

Semantic Web

How to Use HTML Elements Properly?



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Web Page



The Elements of a Web Page

- A Web page consists of:
 - HTML markup
 - CSS rules
 - JavaScript code
 - JS libraries
 - Images
 - Other resources
 - Fonts, audio, video, etc...



The Elements of a Web Page: HTML Markup

- The HTML is used to define the content of a Web page
 - Not the layout
 - Not the decorations
- HTML's role is to present the information in a meaningful manner
 - Like a paper document
 - Define headers, paragraphs, textboxes, etc...
 - Not define size, color and/or positioning



The Elements of a Web Page:

CSS Rules

- Cascading Style Sheets (CSS) is the way to make a Web page look pretty

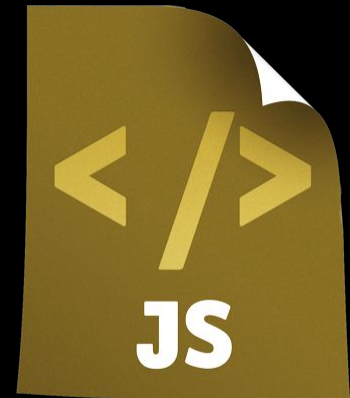
- Define styling rules
 - Fonts, colors, positioning, etc.
- Define the layout of the elements
- Define the presentation



- The CSS files are attached to a web page and the browser applies these styles to elements

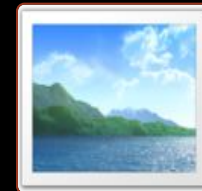
The Elements of a Web Page: JavaScript Code

- JavaScript is the programming language for the Web
 - Makes the Web pages dynamic
 - Dynamically adding / removing HTML elements, applying styles, etc.
 - Modern JavaScript UI libraries provide UI components like dialog boxes, grids, tabs, etc.
- Like CSS the JavaScript files are attached to a web page



The Elements of a Web Page: Other Resources

- Other resources are needed for a Web page to run properly
 - Images, audio files, video files
 - Flash / Silverlight / ActiveX objects



The Semantic HTML



```
<address> <div>  
<ul> </fieldset> <  
</em> <h1>  
orm>  
<a> </ol> <head  
<p> <table> <abl
```

Semantic HTML

- Semantic HTML is:
 - The use of HTML markup to reinforce the semantics of the information in Web pages
 - Rather than merely to define its presentation
 - A kind of metadata about the HTML content
- Semantic HTML is processed by regular Web browsers and other user agents
 - CSS is used to suggest its presentation to human users



Why Use Semantic HTML?

- Semantic HTML is:
 - Easier to read by developers
 - Easier to render by browsers
 - A way to show the search engines the correct content



How To Write Semantic HTML

- Just follow some guidelines when creating a Web site
 - Use HTML5 semantic tags
 - `<header>`, `<nav>`, `<section>`, `<article>`, `<aside>`, `<footer>`
 - Use Headings when you need to structure the content into sub-headings
 - In increasing order, starting with `<h1>`
 - Do not use empty tags
 - Like a clearing `<div>`



HTML5 Semantic Tags



HTML5 Semantic Tags

- HTML5 introduces semantic structure tags
- Imagine the following site:



- This is a common Web page structure
 - Used in 90% of the web sites

HTML5 Semantic Tags (2)

- This can be created using all kind of HTML elements
 - `<div>`, ``, even `<p>`
 - Browsers will render invalid / wrong / pseudo valid HTML



- The correct way: use the HTML 5 semantic tags:

```
<header> ... </header>  
<section> ... </section>  
<aside> ... </aside>  
<footer> ... </footer>
```

- More about semantic tags:

<http://pavelkolev.com/html5-snippets/>

HTML5 Semantic Tags (3)

- ◆ `<header>`
 - ◆ Site header or section header or article header
- ◆ `<footer>`
 - ◆ Site footer (sometime can be a section footer)
- ◆ `<nav>`
 - ◆ Site navigation (usually in the header)
- ◆ `<section>`
 - ◆ Site section (e.g. news, comments, links, ...)
- ◆ `<article>`
 - ◆ Article in a section (e.g. news item)

HTML5 Semantic Tags (4)

