[Lesson 8]

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What we learnt last time?

- How to move a block on the page without influencing a flow
- How to place blocks on top of the other blocks
- How to create static block which will remain on the same place during the scrolling
- Different ways of assigning colors in CSS
- Ways of making a color/block transparent

[Our targets for today]

- 3 different ways if including fonts into your project
- Font families: serif, sans-serif, monospace, proportional, script, fantasy
- Web safe fonts - what does it mean
- Why sprites are better than a lot of icons
- How to use sprites: background-position
- How to create sprites
- HTML-forms: types of inputs, required attributes

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HTML Forms

→ The <form> element defines a form that is used to collect user input:

```
<form action="/action_page.php" method="get">
        ...
        form elements
        ...
</form>
```

→ An HTML form contains **form elements**

→ Form elements are different types of input elements, like text fields, checkboxes, buttons, etc.

→ The action attribute defines the action to be performed when the form is submitted

→ Normally, the form data is sent to a page on the server when the user clicks on the submit button

→ The page contains a server-side script that handles the form data

→ If the action attribute is omitted, the action is set to the current page

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The method Attribute

- The **method** attribute specifies the HTTP method (**GET** or **POST**) to be used when submitting the form data

```
<form action="/action_page.php" method="get">
```

- GET appends form data into the URL in name/value pairs
  - Can be bookmarked
  - Limited in length
  - Never use GET to send sensitive data! (will be visible in the URL)

```
/action_page.php?firstname=Mickey&lastname=Mouse
```

- POST places data in the body of the HTTP Request
  - Hidden from view
  - Unlimited length

```
POST /folder/page.aspx HTTP/1.0  User-agent:
Mozilla/4.0
Content-type: application/x-www-form-urlencoded
Content-length: 25  Name=Mickey&Address=Mouse
```

- If not specified, the default method is GET

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The <input> Element

- The most important form element is the <input> element
- The <input> element can be displayed in several ways, depending on the type attribute

```
<form>
        First name:<input type="text" name="firstName"><br/>  Last
        name:<input type="text" name="lastName" /><br/>
</form>
```

First name:

Last name:

- If the type attribute is omitted, the input field gets the default type: "text“
- Each input field must have a name attribute to be submitted to the server
  - If the name attribute is omitted, the data of that input field will not be sent at all

HTML Input Attributes

Attribute	Meaning
value	The initial value for an input field
readonly	The input field cannot be changed
disabled	The input field is disabled
size	The size (in characters) for the input field
maxlength	The maximum allowed length for the input field

→ Example:

```
First name:<input type="text" name="firstName" maxlength="10" value="Roi"><br />  Last name:<input type="text" name="lastName" disabled /><br />
```

First name: Roi
Last name:

Input Type Password

→ <input type="password"> defines a **password field**:

```
<form>
      User name:<input type="text" name="username"/><br/>
      Password:<input type="password" name="password" /><br/>
</form>
```

User name: roi
Password: ••••••

→ The characters in a password field are masked (shown as asterisks or circles)

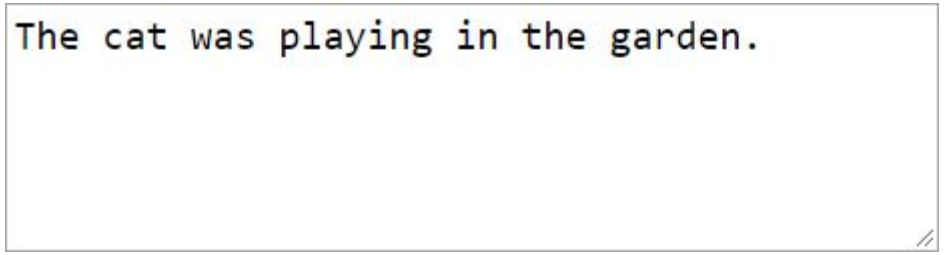
The <textarea> Element

→ The <textarea> element defines a multi-line input field (**a text area**):

```
<textarea name="message" rows="5" cols="40">The cat was playing in the garden.
</textarea>
```

→ The rows attribute specifies the visible number of lines in a text area

→ The cols attribute specifies the visible width of a text area



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Input Type Submit

→ <input type="submit"> defines a button for **submitting** the form data to a server page with a script for processing input data.

