Leibniz Universität Hannover

Interactive Systems (ISY)

Auditorium Exercise 07

Human-Computer Interaction Group

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Lectures

Session	Date	Topic	Details
1	2.4.	Introduction	human performance, empirical research, modeling
2	9.4.	Interaction elements	input devices, interaction elements, states, layouts
3	16.4.	Event handling	events, bindings, reactive programming, scene graph
4	23.4.	Scene graphs	event delivery, coordinate systems, nodes, animation, concurrency
5	30.4.	Interaction techniques	alignment and pointing techniques
6	7.5.	Interaction techniques	
7	14.5.	Web-based user interfaces	document object model, client-server issues
	21.5.	Pfingstwoche	
8	28.5.	Web-based user interfaces	reactive Programming for the Web
9	4.6.	Experiments and data analysis	designing experiments, hypothesis testing
10	11.6.	Modeling interaction	descriptive and predictive models, keystroke-level model, regression
11	18.6.	Visualization	visual encodings, perceptual accuracy, treemaps, dynamic queries
12	25.6.	Human-Centered AI	introduction to human-centered AI, human control and automation, examples
13	2.7.	Deep learning in HCI	guidelines for human-AI interaction, neural networks
14	9.7.	Deep learning in HCI	convolutional and recurrent NNs, face recognition, gesture recognition

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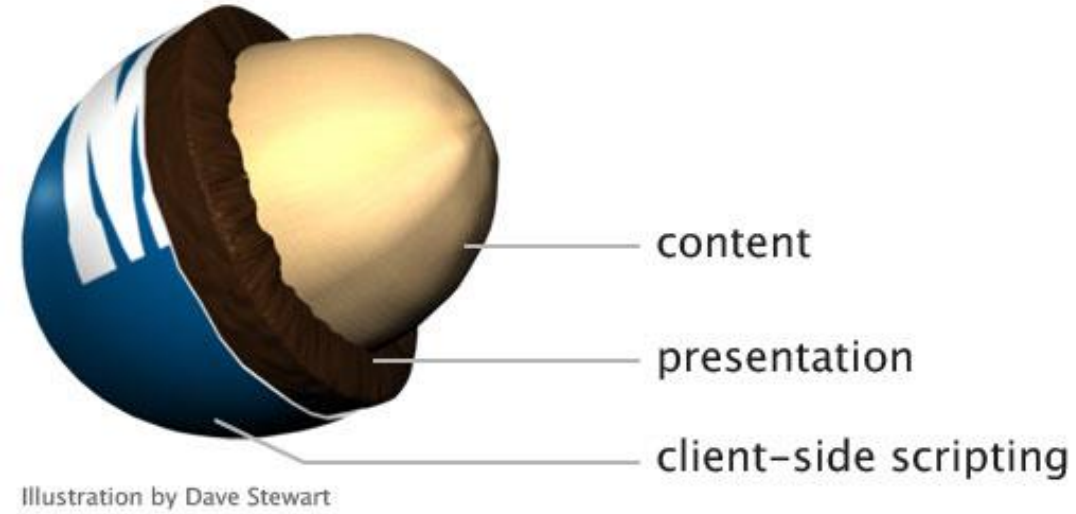
Web Technology

- HTML: Content
- CSS: Presentation
- JavaScript: Behavior



http://alistapart.com/article/understandingprogressiveenhancement

World Wide Web: A Distributed System for Sharing Documents

Requirements

- Encoding documents
  - Content
  - Semantics
  - Presentation
- Identifying documents
  - Locating and accessing a particular document
- Storing and delivering
  - Storing documents
  - Transmitting documents

