Curs 3

2013/2014

Tehnici moderne de proiectare a aplicatiilor web

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

rf-opto.etti.tuiasi.ro

- http://rf-opto.etti.tuiasi.ro/master_it.php
- Laborator 2011-2012
  - Exercitii/Performanta MySql
  - optional

Nota

- An V
  - 33% E
  - 66% Aplicatii
    - 33% L
    - 33% P

Web Design

Concepte generale

Concepte

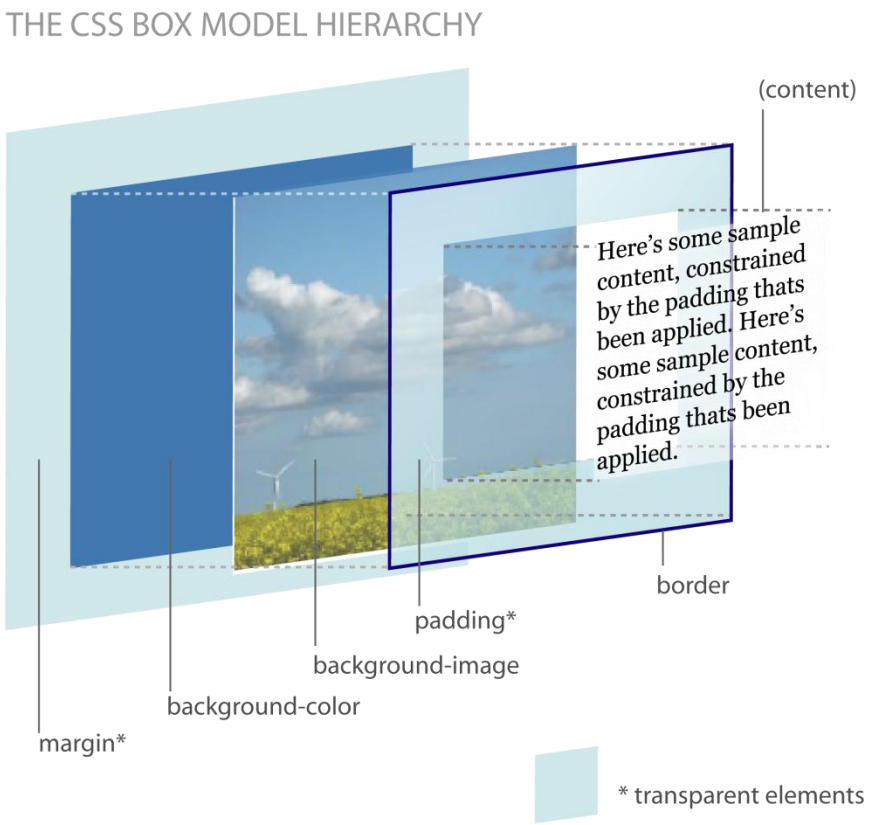
- Steve Krug: "**Don't Make Me Think**"
- Utilizatorii scaneaza pagina, nu o citesc
- Informatia trebuie redusa la minimul necesar in majoritatea locurilor
- "Daca ceva e greu de utilizat, mai bine nu o utilizez"
- Utilizatorii au comportament de **rechin**
- Originalitatea **nu e** intotdeauna **recomandata**

Capitolul II

CSS

CSS Box Model

- Orientat in jurul conceptului de “cutie” – Box model

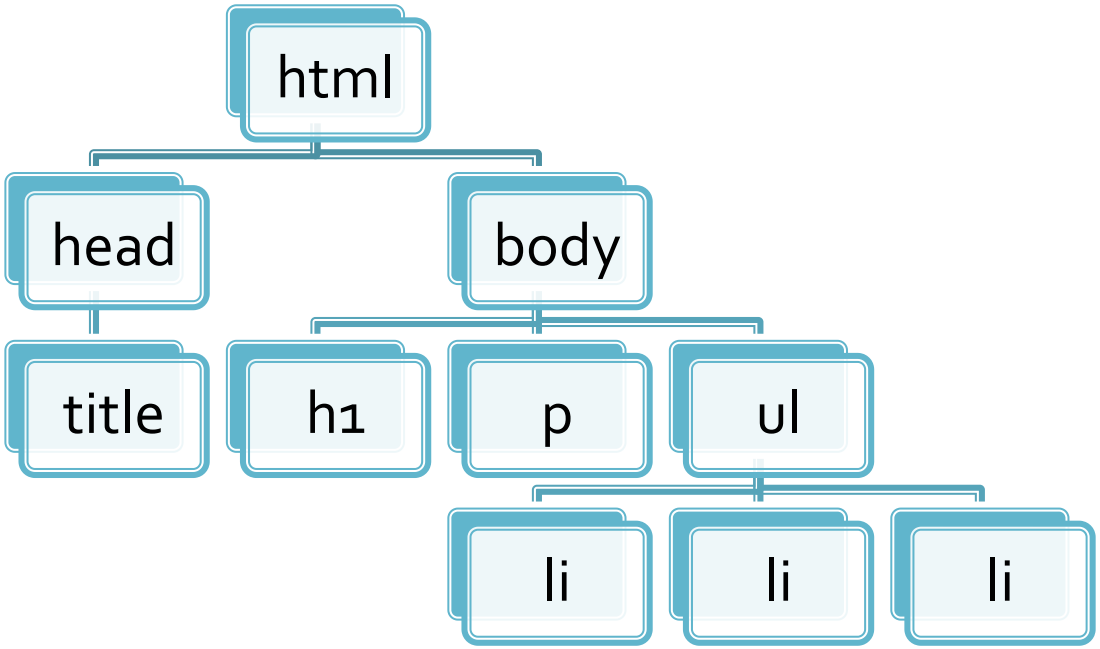


Pozitionare

- position:absolute | fixed | relative | static | inherit;
- top, right, bottom, left:auto | [valoare] | [%] | inherit;
- z-index:[valoare intreaga]; - mai mare = deasupra

DOM

- DOM – Document Object Model: structura de tip graf




```
<html>
 <title>pagina mea</title>
 <body>
  <h1>Compozitori:</h1>
  <p>
  <ul>
   <li> elvis costello
   <li> johannes brahms
   <li> georges brassens
  </ul>
 </body>
</html>
```

Relatie cu Javascript in aplicatii

- Javascript poat accesa prin intermediul obiectului DOM atasat documentului HTML elementele din structura arbore DOM si modifica proprietatile corespunzatoare
- se deschide astfel calea spre aplicatii dinamice

CSS Zen Garden

- http://www.csszengarden.com/
- un fisier html comun
- schimbarea formei permisa numai prin intermediul CSS

CSS Zen Garden – HTML original

css Zen Garden

The Beauty of CSS Design

A demonstration of what can be accomplished visually through CSS-based design. Select any style sheet from th

Download the sample html file and css file

The Road to Enlightenment

Littering a dark and dreary road lay the past relics of browser-specific tags, incompatible DOMs, and broken CS

Today, we must clear the mind of past practices. Web enlightenment has been achieved thanks to the tireless ef

The css Zen Garden invites you to relax and meditate on the important lessons of the masters. Begin to see with
Become one with the web.

So What is This About?

There is clearly a need for CSS to be taken seriously by graphic artists. The Zen Garden aims to excite, inspire,
one will load the style sheet into this very page. The code remains the same, the only thing that has changed is th

CSS allows complete and total control over the style of a hypertext document. The only way this can be illustrate
placed in the hands of those able to create beauty from structure. To date, most examples of neat tricks and hac

CSS Zen Garden

Css Zen Garden

the beauty of css design.

A demonstration of what can be accomplished visually through CSS-based design. Select any style sheet from the list to load it into this page.

DOWNLOAD THE SAMPLE HTML FILE AND **CSS FILE**

The Road To Enlightenment

Littering a dark and dreary road lay the past relics of browser-specific tags, incompatible DOMs, and broken CSS support.

Today, we must clear the mind of past practices. Web enlightenment has been achieved thanks to the tireless efforts of folk like the W3C,

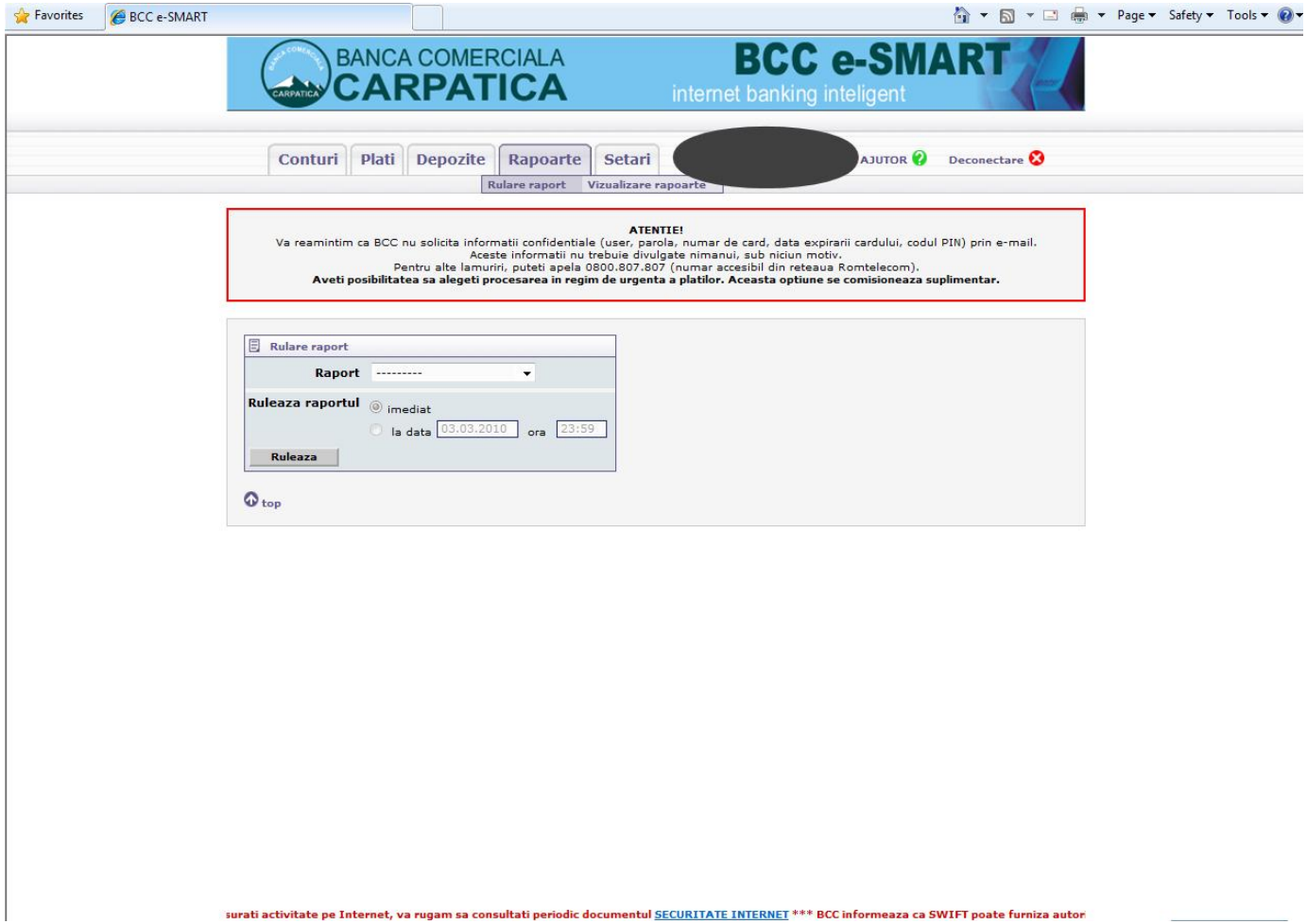
SELECT A DESIGN:

