CSS

Topics

- CSS vs. XML-FO
- CSS history
- CSS syntax

CSS

- Describes appearance of particular elements in a document

- No transformation
  - ◆ Data in the document gets presented more or less as it appears in the XML document
  - ◆ CSS does not change XML document's markup

Three Levels of CSS

- CSS1
  - ◆ W3C recommendation in 1996
  - ◆ Only for HTML
  - ◆ Regarded incomplete
  - ◆ Inconsistent browser implementation
- CSS2
  - ◆ Current recommendation
  - ◆ XML and HTML documents
- CSS3

CSS Syntax

- Not XML syntax but very straight-forward

- A list of elements with style information

- For namespace-aware element, full qualified name is to be used

Example XML Document

```xml
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<?xml-stylesheet type="text/css" href="12-2.css"?>

<recipe source="Marjorie Anderson">

  <dish>Southern Corn Bread</dish>

  <ingredients>
   <ingredient>
     <quantity>1 cup</quantity>
     <component>flour</component>
   </ingredient>
   <ingredient>
     <quantity>4 tablespoons</quantity>
     <component>Royal Baking Powder</component>
   </ingredient>
   <!-- a few more ingredients -->
  </ingredients>
```

Example XML Document Continued

```
<directions>
  <step>Sift flour, baking powder, sugar &amp; salt together.</step>
  <step>Add 1 cup corn meal.</step>
  <step>Bake in hot oven at <temperature>425º F</temperature> for
    <duration>25 minutes</duration>.
  </step>
  <!-- a few more steps -->
  <step optional="yes">
    Cut into squares if cooked in shallow pan.
  </step>
</directions>

<story>
  After my mother-in-law <person>Marjorie Anderson</person> died,
  Beth and I found this recipe written on the "extra recipes"
  page in a local cookbook in her cupboard.
  This was published by The Episcopal Churchwomen,
  Church of Ascension, <city>Mt. Sterling</city>,
  <state>Kentucky</state>.
</story>

</recipe>
```

Example CSS Stylesheet

```css
/* Defaults for the entire document */
recipe  {font-family: "New York", "Times New Roman", serif;  font-size: 12pt }

/* Make the dish look like a headline */
dish    {  display: block;
           font-family: Helvetica, Arial, sans-serif;
           font-size: 20pt;
           font-weight: bold;
           text-align: center
}

/* A bulleted list */
ingredient  {display: list-item}

/* Format these two items as paragraphs */
directions, story {  display: block;
                     margin-top: 12pt;
                     margin-left: 4pt
}
```
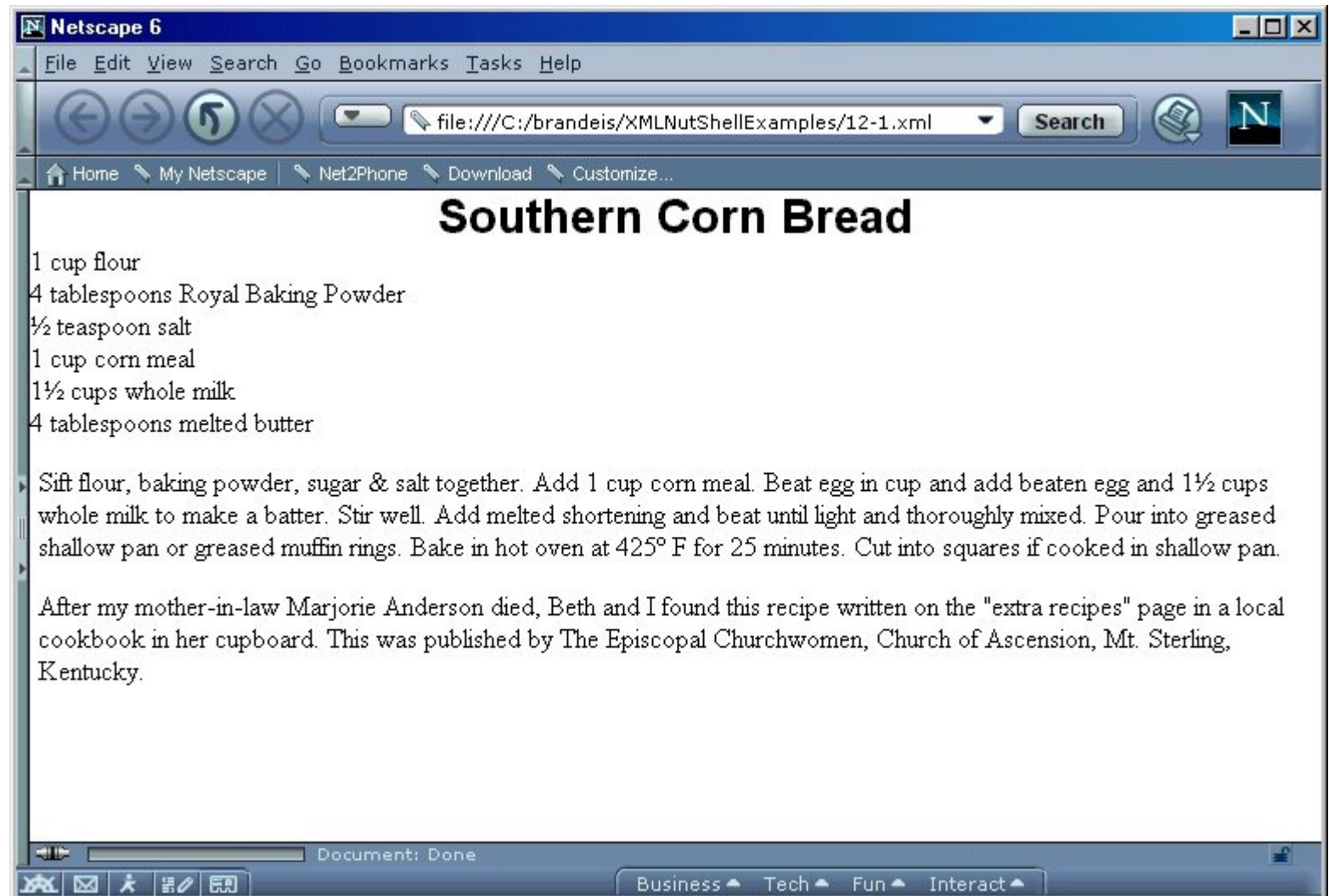
Style Rules