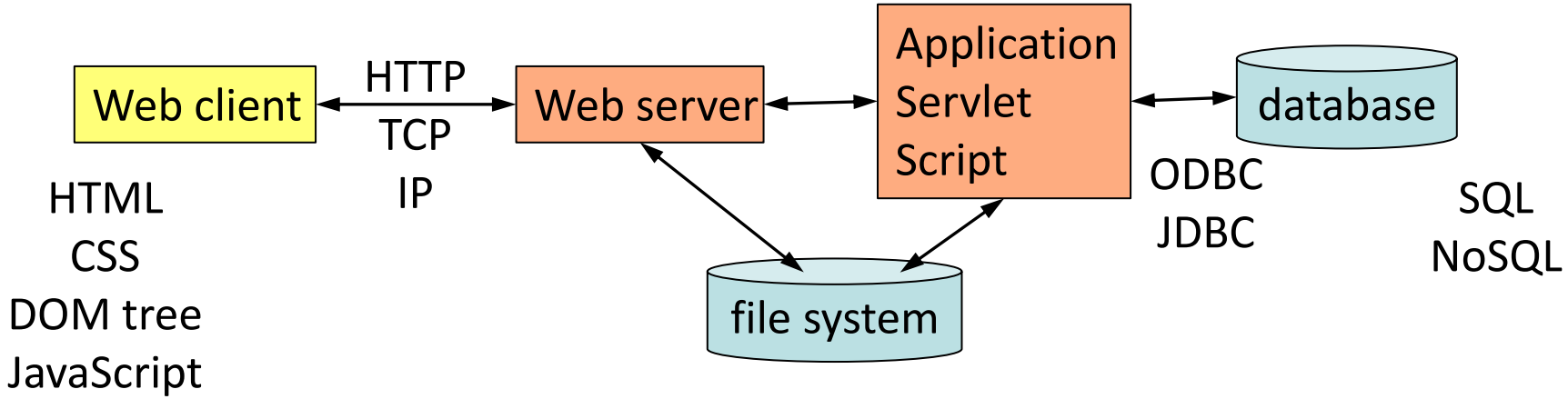
The WWW approach

- Document format
  - Hypertext Markup Language, HTML
  - Cascading Style Sheets, CSS
  - (JavaScript)
- Document identification
  - Uniform Resource Identifier, URI
    - String of characters to identify a resource on the internet
  - Uniform Resource Locator, URL
    - URI that specifies a location and a scheme
- Document storage and delivery
  - Web servers
  - Hypertext Transfer Protocol, HTTP

Andreas Butz: Mensch-Maschine-Interaktion 2, LMU München.

Server-Side Components

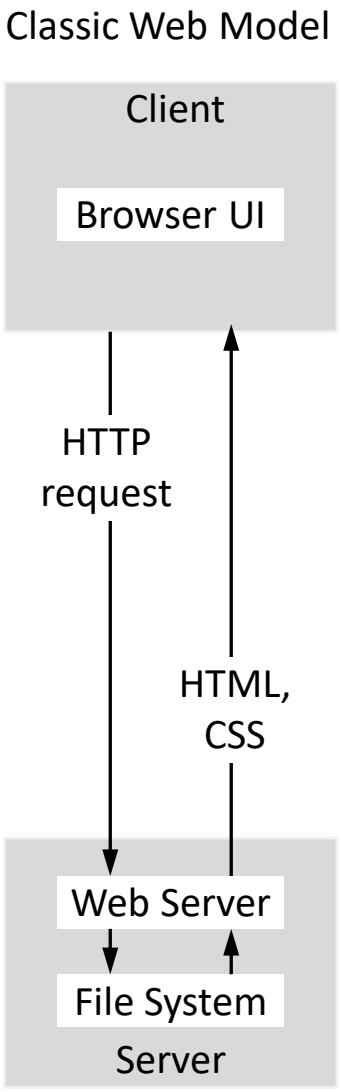
- Web server implements HTTP communication
- Application engines provide dynamic content
- Content is stored in databases or “flat” files or is computed dynamically

