

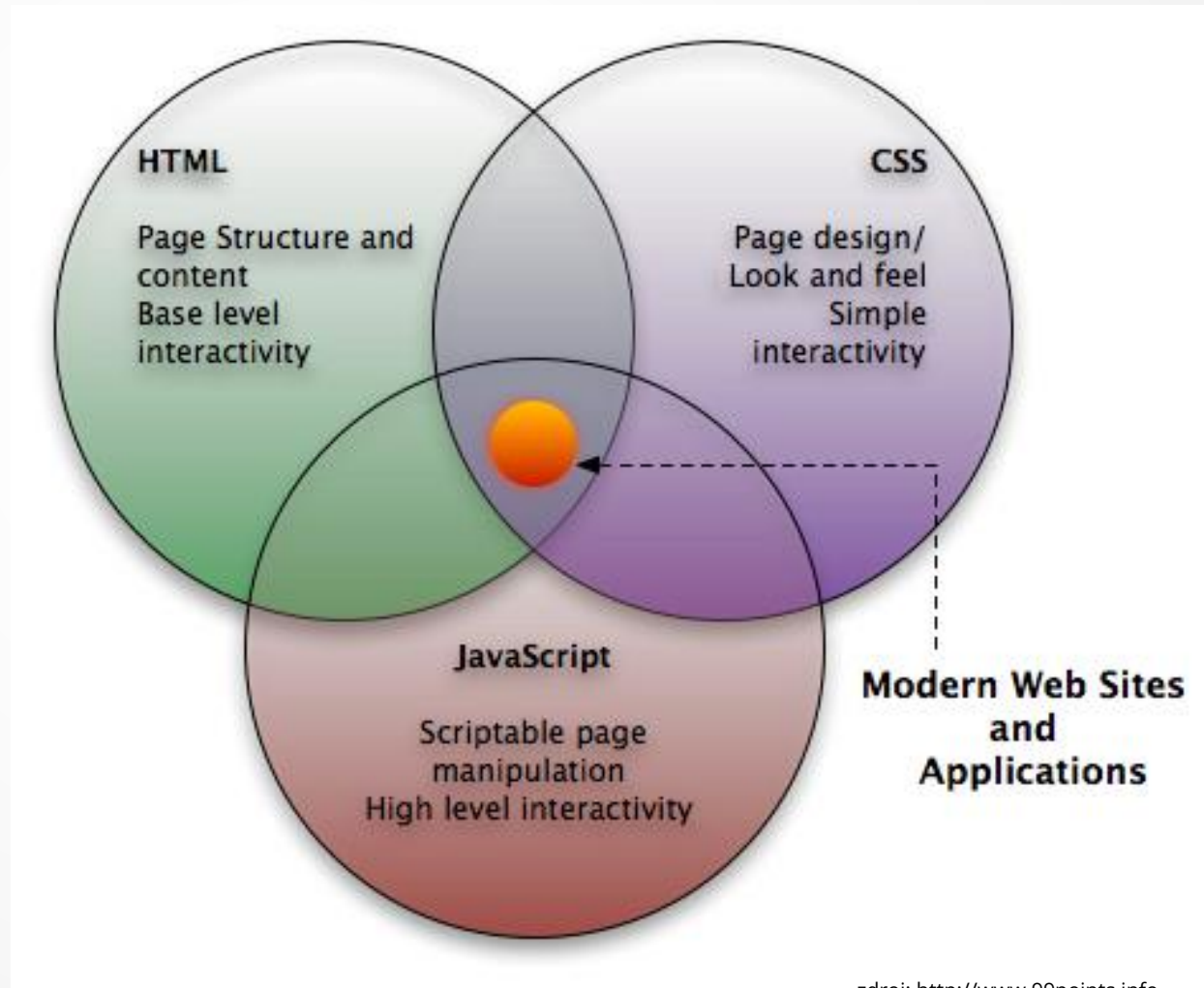
# **Development of Internet Applications**

HTML and CSS

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# HTML and CSS

- Development of web pages
  - Structure
  - Content
  - Look and feel
  - Functionality



# HTML

- HyperText Markup Language
  - Markup language for creating of hypertexts – WWW pages
  - Based on universal markup language SGML
  - Standard W3C.
  - Current version 5.0, version 5.1 will be ready next soon.
  - Web/HTML pages are plain text documents.
  - Desktop and mobile application development (QT, Universal Windows Apps, PhoneGap, Cordova)

