{POWER.CODERS}

HTML best practice

Agenda

This class will be a combination of theory + practice

- Quiz
- History and terminology
- Project best practice
- Semantics and boilerplate
- Ressources and online material
- Exercises
- Appendix: More about domains

Quiz

What is HTML?

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- **H**yper**T**ext **M**arkup **L**anguage

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- HTML is composed of **tags** that together provide a **blueprint** for a webpage.
- **Hypertext** is a text enriched with hyperlinks.
- **Markup language** uses tags to define the page layout and elements within the page. It is human-readable.

Quiz

What are a few different HTML tags?

Quiz

Which tag is used to create a link to another page?

1. `<l>`
2. `<link>`
3. `<a>`
4. `<p>`

Quiz

What is a container element compared to a stand alone element?

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Stand Alone Element

- An element that cannot contain anything else, like `<br>` and `<img>`.

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- `<head>`

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- `<body>`

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Comments can be used to organize your code into sections so you (or someone else) can easily understand your code. It can also be used to 'comment out' large chunks of code to hide it from the browser.

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If a file is part of the same web site, then a **relative URL** can be used. This can be only the name of the file.

If the file is located on another website, an **absolute URL** must be used. Absolute URLs contain the entire domain name and path.

Examples

```
<!-- Relative URLs -->
<a href="image-gallery.html">Image Gallery</a>
<a href="blog/first-blog-entry.html">My First Blog Entry</a>
<a href="../image-gallery.html">Back to Image Gallery</a>

<!-- Absolute URLs -->
<a href="http://www.my-colleague.com/blog.html">Blog of a Colleague</a>
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- Inside the same folder we just use the filename, for example `portrait.jpg`.
- Two dots (`..`) refer to the parent directory.
- If we want to start in the root directory we add an `/` before the path of the file, for example `/portrait.jpg`.

Quiz

What does a complete link (anchor) element look like?

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```
<a href="http://google.com/" target="_blank">This goes to google</a>
```

Quiz

What does block-level and inline elements mean?

Quiz

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Block-level elements

- start in a new line
- take up the full width of the page
- e.g. `<h1-6>`, `<p>`, `<br>`

Inline elements

- do not start in a new line
- only take up the necessary width
- e.g. `<a>`, `<em>`, `<strong>`

Quiz

What is an attribute? Explain and list some examples.

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- An attribute provied additional information about the HTML element
- It is placed inside an opening tag, before the right ankle bracket
- Examples: class, id, style, src, href, ...

Quiz

What is a HTML entity?

Quiz

What is a HTML entity?

- **special** characters: like accent marks and German umlaut, e.g. `ü`
- **invisible** characters: like non-breaking spaces, e.g. .
- **reserved** characters: which would be interpreted as HTML code, e.g. `<`

Often used entities

- non-breakable space = ` `
- – = `&ndash;`
- — = `&mdash;`
- © = `&copy;`
- ¼ = `&frac14;`
- ½ = `&frac12;`
- ¾ = `&frac34;`
- « = `&laquo;`
- » = `&raquo;`
- ä = `&auml;`
- Ü = `&Uuml;`
- é = `&eacute;`
- è = `&egrave;`
- ← = `&leftarrow;`
- ↑ = `&uparrow;`
- → = `&rightarrow;`
- ↓ = `&downarrow;`

More entities

History and terminology

History of HTML

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Terms

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- **Web development:** The process of programming dynamic web applications
- **Front end:** The outwardly visible elements of a website or application
- **Back end:** The inner workings and functionality of a website or application.

