Atom Ranking Extensions
draft-snell-atompub-feed-index-10.txt

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Abstract

This document defines an Atom Syndication Format extension for numerically ranking entries within a syndication feed.

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[1](). Introduction

This document specifies an extension to the Atom Syndication Format
that allows feed publishers to convey one or more numeric rankings
for entries contained within Atom Feed or Entry Documents, each of
which can be used, independently or in conjunction with the others,
to establish a sorting order.

[1.1](). Examples

For example, the feed below includes two entries representing student
exam scores. Each entry contains, in the form of "re:rank" elements,
both the overall score for each student and their score for the
mathematics portion of the test.

```
  <feed xmlns="http://www.w3.org/2005/Atom"
        xmlns:re="http://purl.org/atompub/rank/1.0">
    <id>http://example.org/sat/scores</id>
    ...
    <entry>
      <id>http://students.example.org/~alice</id>
      <title>Alice</title>
      <re:rank scheme="tag:example.org,2006:sat/score/overall"
               label="98">2100</re:rank>
      <re:rank scheme="tag:example.org,2006:sat/score/math"
               label="99+">750</re:rank>
      ...
    </entry>
    <entry>
      <id>http://students.example.org/~bob</id>
      <title>Bob</title>
      <re:rank scheme="tag:example.org,2006:sat/score/overall"
        label="99+">2300</re:rank>
      <re:rank scheme="tag:example.org,2006:sat/score/math"
        label="96">700</re:rank>
      ...
    </entry>
  </feed>
```

Implementations can use the "scheme" attribute associated with each
rank to determine how to interpret and validate the numeric value of
a "re:rank" element. For instance, a rank value of 700 might have a
different meaning and significance when expressed in terms of overall
exam scores than it would when expressed in terms of just the
mathematics portion of the test.

In others situations, rank values that should be interpreted in the
same way differ only in terms of the context in which they have been

applied. For example, the feed below includes two entries
representing movies from two different genres. Each entry contains
one popularity ranking relative to all movies regardless of genre,
and one ranking that is relative only to other movies in the same
genre.

```
<feed xmlns="http://www.w3.org/2005/Atom"
      xmlns:re="http://purl.org/atompub/rank/1.0">
  ...
  <entry>
    <id>http://example.com/movies/starwars</id>
    <title>Star Wars</title>
    <re:rank domain="http://example.com/genres#all"
      scheme="http://example.com/ratings#popularity">123</re:rank>
    <re:rank domain="http://example.com/genres#scifi"
      scheme="http://example.com/ratings#popularity">53</re:rank>
    ...
  </entry>
  <entry>
    <id>http://example.com/movies/citylights</id>
    <title>Charlie Chaplin: City Lights</title>
    <re:rank domain="http://example.com/genres#all"
      scheme="http://example.com/ratings#popularity">5734</re:rank>
    <re:rank domain="http://example.com/genres#comedy"
      scheme="http://example.com/ratings#popularity">27</re:rank>
    ...
  </entry>
</feed>
```

1.2. Namespace and Version

The XML Namespaces URI [W3C.REC-xml-names-19990114] for the XML
elements and attributes described in this specification is
http://purl.org/atompub/rank/1.0

For convenience, this extension may be referred to as "Feed Rank
1.0".

1.3. Notational Conventions

In this document, the namespace prefix "re:" is used for the above
Namespace URI. Note that the choice of namespace prefix is arbitrary
and not semantically significant.

This extension is, like the Atom Syndication Format [RFC4287] itself,
specified using terms from the XML Infoset [W3C.REC-xml-infoset-
20040204]. However, this specification uses a shorthand form for two
commons terms: The phrase "Information Item" is omitted when naming

Element and Attribute Information Items. Therefore, when this
specification uses the term "element," it is referring to an Element
Information Item in Infoset terms. Likewise, when it uses the term
"attribute," it is referring to an Attribute Information Item.

Some sections of this specification are illustrated with fragments of
a non-normative RELAX NG Compact schema [RFC4287]. In those sections
this specification uses the atomCommonAttributes and atomURI patterns
defined in [RFC4287]. However, the text of this specification
provides the sole definition of conformance.

This specification allows the use of IRIs [RFC3987]. Every URI
[RFC3986] is also an IRI, so a URI may be used wherever an IRI is
named. Note that the definition of "IRI" excludes relative
references.

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT",
"SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this
document are to be interpreted as described in BCP 14, [RFC2119].

