

Your News, Gadgets, and Online Trails: Mashing RSS Feeds in Popfly

RSS (Really Simple Syndication) is the underlying technology that enables sharing of blog posts, podcasts, news headlines, and other content on the web. In this lesson you will create Popfly mashups to create a web gadget to display RSS feeds, you will learn to locate RSS feeds that contain information about your activities on popular social and networking web sites and combine them to aggregate a “trail” of your online presence, and you will combine and filter RSS feeds from topics of interest in order to display only those items of interest to you.



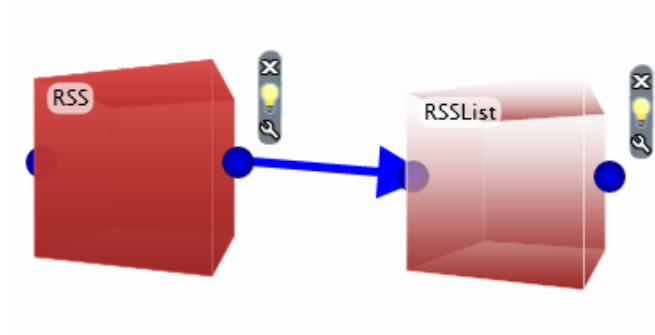
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Professor Popfly Mashups Referenced in this Lesson:

- ProfPopflyRSSFeed
<http://www.popfly.com/users/professorpopfly/ProfPopflyRSSFeed>
- MyFriendFeed
<http://www.popfly.com/users/professorpopfly/MyFriendFeed>
- NewsFilter
<http://www.popfly.com/users/professorpopfly/NewsFilter>
- Ask A Ninja Podcast
<http://www.popfly.com/users/professorpopfly/AskANinja>



Learning Outcomes

After completing this lesson, you should be able to:

- Describe the data contained in an RSS feed
- Identify sources of RSS feeds on a web site
- Describe the relationship between RSS feeds and podcasts
- Create mashups that combine, sort, and filter RSS feeds
- Concatenate strings using the TextAppender block to construct the URL for an RSS feed
- Explain the problem that occurs when a date is treated as character data for sorting
- Use ConditionBuilder to create conditions for filtering an RSS Feed

Overview: What is RSS?

RSS (Really Simple Syndication) is the underlying technology that enables sharing of blog posts, podcasts, news headlines, and other content on the web. Developed by Dave Winer in 1997 as a tool to provide a flow of news items by storing them in XML format for his web site at scripting.com, RSS has evolved into a standard for publishing content to which others can subscribe. In addition to news headlines, today's syndicated content originates from blog posts, podcasts, stock tickers, facebook and flickr updates, and more. The orange icon shown below indicates an RSS feed.



In this lesson you will create three Popfly mashups to interact with RSS feeds: In the first example, you will create a web gadget to display RSS feeds. In the second, you will learn to locate RSS feeds that contain information about your activities on popular social and networking web sites and combine them to aggregate a “trail” of your online presence. Finally, in the third example, you will combine and filter RSS feeds from topics of interest in order to display only those items of interest to you.

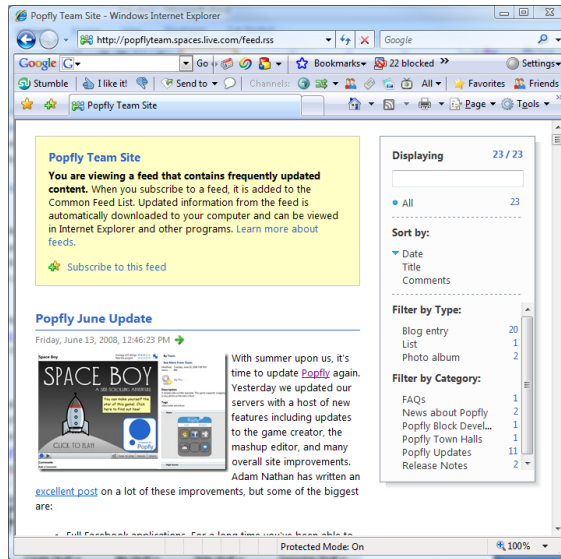
The exercises also explore the relationship between RSS feeds and podcasting; the last exercise describes how to create a mashup to play video podcasts.

Subscribing to RSS Feeds

RSS feeds make use of XML to publish web content that is updated frequently. By providing the URL of an RSS feed to an aggregator program, the aggregator will periodically check the feed to see if there is anything new, and display the new items. This process gathers together data from many different web sites, and displays any new items.

