

Programming of Web Pages

Lecture 6 - jQuery

What is jQuery?

jQuery is a lightweight **Java Script library**

It **simplifies** Java Script programming

Using jQuery **more complex tasks**
can be performed using **short instructions**

Possibilities of jQuery

HTML manipulation

CSS manipulation

HTML *events* handling

Creation of *effects and animations*

Using *AJAX*

Why jQuery?

It is **the most popular** Java Script framework

The **biggest companies** on the Web use jQuery
(e.g. Google, Microsoft, IBM)

It works the same **in all browsers**

How to use jQuery?

1. Download file from jquery.com and add reference

```
<head>
<script src="jquery-1.11.2.min.js"></script>
</head>
```

2. Use CDN (*Content Delivery Network*)

Google CDN:

```
<head>
<script src="http://ajax.googleapis.com/ajax/libs/jquery/1.11.2/jquery.min.js"></script>
</head>
```

jQuery syntax

`$(selector).action()`

all selectors in jQuery starts with **\$**

selector selects HTML element

action defines action to be performed on the element

Document Ready event

```
$(document).ready(function(){
    // jQuery methods go here...
});
```

It contains **all** jQuery methods

It **prevents** any jQuery code from running before the document **is finished loading**

Example: trying to hide an element that is not created yet

Selectors

HTML selector

<p> tag selektor - \$("p")

```
$(document).ready(function(){
    $("button").click(function(){
        $("p").hide();
    });
});
```

If <button> is clicked,
<p> tag will be hidden

Selectors

ID selector

Selector of tag with **id="test"** - **\$("#test")**

```
$(document).ready(function(){
    $("button").click(function(){
        $("#test").hide();
    });
});
```

Selectors

Class selector

Selector of tag with **class="test"** - **\$(".test")**

```
$(document).ready(function(){
    $("button").click(function(){
        $(".test").hide();
    });
});
```

Selectors

Selector	Working
<code>\$("*")</code>	Selects all elements
<code>\$(this)</code>	Selects the current element
<code> \$("p:first")</code>	Selects the first <code><p></code> element
<code> \$("ul li:first")</code>	Selects the first <code></code> element of the first <code></code> element
<code> \$("ul li:first-child")</code>	Selects the first <code></code> element of every <code></code>
<code> \$("[href]")</code>	Selects elements with „ <code>href</code> ” attribute

Selectors

Selektor	Działanie
<code>\$("a[target='_blank']")</code>	Selects all <code><a></code> elements with a target attribute value equal to <code>"_blank"</code>
<code>\$("a[target!='_blank']")</code>	Selects all <code><a></code> elements with a target attribute value NOT equal to <code>"_blank"</code>
<code>\$(":button")</code>	Selects all <code><button></code> elements and <code><input></code> elements of type="button"
<code>\$("tr:even")</code>	Selects all even <code><tr></code> elements
<code>\$("tr:odd")</code>	Selects all odd <code><tr></code> elements

Most popular events

Mouse Events

click

dblclick

mouseenter

mouseleave

Keyboard Events

keypress

keydown

keyup

Document/Window Events

load

resize

scroll

Functions in external file

```
<head>
<script src="http://ajax.googleapis.com/ajax/libs/jquery/1.7.1/jquery.min.js"></script>
<script src="my_jquery_functions.js"></script>
</head>
```

jQuery animations

1

`$(selector).hide(time,callback)`

`$(selector).show(time,callback)`

jQuery animations

`$(selector).fadeIn(time,callback)`

`$(selector).fadeOut(time,callback)`

`$(selector).fadeToggle(time,callback)`

`$(selector).fadeTo(time,opacity,callback)`

2

jQuery animations

`$(selector).slideDown(time,callback)`

3

`$(selector).slideUp(time,callback)`

`$(selector).slideToggle(time,callback)`

jQuery animations

4

`$(selektor).animate({params},speed,callback)`

It lets you create your own animations

**Value of *position* style element
have to be different than *static***

jQuery animations

5

`$(selector).stop(stopAll,goToEnd)`

6

callback

7

chaining

Getting of elements

text()

```
<head>
<script src="http://ajax.googleapis.com/ajax/libs/jquery/1.11.
<script>
$(document).ready(function(){
    $("#btn1").click(function(){
        alert("Text: " + $("#test").text());
    });
});
</script>
</head>
<body>

<p id="test">Oto jakiś <b>pogrubiony</b> tekst paragrafu.</p>

<button id="btn1">Pokaż Text</button>

</body>
```

Oto jakiś **pogrubiony** tekst paragrafu.

