

Writing RSS

Introduction

RSS (RDF Site Summary), as used here in the University, is a lightweight, topical, metadata and syndication format. Huh? Lets take a look at each part of that very long-winded technical description.

- *Lightweight*
One of the main reasons for the use of RSS is that it's very small. RSS files usually take less than a hundred kilobytes of space. This means that there isn't much in them. RSS files are XML (eXtensible Markup Language) documents, so you can write them with any text editor (notepad, vi, emacs, Word) with little effort. In short, small files that are easy to write equals less headaches for you.
- *Topical*
RSS highlights what YOU think is important on your page and needs to be seen. You decide what to showcase on your page. If you are a news organization you will probably highlight your latest headlines, if you are a club you may want to highlight your upcoming events, or if you are an academic or administrative department you may want to highlight some of your most requested pages.
- *Metadata*
Metadata, or information about your data, allows you to embed in the RSS file information like who wrote the article you are highlighting, what department is hosting a particular event, how often your RSS file will be read to see if you have added any information. RSS allows you describe numerous aspects about your site.
- *Syndication*
RSS is a snapshot-in-a-document of what you consider most interesting/important about your site at the moment. That could be the due date for financial aid applications, class project due dates, club events, ... anything. And you make this available for the University to grab, pass on, aggregate, or publish online -- with links right back to your site for each item.

How does it work?

Now that you know what RSS is, it might help to know how it works. It's pretty simple really. First some one, most likely you since you're reading this, writes an RSS file. You then place that file in a web accessible location. Put it wherever you put any web pages you might have, your departmental web server, Filebox, wherever. Then you tell WARD that it's out there and a little about it, like who this might be important to, and how often we should check the file to see if you've added anything new. That's it, using RSS requires nothing more on your part.

Now that your RSS document is registered in our library of RSS documents we can match it up with people who might want to view it through our portal. When a user logs in he/she can search through our library and select RSS content that is interesting to them, or we can suggest some to them. For example, at the beginning of the year we may suggest that freshmen view a special orientation document.

After the user has made all their selections the RSS files are then formatted in HTML and displayed on their portal page. They see the highlights of your site that you entered into your RSS file. When you change the file, what they see automatically reflects those changes.

Terminology

Three basic terms at this point will help you better understand the entire process of writing an RSS file much better.

- **Channel:** A channel is the total collection of items that you wish to highlight in your website. There is exactly one channel per RSS file.
- **Item:** An item is a single thing you would like to highlight from your site. There is at least one, but no more than, 15 items per channel. We suggest limiting yourself to around 6 items per channel.
- **RDF:** RDF is the mother specification of RSS. RDF is vastly more robust, and vastly more complicated, than RSS.

How to write an RSS channel

Beginning Template

Certain aspects about every RSS file are the same, regardless of the content within them. In order to make your creation of RSS files easier, following is a template that already contains all those things.

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

<rdf:RDF
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:dc="http://purl.org/dc/elements/1.1"
  xmlns:sy="http://purl.org/rss/1.0/modules/syndication/"
  xmlns="http://purl.org/rss/1.0/"
>
```

Your content goes here!

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

Simply copy the above template anytime you wish to create a new RSS file. A description of what each line does will not be given in this document. Suffice it to say that it simply marks the file as an RSS file.

Creating a Channel

Now that you have your template copied over the first thing you need to do is define your channel. The channel element of the RSS file describes your channel as a whole. Following is an example of a channel, and after the example, a description of each line is given.

```
<channel rdf:about="http://www.ward.vt.edu">
  <title>WARD Announcements</title>
  <link>http://www.ward.vt.edu</link>
  <description>WARD Announcements</description>
  <dc:creator>Chad La Joie</dc:creator>
  <dc:subject>WARD:Announcements</dc:subject>
  <dc:publisher>WARD</dc:publisher>
  <dc:contributor>James Powell</dc:contributor>
  <sy:updatePeriod>daily</sy:updatePeriod>
  <sy:updateFrequency>1</sy:updateFrequency>
</channel>
```

That looks like a lot of stuff, but it will all make sense once we take it line by line. So lets start with the first line.

```
<channel rdf:about="http://www.ward.vt.edu">
```

This line tells whatever program is reading your RSS file that this is the beginning of your RSS Channel description and what site your channel is about. In this case the channel is about WARD and we chose to use the address of our website as our description. By convention you should always use the address of your website here.