To subscribe to an RSS feed, specify its URL to an aggregator program, which check the feed periodically and updates when new content has been posted. Such aggregator functionality is now standard in versions of web browsers such as Internet Explorer (look for the RSS icon in the toolbar and click it to view feeds on the current page) and Firefox through the use of live bookmarks.

An RSS feed includes a standard set of XML tags for describing the title, author, publication date, description, and hyperlink for each item in the feed. As an aside, note that podcasting is an extension of RSS: the RSS feed for a podcast contains an additional enclosure tag describing the uniform resource locator (url) for the multimedia, its length in bytes, and content type (audio or video). The last exercise explores interacting with RSS podcast feeds.



Look Inside an RSS Feed

The Popfly Team blog is located at <http://popflyteam.spaces.live.com/>; you can see its RSS feed by clicking “Subscribe to feed” under the Tools menu on that page. The associated RSS feed for the blog is at the URL <http://popflyteam.spaces.live.com/feed.rss>.

View the source of the page to see the underlying XML for the RSS feed. Pasting that text into an editor such as Visual Studio Express better shows the associated tags. The figure that follows shows the RSS for the Popfly Team’s blog. Some items and less-common tags have been omitted for clarity.

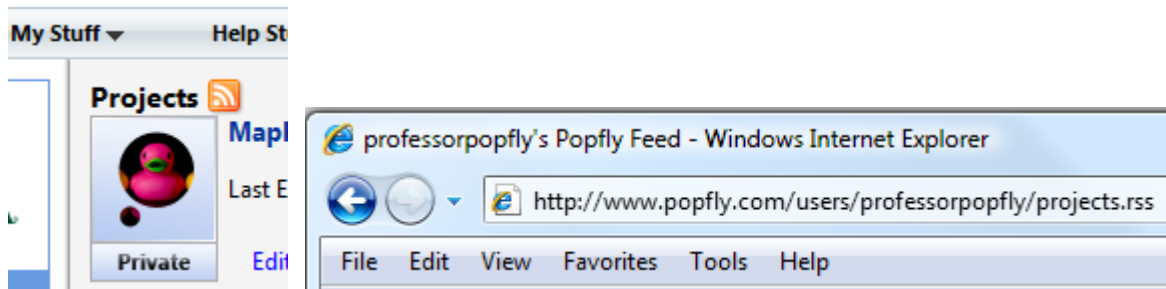
```
<?xml-stylesheet type='text/xsl' href='http://popflyteam.spaces.live.com/mmm2008-05-17_13.22/rsspretty.aspx?rss
<rss version="2.0" xmlns:slash="http://purl.org/rss/1.0/modules/slash/" xmlns:msn="http://schemas.microsoft.com
<channel>
  <title>Popfly Team Site</title>
  <description />
  <link>http://popflyteam.spaces.live.com/</link>
  <language>en-US</language>
  <pubDate>Fri, 13 Jun 2008 16:46:23 GMT</pubDate>
  <lastBuildDate>Fri, 13 Jun 2008 16:46:23 GMT</lastBuildDate>
  <generator>Microsoft Spaces v1.1</generator>
  <docs>http://www.rssboard.org/rss-specification</docs>
  <item>
    <title>Popfly June Update</title>
    <link>http://popflyteam.spaces.live.com/Blog/cns!51018025071FD37F!290.entry</link>
    <description>&lt;p&gt;&lt;a href="http://h5ionw.bay.livefilestore.com/vipxqLmzMINFK4k54L3a99M8zqHvcTl329x
    <category>Popfly Updates</category>
    <comments>http://popflyteam.spaces.live.com/Blog/cns!51018025071FD37F!290.entry#comment</comments>
    <guid isPermaLink="true">http://popflyteam.spaces.live.com/Blog/cns!51018025071FD37F!290.entry</guid>
    <pubDate>Fri, 13 Jun 2008 16:46:23 GMT</pubDate>
  </item>
  <item>
    <title>Games We Love</title>
    <link>http://popflyteam.spaces.live.com/Blog/cns!51018025071FD37F!286.entry</link>
    <description>&lt;p&gt;&lt;a href="http://www.popfly.com/" target="
    <category>Popfly Updates</category>
    <comments>http://popflyteam.spaces.live.com/Blog/cns!51018025071FD37F!286.entry#comment</comments>
    <guid isPermaLink="true">http://popflyteam.spaces.live.com/Blog/cns!51018025071FD37F!286.entry</guid>
    <pubDate>Fri, 16 May 2008 20:18:21 GMT</pubDate>
  </item>
  <item>...
</channel>
</rss>
```

Note that every RSS feed, whether it is describing blog posts, del.icio.us tags, or the most recent photos you posted on flickr, all contain (at least) the <rss>, <channel>, <item>, <title>, <link>, <description>, and <pubDate> tags. These are the most common; the RSS specification also allows for some other tags to mark up content appropriate information. Because RSS feeds all have the same tags and structure, it is easy to combine and process RSS feeds. To view the output values from an RSS block, connect the RSS block to another block in Popfly, and specify values from the RSS block as inputs.

