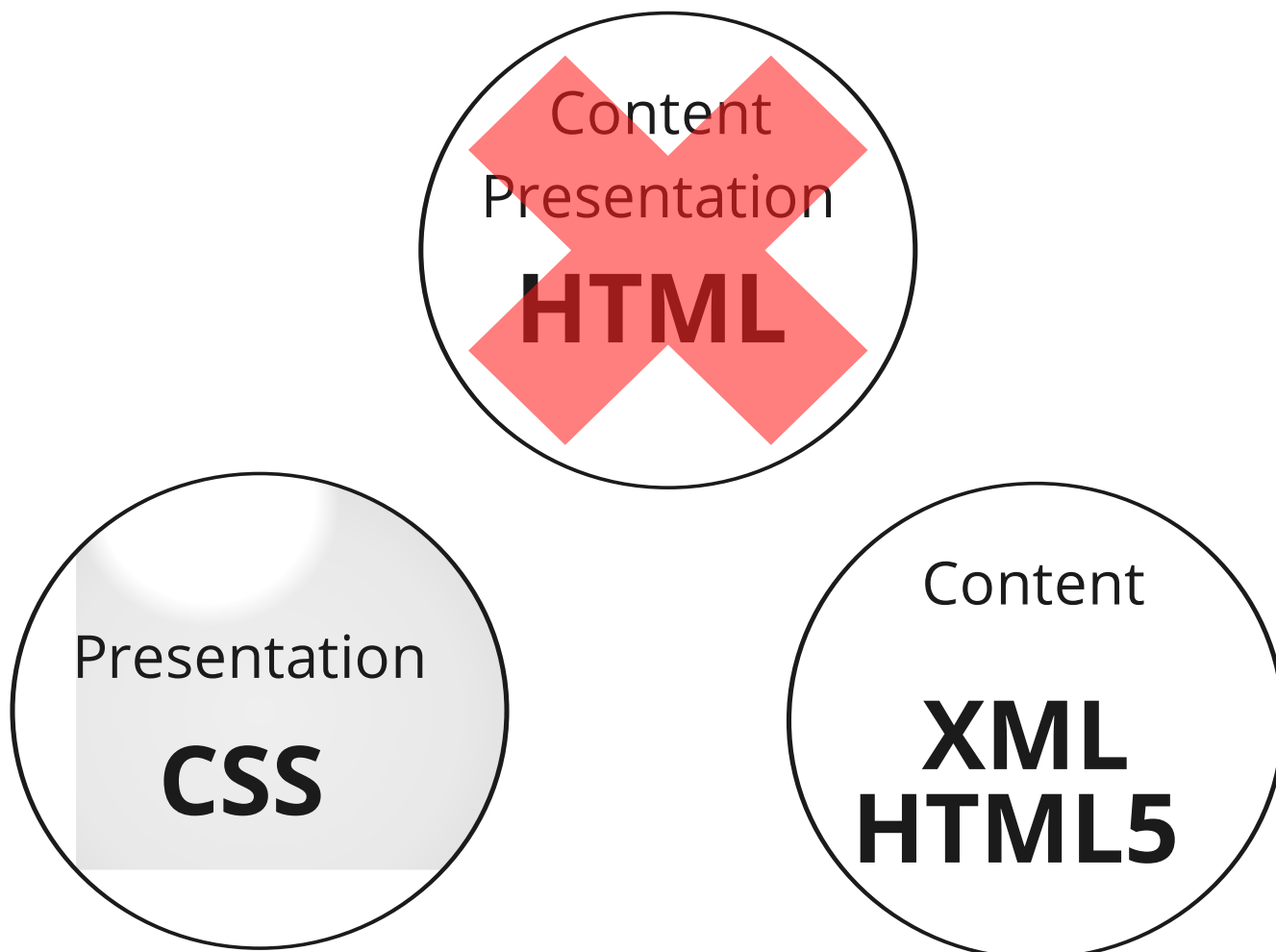


HTML5

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Presentation/Content



Separating Content from Presentation helps:

- Reuse Style Sheets
 - one style for the entire website (easier to maintain)
 - spare bandwidth (css can be cached)
- Different styles for the same content
 - multi-channel delivery (Web browser, printer, mobile phone, screen reader)
 - user personalization (choose themes)

