Sveučilište u Zagrebu
PMF – Matematički odjel

Mreže računala

Vježbe 10

Matko Botinčan
Zvonimir Bujanović
Igor Jelaska
Maja Karaga

XHTML

- HTML == HyperText Markup Language
  - služi za definiciju strukture i sadržaja dokumenata na internetu
  - aktualna verzija: 4.01
- XHTML == XML HyperText Markup Language
  - *"A reformulation of HTML in XML."*

    — W3C Recommendation @ http://www.w3.org/TR/xhtml1/

Važna napomena:

HTML/XHTML treba koristiti samo za strukturiranje i opisivanje sadržaja dokumenata!
(ne i za dizajn)

Što je XML?

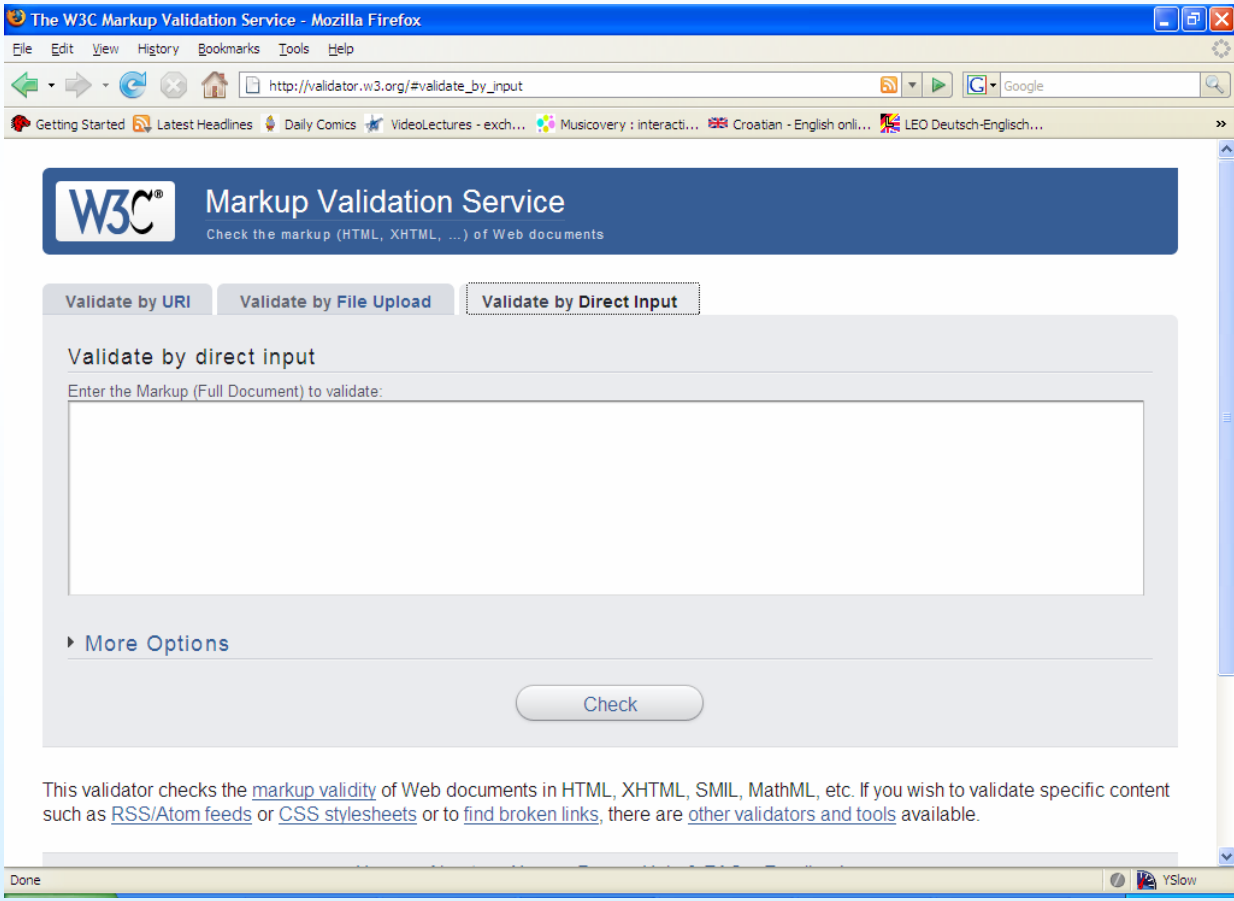
- XML == EXtensible Markup Language
- Općeniti markup jezik za strukturirano opisivanje podataka.
- Primjer:
  - <?xml version="1.0" encoding="UTF-8"?>
    <note>
    <author>André Gide</author>
    <quote>Believe those who are seeking the truth; doubt those who find it.</quote>
    </note>

Najvažnija pravila za XHTML

- Imena svih elemenata i atributa pišu se malim slovima
- Svi neprazni elementi (npr. , <li>) moraju imati zatvarajući tag (npr. ,), te biti dobro ugniježdeni
- Svi prazni elementi (npr. br, hr, img) moraju biti zatvoreni ili imati / na kraju (npr.
, <hr />, <img />)
- Vrijednosti atributa pišu se unutar dvostrukih navodnika
- Tip dokumenta specificira se putem tzv. doctype deklaracije:
  - XHTML 1.0 Transitional
    - <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
  - XHTML 1.0 Strict
    - <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
  - ...

(X)HTML validator

- http://validator.w3.org/
- Provjera markup validnosti (X)HTML dokumenata
  - putem URL-a
  - uploadom datoteke
  - direktnim unosom



