# WEBDESIGN WITH CSS

# Cascading Style Sheets

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#### What is CSS

- CSS stands for Cascading Style Sheets
- Control the design (e.g., fonts, colors, spacing) of multiple websites all at once
- HTML to structure the content
- Separation of content and layout
- Current version: CSS 3
- CSS ZenGarden
   http://www.csszengarden.com

```
body {
font-family: Verdana
color: #3B3D3F;

element style
visibility absolute

z-index
```

# CSS Syntax

```
Selector
h1 {
      font-family: Arial
             Property
                              Value
                Declaration-block
```

# **CSS Syntax**

```
h1 {
    font-family: Arial;
    color: red
}
```

#### **CSS Syntax: Comments**

```
/* for headings use only
fonts without serifs */
h1 {
   font-family: Arial
```

#### How to insert CSS

# External CSS using <link>

```
<!DOCTYPE html>
<html>
  <head>
    <title>Stefan George Digital</title>
    k rel="stylesheet" type="text/css" href="css/edition.css" />
    <meta charset="UTF-8" />
  </head>
  <body>
    <h1>Stefan George Digital</h1>
    At the moment three works...
  </body>
</html>
```

```
html {
  background-color: #c0b7a8;
}

body {
  background-color: #F8FBEF
}

header {
  background-color: #32649c;
  padding-bottom: 1em
}
```

# Internal CSS using <style>

```
<!DOCTYPE html>
<html>
  <head>
    <title>Stefan George Digital</title>
       <style type="text/css">
         h1 {
           font-family: Arial;
            color: red
       </style>
    <meta charset="UTF-8" />
  </head>
  <body>
    <h1>Stefan George Digital</h1>
    At the moment three works...
  </body>
</html>
```

# Internal CSS using @style

```
<h1 style="color:red">Stefan George
Digital</h1>
```

#### How to insert CSS?

Element/Attribute	Value	Notes		
External CSS using <link/>				
<li>k&gt;</li>		Advantage:		
@href	file name	change the layout of multiple documents at		
@type	text/css	once.		
@rel	STYLESHEET			
Internal CSS using <style></td></tr><tr><th><style></th><td></td><td>Use for single</td></tr><tr><th>@type</th><td>text/css</td><td>documents</td></tr><tr><td colspan=4>Internal CSS using @style</td></tr><tr><th>@style</th><td>CSS declaration</td><td>Use for individual cases; no separation of content and presentation</td></tr></tbody></table></style>				

#### Selectors

Selectors	Description	Example
Universal Selector	Matches all elements in the document.	* {}
Type Selector	Matches elements by their names.	h1, h2, h3 {}
Class Selector	Matches elements by it's class attribute.	.stanza {} div.stanza{}
ID Selector	Matches elements by it's id attribute.	#content {}
Descendant Selector	Matches an element that is an descendant of the specified element	p a {}
Child Selector	Matches an element that is the direct child of an element	li > a {}

#### **Universal Selector**

Selector:

Matches all elements in the document

```
* {
    margin: 0;
    padding: 0;
    font-family: Georgia, Times, serif;
    color: #333333
}

div * {
    margin: 0;
    padding: 0
}
```

# Type Selector

- Selector: h1, h2, p
- Matches elements by their names

```
h1, h2 {
    color: white;
    font-family: Arial, Helvetica, sans-serif
}
h1 {
    font-size: 2.4em
}
```

#### Exercise 1: Write your first CSS document

- Open a new CSS document in Oxygen
- Save your CSS document (edition.css) into the folder CSS
- Write your first type selector (h1), define the text color (red)
- Open index.html in Oxygen
- After the <title> element, add the reference to your external CSS document

```
<link rel="stylesheet" type="text/css" href="css/edition.css" />
```

- Open the index.html in a browser
- Add the reference also to the edition.html and about.html

#### Class Selector

- Selector:
- Matches elements by the value of their class attributes

```
span.red {
    color: red
}
.blue {
    color: blue
}
```

<span class="red">W</span>ir

HTML

#### **ID** Selector

- Selector: #
- Matches elements by the value of their id attributes

```
section#content {
    width: 960px
}

<section id="content">
    Text
</section>
```