# HTML tags

<!-- ... -->

<p> ... </p>

Open tag

Close tag

<a href="http://"> ... </a>

attribute

Value of the  
attribute

Self closing tag



# HTML structure

**<!DOCTYPE html>**

**<html>**

Root element of a  
HTML document

**<!-- this is comment -->**

**<head>**

**<title>Title of the page</title>**

**</head>**

header

**<!-- body of document -->**

**<body>**

**<h1>Headline</h1>**

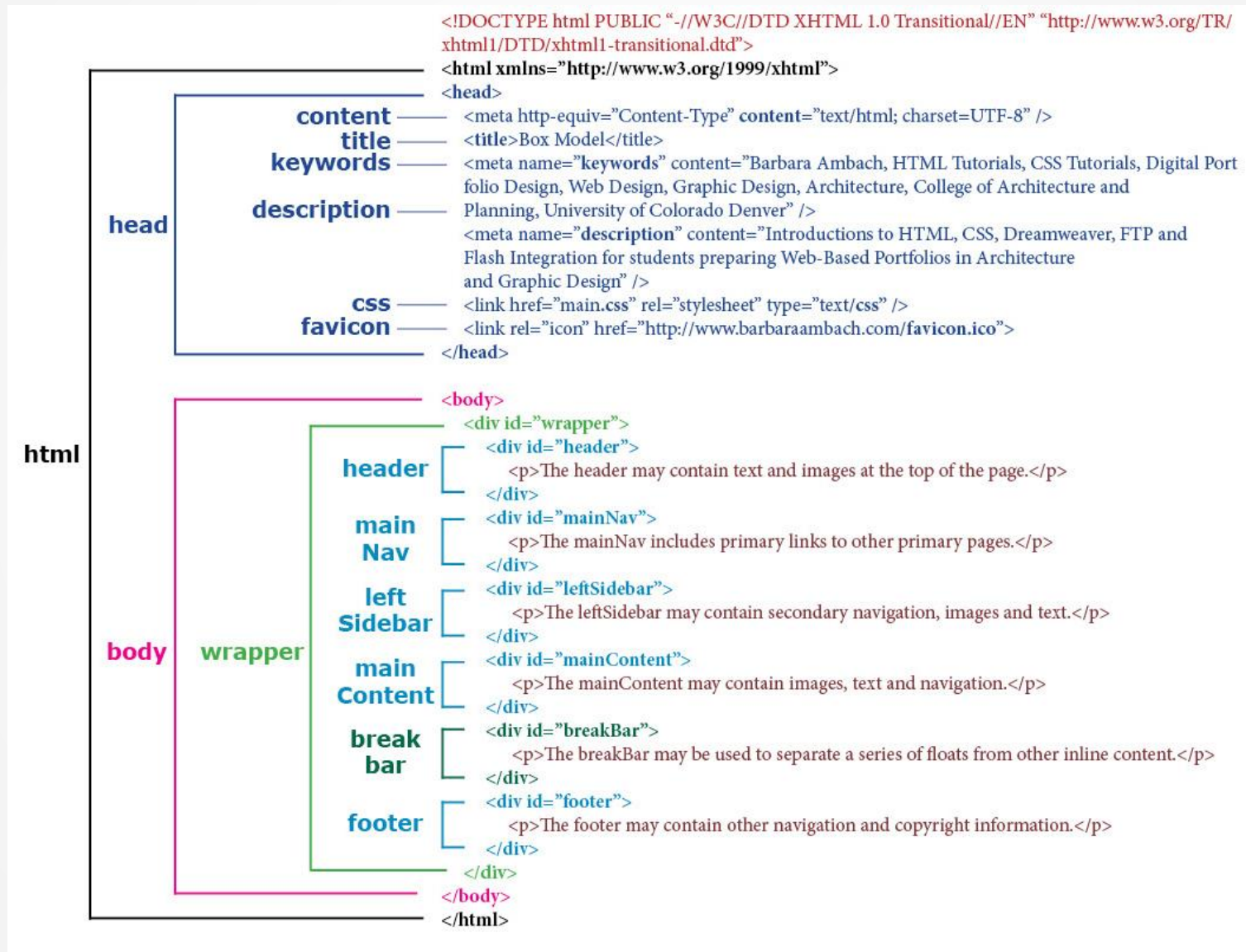
**<p>Body of the document</p>**

**</body>**

**</html>**

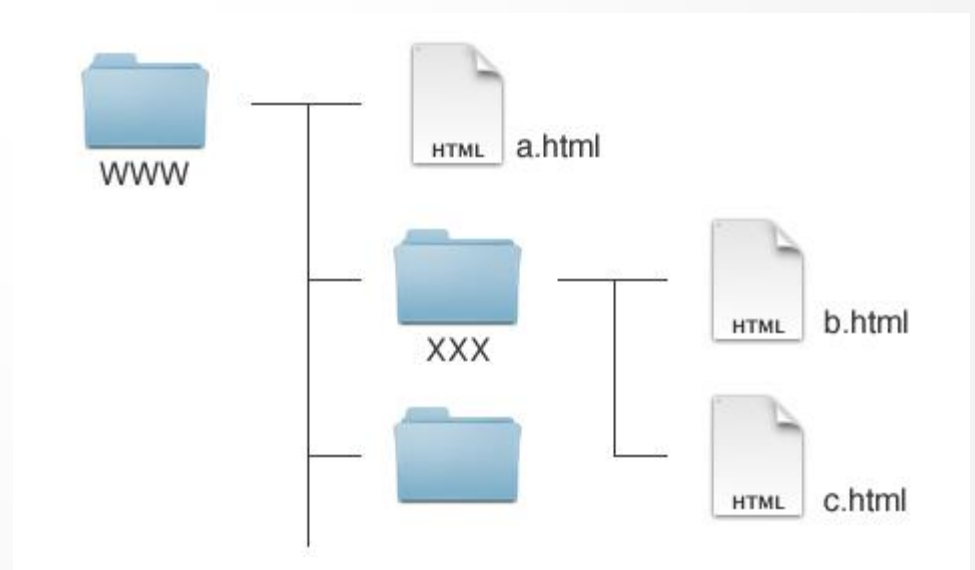
body

# (X)HTML structure



# References in HTML

- References, images, external styles, external JavaScripts, etc.
- Absolute URL – `http://, /`
- Relative path - `./, ../, a.jpg, images/a.jpg`



# XHTML

- Extensible HyperText Markup Language
- HTML closer to XML, more strict requirements to code creation
- Restrictions:
  - Only pair tags
  - All values of parameters need to be quoted
  - No crossing
  - Small caps
  - XML prolog, etc.
- Version (standards W3C):
  - XHTML 1.0 transitional
  - XHTML 1.0 strict
  - XHTML 1.1
  - XHTML 2.0
- No longer in development!

```
<p> </p>  
<br />  
<img src="" />
```



# XHTML

```
<?xml version="1.0" encoding="UTF-8"?>
```

XML prolog

```
<!DOCTYPE html
```

```
  PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
```

```
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
```

```
<html>
```

```
<!-- this is comment -->
```

```
<head>
```

```
  <title>Title of the page</title>
```

```
</head>
```

```
<!-- document body -->
```

```
<body>
```

```
  <h1>Headline</h1>
```

```
  <p>This is body</p>
```

```
</body>
```

```
</html>
```

DOCTYPE  
specification

# CSS (Cascading Style Sheets)

- Cascading Style Sheets
- It can separate content and structure (semantic) of a document from its graphic appearance.
- CSS allows define visual appearance and behavior of HTML/XHTML tags.
- CSS interpretation significantly depends on specific web browser
- „One content“ can apply several different CSS styles.
- Current version is CSS3.

# Location of styles

- In standalone file
- In header of HTML document
- In an element tag (using attribute style)

# CSS rules

selector

**a.link:hover {**

declaration

**color: #ff0000;**

**}**

property

value

# CSS

```
h1 {  
    margin: 5px;    /* margin width 5 pixels    */  
    font-size: 12pt /* font size 12 points */  
}  
p .odstavec {  
    text-align: center; /* centered text    */  
    line-height: 10pt; /* height of the line 10 points */  
}
```

```
#header{}
```

