

Curs 1

2015/2016

# Tehnici moderne de proiectare a aplicatiilor web

# Introducere

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# TMPAW

- Tehnici moderne de proiectare a aplicatiilor web
  - An V RC
    - 2C/1L/1P

# Program

- An V
  - Saptamana 1
    - Luni 16-18 Curs
    - Luni 18-20 Proiect
  - Saptamanile 2-8
    - Luni 16-18 Curs
    - Luni 18-20 Laborator
  - Saptamanile 9-14
    - Luni 16-18 Curs
    - Luni 18-20 Proiect

# Orar

## ■ [www.etti.tuiasi.ro/orar](http://www.etti.tuiasi.ro/orar)

FACULTATEA DE ELECTRONICA, TELECOMUNICATII SI TEHNOLOGIA INFORMATIEI  
55RC

	1 8:00 - 8:50	2 9:00 - 9:50	3 10:00 - 10:50	4 11:00 - 11:50	5 12:00 - 12:50	6 13:00 - 13:50	7 14:00 - 14:50	8 15:00 - 15:50	9 16:00 - 16:50	10 17:00 - 17:50	11 18:00 - 18:50	12 19:00 - 19:50
L						POO (C) P8 (Amf.)		Sirbu A.	Damian R. TMPAW(C) P5 (Amf.)		Damian R. TMPAW(L) 2.12 Multimedia (R)	
Ma									Scripcariu L. RCALSR 3.20 Antene (L)			
Mi											Munteanu V. TEFO (C) P8 (Amf.)	
J												
V									Alecsandrescu I. POO (L) 3.38 PCLP (L)		Trifina L. TEFO (L) 3.25 TTI (L)	

# Nota

- An V
  - 33% E
  - 66% Aplicatii
    - 33% L (0%)
    - 33% P (66%)

# Nota

- An V
  - 33% E
  - 33% L
  - 33% P
- Laborator - Prezenta
  - 1pz = 1p ( $p > 5 \leftrightarrow$  Curs)
- Examen
  - Prezenta la curs: 3pz = 0.5p
  - Asemanator cu materia de **proiect**
- Activitate suplimentara
  - Dupa terminarea activitatii la laborator
  - +2p la E/L

# Examen

- probleme
- fiecare student are subiect **propriu**
- toate materialele permise
- tehnica de calcul **nu** este necesara dar este permisa



# Examen

- Oricare din temele de **proiect** (sau asemenea) poate constitui una din problemele de examen
  - se va cere realizarea planului / structurii logice a aplicatiei
- Se **poate** cere scrierea unui **cod** pentru realizarea anumitor operatii, fara necesitatea corectitudinii tehnice absolute (“;”, nume corect al functiilor, parametri functie etc.)
- Se poate cere interpretarea unui cod php/MySql cu identificarea efectului

# Curs

- Curs strict orientat spre laborator/proiect
  - se predă ceea ce se folosește în aceeași zi la laborator/proiect
  - curs exact înainte de laborator/proiect
- Orientat spre practică
  - 90% practică
  - 10% teorie
- Memorarea lui inutilă la examen
- Prezentă
  - 3pz = 0.5p Examen (maxim 2p)

# PROIECT (preconizat – Sg final)

- Tema de nota 7 (>6)
  - Tema unica pentru fiecare student
- Tema de nota 8 (>6)
  - Conditiiile de la tema de nota 7 **si in plus**
  - Necesitatea conlucrarii intre 2 studenti cu doua teme “pereche”
  - Se accepta ca un student sa realizeze ambele puncte

# PROIECT (preconizat – S9 final)

- Tema de nota 9 (>5)
  - Condițiile de la tema de nota 8 **si in plus**
  - Necesitatea conlucrării între 2 studenti cu teme “pereche”
  - Tema se predă/trimitte cu macar 1 zi înainte a sustinerii ei
  - Baza de date cu care se lucreaza sa contina minim 50 de inregistrari in tabelul cel mai "voluminos".
- Tema de nota 10 (>5)
  - Condițiile de la tema de nota 9 **si in plus**
  - Baza de date cu care se lucreaza contine minim 300 de inregistrari in tabelul cel mai "voluminos"
  - Necesitatea investigării posibilitatilor de imbunatatire a aplicatiei si adaugarii de functionalitate
  - nota individuala la proiect va depinde intr-o mica masura (in limita a 1p) de nota minima a colegilor din echipa

# PROIECT (preconizat – S9 final)

- proiectul se sustine individual (oral si practic)
- grila de notare la proiect schimbata fata de anii precedenti
- fiecare membru al unei echipe (la temele de nota 9 si 10) trebuie sa sustina in aceeasi zi proiectul
- nota individuala la proiect va depinde intr-o mica masura (in limita a 1p) de nota medie a colegilor din echipa (numai la temele de 10 si 10+)
  - $N-\min(E)=1 \rightarrow -0 \text{ p}$
  - $N-\min(E)=2 \rightarrow -0.5 \text{ p}$
  - $N-\min(E)=3 \rightarrow -1 \text{ p}$

# PROIECT (preconizat – Sg final)

- In caz de necesitate, pentru completarea echipei cadrul didactic poate fi membru al echipelor (9/10/10+). Conditii:
  - metoda de comunicare in echipa sa fie prin email sau direct
  - latentă de raspuns: ~ 1 zi
  - reactiv
  - nota implicita 10 ( 😊 )
  - nu lucreaza noaptea, si in special nu in noaptea dinaintea predarii ( 😊 )
- dezavantaj asumat: "spion" in echipa

# PROIECT (preconizat – S9 final)

- Tema de nota 10+ (>5, in general offline)
  - Conditiiile de la tema de nota 10 **si in plus**
  - Necesitatea conlucrării între 3 studenti cu teme "pereche"
  - Baza de date cu care se lucreaza contine minim 400 de inregistrari in tabelul cel mai "voluminos"
  - Tema care face apel la controlul sesiunii client/server
  - Necesitatea utilizării Javascript in aplicatie (aplicatie libera dar cu efect tehnic nu estetic, --jQuery standard)
  - Forma paginii trebuie sa respecte cerintele "F shape pattern"
  - Facilitati in ceea ce priveste nota la laborator (DACA toate celelalte conditii sunt indeplinite P = 66%, L = 0%, E = 33%)

# Exemplu

- 1. Galerie de imagini in care imaginile sunt ordonate dupa categorii.



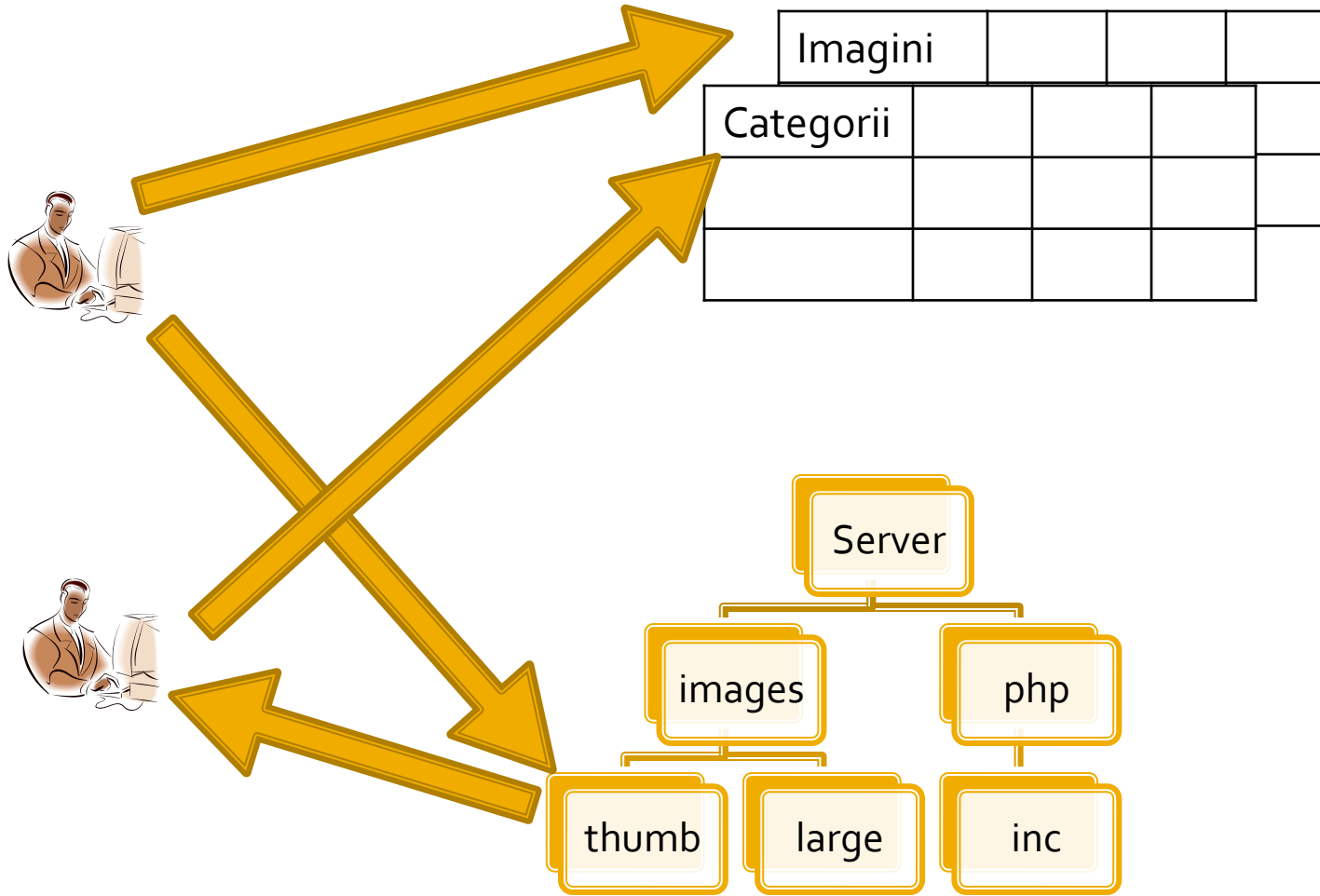
a. aplicatia pentru adaugarea de categorii si afisare a imaginilor (cu alegerea prealabila a categoriei si afisarea listei de imagini format mic)



b. aplicatia pentru adaugare de imaginilor (cu alegerea prealabila a categoriei si generarea prealabila a imaginii format mic)



# Exemplu



# Teme de proiect

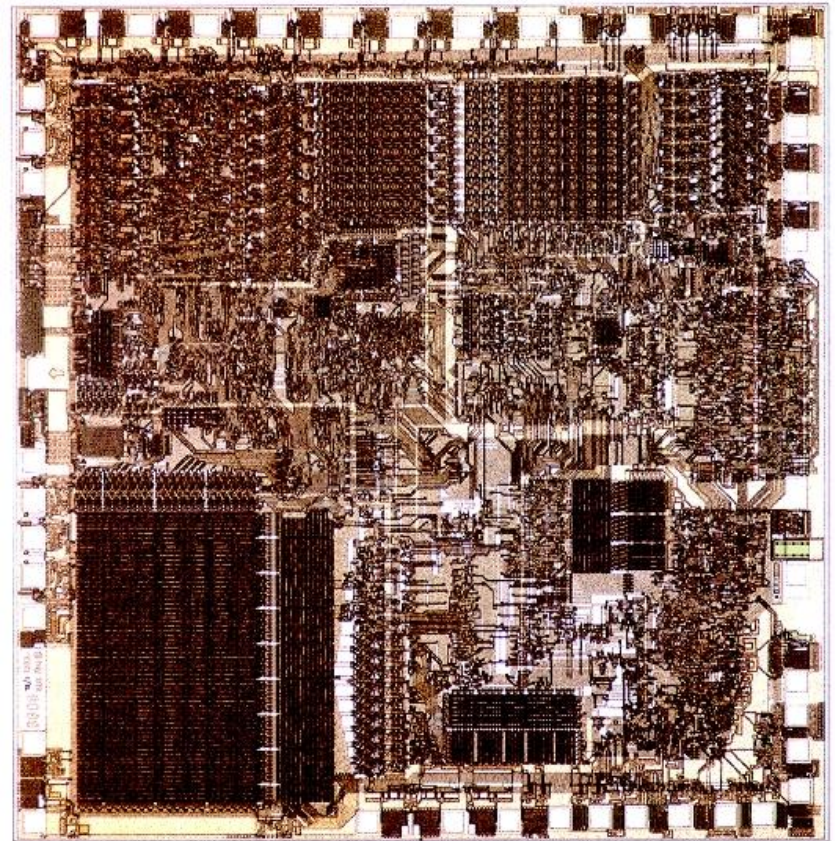
- **Functionalitate**
  - La toate temele **1p** din nota este obtinut de indeplinirea functionalitatii cerute.
  - orice tehnologie, orice metoda, "sa faca ceea ce trebuie"
- **Forma paginii prezinta importanta**
  - dependenta de dificultatea temei
- **Initiativa**
  - **Necesitatea** investigarii posibilitatilor de imbunatatire
- **Cooperare**
  - Necesitatea conlucrarii intre 2/3 studenti cu teme "pereche"

# Notare

- 1p – functionalitate
  - cadrul didactic va incerca sa foloseasca aplicatia respectiva. Daca "pe dinafara e vopsit gardul" se obtine 1p
- 1p – mutarea site-ului (restaurare backup + setare server) pe un server de referinta
  - server-ul de referinta va fi masina virtuala utilizata la laborator (inclusiv aplicatiile cu pricina)
  - sa va pregatiti pentru situatia in care pe acel server exista si alte baze de date care nu trebuie distruse
  - fiecare student isi pune sursele in directorul propriu, in radacina server-ului. Daca tema depinde de anumite fisiere ale colegului, le cereti inainte
- 1p – cunoasterea codului
  - raspunsul la intrebari de genul: "unde ai facut aceasta"
- Teme "de nota 10"
  - 1p – initiativa. Investigarea posibilitatilor de imbunatatire
  - 1p – intrebari legate de cooperarea cu colegul de echipa
  - 1p – explicatii relativ la functionarea unei anumite secvente de cod

# Impresionant?

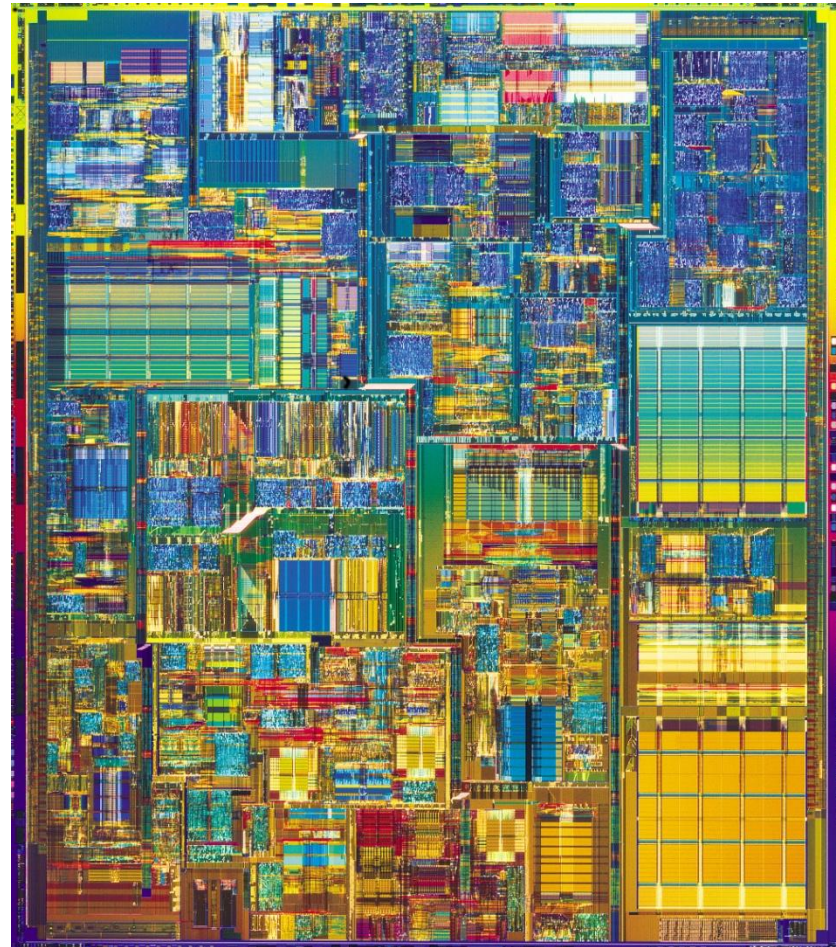
- Intel® 8086
- 29.000 tranzistoare pe CPU
- 1978
- 1 MB date
- 4.7 MHz