HTML primjer

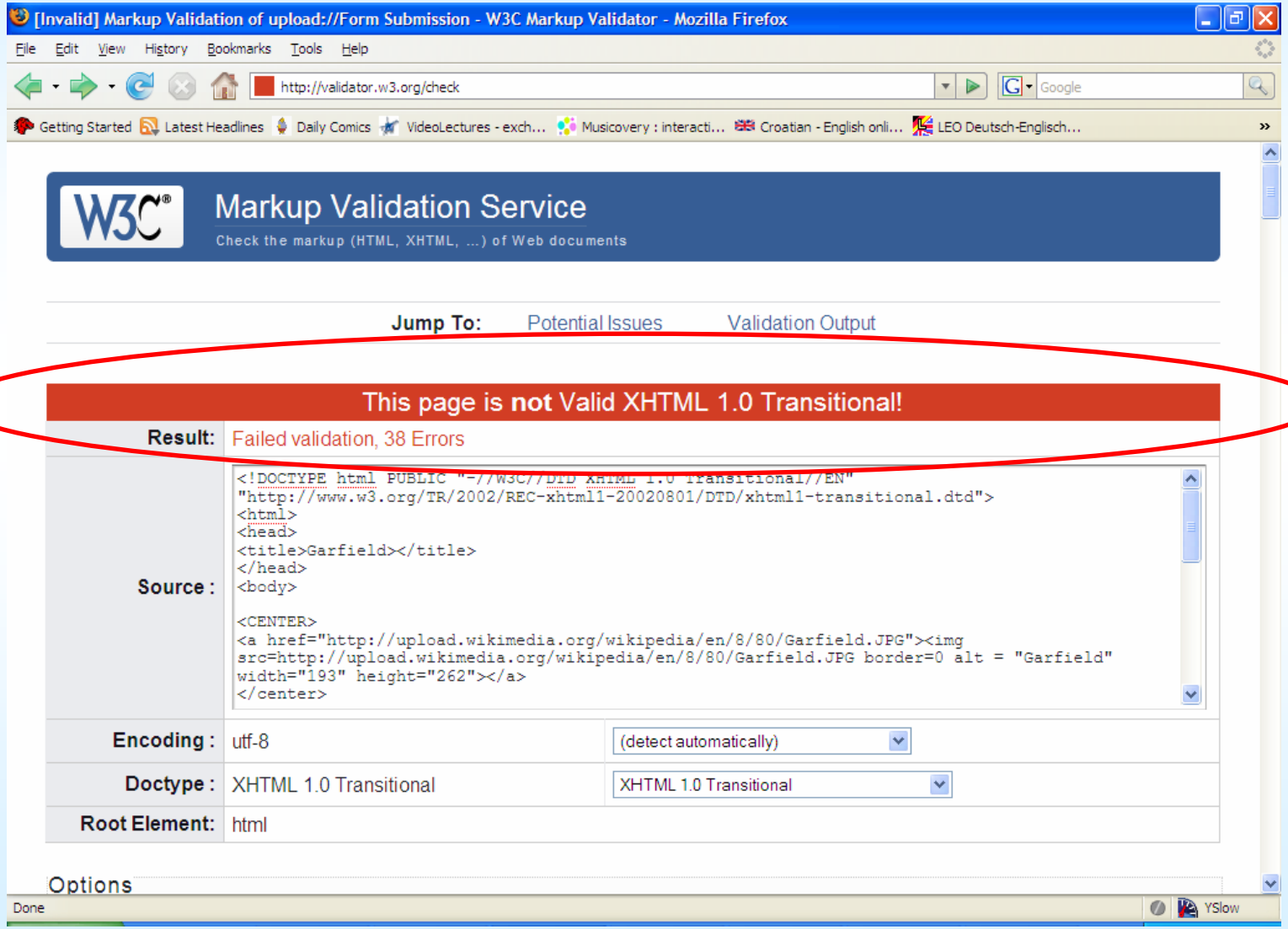
- <CENTER>
  <img src=http://upload.wikimedia.org/wikipedia/en/8/80/Garfield.JPG border=0 alt="Garfield" width="193" height="262">

  <hr size = 1>

  Fact 1
  <p>Garfield was born in the kitchen of Mama Leoni's Italian Restaurant and developed a taste for lasagna the day he was born. This was revealed on a Garfield TV special called Garfield: His nine lives. Ever since then, it has always been his favorite food.

  Fact 2
  <p>Garfield is not exclusively drawn by its creator. Jim Davis still writes and makes rough sketches for the strip, but his company, Paws, employs cartoonists and assistants who do most of the work of the finished drawing and inking, while Davis's final job is usually confined to approving and signing the finished strip. Otherwise, Davis spends most of his time managing the business and merchandising of Garfield.

Da li se ovaj HTML kod validira kao XHTML?



XHTML-iziranje primjera [1]