Pokaz Text

Text: Oto jakiś pogrubiony tekst paragrafu.

OK

Getting of elements

html()

```
<head>
<script src="http://ajax.googleapis.com/ajax/libs/jquery/1.11.
<script>
$(document).ready(function(){
    $("#btn1").click(function(){
        alert("HTML: " + $("#test").html());
    });
});
</script>
</head>
<body>

<p id="test">Oto jakiś <b>pogrubiony</b> tekst paragrafu.</p>

<button id="btn1">Pokaż kod HTML</button>

</body>
```

Oto jakiś **pogrubiony** tekst paragrafu.

Pokaz kod HTML

HTML: Oto jakiś **pogrubiony** tekst paragrafu.

OK

Getting of elements

val()

```
<head>
<script src="http://ajax.googleapis.com/ajax/libs/jquery/1.1
<script>
$(document).ready(function(){
    $("button").click(function(){
        alert("Wartosc: " + $("#test").val());
    });
});
</script>
</head>
<body>

<p>Instytut: <input type="text" id="test" value="IISI"></p>

<button>Pokaz wartosc</button>

</body>
```

Instytut: IISI

Pokaz wartosc

Wartosc: IISI

OK

Getting of elements

attr()

```
<head>
<script src="http://ajax.googleapis.com/ajax/libs/jquery/1.
<script>
$(document).ready(function(){
    $("button").click(function(){
        alert($("#iisi").attr("href"));
    });
});
</script>
</head>
<body>

<p><a href="http://www.iisi.pcz.pl" id="iisi">IISI</a></p>

<button>Wartosc atrybutu</button>

</body>
```

IISI

Wartosc atrybutu

http://www.iisi.pcz.pl

OK

Setting of elements

```
$(document).ready(function(){
    $("#btn1").click(function(){
        $("#test1").text("Hello world!");
    });
    $("#btn2").click(function(){
        $("#test2").html("<b>Hello world!</b>");
    });
    $("#btn3").click(function(){
        $("#test3").val("Hello world!");
    });
});
```

```
$(document).ready(function(){
    $("button").click(function(){
        $("#w3s").attr("href", "http://www.iisi.pcz.pl");
    });
});
```

Setting of elements

Few attributes

```
$( "button" ).click(function(){
  $( "#w3s" ).attr({
    "href" : "http://www.w3schools.com/jquery",
    "title" : "W3Schools jQuery Tutorial"
  });
});
```

Adding of content

append() – adds content to the end of HTML tag

```
<script>
$(document).ready(function(){
    $("#btn1").click(function(){
        $("p").append(" <b>Appended text</b>.");
    });

    $("#btn2").click(function(){
        $("ol").append("<li>Appended item</li>");
    });
});
</script>
</head>
<body>

<p>This is a paragraph.</p>
<p>This is another paragraph.</p>

<ol>
    <li>List item 1</li>
    <li>List item 2</li>
    <li>List item 3</li>
</ol>

<button id="btn1">Append text</button>
<button id="btn2">Append list items</button>
```

This is a paragraph.

This is another paragraph.