- **Under the Sea!** by Eric Stoltz
- **Make 'em Proud** by Michael McAghon and Scotty Reifsnyder

Consideratii generale

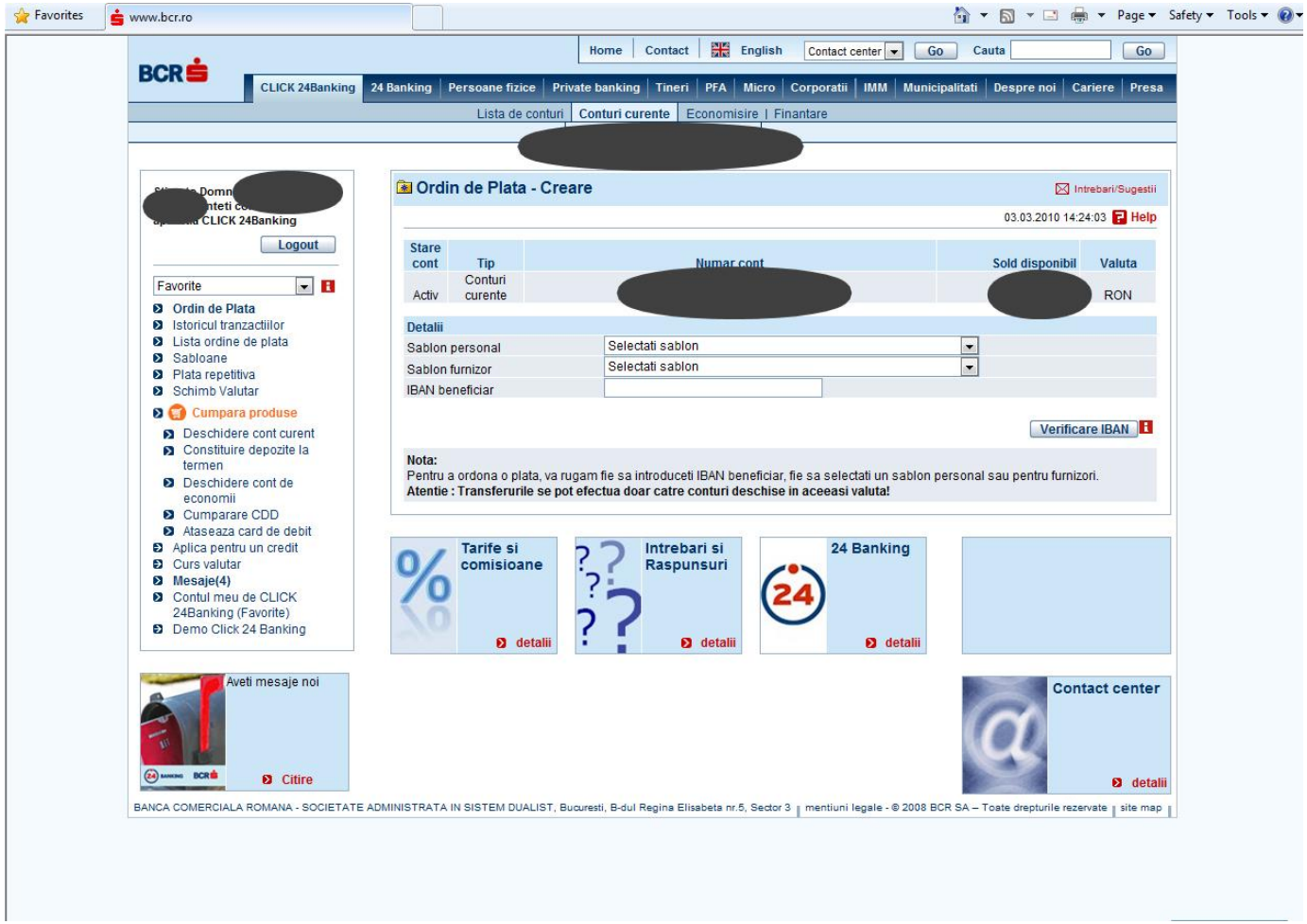
Aplicatii

Aplicatii

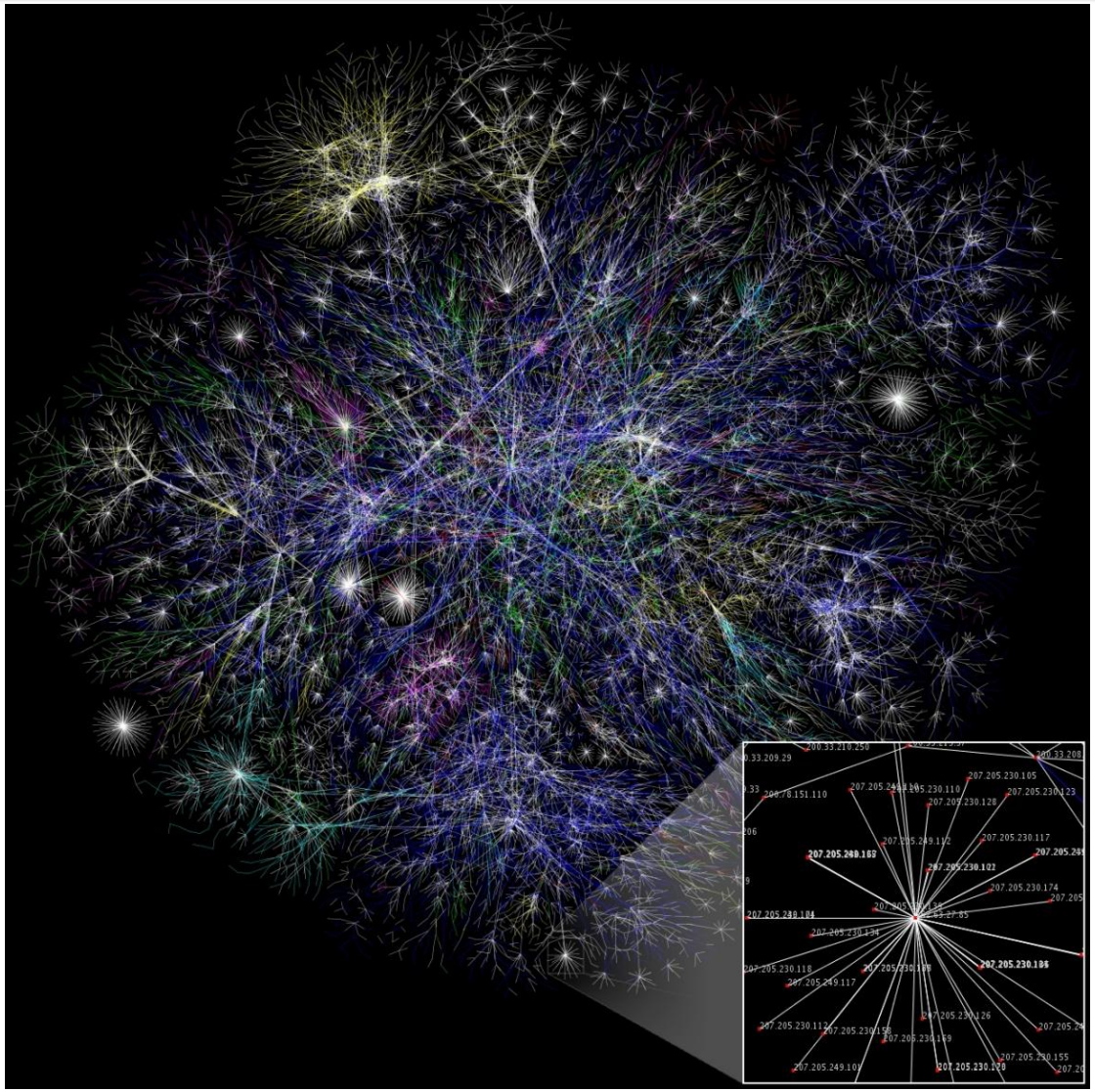

Favorites
BCC e-SMART
Page
Safety
Tools
BANCA COMERCIALA CARPATICA
BCC e-SMART
internet banking inteligent
Conturi
Plati
Depozite
Rapoarte
Setari
AJUTOR
Deconectare
Rulare raport
Vizualizare rapoarte
ATENTIE!
Va reamintim ca BCC nu solicita informatii confidentiale (user, parola, numar de card, data expirarii cardului, codul PIN) prin e-mail.
Aceste informatii nu trebuie divulgate nimanui, sub niciun motiv.
Pentru alte lamuriri, puteti apela 0800.807.807 (numar accesibil din reteaua Romtelecom).
Aveti posibilitatea sa alegeti procesarea in regim de urgenta a platilor. Aceasta optiune se comisioneaza suplimentar.
Rulare raport
Raport

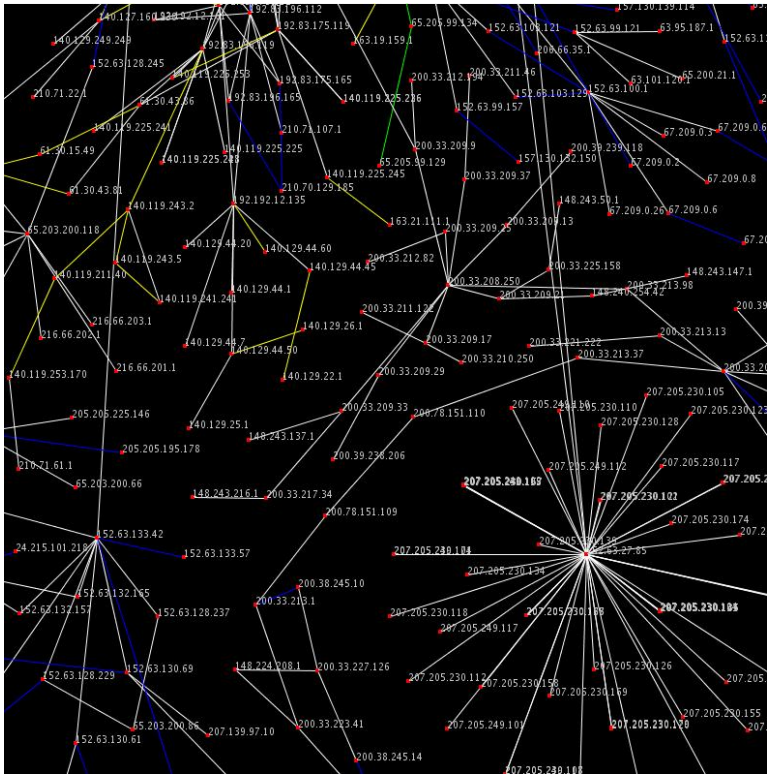
Ruleaza raportul
imediat
la data
03.03.2010
ora
23:59
Ruleaza
top
surati activitate pe Internet, va rugam sa consultati periodic documentul SECURITATE INTERNET *** BCC informeaza ca SWIFT poate furniza autor