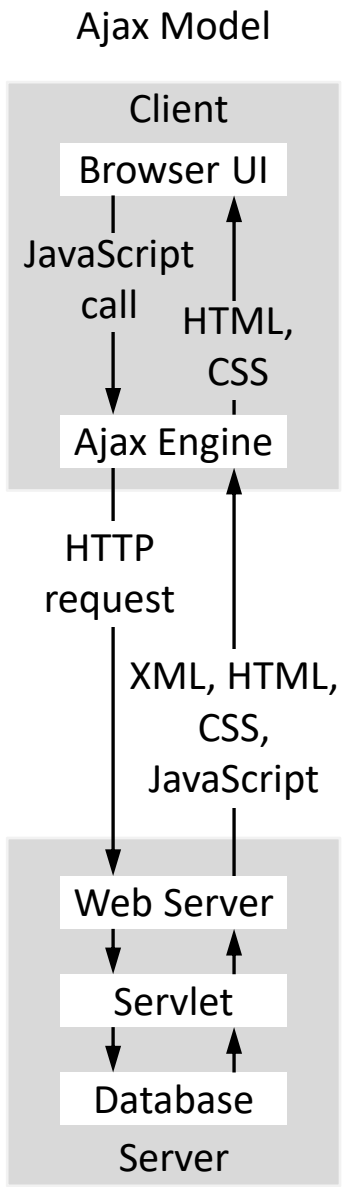


get HTML template from file system
fill dynamic content from database

Traditional vs. Ajax Web Applications

- Traditional: Each user action leads to full page reload
- Ajax: Asynchronous JavaScript and XML
  - If possible, functionality is implemented locally (JavaScript)
  - Modify page without reload
  - Asynchronous communication (JavaScript XMLHttpRequest)
  - UI is still responsive during asynchronous communication





