namespace document [PRISMDCNS] with the following statement:

“The normative definitions of the Dublin Core elements can be found in [DCMI] Dublin Core Metadata Element Set, Version 1.1 and [DCMI-TERMS] Dublin Core Metadata Terms, 2005-01-10. The use of some dc: elements is encouraged, others are discouraged, and others constrained. New dcterms: elements have been added in version 1.3.”

Further each new dcterms: element contained this note to indicate the intent of the PRISM WG to respect the origin of the intellectual property upon which PRISM elements were based:

Note: This new Dublin Core element in the PRISM Subset is equivalent to the *prism:xxx*. The *prism:xxx* will be deprecated over time and replaced by *dcterms:xxx* (where *xxx* is equivalent to the PRISM element name that was directly based on a DC element now in the *dcterms: namespace*).

After a two year adjustment period, PRISM is deprecating its own relations elements in favor of the Dublin Core Relations Elements upon which they were based with the release of PRISM 2.0 in 2007. Not only is it a good practice to defer to the Dublin Core origin for certain relations elements, but it is in fitting with new policies IDEAlliance is developing to guide the development of all its specifications as part of its new “Intelligent Standard Implementation Model”. This new guidelines document outlines rules for IDEAlliance Working Groups developing their own domain-specific standards for a functional area that is being or has been simultaneously standardized by other standard working groups. The IDEAlliance Intelligent Standard Implementation Model is based on

- The ISO ‘Open Systems Interconnection Basic Reference Model (OSI Reference Model), commonly referred to as the ‘OSI Model’.
- The ISO Report ‘SO/IEC JTC 1 GII Roadmap: Guidelines for Evolution, Management and Development of GII Standards’ [<http://www.GlobalCollaboration.org/jtc1/gii-roadmap>].

Note: PRISM will retain its own relations elements that are unique and that were not originally based on relations from the Dublin Core Relations Working Draft [DCMI-R].

2.6 About XML

Extensible Markup Language (XML) is a W3C data encoding language [XML]. XML can be used to describe metadata as elements with attributes and element content. When using XML by itself, relationships between metadata elements can only be expressed through the order, frequency and hierarchy of the elements and their attributes. Well-formed PRISM XML provides the simplest model for encoding PRISM metadata.

PRISM Profile 1 simply requires the use of well-formed XML. If a schema is added, as in the case of the PRISM Aggregator Message, the model becomes constrained in ways well-formed XML is not. The XML expression of PRISM along with best practice recommendations are documented in Section 4 of this document.

2.7 About RDF

The Resource Description Framework (RDF) is a language for representing information about resources in the World Wide Web but can be used to represent information about any resource that can be identified with a URI, or *Uniform Resource Identifier*. It is particularly useful for representing metadata about resources, such as the title, author modification date of a digital asset and copyright and licensing information for a resource. RDF describes resources in terms of simple properties and property values.

The underlying structure of any expression in RDF is a triple consisting of a Subject, a Predicate and an Object. A set of such triples is called an RDF graph. Figure 1 shows a node and directed-arc diagram of a single triple.



Figure 1.0 RDF Graph

The Predicate specifies a characteristic or property of the Subject. The Object provides the value for the property. For example: The “Big Book of Poems” was authored/created by “D. Kennedy”. Here the Subject is the Big Book of Poems. The Predicate or Property we are describing is “was created by” and the value of the property, or Object, is “D. Kennedy”.



Figure 2.0 Sample RDF Graph

Subject nodes and predicates must be URIs. An object node may be a URI reference, a literal, or blank (having no separate form of object identification itself).

When expressing RDF in XML, we express the nodes, properties and property values with XML elements and attributes. When using XML to represent RDF triples, there is far greater flexibility in tagging than we are used to when we define XML elements and attributes with an XML DTD. RDF is designed to represent information in a minimally constraining, flexible way. The impact of combining XML with RDF is that several XML representation models can exist for the same RDF Graph. In other words, the content model and attributes can vary in a way that is not easy to define using an XML DTD. This is a bit foreign to those from a strict XML world where elements have one fixed content model and attribute definition. And it makes writing documentation for XML/RDF elements and attributes quite challenging.

Consider the following options that RDF offers when expressed as XML:

2.8 Specifying RDF Nodes

A URI reference, a literal, or a hierarchy of elements can be used to indicate what a node represents or is used to give the node a value. The tagging of the graph in XML differs depending upon our model for providing Node property values:

```
<dc:description>Browse our catalog of desktop and
notebook computers to find one just right for you.</dc:description>
```

Example 1.0 Literal provides Node value for the dc:description property

```
<dc:description rdf:resource=
"http://www2.rhbnc.ac.uk/Music/Archive/Disserts/attinell.html"/>
```

Example 2.0 URI Reference provides Node value for the dc:description property

2.8.1 URI References

RDF allows property values to be represented by a literal or by a URI. Each representation has different characteristics, so it is important to know about those characteristics in order to make the right design choice. The advantage of URIs over literals is their lack of ambiguity. Literals however are often simpler and more convenient. But either option is valid and is documented in the PRISM Specification.

2.8.2 Literals

To complicate matters even further, there are different types of literals in RDF. These must be coded differently in XML and an RDF processor will handle them differently. To start with, literals may be *plain* or *typed*:

2.8.2.1 Plain Literals

A **plain literal** is a string combined with an optional language tag (xml:lang). This may be used for plain text in a natural language. As recommended in the RDF formal semantics [RDF-SEMANTICS], these plain literals are self-denoting. This means that we do not have to specify a plain literal to an RDF processor; it simply assumes it is dealing with this literal type.

2.8.2.2 Typed Literal

A **typed literal** is a string combined with a datatype URI. It denotes the member of the identified datatype's value space obtained by applying the lexical-to-value mapping to the literal string.

Datatypes are used by RDF in the representation of values such as integers, floating point numbers and dates. There is no built-in concept of numbers or dates or other common values in RDF. Rather, RDF defers to datatypes that are defined separately, and identified with URI references. The predefined XML Schema datatypes [XML-SCHEMA2] are widely used for this purpose.

```
<rdf:Description rdf:about="story.xml">
    <prism:embargoDate rdf:datatype="http://www.w3.org/TR/2004/REC-xmlschema-2-20041028/#dateTime">2001-03-09:00:00:01</prism:embargoDate>
</rdf:Description>
```

Example 3.0 Typed literal for prism:embargoDate

2.8.2.3 XML Literals

Some literals contain XML markup. **XML literals** is a string combined with a `rdf:parseType="literal"` attribute that indicates a fragment of XML is embedded. This signals the RDF processor to handle the literal as an XML fragment.

```
<dc:description rdf:parseType="Literal">
    Describes the infamous criminal and gunfighter,
    <em>Billy the Kid</em>.
</dc:description>
```

Example 4.0 Using an XML Literal

2.8.3 Nodes Made of Elements

A third kind of node is known as a **blank node**. This is a node that does not have properties specified with a URI or a literal, but is made up of other elements that themselves have properties.

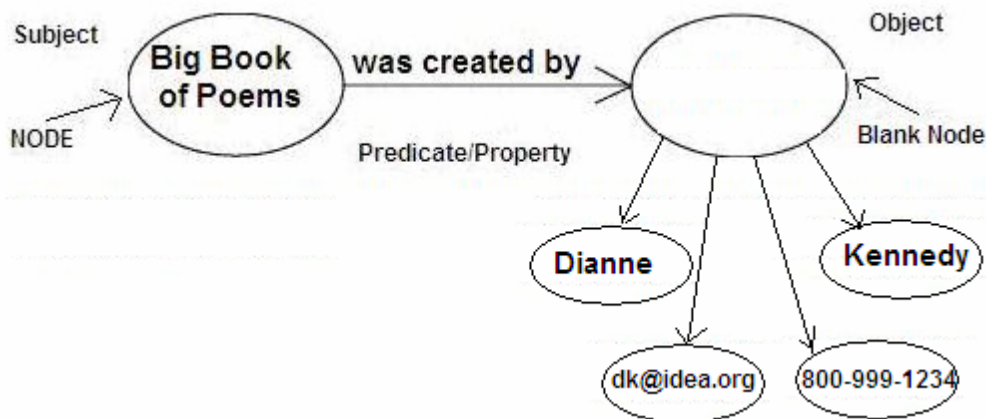


Figure 3.0 RDF Graph with a Blank Node

A blank node must have the `rdf:parseType="Resource"` attribute on the containing property element to turn the property element into a property-and-node element, which can itself have both property elements and property attributes.

```
<dc:rights rdf:parseType="Resource">
```

```
<prism:expirationDate>2001-04-09</prism:expirationDate>
<prism:embargoDate>2001-05-09</prism:embargoDate>
</dc:rights>
```

Example 5.0 Blank Node with rdf:parseType="Resource" attribute

While a blank node can occur anywhere within PRISM metadata fields, some elements from the PRISM subset of Dublin Core are more likely to be modeled as blank nodes than others. These elements are listed in Table 1.0.

Name	Identifier	Comment
Description	dc:description	The description may be modeled as being made up of a number of other elements from other namespaces. For example, one might model dc:description using dc:abstract and dc:educationLevel.
Rights	dc:rights	Dublin Core Rights may be modeled as being made up of a number of other elements from other name spaces. For example, one might model dc:rights using elements from the prism: namespace.

Table 1.0 Possible Blank Nodes from prism: Namespace

2.9 Grouped Property Values

There is often a need to describe **groups** of things as a property value. If the “Big Poetry Book” was created by several authors, 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 [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.

First, RDF provides a **container vocabulary** consisting of three predefined types (together with some associated predefined properties). A **container** is a resource that contains a group of values. Containers include:

2.9.1 RDF Bag

A Bag (a resource having type `rdf:Bag`) represents a group of property values where there is no significance to the order of the members. A Bag might be used to describe a group of authors in which the order of entry or processing does not matter.

2.9.2 RDF Sequence

A Sequence or Seq (a resource having type `rdf:Seq`) represents a group of property values where the order of the members is significant. For example, a Sequence might be used to describe a group that must be maintained in alphabetical order.

2.9.3 RDF Alternative

An Alternative or Alt (a resource having type `rdf:Alt`) represents a group of property values that are *alternatives* (typically for a single value of a property). For example, an Alt might be used to describe alternative names for an author.

The members of the container can be described by defining a **container membership property** for each member. These container membership properties may have names of the form `rdf:_n`, where *n* is a decimal integer greater than zero, with no leading zeros, e.g., `rdf:_1`, `rdf:_2`, `rdf:_3`, and so on, and are used specifically for describing the members of containers. Or the container membership properties may have names of the form `rdf:li` (list item) for the convenience of not having to explicitly number each membership property.

Grouped Property Values are not used in any examples within this document. Note, however, that these RDF structures may be used with metadata fields defined for the `dc:` namespace. See Example 6.0.

```
<?xml version="1.0"?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:dc="http://purl.org/dc/elements/1.1/">
  <rdf:Description rdf:about="http://example.org/courses/6.001">
    <dc:creator>
      <rdf:Bag>
        <rdf:li>Linda Burman</rdf:li>
        <rdf:li>Ron Daniel</rdf:li>
      </rdf:Bag>
    </dc:creator>
  </rdf:Description>
</rdf:RDF>
```

Example 6.0 RDF Container Elements

2.9.4 XML/RDF Content and Attribute Models

XML/RDF content and attribute models are defined with keywords in Table 2.0 for use in documenting the XML/RDF Elements and Attributes within PRISM.

Representation	Definition
URI Resource	This specifies that the property element (that is, the element specifying a particular property of the subject) is EMPTY and that the value is specified using a URI Resource attribute value.
Authority Reference	This specifies that the property value is specified using a kind of URI Reference where the attribute, "rdf:resource", has a value that is a URI referring to a term in a controlled vocabulary.
Resource Reference	This specifies the requirement of the attribute, "rdf:resource", whose value is a URI reference to a resource. The set of Authority References is a subset of the set of Resource References.
Plain Literal	This specifies that a plain literal will be used to provide the property value within an element.
Enumerated Literal	This specifies that a plain literal with specifically enumerated values will be used to provide the property value within an element. Note that RDF does not support the concept of an enumerated literal, but XSD, RNG, and DTD attribute specifications do.
XML Literal	This specifies that an XML literal content model will be used to specify the property value within an element. In this case, the <code>rdf:parseType</code> must be specified as "Literal".
Typed Literal	This specifies that a typed literal is being use to specify the property value within an element. The attribute <code>rdf:datatype</code> must be specified to indicate the datatype of the element content.
Resource Node	This specifies that the property element contains other property element nodes. The attribute <code>rdf:parseType</code> must be specified to be

“Resource”.

Table 2.0 Keywords for XML/RDF Element and Attribute Definitions

2.10 About XMP

The Extensible Metadata Platform [XMP], developed by Adobe Systems and fostered by the open industry XMP-Open initiative of IDEAlliance provides for a unique implementation of XML and RDF. The profile of RDF specified within the XMP Specification differs in some ways from the RDF profile recommended by PRISM. But because XMP provides for an implementation for embedding RDF/XML metadata into a wide variety of multimedia objects, PRISM adopted XMP as a third compliance profile in 2007. XMP provides the unique ability to facilitate PRISM implementation in the multimedia environment. XMP fields are documented as PRISM Profile three in Section 4 of this document.

2.10.1 XMP Schemas

An XMP schema is a set of properties. Each schema is identified by means of a *namespace* (which follows the usage of XMLnamespaces) to avoid conflict between properties in different schemas that have the same name but different meanings. XMP properties follow the form of *prefix.name*. For PRISM XMP, the PRISM namespaces can be duplicated directly when constructing XMP schemas; for example, prism:number.

2.10.2 3.5.2 XMP Value Types

For XMP, data types that can represent the values of XMP properties required by PRISM are typed as follows:

- **Text:** A Unicode string.
- **Integer:** A numeric string used as an integer number representation.
- **ProperName:** A name of a person or organization, represented as a Unicode text string.
- **Date:** A date which is represented as a W3C dateTime.
- **Boolean:** A value chosen from “True” or “False” (strings spelled exactly as shown).
- **Choice:** A value chosen from a *controlled vocabulary* of values such as a PRISM controlled vocabulary.
- **URL:** An Internet Uniform Resource Locator.