# Impresionant?

- Intel® Itanium® processors (Tukwila)
- 2009
- 2 miliarde tranzistoare pe CPU
- 16 EB date (16 G GB)
- > 3 GHz

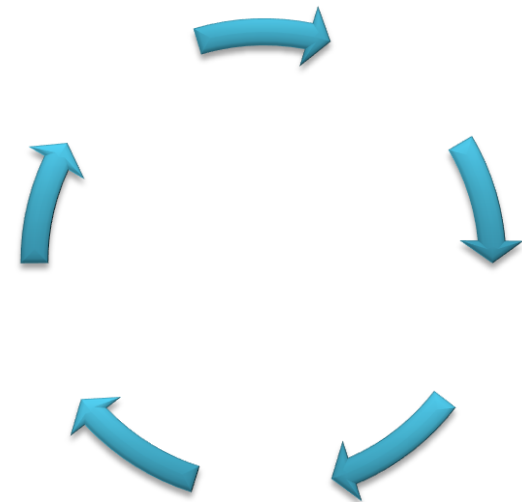


# Concepte

- Efectuare foarte rapida a unui numar **mic** de instructiuni, de **complexitate redusa**, repetate de un numar foarte mare de ori
- Programare: coborarea rationamentului la nivelul de **complexitate redusa**, cu obtinerea performantei prin structuri repetitive simple efectuate rapid.
- Operatii repetitive / date repetitive

# DA/NU

- Un programator n-a venit la servicii de **trei zile**.
- Colegii de servicii au venit la el acasă și-l găsesc pe acesta **chel**, dormind în cadă, ținând în mâini un șampon.
- Au luat șamponul și s-au apucat să citească instrucțiunile de folosire:
  - Clățiți părul cu apă.
  - Aplicați șamponul
  - Frecați
  - Așteptați două minute
  - Clățiți părul cu apă
  - **Repețiți procedura.**



# Documentatie

- RF-OPTO
  - ~~<http://rf-opto.etc.tuiasi.ro>~~
  - <http://rf-opto.etti.tuiasi.ro>
- Fotografie
  - de trimis prin email: [rdamian@etti.tuiasi.ro](mailto:rdamian@etti.tuiasi.ro)
  - necesara la laborator/curs
  - +1p ex. (S3), +0.5p ex (S5)
- Adresa de email
  - necesara pentru accesul la zonele sensibile de pe server
- Exemplu de teme si specificatii detaliate pentru proiect



# Documentatie

- <http://rf-opto.etti.tuiasi.ro> + WWW



The screenshot displays the website for RF-OPTO at ETTI. The header features the RF-OPTO logo, the ETTI logo, and the University of Technical Sciences (UTS) logo. Below the header is a navigation menu with links for Main, Courses, Master, Staff, Research, and Students. The current page is titled "Modern Web Applications Design" and provides detailed information about the course, including the coordinator, code, discipline type, credits, and enrollment year. It also lists activities, evaluation methods, grades, attendance, and materials.

**RF-OPTO**

English | Romana

Main Courses **Master** Staff Research Students

Radiocommunication Systems Microwave IC Web Design

## Modern Web Applications Design

**Course: TMPAW (2014-2015)**

**Course Coordinator:** Assist.P. Dr. Radu-Florin Damian  
**Code:** DS507RC  
**Discipline Type:** DOMS; Alternative, Synthesis  
**Credits:** 7  
**Enrollment Year:** 5, Sem. 10

### Activities

**Course:** Instructor: Assist.P. Dr. Radu-Florin Damian, 2 Hours/Week, Specialization Section, Timetable:  
**Laboratory:** Instructor: Assist.P. Dr. Radu-Florin Damian, 1 Hours/Week, Half Group, Timetable:

### Evaluation

Type: **Examen**

**A:** 33.33%, (Test/Colloquium)  
**B:** 33.33%, (Seminary/Laboratory/Project Activity)  
**D:** 33.33%, (Homework/Specialty papers)

### Grades

Not yet

### Attendance

Not yet

### Materials

**Course Slides**

# Fotografii

## Studentii care au trimis fotografiile 🙌👍

Grupa: 5402

Nr.	Nume
1	<a href="#">APETRII MARIA</a>

Grupa: 5403

Nr.	Nume
1	<a href="#">ALEXANDRESCU SEBASTIAN</a>

Grupa: 5404

Nr.	Nume
1	<a href="#">APERGHIS MIHAI-ALIN</a>

Grupa: 5405

Nr.	Nume
1	<a href="#">ANGHELUS MARIU</a>

## Studentii care **inca** nu au trimis fotografiile 🙄

Grupa: 5304

Nr.	Nume
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Grupa: 5402

Nr.	Nume
-----	------

Grupa: 5403

Nr.	Nume
-----	------

Grupa: 5404

Nr.	Nume
-----	------

### Grupa: RC 1

Nr.	Nume
1	<a href="#">FUDULACHE ANDREIA-NICOLETA</a>
2	<a href="#">GAVRILOAE ALINA</a>
3	<a href="#">PINTILIASA IONELA-ANDREEA</a>
4	<a href="#">POHRIB CRISTINA</a>

# Fotografii

## POHRIB CRISTINA



Date:

Grupa	5501 (2014/2015)
Specializarea	Master Retele de Comunicatii
Marca	629

[Acceseaza ca acest student](#)

### Note obtinute

Inca nu a fost notat.



Prezent

Puncte: 0

Nota: 0

Obs:

Start Didactic Master Colectiv Cercetare <b>Studenti</b> Admin											
Note Lista Studentii Fotografii Statistici											
Grupa 5403											
Nr.	Student	Prezent	Nr.	Student	Prezent	Nr.	Student	Prezent			
1	 ANGHELIUS IONUT-MARIUS	Prezent <input checked="" type="checkbox"/> Puncte: 0 Nota: 0 Obs: <input type="text"/>	2	 ANTIGHIN FLORIN-RAZVAN	Prezent <input checked="" type="checkbox"/> Puncte: 0 Nota: 0 Obs: <input type="text"/>	3	 ANTONICA BIANCA	Prezent <input type="checkbox"/> Puncte: 0 Nota: 0 Obs: <input type="text"/>			
4	 APOSTOL PAVEL-MANUEL	Prezent <input type="checkbox"/> Puncte: 0 Nota: 0 Obs: <input type="text"/>	5	 BALASCA IULIAN-PETRU	Prezent <input checked="" type="checkbox"/> Puncte: 0 Nota: 0 Obs: <input type="text"/>	6	 BOSTAN ANDREI-PETRICIA	Prezent <input type="checkbox"/> Puncte: 0 Nota: 0 Obs: <input type="text"/>			
7	 BOTEZAT EMANUEL	Prezent <input checked="" type="checkbox"/> Puncte: 0 Nota: 0 Obs:  Tp test GPS	8	 BLITUNOI GEORGE-MADALIN	Prezent <input type="checkbox"/> Puncte: 0 Nota: 0 Obs: <input type="text"/>	9	 CHILEA BALUICA-MARIA	Prezent <input type="checkbox"/> Puncte: 0 Nota: 0 Obs: <input type="text"/>			
10	 CHRISTOIU ECATERINA	Prezent <input checked="" type="checkbox"/> Puncte: 0	11	 COJOC MARIUS	Prezent <input checked="" type="checkbox"/> Puncte: 0	12	 COJOCARIU AURA-FLORENTINA	Prezent <input checked="" type="checkbox"/> Puncte: 0			

# CURS

I.	HTML si XHTML (recapitulare)	1 oră
II	CSS	2 ore
III	Baze de date, punct de vedere practic	1 oră
IV	Limbajul de interogare SQL	4 ore
V	PHP - HyperText Preprocessor	8 ore
VI	XML - Extended Mark-up Language si aplicatii	4 ore
VII	Conlucrare intre PHP/MySql, PHP/XML, Javascript/HTML	2 ore
VIII	Exemple de aplicatii	6 ore
	Total	28 ore

# LABORATOR

I.	Implementarea unui sistem de dezvoltare a aplicatiilor Web, instalare PHP, MySql, Apache si legaturile dintre ele	2 ore
II	Design web avansat folosind CSS	2 ore
III	Interogarea unei baze de date. Exercitii SQL	2 ore
IV	Utilizare PHP I	2 ore
V	Utilizare PHP II	2 ore
VI	Utilizare PHP pentru accesul la o baza de date	2 ore
VII	Aplicatie distribuita complexa	2 ore
	Total	14 ore

# MOTTO

- “Universitatea nu e pentru mase locul de unde emana cunoasterea, ci un obstacol intre individ si diploma pe care i-a harazit-o destinul”
- “Universitatea fiind ceva care se interpune in mod imoral intre individ si dreptul lui natural de a fi diplomat, individul are obligatia morala sa triumfe asupra universitatii prin orice mijloace”
  - Sursa citat: Internet, user: “un student batran si plesuv”

# BIBLIOGRAFIE

- **“Am mai facut odata ceva asemanator”**
- Internet
  - [www.php.net](http://www.php.net)
  - [www.mysql.com](http://www.mysql.com)
  - [www.w3c.org](http://www.w3c.org)
  - [www.google.com](http://www.google.com)
- [rf-opto.etti.tuiasi.ro](http://rf-opto.etti.tuiasi.ro)
  - cereti acces! (prin adresa de email/nepersonalizat)

Capitolul I

# Recapitulare HTML/XHTML

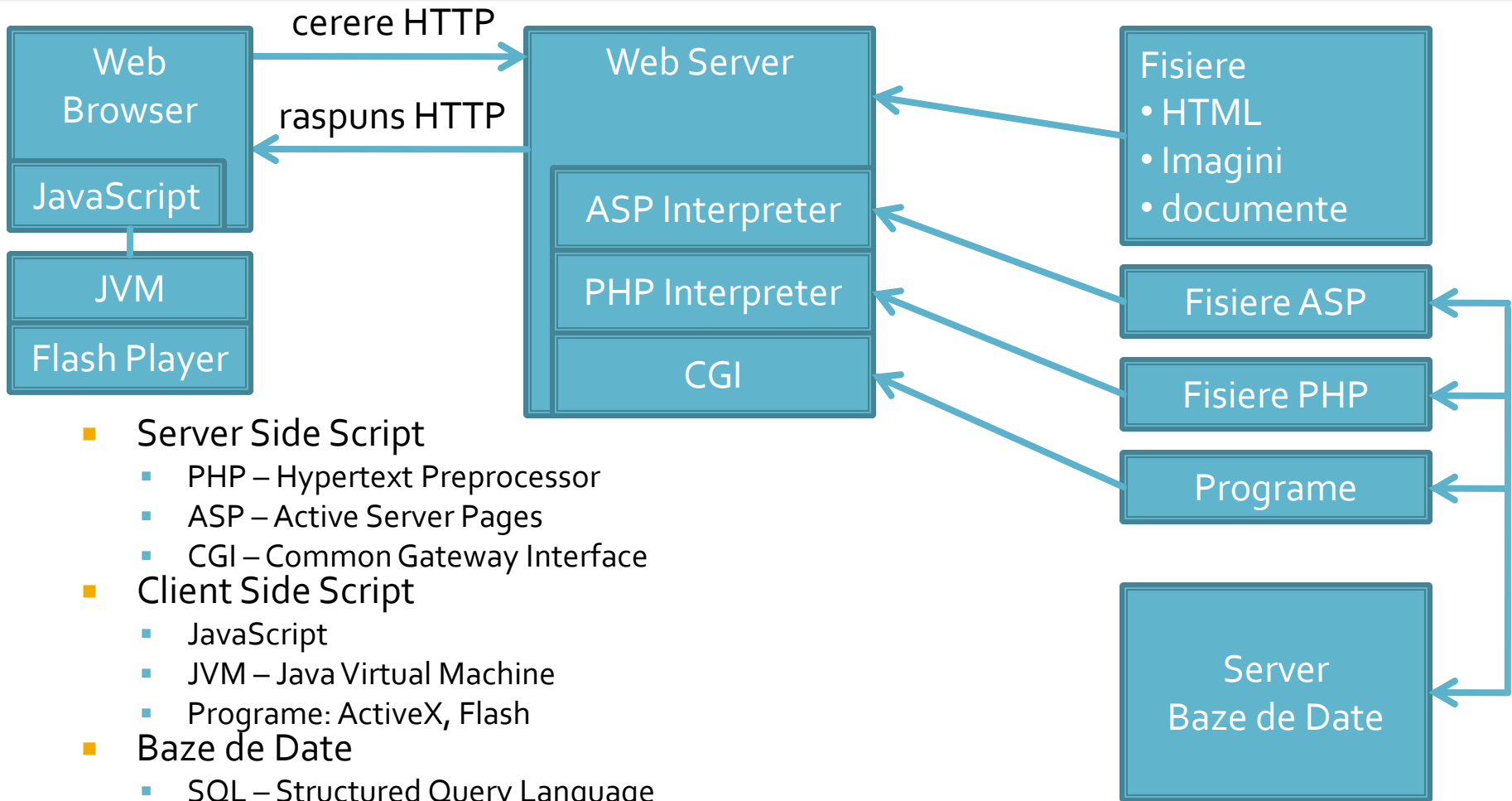
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# CURS

