Multimedia im Netz
Online Multimedia
Winter semester 2015/16

Tutorial 06 – Minor Subject
Today’s Agenda

• Flashback
• Discussion of assignment 05
• jQuery
  – DOM access and manipulation methods
  – Event handling methods
• In between Breakout sessions:
  Contact-List modification
• Quiz
Flashback!

What does `mysqli_fetch_array($results, MYSQLI_ASSOC)` do?
## Assignment 05

### Address Book

<table>
<thead>
<tr>
<th>First Name</th>
<th>Last Name</th>
<th>Street Address</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>John</td>
<td>Smith</td>
<td>Someroad 1</td>
<td>Middleton</td>
</tr>
<tr>
<td>Phil</td>
<td>Groundhog</td>
<td>Anotherroad 2</td>
<td>Punxsutawney</td>
</tr>
<tr>
<td>Peter</td>
<td>Venkman</td>
<td>GBoulevard 12</td>
<td>NY</td>
</tr>
</tbody>
</table>

**SAVE CONTACT!**
jQuery
jQuery: Basic Information

• [http://jquery.com](http://jquery.com)
• JavaScript-Library, currently at version 1.11.3 or 2.1.4
• Features:
  – Easy DOM-access
  – Convenient event-handling
  – Animations
  – Simplified AJAX-Requests
  – Cross-browser compatibility

• „jQuery is designed to change the way that you write JavaScript“
• But don’t get confused: jQuery IS STILL JavaScript!
Including the jQuery library

• Only a single JavaScript file is required
• Options:
  – Download and include locally (offline):
    `<script src="jquery-1.11.4.min.js" type="text/javascript"></script>`
  – Hotlink (Google APIs)
    `<script src="http://ajax.googleapis.com/ajax/libs/jquery/2.1.3/jquery.min.js"></script>`
Basics

- Global jQuery function: $( )
- Parameters: any **CSS Selector** ("div", ".someClass", "#someID")
- Returns: jQuery-object that has many useful methods.

- Examples:
  - $("#myDiv")
  - $("div.container")
  - $("input[type='text']")

- $ is also an object that offers additional methods, e.g. $.inArray(value,array)
The remove() Method

- Allows us to remove nodes (HTML elements) from the DOM tree.
- Example (fragment from examples/fruits.html)
  Remove all sub-lists from the fruits.

```javascript
var subLists = $('ul li ul');
subLists.remove();
```

- Melon
  - Cantaloupe
  - Honeydew
  - Watermelon
  - Rock melon
- Miracle fruit
- Mulberry
- Nectarine
- Nut
- Olive
- Orange
  - Clementine (type of orange)
  - Mandarine
  - Blood Orange
  - Tangerine
- Papaya
Breakout: Selectors & Remove

- Download the material from the MMN webpage (this also includes a partial solution to assignment 05)
- Remove the input field for the street address from the form with jQuery
Creating and Adding Nodes

• JavaScript and jQuery allow us to dynamically create HTML elements (nodes) and add them to the DOM tree after the page has loaded.

• Creating a node with jQuery:

```javascript
var watermelon = $('<li>Watermelon</li>');
var zucchini = $('<li>Zucchini</li>');
```

• Add it as child-node:

```javascript
$('ul.fruits').append(watermelon);
zucchini.appendTo($('ul.fruits'));
```
Moving Nodes

- Nodes that are already in the DOM-tree can be moved around.
- Example: Sorting a list.
- Moving all items that have the “favorite” class to the top of the list:

```javascript
var favoriteFood = $('li.favorite');
favoriteFood.prependTo($('ul.fruits'));
```

```html
<ul class="fruits">
  <li class="favorite">Apple</li>
  <li>Apricot</li>
  <li>Avocado</li>
  <li class="favorite">Banana</li>
  <li>Breadfruit</li>
  <li>Blackberry</li>
  <li class="favorite">Blueberry</li>
</ul>
```
The html() Method

```html
<div id="intro">Hi! What's up?</div>
```

- Get the HTML content of an element:
  ```javascript
  var intro = $('#intro');
  var introContent = intro.html();
  ```

- Modify the HTML content of elements:
  ```javascript
  intro.html("Hello! I like fruits.");
  ```

- **Note:** `.html()` can be used as both getter and setter!
Adding and Removing Classes

• Selection results can contain more than one node, e.g.
  \texttt{\texttt{var oddItems = \$('ul.fruits > li:odd');}}
  \rightarrow selects all the “odd-numbered” items in the fruits list that are immediate children of it

• We can add and remove classes with just \texttt{one method call} on the result set.

• Adding:
  \texttt{oddItems.addClass('highlighted');}

• Removing:
  \texttt{oddItems.removeClass('favorite');}

• More examples:
  \texttt{http://api.jquery.com/category/Manipulation/}
Breakout: Classes

• Continue working on the address book example
• Task: alternate background color in the contacts table
  – Use the form and add at least 3 contacts to see results.
  – Select all the even table rows.
  – Add the class “even” to all those rows.
  – Complete the TODO entry in the <style> tag. Create a style for the even table rows so that they have different background colors.

• Time frame: 20 Minutes
Event-Handling:

• Event-Handler: gets notified about certain events (e.g. clicks) and proceed to execute a given action (= callback)

• jQuery click handling:
  
  $("#myID").click(function(e){ ... });

• **Note:** Event Handlers only work on elements that have been added to the DOM, i.e. don‘t add the handler before adding the element to the DOM.
Event-Handling

• There are a lot of event-handlers:
  click, change, focus, submit, keypress, ...

• Example: Allowing the user to add a new fruit to the list.

```html
<input type="text" id="newFruit" placeholder="Add fruit..." />
<button id="addFruit">Go!</button>

$( "#addFruit" ).click(function(){
    var fruit = $( '#newFruit' ).val();
    var item = $( '<li>' + fruit + '</li>' );
    $( 'ul.fruits' ).prepend(item);
});
```
Breakout: Allow the User to Delete Contacts

- Extend the script from earlier
- Goal: Add a `<button>Delete</button>` to every table row. If the user clicks the button, the corresponding table row is deleted. Hints:
  - Give the buttons an appropriate class
  - Inside the event handler function, $(this) will give you the button that was clicked.
  - Check out jQuery’s `.parents()` method

- Time frame: **15 Minutes**
Round-up Quiz

1. Is $ a function or an object?
2. Which methods do you know to add or move nodes in the DOM tree?
3. What does this do:
   $$\$(\text{'ul li'}).html("Yes!");$$
4. What does this do:
   $$\$(\text{'li'}).addClass('green-item');$$
5. What is the content of the whatAmI variable:
   $$\$(\text{'input'}).keyup(function(){
       var whatAmI = $$\$(\text{this});
   });$$
Thanks!

What are your questions?
Let’s begin with the Assignment!

• Download the assignment sheet
• Start with task 1
• You can collaborate with your neighbor

• Turn in the assignment by December 2\textsuperscript{nd}, 12:00 noon via UniWorX