Aplicatii

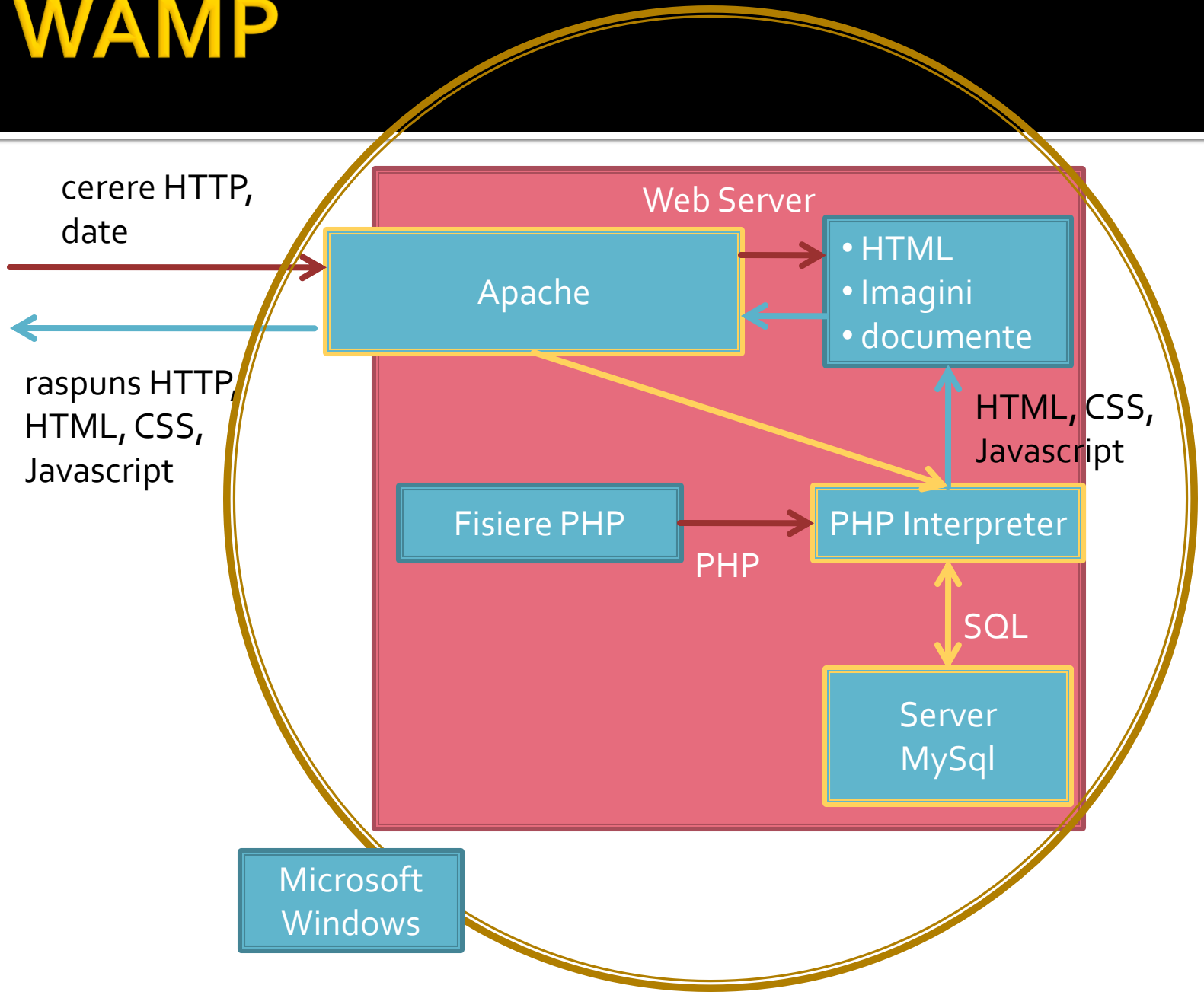

Favorites
www.bcr.ro
Page
Safety
Tools
BCR
Home
Contact
English
Contact center
Go
Cauta
Go
CLICK 24Banking
24 Banking
Persoane fizice
Private banking
Tineri
PFA
Micro
Corporatii
IMM
Municipalitati
Despre noi
Cariere
Presa
Lista de conturi
Conturi curente
Economisire | Finantare
[redacted]
CLICK 24Banking
Logout
Favorite
Ordin de Plata
Istoricul tranzactiilor
Lista ordine de plata
Sabloane
Plata repetitiva
Schimb Valutar
Cumpara produse
Deschidere cont curent
Constituire depozite la termen
Deschidere cont de economii
Cumparare CDD
Ataseaza card de debit
Aplica pentru un credit
Curs valutar
Mesaje(4)
Contul meu de CLICK 24Banking (Favorite)
Demo Click 24 Banking
Ordin de Plata - Creare
Intrebari/Sugestii
03.03.2010 14:24:03
Help
Stare cont
Tip
Numar cont
Sold disponibil
Valuta
Activ
Conturi curente
[redacted]
RON
Detalii
Sablon personal
Selectati sablon
Sablon furnizor
Selectati sablon
IBAN beneficiar
Verificare IBAN
Nota:
Pentru a ordona o plata, va rugam fie sa introduceti IBAN beneficiar, fie sa selectati un sablon personal sau pentru furnizori.
Atentie : Transferurile se pot efectua doar catre conturi deschise in aceeasi valuta!
Tarife si comisioane
detalii
Intrebari si Raspunsuri
detalii
24 Banking
detalii
Aveti mesaje noi
Citire
Contact center
detalii
BANCA COMERCIALA ROMANA - SOCIETATE ADMINISTRATA IN SISTEM DUALIST, Bucuresti, B-dul Regina Elisabeta nr.5, Sector 3
mentiuni legale - © 2008 BCR SA – Toate drepturile rezervate
site map

Exemple reale

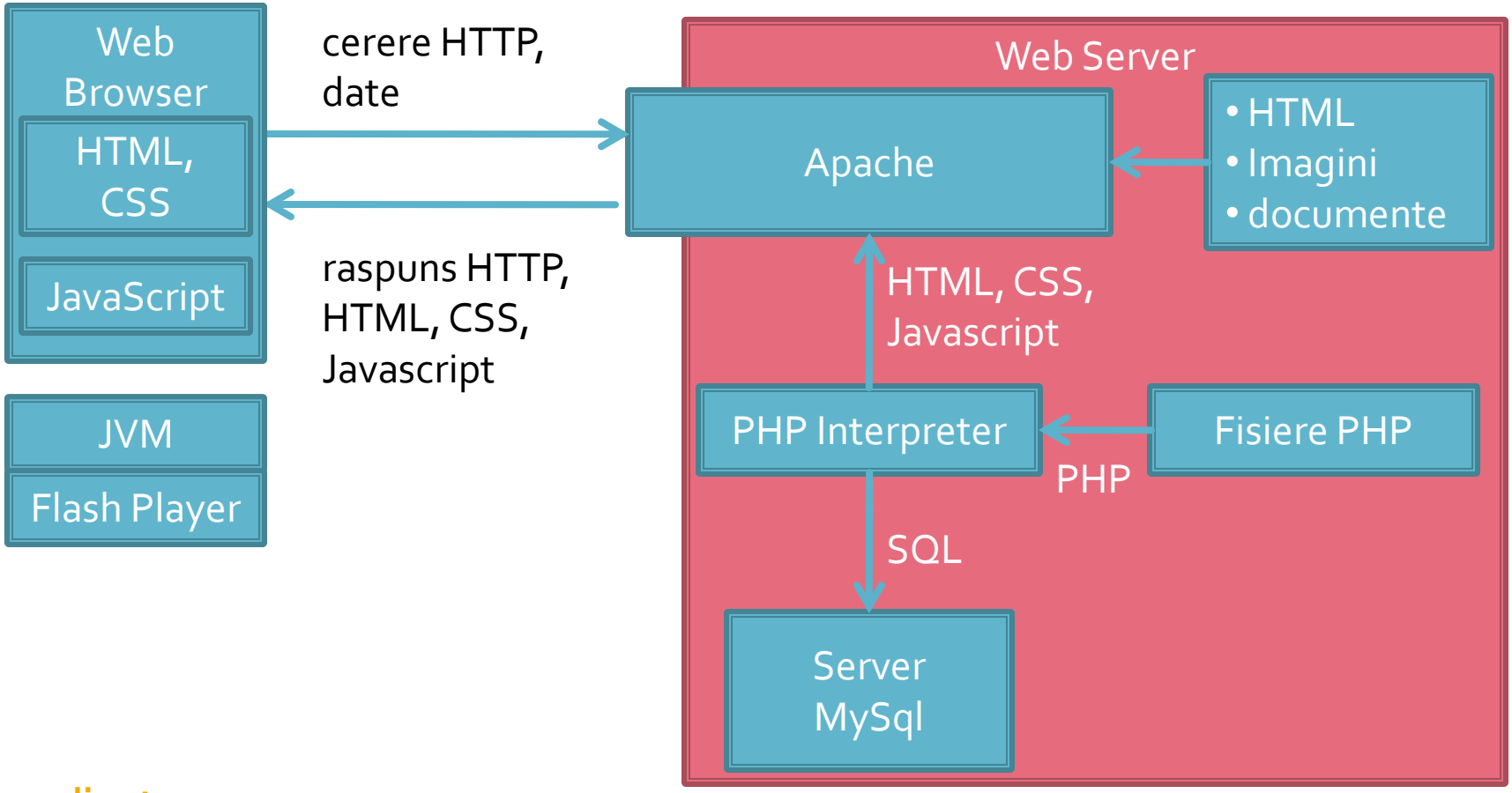




WAMP


cerere HTTP,
date
raspuns HTTP,
HTML, CSS,
Javascript
Web Server
Apache
• HTML
• Imagini
• documente
HTML, CSS,
Javascript
Fisiere PHP
PHP
PHP Interpreter
SQL
Server
MySql
Microsoft
Windows

Client/Server Scripting



client side scripting

server side scripting

Exemple reale

- View Source (sau echivalent) ofera acces **TOTAL** la surse:
  - HTML
  - CSS
  - Javascript
- numai pentru observatorul "avizat"
- Firefox/Chrome beneficiaza de cateva extensii extrem de utile pentru web designer
  - Web Developper
  - Firebug
  - Dom Inspector (implicit pana la 3.0)

Exemple reale

- Nu e valabil pentru sursele PHP/MySql care nu ajung pe calculatorul client decat in caz de eroare
- Flash si Java ajung de asemenea in forma binara, compilata
- cateodata apar artificii de “ascundere” a codului: se ingreuneaza citirea de un utilizator uman

Aplicatie Web

- presupune prelucrarea unor date si oferirea unui document personalizat (rezultat al datelor respective)
- datele pot fi obtinute:
  - de la utilizator
  - o sursa externa (baze de date)
  - **combinatie** utilizator/baze de date

Forme in HTML

- necesare pentru ca utilizatorul sa poate trimite date server-ului
- <form>…</form>
- Atribute specifice:
  - action: adresa documentului care preia datele
    - <form action="<?php echo $_SERVER['PHP_SELF'];?>">
    - <form action="actiuni/fisier2.html">
  - method: modalitatea de transmitere a datelor: post sau get
    - <form method="post" action= … >

Metode de transmitere

- **post** datele sunt transmise in bloc
- **get** datele sunt atasate adresei documentului de procesare : results.php?prob=81&an=2009
- **get** trebuie folosit numai cand datele sunt "idempotente",
  - nu cauzeaza efecte colaterale
  - nu modifica starea server-ului (baze date, etc)
- se poate simula realizarea unei forme (**get**) prin scrierea corespunzatoare a link-urilor

Elemente de interactiune cu utilizatorul

- in interiorul etichetei <form>…</form>
  - input
  - select/option
  - textarea
- toate elementele vor avea un nume
  - atribut: name=“”
  - numele va fi intalnit in uri-ul generat prin get, sau in numele variabilei trimisa prin post
- trimiterea datelor se face prin intermediul unui buton cu tipul type="submit"