```
<title>WARD Announcements</title>
```

This line tells the reader of the file what the title of the channel is. In this example the channel is called WARD Announcements. The title should be descriptive of what your channel highlights, as it will be displayed when the RSS file is converted into HTML. Here we would expect this channel to have announcements about things WARD is doing.

```
<link>http://www.ward.vt.edu</link>
```

This line tells the program reading the RSS file to make the title a link to the given site. In our example we chose to link our title to our homepage.

```
<description>WARD Announcements</description>
```

This line describes your channel. It should be as short but also as descriptive as possible. Here we thought that WARD Announcements was descriptive enough. If you can't think of a better description then your title simply use whatever you set as your title. There is no absolute limit to the length the description, but the suggested limit is 500

characters.

```
<dc:creator>Chad La Joie</dc:creator>
```

This line gives the name of the person who created/wrote the file. In this case Chad La Joie created it. Note: As you will see the creator and contributor can be separate people.

```
<dc:subject>WARD:Announcements</dc:subject>
```

This line describes what subject, and therefore, into which category we put, the RSS file. Currently we have not defined a standard naming convention for these categories, though we are working on it. For now we suggest the following format "general category: subcategory". In our case we chose to use publish all our RSS files under the category WARD and for announcements we are using a the rather inventive subcategory of Announcements so we end up with WARD:Announcements.

```
<dc:publisher>WARD</dc:publisher>
```

This line describes who is publishing your RSS file. If your RSS file is on your departmental web server you should probably use your department name here. If it's on Filebox you should use that here. In this example the RSS file is on our departmental web server and therefore the publisher is WARD.

```
<dc:contributor>James Powell</dc:contributor>
```

This line indicates who contributed this channel. The contributor is not necessarily the same person as the creator, as is the case in this example. In this example, James Powell contributes what goes into the announcements.

```
<sy:updatePeriod>daily</sy:updatePeriod>
```

This the first part that describes how often the RSS file should be re-read. Valid values for this are: hourly, daily, weekly, monthly, or yearly. In our case we have a period of daily.

```
<sy:updateFrequency>1</sy:updateFrequency>
```

This line works in conjunction with the previous one. It says how many times in a given period the file should be re-read. In our case we chose 1. This means that our file will be re-read once daily. If our period had been hourly and our frequency 2 our file would be re-read twice and hour, or every half an hour.

```
</channel>
```

This line tells the program reading the RSS file that you are done describing your channel.

Creating a Channel Image (optional)

You can associate a small image (75x75 pixels) with your channel. This image should be associated with your group or with the meaning of the RSS file. As you will see we will use our departmental logo. It's important to note that not all sites that take RSS content will actually display your image.

Below is an example of how to define an image in your RSS file, after the example will follow a description of each line.

```
<image rdf:about="http://www.ward.vt.edu/logo.jpg">  
  <title>WARD Logo</title>  
  <url>http://www.ward.vt.edu/logo.jpg</url>  
  <link>http://www.ward.vt.edu</link>  
</image>
```

```
<image rdf:about="http://www.ward.vt.edu/logo.jpg">
```

This line begins with your image description. Like the channel the about section tells what the image is about, and also like the channel you should use the address to the actual image here. In this example we use the address to our logo.

```
<title>WARD Logo</title>
```

This line gives the title of the image which will be displayed if a user holds their mouse over the picture for a moment. In this example we will simply call it WARD Logo.

```
<url>http://www.ward.vt.edu/logo.jpg</url>
```

This line defines the location of your image.

```
<link>http://www.ward.vt.edu</link>
```

This line defines the location a user is taken to when they click on the image. We suggest making this, as in this example, a link to your main web page.

```
</image>
```

This line tells the program reading your RSS file that you are done defining your image.

Creating Items

Items are the meat of your RSS file. They are your headlines, important events, most visited pages, or whatever you feel is most important for a user to know about on your site. An RSS file must have at least one item in it and can have no more than 15, though we really suggest no more than 6. Following is an example of an RSS item for our example RSS file. After the example will be a line-by-line explanation of it.