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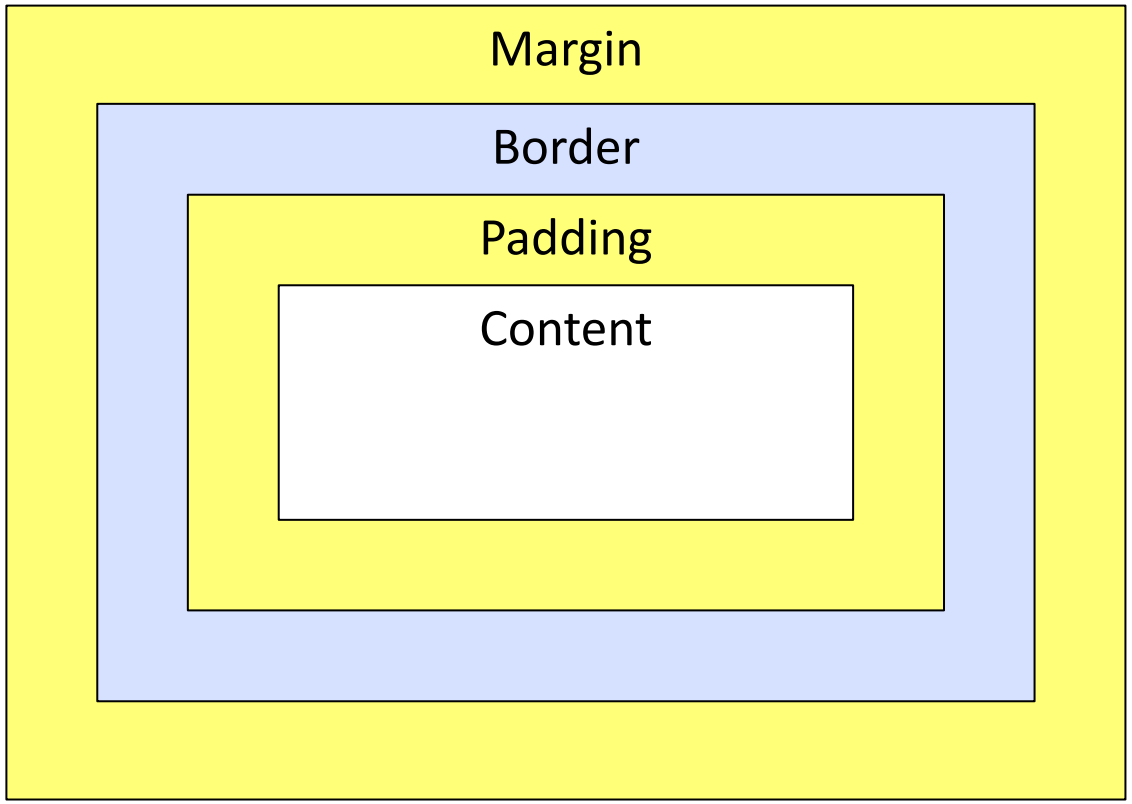
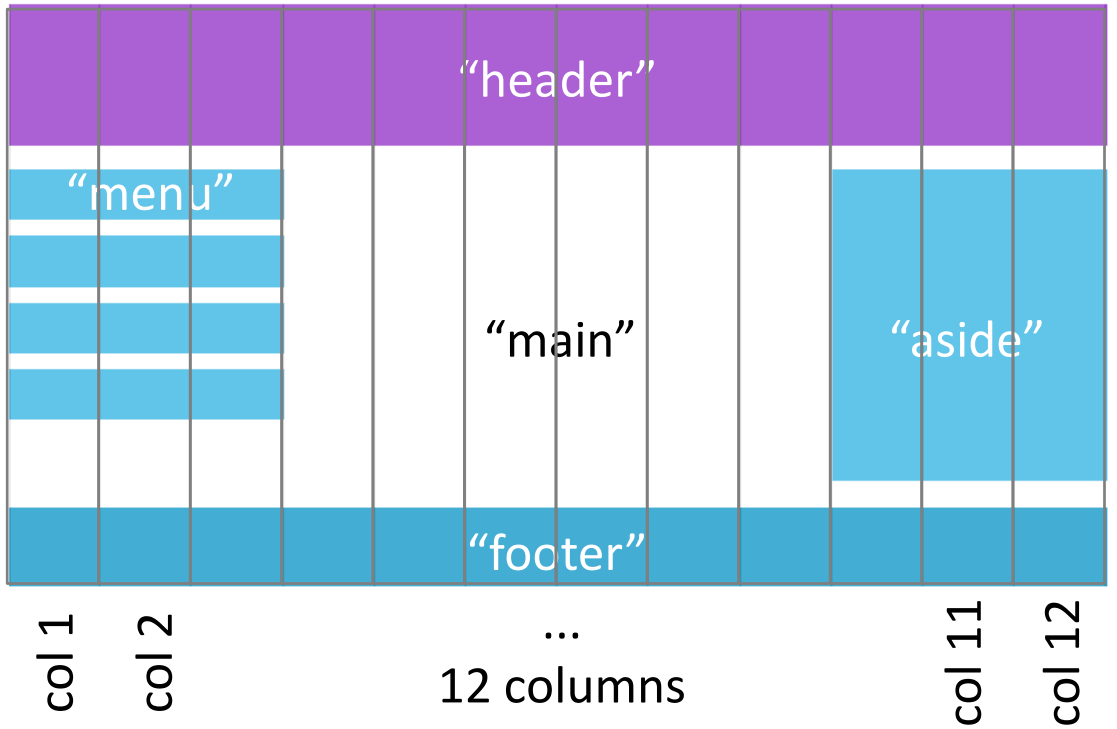
CSS Box Model

- All HTML elements are wrapped by a box
- CSS box model consists of margins, borders, padding, content
  - Margin clears area around border, transparent
  - Padding has back-ground color of box
  - Each side of margin and padding can be set separately
- Width and height of an element are content dimensions



Fluid Design

- Wozu ist das sinnvoll?
- Warum gerade 12?



Images: http://www.w3schools.com/css/css_rwd_intro.asp

phone-tablet-desktop-flex.html

Assignment 07

- Deadline in two weeks (27.05. 23:59)
- Use the Dev Tools as shown in todays exercise