- Each rule names an element or set of elements followed by set of style properties enclosed by { }
- Each style property has name and value
- Case insensitive
- Not all elements have style rules
  - ◆ Child elements inherits style rules of parent
  - ◆ Reasonable default values are provided

Stylesheets and XML Documents

- CSS stylesheets are intended primarily for use in web pages

- Web browsers look for xml-stylesheet processing instruction in XML document

  - ◆ <?xml-stylesheet type="text/css" href="recipe.css"?>

  - ◆ 6 pseudo attributes

    - ■ type, href, charset, title, media, alternate

Pseudo Attributes

- type: Stylesheet's MIME media type
  - ◆ text/css for CSS
  - ◆ text/xml (not text/xsl) for XSLT
- href: Absolute or relative URL of stylesheet
- charset: Name of the character set in which the stylesheet is written
- title: Name of the stylesheet.

Pseudo Attributes

- media: Media type targeted by stylesheet

  - screen, tty, projection, handheld, print, braille, aural, all

- alternate: Tells if the stylesheet is alternate or primary

Selectors

- Specifies how to select elements for styling
- Mostly element names and list of elements
- CSS provides other basic selectors
  - ◆ Not as powerful as Xpath

Element Selectors

- ## Universal selector
  - ◆ * {font-size: large}
  - ◆ Any element which does not have a more specific conflicting rule
- ## Matching descentdants
  - ◆ ingredients quantity {font-size: medium}
- ## Matching children
  - ◆ ingredients > quantity {font-size: inherit}
- ## Matching siblings
  - ◆ Ingredients + story {border-top-style: solid}

Attribute Selectors

- Square brackets allow you to select elements with particular attributes or attribute values

- step[optional] {display:none} - Hide all step elements that have optional attribute

- *[optional] {display:none}

- step[optional="yes"] {display:none}

Display Property

- {display: inline}
  - ◆ Default if not specified
- {display: block}
  - ◆ element is displayed separated from its siblings by line break
- {display: list-items}
  - ◆ Bullet items

Font Property

```
Dish {
    font-family: Helvetica, Arial;
    font-size: x-large;
    font-style: italic;
    font-variant: small-caps;
    font-weight: 900;
    font-stretch: semi-expanded
}
```

Text Property

```
story {
    text-indent: 0.5in;
    text-align: center;
    text-decoration: underline;
    text-transform: capitalize;
    white-space: normal
}
```

Color Property

```
story {
    color: #00FF00;
    background-color: rgb(43, 43,43);
    border-color: black
}
```

Summary

- CSS is for styling either HTML or XML documents
- CSS provides straight-forward but non-XML like syntax for styling