XHTML

- **E**Xtensible **H**yper**T**ext **M**arkup **L**anguage (W3C Standard, 2000)
- Combines:
 - XML (Strict Syntax)
 - HTML (existing tags for Web pages)
- It will gradually replace HTML (legacy)
- Works well together with CSS

HTML5

- **H**yper**T**ext **M**arkup **L**anguage (W3C Standard, HTML4, 1999, HTML5, ?)
- Cross-browser support for Web 2.0 applications:
 - Document Markup (clean Web pages)
 - Multimedia (SVG, native Video/Audio without Flash)

- Web Applications (Context Menus, DataGrid, Canvas, Offline storage, Progress Bars, Drag and Drop, Worker Threads, Web Forms)
- Communication (Web Sockets, Cross Document Messaging)
- Microformats (Time, Meter)

XML Rules

1. All element tags and attribute names written in lowercase (XML is case sensitive)
2. Always close every opened element tag

```
<tag>...</tag>  
<tag/>
```

3. All elements must be properly nested

```
<ul><li><b></b></li><li><p></p></li></ul>
```

4. Only one root element per document

```
<html><body></body></html>
```

5. Attribute values must be quoted

```
<a href="http://www.usi.ch">...</a>
```

6. id attribute replaces the name attribute

```
<div id="navigation">...</div>
```

XHTML Tree

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html>
  <head>
    <title>My Homepage</title>
  </head>
  <body>
    <h1>My Title</h1>
    <p>Some paragraph</p>
    <!-- Comment -->
  </body>
</html>
```

HTML5 Tree

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <title>My Homepage</title>
  </head>
  <body>
    <h1>My Title</h1>
    <p>Some paragraph</p>
    <!-- Comment -->
  </body>
</html>
```

XHTML Structure

<div id="header">

<div id="navigation">

<div id="section">

<div id="article">

<div id="figure">

<div id="sidebar">

<div id="footer">

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HTML5 Structure

<header>

<nav>

<section>

<article>

<figure>

<sidebar>

<footer>

No longer HTML

- acronym
- applet
- basefont
- bgsound
- big
- blink
- center
- dir
- font
- frame
- frameset
- isindex
- noframes
- noscript
- s
- strike
- tt
- u

New in HTML5

- article
- aside
- audio
- canvas
- command
- datagrid
- datalist
- details
- dialog
- event-source
- figure
- footer
- header
- legend
- mark (m)
- meter
- nav

- output
- progress
- source
- time
- video

HTML5 Microformats

■ Time and Date

```
<time datetime="2009-09-09T09:09:09+01:00">
September 9th 2009
</time>
```

■ Measures

```
Your exercise grade is
<meter value="88.7"
        min="0"
        max="100"
        low="65"
        high="96"
        optimum="100">B+</meter>.
```

<http://html5doctor.com/microformats/>

HTML5 Multimedia

■ Sound

```
<audio src="/sound/boom.mp3" controls="true">
  <a href="/sound/boom.mp3">Listen</a>
</audio>
```

■ Movies

```
<video src="/video/movie.mov" controls="true">
  <p>Your browser does not support the video tag.
  Get a better browser</p>
</video>
```

<http://www.html5rocks.com/en/tutorials/video/basics/>

HTML5 Forms

■ Input Validation

```
<input type="color"/>
<input type="number"/>
<input type="email"/>
<input type="tel"/>
```

■ New Input Controls

```
<input type="text" placeholder="Hint"/>
<input type="range" min="0" max="50" value="0"/>
```


HTML5 UI

■ Progress Bar

```
<progress value="0" max="100">0 %</progress>
```



References

- Robert W. Sebesta, Programming the World Wide Web, Addison-Wesley, 2005
- Mark Pilgrim, Dive into HTML5, <http://diveintohtml5.info/> (<http://diveintohtml5.info/>)
- HTML5Rocks, <http://www.html5rocks.com> (<http://www.html5rocks.com/en/tutorials/>)
- Mozilla, [HTML5 Guide](https://developer.mozilla.org/en-US/docs/Web/Guide/HTML/HTML5) (<https://developer.mozilla.org/en-US/docs/Web/Guide/HTML/HTML5>)