ACADGILD

Presents
Front End Web Development Basics

Session 4 – CSS3

Agenda – CSS3

1. About CSS 3
2. Transitions
3. Animation
4. CSS3 Gradients
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6. Multi Column Layout
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About CSS3

- CSS3 is the latest standard for CSS
- Backward-compatible with earlier versions of CSS
- CSS3 has been split into "modules“
- Some of the most important CSS3 modules are:
  - Selectors
  - Box Model
  - Backgrounds and Borders
  - Image Values and Replaced Content
  - Text Effects
  - 2D/3D Transformations
  - Animations
  - Multiple Column Layout
  - User Interface

Transitions

Transitions allow the values of CSS properties to changeover time, essentially providing simple animations.

- **How to Use CSS3 Transitions?**
  - To create a transition effect, you must specify two things:
  - the CSS property you want to add an effect to
  - the duration of the effect
  - If the duration part is not specified, the transition will have no effect, because the default value is 0.

For example, if a link changes color on hover, you can have it gradually fade from one color to the other, instead of a sudden change

Here are the steps to create a simple transition using only CSS:

- Declare the original state of the element in the default style declaration.
- Declare the final state of your transitioned element ; for example, in a hover state.
- Include the transition functions in your default style declaration, using a few different properties:

transition-property,
transition-duration,
transition-timing-function,
and transition-delay.

```
div {
        transition-property: color, left;
        transition-duration: 1s;
        transition-timing: ease-in;
}
```

Animation

- **Transitions animate** elements over time
- CSS animations, unlike transitions, allow you to control each step of an animation via **keyframes**.
- CSS animations allow us to add any number of keyframes in between, to guide our animation in more complex ways.
- **Animation properties:**

animation-name	- Specifies the name of the @keyframes animation
animation-duration	- Specifies how many seconds or milliseconds an animation takes to complete one cycle
animation-timing-function	- Specifies the speed curve of the animation
animation-iteration-count	- Specifies number of times an animation should be played
animation-direction	- Specifies whether an animation should play in reverse direction or alternate cycles
animation-delay	- Specifies a delay for the start of an animation
animation-fill-mode	- Specifies a style for the element when the animation is not playing

CSS3 Gradients

- CSS3 gradients let you display smooth transitions between two or more specified colors.
- By using CSS3 gradients you can reduce download time and bandwidth usage. In addition, elements with gradients look better when zoomed, because the gradient is generated by the browser.
- **CSS3 defines two types of gradients:**

  1. **Linear Gradients** (goes down/up/left/right/diagonally)
  2. **Radial Gradients** (defined by their center)

CSS3 Filters

Allows to create all these effects on images.

- Greyscale
- Blur
- Saturate
- Sepia
- Hue Rotate
- Invert
- Brightness
- Contrast
- Opacity

```
img {
            filter: type(value);

            -webkit-filter: type(value);
            -moz-filter: type(value);
             -ms-filter: type(value);
            -o-filter: type(value);
      }
```

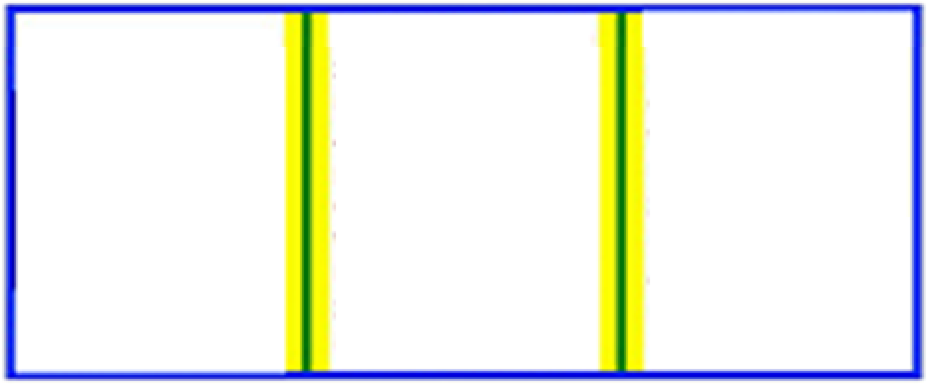
Multi Column Layout

- The CSS3 multi-column layout allows easy definition of multiple columns of text
- Multi Column property specifies the number of columns an element should be divided into
- Following table lists the multi-columns properties