2.10.3 3.5.3 XMP Arrays

When more than one metadata field is allowed, it is represented in XMP by an array, or a group of property values. XMP array are expressed using RDF containers. See section 3.4.4. XMP supports rdf:Bag, rdf:Alt and rdf:Seq. The container structure should be expressed when developing an XMP schema.

2.10.4 3.5.4 Embedding XMP in Files

The XMP Specification details how XMP may be embedded in the following media files:

- TIFF
- JPEG
- JPEG 2000
- GIF
- PNG
- HTML
- PDF
- AI (Adobe Illustrator)
- SVG/XML
- PSD (Adobe Photoshop)
- PostScript and EPS

Note: Current XMP capabilities for these file types must be verified with the tool set you intend to use.

3 PRISM Documentation Structure

PRISM is described in a set of formal, modularized documents that, taken together, represent “the PRISM Specification”. Together these documents comprise the PRISM Documentation Package.

3.1 Normative and Non-normative Sections

Documents in the PRISM Documentation Package may contain both normative and non-normative material; normative material describes element names, attributes, formats, and the contents of elements that is required in order for content or systems to comply with the PRISM Specification. Non-normative material explains, expands on, or clarifies the normative material, but it does not represent requirements for compliance. Normative material in the PRISM Documentation Package is explicitly identified as such; any material not identified as normative can be assumed to be non-normative.

3.2 The PRISM Documentation Package

The PRISM Documentation Package consists of:

Document	Description
PRISM <u>Introduction</u> [PRISMINT] http://www.prismstandard.org/specifications/2.0/PRISM_introduction_2.0.pdf	Overview, background, purpose and scope of PRISM; examples; contains no normative material.
PRISM <u>Compliance</u> [PRISMCOMP] http://www.prismstandard.org/specifications/2.0/PRISM_compliance_2.0.pdf	Describes two profiles of PRISM compliance for content and systems; includes normative material.
The PRISM <u>Namespace</u> [PRISMPRISMNS] http://www.prismstandard.org/specifications/2.0/PRISM_prism_namespace_2.0.pdf	Describes the elements contained in the PRISM namespace; includes normative material.
The PRISM <u>Subset of the Dublin Core Namespace</u> [PRISMDCNS] http://www.prismstandard.org/specifications/2.0/PRISM_dublin_core_namespace_2.0.pdf	Describes the elements from the Dublin Core namespace that are included in PRISM; includes normative material.
The PRISM <u>Inline Markup Namespace</u> [PRISMIMNS] http://www.prismstandard.org/specifications/2.0/PRISM_inline_markup_namespace_2.0.pdf	Describes the elements contained in the PRISM Inline Markup Namespace; includes normative material.
The PRISM <u>Rights Language Namespace</u> [PRISMRLNS] http://www.prismstandard.org/specifications/2.0/PRISM_rights_namespace_2.0.pdf	Describes the elements contained in the PRISM Rights Language Namespace; includes normative material.
The PRISM <u>Controlled Vocabulary Namespace</u> [PRISMCVNS] http://www.prismstandard.org/specifications/2.0/PRISM_controlled_vocabulary_namespace_2.0.pdf	Describes the elements contained in the PRISM Controlled Vocabulary Namespace; includes normative material. The PRISM Controlled Vocabularies are now documented in this document.
The PRISM <u>Aggregator Message Namespace</u> [PRISMAMNS] http://www.prismstandard.org/specifications/2.0/PRISM_prism_aggregator_message_namespace_2.0.pdf	Describes the elements contained in the PRISM Aggregator Message Namespace; includes normative material.

Table 3.0: PRISM Documentation Package

3.2.1 Additional PRISM Documentation

The PRISM Aggregator Message (PAM), an XML-based application of PRISM, adds a small namespace of its own that is formally described here. The structure and use of PAM are described separately in Guide to the PRISM Aggregator Message V.2.0. [PAMGUIDE].

3.2.2 Access to PRISM Documentation

The PRISM documentation package, the PAM Guide (see above), the PAM DTD, the PAM XSD and a range of other information concerning PRISM are all publicly and freely available on the PRISM website, www.prismstandard.org.

4 Introduction

4.1 Purpose and Scope

The Publishing Requirements for Industry Standard Metadata (PRISM) specification defines a set of XML metadata vocabularies for syndicating, aggregating, post-processing and multi-purposing magazine, news, newsletter, marketing collateral, catalog, mainstream journal content, online and feeds,. PRISM provides a framework for the interchange and preservation of content and metadata, a collection of elements to describe that content, and a set of controlled vocabularies listing the values for those elements.

Metadata is an exceedingly broad category of information covering everything from an article's country of origin to the fonts used in its layout. PRISM's scope is driven by the needs of publishers to receive, track, and deliver multi-part content. The focus is on additional uses for the content, so metadata concerning the content's appearance is outside PRISM's scope. The Working Group focused on metadata for:

- General-purpose description of resources as a whole
- Specification of a resource's relationships to other resources
- Definition of intellectual property rights and permissions
- Expressing inline metadata (that is, markup within the resource itself).

Like the Information and Content Exchange protocol [ICE], PRISM is designed be straightforward to use over the Internet, support a wide variety of applications, not constrain data formats of the resources being described, conform to a specific XML syntax, and be constrained to practical and implementable mechanisms.

The PRISM group's emphasis on implementable mechanisms is key to many of the choices made in this specification. For example, the elements provided for describing intellectual property rights are not intended to be a complete, general-purpose rights language that will let unknown parties do business with complete confidence and settle their accounts with micro-transactions. Instead, it provides elements needed for the most common cases encountered when one publisher of information wants to reuse material from another. Its focus is on reducing the cost of compliance with existing contracts that have been negotiated between a publisher and their business partners.

4.2 Relationship to Other Specifications

Because there are already so many standards, the emphasis of the PRISM group was to recommend a coherent set of existing standards. New elements were only to be defined as needed to extend that set of standards to meet the specific needs of the magazine publishing scenarios. This section discusses the standards PRISM is built upon, how it relates to some other well-known standards, and how subsequent standards can build upon this specification.

4.2.1 Extensible Markup Language (XML)

PRISM metadata documents are an application of XML [W3C-XML]. Basic concepts in PRISM are represented using the element/attribute markup model of XML. The PRISM Specification makes use of additional XML concepts, such as namespaces[W3C-XML-NS].

4.2.2 Resource Description Framework (RDF)

The Resource Description Framework [W3C-RDF] defines a model and XML syntax to represent and transport metadata. PRISM profile two compliance uses a simplified profile of RDF for its metadata framework. Thus, PRISM profile two compliant applications will generate metadata that can be processed by RDF processing applications. However, the converse is not necessarily true. The behavior of applications processing input that does not conform to this specification is not defined.

4.2.3 Digital Object Identifier (DOI)

A digital object identifier (or DOI) is a permanent identifier given to a document, which is not related to its current location. A typical use of a DOI is to give a scientific paper or article a unique identifying number that can be used by anyone to locate details of the paper, and possibly an electronic copy. In this way it functions as a permanent link. Unlike the URL system used on the Internet for web pages, the DOI does not change over time, even if the article is relocated (provided the DOI resolution system is updated when the change of location is made). The International DOI Foundation (IDF), a non-profit organization created in 1998, is the governance body of the DOI System, which safeguards all intellectual property rights relating to the DOI System. The DOI[®] Handbook [DOI-HB] (Version 4.4.1, released 5 October 2006) is the primary source of information about the DOI[®] System. It discusses the components and operation of the system, and provides a central point of reference for technical information. The Handbook is updated regularly.

4.2.4 Dublin Core (DC)

The Dublin Core Metadata Initiative [DCMI] established a set of metadata to describe electronic resources in a manner similar to a library card catalog. The Dublin Core includes 15 general elements designed to characterize resources. PRISM uses the Dublin Core and its relation types as the foundation for its metadata. PRISM also recommends practices for using the Dublin Core vocabulary. In addition, Dublin Core has developed an additional metadata set called Dublin Core Terms. PRISM uses elements from this metadata set as deemed appropriate by the Working Group.

4.2.5 NewsML

NewsML [IPTC-NEWSML] is a specification from the International Press Telecommunications Council (IPTC) aimed at the transmission of news stories and the automation of newswire services. PRISM focuses on describing content and how it may be reused. While there is some overlap between the two standards, PRISM and NewsML are largely complementary. PRISM's controlled vocabularies have been specified in such a way that they can be used in NewsML. PRISM profile one compliance permits the incorporation of PRISM elements into NewsML, should the IPTC elect to do so. The PRISM Working Group and the IPTC are working together to investigate a common format and metadata vocabulary to satisfy the needs of the members of both organizations.

4.2.6 News Industry Text Format (NITF)

NITF [IPTC-NITF] is another IPTC specification. NITF provides a DTD designed to mark up news feeds. PRISM is a set of metadata vocabularies designed to describe magazine, newsletter and journal based resources and their relationships to other resources. While there is some overlap between NITF and PRISM they are designed for different types of content and PRISM is more applicable to magazine, newsletter and journal based content.

4.2.7 Information and Content Exchange (ICE)

The Information and Content Exchange protocol manages and automates syndication relationships, data transfer, and results analysis. PRISM complements ICE by providing an industry-standard vocabulary to automate content reuse and syndication processes. To quote from the ICE specification [ICE]:

Reusing and redistributing information and content from one Web site to another is an ad hoc and expensive process. The expense derives from two different types of problem:

- Before successfully sharing and reusing information, both ends need a common vocabulary.
- Before successfully transferring any data and managing the relationship, both ends need a common protocol and management model.

Successful content syndication requires solving both halves of this puzzle.

Thus, there is a natural synergy between ICE and PRISM. ICE provides the protocol for syndication processes and PRISM provides a description of the resource being syndicated, which can be used to personalize the delivery of content to tightly-focused target markets.

4.2.8 RSS (RDF Site Summary) 1.0

RSS (RDF Site Summary) 1.0 [RSS] is a lightweight format for syndication and descriptive metadata. Like PRISM, RSS is an XML application, conforms to the W3C's RDF Specification and is extensible via XML-namespaces and/or RDF based modularization. The RSS-WG is currently developing and standardizing new modules.

The primary application of RSS is as a very lightweight syndication protocol for distributing headlines and links. It is easy to implement, but does not offer the syndication management and delivery confirmation features of ICE.

4.2.9 XMP (Extensible Metadata Platform)

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. However, the XMP subset of RDF is significantly different from the PRISM RDF subset. Therefore, PRISM Profile Three has been added to enable PRISM/XMP compliant implementations.

4.2.10 XTM (XML Topic Maps)

XTM is an XML representation of ISO Topic Maps [ISO-13250], an approach for representing topics, their occurrences in documents, and the associations between topics. This is very similar to PRISM's use of controlled vocabularies.

XTM documents require that topics use a URI as a unique identifier. PRISM descriptions can directly cite XTM topics when there is a need to use them where PRISM allows values from controlled vocabularies. There is also a simple mapping between the XTM format and the PRISM group's simple XML format for controlled vocabularies.

4.2.11 Future Specifications

This document defines a number of XML elements to convey metadata that describes content. It also specifies the basic rules of how they can be combined. However, there are any number of specific situations which call for using some, but not all, of the PRISM elements. Many of the situations will also call for combining the PRISM elements with elements from other namespaces. As one example, a magazine publisher might wish to start sending an XML version of their articles to aggregators like LexisNexis. The publisher and aggregator would need to define the details of that XML format. It could use PRISM elements in the header for the articles, while article markup such as paragraph breaks or section headings could come from another namespace such as XHTML. The specific mixture of elements would need to be specified in a DTD. In other situations, it might be desirable to send more or less metadata, depending on the level of trust the sender has with the receiver.

This selection of subsets of the full specification is encouraged. Groups developing such subsets must, however, ensure that the subset will still be a legal PRISM document. For example, in the application where a publisher is sending articles to the aggregator, groups which need to develop such follow-on specifications are encouraged to define the specific subsets they will accept. The development of three forms of PRISM compliance, profile three, profile two and profile one, was a direct result of the need to provide just this flexibility.

4.3 Additional Issues

4.3.1 Redundancy

Redundancy is a necessary consequence of re-using existing work. For example, when sending PRISM data in an ICE payload, there will be duplication of PRISM timestamp information and ICE header data. Therefore, in some cases, the same information will be specified in more than one place. This is normally a situation to be avoided. On the other hand, PRISM descriptions need to be able to stand alone, so there is no way to optimize PRISM's content for a particular protocol. The working group decided that redundancy should neither be encouraged nor avoided.

4.3.2 Exchange Mechanisms

PRISM specifies an interchange format, and does not define or impose any particular interchange mechanism. There are many ways to exchange the descriptions and the content they describe. Developers of such interchange protocols should consider the following factors:

- Easily separable content: A tool that provides metadata will need to get at this information quickly. If metadata is mixed with content, these tools will have to always scan through the content. On the other hand, it is significantly easier to keep the metadata associated with the content if it is mixed in (as a header, for example).
- Reference vs. Inline content: Referencing content is visually clean, but presents a challenge with access (security, stale links, etc). Inline requires larger data streams and longer updates in the face of changes.
- Encoding. Depending on the choice of format, encoding of the content may be necessary. Extra computation or space will be needed.

4.3.3 Security

The PRISM Specification deliberately does not address security issues. The working group decided that the metadata descriptions could be secured by whatever security provisions might be applied to the resource(s) being described. PRISM implementations can achieve necessary security using a variety of methods, including:

Encryption at the transport level, e.g., via SSL, PGP, or S/MIME.

Sending digitally signed content as items within the PRISM interchange format, with verification performed at the application level (above PRISM).

4.3.4 Rights Enforcement

The PRISM Specification does not address the issue of rights enforcement mechanisms. The working group decided that the most important usage scenarios at this time involved parties with an existing contractual relationship. This implied that the most important functionality required from PRISM's rights elements was to reduce the costs associated with clearing rights, not to enable secure commerce between unknown parties. Therefore the PRISM Specification provides mechanisms to describe the most common rights and permissions associated with content, but does not specify the means to enforce compliance with those descriptions. Essentially, the goal is to make it less expensive for honest parties to remain honest, and to let the courts serve their current enforcement role.