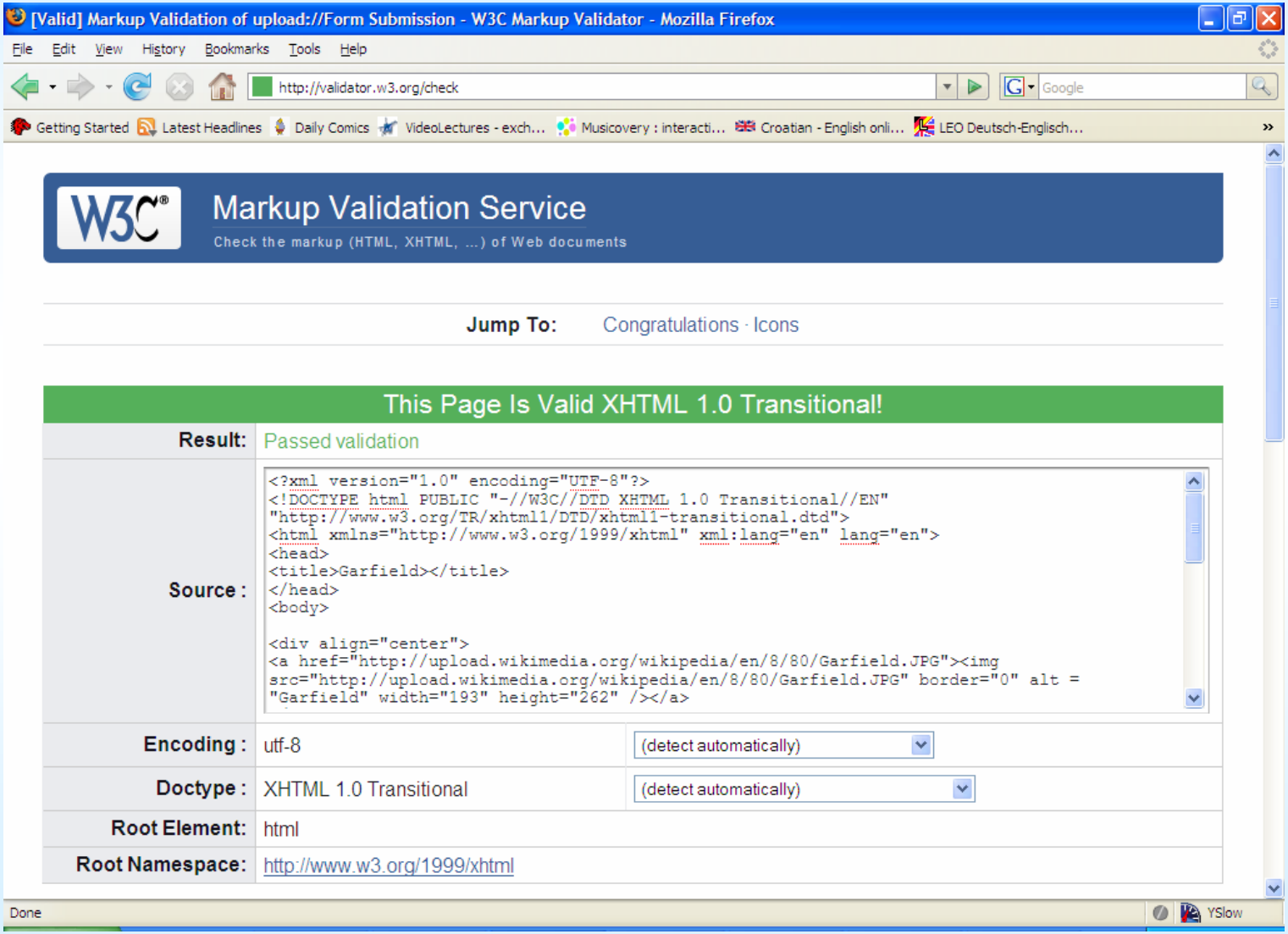
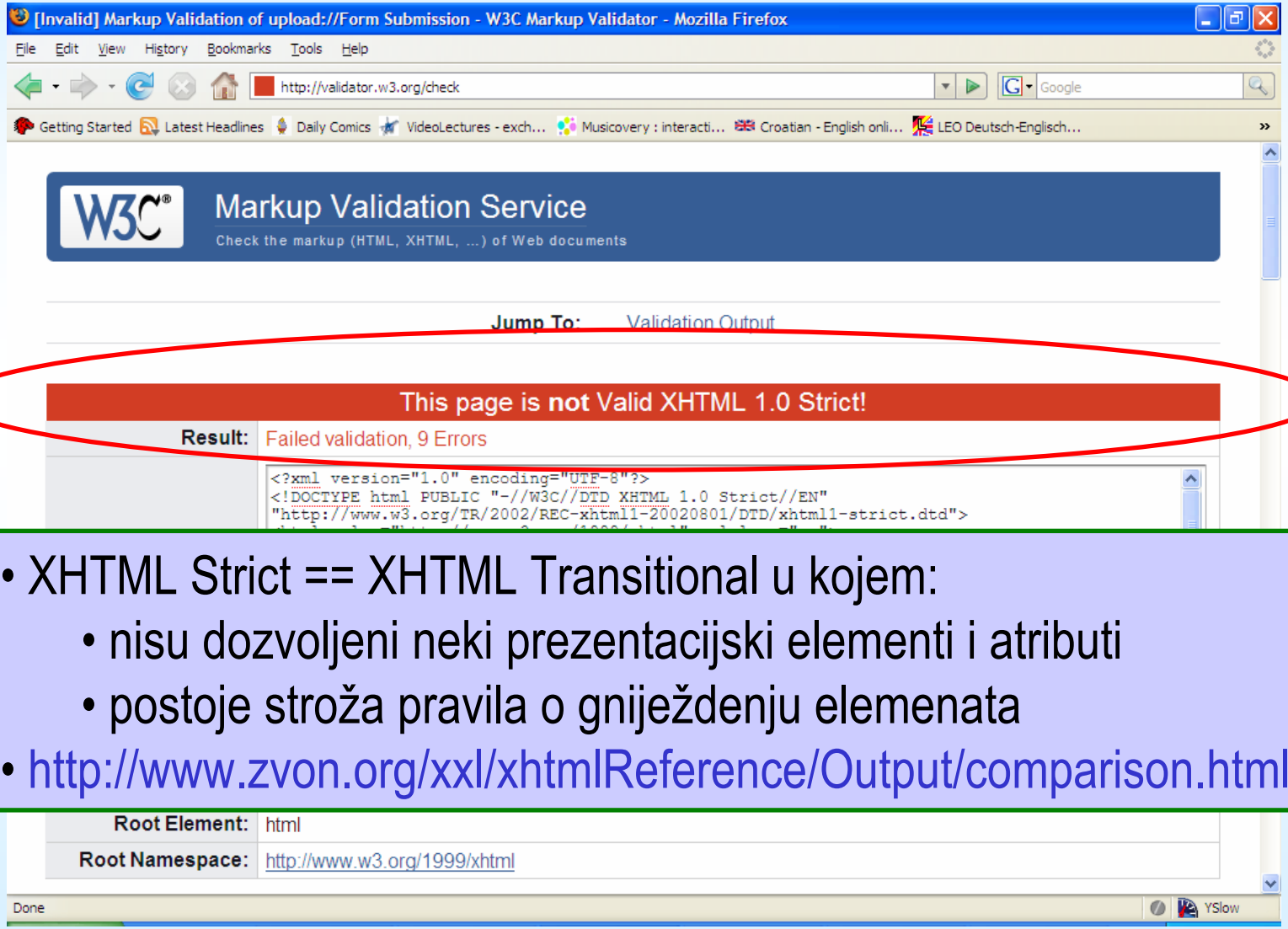
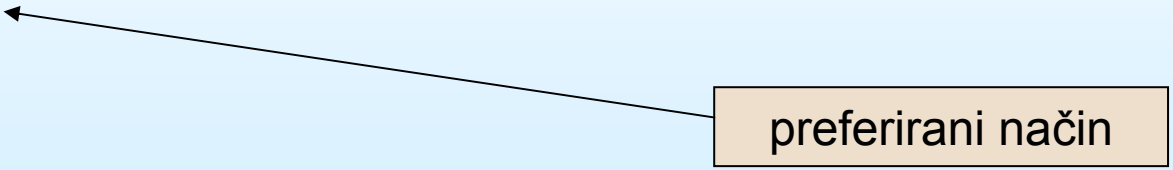
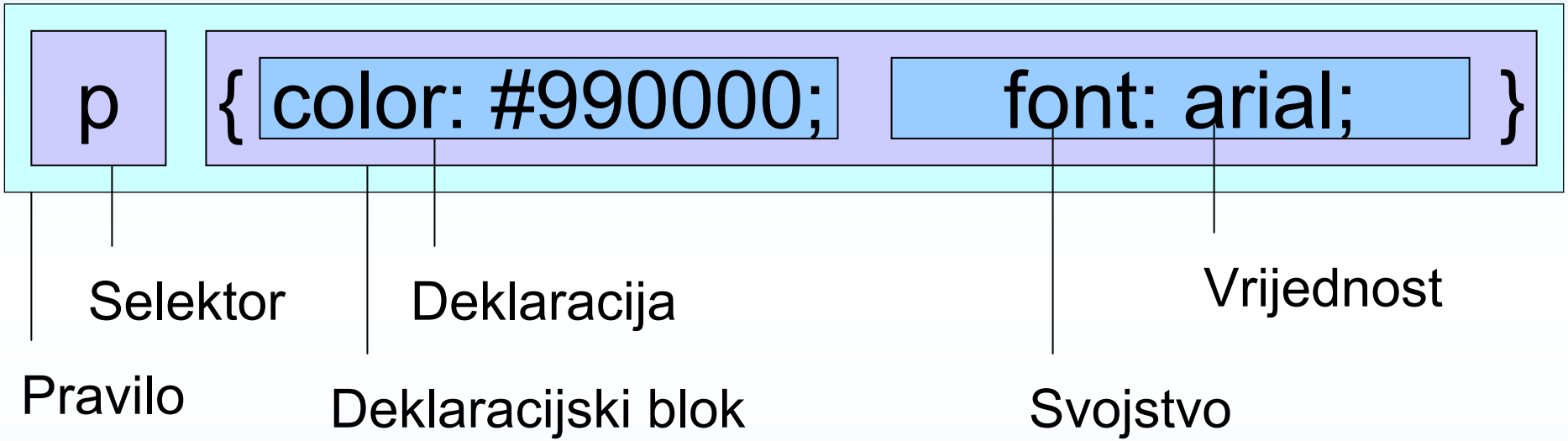
- <?xml version="1.0" encoding="UTF-8"?>
  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
  <html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en">
  <head>
  <title>Garfield</title>
  </head>

  <body>

  ...slijedeći slide...

