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

jQuery

jQuery: Basic Information

- 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>
    ```
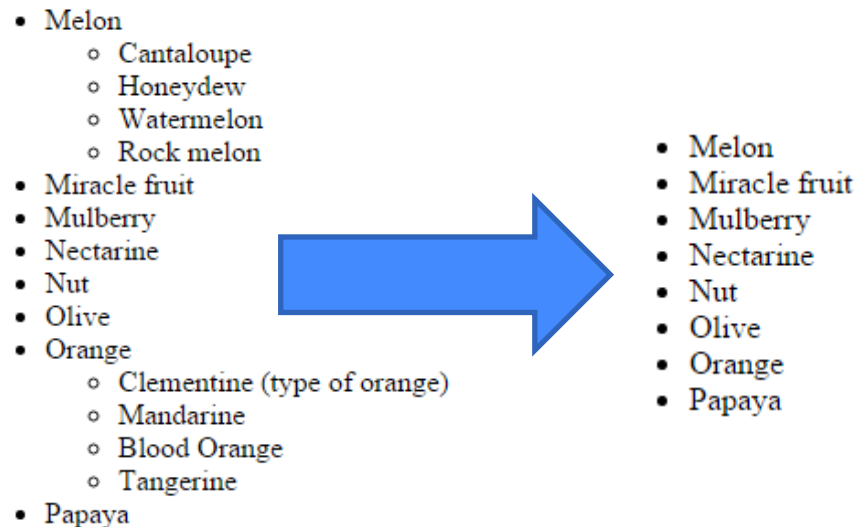
Basics

- 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)
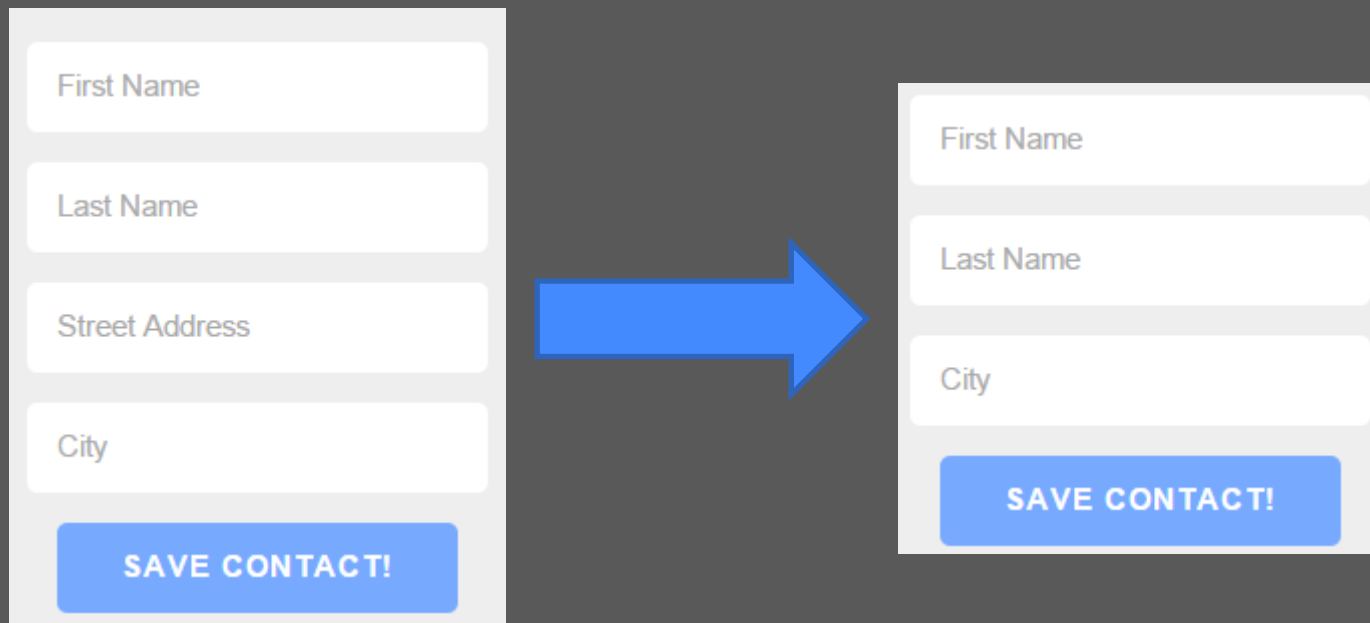
The remove() Method

- Allows us to remove nodes (HTML elements) from the DOM tree.

- Example (fragment from examples/fruits.html)
  Remove all sub-lists from the fruits.
  ```
  var subLists = $('ul li ul');
  subLists.remove();
  ```

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

- Add it as child-node:
```
$('ul.fruits').append(watermelon);
zucchini.appendTo($('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:

```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>
```

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

The html() Method

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

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

- Modify the HTML content of elements:
  ```
  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.
  `var oddItems = $('ul.fruits > li:odd');`
  → selects all the "odd-numbered" items in the fruits list that are immediate children of it

- We can add and remove classes with just **one method call** on the result set.

- Adding:
  `oddItems.addClass('highlighted');`

- Removing:
  `oddItems.removeClass('favorite');`

- More examples:
  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.

First Name	Last Name	Street Address	City
John	Smith	Someroad 1	Middleton
Phil	Groundhog	Anotherroad 2	Punxsutawney
Peter	Venkman	GBoulevard 12	NY
Max	Miller	Moshpit 666	Motown
Nick	Nice	Nada Rd 15	Nextlevel

- 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, …

  http://api.jquery.com/category/Events/

- 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>
```

```javascript
$('#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

First Name	Last Name	Street Address	City	
John	Smith	Someroad 1	Middleton	Delete
Phil	Groundhog	Anotherroad 2	Punxsutawney	Delete
Peter	Venkman	GBoulevard 12	NY	Delete
Max	Miller	Moshpit 666	Motown	Delete
Nick	Nice	Nada Rd 15	Nextlevel	Delete

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:
```
$('ul li').html("Yes!");
```

4. What does this do:
```
$('li').addClass('green-item');
```

5. What is the content of the whatAmI variable:
```
$('input').keyup(function(){
    var whatAmI = $(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 2nd, 12:00 noon via UniWorX