Project best practice

Defintion of best practice

Defintion of best practice

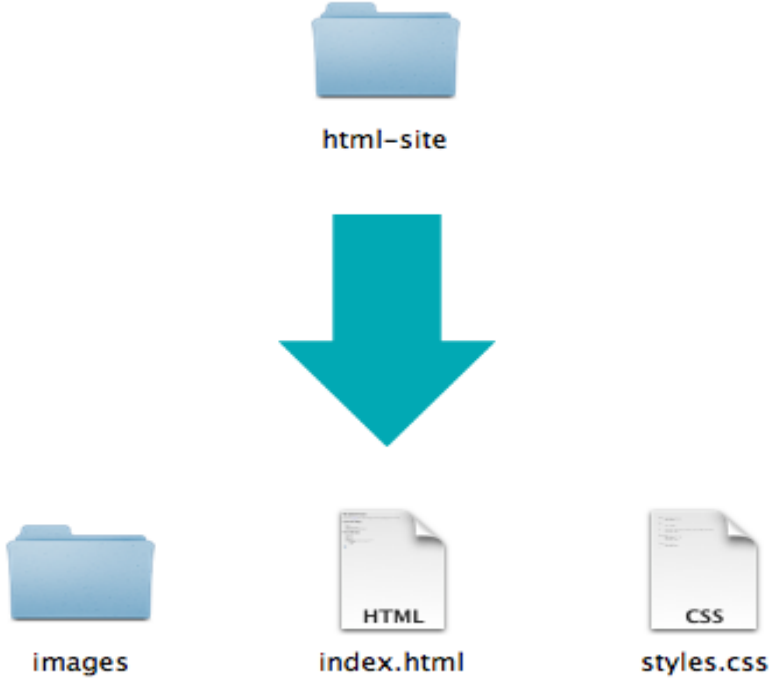
A **method** or **technique** that has been **generally accepted as superior** to any alternatives because it produces results that are superior to those achieved by other means or because it has become **a standard way of doing things**.

Folder Structure

All the files for your site should be stored within the same folder.

This includes:

- HTML Files
- CSS Files
- Images
- Script files
- Anything else that will appear on your site



Note: File names should not include spaces or special characters. File names ARE case sensitive.

Naming Folders + Files

- Name your file `index.html`
- In file and folder names, only use lowercase letters, numbers, hyphens/dashes.
- File names are usually case sensitive: `INDEX.html` vs. `index.html`
- Use the right extension: `.html` vs `.css` vs `.js`

Tips + Shortcuts

After each opening tag, the next element should be indented with a `tab` for better overview. Make sure you follow this habit.

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Action	Windows	Mac
VSCode, save	`Ctrl` + `s`	`⌘` + `s`
VSCode, undo	`Ctrl` + `z`	`⌘` + `z`
Switch apps	`Alt` + `Tab`	`⌘` + `Tab`
Chrome, reload	`Ctrl` + `r`	`⌘` + `r`

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- is **accessible** for disabled people

Anatomy of a Website

Your Content
+ HTML: Structure
+ CSS: Presentation
= Your Website

SEMANTICS

Semantic Markup

Definition semantics:

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Definition semantic web:

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Definition semantic web:

Information is given a well-defined meaning, better enabling computers and people to work in cooperation.

An example

The quick brown fox jumps over the lazy dog.

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- = English-language pangram (contains all letters of the English alphabet)

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- = English-language pangram (contains all letters of the English alphabet)
- Can you see it in your mind?

Now imagine

The quick brown thing jumps over the lazy thing.

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What do you see?

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Every time you use a `div` or `span`, you tell the browser: **"There's a thing"**.

And the browser asks, **"What kind of thing?"**

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Every time you use a `div` or `span`, you tell the browser: **"There's a thing"**.

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Non-graphical browsers and bots do not see how the website looks like. They need the tags to know the meaning of the content.

Advantages of semantics

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- easier to explain

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- easier to explain
- easier to understand

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- easier to explain
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- faster to process

Advantages of semantic web

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- better accessible for assistive technologies, like screen readers

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A lot of new semantic tags were introduced in 2014 with HTML 5, but HTML was from the beginning a **language with semantic tags and meaning**.

Semantic HTML

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Always use the tags best describing the content:

- `<h1>` for headlines
- `<h2-6>` for sub headlines
- `<ul>` for unordered lists
- `<ol>` for ordered lists
- `<table>` for complex data

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Full list on MDN

Headlines

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- `<h1>` in the `<header>`
- `<h2>` in the `<section>`
- `<h3>` in the `<article>`

Each article should contain at least 1 headline.

Each page should only have 1 `<h1>`-tag.

Section in articles

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Can you think of an example?

Exercise

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- Which tags do you use? Why?
- Check your buddy's markup and discuss the choice of tags.

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- What do you see?
- Why?

BOILERPLATE

What is a boilerplate?

The word **"boilerplate"** means standardized pieces of text for use as clauses in contracts or as part of a computer program.

An HTML boilerplate will contain the most common elements of a page as a sample that can be cloned and used as a starting point for a project.