```
<item rdf:about="http://www.ward.vt.edu/announcements/rss.html">
  <title>RSS support now available!</title>
  <link>http://www.ward.vt.edu/announcements/rss.html</link>
  <description>
    A short announcement about RSS availability and usage on WARD
    hosted sites.
  </description>
  <dc:creator>Chad La Joie</dc:creator>
  <dc:subject>Hosting Services</dc:subject>
  <dc:publisher>WARD</dc:publisher>
  <dc:contributor>James Powell</dc:contributor>
</item>
```

```
<item rdf:about="http://www.ward.vt.edu/announcements/rss.html">
```

This line, like the first channel and image line, tells the program reading the RSS file that this is the beginning of an item's description. Just as with the channel and image sections, the about should, by convention, contain the same thing as the link element.

```
<title>RSS support now available!</title>
```

This line is the text that gets displayed when your RSS file gets converted into HTML. In our example "RSS support now available!" is the headline that will be displayed.

```
<link>http://www.ward.vt.edu/announcements/rss.html</link>
```

This line is where the user will be taken when they click on the text given by the title element. In this example they will be taken to a page that gives more information about what RSS is and how to use it on WARD hosted sites.

```
<description>
  A short announcement about RSS, it's availability, and usage on
  WARD hosted sites.
</description>
```

These lines are a short description of what the item is about. It gives a little more description than the headline but not the full-blown article. In our example we are told that the link will describe what RSS is and how it can be used on WARD hosted sites.

```
<dc:creator>Chad La Joie</dc:creator>
```

This tag is the name of the person who wrote the item. This will almost always be the person who wrote the channel, though it doesn't have to be. In our example Chad La Joie wrote this item.

```
<dc:subject>Hosting Services</dc:subject>
```

This line gives a little more information about the subject of our headline. In our example we see that RSS availability is related to our department's hosting services.

```
<dc:publisher>WARD</dc:publisher>
```

This line describes who is publishing the RSS file. This will almost always be identical to the channel publisher, though it doesn't have to be. In our example WARD is the publisher for this item. An example of where the item publisher may be different from the channel publisher is where your site has RSS items from another site. If one of those items were included in your RSS file, the original site would be the publisher.

```
<dc:contributor>James Powell</dc:contributor>
```

This line is the name of the person who contributed the headline. In our example James Powell contributed this announcement.

```
</item>
```

This line tells the program reading your RSS file that you are done describing this item. You can then follow this with as many other item descriptions as you have, up to a maximum of 15, following the same format as described above.

Finishing touches

There are a few finishing touches you need to add to your file before it's ready to go. In order to associate an image with a channel you need to tell the channel that it has an image. This is done by adding the first line of your image description to your channel description, except you end it with " /> " instead of " > ". Below, in red, is what we would add to our example channel description:

```
<channel rdf:about="http://www.ward.vt.edu">
  <title>WARD Annoucements</title>
  <link>http://www.ward.vt.edu</link>
  <description>WARD Annoucements</description>
  <dc:creator>Chad La Joie</dc:creator>
  <dc:subject>WARD:Annoucements</dc:subject>
  <dc:publisher>WARD</dc:publisher>
  <dc:contributor>James Powell</dc:contributor>
  <sy:updatePeriod>daily</sy:updatePeriod>
  <sy:updateFrequency>1</sy:updateFrequency>

  <image rdf:about="http://www.ward.vt.edu/logo.jpg" />
</channel>
```

The final thing you have to do is tell the channel how many items you have and what they point to. You do this by adding a few lines to your channel description. Below, in green, are the lines we will add for this example and following is a description of what each line does.

```
<channel rdf:about="http://www.ward.vt.edu">
  <title>WARD Annoucements</title>
```

```

<link>http://www.ward.vt.edu</link>
<description>WARD Announcements</description>
<dc:creator>Chad La Joie</dc:creator>
<dc:subject>WARD:Announcements</dc:subject>
<dc:publisher>WARD</dc:publisher>
<dc:contributor>James Powell</dc:contributor>
<sy:updatePeriod>daily</sy:updatePeriod>
<sy:updateFrequency>1</sy:updateFrequency>

<image rdf:about="http://www.ward.vt.edu/logo.jpg" />

<items>
  <rdf:seq>
    <rdf:li resource=http://www.ward.vt.edu/announcements/rss.html />
  </rdf:seq>
</items>
</channel>

<items>

```

This line tells programs reading your RSS file that you have one or more items associated with your channel and that you are now going to describe them. So far in our example we have exactly one, though in the full example you'll see there are three.