2. The "re:rank" Element

The "re:rank" element conveys a numeric rank associated with an
entry.

```
rankingValue = element re:rank {
  atomCommonAttributes,
  attribute scheme { atomUri },
  attribute domain { atomUri }?,
  attribute label { text }?,
  { xsd:decimal }
}
```

The text content of the element is a decimal value conforming to the
lexical representation of the XML Schema decimal data type [W3C.REC-
xmlschema-2-20041028]. Whitespace that leads or trails the value is
insignificant.

Entries MAY contain zero or more "re:rank" elements but MUST NOT
contain more than one with the same combination of "scheme" and
"domain" attribute values.

This specification assigns no significance to the order of "re:rank"
elements within an entry.

2.1. The "scheme" Attribute

Each "re:rank" element MUST have a "scheme" attribute that conveys a
permanent, universally unique identifier for a ranking scheme.

The content of the attribute MUST be an IRI, as defined by [RFC3987].
Though the IRI might use a dereferencable scheme, processors MUST NOT
assume it can be dereferenced.

Scheme IRIs MUST be compared on a case-sensitive, character-by-
character basis. For further information refer to section 4.2.6 of
[RFC4287].

2.2. The "domain" Attribute

Each "re:rank" element MAY have a "domain" attribute that conveys a
permanent, universally unique identifier for a ranking domain. If
the "domain" atribute is not specified, the domain identifier is
either

o The "atom:id" of the containing entry's "atom:source" element, if
   present, or
o The "atom:id" of an "atom:feed" containing the entry, if any, or
o The value of the ranked entry's "atom:id".

The content of the attribute MUST be an IRI, as defined by [RFC3987].
Though the IRI might use a dereferencable scheme, processors MUST NOT
assume it can be dereferenced.

Domain IRIs MUST be compared on a case-sensitive, character-by-
character basis. For further information refer to section 4.2.6 of
[RFC4287].

2.3. The "label" Attribute

Each "re:rank" element MAY have a "label" attribute which coneys a
Language-Sensitive, human-readable label for the rank. Entities such
as "&" and "<" represent their corresponding characters ("&"
and "<", respectively), not markup.

3. IANA Considerations

There are no IANA considerations introduced by this specification.

4. Security Considerations

The security considerations discussed in [section 8 of [RFC4287]](#)
apply.

Malicious content producers can use illegitimate "r:rank" values to
inappropriately boost the positions of their own entries or
negatively impact the postions of other entries in ordered sets.

[5](#). References

[5.1](#). Normative References

   [RFC2119]   Bradner, S., "Key words for use in RFCs to Indicate
               Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.

   [RFC3986]   Berners-Lee, T., Fielding, R., and L. Masinter, "Uniform
               Resource Identifier (URI): Generic Syntax", STD 66,
               [RFC 3986](#), January 2005.

   [RFC3987]   Duerst, M. and M. Suignard, "Internationalized Resource
               Identifiers (IRIs)", [RFC 3987](#), January 2005.

   [RFC4287]   Nottingham, M., Ed. and R. Sayre, Ed., "The Atom
               Syndication Format", [RFC 4287](#), December 2005.

   [W3C.REC-xml-infoset-20040204]
               Cowan, J. and R. Tobin, "XML Information Set (Second
               Edition)", World Wide Web Consortium Recommendation
               [http://www.w3.org/TR/2004/REC-xml-infoset-20040204](#),
               February 2004.

   [W3C.REC-xml-names-19990114]
               Bray, T., Hollander, D., and A. Layman, "Namespaces in
               XML", World Wide Web Consortium Recommendation [http://](#)
               [www.w3.org/TR/1999/REC-xml-names-19990114](#), January 1999.

   [W3C.REC-xmlschema-2-20041028]
               Biron, P. and A. Malhotra, "XML Schema Part 2: Datatypes
               Second Edition", World Wide Web Consortium Recommendation
               [http://www.w3.org/TR/2004/REC-xmlschema-2-20041028](#),
               October 2004.

[5.2](#). Informative References

   [RELAXNG]   Clark, J., "RELAX NG Compact Syntax", December 2001,
               <[http://www.oasis-open.org/committees/relax-ng/](#)
               [compact-20021121.html](#)>.

Appendix A. Acknowledgements

   The authors gratefully acknowledge the feedback from the Atom
   Publishing working group during the development of this
   specification. Some portions of text in this specification have been
   copied verbatim from [RFC4287] for the purpose of maintaining
   stylistic and functional consistency with that specification.

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