#### Descendant Selector

- Selector: **div p**
- Matches an element that is a descendant of the specified element

```
section p {
    font-family: arial, verdana, sans-serif
}

section#content p {
    font-family: arial, verdana, sans-serif
}
```

#### Child Selector

- Selector: div > p
- Matches an element that is the direct child of an element

#### Pseudo classes

- Selector: :link, :hover, :active, :visited
- Pseudo classes describe "conditions" of elements (e.g. hyperlinks)

```
a:link {
    color: deeppink;
    text-decoration: none
    }
a:visited {
    color: black
    }
a:hover {
    color: deeppink;
    text-decoration: underline
    }
```

#### **Browser**

```
Stefan George Digital (link)
Stefan George Digital (visited)
Stefan George Digital (hover)
```

HTML

```
<a href="#">Stefan George Digital (link)</a><br/>
<a href="#">Stefan George Digital (visited)</a><br/>
<a href="#">Stefan George Digital (hover)</a><br/>
/a><br/>
/a><br/>
/a><br/>
/a><br/>
```



## How to specify colors

#### RGB values

 values for red, green and blue expressed in numbers between 0 and 255

#### Hex codes

 amount of red, green and blue in a six-digits code, preceded by a #

#### Color names

- 17 standard colors (e.g. blue, red)
- More colors (e.g. AquaMarine)

- /\* rgb value \*/ color: rgb(127, 255, 212) /\* hex code \*/ h2 { color: #7FFFD4 /\* color name \*/ color: AquaMarine
- http://www.w3schools.com/cssref/css\_colornames.asp
- http://html-color-codes.info/webfarben\_hexcodes/

#### Color: Properties and Values

Property	Value	Description
color	rgb, hex, color names	foreground color (text)
background-color		background color

```
h1 {
    color: white;
    background-color: #32649c;
    font-family: arial, verdana, sans-serif
}

Browser

Stefan George Digital
```

HTML

<h1>Stefan George Digital</h1>

## Color: Summary

- Color not only brings your website to life, but also helps convey the mood.
- There are three ways to specify colors in CSS:
  - RGB values, hex codes, and color names.
- Color pickers can help you find the color you want.
- Make sure that there is enough contrast between the text and the background color
- CSS3 has introduced RGBA to indicate opacity.



## Typeface

**SERIF** 

**SANS-SERIF** 

MONOSPACE

The

The

The

Georgia

Times

Times New Roman

Arial

Verdana

Helvetica

Courier

Courier New

#### Font: Properties and Values

Property	Value
font-family	font family + generic typeface (serif, sans-serif, monospace) font-family: Arial, Verdana, sans-serif font-family: Georgia, ,Times New Roman, serif font-family: Courier, ,Courier New', monospace
font-style	italic, oblique, normal
font-size	px, percentage, em
font-weight	normal, bold
font-variant	normal, small-caps

```
h1 {
   font-family: arial, verdana, sans-serif;
   font-style: italic;
   font-weight: normal;
   font-size: 1.2em;
}
```

Stefan George Digital

Browser

## Text: Properties and Values

Property	Value
text-indent	px, percentage, em
text-align	left, right, center, justify
text-transform	uppercase, lowercase
text-decoration	none, underline, overline, line-through

# p { text-indent: 1em; text-align: justify; text-transform: lower-case; text-decoration: underline }

#### **Browser**

at the moment three works of stefan george are transcribed, encoded, and enhanced with corresponding facsimiles. further works will follow in summer 2015.

#### Measurement systems

 Relative measures are preferred. The user can fit the output to his needs

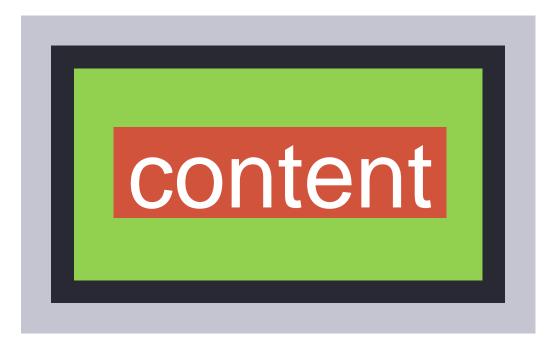
Pixels		Perce	ntages	EM's	
h1	32px	h1	200%	h1	2em
h2	24px	h2	150%	h2	1.5em
h3	18px	h3	133%	h3	1.125em
body	16px	body	100%	body	100%
				p	1em