→ The server page is specified in the form's action attribute

```
<form action="/action_page.php">
        First name:<br/>
        <input type="text" name="firstname" value="Mickey"/><br/>  Last name:<br/>
        <input type="text" name="lastname" value="Mouse"/><br/><br/>
        <input type="submit" value="Submit"/>
</form>
```

[Input Type Reset]

→ <input type="reset"> defines a **reset button** that will reset all form values to their default values:

```
<form action="/action_page.php">  First name:<br/>
      <input type="text" name="firstname" value="Mickey"/><br/>
      Last name:<br/>
      <input type="text" name="lastname" value="Mouse"><br/><br/>
      <input type="submit" value="Submit"/>
      <input type="reset"/>
</form>
```

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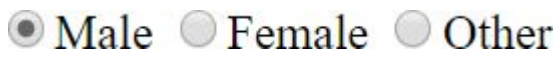
Radio Buttons

- <input type="radio"> defines a **radio button**
- Radio buttons let a user select only one of a limited number of choices
- All radio buttons that belong to the same group must have the same name

```
<form>
    <input type="radio" name="gender" value="male" checked/>Male
    <input type="radio" name="gender" value="female"/>Female
    <input type="radio" name="gender" value="other"/>Other
</form>
```

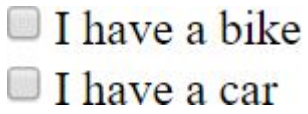


Checkboxes

→ <input type="checkbox"> defines a **checkbox**.

→ Checkboxes let a user select zero or more options of a limited number of choices

```
<form>
      <input type="checkbox" name="vehicle1" value="Bike"/>I have a bike<br/>
      <input type="checkbox" name="vehicle2" value="Car"/>I have a car
</form>
```



The <select> Element

- The <select> element defines a **drop-down list**
- The <option> elements define options that can be selected

```
<select name="cars">
      <option value="volvo">Volvo</option>
      <option value="saab">Saab</option>
      <option value="fiat">Fiat</option>
      <option value="audi">Audi</option>
</select>
```

- Use the size attribute to specify the number of visible values:

```
<select name="cars" size="3">
      <option value="volvo">Volvo</option>
      <option value="saab">Saab</option>
      <option value="fiat">Fiat</option>
      <option value="audi">Audi</option>
</select>
```

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The <select> Element

- Use the multiple attribute to allow the user to select more than one value
  - Hold down the Ctrl (windows) / Command (Mac) button to select multiple options

```
<select name="cars" multiple>
      <option value="volvo">Volvo</option>
      <option value="saab">Saab</option>
      <option value="fiat">Fiat</option>
      <option value="audi">Audi</option>
</select>
```

- To define a pre-selected option, add the selected attribute to the option

```
<select name="cars" multiple>
      <option value="volvo">Volvo</option>
      <option  value="saab" selected>Saab</option>
      <option  value="fiat" selected>Fiat</option>
      <option value="audi">Audi</option>
</select>
```

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The <button> Element

→ The <button> element defines a clickable **button**:

```
<button type="button" onclick="alert('Hello World!')">Click Me!</button>
```

→ There are 3 supported types for a button:

- → submit - submits the form when clicked (default)
- → button - clickable, but without any event handler until one is assigned
- → reset - resets the fields in the form when clicked

→ We'll learn how to handle input events in JavaScript later in the course

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Grouping Form Data with <fieldset>

- → The <fieldset> element is used to group related data in a form
- → The <legend> element defines a caption for the <fieldset> element

```
<fieldset>
    <legend>Vehicles</legend>
    <input type="checkbox" name="vehicle1" value="Bike" />I have a bike<br />
    <input type="checkbox" name="vehicle2" value="Car" />I have a car
</fieldset>
```

CSS Fonts

- The CSS font properties define the font family, boldness, size, and the style of a text
- There are two types of font family names:
  - **generic family** - a group of font families with a similar look (like "Serif" or "Monospace")
  - **font family** - a specific font family (like "Times New Roman" or "Arial")

Generic family	Font family	Description
Serif	Times New Roman Georgia	Serif fonts have small lines at the ends on some characters
Sans-serif	Arial Verdana	"Sans" means without - these fonts do not have the lines at the ends of characters
Monospace	Courier New Lucida Console	All monospace characters have the same width

- On computer screens, sans-serif fonts are considered easier to read than serif fonts.