```
<rdf:seq>
```

This tells the program reading your RSS files that you are about to give a list, or sequence (that's what the seq means), of the items in your channel. This line is the same for every channel you will ever create.

```
<rdf:li resource=http://www.ward.vt.edu/announcements/rss.html />
```

This line defines one of the items in your channel. The URL is always exactly the same as the link in the respective item. The URL is used because, while item titles should be unique they don't have to be, while the URLs of items are required to be. NOTE: Like the image description in the channel, all item description lines end with ">" and not ">".

```
</rdf:seq>
```

This line tells the program reading your file that you are done with your list of items.

```
</items>
```

This line tells the program reading your file that you are done describing the items that are in your channel.

Complete Example

Below is a complete example of an RSS file. It contains three items and an image.

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

<rdf:RDF
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:dc="http://purl.org/dc/elements/1.1"
  xmlns:sy="http://purl.org/rss/1.0/modules/syndication/"
  xmlns="http://purl.org/rss/1.0/"
>
  <!-- begin channel description -->
    <channel rdf:about="http://www.ward.vt.edu">
      <title>WARD Annoucements</title>
      <link>http://www.ward.vt.edu</link>
      <description>WARD Annoucements</description>
      <dc:creator>Chad La Joie</dc:creator>
      <dc:subject>WARD:Annoucements</dc:subject>
      <dc:publisher>WARD</dc:publisher>
      <dc:contributor>James Powell</dc:contributor>
      <sy:updatePeriod>daily</sy:updatePeriod>
      <sy:updateFrequency>1</sy:updateFrequency>

      <image rdf:about="http://www.ward.vt.edu/logo.jpg" />

      <items>
        <rdf:seq>
          <rdf:li resource =
            "http://www.ward.vt.edu/annoucements/rss.html"
            />
          <rdf:li resource =
            "http://www.ward.vt.edu/annoucements/ejb.html"
            />
          <rdf:li resource =
            "http://www.ward.vt.edu/annoucements/jsp.html"
            />
        </rdf:seq>
      </items>

    </channel>
  <!-- end channel description -->

  <!-- begin image description -->
    <image rdf:about="http://www.ward.vt.edu/logo.jpg">
      <title>WARD Logo</title>
      <url>http://www.ward.vt.edu/logo.jpg</url>
      <link>http://www.ward.vt.edu</link>
    </image>
  <!-- end image description -->

  <!-- begin item description -->
    <item rdf:about="http://www.ward.vt.edu/annoucements/rss.html">
      <title>RSS support now available!</title>
```

```

        <link>http://www.ward.vt.edu/announcements/rss.html</link>
        <description>
            A short announcements about RSS availability and usage
            on WARD hosted sites.
        </description>
        <dc:creator>Chad La Joie</dc:creator>
        <dc:subject>Hosting Services</dc:subject>
        <dc:publisher>WARD</dc:publisher>
        <dc:contributor>James Powell</dc:contributor>
    </item>
<!-- end item description -->

<!-- begin item description -->
    <item rdf:about="http://www.ward.vt.edu/announcements/ejb.html">
        <title>HTML support now available!</title>
        <link>http://www.ward.vt.edu/announcements/ejb.html</link>
        <description>
            A short announcements about EJB availability and usage
            on WARD hosted sites.
        </description>
        <dc:creator>Chad La Joie</dc:creator>
        <dc:subject>Hosting Services</dc:subject>
        <dc:publisher>WARD</dc:publisher>
        <dc:contributor>James Powell</dc:contributor>
    </item>
<!-- end item description -->

<!-- begin item description -->
    <item rdf:about="http://www.ward.vt.edu/announcements/jsp.html">
        <title>JSP support now available!</title>
        <link>http://www.ward.vt.edu/announcements/jsp.html</link>
        <description>
            A short announcements about JSP availability and usage
            on WARD hosted sites.
        </description>
        <dc:creator>Chad La Joie</dc:creator>
        <dc:subject>Hosting Services</dc:subject>
        <dc:publisher>WARD</dc:publisher>
        <dc:contributor>James Powell</dc:contributor>
    </item>
<!-- end item description -->

<!-- end RSS file -->
</rdf:RDF>

```

Making the file accessible

Now that your file is complete you need to save it and make it web accessible. Save the file with a ".rss" extension. In our example we might save our file as "announcements.rss". Now put the file out on your web server. If you don't know how to do this contact either your webmaster, or system administrator.