4.3.5 Compliance

Between the creation of previous versions of this document and the current version, PRISM compliance has been redefined to include three forms or "profiles." These profiles are defined in a separate document, [PRISM Compliance \[PRISMCOMP\]](#). Every effort has been made to edit other sections of the PRISM documentation package in order to reflect this important change, but it is possible that language may still exist, in either normative or non-normative sections, that is, in conflict with the new definitions of compliance. Should the reader encounter any such ambiguity, he or she may assume that [PRISM Compliance](#) is authoritative.

4.4 Definitions

The following terms and phrases are used throughout this document in the sense listed below. Readers will most likely not fully understand these definitions without also reading through the remainder of the PRISM documentation package.

Authority File	One of the forms of a controlled vocabulary, in which a list of uniquely identified entities, such as companies, authors, countries, employees, or customers, is maintained over time.
Content	Content, as it is used in the PRISM Specification is a non-normative term assumed to be a resource or a collection of resources.
Content Provider	A publisher, business, portal site, person or entity making content available in any medium.
Controlled Vocabulary	A list of uniquely identified terms with known meaning. The list itself has a defined maintenance procedure and restricted update access. For example, an employee database is one type of controlled vocabulary. The list of terms (staff names) is uniquely identified (employee number) and is maintained by a known procedure and staff (the HR department). There are two major types of controlled vocabularies - authority files and taxonomies.
Metadata	Information about a resource. In this specification, metadata is expressed as one or more properties.
Property	A field with a defined meaning used to describe a resource. A property plus the value of that property for a specific resource is a statement about that resource. [W3C-RDF]
Resource	Text, graphics, sound, video or anything else that can be identified with a URI or other identification scheme. The PRISM Specification uses this term because it is not used in casual writing, so it can be used unambiguously in the PRISM Specification.
Statement	An assertion about a resource. Typically, statements assert that relations such as "part of" exist between resources, or that a resource has a particular value of a property, such as a "format" of "text/html".
Taxonomy	One of the forms of a controlled vocabulary, in which the uniquely identified concepts are arranged in a hierarchy that represents the relations between more specific and more general concepts.

Table 4.0: Definitions

4.5 Structure of this Document

The document is entirely non-normative. It provides an introduction and tutorial overview of the PRISM Specification. Despite being non-normative, there are occasional statements using the key words MUST, SHOULD, MAY, etc. Those statements will be repeated in other, normative documents.

This document is divided into three general sections. The first section provides this general introduction and establishes some of the context for the PRISM Specification. The second section provides a tutorial for the major features of the spec, using a series of examples around a common scenario. The third section provides an overview of the PRISM namespaces into which all PRISM elements are grouped.

5 Overview

This section provides a non-normative overview of the PRISM Specification and the types of problems that it addresses. It introduces the core concepts and many of the elements present in the PRISM Specification by starting with a basic document with Dublin Core metadata, then uses PRISM metadata elements to create richer descriptions of the article.

Although the PRISM Specification contains a large number of elements and controlled vocabulary terms, most of them are optional. A PRISM-compliant description can be very simple, or quite elaborate. It is not necessary to put forth a large amount of effort to apply metadata to every resource, although it is possible to apply very rich metadata to resources whose potential for reuse justifies such an investment. Similarly, PRISM implementations need not support every feature in the specification. Simple implementations will probably begin with the elements listed in Section 6, PRISM Namespaces and Elements and only add more capability as needed.

Note that PRISM provides three forms of compliance, profile three, profile two and profile one. The primary difference is that profile two requires RDF-based structure as shown in virtually all the examples in this document. Profile one does not require the use of RDF. Profile three was added to provide the ability to embed PRISM metadata fields in resources using XMP.

5.1 Article Content

One of the most common uses of PRISM is to encode both the metadata of an article and the text of an article in XML using the PRISM Aggregator Message. Metadata may be specified both within the header and inline with the text. Note that in addition to encoding the metadata for the article, PAM also provides XML tagging for the article content, including associated media.

5.2 Travel Content Syndication Scenario

Wanderlust, a major travel publication, has a business relationship with travelmongo.com, a travel portal. After Wanderlust goes to press, they syndicate all of their articles and sidebars to content partners like travelmongo.com. Like many other publications, Wanderlust does not have the right to resell all of their images, because some of them have been obtained from stock photo agencies.

When Wanderlust creates syndication offers, an automated script searches through the metadata for the issue's content to ensure that anything that cannot be syndicated is removed from the syndication offer with alternatives substituted when possible. Since Wanderlust tags their content with rights information in a standard way, this process happens automatically using off-the-shelf software.

Because Wanderlust includes standard descriptive information about people, products, places and rights when they syndicate their content, travelmongo.com can populate their content management system with all the appropriate data so that the articles can be properly classified and indexed. This reduces the cost to travelmongo.com of subscribing to third party content and makes content from Wanderlust even more valuable for them.

5.3 Basic Metadata

The elements in Dublin Core form the basis for PRISM's metadata vocabulary. This simple PRISM metadata document uses some Dublin Core and PRISM elements to describe an article:

```
<?xml version="1.0" encoding="UTF-8"?>
<prism:metadataContainer
  xml:lang="en-US"
  xmlns:dc="http://purl.org/dc/elements/2.0/"
  xmlns:prism="http://prismstandard.org/namespaces/basic/2.0/">
  <dc:identifier>100340926</dc:identifier>
  <prism:issueIdentifier>1000710</prism:issueIdentifier>
  <prism:originPlatform platform="print"/>
  <dc:title>The Real Running Mates</dc:title>
  <dc:creator>Karen Tumulty</dc:creator>
  <dc:contributor prism:role="Reporter" prism:place="New York">With reporting by Nancy
  Gibbs</dc:contributor>
  <prism:publicationName>Time</prism:publicationName>
  <prism:coverDate>2007-09-24</prism:coverDate>
  <prism:coverDisplayDate>September 24, 2007</prism:coverDisplayDate>
  <prism:volume>170</prism:volume>
  <prism:number>13</prism:number>
  <dc:subject>POLITICS</dc:subject>
  <prism:person>Elizabeth Edwards</prism:person>
  <prism:person>Hillary Clinton</prism:person>
  <prism:genre>coverStory</prism:genre>
  <prism:wordCount>4188</prism:wordCount>
</prism:metadataContainer>
```

*Example 7: Basic PRISM Description
Profile 1, XML*

PRISM descriptions are XML documents [W3C-XML], thus they begin with the standard XML declaration: `<?xml version="1.0"?>`. A character encoding may be given if needed. As indicated by the two attributes beginning with 'xmlns:', PRISM documents use the XML Namespace mechanism [W3C-XML-NS]. This allows elements and attributes from different namespaces to be combined. Namespaces are the primary extension mechanism in PRISM.

PRISM profile two descriptions are compliant with the RDF constraints on the XML syntax. Thus, they begin with the `rdf:RDF` element. Because PRISM obeys the RDF constraints on XML structure, implementations are guaranteed to correctly parse even unknown elements and attributes. PRISM-compliant applications **MUST NOT** throw an error if they encounter unknown elements or attributes. They are free to delete or preserve such information, although recommended practice is to retain them and pass them along. Retaining the information is an architectural principle which helps new functionality be established in the presence of older versions of software. See Example 8.

```
<?xml version="1.0" encoding="UTF-8"?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:lang="en-US"
  xmlns:dc="http://purl.org/dc/elements/2.0/"
  xmlns:prism="http://prismstandard.org/namespaces/basic/2.0/">
  <dc:identifier>100340926</dc:identifier>
  <prism:issueIdentifier>1000710</prism:issueIdentifier>
  <prism:originPlatform platform="print/ >
  <dc:title>The Real Running Mates</dc:title>
  <dc:creator>Karen Tumulty</dc:creator>
  <dc:contributor prism:role="Reporter" prism:place="New York">With reporting by Nancy
  Gibbs</dc:contributor>
  <prism:publicationName>Time</prism:publicationName>
  <prism:coverDate>2007-09-24</prism:coverDate>
  <prism:coverDisplayDate>September 24, 2007</prism:coverDisplayDate>
  <prism:volume>170</prism:volume>
  <prism:number>13</prism:number>
  <dc:subject>POLITICS</dc:subject>
  <prism:person>Elizabeth Edwards</prism:person>
  <prism:person>Hillary Clinton</prism:person>
  <prism:genre>coverStory</prism:genre>
  <prism:wordCount>4188</prism:wordCount>
</rdf>
```

*Example 8: Basic PRISM Description
Profile 2, RDF/XML*

PRISM recommends that the language of the metadata record, which is potentially different than the language of the resource it describes, be explicitly specified with the `xml:lang` attribute.

PRISM REQUIRES that resources have a unique identifier specified within the `dc:identifier` field. Other, more precise identifiers may also be specified. The `dc:identifier` may be any unique identifier including a DOI. In the above profile two compliant example, the article is identified by a `dc:identifier`.

PRISM follows the case convention adopted in the RDF specification. All elements, attributes and attribute values typically begin with an initial lower case letter, and compound names have the first letter of subsequent words capitalized (camel case). Element types may begin with an uppercase letter when they denote Classes in the sense of the RDF Schema [W3C-RDFS]. Only one of the elements in any of the PRISM namespaces, `pcv:Descriptor`, does so. PRISM uses a simple naming convention. We avoid abbreviations, use American English spelling, and make the element names into singular nouns (or a pseudoNounPhrase, because of the case convention).

In PRISM profile two, property values that are URI references are given as the value of an `rdf:resource` attribute, as shown in the `dc:identifier` element of Example 1. Prose or non-URI values are given as element content, as seen in the `dc:description` element. This allows automated systems to easily determine when a property value is a URI reference.

5.4 Embedded vs. External Metadata

A common question is "Where do I put PRISM metadata?" There are three common places, depending on the application.

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 Example 7 and Example 8.
2. A description can be included in the content. PRISM metadata can be included as a header in an XML file or within the XMP envelope [XMP]. Example 7 shows a sample of a simple PAM XML file which contains an embedded PRISM description as a header and prism metadata inline within the content.
3. Descriptions of a number of files can be collected together in a 'manifest'. See Example 9.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE pam:message SYSTEM "pam-norm.dtd">
<pam:message
  xmlns:dc="http://purl.org/dc/elements/1.1/"
  xmlns:pam="http://prismstandard.org/namespaces/pam/2.0/"
  xmlns:pim="http://prismstandard.org/namespaces/pim/2.0/"
  xmlns:prism="http://prismstandard.org/namespaces/basic/2.0/">
  <pam:article xml:lang="en-US">
    <head>
      <dc:identifier>100340926</dc:identifier>
      <prism:issueIdentifier>1000710</prism:issueIdentifier>
      <pam:status>U</pam:status>
      <prism:originPlatform prism:platform="print"/>
      <dc:title>The Real Running Mates</dc:title>
      <dc:creator>Karen Tumulty</dc:creator>
      <dc:contributor prism:place="New York">With reporting by Nancy
Gibbs</dc:contributor>
      <dc:contributor prism:place="Washington">Jay Newton-Small</dc:contributor>
      <prism:publicationName>Time</prism:publicationName>
      <prism:issn>000000</prism:issn>
      <prism:coverDate>2007-09-24</prism:coverDate>
      <prism:coverDisplayDate>September 24, 2007</prism:coverDisplayDate>
      <prism:publicationDate prism:platform="web">2007-09-
22</prism:publicationDate>
      <prism:volume>170</prism:volume>
      <prism:number>13</prism:number>
      <prism:edition>U.S. Edition</prism:edition>
      <prism:startingPage>30</prism:startingPage>
      <prism:url>http://www.time.com/time/specials/2007/article/0,28804,1660946_1661334_1
661288,00.html</prism:url>
      <prism:channel>Specials</prism:channel>
      <prism:section>The Well</prism:section>
      <prism:subsection1>Cover Story</prism:subsection1>
      <prism:subsection2>Nation</prism:subsection2>
      <prism:subsection3>Running Mates</prism:subsection3>
      <dc:subject>POLITICS</dc:subject>
      <dc:subject>CAMPAIGNS</dc:subject>
      <dc:subject>CHILDREN</dc:subject>
      <dc:subject>VOTERS</dc:subject>
      <dc:subject>FAMILY</dc:subject>
      <dc:subject>PRESS</dc:subject>
      <prism:person>Elizabeth Edwards</prism:person>
      <prism:person>Hillary Clinton</prism:person>
      <prism:person>Cindy McCain</prism:person>
      <prism:person>Laura Bush</prism:person>
      <prism:genre>coverStory</prism:genre>
```

```
<prism:wordCount>4188</prism:wordCount>
<dcterms:hasPart>See also additional image(s) in Cover Description file and Table
of Contents of same issue.</dcterms:hasPart>
</head>
<body>
  <p prism:class="deck">
<pim:keyword>Political spouses</pim:keyword>
have traditionally wielded their influence in private. But in this race, all
the rules will have to be rewritten . . .
</p>
<p><pim:person>Elizabeth Edwards</pim:person>
prides herself . . .</p>
<p>Take what
happened in 1992, . . . </p>
<p prism:class="box">SPOUSE TALK AT TIME.COM<br/>
<br/>
To read interviews with the running mates and see
photos of the couples on the trail, visit time.com /spouses. Plus, <pim:person>Elizabeth
Edwards</pim:person> and <pim:person>Ann Romney</pim:person> speak about campaigning while
battling breast cancer and
MS</p>
<p prism:class="pullQuote">&apos;If you&apos;re not moving votes or moving voters ... then
you&apos;re not using your time very wisely.&apos; --ELIZABETH EDWARDS</p>
<pam:media>
  <pam:mediaTitle>Bill Clinton</pam:mediaTitle>
  <pam:credit>BROOKS KRAFT--CORBIS FOR TIME</pam:credit>
  <pam:caption>This Clinton campaign again offers &quot;two for one,&quot; but the aspiring
First Laddie and strategist in chief, shown with Hillary in New Hampshire, is
trying not to outshine his wife</pam:caption>
  <pam:textDescription>PHOTO</pam:textDescription>
</pam:media>
</body>
</pam:article>
</pam:message>
```

*Example 9: Embedding a Description in the Resource it Describes
Profile 1, XML*