INPUT

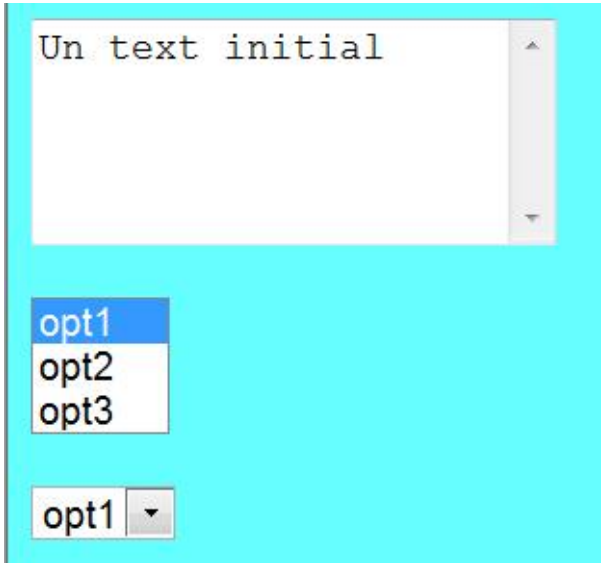
- <input .../>
- Atribute:
  - type: text | password | checkbox | radio | submit | reset | file | hidden | image | button
  - name: numele variabilei
  - value: valoarea trimisa server-ului la selectie (valoarea initiala in anumite cazuri)
  - checked/src/size/maxlength in functie de tip

Exemple

```
<input name="textfield" type="text" value="ceva" />

<input name="Ok" type="submit" value="Trimite" />

<label><input name="check" type="checkbox" value="5" checked />check1</label>

<label><input name="RG1" type="radio" value="a" checked="checked" />but1</label>
<label><input type="radio" name="RG1" value="b" />but2</label>

<input name="hid" type="hidden" value="6" />
```

TEXTAREA/SELECT

```
<textarea name="textarea" cols="20" rows="5">Un text initial</textarea><br /><br />

<select name="select." size="3">
 <option value="1" selected="selected">opt1</option>
 <option value="2">opt2</option>
 <option value="3">opt3</option>
</select><br /><br />
<select name="select...">
 <option value="1" selected="selected">opt1</option>
 <option value="2">opt2</option>
 <option value="3">opt3</option>
</select>
```



Exemplu – forma

- Mic magazin online
- Formular de comanda cu procesarea comenzii


```
<html>
<head>
<title>Magazin online XXX SRL</title>
</head>
<body>
<h1>Magazin online XXX SRL</h1>
<h2>Realizati comanda</h2>
<form action="rezultat.html" method="post">
<table border="0">
<tr bgcolor="#cccccc"><td width="150">Produs</td><td width="15">Cantitate</td></tr>
<tr><td>Carti</td><td align="center"><input type="text" name="carti_cant" size="3" maxlength="3" /></td></tr>
<tr><td>Caiete</td><td align="center"><input type="text" name="caiete_cant" size="3" maxlength="3" /></td></tr>
<tr><td>Penare</td><td align="center"><input type="text" name="penare_cant" size="3" maxlength="3" /></td></tr>
<tr><td colspan="2" align="center"><input type="submit" value="Trimite" /></td></tr>
</table>
</form>
</body>
</html>
```

Exemplu – raspuns static

- fisier html
- fisierele HTML sunt doar "servite" de server
- in aparenta a existat o procesare, real **nu**

```
<html>
<head>
<title>Magazin online XXX SRL</title>
</head>
<body>
<h1>Magazin online XXX SRL</h1>
<h2>Rezultate comanda</h2>
<p>Comanda receptionata</p>
</body>
</html>
```

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

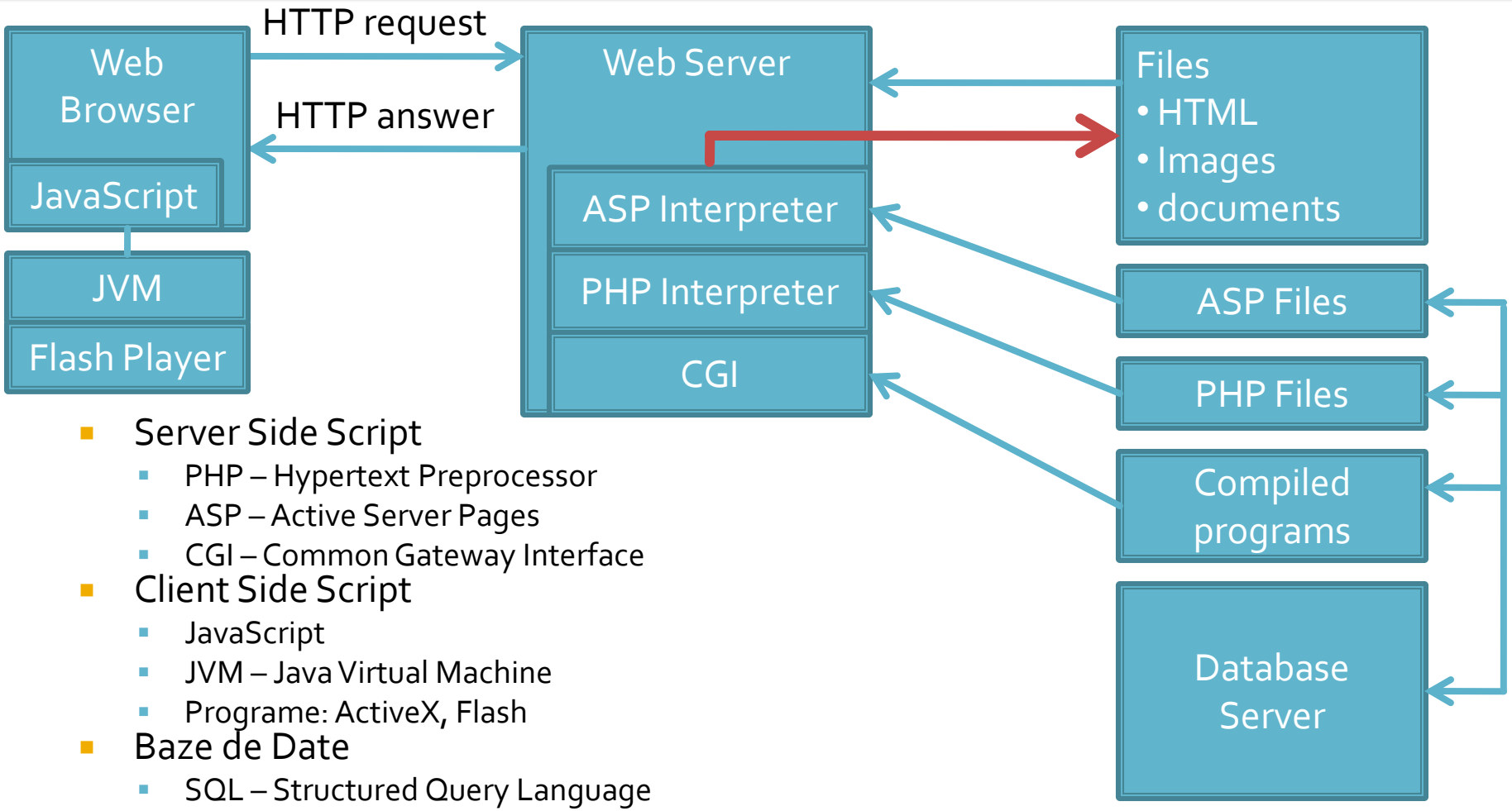
Hypertext PreProcessor

PHP

PHP

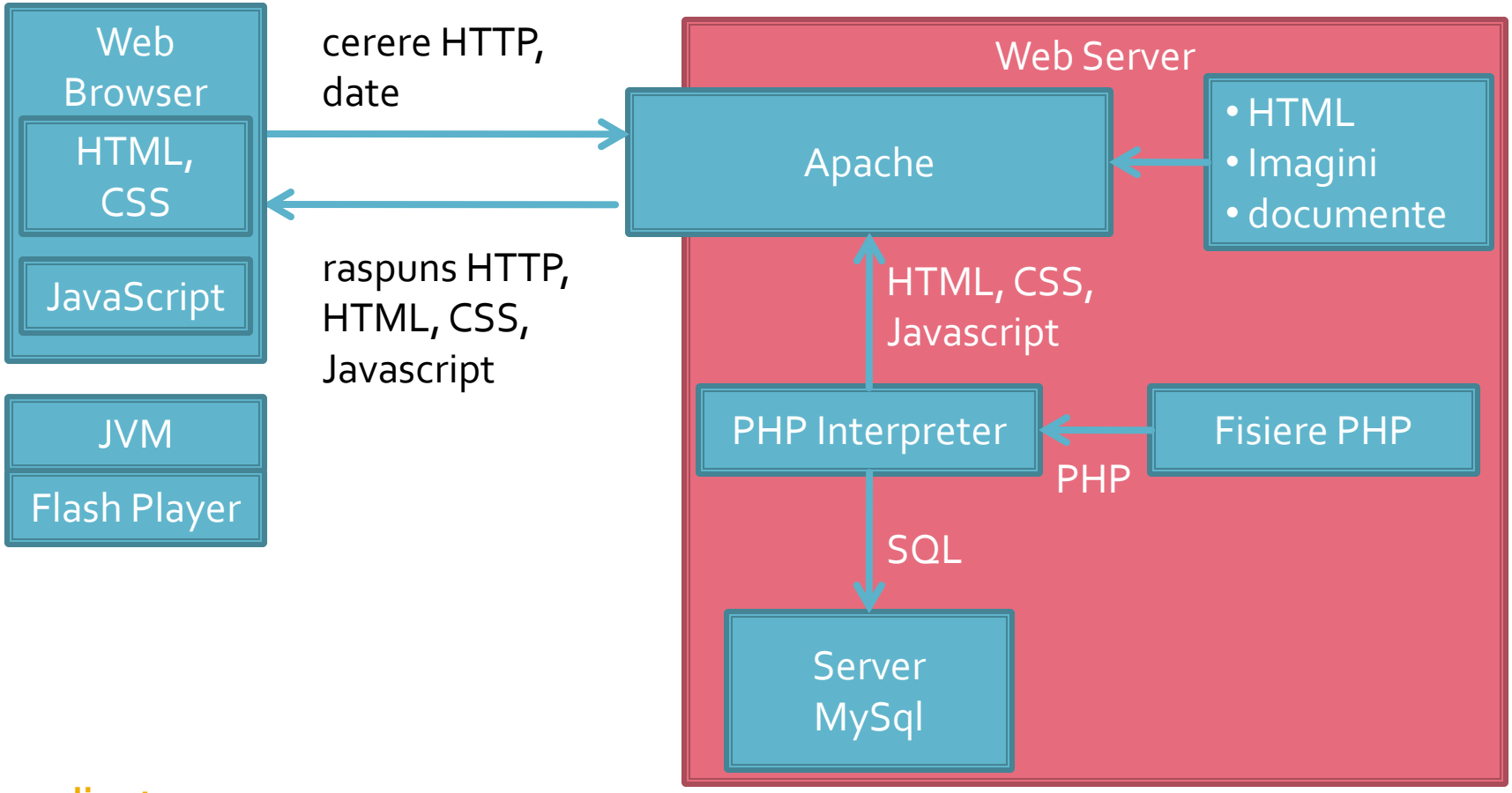
- Hypertext PreProcessor - acronim recursiv
  - initial – Personal Home Page / Form Interpreter
  - 1995 – 1.0
- versiune curenta: 5.4.26
  - 2014-03-07
  - PHP 5.6.0 alpha3 (mysql)
- limbaj de scripting de uz general,
- rulare pe server (server-side scripting)
- open source

