

# Salvedicta

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"Find your own stress level — the speed at which you can run toward your own goal. Make sure that both the stress level and the goal are really your own, and not imposed upon you by society, for only you yourself can know what you want and how fast you can accomplish it. There is no point in forcing a turtle to run like a racehorse or in preventing a racehorse from running faster than a turtle because of some 'moral obligation.' The same is true of people."

- Hans Selye

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# CSS for Styling

# Announcements

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- Is there any team who has not completed Assignment 0?
- Tentative Deadline: Tonight at midnight
  - Send a pointer to one user per group
    - to [martin@cs.rochester.edu](mailto:martin@cs.rochester.edu)
    - Include team name
- The 3:25-4:40 Lab has been moved to Lattimore 210.
  - There are no computers, so bring your laptops.
  - Each team will need at least one laptop.

# Assignment 0 Complete?

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Team	Lab	Done?
Llama	12:30	
Synapps	12:30	
Scrum City	12:30	
Backslash	2:15	
C.O.D.E.	2:15	
Hacklemore	2:15	
SqlThePrql	2:15	
Sk3m Team	3:25	
ContraWeb	3:25	
Cellar	3:25	
Team RNG	3:25	
Tautology	3:25	
No Name		

# Amazon Web Service

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- You are using a free version of a commercial service
  - ▣ They will charge you if you do things outside what is allowed for free.
  - ▣ They hope to be able to charge you, so be careful.
  - ▣ Do not run more than one server at a time, or they will charge you

# Amazon Web Service

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## □ Pro

- ▣ You are using a service that is one of the biggest cloud servers. It is what Xerox Research uses.
- ▣ It gives you a server that can be expanded simply by paying more money.
- ▣ If you set up your own web site, it is a decent choice.
- ▣ It gives you full access to a Linux server

## □ Con

- ▣ You are being marketed to
- ▣ There are other options.

# Unix

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- Unix is the foundation for all current operating systems
  - ▣ Mac run a proprietary version of Unix
  - ▣ Android is built from Linux
  - ▣ Linux is the most common operating system for Web Servers
  - ▣ Dos, on which Windows is based, was based on Unix.
- Learning Unix is a good thing.

# Emacs and Vi

- Vi is a text editor that was included with one of the earliest versions of Unix and it found on all Unixes
  - ▣ It is useful to know because you can edit files of any Unix machine
- Emacs is an early IDE (Integrated Development Environment) that has been included with Linux and its derivatives.
  - ▣ Learning Emacs is useful because it does more than Vi.



# SCM and Git

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- Source Control Management (SCM)
  - ▣ Working in a team requires sharing code
  - ▣ SCM makes it possible for multiple people to edit files
- Git
  - ▣ The SCM system we are using
  - ▣ It is open source and commonly used.
  - ▣ I am learning it myself, but have been told that it is the best one. It has team tools

# Recommendations for Team

10

- Choose one person in the team to be the expert on:
  - ▣ Unix
  - ▣ Editor
  - ▣ Git
  - ▣ AWS
- Everyone will need to know how to use these things, but if one person reads the manual, he or she can answer questions when they come up.

# Turning in Assignments

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- For each assignment 1-5
  - ▣ Create a splashscreen.html that indicates what each person on the team did for the assignment
  - ▣ The pointer you email goes to the splashscreen.html.
  - ▣ A pointer from splashscreen.html to the assignment.
- Each team send a pointer to their server before 10:00 AM Tuesday Morning.
  - ▣ Email the URL to martin@cs.rochester.edu

# Standup

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- What did you do? (Assignment 0 works?)
- What do you plan to do? (Get Assignment 0 working?)
- Barriers (Why Assignment 0 doesn't work. Or "no barriers")

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# Questions

Any questions?

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# Work on Assignment 0

Time to work with your Scrum Team

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# CSS for Styling

# The good, the bad and the... ugly!

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```
<p>  
<font face="Arial">Slashdot.</font>  
News for <b>nerds!!</b> You will <i>never</i>, <u>EVER</u>  
be  
<font size="+4" color="red">BORED</font> here!  
</p>
```

*HTML*

Slashdot. News for nerds!! You will never, EVER be **BORED**  
here!

*output*

- ❑ Tags such as b, i, u, and font are discouraged in strict XHTML
- ❑ Why is this bad?



# Cascading Style Sheets (CSS)

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- Describes the appearance, layout, and presentation of information on a web page
  - HTML describes **the content** of the page
- Describes *how* information is to be displayed, not *what* is being displayed
- Can be embedded in HTML document or placed into separate .css file

# Basic CSS rule syntax

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```
selector {  
property: value;  
property: value;  
...  
property: value;  
}
```