I.	HTML si XHTML (recapitulare)	1 oră
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# Tehnologia server-elor Web



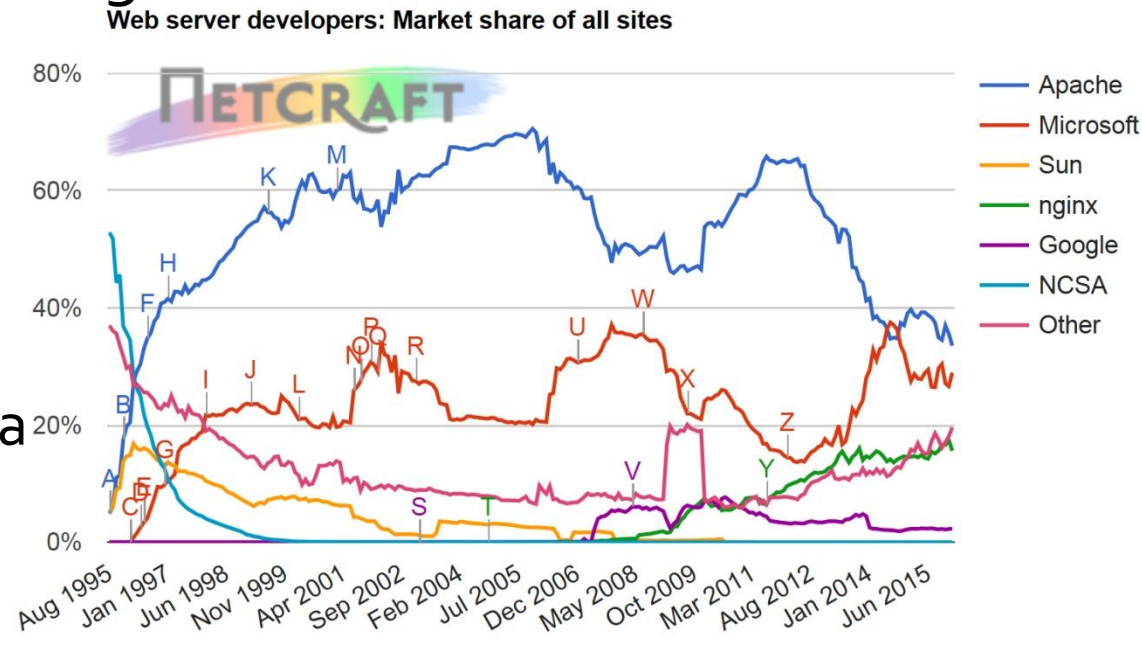
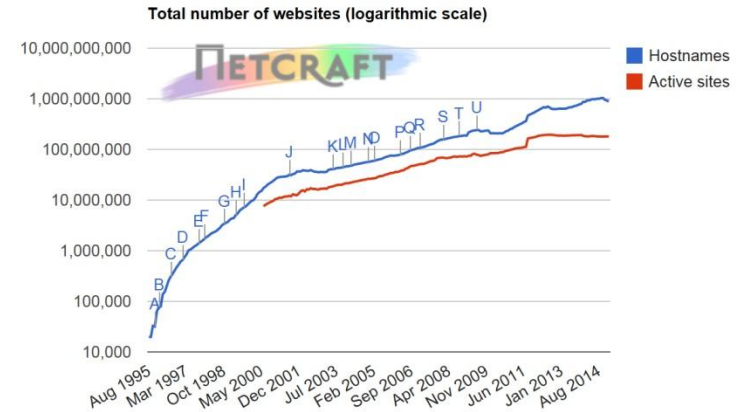
- **Server Side Script**
  - PHP – Hypertext Preprocessor
  - ASP – Active Server Pages
  - CGI – Common Gateway Interface
- **Client Side Script**
  - JavaScript
  - JVM – Java Virtual Machine
  - Programe: ActiveX, Flash
- **Baze de Date**
  - SQL – Structured Query Language
  - MySql – open Source
  - Microsoft SQL Server
  - Oracle

# Sistem de operare

Rank	Performance Graph	OS	Outage hh:mm:ss	Failed Req%	DNS	Connect	First byte	Total
1	Datapipe	Linux	0:00:00	0.004	0.151	0.012	0.025	0.031
2	XILO Communications Ltd.	Linux	0:00:00	0.008	0.228	0.069	0.137	0.137
3	Netcetera	Linux	0:00:00	0.008	0.073	0.085	0.173	0.173
4	GoDaddy.com Inc	Linux	0:00:00	0.013	0.284	0.007	0.017	0.018
5	Qube Managed Services	Linux	0:00:00	0.013	0.151	0.059	0.12	0.12
6	EveryCity	SmartOS	0:00:00	0.013	0.09	0.065	0.13	0.13
7	Memset	Linux	0:00:00	0.017	0.158	0.066	0.168	0.269
8	Swishmail	FreeBSD	0:00:00	0.021	0.151	0.063	0.125	0.167
9	ServerStack	Linux	0:00:00	0.021	0.133	0.066	0.132	0.132
10	INetU	Linux	0:00:00	0.021	0.145	0.068	0.134	0.134

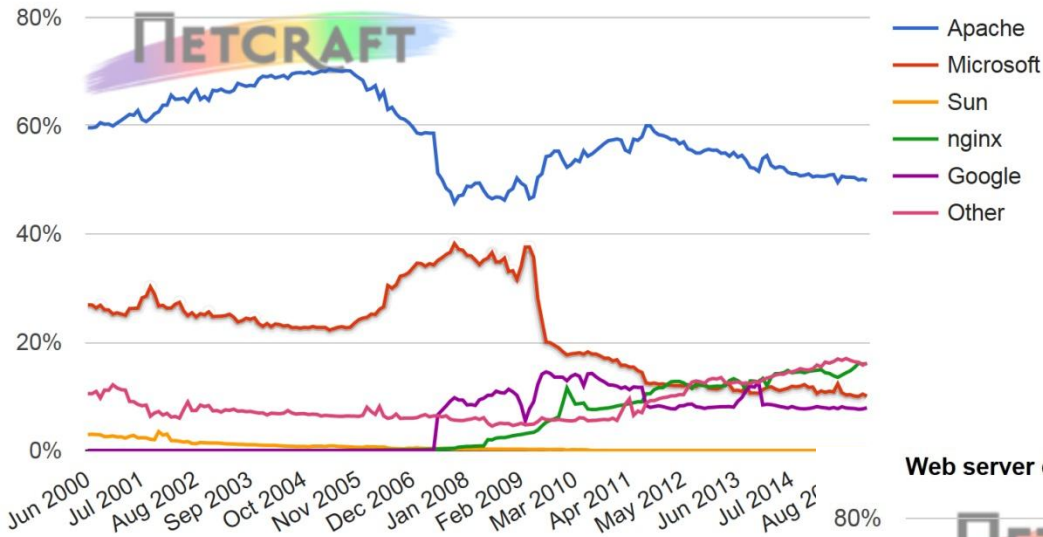
# Tehnologia server-elor Web

- PHP – Hypertext Preprocessor
  - initial – Personal Home Page
  - open source
  - C++
  - Apache
- ASP – Active Server Pages
  - Microsoft
  - VBasic
  - IIS
- Java/JavaScript
  - Sun
  - Masina Virtuala Java



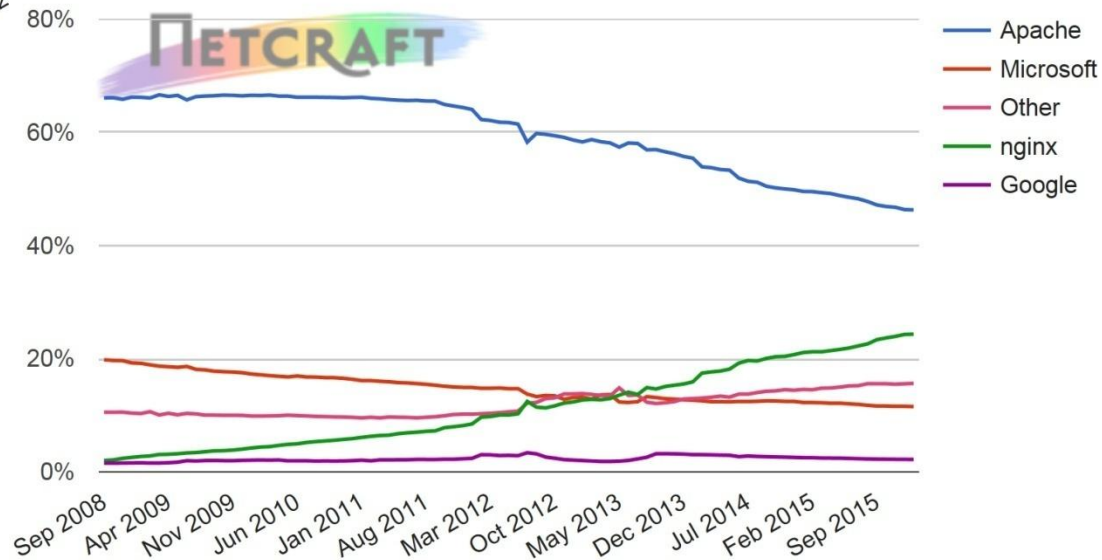
# Tehnologia server-elor Web

Web server developers: Market share of active sites



Developer	January 2016	Percent
Apache	84,965,001	49.90%
nginx	27,294,719	16.03%
Microsoft	17,088,509	10.04%
Google	13,428,841	7.89%

Web server developers: Market share of the top million busiest sites



Developer	January 2016	Percent
Apache	463,092	46.31%
nginx	243,340	24.33%
Microsoft	115,358	11.54%
Google	21,824	2.18%

# Server Side Scripting

	2010 1 Jan	2011 1 Jan	2012 1 Jan	2013 1 Jan	2014 1 Jan	2014 11 Mar
PHP	72.5%	75.3%	77.3%	78.7%	81.6%	81.9%
ASP.NET	24.4%	23.4%	21.7%	20.2%	18.2%	17.8%
Java	4.0%	3.8%	4.0%	4.1%	2.7%	2.7%
ColdFusion		1.3%	1.2%	1.1%	0.8%	0.8%
Perl		1.1%	1.0%	0.8%	0.6%	0.6%
Ruby	0.5%	0.5%	0.6%	0.5%	0.4%	0.5%
Python	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%
JavaScript			<0.1%	<0.1%	0.1%	0.1%

# Server Side Scripting

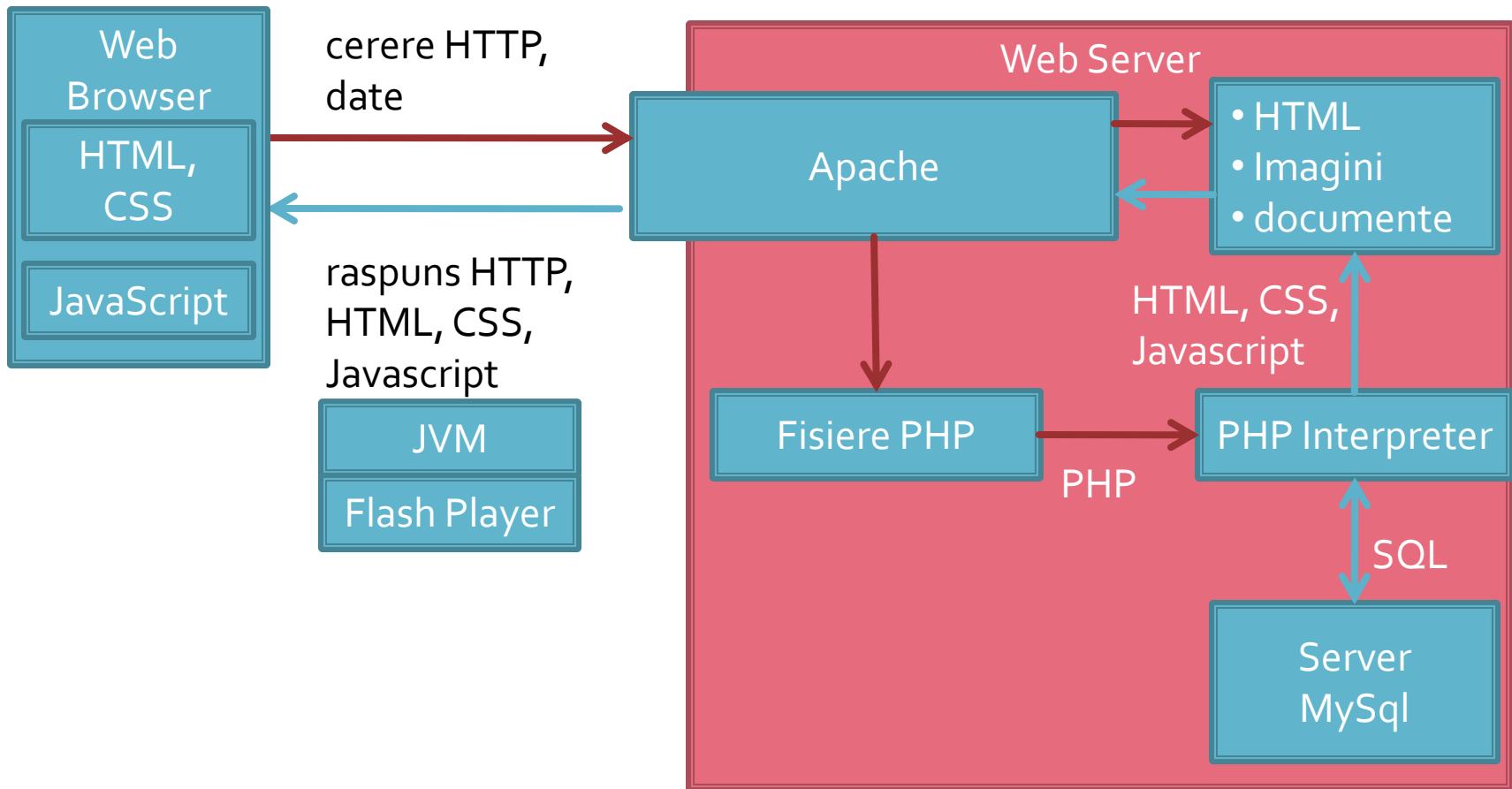
	2015 1 Feb	2015 1 Jul	2016 1 Jan	2016 15 Feb
PHP	82.0%	81.8%	81.7%	81.8%
ASP.NET	17.0%	16.9%	16.0%	15.9%
Java	2.8%	3.0%	3.0%	3.0%
static files			1.6%	1.6%
ColdFusion	0.7%	0.7%	0.7%	0.7%
Ruby	0.6%	0.6%	0.6%	0.6%
Perl	0.5%	0.5%	0.5%	0.5%
Python	0.2%	0.2%	0.2%	0.2%

# Sites

- [Facebook.com](https://www.facebook.com)
- [Wikipedia.org](https://www.wikipedia.org)
- [Qq.com](https://www.qq.com)
- [Taobao.com](https://www.taobao.com)
- [Sina.com.cn](https://www.sina.com.cn)
- [Wordpress.com](https://www.wordpress.com)
- [Vk.com](https://www.vk.com)
- [Weibo.com](https://www.weibo.com)
- [Babylon.com](https://www.babylon.com)
- [Mail.ru](https://www.mail.ru)



# Structura tipica LAMP



# Necesitate

```
539         <td><?php echo $row['Documente'];?>&nbsp;</td>
540         <td><?php echo $row['user_creat'];?>&nbsp;</td>
541         <td class="smaller"><a href="control_lot.php?id=-<?php echo $row['ID_LOT'];?>">dezactiveaza</a><br /><a href=
"control_lot.php?id=<?php echo $row['ID_LOT'];?>">modifica</a></td>
542     </tr>
543     <?php $index++;
544     } while ( $row = mysql_fetch_assoc($result));?>
545 </table><?php
546 }
547 else
548 {
549     echo "<p>Nu exista loturi active</p>";
550 }
551 ?>
552
553 <p class="title">Loturi inactive</p>
554 <?php
555 $query = "SELECT l.*, c.`nume_user` AS `user_creat`
556         FROM `lot` AS l
557         LEFT JOIN `users` AS c ON (l.`User`=c.`id_user`)
558         WHERE l.`Activ` = 0 ORDER BY l.`ID_LOT` DESC";
559 $result = mysql_query($query);
560 $total=0;
561 if ($result && (mysql_num_rows($result) > 0))
562     {
563     $total=mysql_num_rows($result);
564     $row = mysql_fetch_assoc($result);
565     }
566 if ($total>0)
567 {?>
568 <table align="center">
569     <tr class="lista_titlu">
570         <td align="center">Nr. </td>
```

# HTML vs. C++

```
int i,a;  
for (i=1;i<=10;i++) {  
    a=2*i;  
    printf("%d\n",a);  
}
```

```
<p>Text Text Text <font color="red">Text  
</font>Text Text Text</p>  
<p>Text <strong>Text </strong>Text Text  
Text Text Text  
</p>
```

- C++/Pascal/etc.
  - actiuni
  - genereaza date

- HTML/XHTML/etc.
  - forma
  - a datelor existente



**Javascript, PHP**

# HTML

- Hyper Text Markup Language
- bazat pe SGML - Standard Generalized Markup Language (ISO 8879:1986 SGML)
- Tim Berners Lee, 1989
- Mosaic – 1993
- HTML 2.0 – Noiembrie 1995
  - IETF – Internet Engineering Task Force -> 1996
- HTML 3.0 Draft 1995
- HTML 3.2
  - WWW Consortium <http://www.w3c.org> ->1996
- HTML 4.0 – 18.12.1997
- HTML 4.01 – 24.12.1999
- HTML 5.0 – octombrie 2014



# HTML 5



- (**Increasing!**) Support in browsers
  - Certain future
- Features
  - **Web Workers**: background threads for processing.
  - **Video**: Video becomes as easy as embedding an image.
  - **Canvas**: allows a web developer to render graphics on the fly.
  - **Application caches**: Web pages will start storing more and more information locally on the visitor's computer.
  - **Geolocation**: Best known for use on mobile devices, geolocation is coming with HTML5.