Web server Technology



- 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

Client/Server Scripting

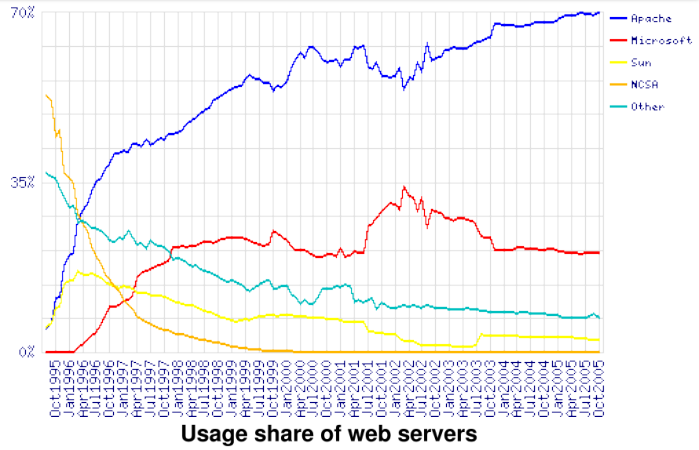


client side scripting

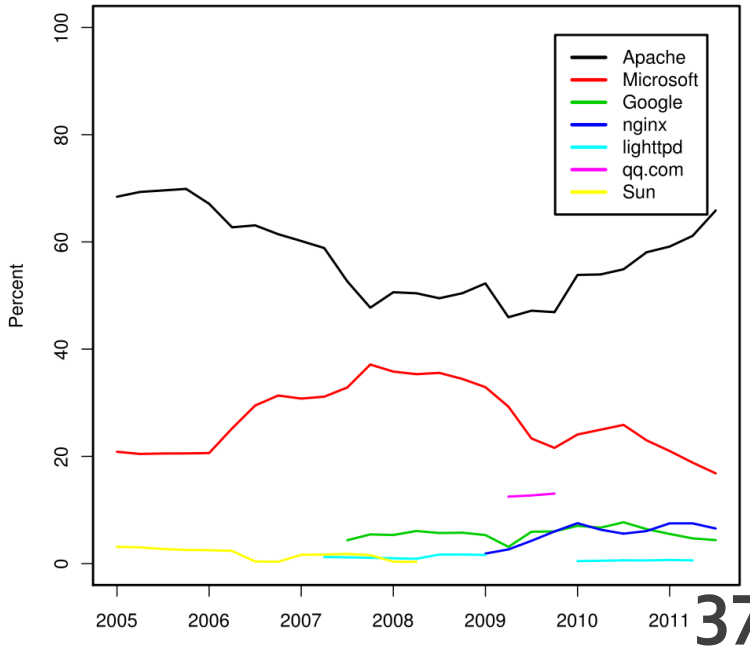
server side scripting

Tehnologia server-elor Web

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



Usage share of web servers



TIOBE Programming Community Index for February 2013

Position Feb 2013	Position Feb 2012	Delta in Position	Programming Language	Ratings Feb 2013	Delta Feb 2012	Status
1	1	=	Java	18.387%	+1.34%	A
2	2	=	C	17.080%	+0.56%	A
3	5	⇈	Objective-C	9.803%	+2.74%	A
4	4	=	C++	8.758%	+0.91%	A
5	3	⇊	C#	6.680%	-1.97%	A
6	6	=	PHP	5.074%	-0.57%	A
7	8	↑	Python	4.949%	+1.80%	A
8	7	↓	(Visual) Basic	4.648%	+0.33%	A
9	9	=	Perl	2.252%	-0.68%	A
10	12	⇈	Ruby	1.752%	+0.19%	A

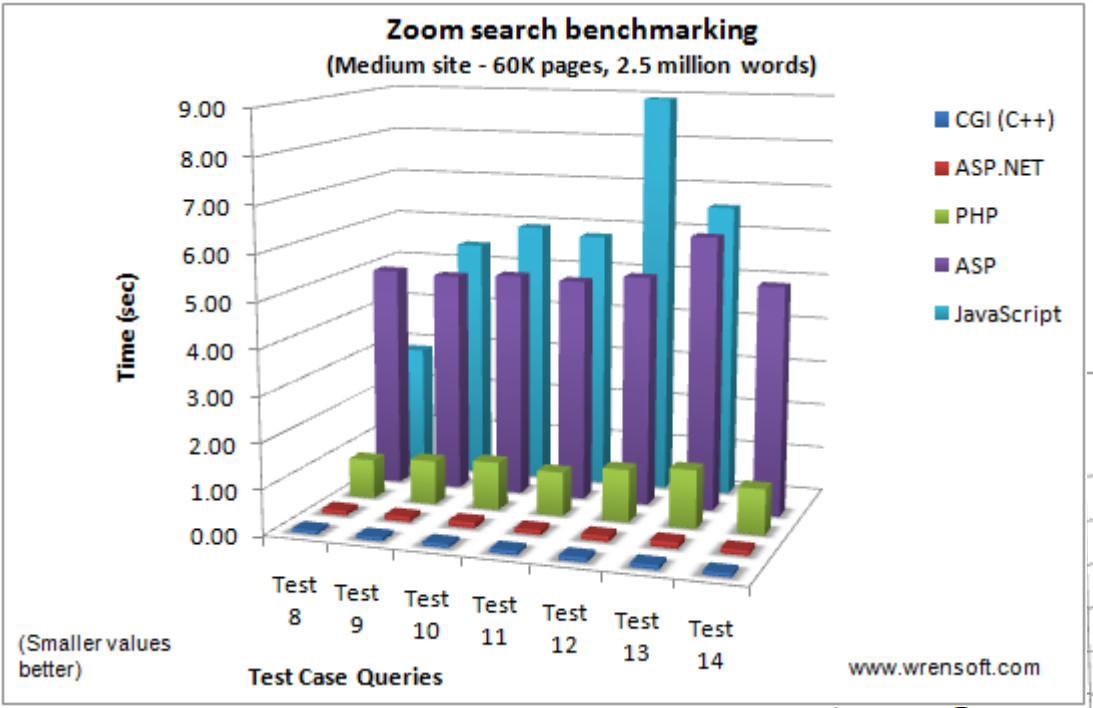
TIOBE Programming Community Index for March 2010

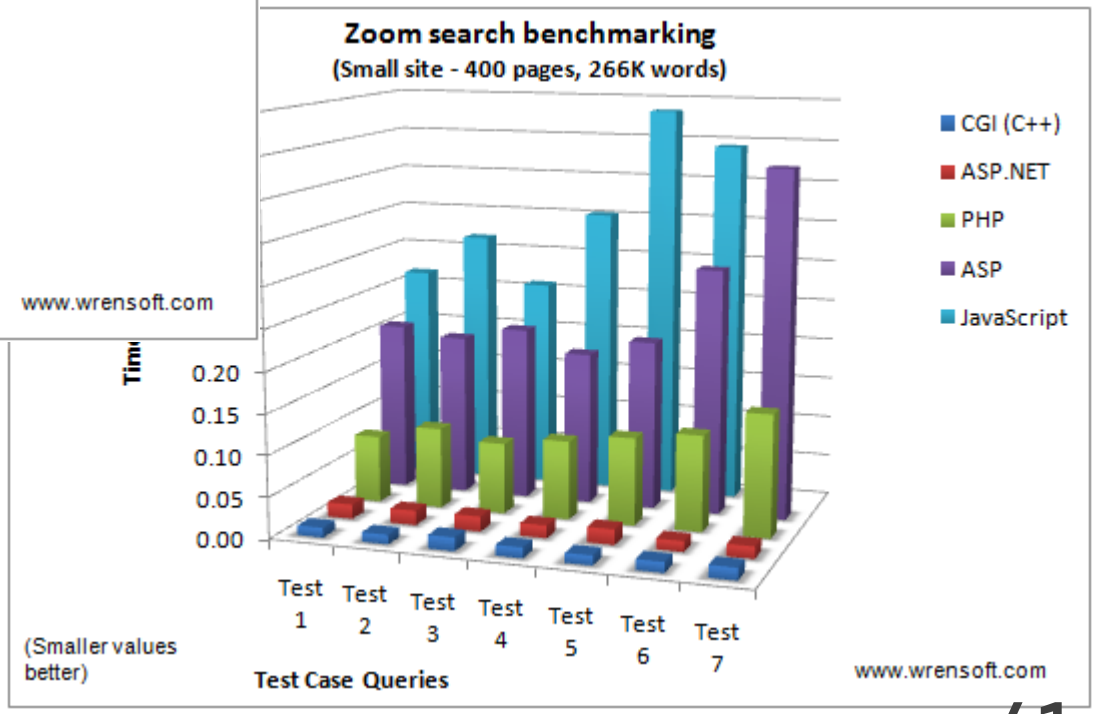
Position Mar 2010	Position Mar 2009	Delta in Position	Programming Language	Ratings Mar 2010	Delta Mar 2009	Status
1	1	=	Java	17.509%	-2.29%	A
2	2	=	C	17.279%	+1.42%	A
3	4	↑	PHP	9.908%	+0.42%	A
4	3	↓	C++	9.610%	-0.75%	A
5	5	=	(Visual) Basic	6.574%	-1.71%	A
6	7	↑	C#	4.264%	-0.06%	A
7	6	↓	Python	4.230%	-0.95%	A
8	9	↑	Perl	3.821%	+0.40%	A
9	10	↑	Delphi	2.684%	-0.03%	A
10	8	↓↓	JavaScript	2.651%	-0.96%	A

Avantaje PHP

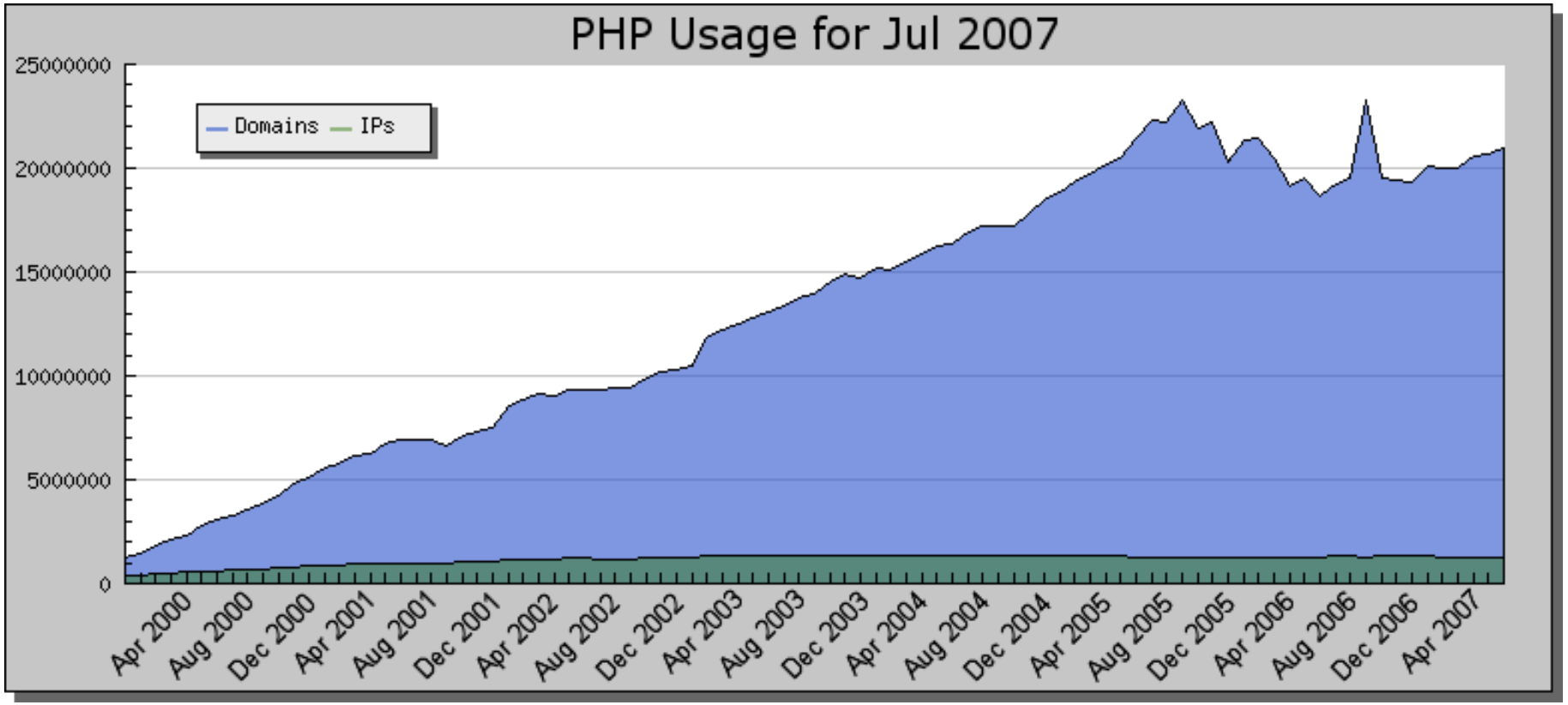
- Performanta ridicata
- Interfata cu multe sisteme de baze de date
- Costuri reduse
- Biblioteci incluse pentru majoritatea operatiunilor uzuale in aplicatii web
- Usurinta in invatare (C)
- Portabilitate
  - Disponibilitate a codului sursa
- Exemple disponibile in comunitate
- Suport disponibil

