





Collaborative Technologies in Education

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Abstract. You may have noticed recently that many of websites now contain little graphical buttons with the word XML on them. For example:  or  or  or . When you click on the button, all you see is some jumbled text and computer code [for ex: unless you have a newer web browser or an aggregator]. What's this all about? It's an RSS feed, and it's changing the way people access the Internet. The first version, RSS 0.90, has appeared in 1999 and it was used for to update the news posted on the net. Currently used RSS version 2.0.11.

Keywords: RSS, e-learning, technologies.

1. Introduction

Collaboration is a form of electronic communication in which individuals work on the same documents or processes over a period of time. The Web is considered one of the first examples of collaboration in the digital age, and today, collaboration is often discussed in the context of Electronic Content Management Systems (ECM) and other content-rich social computing tools. When applied to technologies development, collaboration often has a focus on user-centered design and rapid prototyping, with a strong people-orientation. Common functionalities include Wikis, interactive message boards, social bookmarking, electronic negotiation and collaborative filtering. This paper will examine the topic from only one viewpoint and this is education.

As the scope of Information and Communication Technology (ICT) rapidly increases and expands its benefits from reliance in higher education upon related eLearning technologies. By integrating sophisticated computer software and networked technologies, eLearning provides academic institutions with a way of enhancing and enriching teaching performance of faculty and learning activities of students. The expanding use of eLearning technologies over the last two decades is illustrated using the three Web generations.

E-learning technologies continue to expand. Today, computer and Internet technologies are more integrated with professional, academic, and personal lives. Instructional designers have access to more and more new flexible technologies, as do learners have a multitude of choices. These technologies are opening ways for courses, seminars, discussion forums and other approaches to learning to be delivered online with innovative ways to interact with instructors and other students. The following are different learning technologies in use today. Various tools are used in e-learning environments: Electronic Portfolios (e-Portfolios), Electronic Performance Support System (EPSS), Personal digital assistants

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(PDAs), MP3 Players, RSS, CD-ROM, Web sites, Web 2.0 tools, Discussion and bulletin boards, Collaborative software, e-mail, Blogs, Wiki, Chats, Computer aided testing and assessment, Educational animation, simulation, and games, Learning Management Systems (LMS), Podcasts.

2. RSS-Really Simple Syndication

RSS is a technical format that allows online publishers to share and distribute their content to other websites or individual Internet users. It's commonly used for distributing headlines on news websites. Bloggers use it to distribute summaries of their blog entries as well. RSS is written in the Internet coding language known as XML (it is a dialect of XML), which is why you see RSS buttons labeled that way.

If a website publishes an RSS page, commonly known as an RSS "feed", this feed will contain summaries of all the recent articles posted on that site.

RSS allows you to see updated content in news aggregators or web browsers (new ones have integrated this feature). It solves the *What's New* problem for websites by allowing content consumers to subscribe to content that they find relevant. That means it's a great way to communicate with a market that has already defined itself as interested in your content by having taken the first step of subscribing to the feed. It also solves the SPAM problem, because your market has already agreed to be targeted. It's permission marketing done right, and with no *SPAM filter* headaches.

RSS also solves another problem by allowing content to be syndicated (or republished) on other websites. This is how tools like Yahoo or Google News work. They collect RSS feeds from across the Internet and then publish the relevant ones on their site. Imagine the traffic you would generate by getting a story published on one of those news portals. This opens up an entire new way to drive traffic to your site.

RSS is probably the most powerful marketing tool emerging in Internet publishing today.

RSS originated in 1999, and has strived to be a simple, easy to understand format, with relatively modest goals. After it became a popular format, developers wanted to extend it using modules defined in namespaces, as specified by the World Wide Web Consortium (W3C) website.

RSS 2.0 adds that capability, following a simple rule. A RSS feed may contain elements not described on this page, only if those elements are defined in a namespace.

The elements defined in this document are not themselves members of a namespace, so that RSS 2.0 can remain compatible with previous versions in the following sense – a file in 0.91 or 0.92 versions is also valid in 2.0 versions. If the elements of RSS 2.0 were in a namespace, this constraint would break, a version 0.9x file would not be a valid 2.0 file.

2.1 Required channel elements

Here's a list of the required channel elements, each with a brief description.

Element	Description
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title	The name of the channel. It's how people refer to your service. If you have an HTML website that contains the same information as your RSS file, the title of your channel should be the same as the title of your website.
link	The URL to the HTML website corresponding to the channel.
description	Phrase or sentence describing the channel.

2.2 Optional channel elements

Here's a list of optional channel elements.