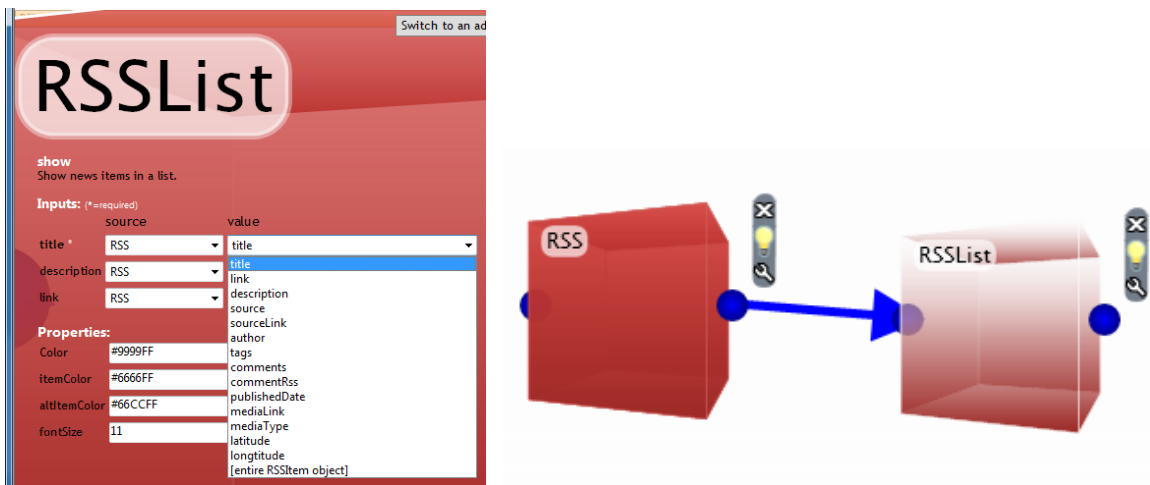
RSS feeds are useful sources of information for mashups because it is possible to combine them, or even extract information from the title or description of each item.

Example 1: Create a Web Gadget to Display RSS Feed Items

The XML lesson introduced RSS by demonstrating how to create a mashup to display an RSS Feed. The mashup uses the RSS block to obtain the items from a specified RSS feed, and RSSList to display the items using an attractive, dynamic interface. Select the getItems operation in the RSS block, and enter the URL for your Popfly mashups (or another) RSS feed. Find your Popfly mashups RSS feed by clicking on the RSS icon on your Popfly Projects page. The format of the URL is <http://www.popfly.com/users/yourPopflyUserName/projects.rss>, where yourPopflyUserName is your Popfly user name.



Connect the RSS block to an RSSList block to create a fancy RSS List display. Select customized colors for the RSSList if you wish.

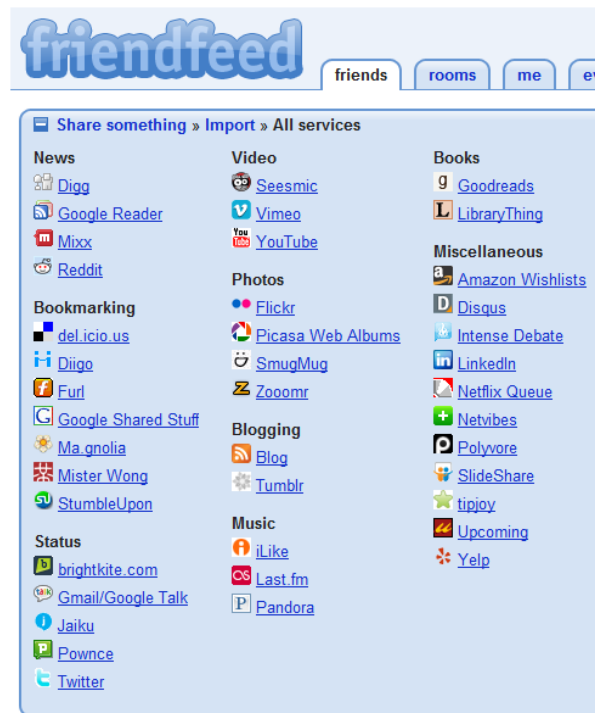


Before you click Play to preview the mashup, look inside the RSSList block by clicking on its wrench. Notice that the items in the drop down list are exactly those items output from the RSS feed.