```
<?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/"
  xml:lang="en-US">
  <rdf:Description rdf:about="Gettysburg.xml">
    <dc:description>Start of the Gettysburg Address</dc:description>
    <dc:creator>Abraham Lincoln</dc:creator>
    <dc:format>text/xml</dc:format>
    <prism:distributor>LexisNexis</prism:distributor>
  </rdf:Description>
  <rdf:Description rdf:about="Corfu.jpg">
    <dc:title>Walking on the Beach in Corfu</dc:title>
    <dc:creator>John Peterson</dc:creator>
    <dc:format>image/jpeg</dc:format>
    <prism:distributor>Time Inc.</prism:distributor>
  </rdf:Description>
  <rdf:Description rdf:about="Welch-bio.html">
```

```
<dc:title>GE's Genius</dc:title>
<dc:subject>Jack Welch</dc:subject>
<dc:creator>Jane Doe</dc:creator>
<dc:format>text/html</dc:format>
</rdf:Description>
</rdf:RDF>
```

Example 10.0: Describing Multiple Resources in a Manifest, Profile #2, XML/RDF

5.4.1 A Brief Digression on Identifiers

Example 9.0 also shows the use of relative URIs. In this case they would be files in the same directory as the PRISM manifest.

A new attribute, `xml:base` [W3C-XML-BASE], has been specified by the W3C to allow XML documents to explicitly set their base URI. At the time of this writing, it appears the RDF Core Working Group will update the RDF specification to allow that attribute. PRISM recommends that implementations SHOULD support the `xml:base` attribute.

5.4.2 A Brief Digression on Intent

Example 8.0 illustrates another important point. Note that the name given in the `dc:creator` element is “Abraham Lincoln”, not the name of the person who actually created the XML file and entered Lincoln’s famous line into it. There are applications, such as workflow, quality assurance, and historical analysis, where it would be important to track the identity of that individual. However, none of those are problems PRISM attempts to solve. PRISM’s purpose is to describe information for exchange and reuse between different systems, but not to say anything about the internal operations of those systems. The PRISM Working Group decided that workflow was an internal matter. This focus on a particular problem allows PRISM descriptions to avoid some thorny issues that more general specifications must address.

5.5 Controlled Vocabularies

Property values in PRISM may be strings, as shown in Example 11, or may be terms from a controlled vocabulary. Controlled vocabularies are an important extensibility mechanism. They also enable significantly more sophisticated applications of the metadata. As an example, consider the two Descriptions below. The first provides a basic, human-readable, value for the `dc:creator` element, telling us that the Corfu photograph was taken by John Peterson. The second description appears harder to read, because it does not give us John Peterson’s name. Instead, it makes reference to John Peterson’s entry in the employee database for Wanderlust.

```
<rdf:Description rdf:about="http://wanderlust.com/2000/08/Corfu.jpg">
  <dc:creator>John Peterson</dc:creator>
  ...
</rdf:Description>

<rdf:Description rdf:about="http://wanderlust.com/2000/08/Corfu.jpg">
  <dc:creator rdf:resource="http://wanderlust.com/emp3845"/>
  ...
</rdf:Description>
```

Example 11: Use of a String Value vs. Controlled Vocabulary Reference, Profile #2, XML/RDF

That employee database is an example of a controlled vocabulary – it keeps a list of terms (employee names). It has a defined and controlled update procedure (only authorized members of the HR department can update the employee database, and all changes are logged). It uses a unique identification scheme (employee numbers) to handle the cases where the terms are not unique (Wanderlust might have more than one employee with a name like “John Peterson”). It can associate additional information with each entry (salary, division, job title, etc.)

The unique identifier is one of the keys to the power behind the use of controlled vocabularies. If we are given metadata like the first example, we are limited in the types of displays we can generate. We can list Wanderlust’s photographs, sorted by title or by author name. By using the employee database, we can generate those, but also lists organized by department, job title, salary, etc. We also avoid problems around searching for common names like “John Smith”, dealing with name changes such as those due to marriage and divorce, and searching for items that have been described in other languages. Finally, content items are easier to reuse if they have been coded with widely adopted controlled vocabularies, which increases their resale value.

Defining additional vocabularies for specialized uses is a way to extend descriptive power without resorting to prose explanations. This makes them far more suited to automatic processing.

PRISM specifies controlled vocabularies of values for some elements such as prism:genre. Others elements will use controlled vocabularies created and maintained by third parties, such as the International Standards Organization (ISO). For example, PRISM recommends the use of ISO 3166 (Codes for Countries) as the value of elements like prism:location. Other third-party controlled vocabularies, such as the Getty Thesaurus of Geographic Names[TGN] may be used. Site-specific controlled vocabularies, such as from employee or customer databases, may also be used at the risk of limiting interoperability.

In Example 12.0, we can denote the location shown in the photograph by using the ISO country codes vocabulary:

```
<rdf:Description rdf:about="http://wanderlust.com/2000/08/Corfu.jpg">
  <dc:identifier rdf:resource="http://wanderlust/content/2357845"/>
  ...
  <prism:location rdf:resource="http://prismstandard.org/vocabs/ISO-3166/GR"/>
</rdf:Description>
```

*Example 12.0: Referring to Locations with Controlled Vocabularies,
Profile #2, XML/RDF*

5.5.1 Definition of Controlled Vocabularies

PRISM provides a small namespace of XML elements so that new controlled vocabularies can be defined. For example, Wanderlust might have prepared an exportable version of their employee database that contained entries like:

```
...
<pcv:Descriptor rdf:ID="http://wanderlust.com/emp3845">
  <pcv:code>3845</pcv:code>
  <pcv:label>John Peterson</pcv:label>
  <hr:hireDate>1995-2-22</hr:hireDate>
  <hr:division>Photography</hr:division>
  <hr:manager rdf:resource="emp2234"/>
</pcv:Descriptor>
<pcv:Descriptor rdf:ID="http://wanderlust.com/emp4541">
  <pcv:code>4541</pcv:code>
  <pcv:label>Sally Smith</pcv:label>
  <hr:hireDate>1999-12-02</hr:hireDate>
```

```
<hr:division>Photography</hr:division>
  <hr:manager rdf:resource="emp3845"/>
</pcv:Descriptor>
```

Example 12.0: Providing Custom Controlled Vocabularies

These entries use elements from the Prism Controlled Vocabulary (PCV) namespace for information important to the controlled vocabulary nature of the entries – the employee name and the employee ID. The PCV namespace also includes other elements so it can represent basic hierarchical taxonomies. The PCV namespace is not intended to be a complete namespace for the development, representation, and maintenance of taxonomies and other forms of controlled vocabularies. Other vocabularies, such as XTM or VocML, may be used for such purposes. As long as URI references can be used to refer to the terms defined in these other markup languages, there is no problem in using them in PRISM descriptions.

The sample descriptions in Example 11.0 also mix in elements from a hypothetical Human Resources (hr) namespace. Providing that information enables useful functions, such as sorting the results by division or by manager, etc. The hr namespace is only an example, provided to show how elements from other namespaces may be mixed into PRISM descriptions.

5.5.2 Internal Description of Controlled Vocabularies

Linking to externally-defined controlled vocabularies is a very useful capability, as indicated by the range of additional views described in the earlier example. However, external vocabularies do require lookups in order to fetch that information, which may make common operations too slow. PRISM also allows portions of a vocabulary entry to be provided within a description that uses them, similar to a caching mechanism. For example, the PRISM description of the Corfu photo can be made more readable, while still allowing all the power that comes from controlled vocabularies, by providing some of the information inline:

```
<?xml version="1.0" encoding="UTF-8"?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:prism="http://prismstandard.org/namespaces/1.2/basic/"
  xmlns:dc="http://purl.org/dc/elements/1.1/"
  xml:base="http://wanderlust.com/">
  <rdf:Description rdf:about="/2000/08/Corfu.jpg">
    <dc:identifier rdf:resource="/content/2357845"/>
    <dc:creator>
      <pcv:Descriptor rdf:about="/emp3845">
        <pcv:label>John Peterson</pcv:label>
      </pcv:Descriptor>
    </dc:creator>
    <prism:location>
      <pcv:Descriptor
        rdf:about="http://prismstandard.org/vocabs/ISO-3166/GR">
        <pcv:label xml:lang="en">Greece</pcv:label>
        <pcv:label xml:lang="fr">Grèce</pcv:label>
      </pcv:Descriptor>
    </prism:location>
  </rdf:Description>
</rdf:RDF>
```

*Example 13: Providing Human-Readable Controlled Vocabulary References,
Profile #2, XML/RDF*

This approach uses the `pcv:Descriptor` element, which is a subclass of `rdf:Descriptor`, indicating that the resource is a taxon in a controlled vocabulary. Notice it also uses the `rdf:about` attribute, instead of the `rdf:ID` attribute, which means that we are describing the taxon, not defining it. The actual definitions of those terms are maintained elsewhere.

5.5.3 PRISM-defined Controlled Vocabularies

The PRISM Specification defines a small set of vocabularies for use in characterizing resources. These vocabularies are defined in the PRISM Controlled Vocabulary Namespace [PRISMCVNS].

5.6 Relations

It is often necessary to describe how a number of resources are related. For example, an image can be part of a magazine article. PRISM defines a number of elements to express relations between resources, so describing that this image is part of a magazine article can be done as follows:

```
<rdf:Description rdf:about="http://wanderlust.com/2000/08/Corfu.jpg">
  <dc:identifier rdf:resource="http://wanderlust.com/content/2357845"/>
  ...
  <dcterms:isRequiredBy rdf:resource="http://wanderlust.com/2000/08/CorfuArticle.xml"/>
</rdf:Description>
```

*Example 14: Contained-In Relationship,
Profile #2, XML/RDF*

It is possible, but not mandatory, to add a statement to the description of the Corfu article saying that it contained the image:

```
<rdf:Description rdf:about="http://wanderlust.com/2000/08/CorfuArticle.xml">
  ...
  <dcterms:hasPart rdf:resource="http://wanderlust.com/2000/08/Corfu.jpg"/>
</rdf:Description>
```

*Example 15: Containing Relationship,
Profile #2, XML/RDF*

5.7 File Format, Genre and AggregationType

Many different kinds of information are frequently lumped together as information about the 'type' of a resource. The PRISM Specification breaks out into a number of different components in order to allow for more precise searches. Controlled vocabularies are provided for each to make its use easy to understand and the values immediately accessible.

File formats are indicated through the use of Internet Media Types (aka MIME types [RFC-2046]) in the `dc:format` element. An example is `<dc:format>application/pdf</dc:format>`.

Secondly, information about the stereotypical type of intellectual content, such as obituaries vs. election results, is indicated through the use of the `prism:genre` element and the controlled vocabulary presented in [PRISMCVNS] Table 6.0 Genre Controlled Vocabulary. For example `<prism:genre>homepage</prism:genre>` or `<prism:genre>electionResults</prism:genre>`.

A third type of information can be coded with the `prism:aggregationType` element. PRISM recommends using the PRISM Aggregation Type controlled vocabulary as presented in [PRISMCVNS]. Note that for PRISM,

`prism:aggregationType` can be thought of as specifying the unit of aggregation. Examples are `<prism:aggregationType>magazine</prism:aggregationType>` or `<prism:aggregationType>website</prism:aggregationType >`.

5.8 Delivery Platform

In today's environment, a single resource may be delivered across multiple platforms. Sometimes the content presented will differ based on the delivery platform. For example, a magazine article may have a number of alternate titles that display based on the platform. That is, one title may appear when the article is delivered in print, another when the article is delivered on the Internet and a third when the content is delivered to a mobile device. PRISM provides a controlled vocabulary to specify the delivery platform to assist with dynamic content display. Refer to [PRISMCVNS] Table 4.0 Controlled Vocabulary for Platform.

Table 5.0 shows how metadata from each PRISM controlled vocabulary may be applied to a single resource. It is the intersection of these values that provide the precise description of the resource.

	dc:format	prism:genre	prism:aggregationType	prism:platform
Resource #1	application/pdf	#pressRelease	#newsletter	#mobile
Resource #2	text/xml+pam	#coverStory	#magazine	#print
Resource #3	text/html	#feature	#website	#web
Resource #4	text/xml+rdf+rss	#abstract	#feed	#web
Resource #5	Image/jpeg	#photoEssay	#magazine	#print

Table 5.0 Grid Showing Complete Model for PRISM Resource Metadata

5.9 Rights and Permissions

Licensing content for reuse is a major source of revenue for many publishers. Conforming to licensing agreements is a major cost – not only to the licensee of the content but also to the licensor. For these reasons, PRISM provides elements and controlled vocabularies for the purpose of describing the rights and permissions granted to the receiver of content. PRISM assumes that the sender and receiver of content are engaged in a business relationship. It may be a formal contract or an informal provision of freely redistributable content. One of the parties may not know the other. The working group explicitly rejected imposing any requirements on enforcing trusted commerce between unknown parties. Instead PRISM concentrates on digital rights description and tracking which can enable and lower the costs of digital rights management.

The PRISM Specification provides those elements in two namespaces. Basic, commonly used, rights elements are defined as part of the PRISM namespace. A separate namespace was defined for the elements in the PRISM Rights Language (PRL). Beginning in 2007, the PRISM Working Group plans to further develop its metadata vocabulary to describe and track rights.

5.9.1 No Rights Information

In Example 16 no rights information is provided for the Corfu photograph. Does the lack of explicit restrictions mean the sender gives the receiver permission to do everything with the image? Or does the lack of explicitly granted rights imply that they can do nothing? Neither. Instead, we rely on the assumption of an existing business relation. In the absence of specific information, parties in a PRISM transaction assume that the normal rules of their specific business relation apply.