1. List item 1
2. List item 2
3. List item 3

Append text

Append list items

Adding of content

append() – adds content to the end of HTML tag

```
<script>
$(document).ready(function(){
    $("#btn1").click(function(){
        $("p").append(" <b>Appended text</b>.");
    });

    $("#btn2").click(function(){
        $("ol").append("<li>Appended item</li>");
    });
});
</script>
</head>
<body>

<p>This is a paragraph.</p>
<p>This is another paragraph.</p>

<ol>
    <li>List item 1</li>
    <li>List item 2</li>
    <li>List item 3</li>
</ol>

<button id="btn1">Append text</button>
<button id="btn2">Append list items</button>
```

This is a paragraph. **Appended text.**

This is another paragraph. **Appended text.**

1. List item 1
2. List item 2
3. List item 3

Append text

Append list items

Adding of content

append() – adds content to the end of HTML tag

```
<script>
$(document).ready(function(){
    $("#btn1").click(function(){
        $("p").append(" <b>Appended text</b>.");
    });

    $("#btn2").click(function(){
        $("ol").append("<li>Appended item</li>");
    });
});
</script>
</head>
<body>

<p>This is a paragraph.</p>
<p>This is another paragraph.</p>

<ol>
    <li>List item 1</li>
    <li>List item 2</li>
    <li>List item 3</li>
</ol>

<button id="btn1">Append text</button>
<button id="btn2">Append list items</button>
```

This is a paragraph. **Appended text.**

This is another paragraph. **Appended text.**

1. List item 1
2. List item 2
3. List item 3

4. Appended item

Adding of content

prepend() – adds content at the beginning of HTML tag

```
<script>
$(document).ready(function(){
    $("#btn1").click(function(){
        $("p").prepend("<b>Prepended text</b>. ");
    });
    $("#btn2").click(function(){
        $("ol").prepend("<li>Prepended item</li>");
    });
});
</script>
</head>
<body>

<p>This is a paragraph.</p>
<p>This is another paragraph.</p>

<ol>
    <li>List item 1</li>
    <li>List item 2</li>
    <li>List item 3</li>
</ol>

<button id="btn1">Prepend text</button>
<button id="btn2">Prepend list item</button>

</body>
```

This is a paragraph.

This is another paragraph.

1. List item 1
2. List item 2
3. List item 3

[Prepend text](#)

[Prepend list item](#)

Adding of content

prepend() – adds content at the beginning of HTML tag

```
<script>
$(document).ready(function(){
    $("#btn1").click(function(){
        $("p").prepend("<b>Prepended text</b>. ");
    });
    $("#btn2").click(function(){
        $("ol").prepend("<li>Prepended item</li>");
    });
});
</script>
</head>
<body>

<p>This is a paragraph.</p>
<p>This is another paragraph.</p>

<ol>
    <li>List item 1</li>
    <li>List item 2</li>
    <li>List item 3</li>
</ol>

<button id="btn1">Prepend text</button>
<button id="btn2">Prepend list item</button>

</body>
```

- Prepended text This is a paragraph.
- Prepended text This is another paragraph.
1. List item 1
 2. List item 2
 3. List item 3

Prepend text

Prepend list item

Adding of content

prepend() – adds content at the beginning of HTML tag

```
<script>
$(document).ready(function(){
    $("#btn1").click(function(){
        $("p").prepend("<b>Prepended text</b>. ");
    });
    $("#btn2").click(function(){
        $("ol").prepend("<li>Prepended item</li>");
    });
});
</script>
</head>
<body>

<p>This is a paragraph.</p>
<p>This is another paragraph.</p>

<ol>
    <li>List item 1</li>
    <li>List item 2</li>
    <li>List item 3</li>
</ol>

<button id="btn1">Prepend text</button>
<button id="btn2">Prepend list item</button>

</body>
```

Prepended text. This is a paragraph.

Prepended text. This is another paragraph.

1. Prepended item
2. List item 1
3. List item 2
4. List item 3

Prepend text

Prepend list item

Adding of content

after() – adds content after HTML tag

```
<script>
$(document).ready(function(){

    $("#btn2").click(function(){
        $("img").after("<i>After</i>");
    });
});
</script>
</head>
<body>

<br><br>

<button id="btn2">Insert after</button>
```



Adding of content

after() – adds content after HTML tag

```
<script>
$(document).ready(function(){

    $("#btn2").click(function(){
        $("img").after("<i>After</i>");
    });
})
</script>
</head>
<body>

<br><br>

<button id="btn2">Insert after</button>
```