  </body>
  </html>

XHTML-iziranje primjera [2]

- ```

  <a href="http://upload.wikimedia.org/wikipedia/en/8/80/Garfield.JPG"><img
  src="http://upload.wikimedia.org/wikipedia/en/8/80/Garfield.JPG" border="0"
  alt="Garfield" width="193" height="262" /></a>

  <hr />

  <font size = "+3" color = "#990000">Fact 1</font>
  Garfield was born in the kitchen of Mama Leoni's Italian Restaurant and developed a
  taste for lasagna the day he was born. This was revealed on a Garfield TV special called
  Garfield: His nine lives. Ever since then, it has always been his favorite food.
  <br />
  <br />
  <font size = "+3" color = "#990000">Fact 2</font>
  Garfield is not exclusively drawn by its creator. Jim Davis still writes and makes
  rough sketches for the strip, but his company, Paws, employs cartoonists and assistants
  who do most of the work of the finished drawing and inking, while Davis's final job is
  usually confined to approving and signing the finished strip. Otherwise, Davis spends
  most of his time managing the business and merchandising of Garfield.
  <br />
  ```
  ```

Validan XHTML kod!



Zapravo...



- XHTML Strict == XHTML Transitional u kojem:
  - nisu dozvoljeni neki prezentacijski elementi i atributi
  - postoje stroža pravila o gniježdenju elemenata
- http://www.zvon.org/xxl/xhtmlReference/Output/comparison.html

Literatura za XHTML

- XHTML materijali za ex. RP1 (by Vedran Čačić)
  - http://web.math.hr/~veky/rp1/vjezbe3/
- W3Schools XHTML Tutorial
  - http://www.w3schools.com/xhtml/default.asp
- New York Public Library XHTML Guidelines and Benefits
  - http://www.nypl.org/styleguide/xhtml/index.html
- XHTML 1.0 W3C Recommendation
  - http://www.w3.org/TR/xhtml1/
- XHTML 1.0 reference with examples
  - http://www.zvon.org/xxl/xhtmlReference/Output/index.html

CSS

- CSS == Cascading Style Sheets
- Stilske kartice (engl. style sheets) opisuju kako (X)HTML dokument treba prikazati
  - sastoje se od niza pravila koje se primjenjuju na elemente stranice
  - kontroliraju razmještaj elemenata na stranici, njihov stil i prikaz

Važna napomena:

Sve stilske aspekte (X)HTML dokumenta treba zapisati korištenjem CSS-a!
(na taj način stil je moguće u potpunosti odvojiti od sadržaja)

Demonstracija mogućnosti CSS-a

- CSS Zen Garden
  - http://www.csszengarden.com/

css Zen Garden: The Beauty in CSS Design - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://www.csszengarden.com/
Google
Getting Started Latest Headlines Daily Comics VideoLectures - exch... Musicovery : interacti... Croatian - English onli... LEO Deutsch-Englisch...
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, WaSP and the major browser creators.
The css Zen Garden invites you to relax and meditate on the important lessons of the masters. Begin to see with clarity. Learn to use the (yet to be) time-honored techniques in new and invigorating fashion. 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, and encourage participation. To begin, view some of the existing designs in the list. Clicking on any one will load the style sheet into this very page. The code remains the same, the only thing that has changed is the external .css file. Yes, really.
CSS allows complete and total control over the style of a hypertext document. The only way this can be illustrated in a way that gets people excited is by demonstrating what it can truly be, once the reins are placed in the hands of those able to create beauty from structure. To date, most examples of neat tricks and hacks have been demonstrated by structurists and coders. Designers have yet to make their mark. This needs to change.
Participation
select a design:
CSS Co., Ltd. by Benjamin Klemm
Sakura by Tatsuya Uchida
Kyoto Forest by John Politowski
A Walk in the Garden by Simon Van Hauwermeiren
spring360 by Rene Hornig
Withering Beauty by William Duffy
Tiny Blue by Timo Virtanen
Retro Theater by Eric Rogé
archives:
next designs »
View All Designs
resources:
http://www.csszengarden.com/?cssfile=/202/202.css&page=0
YSlow

css Zen Garden: The Beauty in CSS Design - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://www.csszengarden.com/?cssfile=/209/209.css&page=0
Getting Started Latest Headlines Daily Comics VideoLectures - exch... Musicovery : interacti... Croatian - English onli... LEO Deutsch-Englisch...
Download the sample html file and css file
CSS Zen Garden
A demonstration of what can be accomplished visually through CSS-based design. Select any stylesheet from the list to load it into this page.
Select a Design
CSS Co., Ltd. by Benjamin Klemm
Sakura by Tatsuya Uchida
Kyoto Forest by John Politowski
A Walk in the Garden by Simon Van Hauwermeiren
spring360 by Rene Hornig
Withering Beauty by William Duffy
Tiny Blue by Timo Virtanen
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, WaSP and the major browser creators.
The css Zen Garden invites you to relax and meditate on the important lessons of the masters. Begin to see with clarity. Learn to use the (yet to be) time-honored techniques in new and invigorating fashion. Become one with the web.
So What is This About
Participation
Done
YSlow

css Zen Garden: The Beauty in CSS Design - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://www.csszengarden.com/?cssfile=/208/208.css&page=0
Getting Started Latest Headlines Daily Comics VideoLectures - exch... Musicovery : interacti... Croatian - English onli... LEO Deutsch-Englisch...
CSS Zen Garden
The Beauty of CSS Design
Select a Design
CSS Co., Ltd. by Benjamin Klemm
Sakura by Tatsuya Uchida
Kyoto Forest by John Politowski
A Walk in the Garden by Simon Van Hauwermeiren
spring360 by Rene Hornig
Withering Beauty by William Duffy
Tiny Blue by Timo Virtanen
Retro Theater
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, WaSP and the major browser creators.
The css Zen Garden invites you to relax and meditate on the important lessons of the masters. Begin to see with clarity. Learn to use the (yet to be) time-honored techniques in new and invigorating fashion. Become one with the web.
The Road to Enlightenment
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, and encourage participation. To
Done
YSlow

Status CSS-a na početku 2008.

- Standardizirana verzija: CSS 1
- Pred standardizacijom: CSS 2.1
- U pripremi: CSS 3
- Podrška web preglednika:
  - Firefox 2.x – kompletni CSS 1, veći dio CSS 2.1
  - Opera 9.x – kompletni CSS 1, veći dio CSS 2.1
  - Internet Explorer 6+ – kompletni CSS 1 (s nekim bugovima), manji dio CSS 2.1
    - Internet Explorer 7 – neka poboljšanja

Standards vs. Quirks

- Moderni web preglednici podržavaju dva moda rada: Standards i Quirks
- Standards mod
  - za prikazivanje koda koji je u skladu sa (nekim) standardom
  - nužno potrebno navesti doctype deklaraciju
- Quirks mod
  - za prikazivanje starog koda ili koda koji nije u skladu sa (nekim) standardom

Gdje se sve mogu nalaziti CSS pravila

- Unutar elemenata
  - korištenjem atributa style na (X)HTML tagu
  - …

- Umetnuti u vlastitom style elementu
  - <style> p {color: #990000;} </style>

- U vanjskoj datoteci povezanoj s (X)HTML dokumentom
  <link rel="stylesheet" href="stil.css" type="text/css" />



Struktura CSS pravila



Osnovni tipovi CSS selektora

Tag

