Lecture # 13

Advance Web designing and Development

Advance CSS

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CSS Transitions

- CSS transitions allows you to change property values smoothly (from one value to another), over a given duration.
- 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.

Example

- Change one property value
  - Example

```
div {
    width: 100px;
    height: 100px;
    background: blue;
    -webkit-transition: width 2s; /* Safari */
    transition: width 2s;
}
```

Example

- Change one property value
  - Example

```
div {
    width: 100px;
    height: 100px;
    background: red;
    -webkit-transition: width 2s; /* Safari */
    transition: width 2s;
}
```

Specify the Speed Curve of the Transition

{transition-timing-function: linear;}
{transition-timing-function: ease;}
{transition-timing-function: ease-in;}
{transition-timing-function: ease-out;}
{transition-timing-function: ease-in-out;}

Delay the Transition Effect

```
-webkit-transition-delay: 1s; /* Safari */
  transition-delay: 1s;
```

Short hand property

- transition-property: width;
  transition-duration: 2s;
  transition-timing-function: linear;
  transition-delay: 1s;

- transition: width 2s linear 1s;

CSS 2D Transform

- CSS transforms allow you to translate, rotate, scale, and skew elements.
- A transformation is an effect that lets an element change shape, size and position.
-

CSS 2D Transforms

- translate()
- rotate()
- scale()
- skewX()
- skewY()
- matrix()

The translate() Method

- The translate() method moves an element from its current position (according to the parameters given for the X-axis and the Y-axis).

- -ms-transform: translate(50px, 200px); /* IE 9 */
  -webkit-transform: translate(50px, 200px); /* Safari */
  transform: translate(50px, 200px);

The rotate() Method

- The rotate() method rotates an element clockwise or counter-clockwise according to a given degree.

- -ms-transform: rotate(20deg); /* IE 9 *
- -webkit-transform: rotate(20deg); /* Safari */
- transform: rotate(20deg);
- transform: rotate(-20deg);

The scale() Method

- The scale() method increases or decreases the size of an element (according to the parameters given for the width and height).

- -ms-transform: scale(2, 3); /* IE 9 */
- -webkit-transform: scale(2, 3); /* Safari */
- transform: scale(2, 3);
- transform: scale(0.2, 0.3);

The skewX() Method

- transform: skew(20deg, 10deg);
- transform: skewY(20deg);
- transform: skewX(20deg);
- transform: skew(20deg);(other parameter is 0)

The matrix() Method

- The matrix() method combines all the 2D transform methods into one.
- The parameters are as follow:
  matrix(scaleX(),skewY(),skewX(),scaleY(),translateX(),translateY())
- transform: matrix(2, -0.4, 1, 1, 0, 1);

Css 3d Transform

- rotateX()
- rotateY()
- rotateZ()

CSS Animations

CSS animations allows animation of most HTML elements without using JavaScript or Flash!

What is CSS Animation?

CSS allows animation of HTML elements without using JavaScript or Flash!

The @keyframes Rule

@keyframes name{

From {background-color:pink}

To {background-color:red;}

}

Now bind this animation to any element

Note: If the animation-duration property is not specified, no animation will occur, because the default value is 0s (0 seconds).

Animation by percentage

```
0%   {background-color: red;}
 25%  {background-color: yellow;}
50%  {background-color: blue;}
100% {background-color: green;}
```

Delay an Animation

The animation-delay property specifies a delay for the start of an animation.

Negative values are also allowed. If using negative values, the animation will start as if it had already been playing for N seconds.

Set How Many Times an Animation Should Run

The animation-iteration-count property specifies the number of times an animation should run.

Value 1 to so on

And infinite

Run Animation in Reverse Direction or Alternate Cycles

- The **animation-direction** property can have the following values:
  - normal - The animation is played as normal (forwards). This is default
  - reverse - The animation is played in reverse direction (backwards)
  - alternate - The animation is played forwards first, then backwards
  - alternate-reverse - The animation is played backwards first, then forwards

Specify the Speed Curve

- The **animation-timing-function** property can have the following values:
  - ease - Specifies an animation with a slow start, then fast, then end slowly (this is default)
  - linear - Specifies an animation with the same speed from start to end
  - ease-in - Specifies an animation with a slow start
  - ease-out - Specifies an animation with a slow end
  - ease-in-out - Specifies an animation with a slow start and end

The animation-fill-mode

- The animation-fill-mode property can have the following values:
  - none - Default value. Animation will not apply any styles to the element before or after it is executing
  - forwards - The element will retain the style values that is set by the last keyframe (depends on animation-direction and animation-iteration-count)
  - backwards - The element will get the style values that is set by the first keyframe (depends on animation-direction), and retain this during the animation-delay period
  - both - The animation will follow the rules for both forwards and backwards, extending the animation properties in both directions

Shorthand property

- Animation Shorthand Property

```
animation-name: example;
animation-duration: 5s;
animation-timing-function: linear;
animation-delay: 2s;
animation-iteration-count: infinite;
animation-direction: alternate;
```

```
animation: example 5s linear 2s infinite alternate;
```

End Of Lecture 13