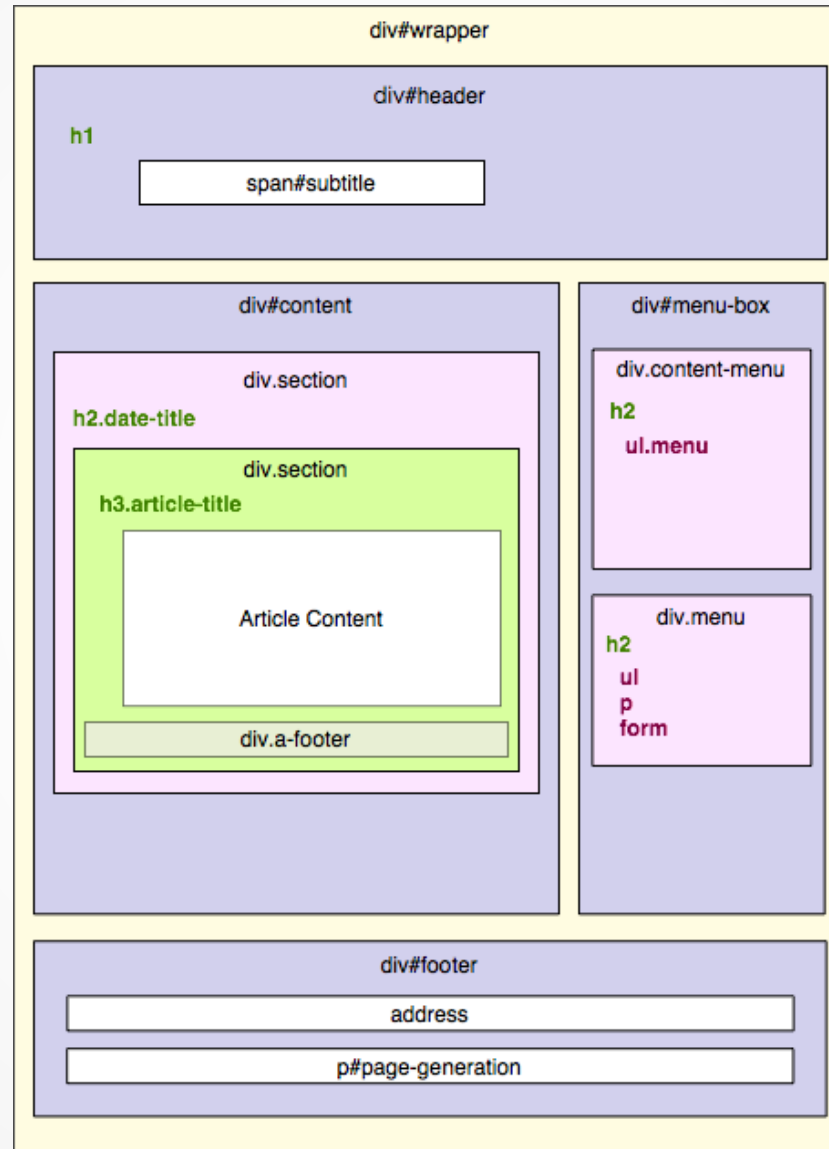
```
.without-margin{}
```

```
div#menu li a {}
```

```
.text a:hover {}
```

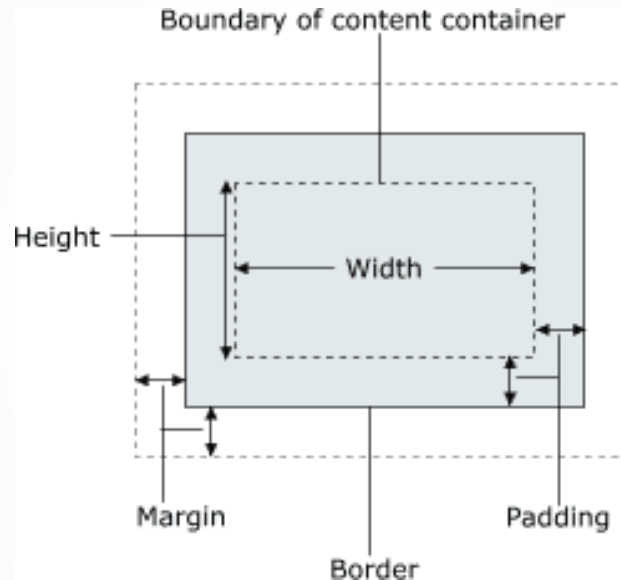
```
div.text p strong {}
```

# CSS and HTML structure



# CSS and HTML

- Block vs. Inline elements
- Values (colors, size, enumerations, functions, references)
- Box model



- Multiple deklaration

padding: 1px 2px 5px 10px;

CSS Ordering  
for margin,  
padding and  
border



# HTML/XHTML

- Validation – validation of syntax rules
  - <http://validator.w3.org/>

Example: <https://validator.w3.org/nu/?doc=http%3A%2F%2Fgizmodo.com%2F>

- Development
  - WYSIWYG
  - Direct writing of HTML/XHTML code
  - Content management systems



# DOM - Document Object Model

- Cross-platform and language-independent convention for representing and interacting with objects in HTML, XHTML, and XML documents.
- Tree structure built from HTML.
- Accessible using API - node selection, creation, modification and deletion.
- Used by modern browsers for internal representation of web page structure.

# Wireframe, Prototype and Mockup

- <http://www.slideshare.net/mtreder/wireframing-prototyping-mockuping>