```
<p>Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.</p>
<p>Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.</p>
```

```
p {
  color: #990000;
}
```

Class

```
<p class="latin">Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.</p>
<p class="latin">Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.</p>
```

```
p.latin {
  color: #990000;
}
```

Id

```
<p id="latin1">Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.</p>
<p id="latin2">Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.</p>
```

```
p#latin1, #latin2 {
  color: #990000;
}
```

Još o CSS selektorima

```
P { color: black; }                          /* Tag */
P, H1, H2 { color: black; }                  /* Grupiranje */
* { color: black; }                          /* Univerzalni selektor */
P.urgent, .Error { color: black; }           /* Selektor klase */
#Menu { color: black; }                      /* Selektor id-a */
*[title], A[href][title] { color: black; }   /* Selektor atributa */
A[title="home page"] { color: black; }       /* Selektor atributa - egzaktni */
A[title~="foo"] { color: black; }            /* Selektor atributa - parcijalni */
*[lang|="en"] { color: black; }              /* Selektor atributa - partikularni */
UL  LI  UL { color: black; }                 /* Selektor potomka */
P > STRONG { color: black; }                 /* Selektor djeteta */
A:hover { color: black; }                    /* Selektor pseudoklase */
P:first-letter { font-size: 200%; }          /* Selektor pseudoelementa */
```

Česta svojstva u deklaracijama

background	background-attachment	background-color
background-repeat	border	bottom
color	cursor	display
float	font	font-family
font-size	font-style	font-weight
height	left	letter-spacing
line-height	list-style-image	list-style-position
list-style-type	margin	overflow
padding	position	right
text-align	text-decoration	text-indent
text-transform	top	vertical-align
visibility	white-space	width
word-spacing	word-wrap	z-index

Što označava "cascading" u CSS-u?

- Pravila se nasljeđuju od roditeljskih elemenata (dakle, propadaju prema "dolje")
- Što je CSS pravilo specifičnije, ima veći proritet
  - Pogledajte npr. http://web.math.hr/~veky/rp1/vjezbe4/vjezbe43.html za točnu formulu kojom se određuju prioriteti
- Ukoliko pravila imaju isti prioritet, primjenjuje se ono koje je posljednje specificirano

XHTML primjer

- ```

  <a href="http://upload.wikimedia.org/wikipedia/en/8/80/Garfield.JPG"><img
  src="http://upload.wikimedia.org/wikipedia/en/8/80/Garfield.JPG" border="0"
  alt="Garfield" width="193" height="262" /></a>

  <hr />

  <font size = "+3" color = "#990000">Fact 1</font>
  Garfield was born in the kitchen of Mama Leoni's Italian Restaurant and developed a
  taste for lasagna the day he was born. This was revealed on a Garfield TV special called
  Garfield: His nine lives. Ever since then, it has always been his favorite food.
  <br />
  <br />
  <font size = "+3" color = "#990000">Fact 2</font>
  Garfield is not exclusively drawn by its creator. Jim Davis still writes and makes
  rough sketches for the strip, but his company, Paws, employs cartoonists and assistants
  who do most of the work of the finished drawing and inking, while Davis's final job is
  usually confined to approving and signing the finished strip. Otherwise, Davis spends
  most of his time managing the business and merchandising of Garfield.
  <br />
  ```
  ```

Izbacivanje stilova [1]

-

  <h2 class="fact">Fact 1</h2>
  Garfield was born in the kitchen of Mama Leoni's Italian Restaurant and developed a taste for lasagna the day he was born. This was revealed on a Garfield TV special called Garfield: His nine lives. Ever since then, it has always been his favorite food.

  <h2 class="fact">Fact 2</h2>
  Garfield is not exclusively drawn by its creator. Jim Davis still writes and makes rough sketches for the strip, but his company, Paws, employs cartoonists and assistants who do most of the work of the finished drawing and inking, while Davis's final job is usually confined to approving and signing the finished strip. Otherwise, Davis spends most of his time managing the business and merchandising of Garfield.

Izbacivanje stilova [2]

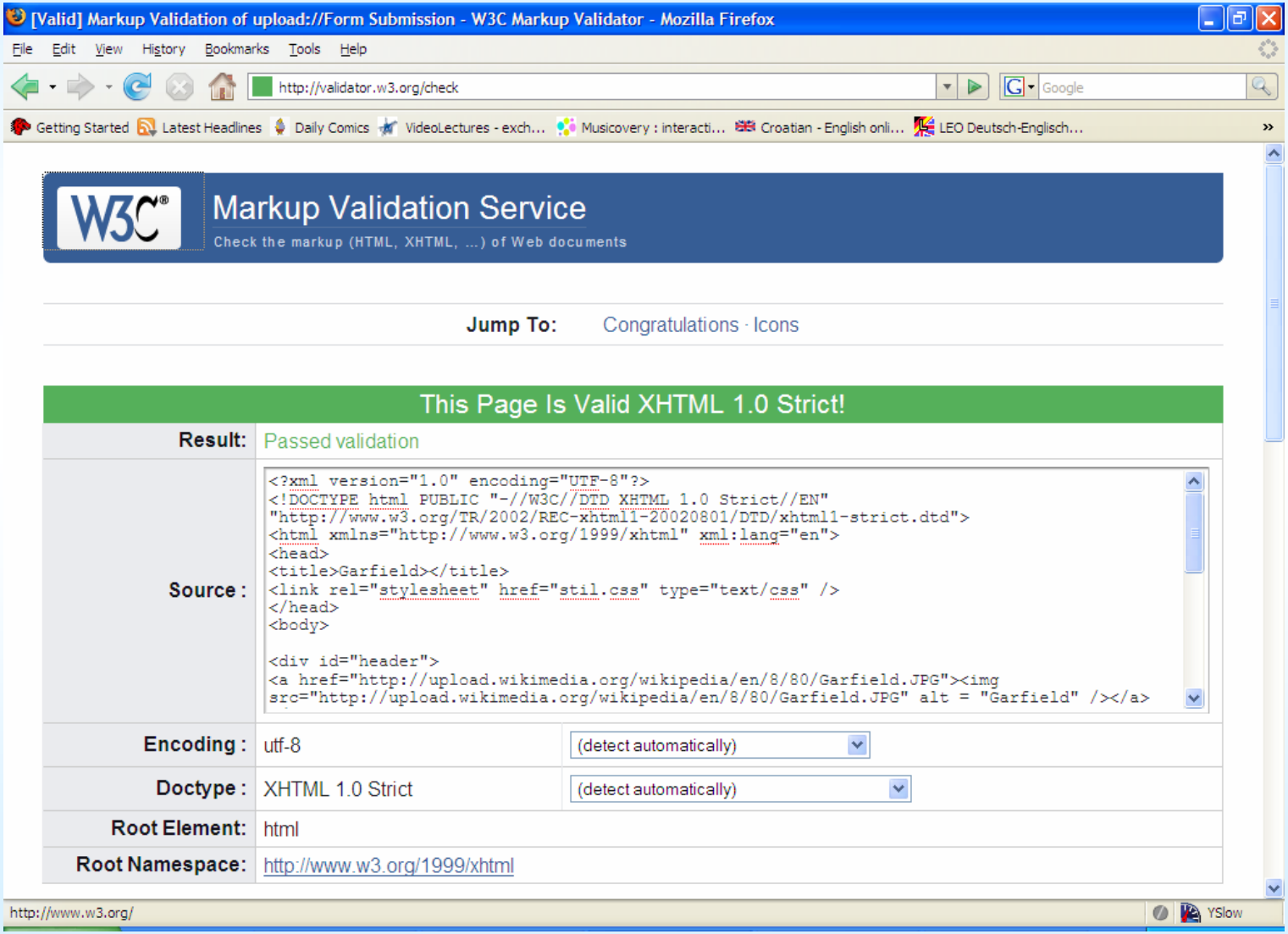
- <?xml version="1.0" encoding="UTF-8"?>
  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
  <html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en">
  <head>
  <title>Garfield</title>
  <link rel="stylesheet" href="stil.css" type="text/css" />
  </head>