#### Box model

- Control the dimensions of boxes
- Create borders around boxes
- Set margins and paddings

#### Box model: borders, margin, padding



content box
padding box
border box
margin box

```
p {
  width: 275px;
  border: 2px solid red;
  padding: 10px;
  margin: 10px

  total width:
  10 + 2 + 10 + 275 + 10 + 2 + 10 = 319
```

#### Box dimensions

Property	Value
width	px, percentage, em
height	px, percentage, em
min-width	px, percentage, em
min-height	px, percentage, em

```
div {
    width: 300px;
    height: 150px;
    background-color: green
}
p {
    width: 75%;
    background-color: white
}
```

At the moment three works of Stefan George are transcribed, encoded, and enhanced with corresponding facsimiles. Further works will follow in Summer 2015.

<div>At the moment three works...</div>

Browser

# Box model: padding, margin

Property	Value	Description
padding (shorthand)	px, percentage, em	padding-top, padding-right,
margin (shorthand)	px, percentage, em	margin-bottom, margin-left

```
p {
    width: 200px;
    background-color: #dddddd;
    padding: 10px;
    padding-left: 40px;
    margin: 10px;
    border: 3px dotted green
}
At the moment three works...
```

Further works will follow...

At the moment three works of Stefan George are transcribed, encoded, and enhanced with corresponding facsimiles.

Further works will follow in Summer 2015.

Browser

#### Box model: border

Property	Value	Examples
border (shorthand)		border: 1px solid green
border-width	px	border-width: 2px border-width: 2px 3px 2px 1px
border-style	solid, dotted, dashed, double	border-style: solid border-style: solid dotted solid dotted
border-color	RGB, HEX, Color Names	border-color: green yellow yellow green
border-top-width border-bottom-style border-right-color		border-left-width: 2px border-bottom-style: solid border-right-color: #333333

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2 Ratgen Hub: flasen gum, 1/2 30 12 8 - 25 6 10 2 Peter Hitterner gummum 2/2 1 1/2 1/2 - 1/2 1/2 1 3 Shristoph Wiens Jo 2 5 5 -1. Richas Clasen Mintfling - -5. Niclas Classen grunnen 4 7 15 6 Joh Joisters Erben He 1/2 14 94 16 2 6. 7 Pastorath fought Willy - - -

# Lists: Properties and Values

Property	Value
list-style-type	none disc, circle, square for (ul) decimal (1, 2), decimal-leading-zero (01, 02), lower-roman (i, ii), upper-roman (I, II) for (li)
list-style-position	outside, inside
list-style (shorthand)	

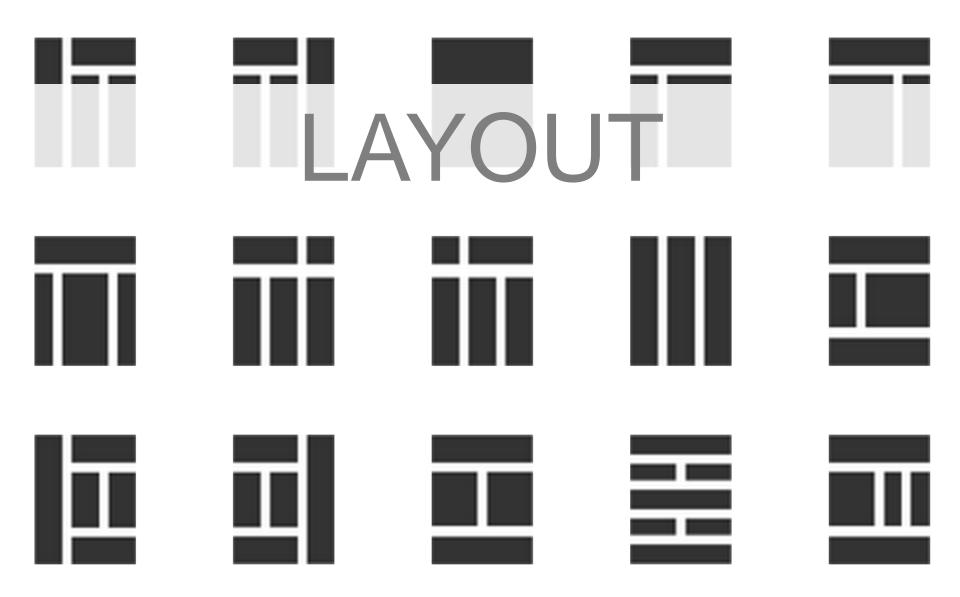
## Lists: Properties and Values

```
ul li {
    list-style-type: square
}
ol li {
    list-style-type: lower-roman;
    list-style-position: inside
}
```