# XHTML

- bazat pe XML - Extensible Markup Language
- XHTML 1.0 – Ianuarie 2000 o reformulare a HTML 4.01 cu mici corectii pentru concordanta cu regulile XML
- XHTML 1.1 – Mai 2001
- XHTML 2.0 Draft
  - 2008 – versiunea 9
  - lipsit de suport din partea browser-elor
  - nu mentine compatibilitatea in urma cu HTML
  - “expirat” (abandonat)
- XHTML 5.1 Draft
  - in paralel cu HTML 5.0

# HTML/XHTML vs XML

- XML
  - proiectat pentru a **descrie** datele
  - orientat spre **conținutul** datelor respective
  - o metoda de a transmite informațiile **independent** de platforma și hardware
- HTML/XHTML
  - proiectat pentru a **afisa** datele
  - orientat spre **forma** pe un ecran a datelor respective
  - o metoda de a **afisa uniform** datele indiferent de platforma și hardware
  - modern: HTML: structura logica a documentului, CSS: forma efectiva

# HTML/XHTML

- Curs/Laborator/Proiect

- HTML 4.01 – 24.12.1999

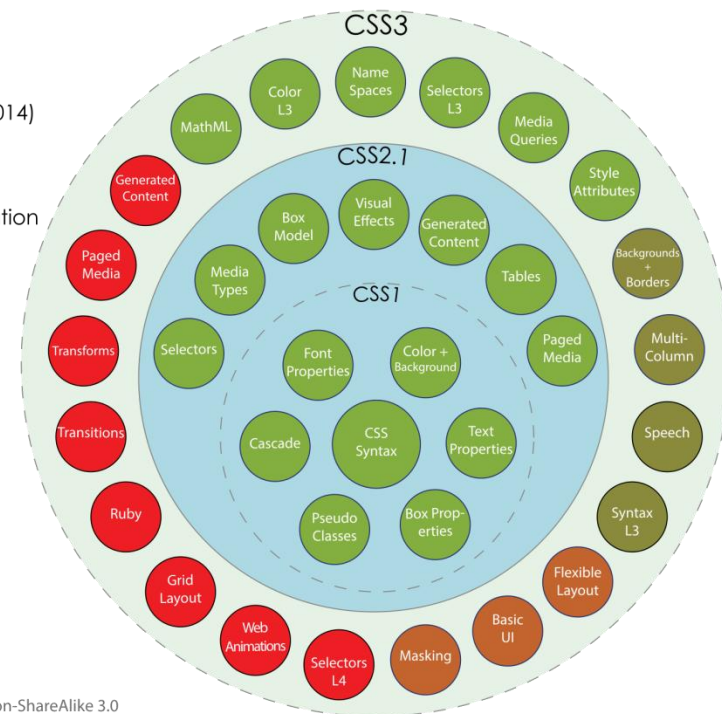
- XHTML 1.1 – Mai 2001

- CSS 2.1 – 2004-2007

## CSS3

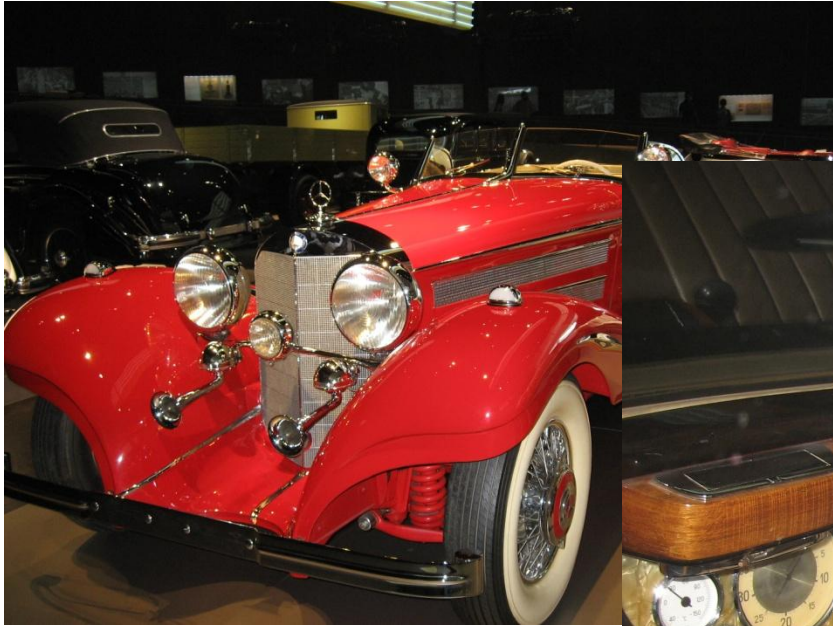
Taxonomy & Status (October 2014)

- W3C Recommendation
- Candidate Recommendation
- Last Call
- Working Draft
- Obsolete or inactive





~1930

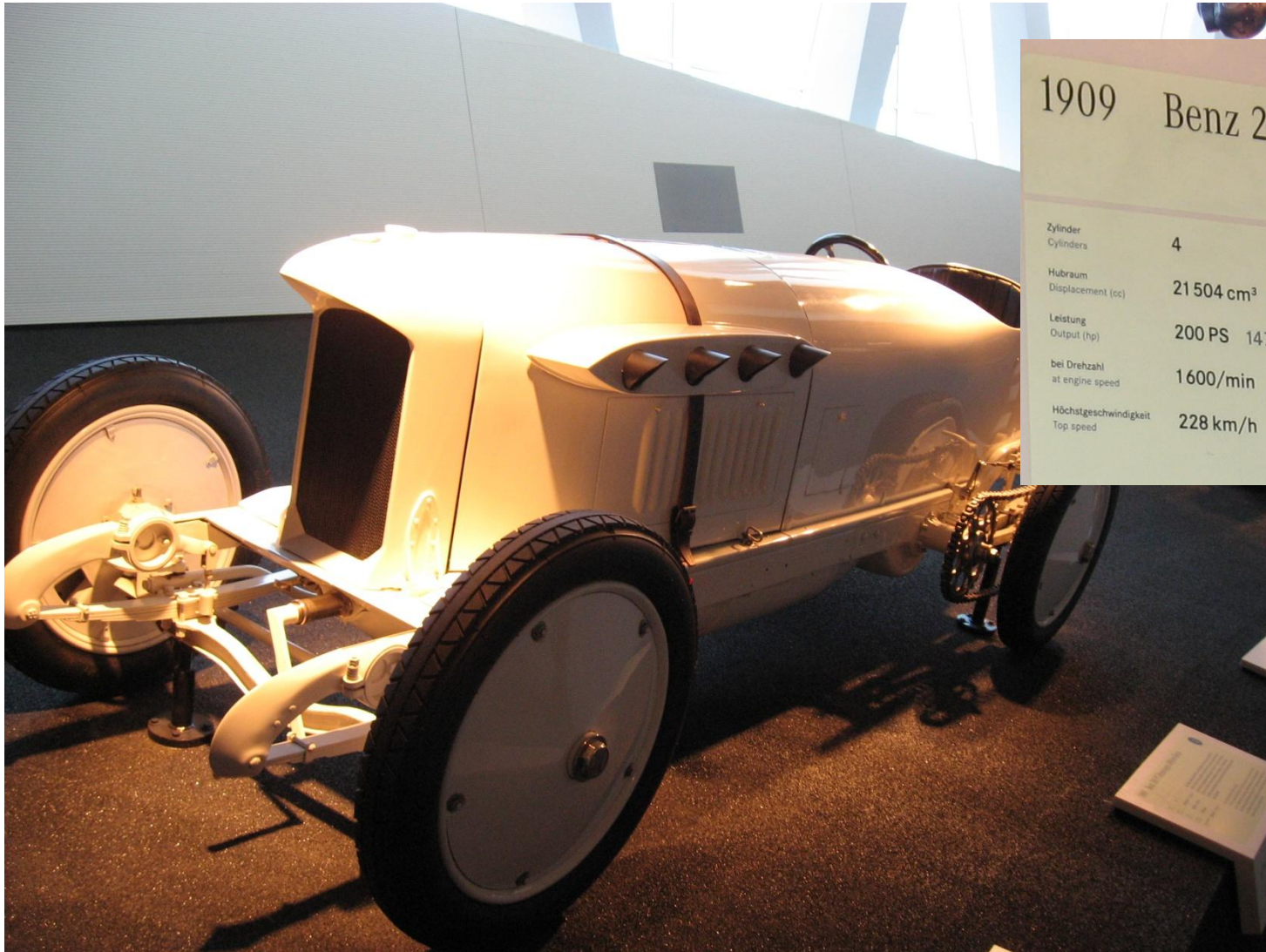


~1930





# 1909



## 1909 Benz 200 PS Rennwagen »Blitzen«

Zylinder Cylinders	4
Hubraum Displacement (cc)	21 504 cm <sup>3</sup> 1 312 cu in
Leistung Output (hp)	200 PS 147 kW
bei Drehzahl at engine speed	1 600/min
Höchstgeschwindigkeit Top speed	228 km/h 142 mph

Der »Blitzen-Benz« ist 1909 der erste 200 km/h fährt. Seine größten Erfolge erzielt er mit dem 2000 cm<sup>3</sup> zylindermotor ausgestattete Rekordwagen Burman mit 228 km/h über die Sahara. Er ist damit das schnellste Fahrzeug der Welt vor jeder Eisenbahn.

Benz »Lightning Benz« 200 hp racing car  
In 1909 the Lightning Benz

# 1930-1950



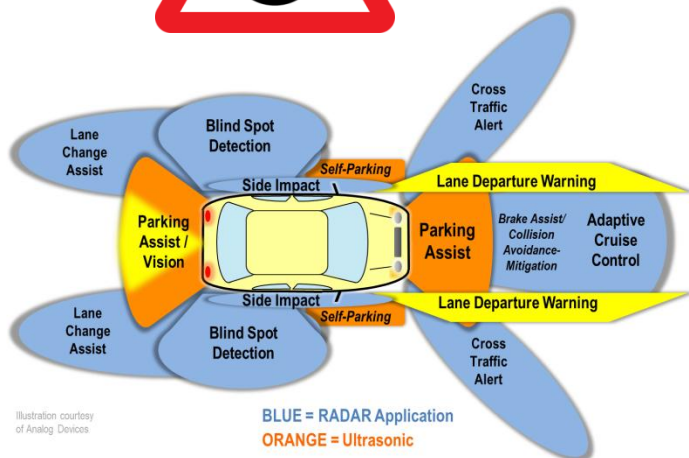


# Tehnologie

> 2010



< 1950



# HTML Concepte 1

- Un document HTML e un document **ASCII** (Notepad) care contine etichete, interpretat si afisat de browser (View Source)
- Tags: etichete, marcaje, `<>`
  - individuale: `<X/>`
    - ex: `<br/>` (`<br>` - HTML)
  - pereche (container): `<X> Continut_oarecare</X>`
    - ex: `<p>Un paragraf</p>`
    - Eticheta **X** afecteaza cu sensul ei modul in care apare pe ecran **Continut\_oarecare**
    - majoritatea etichetelor sunt pereche

# HTML Concepte 2

- Litere mari/mici (Case sensitivity):
  - HTML: indiferent - `<html>=<HTML>=<HtMl>`
  - XHTML: obligatoriu cu litere mici `<html>`
- Comentarii:
  - `<!-- ..... -->`
  - fara `"--"` sau `">"`

# Atribute

- Optiuni ale etichetelor utilizate pentru detalierea efectului etichetei
- Apar in eticheta de inceput in cazul perechilor
  - `<p id="un_id" align="left">ceva </p>`
- Ca si etichetele sunt cuvinte cheie care trebuie respectate (XML permite definirea atributelor dar HTML si XHTML nu)



# HTML Concepte 3

x  
`<x> Continut afectat de x</x>`

Legal in  
XHTML/HTML

x si atrib si val  
`<x atrib="val"> Continut afectat de x si atrib si val </x>`

Legal in  
XHTML/HTML

x  
`<x> Continut <y> Continut afectat de x si y</y> afectat de x</x>`

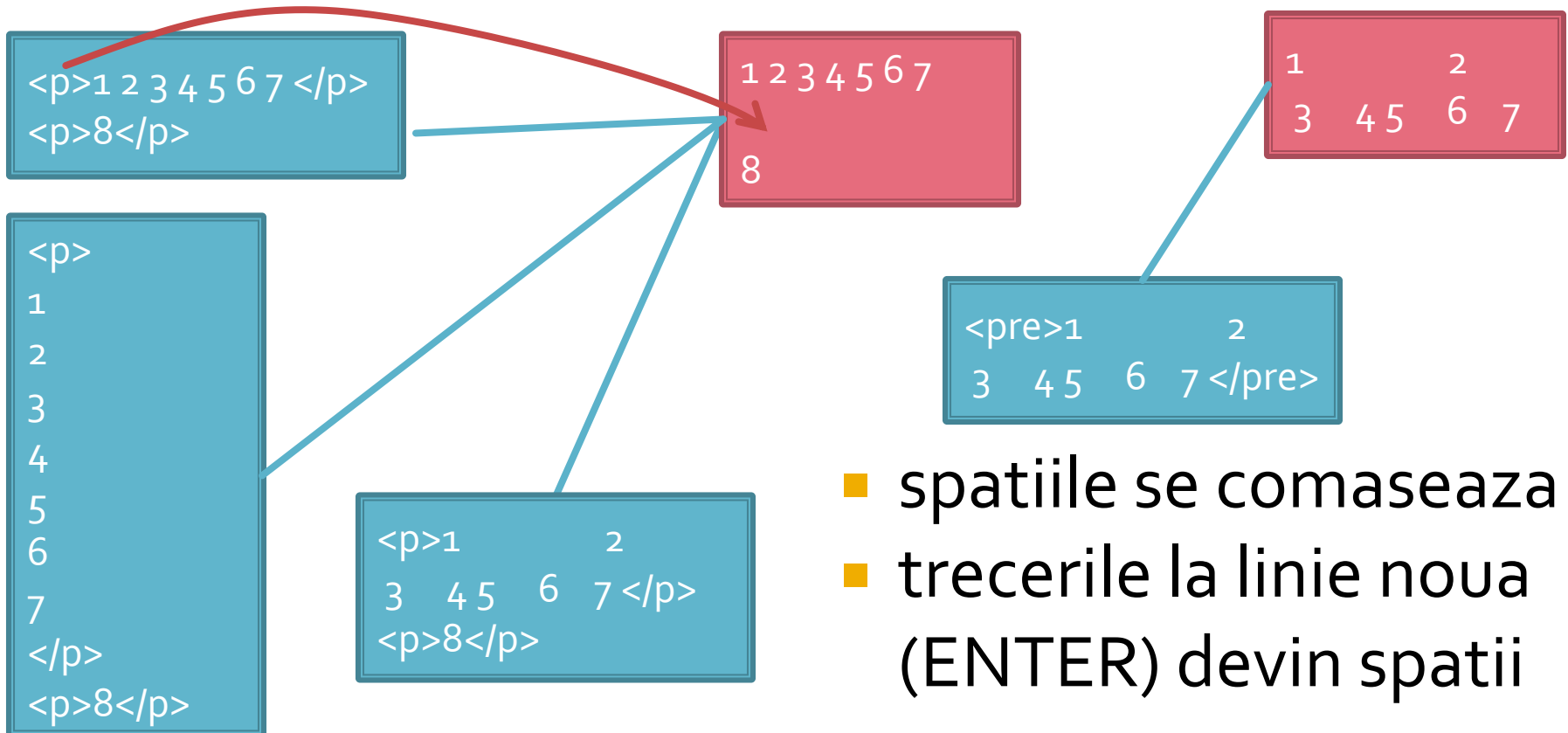
Legal in  
XHTML/HTML

x y  
`<x> C. afectat de x <y> C. afectat de x si y </x> C. afectat de y</y>`  
y