```
<?xml version="1.0" encoding="UTF-8"?>
<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/">
  <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:title>Walking on the Beach in Corfu</dc:title>
    <dc:creator>John Peterson</dc:creator>
    <dc:contributor>Sally Smith, lighting</dc:contributor>
    <dc:format>image/jpeg</dc:format>
  </rdf:Description>
</rdf:RDF>
```

*Example 16: No Explicit Rights,
Profile #2, XML/RDF*

5.9.2 Basic Rights Information

While descriptions without any explicit rights information are possible, the working group decided there were some fields that were likely to be very commonly used. Those are provided in the PRISM namespace. Example 17 provides a copyright statement and contact information for the agency representing Wanderlust if someone wants to license the image for reuse.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE rdf:RDF [
  <!ENTITY copy "&#169;">
]>
<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/">
  <rdf:Description rdf:about="http://wanderlust.com/2000/08/Corfu.jpg">
    <dc:identifier rdf:resource=" http://wanderlust.com/content/2357845"/>
    <prism:copyright>&copy; Copyright 2001, Wanderlust Publications. All
      rights reserved.</prism:copyright>
    <prism:rightsAgent>Phantasy Photos, Philadelphia</prism:rightsAgent>
  </rdf:Description>
</rdf:RDF>
```

Example 17: Copyright and Rights Agent

5.9.3 Specific Rights Information

PRISM rights metadata is specific to the relationship between a sender and a receiver.

```
<?xml version="1.0" encoding="UTF-8"?>
<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/">
  <rdf:Description rdf:about="http://wanderlust.com/2000/08/Corfu.jpg">
    <dc:rights rdf:resource="http://PhillyPhantasyPhotos.com/terms/Contract39283.doc"/>
  </rdf:Description>
</rdf:RDF>
```

*Example 18.0: Citing a Specific Agreement,
Profile #2, XML/RDF*

Example 18 specifically identifies the terms and conditions for reusing the image. That can make the process of manually tracking down rights and permissions a little easier since the contract number is known. It also lets software be written to enforce the terms of particular contracts.

The prospect of implementing software to enforce the terms of each contract is not enticing. So, PRISM provides some simple mechanisms to accommodate common cases without specialized software. One common case is when a publisher provides a large amount of material, such as the layouts for an entire magazine issue, to a partner publisher who will republish parts of it. Much of the content in the issue will be the property of the sending publisher, and covered under their business agreement with the receiving publisher. However, the issue will also contain stock photos and other materials that are not covered by the agreement. The example below shows how the controlled value #notReusable indicates to the receiver, travelmongo.com, that this item is not covered under their agreement with the sender, Wanderlust. This is, in fact, a benefit to Wanderlust. Travelmongo.com will not ask Wanderlust staff to search for contract terms on images Wanderlust does not own – a considerable cost savings. The rightsAgency element is provided so that the receiver of a contact item has someone to contact should they wish to obtain the rights to use the non-Wanderlust content.

The description below also shows how the descriptions for multiple objects can be packaged into a single PRISM file shown in Example 19.

```
<?xml version="1.0" encoding="UTF-8"?>
<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/">

  <!-- Description of first photo. -->
  <rdf:Description rdf:about="http://wanderlust.com/2000/08/Corfu.jpg">
    <dc:identifier rdf:resource="http://wanderlust.com/content/2357845"/>
    <prism:copyright>Copyright 2001, Wanderlust Publications. All
      rights reserved.</prism:copyright>
    <prism:rightsAgent>Phantasy Photos, Philadelphia</prism:rightsAgent>
  </rdf:Description>

  <!-- Description of second photo. -->
  <rdf:Description rdf:about="http://SunsetSnaps.com/20456382927.jpg">
    <dc:description>Sunset over Corfu</dc:description>
    <dc:rights rdf:resource=
```

```
"http://prismstandard.org/vocabularies/1.2/rights.xml#notReusable"/>
  <prism:rightsAgent>Sunset Snaps, New York</prism:rightsAgent>
</rdf:Description>
</rdf:RDF>
```

*Example 19: Describing Multiple Items in a Single PRISM File,
Profile #2, XML/RDF*

The interpretation of the dc:rights statement is that the image from Sunset Snaps is governed by a specific agreement. The URI reference of that agreement is:

<http://prismstandard.org/vocabularies/2.0/rights.xml#notReusable>.

That agreement, which all PRISM-compliant systems MUST recognize, simply means that there is no agreement to reuse the image. TravelMongo is, of course, free to work out an agreement with Sunset Snaps if they want to, but they do not need to ask Wanderlust about whether they can reuse the image.

5.9.4 Detailed Rights Information

Of course, content licensing deals are frequently more involved than an all-or-nothing arrangement. It is very common to restrict the uses by time, geography, intended use, and industry sector of use. More specialized restrictions are also possible, such as “may not be used on keychains”, but the PRISM Working Group decided there was no need to define a machine-operable way to encode such specialized restrictions.

Example 20 shows how Wanderlust, or their agent, might restrict the length of time that TravelMongo can use the Corfu photo.

```
<?xml version="1.0" encoding="UTF-8"?>
<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/">
  <rdf:Description rdf:about="http://wanderlust.com/2000/08/Corfu.jpg">
    <dc:identifier rdf:resource="http://wanderlust.com/content/2357845"/>
    <dc:rights rdf:parseType="Resource"/>
    <prism:embargoDate>2001-02-01</prism:embargoDate>
    <prism:expirationDate>2001-02-28</prism:expirationDate>
  </rdf:Description>
</rdf:RDF>
```

*Example 20: Restriction Based on Time
Profile #2 XML/RDF*

In Example 20, the dc:rights element contains the elements that describe the rights and permissions. To decide which elements go inside a dc:rights element, consider if they are likely to change as a consequence of who the content is being licensed to. Copyright statements are not highly variable. Time restrictions are variable.

More complex rights agreements, with multiple clauses, can also be conveyed. The description below says that the Corfu image cannot be used in the Tobacco industry, can be used in the US anytime from now on, and can be used in Greece before the end of 2003. Those three clauses are captured in the three elements within the `rdf:Bag` element shown in Example 15.

```
<?xml version="1.0" encoding="UTF-8"?>
<rdf:RDF xmlns:prism="http://prismstandard.org/namespaces/1.2/basic/"
xmlns:prl="http://prismstandard.org/namespaces/1.2/prl/"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
xmlns:dc="http://purl.org/dc/elements/1.1/">
<rdf:Description rdf:about="http://wanderlust.com/2000/08/Corfu.jpg">
  <dc:identifier rdf:resource="http://wanderlust.com/content/2357845"/>
  <dc:rights xml:base="http://prismstandard.org/vocabularies/1.2/usage.xml">
    <rdf:Bag>
      <rdf:li rdf:parseType="Resource">
        <prl:usage rdf:resource="#none"/>
        <prl:industry rdf:resource="http://prismstandard.org/vocabs/SIC/0132"/>
      </rdf:li>
      <rdf:li rdf:parseType="Resource">
        <prl:geography rdf:resource="http://prismstandard.org/vocabs/ISO-3166/US"/>
        <prism:embargoDate>2001-01-01</prism:embargoDate>
      </rdf:li>
      <rdf:li rdf:parseType="Resource">
        <prl:geography rdf:resource="http://prismstandard.org/vocabs/ISO-3166GR"/>
        <prism:expirationDate>2003-12-31</prism:expirationDate>
      </rdf:li>
    </rdf:Bag>
  </dc:rights>
</rdf:Description>
</rdf:RDF>
```

Example 21: Complex Rights Specification

5.9.5 Extending the PRISM Rights Language

As mentioned earlier, PRL is deliberately small. It can be extended by defining new elements and vocabularies to express new restrictions. New usage values could also be developed, but that is expected to be exceedingly rare.

NOTE: Remember that the PRL examples given here are for Profile #2 (RDF) and are not applicable for Profile #1, XML.

As an example, a stock image provider will have some very common usage restrictions, and some very obscure ones, that need to be applied to images they license. The most common restrictions (time, place, industry) are already covered, but two that are not covered in PRL are audience size and manipulations applied to the photograph. Our example image provider, Sunset Snaps, could define two new RDF property types (`snap:audienceSize` and `snap:manipulations`) to represent those common restrictions. They would also define vocabularies of values for the elements, such as `#flip`, `#rotate`, or `#falseColor`, for the `snap:manipulations` element. There are more obscure conditions that require human evaluation. Popular supermodels may have clauses in

their contracts that prevent their images being used to advertise discount or close-out merchandise, or on inexpensive promotional items.

Sunset Snaps can define a number of clauses expressing these conditions and provide them, either by reference or in-line, as shown in Example 16.

```
<?xml version="1.0" encoding="UTF-8"?>
<rdf:RDF xmlns:prism="http://prismstandard.org/namespaces/1.2/basic/"
xmlns:prl="http://prismstandard.org/namespaces/1.2/prl/"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
xmlns:dc="http://purl.org/dc/elements/1.1/"
xmlns:snap="http://sunsetsnaps.com/rights/"
xml:lang="en-US">
<rdf:Description rdf:about="http://sunsetsnaps.com/Zing/asdf0838484">
  <dc:identifier rdf:resource="http://wanderlust.com/content/2357845"/>
  <dc:rights xml:base="http://sunsetsnaps.com/rights/">
    <rdf:Bag>
      <!-- Prohibit flips and recolorings -->
      <rdf:li rdf:parseType="Resource">
        <prl:usage rdf:resource="#none"/>
        <snap:manipulations rdf:resource="#flip">
      </rdf:li>
      <rdf:li rdf:parseType="Resource">
        <prl:usage rdf:resource="#none"/>
        <snap:manipulations rdf:resource="#falseColor">
      </rdf:li>
      <!-- Convey unusual conditions -->
      <rdf:li rdf:parseType="Resource">
        <prl:usage>Not to be used with discount merchandise.</prl:usage>
      </rdf:li>
    </rdf:Bag>
  </dc:rights>
</rdf:Description>
</rdf:RDF>
```

*Example 22: Extending PRISM and PRL,
Profile #2, XML/RDF*

5.9.6 Alternative Rights Languages

Recall that for Profile #2, the dc:rights element may contain an rdf:resource attribute that is a URI reference to the agreement specifying the rights granted to the recipient by the sender. It is important to realize that the URL can identify rights agreements in any language or format, not just the PRISM Rights Language. The URL might point to a human-readable contract, or a machine-readable specification in a language such as XrML [XRML] or ODRL [ODRL]. PRISM implementations are NOT required to support any rights language, not even the PRISM Rights Language. They MAY support any number of formats for rights specifications. Applications which receive a rights statement in a format they cannot handle MUST raise an appropriate alert.

6 The PRISM Namespaces and Elements

PRISM is intended to be a modular specification; it is more likely that applications will use portions of PRISM than its entirety. The PRISM elements are separated into a series of functional namespaces, each covered in a separate normative specification. This section describes each, briefly, and provides a reference to the module specifications. For formal references to the namespaces, see PRISM Compliance [PRISMCOMP].

6.1 PRISM Elements

The following is an alphabetical list of prism elements. Following the element name is the namespace and the document in the PRISM documentation package where that element appears:

- aggregationType (prism:)
- alternateTitle (prism:)
- article (pam:)
- broaderTerm (pcv:)
- byteCount (prism:)
- caption (pam:)
- channel (prism:)
- code (pcv:)
- complianceProfile (prism:)
- contributor (dc:)
- copyright (prism:)
- corporateEntity (prism:)
- coverDate (prism:)
- coverDisplayDate (prism:)
- creationDate (prism:)
- creator (dc:)
- credit (pam:)
- dateRecieved (prism:)
- definition (pcv:)
- description (dc:)
- descriptor (pcv:)
- distributor (prism:)
- doi (prism:)
- edition (prism:)
- elssn (prism:)
- embargoDate (prism:)
- endingPage (prism:)
- event (prism:, pim:)
- expirationDate (prism:)
- format (dc:)
- genre (prism:)
- hasAlternative (prism:)
- hasCorrection (prism:)
- hasFormat (dcterms:)
- hasPart (dcterms:)
- hasPreviousVersion (prism:)
- hasVersion (dc:)
- hasTranslation (prism:)
- identifier (dc:)
- industry (prism:, pim:)
- isCorrectionOf (prism:)
- isFormatOf (dcterms:)
- isPartOf (dcterms:)
- isRequiredBy (dcterms:)
- issn (prism:)
- issueIdentifier (prism:)
- issueName (prism:)
- isTranslationOf (prism:)
- isVersionOf (dcterms:)
- keyword (pim:, prism:)
- killDate (prism:)
- label (pcv:)
- language (dc:)
- location (prism:, pim:)
- media (pam:)
- mediaReference (pam:)
- mediaTitle (pam:)
- message (pam:)
- metadataContainer (prism:)
- modificationDate (prism:)
- narrowerTerm (pcv:)
- nonpublishedMediaTitle (pam:)
- number (prism:)
- object (prism:, pim:)
- organization (prism:, pim:)
- originPlatform (prism:)
- pageRange (prism:)
- person (prism:, pim:)
- publicationDate (prism:)
- publicationName (prism:)
- publisher (dc:)
- quote (pim:)
- relatedTerm (pcv:)
- relation (dc:)
- requires (dc:)
- rights (dc:)
- rightsAgent (prism:)
- section (prism:)
- source (dc:)
- startingPage (prism:)
- status (pam:)
- subject (dc:)
- subsection1 (prism:)
- subsection2 (prism:)
- subsection3 (prism:)
- subsection4 (prism:)
- synonym (pcv:)
- teaser (prism:)
- textDescription (pam:)
- ticker (pim:, prism:)
- timePeriod (prism:, pim:)
- title (dc:)
- type (dc:)
- url (prl:)
- usage (prism:)
- versionIdentifier (prism:)
- vocabulary (pcv:)
- volume (prism:)
- wordCount (prism:)

6.2 Elements for PRISM Aggregator Message (PAM)

The following is an alphabetical list of prism elements that are included in the PAM message. Following the element name is the namespace and the document in the PRISM documentation package where that element appears:

- aggregationType (prism:)
- alternateTitle (prism:)
- article (pam:)
- caption (pam:)
- channel (prism:)
- contributor (dc:)
- copyright (prism:)
- corporateEntity (prism:)
- coverDate (prism:)
- coverDisplayDate (prism:)
- creator (dc:)
- credit (pam:)
- dateReceived (prism:)
- description (dc:)
- doi (prism:)
- edition (prism:)
- embargoDate (prism:)
- event (prism:, pim:)
- expirationDate (prism:)
- format (dc:)
- genre (prism:)
- hasCorrection (prism:)
- hasPart (dcterms:)
- identifier (dc:)
- industry (prism:, pim:)
- issn (prism:)
- issueIdentifier (prism:)
- issueName (prism:)
- keyword (pim:, prism:)
- killDate (prism:)
- location (prism:, pim:)
- media (pam:)
- mediaReference (pam:)
- mediaTitle (pam:)
- message (pam:)
- nonpublishedMediaTitle (pam:)
- number (prism:)
- object (prism:, pim:)
- organization (prism:, pim:)
- originPlatform (prism:)
- pageRange (prism:)
- person (prism:, pim:)
- publicationDate (prism:)
- publicationName (prism:)
- publisher (dc:)
- quote (pim:)
- section (prism:)
- startingPage (prism:)
- status (pam:)
- subject (dc:)
- subsection1 (prism:)
- subsection2 (prism:)
- subsection3 (prism:)
- subsection4 (prism:)
- synonym (pcv:)
- teaser (prism:)
- textDescription (pam:)
- ticker (pim:, prism:)
- timePeriod (prism:, pim:)
- title (dc:)
- type (dc:)
- url (prism:)
- usage (prl:)
- versionIdentifier (prism:)
- volume (prism:)
- wordCount (prism:)

6.3 The PRISM Subset of the Dublin Core

PRISM includes a subset of Dublin Core elements for certain basic metadata. The normative definitions of the Dublin Core elements can be found in [DCMI]. The specific elements used in PRISM are listed in [PRISMDCNS]. The use of some DC elements is encouraged, others are discouraged, and others constrained.

