

CSS mindset

Demystification course with Lateral Nord

Lateral Nord.



Jerry Jäppinen

Product design consultant



jerryjappinen@lateralnord.com

+358 40 7188776

@jerryjappinen



- 1. CSS for programmers**
- 2. Learning to walk**
- 3. History lesson**
- 4. CSS is declarative**
- 5. HTML structure**
- 6. Worth knowing**
- 7. Laying things out**
- 8. Measurements**
- 9. Best practices and exercises**

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The short version

**CSS has absolutely nothing to
do with programming**

CSS is not intended for creating applications

...or even layouts

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CSS can be frustrating

- **There are missing features in CSS**
- **We have to battle with browser incompatibilities**
- **Some parts of the spec are just crazy**

But that's not why CSS is hard

**It's hard because you never
learned the basics**

**To run, we need to learn how to
walk**

**To walk, we must understand
principles**

Just like you need to understand the principles of object-oriented programming before writing good Java, you need to understand something about fundamentals before writing good CSS

If Java is about OO programming...

Clojure is about functional programming...

Then what is CSS about?

Design

CSS is about design

0_0

CSS is a way to talk about design abstractions

**Alignments, dimensions, text, fonts, paragraphs,
lists, colors and containers...**

**When you use CSS, you break down a design to these
fundamental properties**

Views can always be described as a combination of these four key components

structure, styles, behavior, content

Simply put: you write structure in HTML, behavior in JS, and styles in CSS. Content is merged into structure when delivered to browser, but usually stored separately

All of this is generic. Not just web.

Try out InDesign, you'll find tools similar to web technologies there. ID is for creating print materials, but it's a tool for implementing design just the same.

This is why some things in CSS might seem weird to programmers. Rules of graphic design are very different from programmer math!

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**CSS is about styling HTML
documents**

**HTML documents always had
paragraphs, lists, tables**

Images came in at some point

**Originally, semantics in HTML
were awful**

**When CSS came, poor semantics were the biggest hindrance to using it efficiently
(Probably still is)**

Prepare to feel stupid

**To practice, write and style
plain HTML documents**

Create a single HTML document with base styles, and then write 10 different themes for it.

You'll find lots of practical ways to organize your CSS and see how graphic design breaks down into border widths, background colors and font styles.

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CSS is applied magically by the browser

Even for elements created dynamically

You don't have to actually do anything.

The people who actually write rendering engines are heroes who do what they do so we don't have to.

CSS doesn't tell a browser what to do.

You don't command with CSS, you declare what kind of arrangements, dimensions, text and colors you recommend as an author.

**But you're not the only one who
gets a say**

**User, browser, vendor and
element styles cascade**

**To author good CSS, pay less
attention to applied styles of
individual elements**

You can also use this idea of cascading "layers" of CSS to organise your styling.

For example, simply write your multiple stylesheets:

- reset/normalization stylesheet(s)**
- default stylesheet(s)**
- global brand stylesheet(s)**
- view-specific stylesheet(s)**

Browsers handle more calculations and conversions to render stuff on screen than you ever want to know.

Read the CSS spec. It's crazy and it needs to be.

Browsers are mean rendering machines. Declaration is awesome.

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**But you just told us: structure
and styles are separate!**

They are.

But good structure and semantics are a prerequisite to authoring good CSS. Just like painting a bumpy surface is hard.

**(That's all I had to say about
structure)**

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HTML elements don't really exist in CSS, only arbitrary elements do.

Browsers decide how to render HTML elements (like native-looking input fields), but CSS doesn't really know anything about that.

Things that don't exist in CSS:

**Functions, class inheritance,
grids or columns, mixins,
variables, negation, ifs and
elses, cancelling a declaration,
centering.**

The real power of CSS is flexibility.

Like we discussed, you shouldn't really worry about reproducing a pixel-perfect replication of a mock-up on a user's screen. Your vision is just one of the things that affect the result.