Legal **numai** in  
HTML  
**nerecomandat**

# Formatare

- Nu recunoaste aranjarea documentului ASCII sursa
  - singura exceptie: `<pre>....</pre>`



- spatiile se comaseaza
- trecerile la linie noua (ENTER) devin spatii

# Document HTML minimal

```
<!DOCTYPE .....>
```

```
<html>
```

```
<head>
```

```
....
```

```
</head>
```

```
<body>
```

```
....
```

```
</body>
```

```
</html>
```

```
<!DOCTYPE .....>
```

```
<html>
```

```
<head>
```

```
....
```

```
</head>
```

```
<frameset>
```

```
....
```

```
</frameset>
```

```
</html>
```



# Diferente majore HTML/XHTML

- Incluziunea etichetelor e obligatorie
  - `<X>....<Y>....</Y>.....</X>` 👍
  - `<X>....<Y>....</X>.....</Y>` 👎
- Etichetele trebuie inchise intotdeauna
  - `<p>....</p><p>.... </p>, <br />, <meta .... />` 👍
  - `<p>....<p>....., <br>, <meta .... >` 👎
- Etichetele trebuie scrise cu litere mici
  - `<p>, <br />, <frameset>` 👍
  - `<P>, <BR />, <FrAmesET>` 👎
- Atributele trebuie scrise cu minuscule si valorile lor intre ghilimele
  - `<p align="left">, <table width="100">, <font color="red">` 👍
  - `<p Align="left">, <table width=100>, <font COLOR=red>` 👎
- Toate informatiile trebuie sa apara in interiorul etichetei `<html>... </html>`

HTML

# 1. Structura documentului

---

# Structura unui document HTML

- 1 linie cu informatii despre document
- Documentul: inserat intre `<html>` si `</html>`
  - Antet
    - sectiune declarativa, in general fara efect vizual
    - `<head>` `</head>`
  - Cuprins
    - datele ce se afiseaza pe ecran
    - `<body>` `</body>`
    - `<frameset>` `</frameset>`

# DTD

- Document Type Definition
- Prima linie in orice document HTML conform
  - **HTML 4.0 Strict DTD**
    - `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">`
    - fara elemente depreciate
  - **HTML 4.0 Transitional DTD**
    - `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">`
    - cu elemente depreciate
  - **HTML 4.0 Frameset DTD**
    - `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Frameset //EN" "http://www.w3.org/TR/html4/frameset.dtd">`
    - cu elemente depreciate si cadre (frames)
- **Elemente depreciate** – elemente existente in standard dar “pe cale de disparitie” (nu este recomandata utilizarea lor)

# Document HTML minimal

```
<!DOCTYPE .....>
```

```
<html>
```

```
<head>
```

```
....
```

```
</head>
```

```
<body>
```

```
....
```

```
</body>
```

```
</html>
```

```
<!DOCTYPE .....>
```

```
<html>
```

```
<head>
```

```
....
```

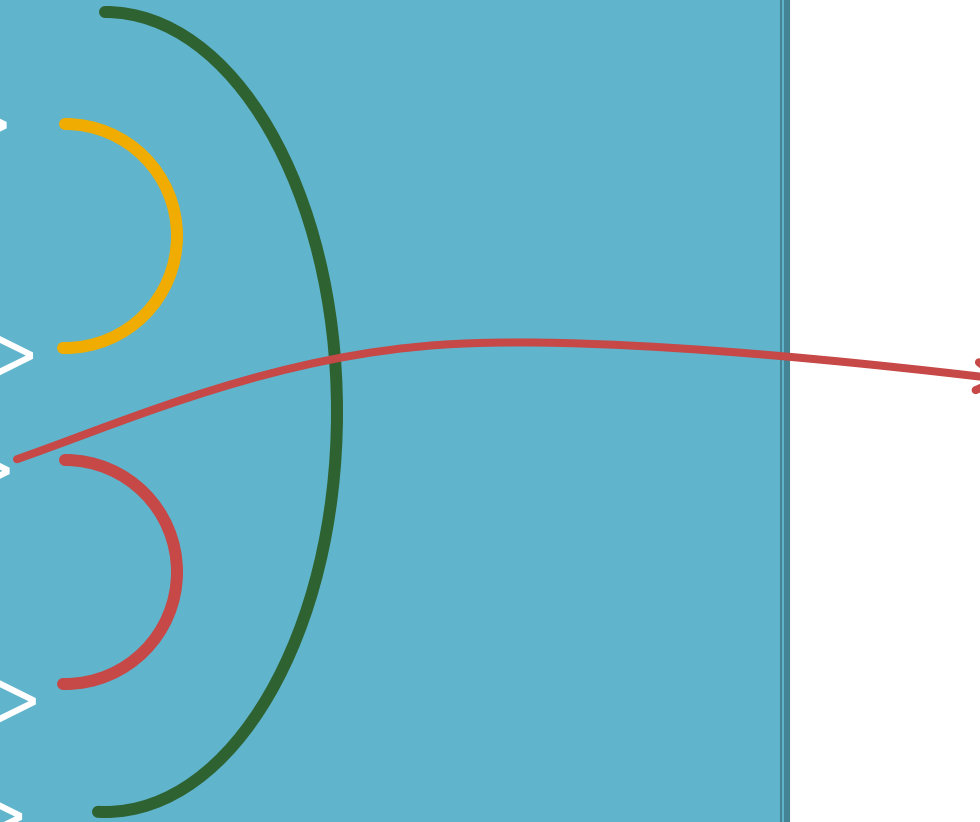
```
</head>
```

```
<frameset>
```

```
....
```

```
</frameset>
```

```
</html>
```





# Sectiunea Antet – HEAD

- `<head>...</head>`
- Atribute:
  - lang: limba documentului `<head lang="ro"> ...`
  - dir: directia de afisare a textului
    - RTL `<head dir="RTL">`
    - LTR: implicit
- Contine
  - Obligatoriu
    - TITLE: `<title>...</title>`
    - META: `<meta ... />`
  - Uzual
    - LINK: `<link ... />`
    - SCRIPT: `<script>...</script>`

# Sectiunea Antet

- TITLE
  - `<title>...</title>`
  - in mod normal **NU** apare pe pagina
  - browser-ele afiseaza tipic titlul respectiv
  - Extrem de important pentru motoarele de cautare
    - Untitled document = ☹️
- LINK
  - `<link ... />`
  - defineste fisierele suport ale documentului necesare pentru afisare corecta: css (stiluri), js (JavaScript)
    - `<link rel="stylesheet" type="text/css" href="ea.css" />`
    - `<link rel="icon" href="favicon.ico" type="image/x-icon" />`
- SCRIPT
  - `<script>...</script>`
  - introducerea "on-line" a script-urilor
    - ```
<script language="JavaScript1.2" type="text/javascript">
<!--
function MM_swapImgRestore() { //v3.0
  var i,x,a=document.MM_sr; for(i=0;a&&i<a.length&&(x=a[i])&&x.oSrc;i++) x.src=x.oSrc;
}
//-->
</script>
```

# Sectiunea Antet - META

- `<meta ... />`
- Specificarea a diverse informatii despre document
- Attribute
  - name:
    - defineste tipul informatiei
    - standard / nestandard
  - http-equiv
    - controlul protocolului HTTP
  - scheme
    - scheme standard
  - content
    - defineste continutul informatiei denumite anterior prin unul din cele trei attribute anterioare

# Sectiunea Antet - META

- `<meta name="Author" content="Radu Damian" />`
- `< meta http-equiv="Expires" content="Tue, 15 Oct 2008 14:25:27 GMT" />`
- `<meta scheme="ISBN" name="identifier" content="0-8230-2355-9" />`
- `<meta name="keywords" content="ceva1, ceva2, ceva3, Romania">`
- `<meta name="description" content="Pagina cu ceva-uri">`
- `<meta name="robots" content="index,follow" />`
- `<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />`
- `<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-5" />`
- `<meta http-equiv="Content-Type" content="image/jpeg" />`
- `<meta http-equiv="Content-Type" content="text/plain" />`

# Sectiunea Cuprins – BODY

- `<body>...</body>`
- Attribute specifice:
  - background: imagine fundal
    - `<body background = "/images/ceva.jpg">...`
  - bgcolor: culoare uniforma de fundal
    - `<body bgcolor="white" > ...`
  - text: culoarea textului
    - `<body text= "red">...`
  - link, vlink, alink: culoare legaturi (general, vizitata, activa)
    - `< body link="red" alink="fuchsia" vlink="maroon"> ...`

# Sectiunea Cuprins – BODY

- Atribute generale:
  - lang
  - dir
  - id: nume individual al elementului
    - utilizat cu script-uri in general, modelul DOM
    - `<p id="un nume dupa care sa il gasesc la nevoie">...`
  - title: informatii despre element
    - tooltip in browser-e
    - `<p title = "ceva despre element">...`
  - class: apartenenta la o clasa cu caracteristici comune
    - utilizat in combinatie cu stiluri: CSS
    - `<p class="numele clasei ale carei caracteristici vizuale le folosesc">...`
  - Evenimente
    - specifice: onload, onunload
    - generale: onclick, ondblclick, onmousedown, onmouseup, onmouseover, onmousemove, onmouseout, onkeypress, onkeydown, onkeyup
    - `<body onload="preloadImages('images/about_f2.gif')">`

# Culori

- Specificarea culorii:
  - nume:
    - `<font color= "black">...`
  - cod numeric - # Rosu (0-256=00-FF), Verde, Albastru
    - `<font color = "#FF0000">...`

|                                                                                     |                     |
|-------------------------------------------------------------------------------------|---------------------|
|    | Black = "#000000"   |
|    | Silver = "#C0C0C0"  |
|   | Gray = "#808080"    |
|  | White = "#FFFFFF"   |
|  | Maroon = "#800000"  |
|  | Red = "#FF0000"     |
|  | Purple = "#800080"  |
|  | Fuchsia = "#FF00FF" |

|                                                                                       |                    |
|---------------------------------------------------------------------------------------|--------------------|
|    | Green = "#008000"  |
|    | Lime = "#00FF00"   |
|   | Olive = "#808000"  |
|  | Yellow = "#FFFF00" |
|  | Navy = "#000080"   |
|  | Blue = "#0000FF"   |
|  | Teal = "#008080"   |
|  | Aqua = "#00FFFF"   |

# Titluri in text (HEADINGS)

- foarte importante pentru motoarele de cautare
- 6 nivele (h1 ÷ h6)
- Atribute:
  - align: alinierea textului = left, center, right, justify
    - <h1 align = "center">...

```
<h1>Titlu H1</h1>
<p>paragraf text normal</p>
<h2>Titlu H2</h2>
<p>paragraf text normal</p>
<h3>Titlu H3</h3>
<p>paragraf text normal</p>
<h4>Titlu H4</h4>
<p>paragraf text normal</p>
<h5>Titlu H5</h5>
<p>paragraf text normal</p>
<h6>Titlu H6</h6>
<p>paragraf text normal</p>
```

## Titlu H1

paragraf text normal

## Titlu H2

paragraf text normal

## Titlu H3

paragraf text normal

## Titlu H4

paragraf text normal

## Titlu H5

paragraf text normal

## Titlu H6

paragraf text normal



# Elemente de grupare

- utilizate pentru gruparea unor elemente in scopul aplicarii unei actiuni comune
- `<span>...</span>`
  - actiune "in-line" : grupul e tratat similar cu un caracter
- `<div>...</div>`
  - actiune "block-level" : grupul e tratat similar cu un paragraf
- nu ofera formatare proprie si nici attribute specifice
- **Esentiale** in cooperarea cu **CSS**
- Attribute:
  - id, class
  - align

# Elementul ADDRESS

- `<address>...</address>`
- specificarea posibilitatilor de contact ale autorilor
- de obicei reprezentat *italic* (inclinat)

```
< address >  
<a href=" ../People/Raggett/">Dave Raggett</a>,  
<a href=" ../People/Arnaud/">Arnaud Le Hors</a>,  
contact persons for the <a href="Activity">W3C HTML  
Activity</a><br/>  
$Date: 1999/12/24 23:37:50 $  
</ address >
```

HTML

## 2. Aranjarea textului

---

# 2.1. Text structurat

- `<em>...</em>`: evidentiere
  - de obicei italic
- `<strong>...</strong>`: evidentiere suplimentara
  - de obicei bold (ingrosat)
- `<cite>...</cite>`: citat
- `<dfn>...</dfn>` : definitii
- `<code>...</code>` : programe
- `<samp>...</samp>` : rezultat al programelor
- `<kbd>...</kbd>` : introducere de la tastatura
- `<var>...</var>` : variabile
- `<abbr>...</abbr>` : abrevieri
- `<acronym>...</acronym>` : acronime
- **depreciate**: `<b>...</b>`, `<i>...</i>`

*EM* `<em>`

**STRONG** `<strong>`

*CITE* `<cite>`

*DFN* `<dfn>`

CODE `<code>`

SAMP `<samp>`

KBD `<kbd>`

*VAR* `<var>`

ABBR `<abbr>`

ACRONYM `<acronym>`

# 2.1. Text structurat

- Citate
  - `<blockquote>...</blockquote >`: citat la nivel de bloc
    - de obicei reprezentat cu margine (indent)
  - `<q>...</q>` : citat in-line
    - de obicei incadrat in ghilimele sau apostroafe
  - Atribut: cite = "adresa la care se gaseste documentul citat"
- Indici/puteri
  - `<sub>...</sub>` : indici
  - `<sup>...</sup>` : puteri

Paragraf Normal

They went in single file, running like hounds on a strong scent, and an eager light was in their eyes. Nearly due west the broad swath of the marching Orcs tramped its ugly slot; the sweet grass of Rohan had been bruised and blackened as they passed.

John said, "I saw Lucy at lunch, she told me 'Mary wants you to get some ice cream on your way home.' I think I will get some at Ben and Jerry's, on Gloucester Road."

H<sub>2</sub>O

10<sup>3</sup>