Performanta

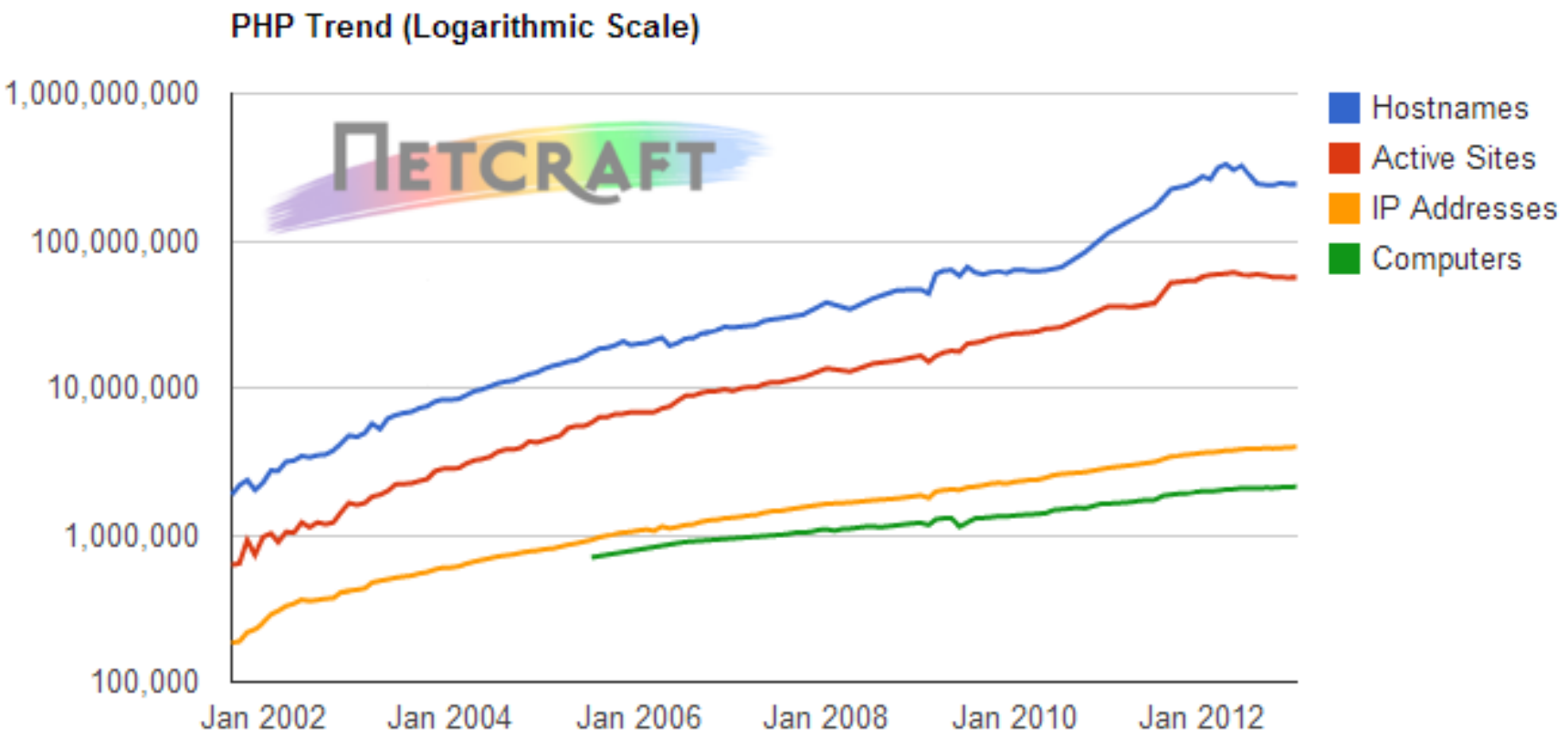


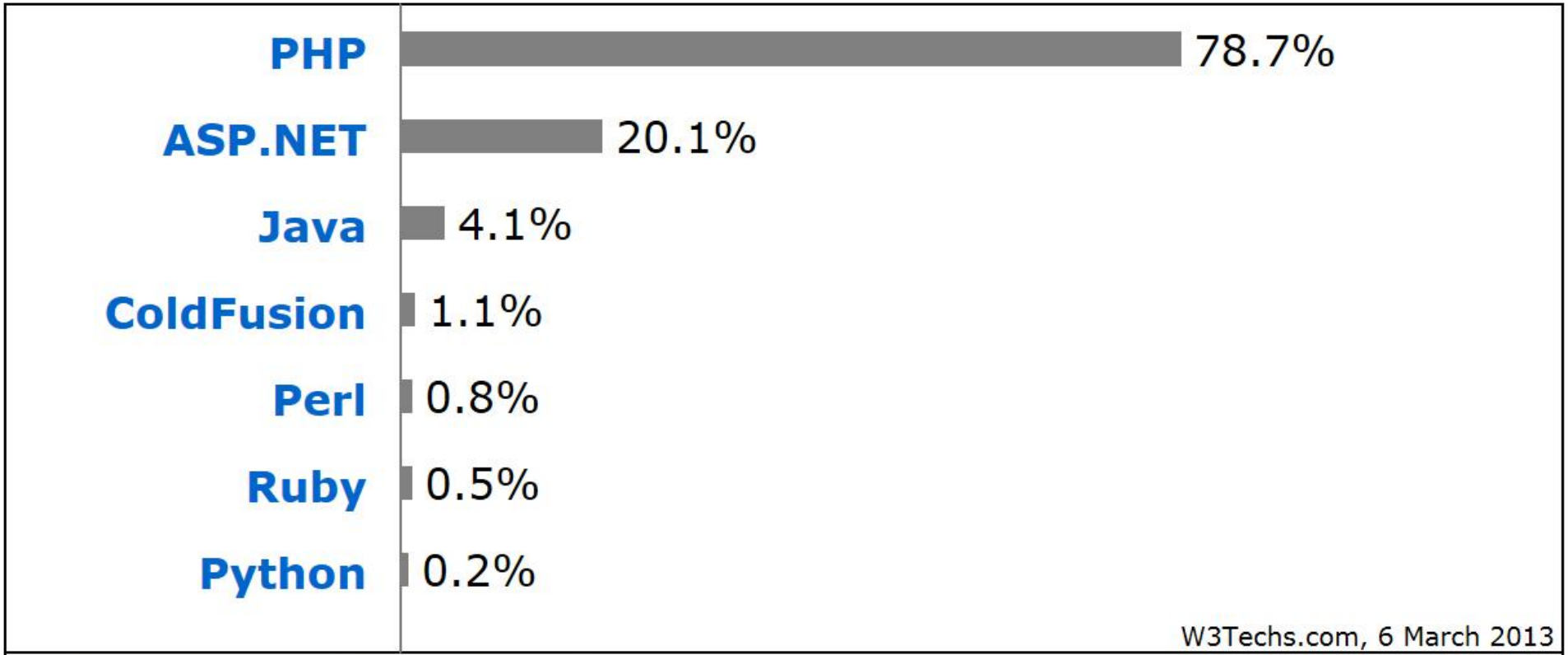


Raspandire

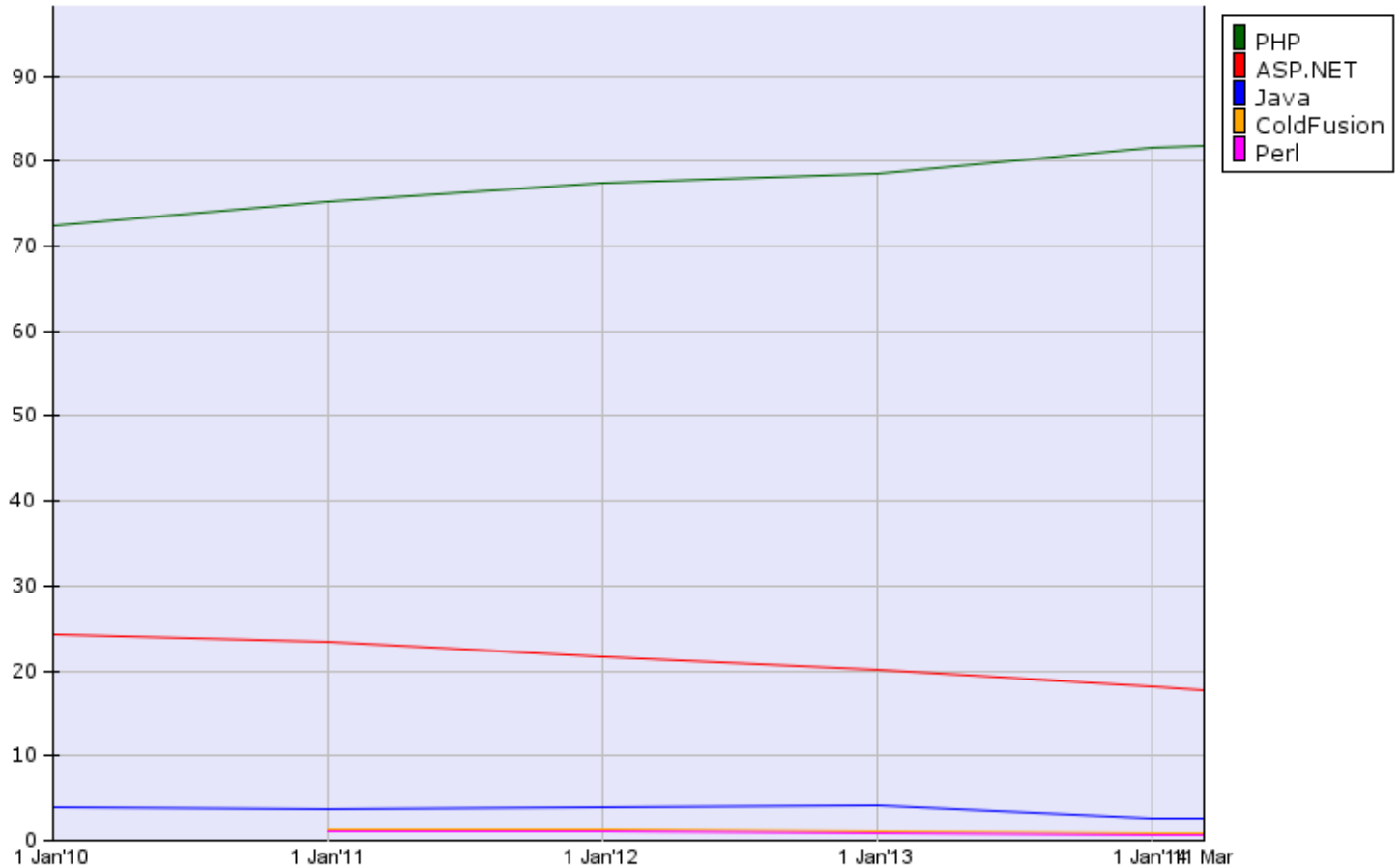

PHP Usage for Jul 2007
Domains
IPs
25000000
20000000
15000000
10000000
5000000
0
Apr 2000
Aug 2000
Dec 2000
Apr 2001
Aug 2001
Dec 2001
Apr 2002
Aug 2002
Dec 2002
Apr 2003
Aug 2003
Dec 2003
Apr 2004
Aug 2004
Dec 2004
Apr 2005
Aug 2005
Dec 2005
Apr 2006
Aug 2006
Dec 2006
Apr 2007