You'll get pretty far with nothing but this

```
element#id.class child:pseudoclass .childclass,  
anotherElement.class {  
    attribute: value;  
    another-attribute: another-value;  
}
```

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Start of gross simplifications

Like I said, we learn to walk first

CSS has text and containers: “inline” and “block”

```
em { display: inline; }  
p { display: block; }
```


Inline elements

Inline elements are arranged in a natural text flow, and are laid out according to basic typographic rules.

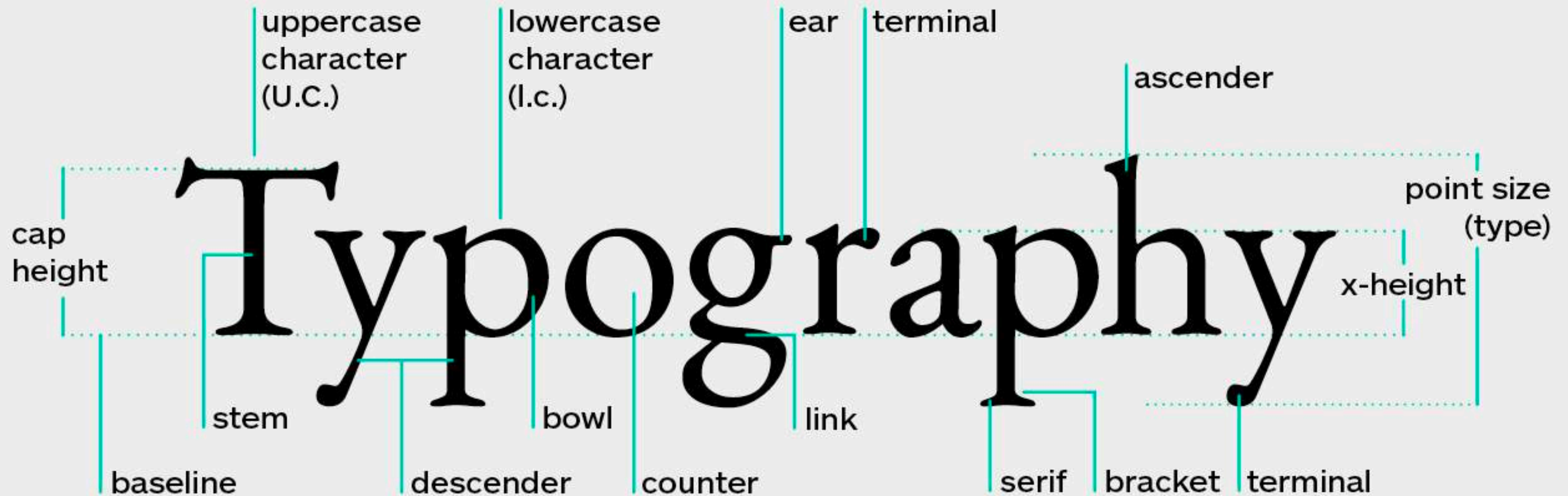
Things like line-height, baseline and indenting are familiar from print designs. After this session, go get a Wired Magazine from the kitchen and look at the page.

Take an example: vertical-align

It's not what you think it is, but it's pretty rad. It's about aligning inline items on a line of text.

And also content in table cells, because the same attribute has different uses depending on context. Sorry about that.

CSS actually understands what's going on here!



Cool typo in CSS

- **letter-spacing,**
- **word-spacing**
- **direction**
- **text-align**
- **text-justify**
- **text-indent**
- **font-variant**
- **text-tranform**
- **word-break**
- **word-wrap**
- **white-space**
- **baseline-shift**
- **drop-initial-after-align**
- **ruby annotation styling**

Block elements

Block elements contain inline elements, and reserve room for them. Blocks have dimensions and can be arranged in a few ways.

Box model governs the rules for the dimensions of block elements. Blocks are extensively nested.