```
<p>Paragraf Normal</p>
<blockquote cite="http://www.mycom.com/tolkien/twotowers.html">
<p>They went in single file, running like hounds on a strong scent,
and an eager light was in their eyes. Nearly due west the broad
swath of the marching Orcs tramped its ugly slot; the sweet grass
of Rohan had been bruised and blackened as they passed.</p>
</blockquote>
<p>John said, <q lang="en-us">I saw Lucy at lunch, she told me
<q lang="en-us">Mary wants you to get some ice cream on your way
home.</q> I think I will get some at Ben and Jerry's, on Gloucester
Road.</q></p>
<p>H<sub>2</sub>O</p>
<p>10<sup>3</sup></p>
```

## 2.2. Linii si paragrafe

- paragraf : `<p>...</p>`
  - attribute:
    - align = "left, center, right, justify"
- linie noua : `<br />`
  - attribute:
    - clear = "none, left, right, all"
  - evitarea aparitiei unei linii noi:
    - nonbreaking space: `&nbsp;`, `&#160;`, `&#xA0;`
- despartire in silabe:
  - Hard: `&#45;`, `&#x2D`
  - Soft: `&shy;`, `&#173;`, `&#xAD;`
- respectarea organizarii sursei: `<pre>...</pre>`

```
*****  -----
|          |  -----
|  image  |  --<br>
|          |  -----
*****  -----
-----

*****  -----
|          |  -----
|  image  |  --<br>
|          |  -----
*****  -----
-----
```

## 2.3. Marcarea modificarilor

- inserare : `<ins>...</ins>`
  - uzual reprezentat subliniat
  - attribute (nonvizuale):
    - cite = "adresa eventualului document care explica corectia"
    - datetime = "data/timpul" la care a aparut modificarea
- eliminare : `<del>...</del>`
  - uzual reprezentat taiat
  - aceleasi attribute

```
<p>O grupa poate avea <del>25</del> <ins>45</ins>  
studenti.</p>
```

O grupa poate avea ~~25~~ 45 studenti.

# Coduri 1

ASCII			HTML	HTML	
Dec	Hex	Symbol	Number	Name	Description
160	A0		&#160;	&nbsp;	non-breaking space
161	A1	¡	&#161;	&iexcl;	inverted exclamation mark
162	A2	¢	&#162;	&cent;	cent sign
163	A3	£	&#163;	&pound;	pound sign
164	A4	¤	&#164;	&curren;	currency sign
165	A5	¥	&#165;	&yen;	yen sign
166	A6	¦	&#166;	&brvbar;	broken vertical bar
167	A7	§	&#167;	&sect;	section sign
168	A8	¨	&#168;	&uml;	spacing diaeresis - umlaut
169	A9	©	&#169;	&copy;	copyright sign
170	AA	ª	&#170;	&ordf;	feminine ordinal indicator
171	AB	«	&#171;	&laquo;	left double angle quotes
172	AC	¬	&#172;	&not;	not sign
173	AD	-	&#173;	&shy;	soft hyphen
174	AE	®	&#174;	&reg;	registered trade mark sign
175	AF	ˉ	&#175;	&macr;	spacing macron - overline



# Coduri 2

ASCII			HTML	HTML	
Dec	Hex	Symbol	Number	Name	Description
176	B0	°	&#176;	&deg;	degree sign
177	B1	±	&#177;	&plusmn;	plus-or-minus sign
178	B2	²	&#178;	&sup2;	superscript two - squared
179	B3	³	&#179;	&sup3;	superscript three - cubed
180	B4	´	&#180;	&acute;	acute accent - spacing acute
181	B5	µ	&#181;	&micro;	micro sign
182	B6	¶	&#182;	&para;	pilcrow sign - paragraph sign
183	B7	·	&#183;	&middot;	middle dot - Georgian comma
184	B8	¸	&#184;	&cedil;	spacing cedilla
185	B9	¹	&#185;	&sup1;	superscript one
186	BA	º	&#186;	&ordm;	masculine ordinal indicator
187	BB	»	&#187;	&raquo;	right double angle quotes
188	BC	¼	&#188;	&frac14;	fraction one quarter
189	BD	½	&#189;	&frac12;	fraction one half
190	BE	¾	&#190;	&frac34;	fraction three quarters
191	BF	¿	&#191;	&iquest;	inverted question mark

# Coduri 3

ASCII			HTML	HTML	
Dec	Hex	Symbol	Number	Name	Description
34	22	"	&#34;	&quot;	double quotes
38	26	&	&#38;	&amp;	ampersand
60	3C	<	&#60;	&lt;	less than sign
63	3E	>	&#62;	&gt;	greater than sign

HTML

# 3. Liste

---

# 3.1. Liste neordonate/ordonate, elemente

- Liste neordonate `<ul>...</ul>`
- Liste ordonate `<ol>...</ol>`
- Element in lista `<li>...</li>`
- Atribute:
  - `type = "tip lista"`
    - UL tip lista : "disc, circle, square"
    - OL tip lista : "1, a, A, i, I"
  - `start = "numarul de la care porneste lista" (OL)`
  - `value = "fortarea numarului curent" (LI)`

# 3.1. Liste neordonate

```
<ul>
<li>Primul element</li>
<li>Al doilea element</li>
<li>Al treilea element</li>
<li>Al patrulea element</li>
</ul>
```

- Primul element
- Al doilea element
- Al treilea element
- Al patrulea element

```
<ul type="circle">
<li>Primul element</li>
<li>Al doilea element</li>
<li>Al treilea element</li>
<li>Al patrulea element</li>
</ul>
```

- Primul element
- Al doilea element
- Al treilea element
- Al patrulea element

# 3.1. Liste ordonate

```
<ol>  
<li>Primul element</li>  
<li>Al doilea element</li>  
<li>Al treilea element</li>  
<li>Al patrulea element</li>  
</ol>
```

1. Primul element
2. Al doilea element
3. Al treilea element
4. Al patrulea element

```
<ol type="i">  
<li>Primul element</li>  
<li>Al doilea element</li>  
<li>Al treilea element</li>  
<li>Al patrulea element</li>  
</ol>
```

- i. Primul element
- ii. Al doilea element
- iii. Al treilea element
- iv. Al patrulea element

# 3.1. Liste ordonate

```
<ol type="A" start="5">  
<li>Primul element</li>  
<li>Al doilea element</li>  
<li>Al treilea element</li>  
<li>Al patrulea element</li>  
</ol>
```

- E. Primul element
- F. Al doilea element
- G. Al treilea element
- H. Al patrulea element

```
<ol type="I" start="5">  
<li>Primul element</li>  
<li>Al doilea element</li>  
<li value="15">Al treilea element</li>  
<li>Al patrulea element</li>  
</ol>
```

- V. Primul element
- VI. Al doilea element
- XV. Al treilea element
- XVI. Al patrulea element

# 3. Liste

The screenshot displays a website interface with the following elements:

- Language Selection:** English | Romana
- Primary Navigation:** Main | Courses | Master | Staff | Research | Students
- Secondary Navigation:** Radiocommunication Systems | Microwave IC | Web Design
- Horizontal Menu:** Start | Societati | Servicii | Informatii | Contact
- Breadcrumbs:** Informatii | [Mediu](#) | [Link-uri](#) | [Lista paginilor](#)
- Left Sidebar:**
  - Start
  - Didactic
  - Master
  - Colectiv
  - Cercetare
  - Studenti
    - Note
    - Laborator
    - Fotografii
- Right Sidebar:**
  - industrie
  - BUN VENIT
  - Societate
    - Prezentare
    - Detalii financiare
  - Contact
    - Contact
  - Telefon/Fax
    - Telefon:
    - Fax:
    - Mobil (recomandat):
  - Internet
    - Web:
    - E-mail:
    - IM:
- Footer:** industrie | software | suport | oferta | contact
- Language Selection:** Romana | English



## 3.2. Liste de definitii

- Liste de definitii <dl>...</dl>
- Termenul definit <dt>...</dt>
- Definitia termenului anterior <dd>...</dd>
- Atributele standard: id, lang, title, style etc.
- Reprezentare vizuala: definitia e "indent-ata"

```
<dl>
<dt><strong>Termen 1</strong></dt>
<dd>Definitia 1</dd>
<dt><strong>Termen 2</strong></dt>
<dd>Definitia 2</dd>
<dt><strong>Termen 3</strong></dt>
<dd>Definitia 3</dd>
</dl>
```

```
Termen 1
  Definitia 1
Termen 2
  Definitia 2
Termen 3
  Definitia 3
```

HTML

# 4. Aliniere, font-uri, linii de separare

---

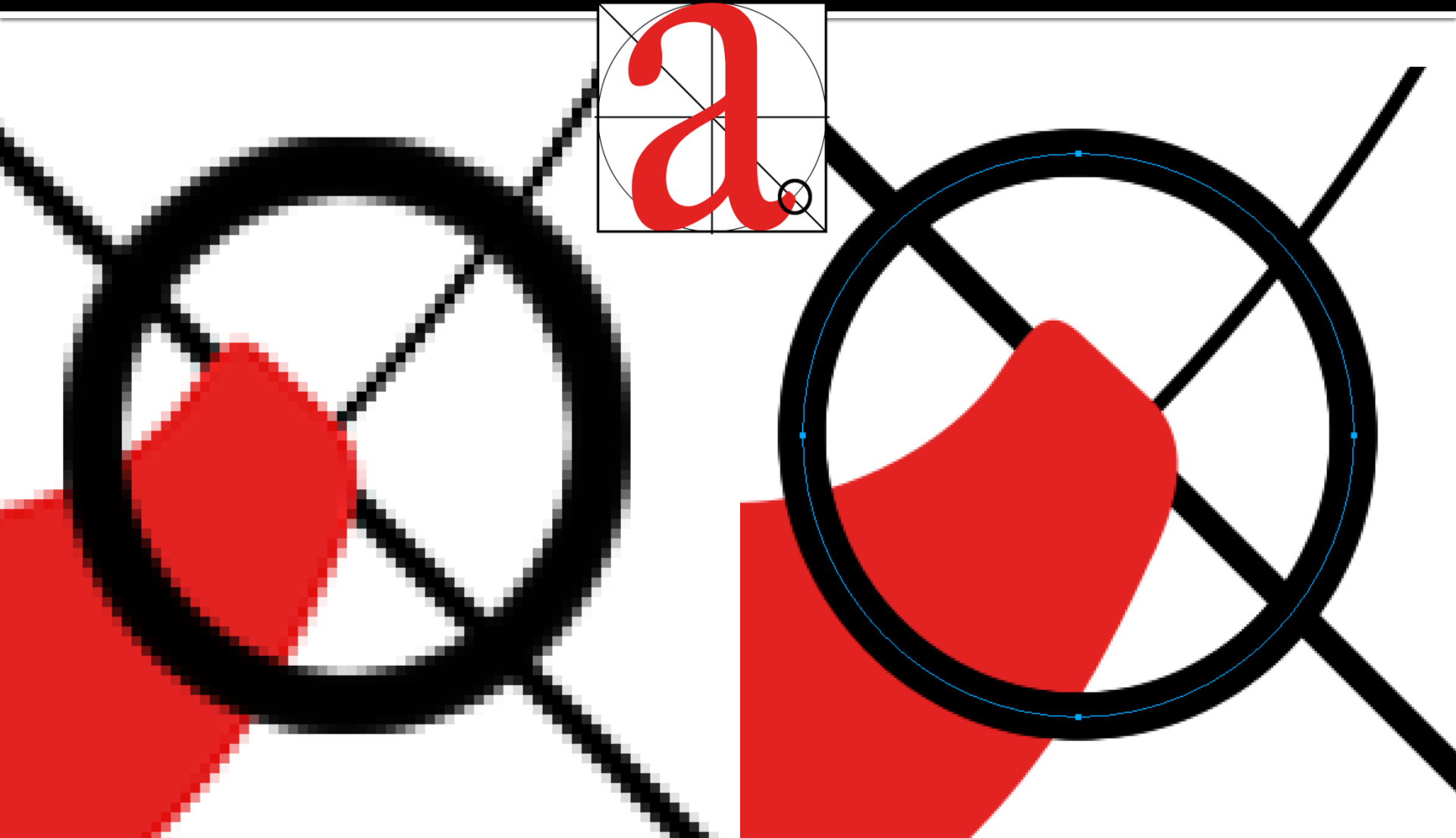
# 4.1. Aliniere si fundal

- 4.1.1. Culoare de fundal,
  - valabil pentru body si td (celula de tabel)
  - atribut: bgcolor
    - `<td bgcolor="#232323">...</td>`
- 4.1.2. Aliniere
  - valabil pentru toate elementele cu structura bloc
  - atribut align = "left | center | right | justify"
    - `<div align = "right"> ... , <p align = "left">... , <table align = "center"> ... etc.`

## 4.2. Font

- Definitie: Font = desenul (forma grafica) a caracterului
- Fonturi
  - Outline font (True type) = desen vectorial, curbe Bezier - scalarea pastreaza calitatea maxima
  - Bitmap font = harta de pixeli – scalarea duce la aparitia artifactelor

# True Type - Bitmap



# Font

- desen de caractere

F

Sans-serif

F

Serif

Generic	Familie	Descriere
Serif	Times New Roman Georgia	Apar mici linii la terminatia anumitor caractere
Sans-serif	Arial Verdana	Fara liniute la sfarsit de caracter
Monospace	Courier New Lucida Console	Latime constanta a caracterelor

# 4.2. Web safe font

- Fonturi definite de CSS
  - sans-serif
  - serif
  - monospace
  - cursive
  - fantasy
- Fonturi safe Microsoft
  - Arial
  - Courier New
  - Georgia
  - Times New Roman
  - Verdana
  - Trebuchet MS
  - Lucida Sans

sans-serif  
serif  
monospace  
cursive  
*fantasy*

Arial  
Courier New  
Georgia  
Times New Roman  
Verdana  
Trebuchet MS  
Lucida Sans

## 4.2.1. Font – elemente de stil

- `<tt>...</tt>` : masina de scris (latime fixa)
- `<i>...</i>` : italic (inclinat)
- `<b>...</b>` : bold (ingrosat)
- `<big>...</big>` : dimensiune ceva mai mare
- `<small>...</small>` : dimensiune ceva mai mica
- `<strike>...</strike>` : taiat : depreciat
- `<u>...</u>` : subliniat: depreciat

```
<p>text normal, <b>bold</b>, <i>italic</i>,  
<b><i>bold italic</i></b>,<br/>  
<tt>teletype text</tt>, <big>big</big>,  
<small>small</small>, <br/>  
<strike>strike</strike>,  
<u>underline</u>.</p>
```

text normal, **bold**, *italic*, ***bold italic***,  
teletype text, **big**, small,  
~~strike~~, underline.



## 4.2.2. FONT si BASEFONT

- `<font>...</font>`, `<basefont />`
- contine modificatori al desenului de caracter
- atribute:
  - `size` : dimensiunea
    - absolut  $1 \div 7$
    - relativ  $-4 \div +4$  (fata de cea implicita, 3, sau cea indicata cu `basefont`)
  - `color` = "culoare"
  - `face`: desenul de caractere de folosit, in ordinea preferintei
    - fonturile ale caror nume contin spatii (Times New Roman) se scriu intre ghilimele
    - e recomandabil ca macar pe ultima pozitie sa apara unul din fonturile web-safe CSS

# 4.2.2. FONT si BASEFONT

- Exemple
  - `<basefont size="2">`
  - `<font color="red">text rosu</font>`
  - `<font size="+1">echiv. cu big</font>`
  - `<font size="-1">echiv. cu small</font>`
  - `<font face="Arial,'Times New Roman', sans-serif">un text</font>`
    - se utilizeaza Arial
    - daca Arial nu exista se utilizeaza Times New Roman
    - daca nici Times New Roman nu exista se utilizeaza sans-serif
    - daca nici sans-serif nu exista se utilizeaza fontul implicit in browser

## 4.2.2. FONT si BASEFONT

```
<p><font size="1">size=1</font>  
<font size="2">size=2</font>  
<font size="3">size=3</font>  
<font size="4">size=4</font><br/>  
<font size="5">size=5</font>  
<font size="6">size=6</font>  
<font size="7">size=7</font></p>
```

size=1 size=2 size=3 size=4

size=5 size=6 **size=7**