#### Browser

- Start
- Edition
- About

i. At the moment three works of Stefan George are transcribed, encoded, and enhanced with corresponding facsimiles.



# Layout: Positioning schemes

- Positioning schemes allow for control the layout of a page
- Normal flow: every block-level element appears in sequence starting in a new line.
- Relative, absolute and fixed positioning
- Floating elements: take an element out of the normal flow and let the rest of the content flow
- around it.

#### Lorem Ipsum

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# Layout: Properties and Values

Property	Value
display	none, inline, block
float	none, left, right
clear	left, right, both, none

# Lists: Horizontal navigation

```
CSS
                                                              Browser
li {
  display: inline
                                          Start Edition About
                              HTML
ul>
 <a href="#">Start</a>
 <a href="#">Edition</a>
 <a href="#">About</a>
```

# Layout: Floating elements

- Take an element out of the normal flow and position it to the left or right edge of the containing box.
- Define the width of the floating element.

```
img {
    float: left;
    width: 100px;
    padding-right: 5px;
}
```

#### HTML

```
<img src="html/images/george.jpg"
alt="Stefan George" title="Stefan George
sitting in his studio in 1910" width="50" />
At the moment three works of Stefan
George are transcribed, encoded, and
enhanced with corresponding facsimiles.
```

**Browser** 



At the moment three works of Stefan George are transcribed, encoded, and enhanced with corresponding facsimiles.

## Layout: Clear elements

Stop the floating with clear

```
img {
  float: left;
  width: 100px;
  padding-right: 5px
}

h2 {
  clear: left;
}
```

```
<img src="html/images/george.jpg"
alt="Stefan George" title="Stefan George
sitting in his studio in 1910" width="100" />
At the moment three works of Stefan
George are transcribed, encoded, and
enhanced with corresponding facsimiles.
<h2>About</h2>
```



At the moment three works of Stefan George are transcribed, encoded, and enhanced with corresponding facsimiles.

About

Browser

# Multi-column layouts with float

Navigation, contact information, blog posts

- set the width of the columns
- 2. *float* to position the columns next to each other
- 3. *margin* to create a gap between the columns

```
section {
   width: 200px;
   float: left;
}
aside {
   width: 100px;
   float: left;
   margin: 10px
}
```

```
This is the left column
</section>
<aside>
This is the right column
</aside>

Browser

This is the left column

This is the right column

Thi
```

### Reset CSS

- Initial values for each property
- Reset predefined specifications
- Reset CSS by Eric Meyer
- http://meyerweb.com/eric/tools/ css/reset/

```
/* reset distance for all elements*/
* {
    margin: 0;
    padding: 0;
}
```

#### Stefan George Digital

The edition of the lyrical works

- Start
- Edition
- About

Welcome to Stefan George Digital



Photography of Stefan George (1910)

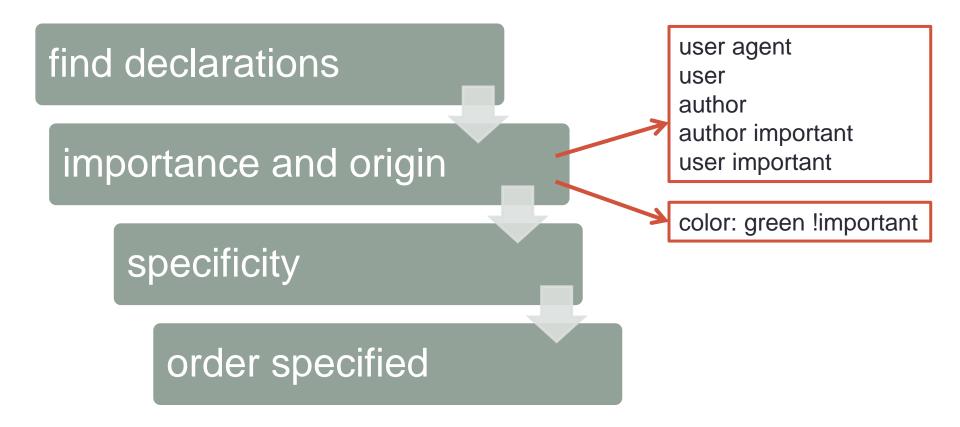
At the moment three works of Stefan George are transcribed, encoded, and enhanced with corresponding