The first exercise at the end of this lesson guides you through the process of building this mashup and embedding it as a gadget on your web page.

Example 2: Your Online Trail: Combining RSS Feeds about You

Friendfeed.com (<http://www.friendfeed.com>) is an aggregator application that combines RSS feeds from popular social networks. Every time you upload a photo to flickr or a video to YouTube, post to your blog, send a message on twitter, add a book mark on del.icio.us, or update your profile on Linked In, each of those transactions gets recorded to a database on the corresponding web site. Users may then query those databases and obtain results about recent activity on the associated web sites in the form of an RSS feed. If someone knows your login names at each site, they can likely access the trail of information you've left behind.



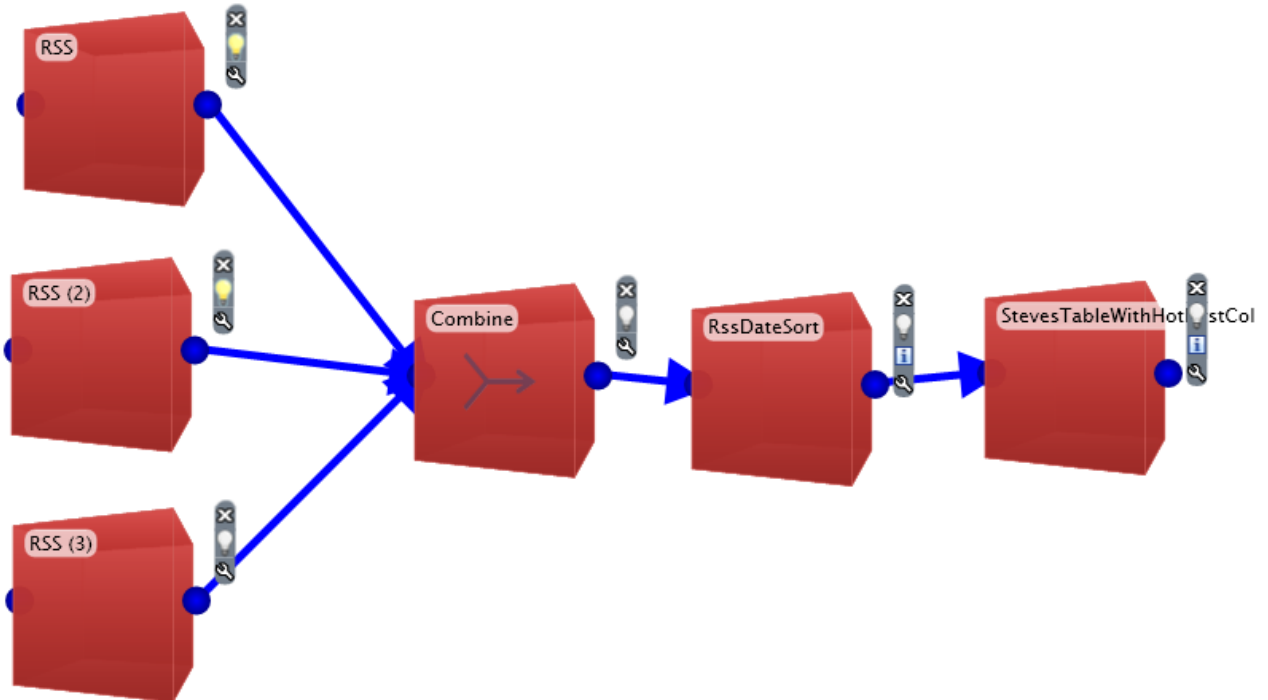
Friendfeed allows you to register the sites in which you participate, and then combines all of their RSS feeds into a single list that paints a more complete picture of your interests and activities online.

This example describes how you might build a mashup like FriendFeed, to combine data from RSS feeds of interest to you.

Find the RSS feeds for two or three of the sites where you participate in social networking as shown above, or find RSS feeds that contain news, images, or videos of things you're interested in.

This example combines data about Popfly from three different RSS feeds:

- <http://www.youtube.com/rss/user/MicrosoftPopfly/videos.rss> (YouTube videos posted by user MicrosoftPopfly)
- http://api.flickr.com/services/feeds/photos_public.gne?tags=popfly&lang=en-us&format=rss_200 (Recent Flickr Uploads tagged with popfly)
- <http://feeds.technorati.com/search/popfly?authority=a4&language=en> (Technorati blog search about Popfly)



To construct the mashup, select the *getItem* operation in each of the three RSS blocks and enter the name of one of the RSS feeds to access; connect each RSS block to a Combine block, selecting the entire RSSItem object from each of the RSS feeds. Use the RssDateSort block to sort the combined items by date in descending order (so that the newest items will be at the top of the list.) Finally, connect the results to StevesTableWithHotFirstColumn, a user-provided block to display the data as an HTML Table, where the first column is a hyperlink to the actual syndicated content.