CSS is great at getting any content of a document to render sensibly

Layouts impose limitations rendering content, e.g. limiting dimensions of containers

Increasing these limitations lowers the threshold of breaking content rendering

In CSS content naturally flows from top to bottom

**You control the horizontal dimensions of elements,
and let browser handle the vertical dimensions
based on what fits the screen on any given context**

End of gross simplifications

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Units of measure are awesome

Browsers handle all the hassle of converting everything to pixels for you

%: relative to available space or font size

em: the height of the font in context

ex: x-height of the font

px: dependent on canvas resolution

mm: millimeters

cm: centimeters; 1cm=10mm in: inches;

1in=2.54cm

pt: points; 1pt=1/72in

pc: picas; 1pc=12pt

**vh: viewport height
(percentage)**

vw: viewport width (percentage)

**vmin: vh or vw, whichever is
lower**

**vmax: vh or vw, whichever is
higher**

Box model allows you to mix all the available units

Some things are a little tricky, some things are not doable, but many many cool things can be done

When you want a box of given size on the screen, you must always think why it should be of that size, and use that rationale in your declarations

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**When starting out, break down
your design into global
components**

**Don't start replicating mock-ups
or individual views**

Each layout is a system

**A set of rules that govern how
UI objects look and flow**

Express these rules in CSS

**Avoid moving code from
developer console to CSS**

**In dev console, you only see a
change from one perspective.
You're focused in applied styles**

Never add more than the minimum declarations. Touch only the attributes you really need and want to specify.

Shorthands are short but express more:

**background: green; means
background-image: none;**

**Shorthands are magical and make it
harder to iterate!**

Don't think in hierarchies. Classes are labels, and allow for all kinds of permutations

Individual views are not a good way to organize stylesheets by

Try having separate stylesheets for separate concerns like body frame, columns, color scheme, text styling, button styles etc.

Organize declarations in logical chunks

Think about how you will be looking for a style declaration when you spot something on the page and want to change it

Understand similarity vs. sameness

Only include things in one declaration when you want the content to apply for everything described in selector, by definition

If two blocks just happen to share characteristics, but could just as well not, there's a good chance you want to change one independent of another

Repetition (similarity vs. sameness)

```
#header, #footer {  
  background-color: black;  
}  
#header {  
  color: white;  
}  
#footer {  
  color: grey;  
}
```

```
#header {  
  color: white;  
  background-color: black;  
}  
#footer {  
  color: grey;  
  background-color: black;  
}
```

Repetition (similarity vs. sameness)

```
#header, #body {  
  width: 80%;  
  max-width: 50em;  
  min-width: 10em;  
}
```

```
.frame-container {  
  max-width: 80%;  
}
```


Avoid excess nesting (and tools that encourage it)

```
.features .row1 .column2 .detail  
s h1 {  
  margin-top: 1em;  
}
```

```
.title {  
  margin-top: 1em;  
}
```


Don't touch elements created by plugins

```
/* Override plugin styles to  
give more padding to graphs */
```

```
#graph-from-plugin {  
  padding: 30px;  
}
```

```
/* Override plugin styles to  
give more padding to graphs */
```

```
.my-graph-container {  
  padding: 10px;  
}
```

Inheritance vs. fake reset

```
body {  
  font-weight: normal;  
}
```

```
a {  
  font-weight: bold;  
}
```

```
a.discreet {  
  font-weight: normal;  
}
```

```
body {  
  font-weight: normal;  
}
```

```
a {  
  font-weight: bold;  
}
```

```
a.discreet {  
  font-weight: inherit;  
}
```

Trust the cascade

```
/* Bad */  
* {  
    font-size: 16px;  
}
```

```
/* Good */  
bold {  
    font-size: 16px;  
}
```

Don't fix simple issues with error-prone CSS

- **display**
- **position**
- **top, right, bottom, left**
- **negative margins**
- **z-index**

That's it!



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