Raspandire


PHP Trend (Logarithmic Scale)
1,000,000,000
100,000,000
10,000,000
1,000,000
100,000
Jan 2002
Jan 2004
Jan 2006
Jan 2008
Jan 2010
Jan 2012
NETCRAFT
Hostnames
Active Sites
IP Addresses
Computers



Percentages of websites using various server-side programming languages
Note: a website may use more than one server-side programming language



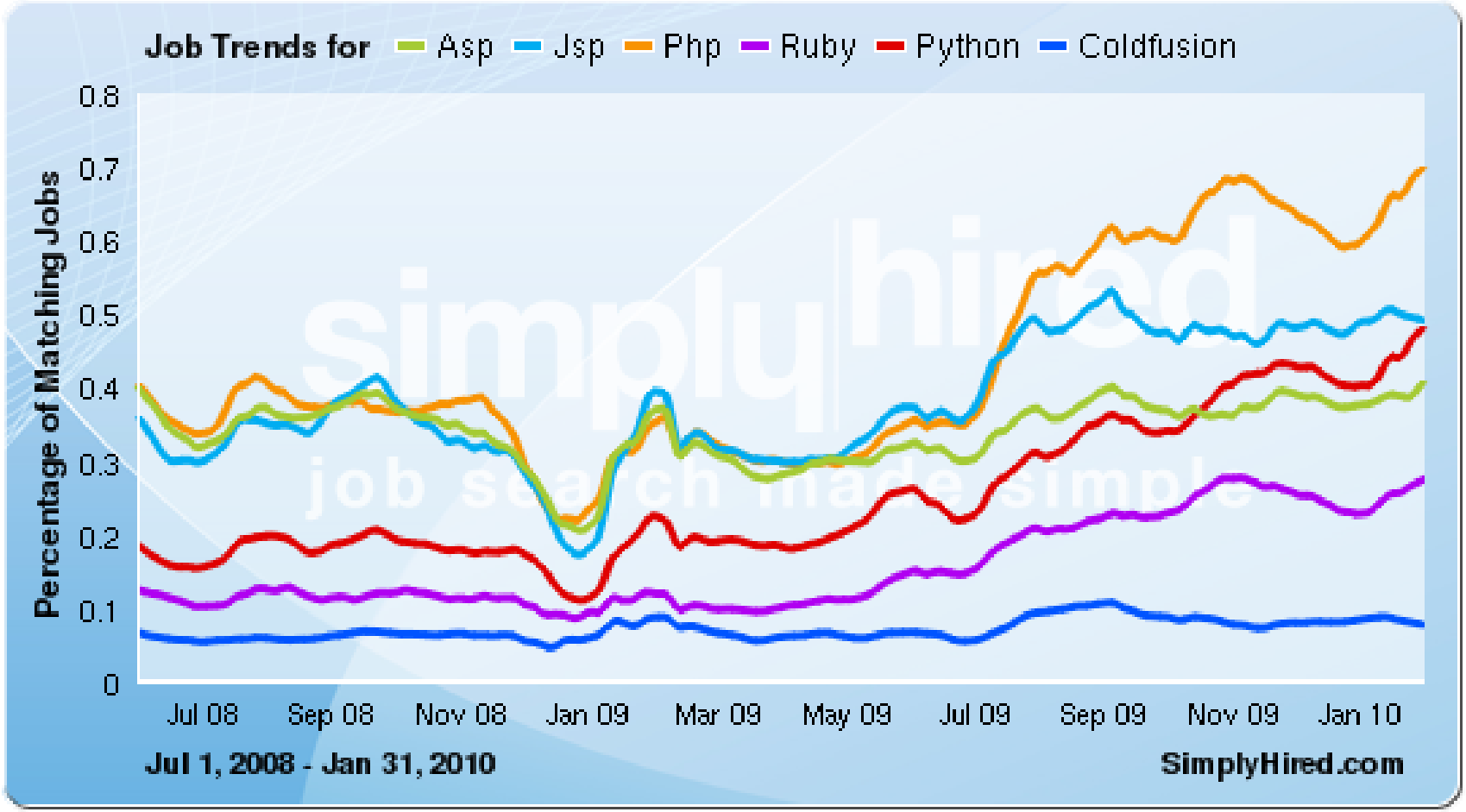
Usage of server-side programming languages for websites, 11 Mar 2014, W3Techs.com

	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%

Sites

- Facebook.com
- Wikipedia.org
- Qq.com
- Taobao.com
- Sina.com.cn
- Wordpress.com
- Vk.com
- Weibo.com
- Babylon.com
- Mail.ru

Angajare


Job Trends for
Asp
Jsp
Php
Ruby
Python
Coldfusion
Percentage of Matching Jobs
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Jul 08
Sep 08
Nov 08
Jan 09
Mar 09
May 09
Jul 09
Sep 09
Nov 09
Jan 10
Jul 1, 2008 - Jan 31, 2010
SimplyHired.com

PHP - Concepte

- limbaj interpretat – compilat “on the fly” de interpretorul PHP de pe server
- script-urile PHP contin sursele
  - exista posibilitatea pre-compilarii surselor pentru spor de viteza
  - Hip-Hop for PHP / Facebook
- orientat spre aplicatii web dinamice (biblioteci)
- poate fi integrat in HTML – utilizarea tipica

Integrare

```
539         <td><?php echo  $row['Documente'];?> </td>
540         <td><?php echo $row['user_creat'];?> </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">
```

Separare cod PHP

- un fisier sursa PHP este un fisier HTML (in general) cu sectiuni de cod PHP
- interpretorul PHP cauta sectiunile pe care trebuie sa le interpreteze si interiorul lor proceseaza instructiuni ca fiind PHP
- ce se gaseste in **exteriorul** acestor sectiuni este trimis spre server-ul web **nemodificat**

Separare cod PHP

- **<?php ... ?>**
  - stil XML – impicit, disponibil intotdeauna, recomandat
- <? ... ?>
  - scurt, este de obicei dezactivat
- <script language="php"> ... </script>
  - stil script, disponibil
- <% ... %>
  - stil ASP, de obicei dezactivat

Variante de integrare

- echo …. afiseaza un text la “iesire” (echivalent cu printf() din C)
- poate realiza procesarea datelor
- in exemplu se trimite spre iesire un sir static (echivalent cu puts() din C)
- “iesire” in marea majoritate a cazurilor reprezinta datele trimise clientului de server-ul web
- "iesire" poate fi considerata de obicei:
  - documentul curent
  - pozitia curenta

Variante de integrare

- Toate variantele ofera aceeasi sursa HTML pentru browser
- E **recomandata** cea care lasa structura HTML nemodificata si doar datele dinamice sunt rezultatul procesarii
- Codul HTML + PHP e interpretat mult mai elegant in editoarele WYSIWYG

```
<h1>Magazin online XXX SRL</h1>
<h2>Rezultate comanda</h2>
<?php echo '<p>Comanda receptionata</p>';?>
```

```
<h1>Magazin online XXX SRL</h1>
<h2>Rezultate comanda</h2>
<p><?php echo 'Comanda receptionata';?></p>
```

```
<?php echo '<h1>Magazin online XXX SRL</h1>';?>
<?php echo '<h2>Rezultate comanda</h2>';?>
<?php echo '<p>Comanda receptionata</p>';?>
```

```
<?php
echo '<h1>Magazin online XXX SRL</h1>';
echo '<h2>Rezultate comanda</h2>';
echo '<p>Comanda receptionata</p>';
?>
```

PHP – instructiuni

- instructiunile PHP trebuie sa se termine cu **;**
  - exceptie: se poate omite ; la sfarsitul blocului de cod php: **… echo 'ceva' ?>**
- instructiunile pot sa fie scrise pe acelasi rand (fara trecerea la linia noua)
  - **echo 'ceva1'; echo 'ceva2'; …**
  - nu este in general recomandat

PHP – comentarii

- comentariile in PHP respecta regulile C si Pearl
- la sfarsit de linie:
  - // echo ceva; //comentariu
  - # echo ceva; #comentariu
- comentariu bloc
  - /* ... */
  - /* un comentariu
    pe mai multe
    linii */

PHP – constante

- Ca orice limbaj de programare PHP se bazeaza pe utilizarea
  - constante
  - variabile
  - functii
- Definirea constantelor:
  - define('PRETCARTE', 100);
  - "case sensitive"
  - prin conventie, numai cu litere mari
  - echo PRETCARTE; // 100

PHP – variabile

- variabila – semnul $ urmat de un nume
- numele e "case sensitive"
- o greseala frecventa e uitarea semnului $
  - PHP Notice: Use of undefined constant an – assumed $an (sau 'an') in D:\\Server\\
- Tipuri de date
  - scalar
  - compus
  - special

PHP – tipuri de date

- scalar
  - boolean
  - integer
  - float (double)
  - string
- compus
  - array
  - object
- special
  - resource
  - NULL

PHP – tipuri de date

- tipul de date nu e decis de programator prin declaratia variabilei
- e decis de interpretor in functie de tipul de date stocat in variabila respectiva
- declaratia variabilelor nu e necesara decat cand se declara un domeniu de definitie (variabile globale)
  - global $a, $b;
    $c=$a+$b;
- eliberarea memoriei nu este necesara, se face automat la terminarea executiei

PHP – tipuri de date

- tipul de date este in totalitate dependent de ceea ce se stocheaza
- PHP reactualizeaza tipul pentru a putea primi ceea ce se stocheaza

```
<?php
echo $variabila ;  //  tip Null, neinitializat – valoare NULL (doar)
$variabila = "0";  // $variabila  tip  string (ASCII 48)
$variabila  += 2;   // $variabila   tip  integer (2)
$variabila  = $variabila  + 1.3;  // $variabila   tip  float (3.3)
$variabila  = 5 + "10 obiecte"; // $variabila   tip  integer (15)
$var2=5; // $var2   tip  integer (5)
$variabila=$var2."10 obiecte";    //  $variabila  tip  string  "510 obiecte"
?>
```

PHP – operatori

- In general similari celor din C/C++
- Opertori
  - Aritmetici
  - Atribuire
  - Bit
  - Comparare
  - Incrementare/Decrementare
  - Logici
  - Sir

PHP – operatori

- Aritmetici
  - -$a – Negare
  - $a + $b – Adunare
  - $a - $b – Scadere
  - $a * $b – Inmultire
  - $a / $b Impartire
  - $a % $b Modulo (rest)
- Sir
  - $a.$b – Concatenare sir a si sir b