StevesTableWithHot

Operations:
output3ColumnsWithURL ▾
Displays the collection of input items in a simple three-column table with the first column being 'hot'.

Inputs: (*=required)

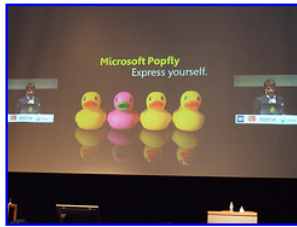
	source	value
column1Items *	RssDateSort ▾	title ▾
column2Items *	RssDateSort ▾	description ▾
column3Items *	RssDateSort ▾	publishedDate ▾
heading1	[custom] ▾	Title
heading2	[custom] ▾	Description
heading3	[custom] ▾	Date
URL *	RssDateSort ▾	link ▾

OK

Notes:

- StevesTableWithHotFirstColumn is just like the Table block, except that it includes an operation to output a simple three-column table for with a hyperlink (URL) for the first column.
- You cannot use the Sort block here to sort the RSS feed based on the publishedDate value. Sort will treat the dates as strings rather than dates, so the order won't be what you expect. Friday will always come before Thursday. – Try it.)
- You cannot use the TableDisplay block here because it always sorts the values in each column, and doesn't know to treat the date column as Dates. The same problem happens.
- If you remove the connection to the StevesTableWithHotFirstColumn block, you will see the raw data that each feed returns. ListOfLinks won't display images from Flickr, for example, but will display hyperlinks to them.

Here is the output of MyFriendFeed. Notice that the image from flickr is in the midst of several blog posts from Technorati.

Financial Mashups	Water's has an interesting article on mashups. Microsoft offered a consumer mashup application, Popfly, sometime ago but it offer nothing of real interest to the financial community. Silvertrader was created as a type of Mashup surface for financial widgets. More interesting I think in the scenario where product companies, such as CEP vendors, off mashup widgets - allowing the existing dashboards to move to a new level of usefulness rather than the current perspective of n product and n dashb	Mon, 02 Jun 2008 10:56:26 -0700
technology at play	technology at play 2 June 2008 I was interested to see that Sugar (the interface previously associated with the One Laptop Per Child, OLPC, project) is now planning to go cross-platform. Innovation, openness and a lack of dogma in educational software has to be a good thing. But I think there's a much bigger issue here. We do seem to be lacking genuinely innovative education software, software that truly exploits what technology makes possible. And in ways that engages children, letting them	Mon, 02 Jun 2008 00:44:16 -0700
webinale08_marcus_007	hauptsacheSPIEGEL.de posted a photo: 	Sat, 31 May 2008 01:42:56 -0800
Create a Game, Mashup or a Web page with Microsoft Popfly	Now architect your imagination with Microsoft's Popfly. The project Popfly announced a year back is now in Alpha version. Popfly is the fun and easy way to build and share mashups, gadgets, and Web pages. It's made up of online visual tools for building Web pages and mashups and a social network where you can host, share, rate, comment and even remix creations from other Popfly users. You can make your own game and add it to your website, blog or facebook. Popfly seems to be quiet a handy tool f	Fri, 30 May 2008 11:15:43 -0700
	Here is an interesting item I made with the MS Popfly beta:	Fri, 30 May

Tips for Mashing up RSS Feeds

Sometimes it is easy to construct the URL for an RSS feed that is dynamically generated if you know what format the application uses for its URLs. For example, Google News provides RSS feeds for terms found in a search query. As is the case with many database-driven applications, the RSS feed for the specific search term is dynamically generated as the result of a database query. A program on the server runs to fulfill the request for the RSS feed for the specified search term; its output is the stream of XML for the RSS feed.

To see how this works, go to <http://news.google.com> and enter the search term *popfly* to find news articles about Popfly.