## **Tutorial session**

See printout

## Cascade

 Multiple styles and declarations can affect one element > this can cause conflicts



## Initial value & Inheritance

- Most values are inherited by their child elements
- Exceptions: tables, forms, ...
- Force inheritance with the value inherit

```
<!DOCTYPE html>
<html>
    <head>
        <title>Stefan George Digital</title>
        <tyle type="text/css">
            h1 {
                color: red
            }
            </style>
        <head>
        <body>
            <h1>Stefan <em>George</em> Digital</h1>
        </body>
        </html>
```

# Specificity

Selector	Value	Specificity
*	A=0 B=0 C=0 D=0	0,0,0,0
li	A=0 B=0 C=0 D=0	0,0,0,1
li:first-line	A=0 B=0 C=0 D=0	0,0,0,2
ul li	A=0 B=0 C=0 D=0	0,0,0,2
ul ol+li	A=0 B=0 C=0 D=0	0,0,0,3
ul ol li.red	A=0 B=0 C=0 D=0	0,0,1,3
li.red.level	A=0 B=0 C=0 D=0	0,0,2,1
#content	A=0 B=0 C=0 D=0	0,1,0,0
style="color:blue"	A=0 B=0 C=0 D=0	1,0,0,0

- A = A @style attribute in the HTML document
- B = Number of ID attributes of a selector
- C = Number of all other attributes (classes, pseudoclasses) of a selector
- D = Number of element names and pseudo-elements of a selector

# Specificity

```
<!DOCTYPE html>
<html>
  <head>
    <title>Stefan George Digital</title>
       <style type="text/css">
         h1 {
            font-family: Arial;
            color: red
       </style>
    <meta charset="UTF-8" />
  </head>
  <body>
    <h1 style="color:green">Stefan George Digital</h1>
    At the moment three works...
  </body>
</html>
```

# Specificity

```
<!DOCTYPE html>
<html>
  <head>
    <title>Stefan George Digital</title>
        <style type="text/css">
         body h1 {
            font-family: Arial;
            color: red
         h1 {
            color: green
        </style>
    <meta charset="UTF-8" />
  </head>
  <body>
    <h1>Stefan George Digital</h1>
    At the moment three works...
  </body>
</html>
```

### **CSS 3: New Features**

- Borders (rounded corners, border image)
- Backgrounds
- Gradients
- Shadows
- Text (overflow, word-wrap, word-break)
- Web Fonts
- Multiple columns

•

## **CSS Framework**

- Bootstrap
   <a href="http://getbootstrap.com/">http://getbootstrap.com/</a>
- YAML http://www.yaml.de/
- Foundation
   <a href="http://foundation.zurb.com/">http://foundation.zurb.com/</a>
- Ulkit
- Semantic UI

## Links

- CSS 3 Cheat Sheet
   <a href="http://www.smashingmagazine.com/wp-content/uploads/images/css3-cheat-sheet/css3-cheat-sheet/css3-cheat-sheet.pdf">http://www.smashingmagazine.com/wp-content/uploads/images/css3-cheat-sheet/css3-cheat-sheet/css3-cheat-sheet/css3-cheat-sheet.pdf</a>
- W3 School
   <a href="http://www.w3schools.com/css/">http://www.w3schools.com/css/</a>
- Full property table <a href="http://www.w3.org/TR/CSS21/propidx.html">http://www.w3.org/TR/CSS21/propidx.html</a>
- W3C Cascading Style Sheets <u>http://www.w3.org/Style/CSS/</u>