Font Family

- The font family of a text is set with the font-family property→
- The font-family property should hold several font names as a "fallback" system
  - If the browser does not support the first font, it tries the next font, and so on.
  - Start with the font you want, and end with a generic family, to let the browser pick a similar font in the generic family, if no other fonts are available
- **Note**: If the name of a font family is more than one word, it must be in quotation marks, like: "Times New Roman"

```
p.serif {
    font-family: "Times New Roman", Times, serif;
}
p.sansserif {
    font-family: Arial, Helvetica, sans-serif;
}
```

This paragraph is shown in the Times New Roman font.

This paragraph is shown in the Arial font.

Font Style

- The font-style property is mostly used to specify italic text
- This property has three values:
  - normal - The text is shown normally
  - italic - The text is shown in italics
  - oblique - The text is "leaning" (oblique is very similar to italic, but less supported)

```
p.normal {
        font-style: normal;
}
p.italic {
        font-style: italic;
}
p.oblique {
        font-style: oblique;
}
```

This is a paragraph in normal style.

This is a paragraph in italic style.

This is a paragraph in oblique style.

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Font Size

- The font-size property sets the size of the text
- The font-size value can be an absolute (using px or pt), or relative size (using em or %)
- To maximize accessibility, it is generally best to use values that are relative to the user's default font size
- To allow users to resize the text (in the browser menu), many developers use em
  - 1em is equal to the current font size
  - The default text size in browsers is 16px. So, the default size of 1em is 16px.
  - The size can be calculated from pixels to em using this formula: *pixels*/16=*em*

```
h1.larger {
      font-size: 2.5em; /* 40px/16=2.5em */
}
```

This heading has a default font size (2em)

This heading has a larger font size (2.5em)

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Font Weight

- The font-weight property specifies the weight of a font. Possible values:
  - Normal - Normal font weight. Same as 400.
  - Bold - Bold font weight. Same as 700.
  - Lighter - One font weight lighter than the parent element (among the available weights of the font)
  - Bolder - One font weight heavier than the parent element (among the available weights of the font)
  - 100, 200, 300, 400, 500, 600, 700, 800, 900 - Numeric font weights
- Some fonts are only available in normal and bold

```
p.normal {
        font-weight: normal;
}
p.light {
        font-weight: lighter;
}
p.thick {
        font-weight: bold;
}
p.thicker {
        font-weight: 900;
}
```

This is a paragraph.

This is a paragraph.

This is a paragraph.

This is a paragraph.

Font Style

- The font-style property is mostly used to specify italic text
- This property has three values:
  - normal - The text is shown normally
  - italic - The text is shown in italics
  - oblique - The text is "leaning" (oblique is very similar to italic, but less supported)

```
p.normal {
        font-style: normal;
}
p.italic {
        font-style: italic;
}
p.oblique {
        font-style: oblique;
}
```

This is a paragraph in normal style.

This is a paragraph in italic style.

This is a paragraph in oblique style.