Column- count	Specifies the number of columns an element should be divided into
Column-fill	Specifies how to fill columns
Column-gap	Specifies the gap between the columns
Column-rule	A shorthand property for setting all the column-rule-* properties
Column-rule-color	Specifies the color of the rule between columns
Column-rule-style	Specifies the style of the rule between columns
Column-rule-width	Specifies the width of the rule between columns
Column-span	Specifies how many columns an element should span across
Column-width	Specifies a suggested, optimal width for the columns
Columns	A shorthand property for setting column-width and column-count

Multi Column Layout

```
column-width: 15em;
column-gap: 2em; /* shown in yellow */
column-rule: 4px solid green;
padding: 5px; /* shown in blue */
```



CSS Background

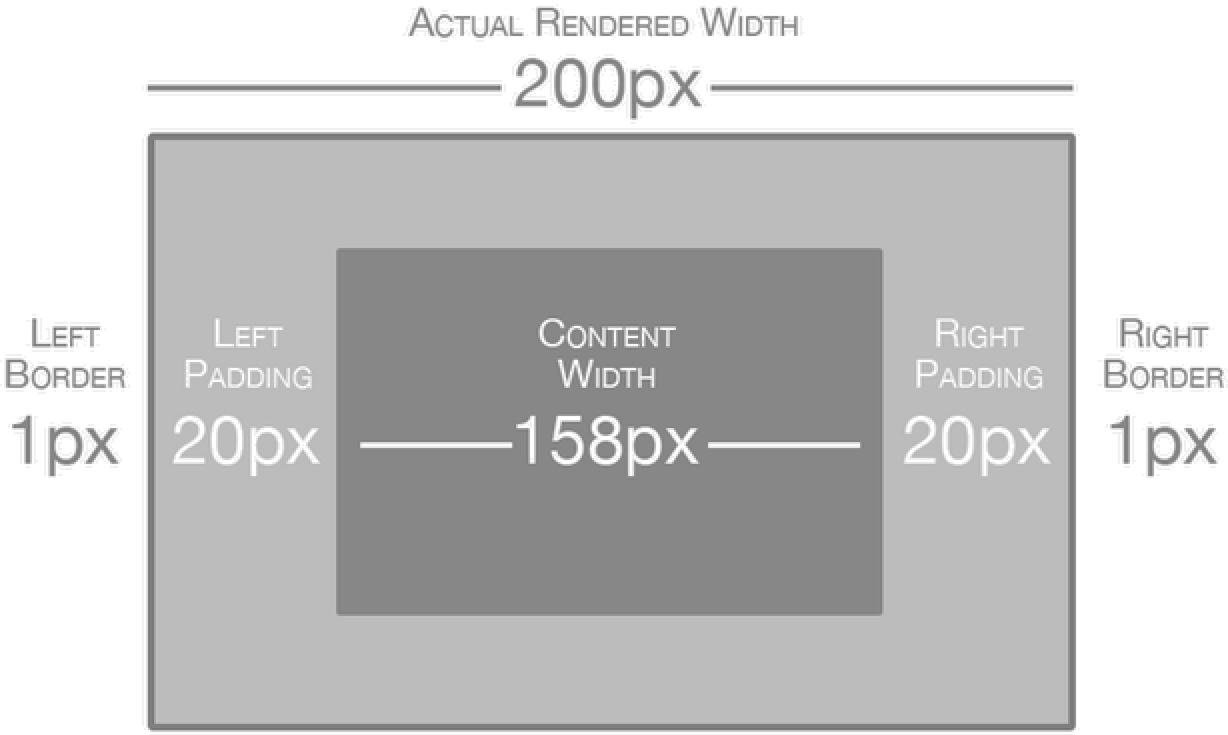
- **Background properties includes**
  - **background size,** using more than one background for an element, and
  - **background origin** (which effects the position of a background).
- **Multiple Backgrounds**
  - The new ability to use multiple backgrounds is a great time saver, allowing you to achieve effects which previously required more than one div.
- **Example**

```
url(example.jpg) top left no-repeat,
url(example2.jpg) bottom left no-repeat,
url(example3.jpg) center center repeat-y;
```