```
<p><font size="-4">size=-4</font>  
<font size="-3">size=-3</font>  
<font size="-2">size=-2</font>  
<font size="-1">size=-1</font>  
<font size="+1">size=+1</font><br/>  
<font size="+2">size=+2</font>  
<font size="+3">size=+3</font>  
<font size="+4">size=+4</font></p>
```

size=4 size=3 size=2 size=-1 size=+1

size=+2 size=+3 **size=+4**

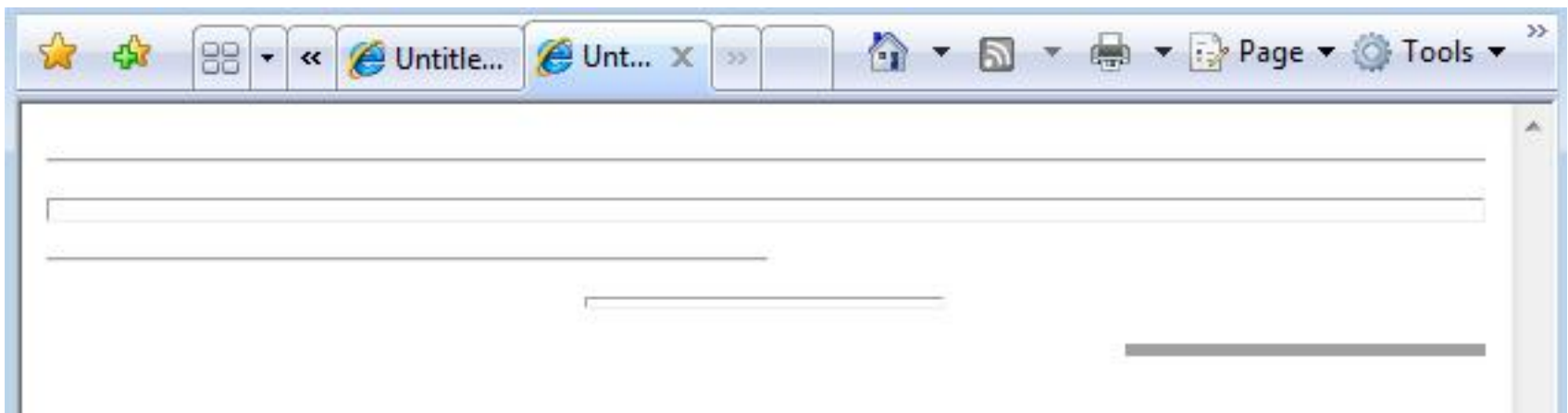
# Dimensiunile in CSS

- relativ la dimensiunea implicita in browser
  - xx-small, x-small, small, medium, large, x-large, xx-large (implicit medium)
- relativ la dimensiunea din blocul parinte
  - smaller, larger
- absolute
  - in, cm, mm, pt (1 point = 1/72 in), pc (1 pica = 12 pt)
- relative
  - em, ex – relative la dimensiunea in blocul parinte
    - un cuvânt cu dimensiunea 2em = dimensiunea de 2 ori mai mare decat a textului din acel paragraf
    - precizie mai buna, valori fractionare permise (1.25em, 0.85em etc.)
  - px (pixeli) dependent de dispozitivul de afisare

# 4.3. Linii orizontale

- `<hr/>`
- attribute:
  - align = "left | center | right"
  - noshade = "noshade"
  - size: inaltimea in pixeli
  - width: latimea (implicit 100%)

```
<hr />  
<hr size="10" />  
<hr align="left" width="50%" />  
<hr align="center" width="25%" size="5" />  
<hr align="right" width="25%"  
noshade="noshade" size="5" />
```



HTML

# 5. Tabele

---

# 5.1. TABLE

- `<table>...</table>`
- definește o zonă în care alte date vor fi așezate sub formă de tabel (linii și coloane rectangulare)
- attribute:
  - `summary = "text de descriere"`
  - `align = "left | center | right"`
  - `width = "latime în pixeli sau procente"`
    - `width = "50"`
    - `width = "75%"`
  - `border = "latimea liniilor despartitoare în pixeli"`
  - altele: `id`, `class`, `title`, `bgcolor` etc.

# 5.1. TABLE

- in lipsa indicatiilor relative la dimensionare (width si altele) browser-ul decide dimensiunea tabelului **numai** in functie de datele continute
  - pentru aceasta trebuie sa astepte primirea **tuturor** datelor din tabel
- <table> **nu are efect vizual** de sine statator
  - e folosit doar in calitate de container pentru **linii**, care vor contine **celule**, care vor contine efectiv **datele**
- este preferat pentru realizarea impartirii paginii in zone fata de <frame>... </frame>
  - <frame> dispare in HTML5
  - CSS e conceput pentru a inlocui aceasta utilizare a tabelelor



## 5.2. CAPTION

- `<caption>...</caption>`
- definește titlul tabelului
- poate apare numai:
  - imediat după definirea tabelului `<table>`
  - o singură etichetă pentru fiecare tabel
- attribute:
  - `align = "top | bottom | left | right"`

## 5.3. Grupuri de linii

- `<thead>...</thead>` : antetul tabelului
- `<tfoot >...</tfoot >` : subsolul tabelului
- `<tbody>...</tbody>` : corpul tabelului
- `<tbody>` poate apărea de mai multe ori definind gruparea datelor
- `<thead>` și `<tfoot>` pot apărea o singură dată, imediat după `<table>` și eventual `<caption>`
- toate grupurile trebuie să conțină macar o singură linie (`<tr>`)
- **scopul** este de a ajuta browser-ul să afișeze și să imprime corespunzător tabelele mari
  - suportul browser-elor este **deficitar**

## 5.3. Grupuri de linii

```
<table>
<caption> </caption>
<thead>
    <tr> ...header information...
</thead>
<tfoot>
    <tr> ...footer information...
</tfoot>
<tbody>
    <tr> ...first row of block one data...
    <tr> ...second row of block one data...
</tbody>
<tbody>
    <tr> ...first row of block two data...
    <tr> ...second row of block two data...
</tbody>
</table>
```

## 5.4. Grupuri de coloane

- `<colgroup>...</colgroup>` definește un grup de coloane
- `<col />` definește o coloană individuală
- definesc numărul de coloane și dimensionarea acestora în avans
- **scopul** este de a permite afișarea **incrementală**
- suport limitat în browser-e
- attribute:
  - `span` = "numărul de coloane", implicit 1
  - `width` = "lățime"
  - `align` = "left | center | right | justify | char"
  - `char` = "caracterul la care se face alinierea" , ( `.` sau ` , ` )
  - `charoff` = "poziționarea caracterului special"

# 5.4. Grupuri de coloane

- Latimea coloanelor (si a celulelor)
  - pixeli : width = "50"
  - procentaj : width = "50%"
  - relativ : width = "nr \*"
    - col 1: width = "\*"; col2: width = "2\*"; col3: width = "3\*"
    - browser-ul calculeaza cat va reprezenta "\*" si multiplica corespunzator latimile celorlalte coloane
  - "0\*" : minimul necesar pentru reprezentarea datelor

# 5.4. Grupuri de coloane

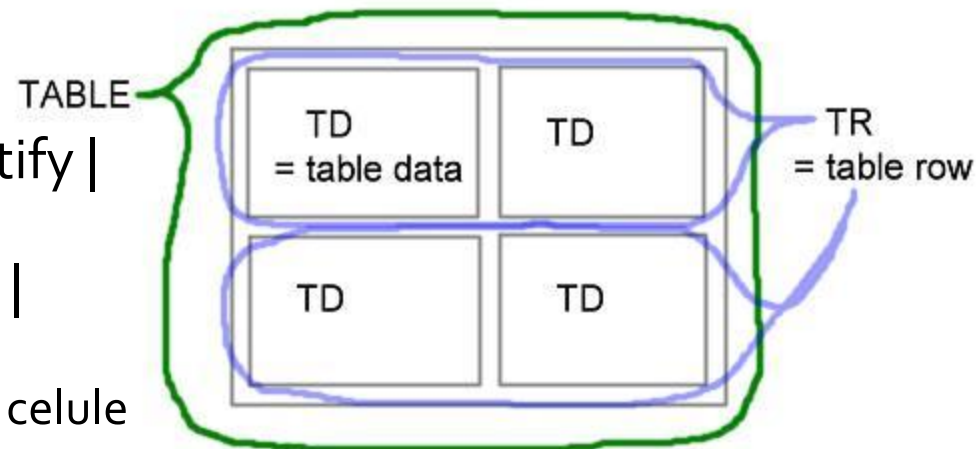
```
<table>
<colgroup>
  <col width="30">
</colgroup>
<colgroup>
  <col width="30">
  <col width="0*">
  <col width="2*">
</colgroup>
<colgroup align="center">
  <col width="1*">
  <col width="3*" align="char" char=":">
</colgroup>
<thead>
  <tr><td> ... ..rows...
</thead>
</table>
```

- se aloca mai intai 30 px pentru prima si a doua coloana
- apoi minimul necesar pentru coloana 3
- dimensiunea ramasa se imparte la 6 ( $2^*+1^*+3^*$ ) pentru a afla valoarea elementara "\*"
- se calculeaza latimile corespunzatoare ale coloanelor

# 5.5. Linii

- `<tr>...</tr>` ("table row")
- definește o linie în tabel
- fără efect vizual, este un container **necesar și obligatoriu** pentru celulele tabelului

- atribute:
  - `bgcolor` = "culoare"
  - `align` = "left | center | right | justify | char"
  - `valign` = "top | middle | bottom | baseline"
    - alinierea pe verticala a datelor în celule
    - implicit: "middle"
  - altele: `id`, `class`, `title`, `style` etc.

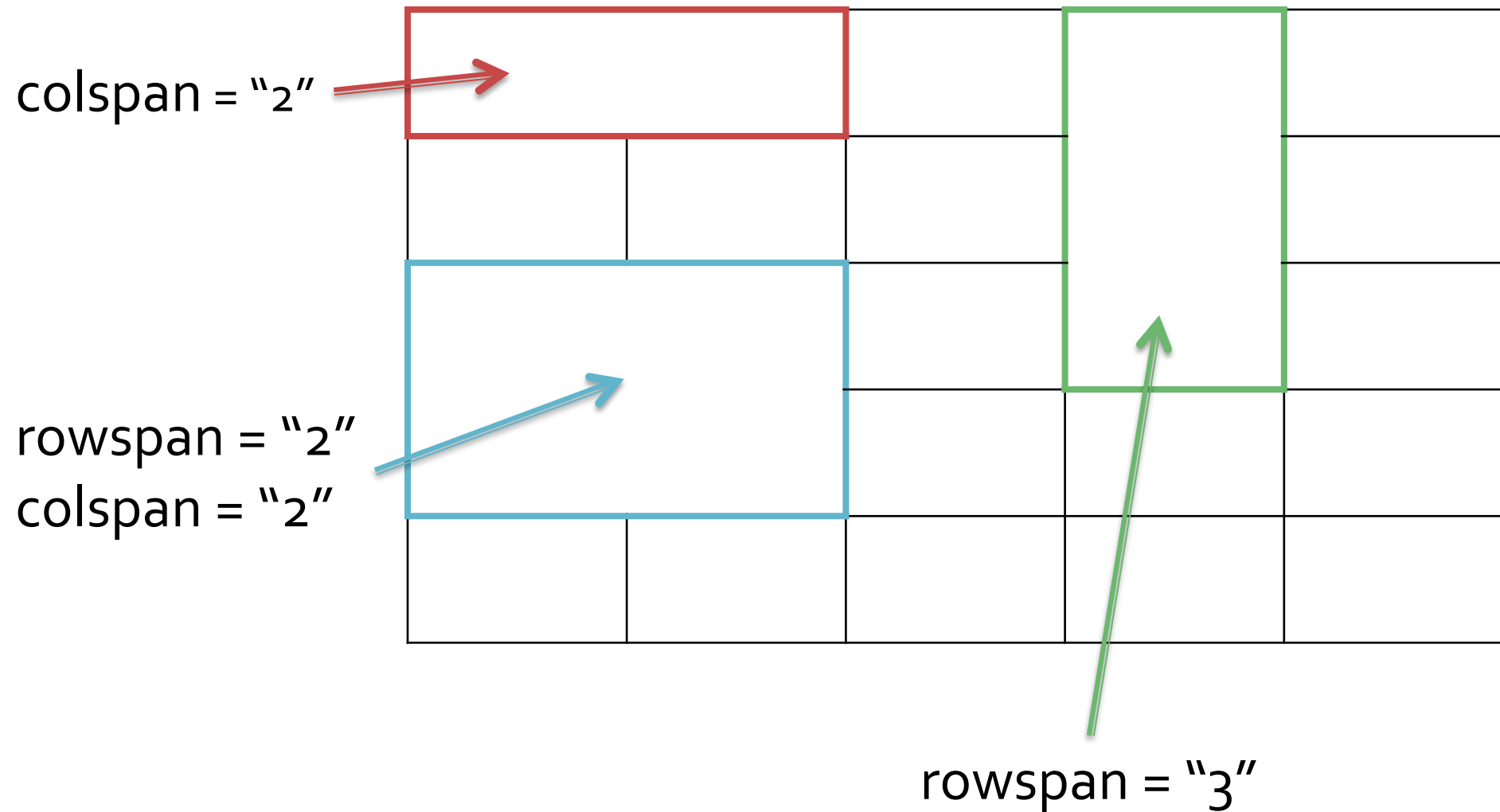


# 5.6. Celule

- `<td>...</td>` ("table data")
  - `<th>...</th>` ("table header") – bold si align = "center"
- defineste o celula, care va contine datele efective
- attribute:
  - rowspan = "numar"
    - implicit: 1
    - numarul de linii pe care se intinde celula ("merge cells" pe verticala)
  - colspan = "numar"
    - implicit: 1
    - numarul de coloane pe care se intinde celula ("merge cells" pe orizontala)



# Rowspan si colspan



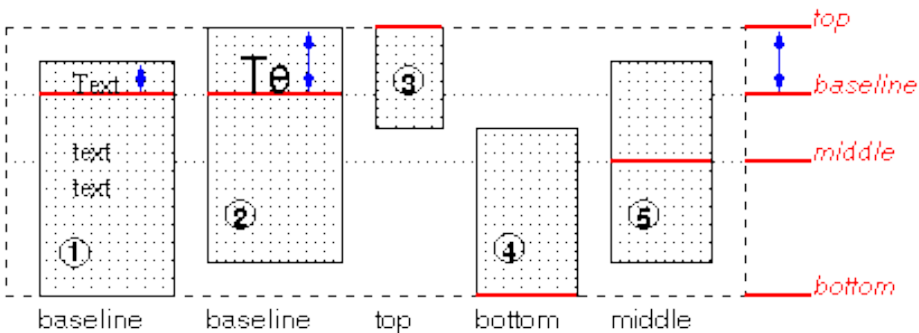
# 5.6. Celule

- attribute:
  - align = "left | center | right | justify | char"
  - char = "character", implicit: "."
  - valign = "top | middle | bottom | baseline"
  - nowrap = "nowrap"
  - width = "latime", height = "inaltime"
  - informatii despre celula – suport limitat
    - headers = "nume (id = ...) separate de spatiu"
    - scope = "row | col | rowgroup | colgroup"
    - abbr = "text scurt"
  - altele: id, class, title, bgcolor, style etc.

# 5.7. Chenare

- se aplica ca atribut la `<table>...</table>`
- attribute:
  - `frame = "void | above | below | hside | lside | rside | vside | box | border"`; pentru **exterior**
    - `void` = fara; `box, border` = toate
    - `above/below/lside/rside` = o singura linie
    - `hside/vside` = 2 linii (orizontale/verticale)
  - `rules = "none | groups | rows | cols | all"`; pentru **interior**
    - `none` = fara; `all` = toate
    - `rows/cols` = numai intre linii/coloane
    - `groups` = intre grupurile de linii/coloane
  - `border = "latime in pixeli"`
    - `border = "0"` echiv. cu `frames = "void"` `rules = "none"`
    - `border = "orice inafara de 0"` echiv. cu `frames = "border"` `rules = "all"`

# 5.8.1. Aliniere verticala