CSS

```
p {  
font-family: sans-serif;  
color: red;  
}
```

CSS

- A CSS file consists of one or more **rules**
- Each rule starts with a **selector**
- A selector specifies an HTML element(s) and then applies style **properties** to them
- a selector of \* selects all elements

# Attaching a CSS file <link>

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```
<head>
...
<link href="filename" type="text/css" rel="stylesheet" />
...
</head>
```

HTML

```
<link href="style.css" type="text/css" rel="stylesheet" />
<link href="http://www.google.com/uds/css/gsearch.css"
rel="stylesheet" type="text/css" />
```

HTML

- A page can link to multiple style sheet files
  - In case of a conflict (two sheets define a style for the same HTML element), the latter sheet's properties will be used

# Embedding style sheets: <style>

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```
<head>
<style type="text/css">
p { font-family: sans-serif; color: red; }
h2 { background-color: yellow; }
</style>
</head>
```

HTML

- CSS code can be embedded within the head of an HTML page
- *Bad style* and should be avoided when possible (why?)

# Inline styles: the style attribute

21

```
<p style="font-family: sans-serif; color: red;">  
This is a paragraph</p>
```

*HTML*

This is a paragraph

*output*

- Higher precedence than embedded or linked styles
- Used for one-time overrides and styling a particular element
- *Bad style* and should be avoided when possible (why?)

# CSS properties for colors

22

```
p {  
  color: red;  
  background-color: yellow;  
}
```

CSS

This paragraph uses the style above

*output*

property	description
color	color of the element's text
background-color	color that will appear behind the element

# Specifying colors

23

```
p { color: red; }  
h2 { color: rgb(128, 0, 196); }  
h4 { color: #FF8800; }
```

CSS

This paragraph uses the first style above

**This h2 uses the second style above.**

**This h4 uses the third style above.**

*output*

- color names: aqua, black, blue, fuchsia, gray, green, lime, maroon, navy, olive, purple, red, silver, teal, white (white), yellow
- RGB codes: red, green, and blue values from 0 (none) to 255 (full)
- hex codes: RGB values in base-16 from 00 (0, none) to FF (255, full)

CSC 210

# Grouping styles

24

```
p, h1, h2 {  
  color: green;  
}  
h2 {  
  background-color: yellow;  
}
```

*CSS*

This paragraph uses the above style.

**This h2 uses the above styles.**

*output*

- A style can select multiple elements separated by commas
- The individual elements can also have their own styles



# CSS comments `/*...*/`

25

```
/* This is a comment.  
It can span many lines in the CSS file. */  
p {  
color: red; background-color: aqua;  
}
```

CSS

- ❑ CSS (like HTML) is usually not commented as rigorously as programming languages such as Java
- ❑ The `//` single-line comment style is NOT supported in CSS
- ❑ The `<!-- ... -->` HTML comment style is also NOT supported in CSS

# CSS properties for fonts

26

property	description
font-family	which font will be used
font-size	how large the letters will be drawn
font-style	used to enable/disable italic style
font-weight	used to enable/disable bold style

[Complete list of font properties](http://www.w3schools.com/css/css_reference.asp#font) ([http://www.w3schools.com/css/css\\_reference.asp#font](http://www.w3schools.com/css/css_reference.asp#font))

# font-family

27

```
p {  
font-family: Georgia;  
}  
h2 {  
font-family: "Courier New";  
}
```

*CSS*

This paragraph uses the first style above.

**This h2 uses the second style above.**

*output*

- Enclose multi-word font names in quotes

# More about font-family

28

```
p {  
font-family: Garamond, "Times New Roman", serif;  
}
```

CSS

This paragraph uses the above style.

*output*

- We can specify multiple fonts from highest to lowest priority
- Generic font names:
  - ▣ serif, sans-serif, cursive, fantasy, monospace
- If the first font is not found on the user's computer, the next is tried
- Placing a generic font name at the end of your font-family value, ensures that every computer will use a valid font

# font-size

29

```
p {  
    font-size: 24pt;  
}
```

CSS

This paragraph uses the style above.

*output*

- units: pixels (**px**) vs. point (**pt**) vs. m-size (**em**)

16px, 16pt, 1.16em

- vague font sizes: xx-small, x-small, small, medium, large, x-large, xx-large,  
smaller, **larger**

- percentage font sizes, e.g.: 90%, **120%**

# font-size

30

```
p {  
    font-size: 24pt;  
}
```

CSS

This paragraph uses the style above.