Elements in the PRISM Subset of the Dublin Core include:

- dc:contributor
- dc:creator
- dc:description
- dc:format
- dcterms:hasFormat
- dcterms:hasPart
- dcterms:hasVersion
- dc:identifier
- dcterms:isPartOf
- dcterms:isRequiredBy
- dcterms:isVersionOf
- dc:language
- dc:publisher
- dc:relation
- dcterms:requires
- dc:rights
- dc:source
- dc:subject
- dc:title
- dc:type

6.4 The PRISM Namespace

PRISM extends its metadata element set beyond those selected from Dublin Core in order to specifically allow for fuller description of magazine and journalist content. The 'prism' namespace contains elements suitable for a wide range of content publication, licensing, and reuse situations. They are described in [PRISMPRISMNS].

Elements in the PRISM Namespace include:

- prism:aggregationType
- prism:alternateTitle
- prism:byteCount
- prism:channel
- prism:complianceProfile
- prism:copyright
- prism:corporateEntity
- prism:coverDate
- prism:coverDisplayDate
- prism:creationDate
- prism:dateReceived
- prism:distributor
- prism:doi
- prism:edition
- prism:elssn
- prism:embargoDate
- prism:endingPage
- prism:event
- prism:expirationDate
- prism:genre
- prism:hasAlternative
- prism:hasCorrection
- prism:hasPreviousVersion
- prism:hasTranslation
- prism:industry
- prism:isCorrectionOf
- prism:issn
- prism:issueIdentifier
- prism:issueName
- prism:isTranslationOf
- prism:keyword
- prism:killDate
- prism:location
- prism:metadataContainer
- prism:modificationDate
- prism:number
- prism:object
- prism:organization
- prism:origin
- prism:pageRange
- prism:person
- prism:publicationDate
- prism:publicationName
- prism:rightsAgent
- prism:section
- prism:startingPage
- prism:subsection1
- prism:subsection2
- prism:subsection3
- prism:subsection4
- prism:teaser
- prism:ticker
- prism:timePeriod
- prism:url
- prism:volume
- prism:wordCount

6.5 The PRISM Inline Markup Namespace

Publisher members of the PRISM Working Group consistently identified a need for inline markup of organizations, locations, product names, personal names, quotations, etc. Such inline metadata was needed for a number of applications. Therefore, the PRISM Specification defines a namespace of XML elements and attributes for inline metadata; see [PRISMIMNS] for the normative description.

Elements in the PRISM Inline Markup Namespace include:

- pim:event
- pim:industry
- pim:keyword
- pim:location
- pim:object
- pim:organization
- pim:person
- pim:quote
- pim:ticker
- pim:timePeriod

6.6 The PRISM Rights Language Namespace

The PRISM Working Group has defined a small, simple, extensible language for expressing common rights and permissions. That language is known as the PRISM Rights Language (PRL). It's described in [PRISMLNS].

Elements in the PRISM Rights Language Namespace include:

- prl:geography
- prl:industry
- prl:usage

6.7 The PRISM Controlled Vocabulary Namespace

The PRISM Controlled Vocabulary provides a mechanism for describing and conveying all or a portion of a controlled vocabulary or authority file. This may be used to define entire new taxonomies, or it may be used to optimize the final speed of the system by caching useful information from externally-held vocabularies. It's described in [PRISMCVNS].

Elements in the PRISM Controlled Vocabulary Namespace include:

- pcv:broaderTerm
- pcv:code
- pcv:definition
- pcv:Descriptor
- pcv:label
- pcv:narrowerTerm
- pcv:relatedTerm
- pcv:synonym
- pcv:vocabulary

7 The PRISM Aggregator Message Namespace

PAM, the PRISM Aggregator Message, is the first application of PRISM elements in a structured message format. It is intended to codify the transmission of resources from publishers to aggregators. A small set of necessary additional elements were identified and documented, and they are covered in [PRISMAMNS]. The PAM message itself is described in detail in [PAMGUIDE].

Elements in the PRISM Aggregator Message Namespace include:

- pam:article
- pam:caption
- pam:credit
- pam:media
- pam:mediaReference
- pam:mediaTitle
- pam:message
- pam:nonpublished
MediaTitle
- pam:status
- pam:textDescription

8 PRISM Examples

These examples of the PRISM Aggregator Message are provided as examples of PRISM metadata. Note that while these examples of PRISM metadata are expressed as Profile #1 PAM, the same metadata may be expressed in other profiles as well.