Adding of content

before() – adds content before HTML tag

```
<script>
$(document).ready(function(){
    $("#btn1").click(function(){
        $("img").before("<b>Before</b>");
    });
})
</script>
</head>
<body>



<button id="btn1">Insert before</button>

</body>
```



Adding of content

before() – adds content before HTML tag

```
<script>
$(document).ready(function(){
    $("#btn1").click(function(){
        $("img").before("<b>Before</b>");
    });
});
</script>
</head>
<body>



<button id="btn1">Insert before</button>

</body>
```



Before

Insert before

Adding of content – interesting example

```
<script>
function appendText() {
    var txt1 = "<p>Text.</p>";
    var txt2 = $("<p></p>").text("Text.");
    var txt3 = document.createElement("p");
    txt3.innerHTML = "Text.";
    $("body").append(txt1, txt2, txt3);
}
</script>
</head>
<body>

<p>This is a paragraph.</p>
<button onclick="appendText()">Append text</button>
```

This is a paragraph.

This is a paragraph.

Append text

Append text

Text.

Text.

Text.

Removing

of content

remove() – removes HTML tag

```
<script src="http://ajax.googleapis.com/ajax/libs/jqu<script>
$(document).ready(function(){
    $("button").click(function(){
        $("#div1").remove();
    });
});
</script>
</head>
<body>

<div id="div1" style="height:100px;width:300px;
    border:1px solid black;background-color:yellow;">
    This is some text in the div.
    <p>This is a paragraph in the div.</p>
    <p>This is another paragraph in the div.</p>
</div>
<br>

<button>Remove div element</button>

</body>
```

This is some text in the div.

This is a paragraph in the div.

This is another paragraph in the div.

Remove div element



Remove div element

Removing of content

empty() – removes children of HTML tag

```
<script src="http://ajax.googleapis.com/ajax/libs/jquery/1.7.1/jquery.min.js">
</script>
$(document).ready(function(){
    $("button").click(function(){
        $("#div1").empty();
    });
});
</script>
</head>
<body>

<div id="div1" style="height:100px;width:300px;
    border:1px solid black;background-color:yellow;">
    This is some text in the div.
    <p>This is a paragraph in the div.</p>
    <p>This is another paragraph in the div.</p>
</div>
<br>

<button>Empty the div element</button>

</body>
```

This is some text in the div.

This is a paragraph in the div.

This is another paragraph in the div.

Empty the div element



Empty the div element

Removing of content

remove() – filtering of elements

```
$(document).ready(function(){
    $("button").click(function(){
        $("p").remove(".test, .demo");
    });
});
```

```
<p>This is a paragraph.</p>
<p class="test">class="test".</p>
<p class="test">class="test".</p>
<p class="demo">class="demo".</p>

<button>Usun</button>
```

This is a paragraph.

class="test".

class="test".

class="demo".

Usun



This is a paragraph.

Usun

Using classes

```
.important {  
    font-weight: bold;  
    font-size: xx-large;  
}  
  
.blue {  
    color: blue;  
}
```

addClass() – adds class

```
$( "button" ).click(function(){  
    $("#div1").addClass("important blue");  
});
```

removeClass() – removes class

```
$( "button" ).click(function(){  
    $("h1, h2, p").removeClass("blue");  
});
```

toggleClass() – adds/removes class

```
$( "button" ).click(function(){  
    $("h1, h2, p").toggleClass("blue");  
});
```

Using classes

Getting of style attribute value

```
$(document).ready(function(){
    $("button").click(function(){
        alert($("p").css("background-color"));
    });
});
```

rgb(255, 0, 0)