*output*

- **pt** specifies number of point, where a point is 1/72 of an inch onscreen
- **px** specifies a number of pixels on the screen
- **em** specifies number of m-widths, where 1 em is equal to the font's current size

# font-weight, font-style

31

```
p {  
font-weight: bold;  
font-style: italic;  
}
```

CSS

*This paragraph uses the style above.*

output

- Either of the above can be set to normal to turn them off (e.g. headings)

# CSS properties for text

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<b>property</b>	<b>description</b>
text-align	alignment of text within its element
text-decoration	decorations such as underlining
line-height, word-spacing, letter-spacing	gaps between the various portions of the text
text-indent	indents the first letter of each paragraph

[Complete list of text properties](http://www.w3schools.com/css/css_reference.asp#text) ([http://www.w3schools.com/css/css\\_reference.asp#text](http://www.w3schools.com/css/css_reference.asp#text))



# text-align

33

```
blockquote { text-align: justify; }  
h2 { text-align: center; }
```

CSS

## The Gollum's Quote

We wants it, we needs it. Must have the precious. They stole it from us.  
Sneaky little hobbitses. Wicked, tricky, false!

*output*

- `text-align` can be left, right, center, or justify



# text-decoration

34

```
p {  
  text-decoration: underline;  
}
```

CSS

This paragraph uses the style above.

output

- can also be overline, ~~line-through~~, blink, or none
- effects can be combined:

```
text-decoration: overline underline;
```

# The list-style-type property

35

```
ol { list-style-type: lower-roman; }
```

CSS

## □ Possible values:

i. none : No marker

ii. disc (default), circle, square

iii. Decimal: 1, 2, 3, etc.

iv. decimal-leading-zero: 01, 02, 03, etc.

v. lower-roman: i, ii, iii, iv, v, etc.

vi. upper-roman: I, II, III, IV, V, etc.

vii. lower-alpha: a, b, c, d, e, etc.

viii. upper-alpha: A, B, C, D, E, etc.

x. lower-greek: alpha, beta, gamma, etc.

others: hebrew, armenian, georgian, cjk-ideographic, hiragana...

# Body styles

36

```
body {  
font-size: 16px;  
}
```

CSS

- Applies a style to the entire body of your page
- Saves you from manually applying a style to each element

# Cascading Style Sheets

37

- Properties of an element *cascade* together in this order:
  - ▣ browser's default styles
  - ▣ external style sheet files (in a `<link>` tag)
  - ▣ internal style sheets (inside a `<style>` tag in the page's header)
  - ▣ inline style (the style attribute of the HTML element)

# Inheriting styles

38

```
body { font-family: sans-serif; background-color:
yellow; }
p { color: red; background-color: aqua; }
a { text-decoration: underline; }
h2 { font-weight: bold; text-align: center; }
```

CSS

## This is a heading

A styled paragraph. [Previous slides](#) are available on the website.

- A bulleted list

output

- when multiple styles apply to an element, they are inherited
- a more tightly matching rule can override a more general inherited rule

# Styles that conflict

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```
p, h1, h2 { color: blue; font-style: italic; }  
h2 { color: red; background-color: yellow; }
```

CSS

*This paragraph uses the first style above.*

***This heading uses both styles above.***

output

- when two styles set conflicting values for the same property, the latter style takes precedence

# W3C CSS Validator

40

```
<p>  
<a href="http://jigsaw.w3.org/css-validator/check/  
referer">  
</a>  
</p>
```

CSS



output

- [jigsaw.w3.org/css-validator/](http://jigsaw.w3.org/css-validator/)
- checks your CSS to make sure it meets the official CSS specifications



# CSS properties for backgrounds

41

<b>property</b>	<b>description</b>
background-color	color to fill background
background-image	image to place in background
background-position	placement of bg image within element
background-repeat	whether/how bg image should be repeated
background-attachment	whether bg image scrolls with page
background	shorthand to set all background properties

# background-image

42

```
body {  
  background-image: url("images/draft.jpg");  
}
```

CSS

This is the first paragraph

This is the second paragraph...

It occupies 2 lines

- background image/color fills the element's content area

# background-repeat

43

```
body {  
background-image: url("images/draft.jpg");  
background-repeat: repeat-x;  
}
```

CSS

This is the first paragraph

This is the second paragraph...

It occupies 2 lines

- can be repeat (default), repeat-x, repeat-y, or no-repeat

# background-position

44

```
body {  
background-image: url("images/draft.jpg");  
background-repeat: no-repeat;  
background-position: 370px 20px;  
}
```

CSS

This is the first paragraph

This is the second paragraph...  
It occupies 2 lines



- value consists of two tokens, each of which can be top, left, right, bottom, center, a percentage, or a length value in px, pt, etc.
- value can be negative to shift left/up by a given amount

# Aside: Favorites icon ("favicon")

45

```
<link href="filename" type="MIME type" rel="shortcut icon" />
```

HTML

```
<link href="yahoo.gif" type="image/gif" rel="shortcut icon" />
```

HTML



- The link tag, placed in the HTML page's head section, can specify an icon
  - this icon will be placed in the browser title bar and bookmark/favorite