Example 1

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE pam:message SYSTEM "pam.dtd">
<pam:message>
  <pam:article xml:lang="en-US">
    <head>
      <dc:identifier>100340926</dc:identifier>
      <prism:issueIdentifier>1000710</prism:issueIdentifier>
      <pam:status>A</pam:status>
      <prism:originPlatform prism:platform="print"/>
      <dc:title>The Real Running Mates</dc:title>
      <dc:creator>Karen Tumulty</dc:creator>
      <dc:contributor prism:place="New York">With reporting by Nancy
      Gibbs</dc:contributor>
      <dc:contributor prism:place="Washington">Jay Newton-Small</dc:contributor>
      <prism:publicationName>Time</prism:publicationName>
      <prism:issn>0040-781X</prism:issn>
      <prism:coverDate>2007-09-24</prism:coverDate>
      <prism:coverDisplayDate>September 24, 2007</prism:coverDisplayDate>
      <prism:publicationDate prism:platform="web">2007-09-
      22</prism:publicationDate>
      <prism:volume>170</prism:volume>
      <prism:number>13</prism:number>
      <prism:edition>U.S. Edition</prism:edition>
      <prism:startingPage>30</prism:startingPage>
      <prism:url>http://www.time.com/time/specials/2007/article/0,28804,1660946_166
      1334_1661288,00.html</prism:url>
      <prism:channel>Specials</prism:channel>
      <prism:section>The Well</prism:section>
      <prism:subsection1>Cover Story</prism:subsection1>
      <prism:subsection2>Nation</prism:subsection2>
      <prism:subsection3>Running Mates</prism:subsection3>
      <dc:subject>POLITICS</dc:subject>
      <dc:subject>CAMPAGNS</dc:subject>
      <dc:subject>VOTERS</dc:subject>
      <dc:subject>FAMILY</dc:subject>
      <dc:subject>MARRIAGE</dc:subject>
      <prism:person>Elizabeth Edwards</prism:person>
      <prism:person>Bill Clinton</prism:person>
      <prism:person>Michelle Obama</prism:person>
      <prism:person>Judith Giuliani</prism:person>
      <prism:person>Ann Romney</prism:person>
      <prism:person>Jeri Thompson</prism:person>
      <prism:person>Cindy McCain</prism:person>
      <prism:genre>coverStory</prism:genre>
      <prism:wordCount>4188</prism:wordCount>
      <dcterms:hasPart>See also additional image(s) in Cover Description file and
      Table of Contents of same issue.</dcterms:hasPart>
    </head>
  </pam:article>
</body>
```

Political spouses have traditionally wielded their influence in private. But in this race, all the rules will have to be rewritten

Elizabeth Edwards prides herself on her ability to explain the fine print of her husband's energy plan and the details of how John Edwards would respond to the next Katrina-size natural disaster. She can rattle off the number of people who lack health insurance in New Hampshire (about 127,000), how many schools there have failed to meet the Federal Government's standards for "adequate yearly progress" (191) and where the state ranks in teacher pay (24th). "I think it's important to learn policy, so that people don't have to dumb down their questions because I'm the spouse," she says. Nor, for that matter, does she feel a spouse should have to sand down her edges. When a woman at a house party in Bow, N.H., asked her one recent morning how her husband's campaign would respond to "the inevitable horrible mudslinging" that is part of presidential politics, you might have thought she was the one in the family who had grown up in a brawling mill town. "It's a question of being prepared and not having any hesitation," she said. "You go straight to the nose because then they walk away bleeding. And that's the point."

It's hard to imagine Laura Bush saying something like that. There is no handbook for the spouse of a presidential candidate, but the expectations have always been pretty clear. She (yes, that was the presumption) should first do no harm. Her safest bet: stand silently at his side, beaming with admiration and awe, the well-coiffed testament to a home life that was tranquil, drama-free and utterly traditional. When the spouse became the story, it was seldom good news for the principal.

Take what happened in 1992, when a certain Governor from Arkansas started throwing around quips like "Buy one, get one free" and musing about the possibility of giving his outspoken lawyer wife a Cabinet post. In no time, people were working out their own conflicted feelings about feminism and family by arguing over Hillary Clinton--the influences she would bring to the White House, the state of her marriage, even her headbands. No less a political scientist than Richard Nixon, whose own spouse had been a paragon of cloth-coat humility, warned, "If the wife comes through as being too strong and too intelligent, it makes the husband look like a wimp."

Fast-forward four presidential cycles, and Hillary is leading the field for the Democratic presidential nomination, while Bill is the one learning to fit himself into the supporting role. With a spouse who can be counted on to outshine the candidate, her campaign has had to handle the former President as carefully as a tactical nuclear weapon. "A lot of people might have expected him to be out immediately, and instead, he's sort of behind the scenes and on the phone and doing fund raising," says Elizabeth Edwards, 58. "It is clearly more complicated for them ... I'm just glad that's their problem, not mine."

But Bill is far from the only spouse rewriting the rules of the road in presidential politics. Of the 2008 candidates--and particularly among those in the top tier--more than a few are married to outspoken, opinionated, professional women who are neither accustomed to nor inclined toward melting into the background. They are comfortable with, even eager about making news in their own right. Since the 2008 campaign promises to be more competitive, more expensive and more prolonged than any we've seen, the spouses are playing roles more typically associated with the running mate than the mate of the person who's running. In fact, the reality of today's politics seems to have turned Nixon's premise on its head. A strong, smart, fully engaged spouse is practically a prerequisite if you want to win. Sit down and talk to some of them, and you will realize that while they all are charting the terrain ahead in their own ways, they do so with the

conviction that their partner can't get there without them. As Cindy McCain, 53, put it, "He and I are the only two in it in the end."

The Gladiators

ONE REASON CAMPAIGNS ARE RELYING MORE heavily on spouses as surrogates is simply practical: two people can cover far more territory than one. "It's obviously different. Not only am I going out and speaking, but I'm also doing fund raising on my own," says Ann Romney, 58, whose five sons too are being deployed across the map. "There are so many states in play now that you can't possibly cover them all with the asset of just one candidate." As the competition gets hotter, we'll see whether the traditional attack-dog role played by vice-presidential nominees falls to the spouses as well--and whether they are given leeway to say things that their husbands wouldn't dare. There was no mistaking what Elizabeth Edwards meant when she said Hillary Clinton is "divisive and unelectable." She has blasted Barack Obama for being "holier than thou" on the Iraq war, contended Hillary Clinton has had to "behave as a man" and "is just not as vocal a women's advocate as I want to see," and complained that her husband is not getting as much media attention as either of them because "we can't make John black; we can't make him a woman."

Edwards allows that she occasionally thinks, "Golly, I wish I hadn't said it that way." And she insists that she is merely being herself, not part of a campaign strategy. "There is no, and I mean zero, campaign discussion, calculation, anything with respect to this. The second thing is, I don't usually volunteer this," Edwards says of these comments about her husband's front-running rivals. "When I am specifically asked, I simply answer the question, and it's not a matter of attacking in particular."

But that doesn't mean all this is random. "My job is to move voters," Edwards says. "If you're not moving votes or moving voters to see the candidate himself or herself, then you're not using your time very wisely." And that highlights another poignant and uncomfortable reality of the unique situation in which Edwards now finds herself. What she calls "my precious time" is even more so since it was revealed in March that her breast cancer, first diagnosed in the final days of the Kerry-Edwards campaign in 2004, had recurred as Stage IV and is incurable. Statistics suggest only 20% of patients in her situation live for five years. Is Edwards getting a sympathy pass? Rival campaigns think so, though they won't say so publicly. As one strategist puts it, "She's bulletproof."

Reporters are primed to hear an attack even when none is intended. When Michelle Obama, 43, mused last month in Iowa that "if you can't run your own house, you certainly can't run the White House"--an innocent enough observation, the full context of her remarks shows, about the challenges of juggling her children's schedule with her husband's--it was immediately interpreted as a dig at the Clintons. THE CLAWS COME OUT screamed a caption beneath her picture and Hillary Clinton's on Fox News. "That's a totally different context," Obama now says. "So that's one of those things where I take it, I learn a lesson, I say, 'O.K., let me be clearer' ... All I'm trying to do is talk to the American people about who we are, our shortcomings, our challenges. What I don't want to feel like is that we can't have any conversations about this--values or morals or all of that--because somebody's feelings might get hurt. This is tough stuff."

The Guardians

<p>AN IMPORTANT THING TO REMEMBER ABOUT the extraordinary lineup of smart, savvy, engaged campaign spouses in the 2008 race is that none of this is entirely new. What's new is knowing so much about it.</p>

<p>First Ladies have been deeply involved in politics all through history. In 1776, even as John Adams was helping invent the Republic, Abigail was warning him, "Do not put such unlimited power into the hands of the husbands. Remember, all men would be tyrants if they could." Mary Todd Lincoln had such strong views about Cabinet members and Supreme Court nominees that some White House aides called her "the Hellcat." Edith Wilson secretly held the government together for her stroke-incapacitated husband, though she opposed giving women the vote. Rosalynn Carter was basically in charge of mental-health policy. As her husband staggered through 1979, columnist Jack Anderson dubbed her the "co-President." "Many, many women have brought to the table so many different things," says Cindy McCain. "It just depends on how deeply you want to look."</p>

<p>McCain--whom voters got to know as a smiling, beautiful, St. John--suited presence in her husband's 2000 campaign--played a hard-knuckled tactical role this time around by engineering the shake-up of a high-priced campaign organization that had spent itself into near insolvency. In large part at Cindy McCain's instigation, her husband's longtime political strategist John Weaver was fired; his 2000 campaign manager Rick Davis was brought back from internal exile to take over. "Truly, the only person my husband can trust is me," McCain says. "I don't have anything to lose by telling him not only what I think but what I think he did wrong."</p>

<p>In the pre-Hillary age, with different expectations for gender roles, that kind of influence was wielded privately--over everything from policy to personnel to political strategy--more than publicly. With the conspicuous exception of Eleanor Roosevelt, who was an outspoken and polarizing figure in her own right, the modern era saw a procession of generally pliant First Ladies: Bess, Mamie, Jackie, Lady Bird, Pat. It really was Betty Ford, arguably the archetype for today's aspiring First Spouses, who changed the rules. Faced with a traumatized electorate and an omnivorous press corps after Watergate, she responded in the way that came naturally--which is to say forthrightly, answering whatever questions were thrown at her because her Midwestern manners precluded the idea that you could just ignore a question you didn't like. There was Betty on 60 Minutes saying she wouldn't be surprised if her teenage daughter Susan were having sex or if her kids had tried pot. When she observed to a columnist that the only question she hadn't been asked was how often she slept with her husband, the reporter came back with: "Well, how often do you?" Her answer: "As often as possible!" The Fords "flung open the White House windows and declared there are real people living here," says journalist Kati Marton, who wrote Hidden Power, a book on presidential marriages, and who herself is married to former Clinton Administration official Richard Holbrooke.</p>

<p>But then, Betty Ford got the First Lady's job without ever having to campaign for it. And not everyone was charmed by her candor. Some of the President's aides wanted to muzzle her, and his pollsters said she could cost him 20 points with conservative GOP voters. First Lady aspirants have more typically acted as fabric softener. Tipper Gore made her husband look looser, as did Kitty Dukakis, though in both cases that wasn't saying much. Laura Bush has almost always been a more popular figure than W., though most people could not name a policy position that she's passionate about.</p>

The current class of candidates' spouses has plenty who still fit the traditional mold--like Mary Brownback, 49, who married Sam while she was in law school and proudly declares that she's never worked outside the home. "Basically," she says, "I live in the kitchen." Ann Romney calls herself the CFO--chief family officer--and her husband Mitt's campaign website says she "places primary importance on her role as a wife, a mother and a grandmother." Mike and Janet Huckabee were high school sweethearts; now 52, she was 18 when they married, and they renewed their vows in a covenant marriage on Valentine's Day, 2005. Jill Tracy Biden, 56, was a student teacher when she and Joe Biden married in 1977, and has dropped off the campaign trail now that the school year has begun again.

In fact, for a politician's spouse, some things never change. This is how Barbara Richardson, 58, a veteran of her husband Bill's successful campaigns for the House and the New Mexico governorship, summed it up before a debate in South Carolina: "While Mr. Wonderful is out there campaigning, the rest of us as spouses are still schlepping through the airport to a commercial plane with kids in tow. We miss our connections. We're standing in grocery-store lines, and frankly, we're just trying to keep body and soul and home and home and family together, while they go out and make nice--Mr. Popularity!"

Have voters really adjusted their ideas and expectations of a First Mate? The spouses themselves don't sound so sure. "As much as it may sound a little archaic, I think the American voter wants a traditional situation," says Cindy McCain. "In other words, I don't believe they want a spouse who is involved in day-to-day politics. And I'm not criticizing any former Administration. I'm just telling you what people have told me. They still kind of want the traditional-looking family."

Even Elizabeth Edwards, for all her outspokenness, agrees. "There are certain baseline things people require in a First Lady--a graciousness," she says. "There is sort of a sense of maternal capabilities that we might be looking for. I don't think that in any way disqualifies Bill, but I do think that if it's a woman, they're looking perhaps for something like that."

Marriages Under the Microscope

MANY A FIRST MARRIAGE HAS BEEN THE subject of rumor and speculation, but the Clinton presidency put political marriage under the microscope in a way it never had been before. In this new season of full disclosure, there's Elizabeth Kucinich, 29, who told the Associated Press that a lazy day at home consists of getting up for brunch and then going back to bed until 4:30 p.m., "John Lennon and Yoko Ono--style." But it's hard to think of another spouse who has taken openness as far as Michelle Obama. Her idea of managing her husband's image seems to begin with knocking him off his pedestal.

In a Glamour magazine interview, Michelle Obama said her husband is so "snore-y and stinky" that her daughters won't cuddle with him in bed. She tells voters how he leaves his dirty socks around and invites them to tattle if they see him violating their deal in which she would allow him to run if he would stop smoking. Barack Obama has written with startling candor about the strains that his political career has put on their marriage, particularly when both were in their formative years. "Leaning down to kiss Michelle goodbye in the morning, all I would get was a peck on the cheek," he wrote. "By the time Sasha was born--just as beautiful, and almost as calm as her sister--my wife's anger toward me seemed barely contained."

<p>But you could argue that her acknowledgment of his flaws makes her more effective when she turns that anger on his critics. "Don't be fooled by people who claim that it is not his time," she exhorts. "We've heard this spewed from the lips of rivals ... every phase of our journey: He is not experienced enough. He should wait his turn. He is too young. He is not black enough. He is not white enough."</p>

<p>Michelle Obama says she is betting that voters will not only accept that frankness but embrace it. "You win with being who you are and with being clear and comfortable with that," she says. "I'm finding that people completely understand me. For the most part, I think the women and the men and the families and the folks that we are meeting on the campaign trail understand the realities of families of today."</p>

<p>ODDLY ENOUGH, IT IS THE REPUBLICAN spouses who are stretching the limits of traditional values in ways they never have before. Ann Romney's story line-- the high school sweetheart and sunny stay-at-home mom who produced a close-knit, picture-perfect family--actually sets her apart among the leading contenders' wives. Which doesn't hurt when you are trying to persuade voters, particularly evangelical conservatives, to consider putting a Mormon in the White House. "I think that people have seen Mitt and me. They certainly know we have a very strong marriage and very strong family," she says. "I think that is clearly helpful to him in breaking down barriers that people have had in the past." But, she adds, "I don't know if they've seen enough."</p>

<p>For the others, the question may be whether voters have seen too much. The public displays of affection that front runner Rudolph Giuliani and wife Judith put on for Barbara Walters--holding hands and calling each other "baby" and "sweetheart"--only served to remind viewers that this first blush of love is also the third marriage for each, and that wife No. 3 is one of the reasons his children with wife No. 2 won't campaign for him. "I have just recently begun--I think they call it in the political world--being 'rolled out,'" Judith, 52, told Walters, but the process has been anything but smooth. A scathing profile of Judith Stish Ross Nathan Giuliani in Vanity Fair pored over her two failed marriages (one of which she acknowledged only recently), the requirement that a separate seat on her plane be provided for the Louis Vuitton handbag that is known around Giuliani headquarters as Baby Louis, and the inconvenient timeline of their courtship, which started while he was still living with second wife Donna Hanover.</p>

<p>Through all this, Judith Giuliani is trying hard to keep her game face on. "It's a steep learning curve. It's all been new to me," she says. "What's really important is, it's my husband who's running for office. He is the one. I do think that is important for us to focus on. We aren't electing a spouse." And while Rudy Giuliani told Walters he would be "very, very comfortable" with having his wife, a nurse, attend Cabinet meetings--"I couldn't have a better adviser"--Judith downplays her influence and her interest in his campaign and in any future Giuliani Administration. "My role is really to support my husband in the ways I have always supported him. I love to take charge of his personal health needs, make sure he's exercising, getting the right food, which is a real challenge on the campaign trail," she says. "I do attend some meetings, but more often than not, it's for my own edification."</p>

<p>For Fred Thompson's wife Jeri, 40, who is a quarter-century younger than he is, it's hard to figure out which female stereotype is more toxic: the siren whose tight, low-cut outfits had cable-television commentator and former GOP

Congressman Joe Scarborough speculating that she "works the pole"--a phrase usually associated with strippers--or the conniving Lady Macbeth who has been blamed for sending his campaign into disarray even before it was launched. She was a major force in persuading him to run but also a major one behind a series of shake-ups that had the campaign on its second manager and its fourth spokesman before Thompson even announced his candidacy.</p>

<p>Her defenders note that Jeri Thompson has worked for years as a political operative. "She gets Republican politics. She gets conservative politics. But most of all, she understands where this man is and how best to help him," says Mark Corallo, a well-respected strategist who helped launch the campaign. But then, on the eve of Thompson's much delayed announcement, Corallo himself resigned.</p>

<p>Their family portrait--a man who qualifies for Social Security with a 40-year-old blond, a toddler and a baby--is a far cry from that of Ike and Mamie. "He sadly now looks like their grandfather," says Marton. "It's not what women want the presidential family to look like. No doubt unintentionally, but to a lot of women it's almost a rebuke. It's too unsubtle."</p>

<p>The New Normal</p>

<p>IN THIS CAMPAIGN, WHICH HAS PRODUCED SO much buzz about political marriages, the challenge for the Clintons has been a different one: making the most remarkable situation of all look normal.</p>

<p>The first time his wife ran for office, Bill Clinton was in the White House, which kept him safely off her stage and minimized the amount of public distraction he caused. But behind the scenes, he was her political consultant in chief, reworking her speeches, stepping in when her staff was putting too much on her schedule, rehearsing her for debates and demanding she step up her ad buys.</p>

<p>That was two successful Senate campaigns ago. Now the man who jokes that he wants to be known as "First Laddie" downplays his role as she reaches for the biggest prize of all: his old job. He has joined his wife in a couple of campaign swings and is her star fund raiser. But he has yet to show up among the spouses in the audience at any of the Democratic debates. As for his role in any future Clinton Administration, both she and he have talked about the possibility that she might make him an unofficial emissary. "I think she will ask me and former President Bush and other people to go help the country. We have got to restore our standing in the world," Bill Clinton told CNN's Larry King recently. "I wouldn't be surprised if she [asked] every former President to do something."</p>

<p>But in the meantime, there's an election to win. And while Hillary Clinton has the best political strategist of her generation at her disposal, Bill is by all accounts keeping his obtrusions to a minimum. Campaign officials say that while the couple talks several times a day, he rarely gets involved with the workings of her campaign. "He's doing what he's asked, and he's doing what he can," says an aide, "but he's certainly not meddling." In part, that's because his own work--his foundation and a tour to promote his new book--keeps him plenty busy. And it also reflects the fact that she has an enormous political machine around her that seems to be doing pretty well on its own.</p>

<p>"If she's writing an important article or giving an important speech, she'll ask me to read it," the former President told Oprah Winfrey. "And once in a while she'll ask me for some advice on something strategic. But she knows so much more about a lot of this stuff than I do because

I'm far removed from it." Occasionally, he says, he gets a call from her while he's on the golf course, and she reminds him that she's 15 years older than he was when he did it, "and I say, "Well, nobody made you run."

Bill Clinton, 61, is also making a conscious effort to stay out of the fray, though when Elizabeth Edwards attacked Hillary as not vocal enough on women's issues, he rode to his wife's defense. "If you look at the record on women's issues, I defy you to find anybody who has run for office in recent history who's got a longer history of working for women, for families and children, than Hillary does," Clinton said in an interview with ABC's Good Morning America. As for Edwards' contention that Hillary had behaved "as a man," Clinton retorted, "I don't think it's inconsistent with being a woman that you can also be knowledgeable on military and security affairs and be strong when the occasion demands it."

But he has steered clear of criticizing Hillary's opponents. "This is a good time for us Democrats," he says. "We don't have to be against anybody. We can be for the person we think would be the best President." Of course, that's easy to say when your candidate is safely ahead in the polls. If their situation and that of the Edwardses were reversed, "would he be her biggest attack dog like Elizabeth Edwards is? Maybe," concedes a strategist. "But he gets to be the big guy--at least for now." Then again, he's in a supporting role that doesn't come with a script. No one knows that better than a Clinton.

`<p prism:class="box">SPOUSE TALK AT TIME.COM

`

To read interviews with the running mates and see photos of the couples on the trail, visit time.com/spouses. Plus, Elizabeth Edwards and Ann Romney speak about campaigning while battling breast cancer and MS

`<p prism:class="pullQuote">'If you're not moving votes or moving voters ... then you're not using your time very wisely.' --ELIZABETH EDWARDS</p>`

`<p prism:class="pullQuote">'Truly, the only person my husband can trust is me. I don't have anything to lose by telling him ... what I think he did wrong.' --CINDY MCCAIN</p>`