Click the RSS link on the left side of the page to obtain the URL for this newsfeed. For example, the URL for the RSS feed for news about Popfly is

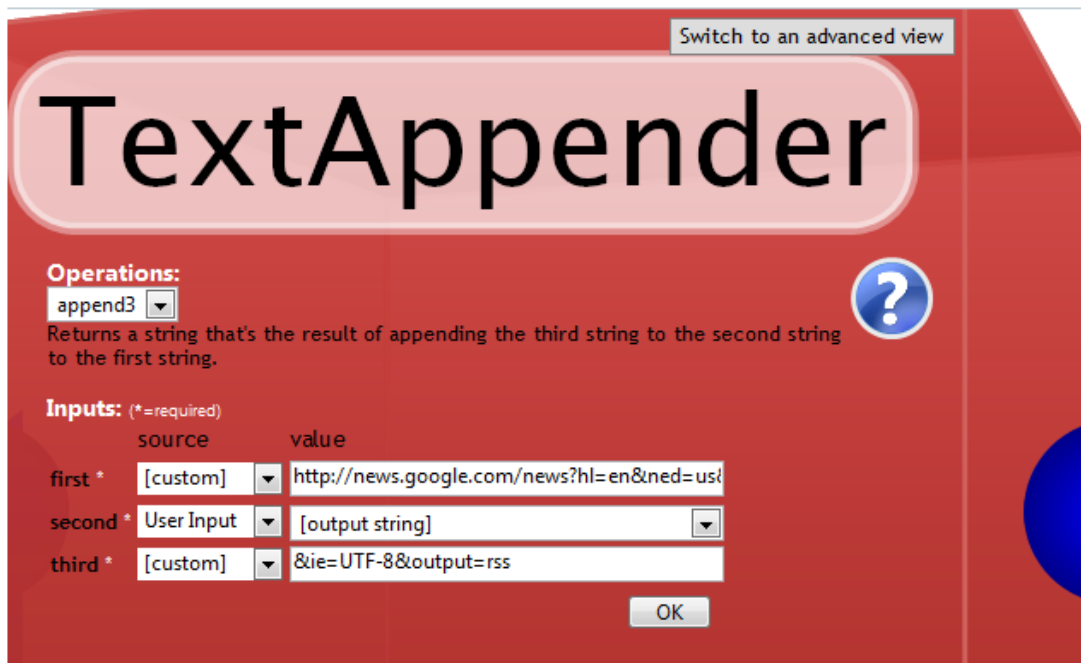
<http://news.google.com/news?hl=en&ned=us&q=popfly&ie=UTF-8&output=rss>

The URL for the Google news RSS feed for news about mashups is

<http://news.google.com/news?hl=en&ned=us&q=mashups&ie=UTF-8&output=rss>

The only part of these URLs that is different is the query term (after the q= in the URL). Noticing this makes it very easy to construct the URL for a newsfeed by using the Text Appender block. Select the append3 operation and specify for the first input, the beginning part of the URL

`http://news.google.com/news?hl=en&ned=us&q=`; for the second input use the search term (in this case, from a user input block); the third input is the rest of the RSS feed's URL `&ie=UTF-8&output=rss`. Connect the TextAppender block to an RSS feed block to specify the URL for the RSS feed for which to get items.

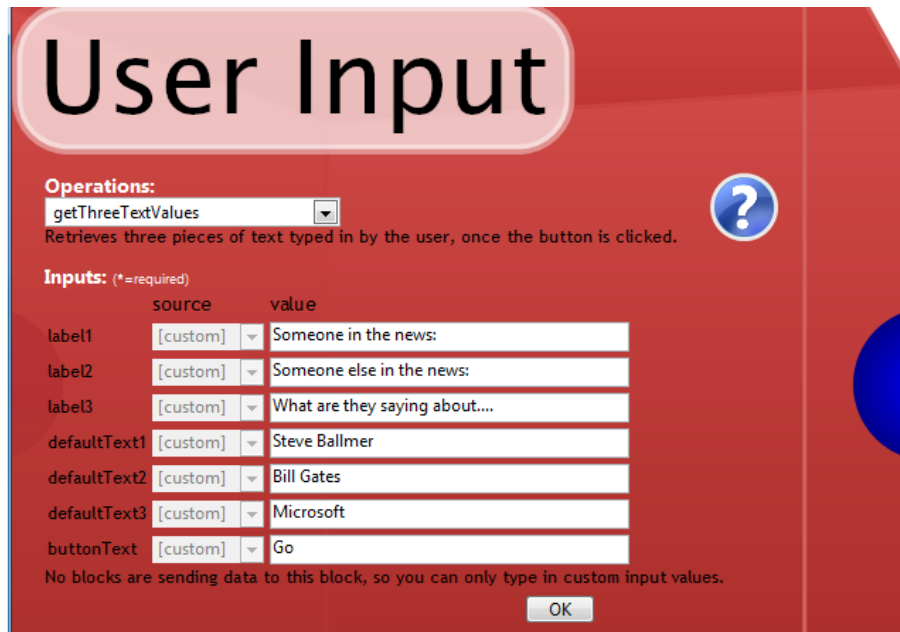


The table in the Appendix of this lesson shows sample URLs for other RSS feeds that you might build using this technique. The NewsFilter mashup in the next example relies on this technique.