Note : The first image will be the one “closest” to the user

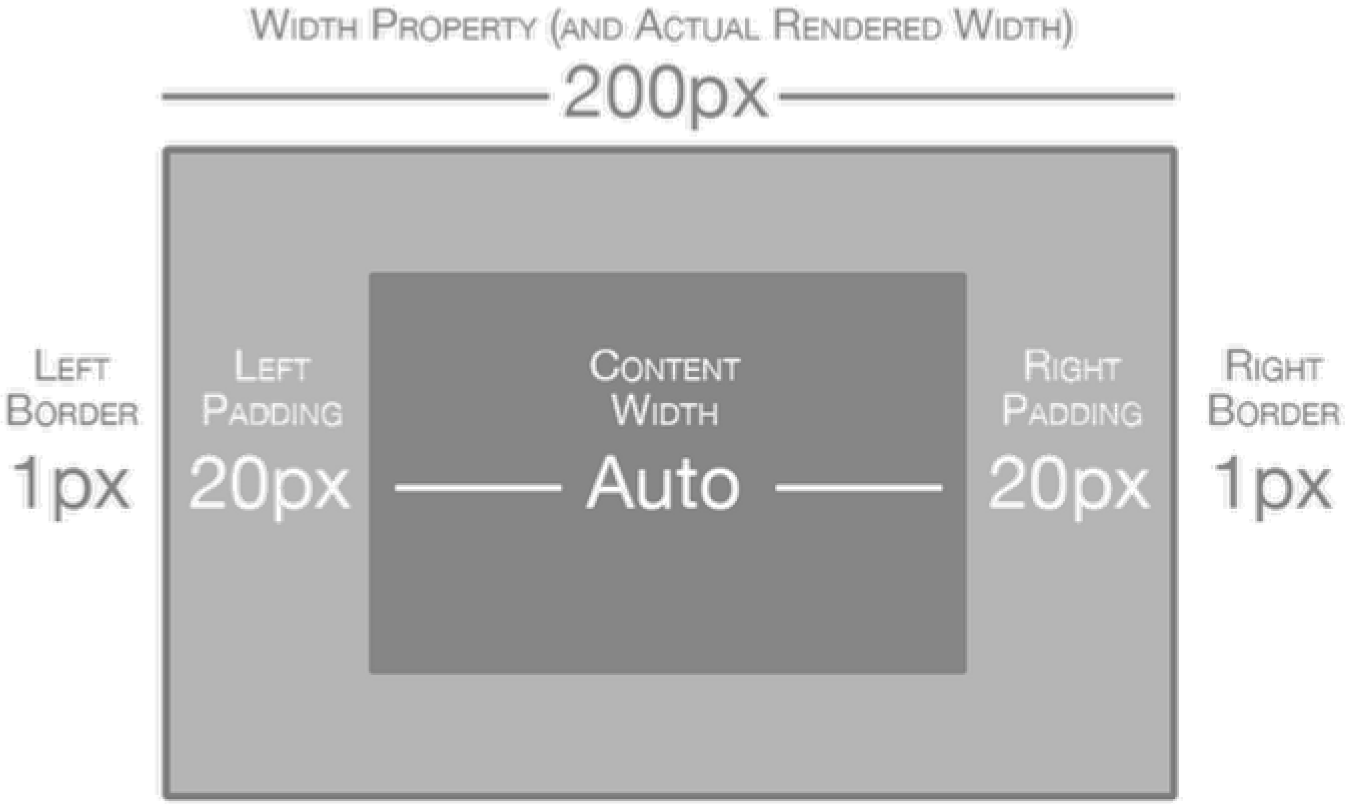
Box Model

- The width and height of any element on a webpage is governed by the CSS box model.
- Without box-sizing,



