CSS

Dokumentet kan findes onlin her: https://github.com/behu-kea/dat20-classes/blob/master/week-1/css.md

Hvorfor snakker vi overhovedet om CSS?

CSS bliver brugt til at style en hjemmeside. HTML er selve strukturen og indholdet. CSS er farverne, layout, animationer, skrifttyper etc.

Overview

- Adding css to your site
- Css selectors:
  - Id, class, type
  - Child `.red-color .text` and `.red-color, .text`
  - Pseudo selector `.red-color:hover
  - *exercise*
- Properties
- Layout
  - Flow
    - Block flow
    - Inline flow
  - Positioning
    - Static, relative, absolute, fixed
    - Flexbox
- Bootstrap
- Inspector

What is css?

CSS stands for cascading style sheets. It means the styles that are added for an element cascades down to their children. Its like a waterfall where the water will continue cascading down affecting the pools below.

Lets see a concrete example of that!

Adding css to your site

Create a css file. Fx `main.css`. To add the css to your html, add this line in the `head` of your html: `<link rel="stylesheet" href="main.css">`. Now the css is connected to the html.

CSS selectors and properties

CSS has two parts:

1. The selector - specifies what html elements to style
2. The properties - specifies what style the html elements should get

It goes kind of like this: First we find the elements to style (the selector) then we tell how those selected elements should be be styled. Here is an example:

```
h1 {
    color: red;
}
```

This reads like this: Select the `h1` html element. Now color the text red.

Lets go into more css selector details:

CSS selector

Tag selector

Select all elements based on their tag name. Simply write the tag name

This selector

```
h1 {
    color: red;
}
```

Would color the text `Hello` red `<h1>Hello</h1>`

```
li {
    background-color: yellow;
}
```

Would give the `li` a yellow background color `<li>List item</li>`

Id selector

For id selectors use `#`

```
#congratulation-message {
    background-color: red;
}
```

Will select an element like this:

`<div id="congratulation-message">Congratulations </div>`

Class selector

For class selectors use `.`

```
.user-name {
    font-weight: bold;
}
```

Will select an element like this:

`<div class="user-name">Charlotte123</div>`

Descendant selector

You can make the selectors more specific by using the descendant selector:

```
.intro h1 {
    font-size: 25px;
}
```

Style all `h1` elements that are descendants of the element with class name intro

```
section class="intro">
    <h1>Welcome to our wonderful site</h1>
</section>
```

You can also formulate it differently:

First find all the elements with a class of intro. Then find all the h1 tags that is descendants of the element with class intro.

And selector

Use the comma

```
section.intro, h1 {
    font-size: 25px;
}
```

Now you would give the section with class name intro **and** the `h1` a font size of 25 pixel.

Pseudo selector

use the `:`

```
.user-name:hover {
    color: purple;
}
```

Give the element with class user-name a color of purple when hovered with the mouse

There are **a lot** more but these are the most important ones. You can find more here: https://developer.mozilla.org/en-US/docs/Web/CSS/Reference#selectors

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CSS properties

https://developer.mozilla.org/en-US/docs/Web/CSS/Reference

A property in css is the styling you want to apply to an element. You write a property with the property name then `:` and then the value.

Exercise - selecting elements - 20 min

https://flukeout.github.io/

Hopefully we can do it as pair programming exercise. One drives, one supports.

The driver shares his/her screen. Halfway switch.

The html tags are not standard html tags like `div`, `p` and `section`. But the concept of selecting is the same.

CSS layout

CSS layouting is hard!

CSS layouting decides how elements are layouts. What comes on top/to the left of what.

Flow

CSS flow decides how elements are layed out. The flow can be changed with the `display` css property *show*.

Block flow

Elements that have block flow are stacked on top of each other.

These elements are fx `div`, `p`, `section`, `footer`

Teacher note: Show with example

Inline flow

Elements that have inline flow are positioned next to each other.

That if fx `span`, `a`, `strong`.

Teacher note: Show with example

apps_robots

Positioning

Relative

Position an element **relative** to its original position.

```
section .user-name {
    display: relative;
    left: 10px;
}
```

Absolute

Position an element in relation to the first parent that has a position set as a property. Text on top of and in the middle of an image.

```
section .user-name {
    display: absolute;
    left: 10px;
}
```

Fixed

A fixed element always appear at the same place on the screen no matter of someone scrolls! Imagine a cookie accept box.

```
section .user-name {
    display: fixed;
    left: 10px;
}
```

Diagram: comparison of static, relative, absolute, and fixed positioning schemes

Flex

Flex is a relative new way of layouting things in the browser.

Flex container

Is where the `display: flex;` is applied. This will make all the **immediate children** flex items.

```
<div class="flex-container">
    <div class="box box-1">Flex item 1</div>
    <div class="box box-2">Flex item 2</div>
    <div class="box box-3">Flex item 3</div>
    <div class="box box-4">Flex item 4</div>
    <div class="box box-5">Flex item 5</div>
  </div>
```

When applying `display:flex;` the default direction of the flex items is row, meaning they will be positioned next to each other.

Now try and play around with `flex-direction` and with `justify-content` and `align-items`

https://marina-ferreira.github.io/tutorials/css/flexbox/

https://css-tricks.com/snippets/css/a-guide-to-flexbox/

Bootstrap

Bootstrap is a css framework that helps you develop nice layouts and styling quickly. It basiscally works by adding specific elements with specific Bootstrap classes.

https://getbootstrap.com

Working with the inspector

You can see the css for any element on the web. Right click on the element and choose inspect element.

on the right hand side you can see the styles applied to the element you have inspected. In the `element` panel you can write your own css rules!

Screenshot 2021-02-11 at 13.44.35

How to deconstruct a layout

https://www.amsiq.com/da

Exercise

Try and recreate the layout below with the code found here. You can clone the project and open the files in IntelliJ or just copy the files to your computer. Thats up to you.

hyf-exercise

Exercise - Style your portfolio

Style your portfolio!

We want to see you doing some layouting on your portfolio. How you do the layouting is up to you! You can use flex, Bootstrap or whatever you feel like.

CSS checklist

- [ ] Is the css imported using the style tag.
- [ ] Are there unused selectors.
- [ ] Are there lots of fixed pixel values. This could affect responsive layouts.
- [ ] Try to avoid absolute positioning as this tends to break responsive layouts.
- [ ] Use flexbox over floats.
- [ ] Avoid using `!important` statements.
- [ ] Avoid inline styles
- [ ] Consistent naming and grouping of css-classes (see naming conventions below)
- [ ] CSS selectors are only as specific as they need to be

If you want to continue learning

- Responsive

    - Mobile first
    - Media queries
- Animation
- Boxmodel
- Grid
- Floating
- Specificity
- External, inline element styles

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