```

<table border="1">
<tr valign="aliniere">
<td><font size="+3">rand 1</font></td>
<td><font size="+2">rand 1</font><br
/>rand 2</td>
<td>rand 1<br />rand 2<br />rand 3</td>
<td>rand 1<br />rand 2<br />rand 3<br
/>rand 4</td>
</tr>
</table>

```

aliniere	efect			
top	rand 1	rand 1 rand 2	rand 1 rand 2 rand 3	rand 1 rand 2 rand 3 rand 4
middle	rand 1	rand 1 rand 2	rand 1 rand 2 rand 3	rand 1 rand 2 rand 3 rand 4
bottom	rand 1	rand 1 rand 2	rand 1 rand 2 rand 3	rand 1 rand 2 rand 3 rand 4
baseline	rand 1	rand 1 rand 2	rand 1 rand 2 rand 3	rand 1 rand 2 rand 3 rand 4

## 5.8.2. Aliniere orizontala

- align = "char" nu este implementat de nici un browser actual
- align = "justify" nu este respectat de Internet Explorer

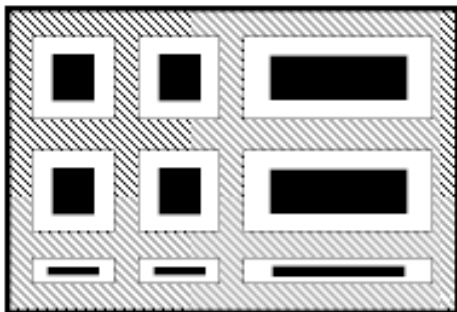
```
<table border="1"><tr>
<td width="150" align="left">0.1<br />10000<br />0.00005<br />linie_cu_text mai_lung
care_se desparte pe_trei_randuri</td>
<td width="150" align="right">_._._</td>
<td width="150" align="center">_._._</td>
<td width="150" align="justify">_._._</td>
<td width="150" align="char" char=".">_._._</td>
</tr></table>
```


0.1	0.1	0.1	0.1	0.1
10000	10000	10000	10000	10000
0.00005	0.00005	0.00005	0.00005	0.00005
linie_cu_text mai_lung	linie_cu_text mai_lung	linie_cu_text mai_lung	linie_cu_text mai_lung	linie_cu_text mai_lung
care_se desparte	care_se desparte	care_se desparte	care_se desparte	care_se desparte
pe_trei_randuri	pe_trei_randuri	pe_trei_randuri	pe_trei_randuri	pe_trei_randuri


# 5.9. Spatierea celulelor

- se aplica ca attribute la `<table>...</table>`
- attribute:
  - `cellspacing` = "lungime"
    - lungime = pixeli
  - `cellpadding` = "lungime"
    - lungime = pixeli sau %

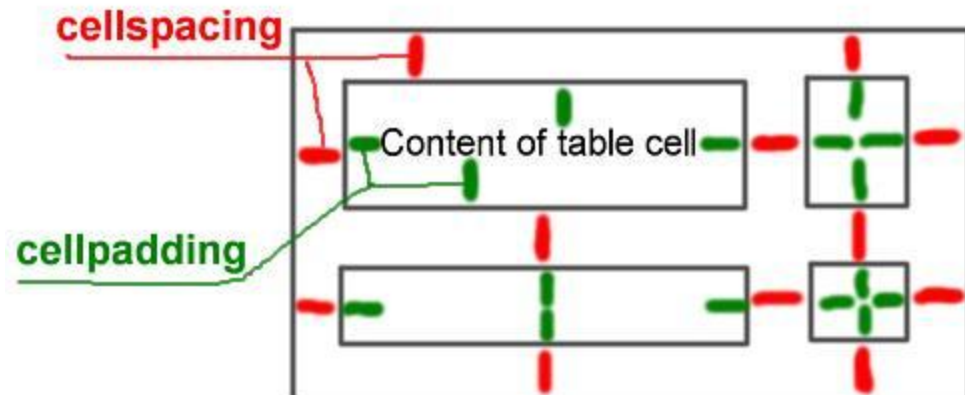
Table border 



Cellspacing 

Cellpadding 

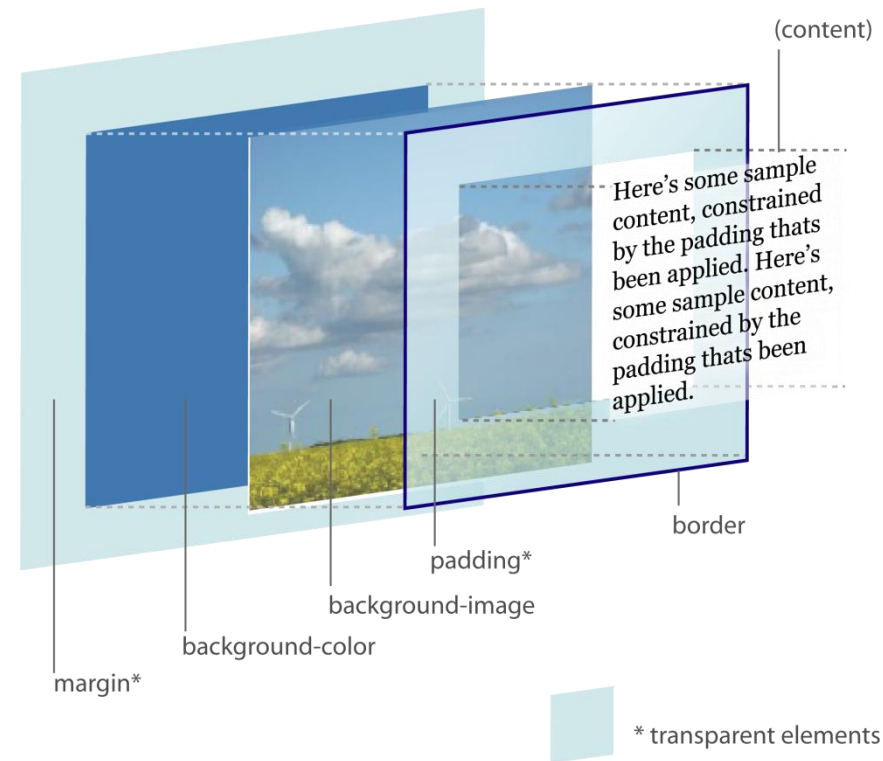
Cell content 



# Afisarea celulelor

- pentru suprapuneri complexe
- similar cu modelul CSS
  - margin ~ cellspacing
  - padding ~ cellpadding

THE CSS BOX MODEL HIERARCHY



HTML

## 6. Legaturi (Link)

---



# Link-uri si ancore

- `<a>...</a>`
- poate fi folosita pentru a realiza o legatura intre doua resurse, legatura care are doua :
  - punct de plecare spre un alt document la activarea cu mouse, tastatura, vocal, etc. (A ca link)
    - ex: <http://www.w3.org/TR/html401/struct/links.html> activeaza in browser documentul de la adresa (URI) indicata
  - punct destinatie in interiorul unui document, caz in care constituie tinta pentru alte trimiteri (A ca ancora)
    - ex: <http://www.w3.org/TR/html401/struct/links.html#edef-name-A> activeaza acelasi document, dar cu pozitionare in dreptul zonei identificata de ancora "**edef-name-A**"

# A

- attribute:
  - name = "text": numele de identificare la definire de ancora
  - href = "URI": adresa tinte la utilizarea ca link
  - target = "\_blank | \_self | \_parent | \_top": modalitatea de deschidere a paginii:
    - \_blank: o noua fereastră (cu pastrarea paginii anterioare)
    - \_self, \_parent, \_top: la utilizarea frameset, specificarea modalitatii de afisare in pagina curenta: in acelasi frame, in frame-ul parinte sau ca pagina independenta, inlocuind orice alt frame existent
  - type = "text MIME caracterizand tipul documentului tinta"
    - ex: "text/html", "text/css", "application/pdf", "image/gif", etc. pentru a permite interpretarea corecta de catre browser a tintei. Implicit este "text/html"
  - altele: id, class, title, etc.

# A

## ■ utilizarea tipica:

### ■ A ca link:

- `<a href="http://www.google.com">Dati click aici pentru a ajunge la Google</a>`
- are efect vizual: [Dati click aici pentru a ajunge la Google](#) (afisare diferentiata, tipic albastru subliniat si cu activarea unui cursor diferit pentru mouse la survolare)

### ■ A ca ancora:

- `<a name="cap_1">Aici incepe capitolul 1</a>`
- fara efect vizual dar cu definire interna a unei tinte pentru alte link-uri de tipul: `http://document.html#cap1`

### ■ A ca link si ancora simultan :

- `<a href="alt document" name="ancora in documentul curent" >`

# A – indicarea resursei de accesat

- **absolut**: prin indicarea URL complet.
  - `<a href="http://www.google.com">...</a>`
  - obligatoriu cu specificarea protocolului (e.g. "**http://**") altfel interpretarea este facuta relativ.
    - exemplu **pozitiv**: daca in documentul de la adresa <http://www.etti.tuiasi.ro/doc/ceva.html> exista un link: `<a href="http://www.google.com">...</a>` va exista o trimitere spre server-ul Google
    - exemplu **negativ**: daca in documentul de la adresa <http://www.etti.tuiasi.ro/doc/ceva.html> exista un link: `<a href="www.google.com">...</a>` va exista o trimitere spre <http://www.etti.tuiasi.ro/doc/www.google.com> ?

# A – indicarea resursei de accesat

- **relativ**: la o cale indicata de (se verifica in ordine)
  - eticheta BASE, in sectiunea HEAD: `<base href="http://www.etc.tuiasi.ro">`
  - indicata de server in protocolul utilizat (HTTP in acest caz)
  - adresa documentului curent (cazul cel mai frecvent si recomandat)
    - exemplu 1: daca in documentul de la adresa <http://www.etti.tuiasi.ro/ceva.html> exista un link: `<a href="/images/poza.gif">...</a>` va exista o trimitere spre documentul <http://www.etti.tuiasi.ro/images/poza.gif>
    - exemplu 2: daca in documentul de la adresa <http://www.etti.tuiasi.ro/doc/ceva.html> exista un link: `<a href=" ../images/poza.gif">...</a>` va exista o trimitere spre documentul <http://www.etti.tuiasi.ro/images/poza.gif>

HTML

# 7. Obiecte

---

# Imagini

- `<img ... />`
- attribute:
  - `src = "URI"`: adresa imaginii care trebuie introduse
  - `alt = "text"`: descriere alternativa, de multe ori afisat ca tool-tip in browser-ele vizuale, si ca inlocuitor al imaginii in browser-ele tip text
  - `longdesc = "URI"`: adresa unui alt document cu explicatii detaliate: suport minimal in browser-e
  - altele: `ismap`, `usemap` (pentru utilizarea ca zona activa), `name`, `id` etc.

# Obiecte

- `<object> ...</object>`
- mai general, pentru incluziunea diferitelor tipuri de obiecte
- in particular se poate folosi pentru a afisa imagini:
  - ``
  - `<object data="poza_pasaport.gif" type="image/gif">Poza de pasaport</object>`
- permite oferirea de indicatii suplimentare browser-ului si eventual initializarea obiectului cu eticheta **param**>



# Obiecte

- cea mai raspandita utilizare curenta, introducerea continutului multimedia, in special filme sau aplicatii Flash.
- exemplu:

```
<object classid="clsid:d27cdb6e-ae6d-11cf-96b8-444553540000"  
codebase="http://fpdownload.macromedia.com/pub/shockwave/cabs/flash/swflash.cab#ve  
rsion=8,0,0,0" width="224" height="99" id="sigla" align="middle">  
<param name="allowScriptAccess" value="sameDomain" />  
<param name="movie" value="sigla.swf" /><param name="quality" value="high" /><param  
name="bgcolor" value="#585d4b" /><embed src="sigla.swf" quality="high"  
bgcolor="#585d4b" width="224" height="99" name="sigla" align="middle"  
allowScriptAccess="sameDomain" type="application/x-shockwave-flash"  
pluginspage="http://www.macromedia.com/go/getflashplayer" />  
</object>
```

HTML

# Bibliografie

---

# Bibliografie HTML

- World Wide Web Consortium (W<sub>3</sub>C), HTML 4.01 Specification
  - <http://www.w3.org/TR/html401/>
- HTML - manual interactiv on-line (lb. romana)
  - <http://profs.info.uaic.ro/~val/htmllearn.html>

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Web Design

# Concepte generale

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# Concepte

- Steve Krug: "Don't Make Me Think"
- Utilizatorii scaneaza pagina, nu o citesc
- Informatia trebuie redusa la minimul necesar in majoritatea locurilor
- "Daca ceva e greu de utilizat, mai bine nu o utilizez"
- Utilizatorii au comportament de **rechin**
- Originalitatea nu e intotdeauna recomandata

# Test – F Shape Reading Pattern

- Obisnuinta utilizatorilor de a urmari anumite zone de pe ecran



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#### Private Browsing

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Remember site passwords without ever seeing a pop-up.

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**improved** Enjoy the most advanced protection against online bad guys.

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**improved** Unexpected shutdown? Go back to exactly

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#### Easy Customization

**improved** Thousands of add-ons give you the freedom to make your browser your own.

#### Tabs

**improved** Do more at once with tabs you can organize with the drag of a mouse.

#### Instant Web Site ID

Avoid online scams, unsafe transactions and forgeries with

#### Browse By Category

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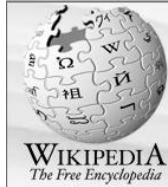
3.5.6, English (US), Windows (7.7MB)



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## HTML

From Wikipedia, the free encyclopedia

*For the use of HTML on Wikipedia, see [Help:HTML in wikitext](#).*

**HTML**, which stands for **Hyper Text Markup Language**, is the predominant [markup language](#) for [web pages](#). It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists etc as well as for links, quotes, and other items. It allows [images](#) and [objects](#) to be embedded and can be used to create [interactive forms](#). It is written in the form of [HTML elements](#) consisting of "tags" surrounded by [angle brackets](#) within the web page content. It can include or can load [scripts](#) in languages such as [JavaScript](#) which affect the behavior of HTML processors like [Web browsers](#); and [Cascading Style Sheets \(CSS\)](#) to define the appearance and layout of text and other material. The [W3C](#), maintainer of both HTML and CSS standards, encourages the use of CSS over explicit presentational markup.<sup>[1]</sup>

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## HTML

(HyperText Markup Language)

<b>Filename extension</b>	.html, .htm
<b>Internet media type</b>	text/html
<b>Type code</b>	TEXT
<b>Uniform Type Identifier</b>	public.html
<b>Developed by</b>	World Wide Web Consortium & WHATWG
<b>Type of format</b>	Markup language
<b>Extended from</b>	SGML
<b>Extended to</b>	XHTML
<b>Standard(s)</b>	ISO/IEC 15445 W3C HTML 4.01
	W3C HTML 5  (draft)

# Regula nr. 1

---

**Don't Make Me Think**

# Contact

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