RSS
Really Simple Syndication

- A textual format used on the web for “news feeds” or “web feeds” is **RSS**
  - Uses XML to represent information that is frequently updated (e.g., news, weather, sports scores, blogs), generally in summary form with links to originals
  - Became a *de facto* standard in the early 2000s
    - Actually, two standards; we will use RSS 2.0, a.k.a. RSS 2.*
Relationship of RSS to XML

• An RSS 2.0 feed is well-formed XML
• An RSS 2.0 feed meets additional specifications beyond being XML: certain tags, certain required/optional attributes, certain required/optional elements, etc.
Example RSS Feed

```xml
<rss version="2.0">
  <channel>
    <title>Yahoo! News</title>
    <link>http://news.yahoo.com</link>
    <description>The latest news and headlines from Yahoo! News.</description>
    <item>
      <title>Apple seeks to stop…</title>
      <link>http://news.yahoo.com/…</link>
      <description>Apple Inc will seek a…</description>
      <pubDate>Mon, 27 Aug 2012 14:40:49</pubDate>
      <source url="http://www.reuters.com">Reuters</source>
    </item>
    ...
  </channel>
</rss>
```
Example RSS Feed

The top-level element is <rss>, and it has a required version attribute whose value must be "2.0".

```xml
<rss version="2.0">
  <channel>
    <title>Yahoo! News</title>
    <link>http://news.yahoo.com</link>
    <description>The latest news and headlines from Yahoo! News.</description>
    <item>
      <title>Apple seeks to stop…</title>
      <link>http://news.yahoo.com/…</link>
      <description>Apple Inc will seek a…</description>
      <pubDate>Mon, 27 Aug 2012 14:40:49</pubDate>
      <source url="http://www.reuters.com">Reuters</source>
    </item>
    ...
  </channel>
</rss>
```
Example RSS Feed

<rss version="2.0">
  <channel>
    <title>Yahoo! News</title>
    <link>http://news.yahoo.com</link>
    <description>The latest news and headlines from Yahoo! News.</description>
    <item>
      <title>Apple seeks to stop…</title>
      <link>http://news.yahoo.com/...</link>
      <description>Apple Inc will seek a…</description>
      <pubDate>Mon, 27 Aug 2012 14:40:49</pubDate>
      <source url="http://www.reuters.com">Reuters</source>
    </item>
    ...
  </channel>
</rss>

There is exactly one required channel element inside the rss element.
Example RSS Feed

```xml
<rss version="2.0">
  <channel>
    <title>Yahoo! News</title>
    <link>http://news.yahoo.com</link>
    <description>The latest news and headlines from Yahoo! News.</description>
    <item>
      <title>Apple seeks to stop…</title>
      <link>http://news.yahoo.com/...</link>
      <description>Apple Inc will...</description>
      <pubDate>Mon, 27 Aug 2012 14:40:49</pubDate>
      <source url="http://www.reuters.com">
    </item>
    ... 
  </channel>
</rss>
```

These three elements are required, but may appear in any order.
Example RSS Feed

```
<rss version="2.0">
  <channel>
    <title>Yahoo! News</title>
    <link>http://news.yahoo.com</link>
    <description>The latest news and headlines from Yahoo! News.</description>
    <item>
      <title>Apple seeks to stop…</title>
      <link>http://news.yahoo.com/...</link>
      <description>Apple Inc will seek a...</description>
      <pubDate>Mon, 27 Aug 2012 14:40:49</pubDate>
      <source url="http://www.reuters.com">Reuters</source>
    </item>
    ... 
  </channel>
</rss>
```

There can be zero or more `item` elements within `channel`; each has at least a `title` or `description` element within it, but these may appear in any order.
Example XMLTree Created

```xml
<rss>
  <version>2.0</version>
  <channel>
    <item>
      <title>Yahoo! News</title>
      <link>http://news.yahoo.com</link>
      <description>The latest news and headlines from Yahoo! News.</description>
      <item>
        <title>Apple seeks to stop...</title>
        <link>http://news.yahoo.com/...</link>
        <description>Apple Inc will seek a...</description>
        <pubDate>Mon, 27 Aug 2012 14:40:49</pubDate>
        <source>Reuters</source>
      </item>
      <!-- No order guaranteed among children -->
    </item>
    <!-- ... -->
  </channel>
</rss>
```

Required elements:
- `<required>`

At least one required element:
- `<at least one required>`

Not required elements:
- `<not required>`
Summary of XMLTree Features

• Properties of the XMLTree from an RSS 2.0 feed:
  – The root node is an rss node with a version attribute whose value is "2.0"
  – There is one channel node as a child of the root
  – The channel node has certain required child nodes: one title, one link, and one description, in no particular order; it can also have zero or more item child nodes plus other optional children
  – No particular order is required among the children of an item node, but for each item node at least one of its children must be a title or description node
Resources

• Wikipedia: RSS

• Wikipedia: Web Feed

• Wikipedia: Web Syndication

• RSS 2.0 Specification
  – http://www.rssboard.org/rss-specification