  <body>

  ...prethodni slide...

  </body>
  </html>

Validan kod kao XHTML Strict!



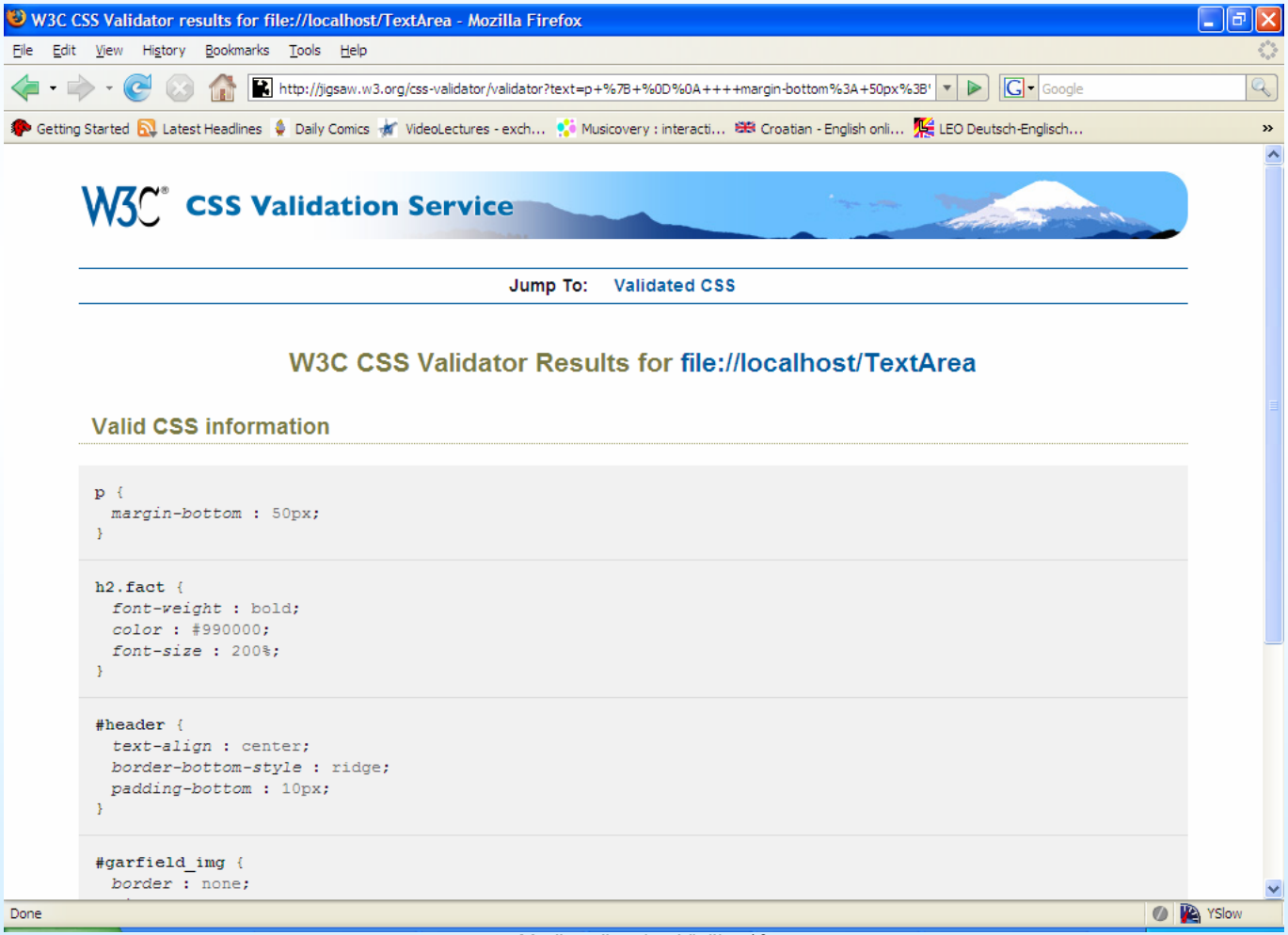
Definicija stilova pomoću CSS-a

stil.css

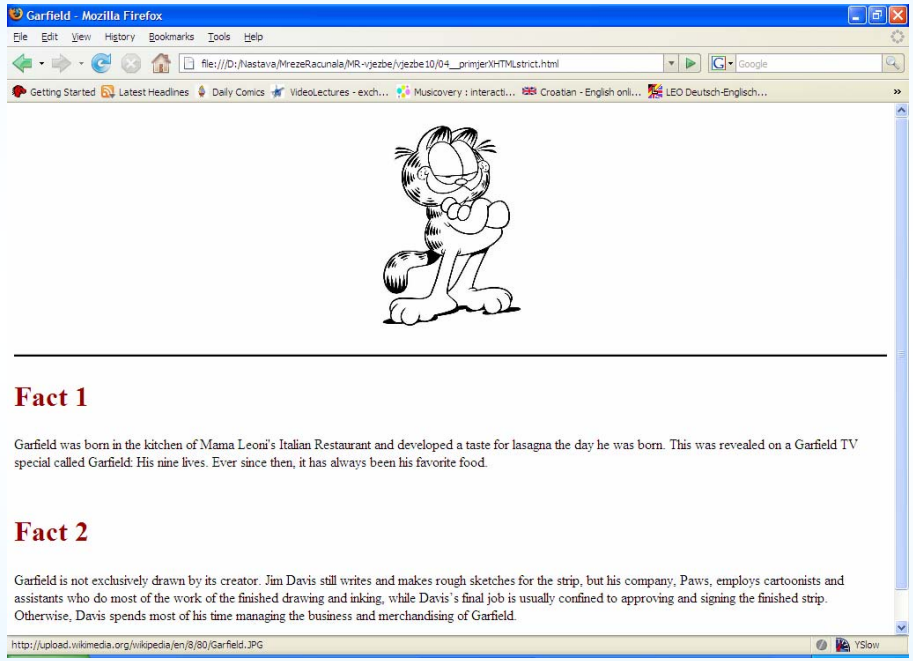
```
p {
    margin-bottom: 50px;
}

h2.fact {
    font-weight: bold;
    color: #990000;
    font-size: 200%;
}

#header {
    text-align: center;
    border-bottom-style: ridge;
    padding-bottom: 10px;
}

#garfield_img {
    border: none;
    width: 193px;
    height: 262px;
}
```