Element	Description
language	The language the channel is written in. This allows aggregators to group all Italian language sites, for example, on a single page. A list of allowable values for this element, as provided by Netscape, is here. You may also use values defined by the W3C.
copyright	Copyright notice for content in the channel.
managingEditor	Email address for person responsible for editorial content.
webMaster	Email address for person responsible for technical issues relating to channel.
pubDate	The publication date for the content in the channel.
lastBuildDate	The last time the content of the channel changed.
category	Specify one or more categories that the channel belongs to. Follows the same rules as the <item>-level category element. More info.
generator	A string indicating the program used to generate the channel.
docs	A URL that points to the documentation for the format used in the RSS file. It's probably a pointer to this page. It's for people who might stumble across an RSS file on a Web server 25 years from now and wonder what it is.
cloud	Allows processes to register with a cloud to be notified of updates to the channel, implementing a lightweight publish-subscribe protocol for RSS feeds.
ttl	ttl stands for time to live. It's a number of minutes that indicates how long a channel can be cached before refreshing from the source.
image	Specifies a GIF, JPEG or PNG image that can be displayed with the channel.
rating	The PICS rating for the channel.
textInput	Specifies a text input box that can be displayed with the channel.
skipHours	A hint for aggregators telling them which hours they can skip.
skipDays	A hint for aggregators telling them which days they can skip.

<image> sub-element of <channel>.

<image> is an optional sub-element of <channel>, which contains three required and three optional sub-elements.

<url> is the URL of a GIF, JPEG or PNG image that represents the channel.

<title> describes the image, it's used in the ALT attribute of the HTML tag when the channel is rendered in HTML.

<link> is the URL of the site, when the channel is rendered, the image is a link to the site. (Note, in practice the image <title> and <link> should have the same value as the channel's <title> and <link>).

Optional elements include <width> and <height>, numbers, indicating the width and height of the image in pixels. <description> contains text that is included in the TITLE attribute of the link formed around the image in the HTML rendering.

Maximum value for width is 144, default value is 88. Maximum value for height is 400, default value is 31.

<cloud> sub-element of <channel>.

<cloud> is an optional sub-element of <channel>.

A channel may optionally contain a:

<textInput> sub-element, which contains four required sub-elements.

<title> - The label of the Submit button in the text input area.

<description> - Explains the text input area.

<name> - The name of the text object in the text input area.

<link> - The URL of the CGI script that processes text input requests.

The purpose of the <textInput> element is something of a mystery. You can use it to specify a search engine box, or to allow a reader to provide feedback.

2.3 Elements of <item>

A channel may contain any number of <item>'s. An item may represent a "story" – much like a story in a newspaper or magazine; if so its description is a synopsis of the story, and the link points to the full story. An item may also be complete in itself, if so, the description contains the text (entity-encoded HTML is allowed, and the link and title may be omitted). All elements of an item are optional, however at least one of title or description must be present.

Element	Description
title	The title of the item.
link	The URL of the item.
description	The item synopsis.
author	Email address of the author of the item.
category	Includes the item in one or more categories.
comments	URL of a page for comments relating to the item.
enclosure	Describes a media object that is attached to the item.

guid	A string that uniquely identifies the item.
pubDate	Indicates when the item was published.
source	The RSS channel that the item came from.

The url must be an http url.

```
<enclosure url="http://www.kissfm.ro/Suite.mp3" length="12216320"
type="audio/mpeg" />
```

You may include as many category elements as you need to, for different domains, and to have an item cross-referenced in different parts of the same domain.

<pubDate> sub-element of <item>

<pubDate> is an optional sub-element of <item>.

Its value is a date, indicating when the item was published. If it's a date in the future, aggregators may choose to not display the item until that date.

```
<pubDate>Sun, 22 Jan 2012 15:21:36 GMT</pubDate>
```

<guid> sub-element of <item>

<guid> is an optional sub-element of <item>.

Guid stands for globally unique identifier. It's a string that uniquely identifies the item. When present, an aggregator may choose to use this string to determine if an item is new.

```
<guid>http://some.server.ro/weblogItemXXX</guid>
```

There are no rules for the syntax of a guid. Aggregators must view them as a string. It's up to the source of the feed to establish the uniqueness of the string.

If the guid element has an attribute named "isPermaLink" with a value of true, the reader may assume that it is a permalink to the item, that is, a url that can be opened in a Web browser, that points to the full item described by the <item> element. An example:

```
<guid isPermaLink="true">http://www.link.ro/2012/09/01.php#a2</guid>
```

isPermaLink is optional, its default value is true. If its value is false, the guid may not be assumed to be a url, or a url to anything in particular.

<comments> sub-element of <item>

<comments> is an optional sub-element of <item>.

If present, it is the url of the comments page for the item. <comments>
</comments>

<author> sub-element of <item>

<author> is an optional sub-element of <item>.

