

Topics

- CSS – styling XML for screen presentation
 - Associating CSS with XML
 - Selectors
 - Element positioning
 - Element appearance
- XSL FO – styling XML for printout
 - XSL FO vs CSS
 - XSL FO processing
 - Page layout and page masters
 - Flowing content into pages
 - Static content; headers and footers

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Styling XML

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... but First: Recap from Monday

- XML documents:
 - start with an XML declaration and need to be well-formed
 - define hierarchical (tree-) data structures
 - are by default encoded in Unicode
 - may include special characters through entities
- Namespaces:
 - are identified by their namespace URI
 - referred to locally by the prefix
 - defined in all the node's descendents
 - enable recognition of specific document types

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CSS Basics

- Associating CSS with XML
- Selectors
- Element positioning:
 - Block vs inline
 - Tables
 - Lists
- Element appearance:
 - Borders and space
 - Fonts and texts
 - Colors

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Associating CSS with XML

- Include a stylesheet processing instruction
– `<?xml-stylesheet type="text/css" href="modern.css"?>` , where an optional media attribute can be used for:
 - screen
 - tv
 - print
 - projection
 - braille
 - ...

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CSS Selectors

- Universal selector:
`* {font-size: medium}`
- Matching descendants:
`person address {font-style: italic}`
- Matching immediate children:
`person > address {font-style: italic}`
- Matching first sibling:
`address + phone {font-weight: 800}`
- Attribute selector:
`step[optional] {display: none}`

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Pseudoclasses and Pseudoelements

- Pseudoclasses:
`:first-child`
`:link`
`:visited`
`:hover`
...
- Pseudoelements:
`:first-letter`
`:first-line`
`:before`
`:after`

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CSS Selector Exercise

- Exercise:
 - Run examples 1 through 10 from the ZVON CSS 2 tutorial, <http://www.zvon.org/xxl/CSS2Tutorial/Examples/example48.html>.

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CSS Basics

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Blocks vs. Inline (1)

Edit your `php.ini` file:

- You will need to change the `extension_dir` setting to point to the directory where your extensions lives, or where you have placed your `php*.*.dll` files. Please do not forget the last backslash. For example:

```
extension_dir = c:/php/extensions/
```

block

inlined tekst

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Blocks vs. Inline(2)

- Block-level element:
`{display: block}`
- Inlined element (default):
`{display: inline}`
- Invisible element:
`{display: none}`
- Exercise:
 - Run example 48 from the ZVON CSS 2 tutorial,
<http://www.zvon.org/xxl/CSS2Tutorial/Examples/example48.html>.

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Tables (1)

- There are ten display values that identify elements as parts of a table:
`table`
`inline-table`
`table-row-group`
`table-header-group`
`table-footer-group`
`table-row`
`table-row-group`
`table-column-group`
`table-column`
`table-cell`
`table-caption`

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Tables (2)

- Exercise
 - Run examples 12 through 16 from the ZVON CSS2 tutorial

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Lists

- Lists are created by defining items as having display type `list-item`.
- List properties:
 - `list-style-type`
 - `list-style-image`
 - `list-style-position`
- Exercise:
 - Run examples 48 through 50 from the ZVON CSS2 tutorial

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CSS Basics

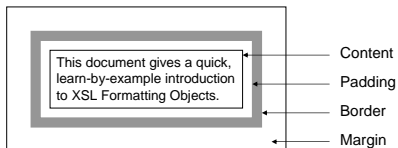
- Associating CSS with XML
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Borders and Space (1)



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Borders and Space (2)

- Exercise
 - Run examples 12 through 16 from the ZVON CSS2 tutorial

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Font Properties

- Several font properties can be set, particularly:
 - `font-family`
 - `font-size`
 - `font-style`
 - `font-weight`
- Exercise:
 - Run examples 30, 32, and 34 through 38 from the ZVON CSS2 tutorial

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Text Properties

- Several text properties can be set, particularly:
 - `text-indent`
 - `text-align`
 - `text-decoration`
 - `white-space`
- Exercise:
 - Run examples 24, 28, and 29 from the ZVON CSS2 tutorial

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Colors

- Several properties can be set for changing the color of various items, particularly:
 - `color`
 - `background-color`
 - `border-color`
- Colors may be specified in RGB-values or by using one of sixteen predefined names
- Exercise:
 - Run examples 17, 18, and 20 from the ZVON CSS2 tutorial

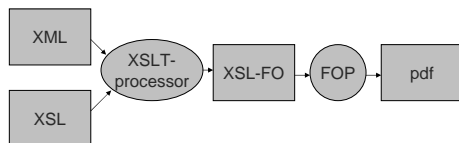
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XSL Formatting Objects

- XSL FO an XML-application for creating paper documents:



- XSL FO namespace:
 - <http://www.w3.org/1999/XSL/Format>
 - Common to use `fo` as prefix

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Similarities with CSS (1)

- Display types:
 - Inline
 - Block
 - List
 - Table
- Borders and margins:
 - Content may be encompassed by borders
 - Padding and margins control space around content

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Similarities with CSS (2)

- Color, font and text properties:
 - Color: `color`, `background-color`, ...
 - Fonts: `font-family`, `font-size`, `font-style`, `font-weight`, ...
 - Alignment: `text-align`
- Space and break properties:
 - Space: `space-after`, `space-before`, ...
 - Page break: `break-after`, `break-before`, ...

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XSL FO vs. CSS (Level 2)

- FO is right for printed matter:
 - Multiple column layout
 - Margin text
 - Running headers and footers
 - Automatic page cross reference by numbers
- CSS is right for web pages:
 - Straight forward; easy-to-learn and easy-to-use
 - Well understood and well supported by browsers
 - Can be applied directly to XML
 - No need for browser plugins
- But CSS Level 3 may change the story

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Page Layout and Page Masters

- Page content divided in 5 regions:
 - Top of page (`region-before`)
 - Bottom of page (`region-after`)
 - Left sidebar (`region-start`)
 - Right sidebar (`region-end`)
 - Body of page (`region-body`)
- Body region should have margins making room for top, bottom and sidebars with a positive *extent*

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Flowing Content into Pages

```
<fo:root ...>
  <fo:layout-master-set>
    <fo:simple-page-master
      master-name="titleMaster" ...>
      <!-- Left out due to space
considerations -->
    </fo:simple-page-master>
  </fo:layout-master-set>
  <fo:page-sequence master-
reference="titleMaster">
    <fo:flow flow-name="xsl-region-
body">
      <!-- Left out due to space
considerations -->
```

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Static Content and Markers

- Headers and footers may contain a combination of static and running text
- Running text is defined as markers:

```
<fo:static-content flow-name="xsl-region-before">
  <fo:block text-align="center">
    <fo:retrieve-marker
      retrieve-class-name="division" />
  </fo:block>
</fo:static-content>
...
<fo:block>
  <fo:marker marker-class-name="division">
    Introduction</fo:marker>
  ...
</fo:block>
```

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XSL FO Resources

- Tutorials:
 - W3 Schools
 - RenderX, <http://www.renderx.com/tutorial.html>
 - XML.com, <http://www.xml.com/pub/a/2001/01/17/xsl-fo/index.html> and <http://www.xml.com/pub/a/2001/01/24/xsl-fo/index.html>
- Tools:
 - Altova XMLSpy supports FO editing
 - Apache has a java-based FOP, <http://xmlgraphics.apache.org/fop/download.html>

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