CSS Validator

- http://jigsaw.w3.org/css-validator/



Primjer: prije i poslije



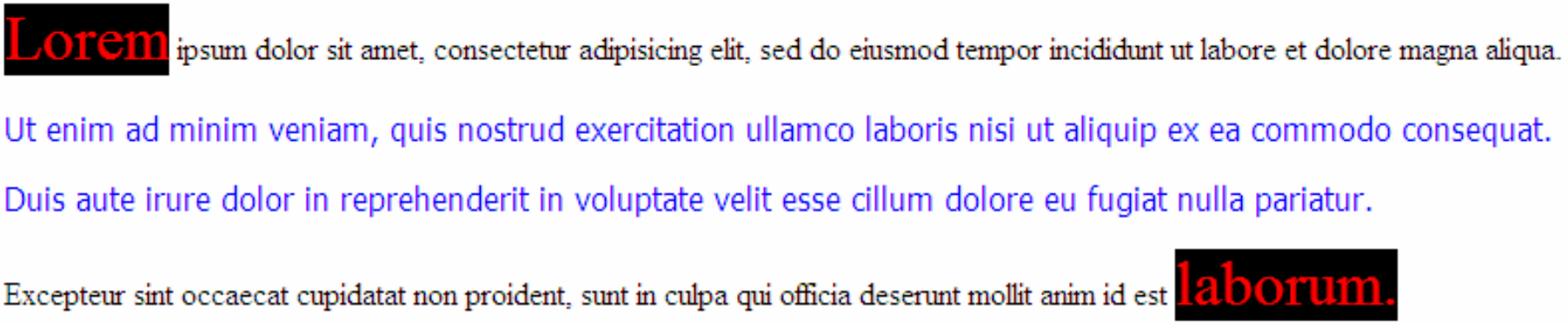
div i span (X)HTML elementi

- U Strict XHTML-u nisu dozvoljeni stilizirajući elementi, pa stilove primjenjujemo na generičke kontejnerske elemente kojima "obuhvatimo" elemente na koje želimo primijeniti stil
  - div – za blokovske elemente
  - span – za linijske elemente
- Primjer:

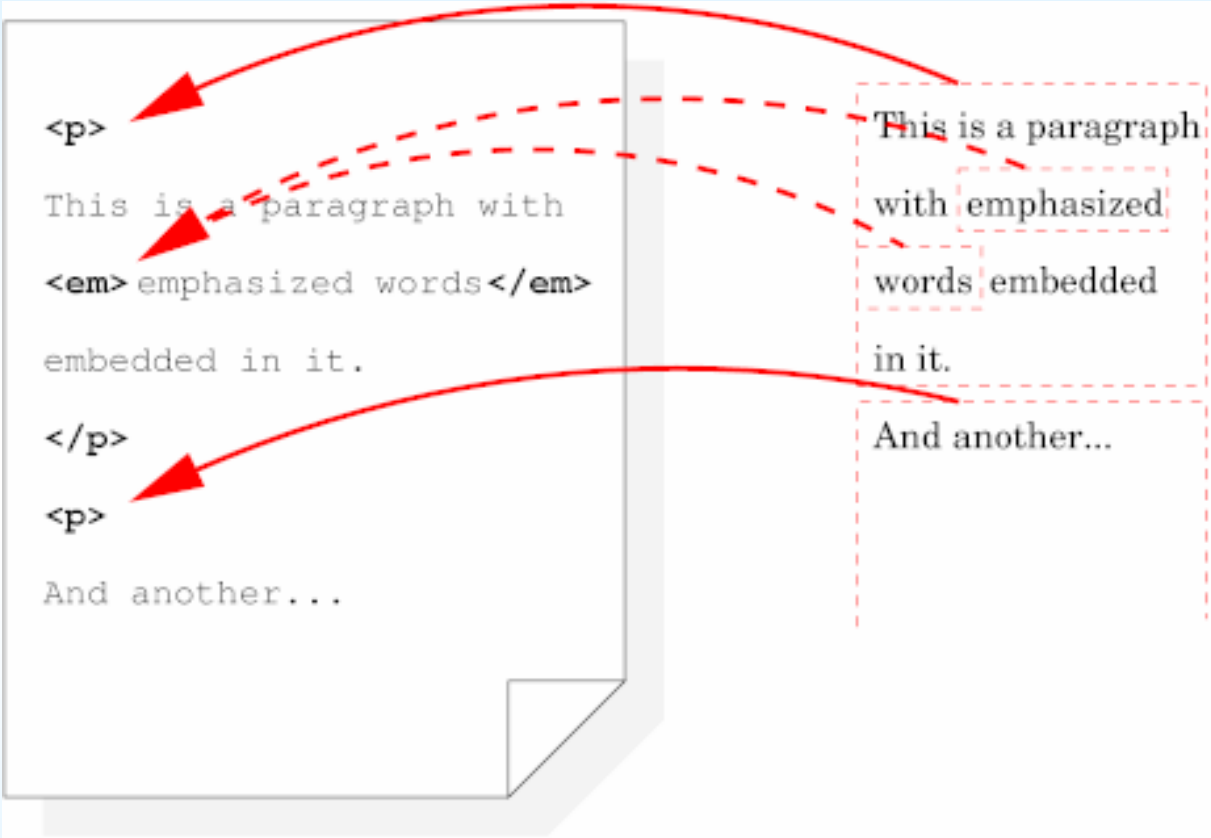
```
<p><span class="begin-end">Lorem</span> ipsum dolor sit amet,
consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et
dolore magna aliqua.</p>
<div id="two-three">
<p>Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi
ut aliquip ex ea commodo consequat.</p>
<p>Duis aute irure dolor in reprehenderit in voluptate velit esse cillum
dolore eu fugiat nulla pariatur.</p>
</div>
<p>Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia
deserunt mollit anim id est <span class="begin-end">laborum.</span></p>
```

- CSS:

```
.begin-end {
  font-size: 32px;
  color: red;
  background: black;
}
#two-three {
  color: blue;
  font-family: tahoma,verdana;
}
```

