

CS520 Web Programming RSS and Atom Feeds

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What is a Feed?

XML RSS

```
<rss version="0.91">
<channel>
<title>Amazon.com - DVD</title>
<link>http://www.amazon.com/exec/...</link>
<description>
Up-to-date listings of Amazon.com's top items (by Sales Rank).
</description>
<docs>
http://www.amazon.com/exec/obidos/subst/xs/syndicate.html
</docs>
<item>
<title>Batman Begins (Two-Disc Deluxe Edition)</title>
<description>Batman Begins (Two-Disc Deluxe Edition) -- $19.98</description>
<link>http://www.amazon.com/exec/...</link>
</item>
<item>...</item>
</channel>
</rss>
```

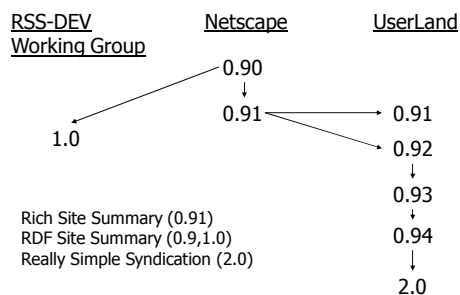
Feed Examples

- ◆ Yahoo! News feeds - <http://news.yahoo.com/rss>
- ◆ Google Feed Reader - <http://www.google.com/reader>

The Need for Feeds

- ◆ Content syndication
- ◆ *A standard way to publish information that changes on a regular basis*
 - Taking advantage of the popularity and availability of feed readers/aggregators

A Little History of RSS



A Little History of Atom

- ◆ Started by Sam Ruby on a wiki in 2003
- ◆ Pie, Echo, Necho, Atom
- ◆ Atom 0.3 is widely adopted
- ◆ Atom 1.0 is now an IETF standard

RSS 2.0

- ◆ RSS 2.0 Specification - <http://blogs.law.harvard.edu/tech/rss>
- ◆ `<rss version="2.0">`
 - `<channel>`

Required `<Channel>` Sub-Elements

- ◆ `<title>`
- ◆ `<link>`
- ◆ `<description>`

Optional `<Channel>` Sub-Elements

- ◆ `<language>`
- ◆ `<copyright>`
- ◆ `<managingEditor>`
- ◆ `<webMaster>`
- ◆ `<pubDate>`
- ◆ `<lastBuildDate>`
- ◆ `<category>`
- ◆ `<generator>`
- ◆ `<docs>`
- ◆ `<cloud>`
- ◆ `<ttl>`
- ◆ `<image>`
- ◆ `<rating>`
- ◆ `<textInput>`
- ◆ `<skipHours>`
- ◆ `<skipDays>`

Element Formats

- ◆ Contact info elements
 - Email (FirstName LastName)
 - E.g. `<webMaster>csun@calstatela.edu (Chengyu Sun)</webMaster>`
- ◆ Date elements
 - RFC 822-style
 - E.g. `<lastBuildDate>Sun, 12 Sep 2004 19:01:55 GMT</lastBuildDate>`

`<item>`

- ◆ `<title>`
- ◆ `<link>`
- ◆ `<description>`
- ◆ `<author>`
- ◆ `<pubDate>`
- ◆ `<category>`
- ◆ `<comments>`
- ◆ `<enclosure>`
- ◆ `<guid>`
- ◆ `<source>`

RSS Modules

- ◆ Extensions of the core specification using XML Namespace

```
<rss version="2.0" xmlns:media="http://tools.search.yahoo.com/mrss/">
...
<item>
...
  <media:content>
    <media:url>http://cs.calstatela.edu/video.mpg</media:url>
    <media:fileSize>2000000</media:fileSize>
    <media:type>video/mpeg</media:type>
  </media:content>
...

```

XML Namespace

- ◆ Resolve conflicting element names
 - E.g. <computing:windows> and <building:windows>
- ◆ Namespace declaration
 - `xmlns:prefix="URI"`
 - E.g.
`xmlns:media=http://tools.search.yahoo.com/mrss/`
 - URI has to be unique

Atom Syndication Format

- ◆ <http://www.ietf.org/rfc/rfc4287>

```
<?xml version="1.0" encoding="utf-8"?>
<feed xmlns="http://www.w3.org/2005/Atom">
  <title>Example Feed</title>
  <author>
    <name>John Doe</name>
    <email>johndoe@example.com</email>
  </author>
  <id>urn:uuid:60a76c80-d399-11d9-b91C-0003939e0af6</id>
  <entry>
    <title>Atom-Powered Robots Run Amok</title>
    <link href="http://example.org/2003/12/13/atom03"/>
    <updated>2003-12-13T18:30:02Z</updated>
    <summary>Some text.</summary>
  </entry>
</feed>
```

Reusable Syntax of Constructs

- ◆ Text
- ◆ Person
 - <name>,<url>,<email>
- ◆ Date, Service, Link, Category
- ◆ Identity
 - Usually a URI

ROME

- ◆ <http://wiki.java.net/bin/view/Javawsxml/Rome>
- ◆ A Java library for producing and consuming RSS and Atom feeds
- ◆ Support all versions of RSS and Atom

Package Structure

- ◆ Interface and a general implementation
 - `com.sun.syndication.io`
 - `com.sun.syndication.feed`
 - `com.sun.syndication.feed.synd`
- ◆ Specific implementations
 - `com.sun.syndication.feed.rss`
 - `com.sun.syndication.feed.atom`
- ◆ Modules and Extensions
 - `com.sun.syndication.feed.module`

Rome Example

- ◆ Create a feed
- ◆ Create entries
- ◆ Output

Publish Your Feeds – Auto Discovery Links

```
<link rel="alternate" type="application/rss+xml"
      title="RSS 2.0" href="url/to/rss2/file">
```

```
<link rel="alternate" type="application/rdf+xml"
      title="RSS 1.0" href="url/to/rss1/file">
```

```
<link rel="alternate" type="application/atom+xml"
      title="Atom" href="url/to/atom/file">
```

Publish Your Feeds – MIME Types

◆ RSS 1.0

- application/rdf+xml

◆ RSS 2.0

- application/rss+xml
- application/xml
- text/xml

◆ Atom

- application/atom+xml

Further Readings

◆ *Developing Feeds with RSS and Atom*
by Ben Hammersley

◆ ROME documentation at
<http://wiki.java.net/bin/view/Javawsxml/Rome>