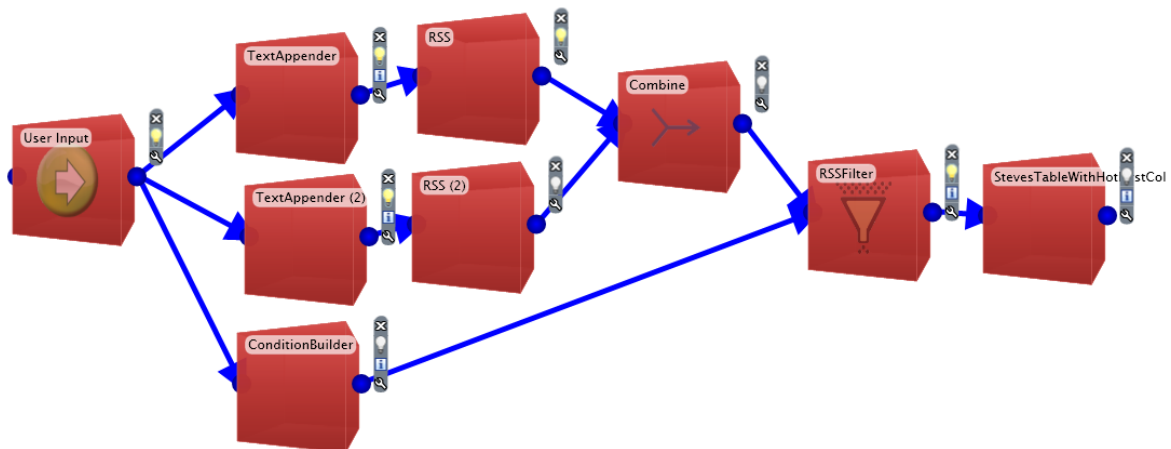
Example 3: News Filter

What are Steve Ballmer and Bill Gates saying about Microsoft today? Or is there anything in the news from Toyota and Honda about hybrid cars? What about news from Exxon and Mobil about oil production? In this example you'll see how to find exactly the headlines you're looking for.

This solution creates a mashup to combine two different RSS feeds, and then filter the resulting combined feed to display only those items that match a given condition. The user will be prompted to enter the two search terms and the condition to match:



Here's the rest of the mashup:





The Text Appender blocks construct the appropriate URL for the Google News RSS feed with headlines about the two search terms from the User Input block, and pass them into the corresponding RSS blocks. The Combine block combines both RSS feeds.

The ConditionBuilder block constructs a FilterCondition to see if the description from the RSS feed contains the search term in value3 of the UserInput block.

The RSSFilter block filters on this condition, and reports the results to StevesTableWithHotFirstColumn for display in the browser.

Here's what Steve Ballmer and Bill Gates had to say about Microsoft:

The screenshot shows the Popfly web application interface. At the top, there's a navigation bar with "Microsoft Popfly" logo, a "News Filter" button, and icons for "Save", "Save As", "Share", and "Help". Below the navigation bar, there's a "Debug" panel with "Edit", "Html", "Run", and "Console" buttons. The main content area has a search form with the following text: "Someone in the news: Steve Ballmer", "Someone else in the news: Bill Gates", and "What are they saying about...: Microsoft". A "Go" button is below the search form. Below the search form is a table with the following data:

Title	Description	Date
Is the Google Toolbar a Trojan Horse for Ad Targetting? (Ballmer... - TechCrunch	Is the Google Toolbar a Trojan Horse for Ad Targetting? (Ballmer... TechCrunch, CA - 22 hours ago In a discussion with Washington Post editors and reporters on June 4th, Microsoft CEO Steve Ballmer raised a similar privacy issue in relation to the Dell ...	Mon, 16 Jun 2008 20:39:53 GMT
Oh Jerry, It's No Longer Your Baby - New York Times	 Oh Jerry, It's No Longer Your Baby New York Times, United States - Jun 15, 2008 But how many times did Microsoft's chief executive, Steve Ballmer, come knocking on your door the last few years, seeking a merger. These? Four? Yahoo settling it from all sides Internet News CEO Concerns at Apple and Microsoft-The Need for Succession iStockAnalyst.com What next for Microsoft? IT PRO All Things D Blog - Seattle Times all 2,284 news articles	Sun, 15 Jun 2008 13:21:03 GMT
Software makers face challenges: Ballmer - Computeworld New Zealand	Software makers face challenges: Ballmer Computeworld New Zealand, New Zealand - Jun 15, 2008 ... broadband will drive a new revolution in IT, but software makers face several challenges in their efforts to keep up, Microsoft CEO Steve Ballmer says. ...	Sun, 15 Jun 2008 12:29:49 GMT
Gates & Ballmer: A Fireside Chat - PC	 Gates & Ballmer: A Fireside Chat PC Magazine - May 30, 2008 This year Gates was joined by Steve Ballmer, Microsoft's CEO who is about to become the sole leader of this industry powerhouse	Fri, 30 May 2008 17:45:36