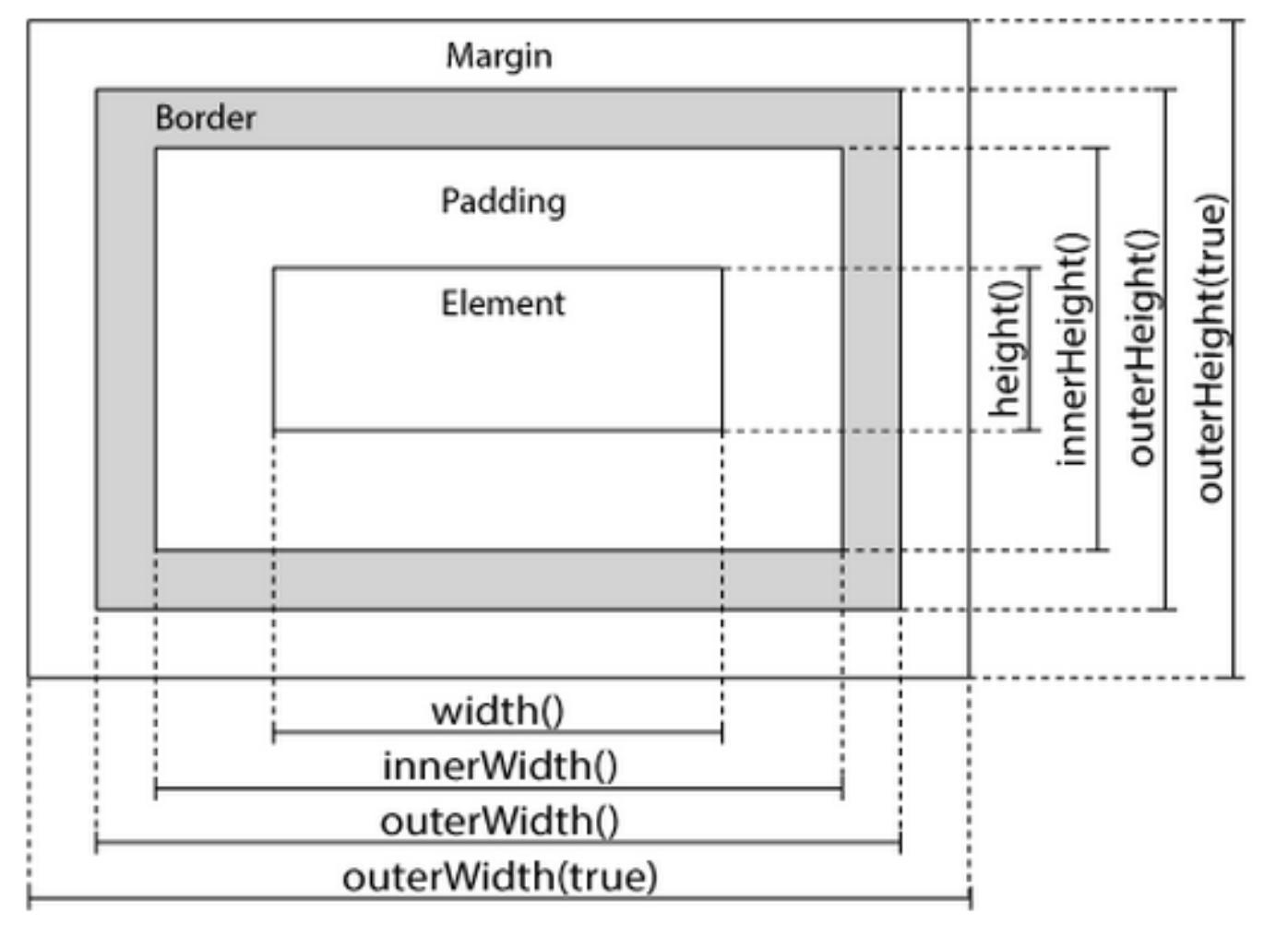
Setting of style attribute value

```
 $("p").css("background-color", "yellow");
```

Setting of many values

```
 $("p").css({"background-color": "yellow", "font-size": "200%"});
```

Using dimensions



Using dimensions

Examples

```
$( "button" ).click(function(){
    var txt = "";
    txt += "Width: " + $( "#div1" ).width() + "</br>";
    txt += "Height: " + $( "#div1" ).height();
    $( "#div1" ).html(txt);
});
```

```
$( "button" ).click(function(){
    var txt = "";
    txt += "Inner width: " + $( "#div1" ).innerWidth() + "</br>";
    txt += "Inner height: " + $( "#div1" ).innerHeight();
    $( "#div1" ).html(txt);
});
```

Literature

www.W3schools.com

api.jquery.com