```
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  <dc:type>PHOTO</dc:type>
  <pam:mediaTitle>Bill Clinton</pam:mediaTitle>
  <pam:credit>BROOKS KRAFT--CORBIS FOR TIME</pam:credit>
  <pam:caption>This Clinton campaign again offers "two for one," but the aspiring First Laddie and strategist in chief, shown with Hillary in New Hampshire, is trying not to outshine his wife</pam:caption>
</pam:media>
</body>
</pam:article>
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Example 2

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      <prism:alternateTitle prism:platform="print">Campuses Reassessing Mental-
        Health Plans</prism:alternateTitle>
      <prism:teaser prism:platform="web">Galvanized by the Virginia Tech tragedy,
        schools across the country are taking stock of the reach and effectiveness of
        their services.</prism:teaser>
      <dc:creator prism:place="Blacksburg, VA">Nancy Shute</dc:creator>
      <prism:publicationName>USNews.com</prism:publicationName>
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      <prism:subsection2>Virginia Tech</prism:subsection2>
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    <body>
      <h1>A Wake-Up Call on Campus</h1>
      <p prism:class="deck">Virginia Tech has inspired counseling services to
        reassess</p>
      <p prism:class="byline">By Nancy Shute</p>
      <p>This fall, when students at Penn State-Altoona trudge back to their dorms
        demoralized by a failed test or a romance on the rocks, they can take advantage of
        free mental-health counseling, on the spot, from 5 p.m. to 7 p.m. Monday through
        Thursday.</p>

      <p>At Cornell University, where foreign students tend to avoid the campus
        counseling center, a counselor now staffs an outpost in the international dorm so
        the isolated and struggling can drop in for an impromptu chat.</p>

      <p>All students who come to the health center at the University of Wisconsin, even
        if just for a sprained ankle or a case of the sniffles, soon will be automatically
        screened for depression and offered treatment if needed.</p>

      <p>Galvanized by the April tragedy at Virginia Tech, in which Seung Hui Cho killed
        32 students and faculty members and then committed suicide, colleges and
        universities around the country are urgently taking stock of the reach and
        effectiveness of their mental-health services. The goal is not just to avoid
        another catastrophe caused by a deeply troubled student who fell through the
        cracks. It's also to face up to the needs of today's students, who increasingly
        struggle with eating disorders, schizophrenia, bipolar disorder, and depression.
        The rate of depression among college students has doubled in just 15 years; last
```

year, some 45 percent of all students said they've sometimes felt too depressed to function, according to an annual survey by the American College Health Association. Nine percent of college students seriously considered suicide.</p>

<p>"Some of the key questions that Virginia Tech has brought out are: When do you recognize that a student's having serious problems? What steps do you take, and how do you coordinate care?" says Richard Kadison, director of mental-health services at Harvard University and author of <i>College of the Overwhelmed.</i> Last week, Kadison and other campus psychiatrists from across the country gathered in Washington, D.C., to map out a better way to meet the demand.</p>

<p>Status quo. Many schools are finding that change will be a significant challenge. About 65 percent of campus counseling centers still have no relationship with the health center, for example, making it difficult to manage illnesses that require medication. Just 59 percent have a psychiatrist available.</p>

<p>And the funds necessary to add expertise can be hard to find. Days after the Virginia Tech slayings, Florida public university administrators asked for \$3.5 million to hire more psychologists and campus police officers and to set up interdisciplinary teams that would identify troubled students. The Legislature denied the request. The ratio of counselors to students at the University of South Florida is 1 to 3,500; at Cornell, there's a counselor for every 800 students. Experts say that parents should check out the mental-health resources when they send their child to school and make sure that the counseling office is aware of any history. "Continuity of care is really important, so that people don't fall through the cracks and have unnecessary stresses and strains," says Jerald Kay, chair of psychiatry at Wright State University Medical School.</p>

<p>The thrust of the movement at institutions in the lead has been to redouble efforts to identify students in need of help and then make that help available. Some, like Cornell and Wisconsin, are adding counseling offices in dorms and academic buildings so students have ready access; Cornell has two counselors on staff whose sole job is to talk with faculty and staff and pick up the first inklings of trouble. The University of Illinois requires anyone who threatens or attempts suicide to have a four-session mental-health evaluation. And early-warning systems that involve the entire university community are a priority on many campuses. At Rensselaer Polytechnic Institute in Troy, N.Y., for example, faculty and staff can log concerns about academic problems or behavioral issues on a website, which is monitored by an intervention team of representatives from the dean's office, faculty, housing staff, campus police, and counseling center. The team meets regularly to decide on an appropriate response. "There's a heightened awareness," says Joy Himmel, director of the health and wellness center at Penn State-Altoona, who says more faculty and staff members now serve as her "eyes and ears."</p>

<p>Still, a huge obstacle to effective communication--and a source of frustration to worried parents--is the mistaken belief that privacy laws bar any sharing of information, either with others on campus or in a call home. Government analyses of the Virginia Tech massacre say that teachers, staff, and parents have more freedom than they think. Counseling and medical records are confidential once a child is 18. But professors and other staff who aren't mental-health professionals can discuss concerns about a student among themselves and contact parents, too. Gregory Eells, head of the counseling center at Cornell, says that residence hall advisers sometimes tell him that they can't pass on worrisome information because it was communicated in confidence. "I say, no, actually you can report it, and you should," Eells says. "You can talk to parents; you can talk to anyone you think appropriate."</p>

<p>Whether counselors call parents is a trickier question, one that weighs the privacy rights of the student against the therapeutic benefit. Sometimes parents can motivate their child to work on changing a bad situation, says Eells, and "sometimes involving the parents makes it worse."</p>

<p>Beyond the medical arena, the Family Educational Rights and Privacy Act turns control of student records over to the student at age 18. But according to the Department of Education, parents have the right to academic and disciplinary information in many circumstances: when they claim the student as a dependent on their tax returns, when the school considers the situation to be a health or safety emergency, and when the student is under 21 and has been caught using alcohol or illegal drugs.</p>

<p>Once it's clear that someone is distressed, schools are more often approaching the student directly. "Many schools with worrisome students are setting up contracts with them," says Harvard's Kadison. "If they want to stay in school, there's a reasonable expectation that they're getting care, that they're showing up for appointments." Students who appear to be in danger or who are disruptive may be placed on involuntary leave and be reassessed before they can re-enter. But not all schools manage involuntary leaves appropriately, argues Karen Bower, attorney for the Bazelon Center for Mental Health Law in Washington, D.C. She says that she hears of more and more cases in which students were placed on leave merely because they were experiencing the ups and downs of mental illness. In one recent example, a student was asked to leave campus after he sought help dealing with a bad reaction to the sleeping pill Ambien.</p>

<p>"People should feel safe in getting mental-health counseling," Bower says. The tragedy would only be compounded, she thinks, if Virginia Tech becomes an excuse to stereotype people with mental illness and bar them from campus.</p>

<p prism:class="box">Some resources for families:

Services. The suicide-prevention-oriented JED Foundation offers a checklist for quality mental-health care at.

Civil rights. The Bazelon Center for Mental Health Law describes how rights should be protected.

Privacy laws. Provisions are explained at www.ed.gov.</p>

<pam:media>
 <dc:type>Picture</dc:type>
 <pam:nonpublishedMediaTitle>Virginia Tech</pam:nonpublishedMediaTitle>
 <pam:credit>Scott Goldsmith/Aurora for USN&WR</pam:credit>
 <pam:caption>Gregory Eells and his staff of counselors are much more visible around Cornell's campus this fall.</pam:caption>
</pam:media>

</body>
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</pam:message>

Example 3

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  <dc:description>West day-ahead markets</dc:description>
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  http://www.mcgraw-hill.com</prism:copyright>
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    <pam:caption>Note: Based on averages from each region</pam:caption>
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</body>
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9 PAM Metadata Glossary

This appendix contains a glossary for the metadata elements within the PRISM Aggregator message. The elements are listed alphabetically. Following the element name is the namespace pointing to the document in the PRISM documentation package where that element appears.

aggregationType (prism:) The unit of aggregation such as a magazine or journal.

alternateTitle (prism:) An alternate title or alternate headline for a resource that may be used in a table of contents, a popup etc. and can vary with platform.

article (pam:) Contains the metadata and markup for one article.

caption (pam:) Published text that describes a media element.

channel (prism:) Web channel assigned to the resource. A navigational aid.

contributor (dc:) An entity responsible for making contributions to the content of a media resource.

copyright (prism:) Copyright statement for the resource.

corporateEntity (prism:) The name(s) of publisher's organizational units related to the resource, either as the financial owner or group responsible for the resource, and at a lower hierarchical level than the corporate entity named in dc:publisher.

coverDate (prism:) Date, in date format, on the cover of a magazine issue, suitable for storing into a database.

coverDisplayDate (prism:) Date on the cover of a magazine issue, provided as a textual string such as "Spring 2007."

creator (dc:) An entity primarily responsible for creating the content of a media resource.

credit (pam:) A caption-style attribution for a media object.

dateReceived (prism:) Date (and potentially time) the resource was received on current system.

description (dc:) An account of the content of the resource.

doi (prism:) The Digital Object Identifier (DOI) for the article.

edition (prism:) An identifier for one of several alternate issues of a magazine or other resource such as the foreign edition.

elssn (prism:) The electronic ISSN for the publication in which the resource was published.

embargoDate (prism:) Earliest date (potentially including time) the resource may be made available to users or customers according to the rights agreement or to a clause in the rights agreement. May be specified by delivery platform.

event (prism:, pim:) An event (social gathering, phenomenon, or more generally something that happened at a specifiable place and time) referred to in order to indicate a subject of the resource.

expirationDate (prism:) The date (potentially including time) by which the resource must be removed from availability to users or customers used according to a rights agreement. May be specified by delivery platform.

format (dc:) The physical or digital manifestation of the resource. Expressed as a MIME type.

genre (prism:) Describes the genre, or the *intellectual* content of the resource.

hasCorrection (prism:) Identifies any known corrections to the current resource.

hasPart (dcterms:) The described resource includes the referenced resource either physically or logically.

identifier (dc:) An unambiguous reference to the resource, within a given context. Required for each article sent within a PAM message.

- industry (prism:, pim:)** An industry or industry sector, referred to in order to indicate a subject of the resource.
- issn (prism:)** The ISSN for the publication in which the resource was published.
- issuelDentifier (prism:)** An additional identifier, typically used to record an identifier for a specific issue of a magazine or other resource, as distinct from the "special" name element, prism:issueName.
- issueName (prism:)** An additional identifier, typically used for major issues of a magazine or other resource.
- keyword (pim:, prism:)** An element used to tag keywords that are likely to be used in search queries. Note that this differs from a subject or elements such as prism:person, prism:event, or prism:organization that are the subject of the article. Best practice is to use values from a keyword controlled vocabulary for this element.
- killDate (prism:)** Date (and potentially the time) the identified resource is to be removed from online publications. This includes both web and mobile content.
- location (prism:, pim:)** A geospatial location, referred to in order to indicate a subject of the resource.
- media (pam:)** An alternative to the XHTML img element. Permits referring to and providing metadata for a media object related to an article.
- mediaReference (pam:)** Links to the media file referred to by pam:media.
- mediaTitle (pam:)** Published title of the media element.
- message (pam:)** Root element for message from publisher to aggregator that contains one or more articles.
- nonpublishedMediaTitle (pam:)** Nonpublished title of the media element.
- number (prism:)** Indication of the magazine's issue number.
- object (prism:, pim:)** The name of a physical or virtual object, referred to in order to indicate a subject of the resource.
- organization (prism:, pim:)** The name of an organization, referred to in order to indicate a subject of the resource.
- originPlatform (prism:)** The original platform where a resource's intellectual content was delivered.
- pageRange (prism:)** Identifies the page range for the published print version of the resource.
- person (prism:, pim:)** The proper name of a person, referred to in order to indicate a subject of the resource.
- publicationDate (prism:)** Date (and potentially the time) the identified resource is to be posted online or made available on the newsstand or to subscribers. The platform attribute may be used.
- publicationName (prism:)** Title of the magazine, or other publication, in which a resource was/will be published.
- publisher (dc:)** The entity responsible for making the resource available.
- quote (pim:)** Marks the words attributed to a specific person in the text.
- section (prism:)** Name of the publication section in which the resource is categorized. A section is a logical subdivision of a publication which helps to identify the general subject domain of the contained content.
- startingPage (prism:)** Identifies the first page number for the published version of the resource.
- status (pam:)** Defines the processing status of the article. The default is to add the article (A).
- subject (dc:)** The main topic or topics of the content of the resource. Defines "aboutness".
- subsection1 (prism:)** Name of the subsection of the publication in which the resource appears. Should follow the prism:section element and precede the prism:subsection2 element (if one is given).
- subsection2 (prism:)** Name of the subsection of the publication in which the resource appears. Should follow the prism:section1 element and precede the prism:subsection3 element (if one is given).

subsection3 (prism:) Name of the subsection of the publication in which the resource appears. Should follow the prism:section2 element and precede the prism:subsection4 element (if one is given).

subsection4 (prism:) Name of the subsection of the publication in which the resource appears. Should follow the prism:section3 element.

teaser (prism:) A short description of the resource.

textDescription (pam:) A textual description for the item referred to in a pam:media element.

ticker (pim:, prism:) Indicates a stock sticker symbol that is the subject of the article.

timePeriod (prism:, pim:) The temporal subject of the content of the resource.

title (dc:) The name given to the resource.

type (dc:) The style of presentation of the resource's content, such as image vs. a table.

url (prism:) This element provides the url for an article or unit of content.

usage (prism:) A standard phrase or phrases, defined by the publisher that describes the usage or restriction criteria for the content.

versionIdentifier (prism:) Provides an additional identifier, typically used to record a specific version of a resource. Best practice is to use a version identifier that implies sequence.

volume (prism:) Additional identifier for the publication where the resource appeared, providing the Volume portion of the common Volume, Number scheme.

wordCount (prism:) The (approximate) count of the number of words in a textual resource.

10 Bibliography for the PRISM 2.0 Documentation Package

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