Using custom font

- The @font-face directive allows using custom fonts which are not present in user's OS
- This directive has two mandatory values:
  - font-family - name of the font that will be used across the project
  - src - path to the file with font
- Optional properties:
  - font-style - style used in this particular file (e.g. italic)
  - font-weight - weight of the font in file (100-900 or lighter-bold)
  - Other: unicode-range, font-variant, font-feature-settings, font-variation-settings, font-stretch

```
@font-face {
    font-family: MyUniqueFont;
    src: url('fonts/MyUniqueFont.ttf');
}


p.normal {
        font-family: MyUniqueFont;
}
```

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Google fonts

- Google Fonts service provides the easiest way to include custom font from the available list into the project
- https://fonts.google.com/
- To include the needed font, select it, choose font properties (font-weight, language), and link to project using <link> in HTML file or @import in CSS

```
<link href="https://fonts.googleapis.com/css?family=Lato:400,700,900i" rel="stylesheet">

OR

@import url('https://fonts.googleapis.com/css?family=Lato:400,700,900i');
```

```
body {
	font-family: Lato, sans-serif;
}
```

CSS Icons

- The simplest way to add an icon to your page is with an icon library, such as Font Awesome
- Add the name of the specified icon class to any inline HTML element (like)
  - No downloading or installation is required!

```
<!DOCTYPE html>
<html>
<head>
	<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/4.7.0/css/font-awesome.min.css">
</head>
<body>
	<span class="fa fa-heart"></span>
	<span class="fa fa-car"></span>
	<span class="fa fa-file"></span>
	<span class="fa fa-bars"></span><br/>
	<span class="fa fa-cloud"></span>
	<span class="fa fa-cloud" style="font-size:24px;color:red;"></span>
	<span class="fa fa-cloud" style="font-size:36px;color:lightblue;"></span>
</body>
</html>
```

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[Sprites]

- Sprite - is one big image that contains inside all the other small images from your page
- Sprites are used for faster page loading
- Usually one sprite contains all icons from a page
- To create a sprite you must save all small images from psd and use sprite generator to create one big image
- To show specific image from sprite you need to use “background-position”
- We can change background-position with transition for animated hover effect.

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[Control questions]

- What fonts do we call “web safe”?
- What is the difference between serif and sans-serif fonts?
- What is the required attribute of <form> for a request to be correctly sent?
- What is the default “display” property of form inputs?
- Can we style a checkbox?
- Why do we use sprites instead of many small images?

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Materials

Core materials:

https://idg.net.ua/blog/uchebnik-css/ispolzovanie-css/shrifty-podklyuchenie-web-shriftov

http://www.impressionwebstudio.com/ru/news_articles/font_families.html

https://medium.freecodecamp.org/how-typography-determines-readability-serif-vs-sans-serif-and-how-to-combine-fonts-629a51ad8cce

http://xiper.net/collect/html-and-css-tricks/typographics/safe-fonts

https://html5book.ru/css-shrifty/

https://coder-booster.ru/learning/html-beginners/creating-forms-and-fields

http://www.css-tricks.ru/articles/css/css-sprites

https://idg.net.ua/blog/uchebnik-css/ispolzovanie-css/sprites

https://www.w3schools.com/Css/css_image_sprites.asp

Materials

Additional materials:

https://moguta.ru/blog/delaem-internet-magazin-vmeste/kak-podklyuchit-shrift-na-sajt-v-css

http://nicothin.pro/page/web-fonts

http://xiper.net/collect/html-and-css-tricks/typographics/font-face-non-standart-fonts-on-css

https://html5book.ru/krasivye-shrifty/

https://html5book.ru/css3-text/

https://html5book.ru/krasivaya-forma-dlya-sayta/

https://habr.com/post/159027/

https://learn.javascript.ru/css-sprite

https://verstaem.com/markup/css-sprites/

https://zaurmag.ru/html5-css3/ikonochnye-shrifty-dlya-sajta-chto-eto-i-kak-ispolzovat.html

https://fontawesome.com/icons?d=gallery

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Materials

Video materials:

https://www.youtube.com/watch?v=vXxOcCBLX4w

https://www.youtube.com/watch?v=tf8S5EJWeVs

https://www.youtube.com/watch?v=Y_dsckWhclE&index=8&list=PLAKxGhxbBWw_jeD7pBLK8-V_ehxGgy11Z

https://www.youtube.com/watch?v=eSWK8r6Tpp4

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[Homework]

Journey

https://gitlab.com/dan-it/groups/fs6/tree/master/src/main/frontend/html_css/homework/homework4

Deadline for task fulfillment: 01.08.2018