Popfly PopQuiz

1. What XML tags describe the entries in an RSS feed?
2. How might you find RSS feeds available on a particular web page by using Firefox? By using Internet Explorer 7?
3. In the MyFriendFeed mashup, how would the results be different if you included an RssDateSort block after each of the three RSS blocks?
4. Is using a social networking aggregator such as FriendFeed is “stalking” or is it another way to market yourself on the web??
5. Why is the entire RSSItem object passed to the Combine block when combining RSS feeds? What data items does it contain?

Try It in Popfly

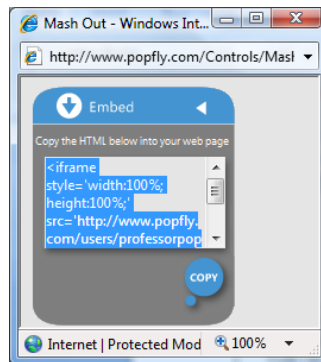
Modify or build these Popfly mashups to demonstrate your understanding of this lesson. The more ducks, the bigger the challenge.



Build the RSS List Display mashup described in this lesson to display a favorite RSS feed, this time using the ListofLinks block instead of the RSS Display block. Add custom HTML to give an appropriate title to your list.



To embed the RSS mashup on your blog or web site as a web gadget, click *MashOut* for this project on your Popfly projects page. Choose *Embed* and copy the HTML code, then paste it in the appropriate place on your blog or web site.



```
<iframe style='width:100%; height:100%;'  
src='http://www.popfly.com/users/profes  
sorpofly/ProfPopflyRSSFeed.small'  
frameborder='no'  
allowtransparency='true'></iframe>
```

Tip: Change the 100% for width and height to 150px and 200px (the px means pixels) or another appropriate size so it fits nicely in the side bar of your blog or web site.



Construct a FriendFeed mashup that combines information about you from three different RSS feeds.



A **podcast** is an RSS Feed where each item corresponds to an episode of the series, and has an associated multimedia enclosure (usually audio or video). In this exercise you will create a video gallery mashup to play the video from a video podcast. Because the compression format for video podcasts is usually MP4, Popfly's EmbedQuicktime block can play them.

Use the Popfly RSSx block's *getFirstNItems* operation to return a specified number of items from an RSS feed. (If there are a lot, it could take a long time for all of the videos to download.) The URL for the enclosed video is the MediaLink element of the RSSItem object that Popfly returns in the RSSx block.

Create a mashup to play the videos from the Ask A Ninja podcast whose RSS feed is <http://feeds.feedburner.com/AskANinja>, or another video podcast of your choice.

A solution is given in Professor Popfly's Ask A Ninja mashup, as shown below. It displays the two most recent videos and episode titles from the Ask A Ninja podcast in a two-column table.

The screenshot shows a web interface with a top navigation bar containing 'Create Stuff', 'My Stuff', 'Help Stuff', and 'Overview Stuff'. Below the navigation bar is a control panel with 'Edit', 'Html', 'Run', 'Debug', and 'Console' buttons. The main content area is a table with two columns: 'Ninja Episode' and 'Video!'. The table contains two rows of data:

Ninja Episode	Video!
Ask A Ninja Question 75 "Oh Brother"	
Ask A Ninja Question 74 "Ninja Moves"	

Note that because Popfly has to download each entire video in order for the video player to play it, there may be a delay before some of the videos start. Therefore you might choose only two or three videos. The videos will play simultaneously as soon as they are downloaded. If it gets a bit noisy, click on the player to pause a video while it is playing.

Learn More about RSS

Background Information

- RSS Tutorial (<http://www.w3schools.com/rss/default.asp>)

This tutorial describes the basics of RSS feeds, how they came to be, and how to read and publish RSS feeds.

- RSS in Plain English (<http://blip.tv/file/205570/>)

An entertaining and informative video. What else can we say?

- RSS [http://en.wikipedia.org/wiki/RSS_\(file_format\)](http://en.wikipedia.org/wiki/RSS_(file_format))

This WikiPedia article describes the origin and formats for RSS feeds, and some applications that make use of them.

- Podcasting in Plain English

<http://www.ofzenandcomputing.com/zanswers/299>

<http://www.youtube.com/watch?v=y-MSL42NV3c> (Video)