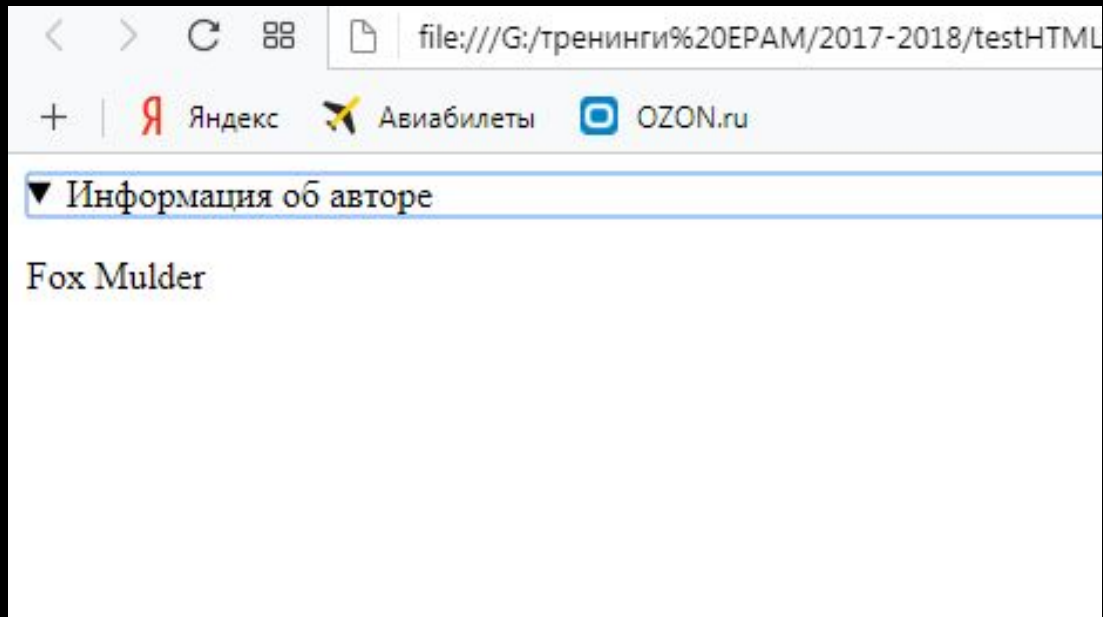
- ◆ `<aside>`
 - ◆ Sidebar (usually on the left or on the right)
- ◆ `<figure>`
 - ◆ Figure (a figure, e.g. inside an article)
- ◆ `<figcaption>`
 - ◆ A caption of a figure (inside the `<figure>` tag)
- ◆ `<audio>` / `<video>`
 - ◆ Audio / video element (uses the built-in player)

HTML5 Semantic Tags (5)

- ◆ `<details>` + `<summary>`
 - ◆ Accordion-like widget (can be open / closed)
- ◆ `<hgroup>`
 - ◆ Group article header + subheader (`<h1>` + `<h2>`)
- ◆ `<time>`
 - ◆ Specifies date / time (for a post / article / news)

details + <summary> Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>summary</title>
  </head>
  <body>
    <details>
      <summary>Информация об авторе</summary>
      <p>Fox Mulder</p>
    </details>
  </body>
</html>
```



Other Semantics

Headings, ems, strongs



Other Semantics

- Headings

- Always use headings (<h1> – <h6>) when you need a heading or title
 - Like in a MS Word document
 - Google uses it to mark important content

- Strong vs. Bold

- does not mean anything
 - It just makes the text bolder
- marks the text is "*stronger*" than the other, surrounding text

Other Semantics (2)

- Emphasis `` vs. Italic `<i>`
 - Emphasis does not always mean, that the code should be *italic*
 - It could be bolder, italic and underlined
 - The styles for the emphasis text should be given with CSS
 - Not by HTML
- Old browsers (like IE6)?
 - Use [Modernizr](#) or [HTML5shiv](#)
 - IE6-8, Safari 4.x, Firefox 3.x, iphone 3.x

Homework

1. Refactor the html web page and make its HTML semantic (use article, header, nav, section, h1..., footer)

The Header

1. [nav item 1](#)
2. [nav item 2](#)
3. [nav item 3](#)
4. [nav item 4](#)

This is the heading of the main section

Post header

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Post header

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and the footer

Homework(2)

2. Create a web page using semantic HTML (use nav, header, section, h1). Logo is an image!

Logo

Welcome to Our Web Site

- nav item 1
- nav item 2
- nav item 3
- nav item 4

First name	Last name	Score
Ivan	Ivanov	8.54
Petr	Petrov	7.31
Sidor	Sidorov	6.54

Homework(3)

3. Create a web page using semantic HTML

The screenshot shows the LinkedIn homepage with the following elements:

- Navigation:** [Home](#), [What is LinkedIn?](#), [Join Today](#)
- Sign In:** A form with fields for Email and Password, and a [Sign In](#) button.
- Promotional Text:** "Over 175 million professionals use LinkedIn to exchange information, ideas and opportunities"
- Benefits:**
 - Stay informed about your contacts and industry
 - Find the people & knowledge you need to achieve your goals
 - Control your professional identity online
- Join LinkedIn Today:** A section with a "Sign Up" form containing fields for First Name, Last Name, Email, and Password (with a note "6 or more characters"). A [Join Now](#) button is present.
- Footer:** "Already on LinkedIn? [Sign in](#)."

- Use some kind of approach to support old (non-HTML5-compatible) Web browsers like IE6-IE8 for all exercises

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