



Assignment 13 (NF, minor subject)

Due: not submitted to UniWorx – only for your own preparation

Goals

After doing these exercises,

- You have reactivated a large part of the material of this semester

Task 1: JavaScript Video Event Handlers

8 Points

Imagine you want to show a video on your web page. You don't need sophisticated video controls – all you allow is clicking the video and it should start or stop then.

Use the code fragment below. Add a click event handler to the video element. Make sure that the video starts if it is paused and the other way around.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Video Events</title>
</head>
<body>
<video id="myVid">
  <source src="http://bit.ly/20unJGY" type="video/mp4">
</video>
<script>

</script>
</body></html>
```



Task 2: jQuery & AJAX

20 Points

```
{
  "bands": [
    {
      "name": "Beatles",
      "members": [
        "John",
        "Paul",
        "George",
        "Ringo"
      ]
    },
    {
      "name": "The Rolling Stones",
      "members": [
        "Keith",
        "Mick",
        "Ronnie",
        "Charlie"
      ]
    }
  ]
}
```

Response from the web-service at www.bands.info (fictional).

- a) There is a web-service that delivers information about bands. The data is returned as JSON like the fragment above. The fictional web-service's URL is <http://www.bands.info>.
- Complete the function `getBands(successCallback)`. It should retrieve the information from the service asynchronously over the web and pass it to the `successCallback`, once it received a response.
 - Complete the function `bandDataAvailable(data)`.
 - `data` is the response from server.
 - Generate a separate `<div>` for each band.
 - Each `<div>` should have a heading `<h2>` that tells the band's name
 - Each `<div>` should include an un-numerated list `` of the band's members.
 - The script loads in the `<head>`, so potentially the DOM is not yet complete, when the script is executed. Use a jQuery callback to make sure that the script is executed when the DOM is ready.

Band Member Overview

Beatles

- John
- Paul
- George
- Ringo

The Rolling Stones

- Keith
- Mick
- Ronnie
- Charlie

Put your code into the fragment on the next page!



- b) Explain the advantages and disadvantages of AJAX.
- c) Explain three advantages of JSON over XML.

```
<!DOCTYPE html>
<html>
<head lang="en">
  <meta charset="UTF-8">
  <title>Bands</title>
  <script src="https://code.jquery.com/jquery-2.1.3.min.js"></script>
  <script>

      function getBands(successCallback){

      }

      function bandDataAvailable(data){

      }

      }

      getBands(bandDataAvailable);

  </script>
</head>
<body>
<div id="container"> <h1>Band Member Overview</h1> </div>
</body></html>
```



Task 3 – PHP Sessions

10 Points

- a) You want to implement a “guess-my-number” game with PHP. The user enters a number and sends it to the PHP script. The script evaluates the number and provides feedback whether the guess was too high or too low.

```
<!DOCTYPE html><html>
<head lang="en">
  <title>Guess a Number</title>
</head>
<body>
<form method="post">
  <input type="number" name="guess" />
  <input type="submit" value="Check!" />
</form>
```

Extend the code fragment above to meet these requirements:

- Create a variable that holds a static secret number of your choosing.
- If the form was submitted, check if the user entered the correct number. If the guess was correct, inform the user and reset the game. Otherwise, inform the user that the guessed number was incorrect.
- The game counts how often the user submits the form. Display the number of guesses!



- b) How are Sessions destroyed in PHP?
- c) How do you “transparently” transmit form data to the server, i.e. without the user seeing the parameters immediately?

Task 4 – PHP & MySQL

6 Points

There is a database “mmn_exam” that contains the table “students” with the following data:

1 - students

ID	matNr	lastname	firstname	program	semester
1	22548796	Mustermann	Max	MI	3
2	54563254	Hauser	Tanja	MI	1
3	55222336	Sauer	Simon	KUMM	5
4	24563535	Deutsch	Sara	BWL	9
5	98996542	Lauber	Ina	BWL	8

- a) What is the returned result for each of the following SQL statements:
 - a. `SELECT * FROM students`

 - b. `SELECT lastname, firstname FROM students WHERE matNr=24563535`

 - c. `SELECT matNr FROM students WHERE program='BWL' AND semester > 4`



- b) You want to utilize a PHP script to **display** data from the table above in a web page. Extend the following statement to do just that. Use mark-up to format the result.

```
<?php
$db = mysqli_connect("localhost", "root", "", "mmn_exam");
$query = "SELECT matNr FROM students WHERE semester >= 3 ";
```

```
?>
```

Task 5 – HbbTV

6 Points

Read this article: [HbbTV 2.0 spec released](http://www.broadbandtvnews.com/2015/02/10/hbbtv-2-0-spec-released/) by Chris Dziadul
<http://www.broadbandtvnews.com/2015/02/10/hbbtv-2-0-spec-released/>

Briefly answer the following questions:

- What are the most anticipated features of HbbTV 2.0?
- Is HbbTV capable of UltraHD? Which codec is mentioned for in this context?
- Name 2 implications of “synchronization between TV, tablets and smartphones”
- Is HbbTV 2.0 downward-compatible with older versions of HbbTV?

Submission

This assignment is not submitted to UniWorX.