HTML BOILERPLATE

Let's code our own boilerplate.
What should it contain?

One possibility

One possibility

```
<!doctype html>
<html>
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>Boilerplate</title>
  </head>
  <body>
    <header>
      <h1></h1>
      <nav>
      </nav>
    </header>
    <main>
      <p></p>
    </main>
```

Examples of HTML boilerplates

- html5boilerplate.com
- htmlshell.com
- sitepoint.com
- initializr.com

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Check them out. Which one do you prefer? Why?

Ressources and online material

- Handout: HTML reference sheet
- When should alt tags be blank?
- HTML outliner
- W3C validator

Ressources and online material

- Why you should choose `article` over `section`
- HTML 5 Doctor
- Semantics in HTML 5
- An introduction to the semantic web
- The ADA checklist 2019

EXERCISES

Exercise 1

Create a website to show off your new skills. Core HTML tags you should be able to include on your page(s):

1. A *nav bar* with a few links that either navigate to other pages or act as anchor tags.
2. A *heading* to signal something important or declare a new section/paragraph.
3. A couple *paragraphs* describing the amazing things you want to share. Remember to use *emphasis* on key words!
4. A *list* of key things to know about something in your paragraph. Why not do an ordered list and unordered list?
5. An *image* of something relevant.
6. A short contact *form*
7. A *table* to display additional contact data
8. A *footer* at the bottom of the page declaring your copyright on such a wonderful write-up, and make sure you use the copyright *symbol!*
9. Your page should validate in this at this link: W3 Validator.
10. Keep your code readabable and maintanable for your future self and future contributors.

Remember: all your exercises go to Github. Use git for regular commits to your github repo.

Exercise 2

Draft the semantic outline of a newspaper page in HTML: tagesanzeiger.ch

- Which semantic tags would you use to describe the homepage?
- Create a HTML outline for a subpage
- Your page should validate in this at W3C Validator.
- Check your document outline and web semantics with HTML5 Outliner.
- Keep your code readabable and maintanable for your future self and future contributors.

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Exercise 3

Start with the HTML skeleton of your project website

- Be semantic
- Use comments to explain why you chose specific tags and keep it readable and maintanable
- Your page should validate in this at W3C Validator.
- Check your document outline and web semantics with HTML5 Outliner.

Appendix: More about domains

Domain

Anatomy of domain names:
subdomain.domain.topleveldomain

Domain

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subdomain.domain.topleveldomain

- powercoders.org
- www.gmail.com
- calendar.google.com

TOPLEVELDOMAIN (TLD)

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As the use of these TLDs isn't restricted, they are used more flexibly than as originally intended.

Country-code TLDs

Each country has its own TLD (ccTLD), and they can decide who can register for domains with that TLD. Some also specify a set of "second-level-domain" for the TLDs.

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- `.ch`
- `.fr`
- `.it`
- `.de`
- `.uk` / `.co.uk`
- ...

New gTLDs Program

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Over a thousand new gTLDs:

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Over a thousand new gTLDs:

- thematic: `.hotel` `.bank`
- geographic: `.florida` `.berlin`
- product-related: `.toys` `.yoga`
- specific: `.tech` `.design`
- individual: `.codes` `.ninja`
- ...

What TLD should you get?

Most users expect to type in a `.com` or `.ch` domain, so you should always try to reserve that name (though it's often taken).

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If you target a particular geographic market, it makes sense to get the ccTLD.

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If you target a particular geographic market, it makes sense to get the ccTLD.

For your own portfolio one of new gTLDs might be best, e.g. `.codes` or `.dev`.

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The domain name is not case-sensitive - google.com = GOOGLE.com.

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- Represents your name or business name
- Short and memorable
- Easy to say aloud
- Easy to spell without mistakes
- Uses ASCII characters
- Doesn't infringe other's copyright

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- Doesn't infringe other's copyright

But good domain names are often taken. You can try using hyphens (experts-exchange.com) or making a TLD form part of the name (del.icio.us) to make it more likely the name will be available.

Subdomain

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- search.twitter.com
- api.twitter.com

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The www-Subdomain is the most common. If you type in a domain, e.g. google.com, it automatically refers to the www-subdomain. Try it yourself.

Domain registrars

You must use a "domain registrar" to purchase a domain.
Just google "register domain" to find a registrar.

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I register my domains with Metanet.