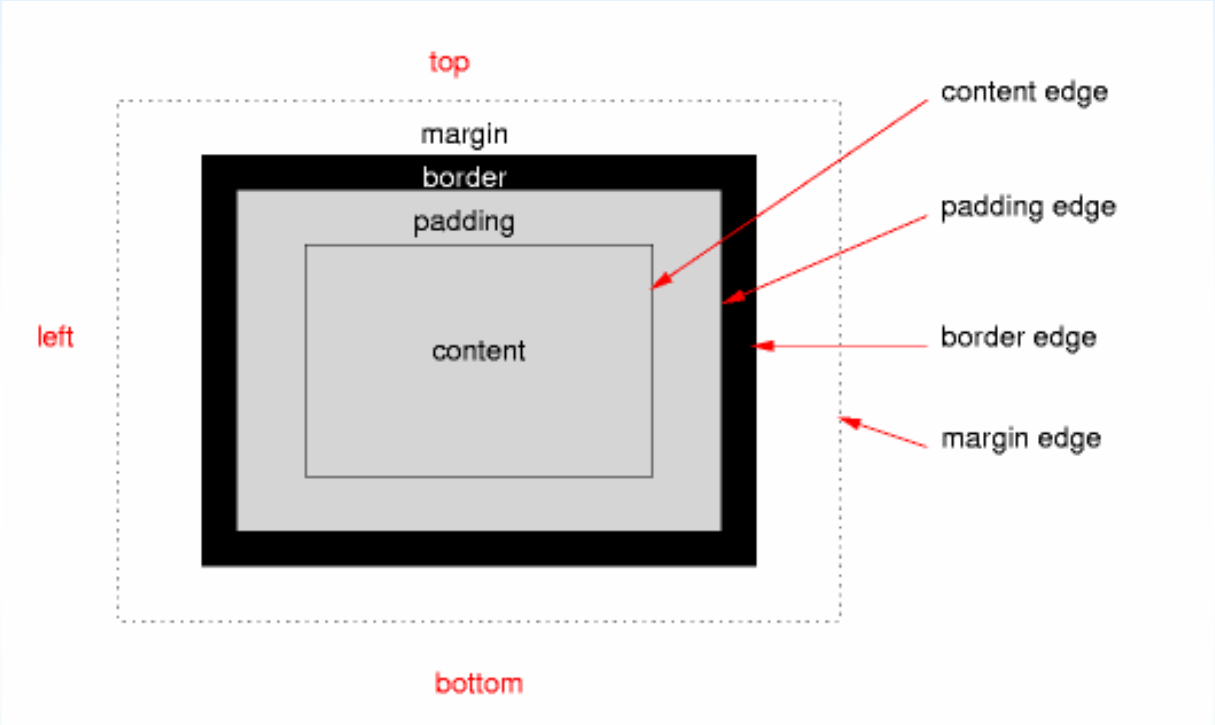


CSS box model [1]



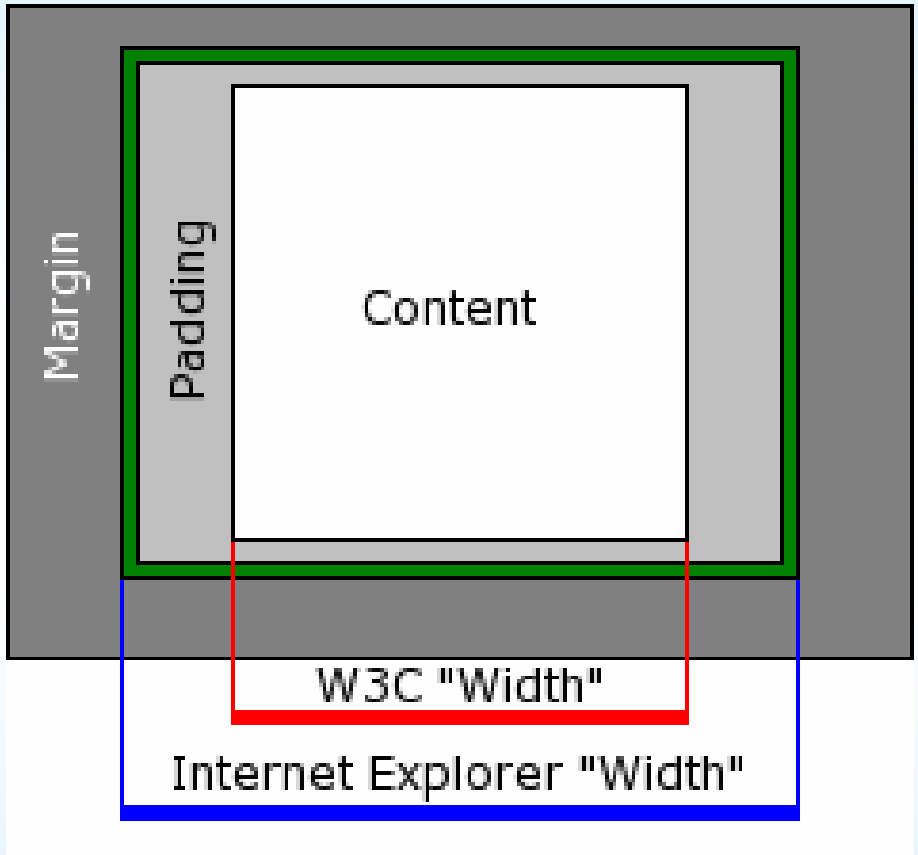
http://www.w3.org/TR/css3-box/

CSS box model [2]



Objašnjenje ovih pojmova:
http://web.math.hr/~veky/rp1/vjezbe4/vjezbe45.html

Bug u implementaciji CSS-a kod Internet Explorera



http://en.wikipedia.org/wiki/Internet_Explorer_box_model_bug

(do verzije 6 u Standards modu, te sve verzije u Quirks modu)

Strukturiranje izgleda stranice

- Rasporedite dizajn stranice u sekcije
- Koristite div elemente kako biste definirali sekcije unutar (X)HTML dokumenta
- Stilizirajte sekcije pomoću CSS-a
- Koristite float svojstva kako biste pozicionirali sekcije

- Važna napomena:
  (X)HTML tabele treba koristiti samo za tabelarni prikaz podataka, ne i za strukturiranje izgleda web stranice.

Float svojstvo

- Upotreba float svojstva omogućava svrstavanje elemenata na lijevu ili desnu stranu prozora web preglednika

  float: left | right | none | inherit

- Primjer: col1 i col2 bit će prikazani jedan do drugoga s lijeve strane, a col3 će biti gurnut na desnu stranu.

```
<div id="col1" style="float:left;">…</div>
<div id="col2" style="float:left;">…</div>
<div id="col3" style="float:right;">…</div>
```

- Još primjera...

Literatura za CSS

- CSS materijali za ex. RP1 (by Vedran Čačić)
  - http://web.math.hr/~veky/rp1/vjezbe4/
- W3Schools CSS Tutorial
  - http://www.w3schools.com/css/
- HTML Dog CSS tutorials
  - http://www.htmldog.com/guides/cssbeginner/
- W3C Cascading Style Sheets home page
  - http://www.w3.org/TR/xhtml1/
- CSS 2 reference with examples
  - http://www.zvon.org/xxl/CSS2Reference/Output/index.html
- Cascading Style Cheatsheet
  - http://home.tampabay.rr.com/bmerkey/cheatsheet.htm

Preporuke: plug-inovi za Firefox

- Web Developer Toolbar
  - http://addons.mozilla.org/en-US/firefox/addon/60
- Firebug
  - http://addons.mozilla.org/en-US/firefox/addon/1843
- Html validator
  - http://addons.mozilla.org/en-US/firefox/addon/249
- CSS validator
  - http://addons.mozilla.org/en-US/firefox/addon/2289