CSS Box Model with box-sizing

- * { box-sizing: border-box; }



CSS3 flex Property

- **The flex property** specifies the length of the item, relative to the rest of the flexible items inside the same container.
- The flex property is a shorthand for the flex-grow, flex-shrink, and the flex-basis properties.
- **Syntax**

```
flex: flex-grow flex-shrink flex-basis|auto|initial|inherit;
```

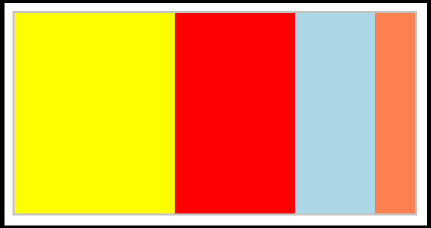
CSS3 Flex Property Example

```
#main {
width: 200px;            height: 100px;          border: 1px         solid #c3c3c3;

display: -webkit-flex; /* Safari */
 display: flex;

 -webkit-flex-direction: row-reverse; /* Safari 6.1+ */
 flex-direction: row-reverse;                          }

/* Safari 6.1+ */
#main div:nth-of-type(1) {-webkit-flex-grow: 5;}
#main div:nth-of-type(2) {-webkit-flex-grow:10;}
#main div:nth-of-type(3) {-webkit-flex-grow: 15;}
#main div:nth-of-type(4) {-webkit-flex-grow: 20;}
/* Standard syntax */
 #main div:nth-of-type(1) {flex-grow: 5;}
#main div:nth-of-type(2) {flex-grow: 10;}
#main div:nth-of-type(3) {flex-grow: 15;}
 #main div:nth-of-type(4) {flex-grow: 20;}
```



Selectors

- Selectors are at the heart of CSS.
- Relational selectors
  - Descendant (E F)
  - Child (E > F)
  - Adjacent Sibling (E + F)
  - General Sibling (E ~ F)
- Attribute selectors
  - E[attr$=val]
  - E[attr*=val]

pseudo-class

- A pseudo-class is used to define a special state of an element.
- For example, it can be used to:

  Style an element when a user mouses over it

  Style visited and unvisited links differently

- **Syntax**

```
selector:pseudo-class {
property:value;
}
```

Pseudo classes

:enabled

A user interface element that’s enabled.

:disabled

Conversely, a user interface element that’s disabled.

:checked

Radio buttons or checkboxes that are selected or ticked.

:valid

Applies to elements that are valid, based on the type or pattern attributes

:invalid

Applies to empty required elements, and elements failing to match the requirements defined by the type or pattern attributes.

:in-range

Applies to elements with range limitations, where the value is within those limitations. This applies, for example, to number and range input types with min and max attributes

:out-of-range

The opposite of :in-range: elements whose value is outside the limitations of their range.

:required

Applies to form controls that have the required attribute set.

:optional

Applies to all form controls that do not have the required attribute.

:read-only

Applies to elements whose contents are unable to be altered by the user. This is usually most elements other than form fields.

:read-write

Applies to elements whose contents are user-alterable, such as text input fields

Text Shadow

- **Syntax**

text-shadow : (x-offset) (y-offset) (blur-radius) (color)

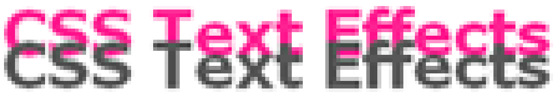
x-offset to position the shadow along the x-axis

y-offset to position the shadow along the y-axis

blur-radius to set the amount of blur

color to set the color of the shadow

```
#style{
    text-shadow : 0px  -15px 0 #fe2192
}
```



Lets Discuss Assignments