It's the email address of the author of the item. For newspapers and magazines syndicating via RSS, the author is the person who wrote the article that the <item> describes. For collaborative weblogs, the author of the item might be different from the managing editor or webmaster. For a weblog authored by a single individual it would make sense to omit the <author> element.

```
<author>username@yahoo.com</author>
```

3. Publishing RSS Feeds

There are several tools for publishing RSS feeds widely available on the Internet, with a range of prices from free on up. The problem with most of the tools is that they require a fair bit of work to get your content into the feed you are creating. With some, you have to copy and paste your content into their tool, which is simple for small amounts of content but not for larger websites. With others, you have to have PHP, ASP, or Perl on your web server and use those tools to rework your content into a feed. In all cases, none of them are designed to integrate directly with Dreamweaver, a primary tool used to create your website content.

The right solution would take advantage of the content you've already created and the way that you manage that content using Dreamweaver. It would give you a way to leverage what you know to accomplish the task of creating a feed, without having to learn new tags for RSS and without having to become a CGI expert to program PHP/ASP/Perl.

When manual feed creation becomes a headache, consider using *RSS Creation Software* or *RSS DreamFeeder*.

That's what *RSS DreamFeeder* does. *RSS DreamFeeder* allows you to specify elements of the content you're already creating for your website to be reformatted as an RSS feed. It integrates specialized search-engine technology into Dreamweaver with a simple floating panel where you can create, edit, and process your content into RSS feeds. *DreamFeeder's* panel lists new content that has been added to your site since the feed was last updated and will add that new content to your feeds when you tell it to. You don't have to edit every entry in the feed; all you do is tell it to do the job. It only does that when you're ready and your new content is ready — avoiding problems with feeds pointing to articles still being created.

4. How to Create RSS Feeds

Since any RSS-file is a specially formatted XML file, it can be edited with any XML editor. And since XML files are just plain text you can use any text editor, even Notepad, to create your first feed.

Follow these steps to create a simple RSS feed manually.

1: Create an empty text file - Use Windows Notepad or any other text editor.

2: Add XML Declaration Tag

Since RSS is a dialect of XML, the first line in the feed must be the XML declaration.

```
<?xml version="1.0"?>
```

3: RSS Channel

Now it is time to add the <rss> XML tag, and the <channel> tag. All feed contents will go inside these two tags.

```
<rss version="2.0">
```

```
<channel>
```

4: RSS Feed Properties

Next step is to place information about the RSS feed such as it's title, it's description, it's language and a link to it's web-site. And finally add the

<lastBuildDate> field which should be the date and time that the feed was last changed. This field is optional, but highly recommended.

```
<title>Gabriela Virilan</title>
<link>http://virlan.ucoz.ro</link>
<description>Pagina Personală</description>
<lastBuildDate>30 April 2010 18:30:00 GMT</lastBuildDate>
<language>ro</language>
```

5: Adding Items to your RSS Feed

Every RSS feed consists of **items**, and each item in an RSS Feed has a title, link, description, publication date, and (optionally) guid (unique identifier).

```
<item>
<title>Primul post</title>
<link> http://virlan.ucoz.ro/Pag1.html</link>
<guid> http://virlan.ucoz.ro /Pag1.html </guid>
<pubDate>30 April 2010 18:30:00 GMT</pubDate>
<description>Hello My friends!</description>
</item>
```

6: Add closing tags for Channel and RSS.

```
</channel>
</rss>
```

7: Validate your new RSS feed

After you have created your RSS Feed, validate it.

Sample feed

Here's a sample RSS file which can be used as a template for your first feed:

```
<?xml version="1.0"?>
<rss version="2.0">
<channel>
  <title>Gabriela Virilan</title>
  <link>http://virlan.ucoz.ro</link>
  <description>Pagina personală</description>
  <lastBuildDate>30 April 2010 18:30:00 GMT</lastBuildDate>
  <language>ro</language>
  <item>
    <title>Primul post</title>
    <link> http://virlan.ucoz.ro/Pag1.html</link>
    <guid> http://virlan.ucoz.ro /Pag1.html </guid>
    <pubDate>30 April 2010 18:30:00 GMT</pubDate>
    <description>Hello My friends!</description>
```

```
</item>  
</channel>  
</rss>
```

5. Conclusion

RSS is a real important technology that information specialists and educators would be well advised to harness sooner rather than later. For educators, the potential significance of RSS is huge. It's about how teachers could use this syndication process to communicate with students, parents, newspapers etc. In the classroom, teachers who have students create their own Weblogs can easily keep tabs on what those students are posting by subscribing to their students' feeds and simply checking their aggregators regularly.

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