

## Web Engineering Assignment 2.

Team : papa

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### Exercise 1: HTTP

- a. Is a HTTP-based communication between a client and a server synchronous or asynchronous? Explain (1 point)

The HTTP-based communication between a client and a server is synchronous because after the client makes a request to the server he is blocked until the server processes that request and sends back the response.

- b. Is the HypertextTransferProtocol stateless or stateful? Please explain.(1 point)

As defined also in the lecture, HypertextTransferProtocol is stateless. That means that different requests cannot be mapped together. Each request is executed independently and the server does not retain the information about the clients who are making the requests. . HTTP delivers data as byte streams.

### Exercise 2: JavaScript

- a. How can external JavaScript files be included into HTML? (1 point)

```
<script src="myscripts.js"></script>
```

The src attribute specifies the URL of an external script file.

- b. Where in a HTML page can JavaScript code be embedded? (1 point)  
In HTML, JavaScript code must be inserted between <script> and </script> tags. JavaScript can be placed in the <body> and the <head> sections of an HTML page. You can place any number of scripts in an HTML document.

### Exercise 3: Ajax

The following figure presents the classic web application model and the Ajax application model. (2 points)

1. Considering this figure, please explain how Ajax differentiates from classic web application models from:

In the classic web application model an HTTP request is being sent from the client to the server. While the server processes the request, in order to give a

response, the client just waits. The connection is terminated when the client received the response (E.g. in the form of an HTML). In order for the user to receive other information from the server he has to initiate a request again.

a. The technical point of view.

From a technical point of view:

- the Ajax Engine is added between the user and the server and it is loaded
- the Ajax Engine is used to remove the previous behavior (request - waiting time - response), if it needs something from the server in order to send a response it just makes (usually) XML requests without influencing the user's interaction with the application.
- this behavior makes the user's interaction with the application to be asynchronous
- the engine also take care of the page rendering, no reload will happen from the server's side

b. The user point of view.

- the user does not have to wait after every request he makes
- he can continue to use the application while the server process his requests
- the page does not reload, the transparency between the user and the server is lost

2. Please provide an example of a web application that uses Ajax.

Plenty of today's web applications use Ajax, a few examples would be: GoogleMaps, Gmail, Google Suggest.

#### **Exercise 4: Introduction to modeling**