PHP – operatori

- Atribuire
  - $a=$b
  - $a+=$b (a=a+b)
  - $a-=$b (a=a-b)
  - $a/=$b (a=a/b)
  - $a*=$b (a=a*b)
  - $a%=$b (a=a%b)
  - $a.=$b (a=a concatenat b - siruri)

PHP – operatori

- Operatori la nivel de bit
  - similari celor din C
  - ~ , & , | , ^ , << , >>
- Operatori logici
  - ofera rezultat boolean true/false
  - similari celor din C
  - && , || , !
  - suplimentar
    - and , or , xor – echivalenti dar de prioritate mai mica
    - $a=55/0 or die('impartire prin 0');

PHP – operatori

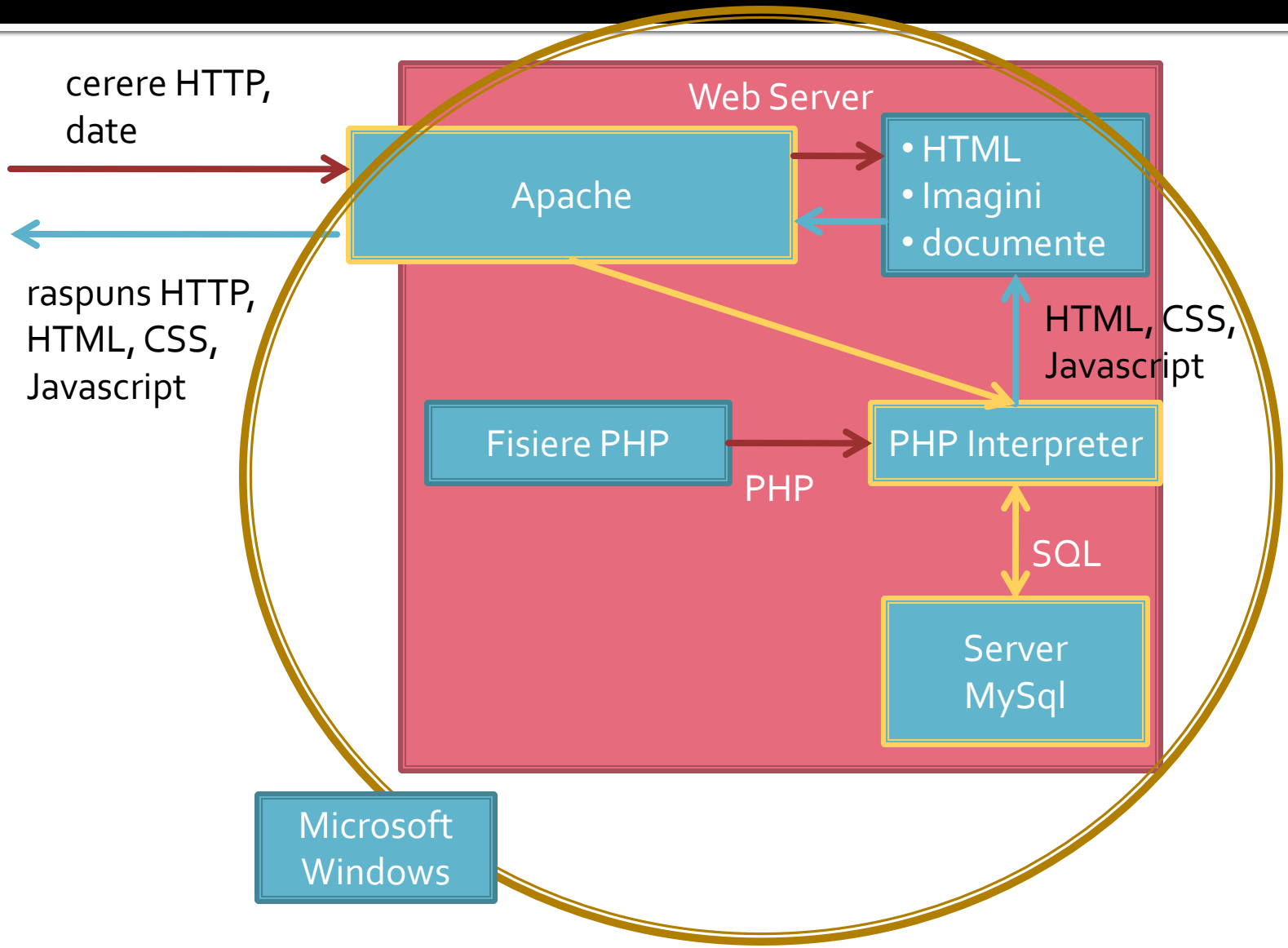
- Operatori de comparare
  - ofera rezultat boolean true/false
  - similari celor din C
  - == , != , > , < , <> , >= , <=
  - suplimentar
    - === identic, valoare egala SI de acelasi tip
    - !== “neidentic”, valoare diferita SAU de tipuri diferite

Precedenta operatorilor

non-associative	clone new	clone and new
left	[	array()
non-associative	++ --	increment/decrement
right	~ - (int) (float) (string) (array) (object) (bool) @	types
non-associative	instanceof	types
right	!	logical
left	* / %	arithmetic
left	+ - .	arithmetic and string
left	<< >>	bitwise
non-associative	< <= > >= <>	comparison
non-associative	== != === !==	comparison
left	&	bitwise and references
left	^	bitwise
left	|	bitwise
left	&&	logical
left	||	logical
left	? :	ternary
right	= += -= *= /= .= %= &= |= ^= <<= >>=	assignment
left	and	logical
left	xor	logical
left	or	logical
left	,	many uses

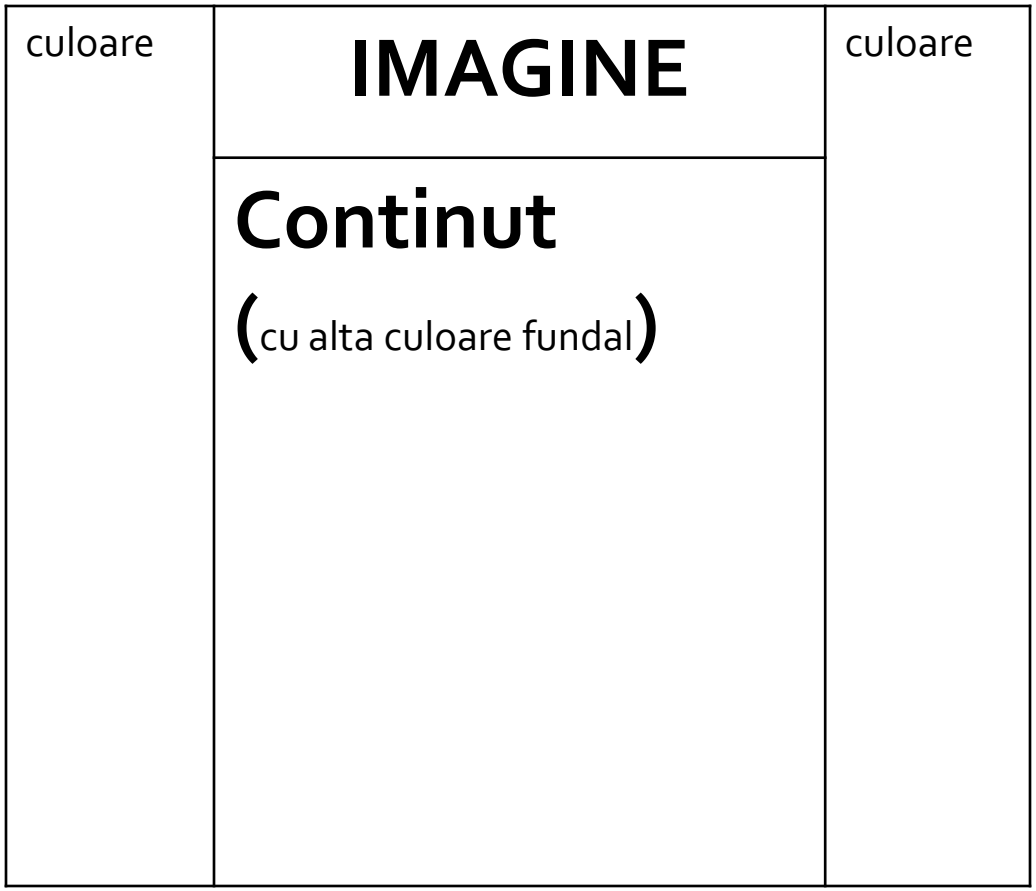
Laborator 2

Continuare/finalizare WAMP



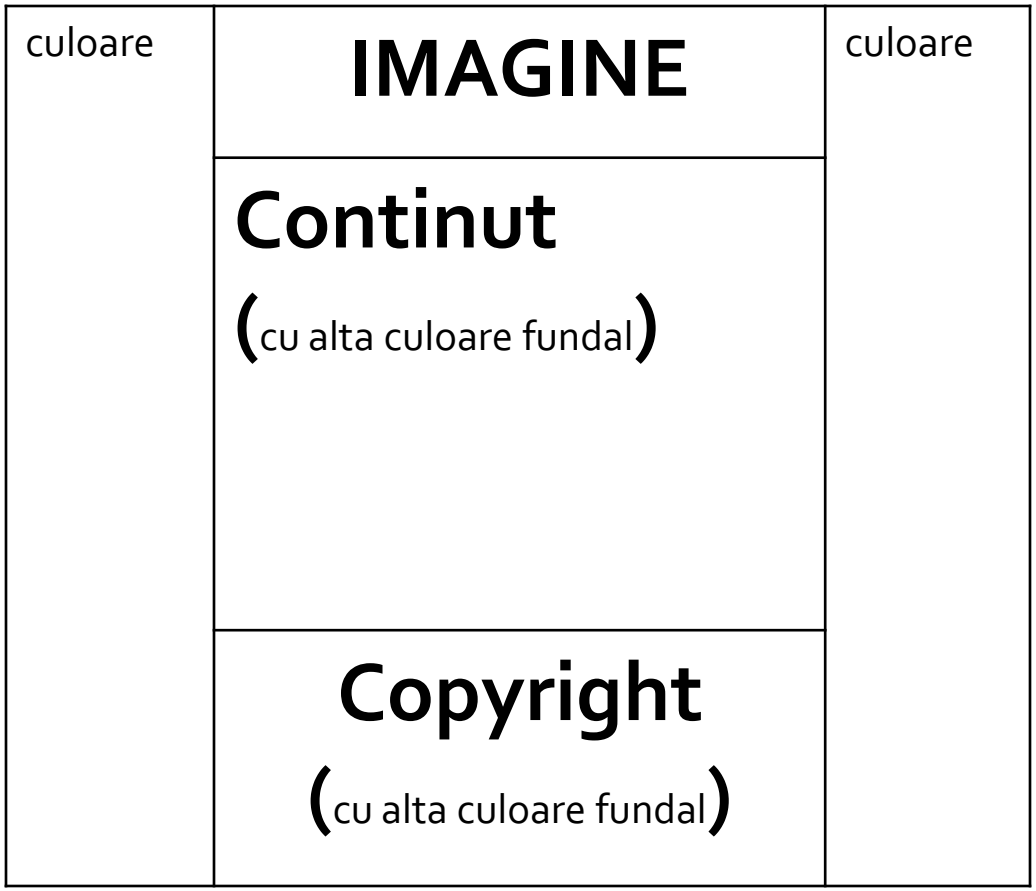
HTML

- se creaza o pagina care sa arate ca in schita alaturata
- forma paginilor:
  - tabel
- Se experimenteaza diversele elemente de interactiune cu utilizatorul (<form>)



Suplimentar

- forma din schita alaturata
- forma paginilor:
  - tabel controlat prin CSS



Contact

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