Coding While Black

CSS3 Animations and Transitions

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Today's Agenda

- Introductions
- Overview
- Examples
- Animations
- Transitions
- Build Demo

Introduction Time!

- Your name
- What you do
- Experience w/ animations & transitions
- Hope to learn

CSS3 Animations

- **From CSS Specs:** CSS3 animations defines a property to animate elements (such as div, h1 and span) without JavaScript or Flash.

When to use animations

- An animation is a smooth behavior of set of properties. In other words it specifies what should happen to a set of element's properties.

- You define an animation and describe how this set of properties should behave during the animation process.

CSS3 Animation Properties

The following table lists the @keyframes rule and all the animation properties:

Property	Description
@keyframes	Specifies the animation code
animation	A shorthand property for setting all the animation properties (except animation-play-state and animation-fill-mode)
animation-delay	Specifies a delay for the start of an animation
animation-direction	Specifies whether an animation should play in reverse direction or alternate cycles
animation-duration	Specifies how many seconds or milliseconds an animation takes to complete one cycle
animation-fill-mode	Specifies a style for the element when the animation is not playing (when it is finished, or when it has a delay)
animation-iteration-count	Specifies the number of times an animation should be played
animation-name	Specifies the name of the @keyframes animation
animation-play-state	Specifies whether the animation is running or paused
animation-timing-function	Specifies the speed curve of the animation

How to use CSS animations

- Name your animation

```
.element-to-animate {

    animation: NAME-YOUR-ANIMATION 5s infinite;

}
```

How to use CSS animations

- @keyframes NAME-YOUR-ANIMATION {

  0%   { opacity: 0; }

  100% { opacity: 1; }

}

How to use CSS animations

- **@-webkit-keyframes NAME-YOUR-ANIMATION** {

  0% { opacity: 0; }

  100% { opacity: 1; }

  }

- **@-moz-keyframes NAME-YOUR-ANIMATION** {

  0% { opacity: 0; }

  100% { opacity: 1; }

  }

- **@-o-keyframes NAME-YOUR-ANIMATION** {

  0% { opacity: 0; }

  100% { opacity: 1; }

  }

- **@keyframes NAME-YOUR-ANIMATION** {

  0% { opacity: 0; }

  100% { opacity: 1; }

  }

How to use CSS animations

- #box {

  -webkit-animation: NAME-YOUR-ANIMATION 5s infinite;

  -moz-animation: NAME-YOUR-ANIMATION 5s infinite;

  -o-animation: NAME-YOUR-ANIMATION 5s infinite;

  animation: NAME-YOUR-ANIMATION 5s infinite;

}

How to use CSS animations

```
#box {
    animation-name: bounce;
    animation-duration: 4s;
    animation-iteration-count: 10;
    animation-direction: alternate;
    animation-timing-function: ease-out;
    animation-fill-mode: forwards;
    animation-delay: 2s;
}
```

How to use CSS animations

```
@keyframes infinite-spinning {
    from {
      transform: rotate(0deg);
    }
    to {
        transform: rotate(360deg);
      }
}
```

CSS3 Transitions

- **From CSS Specs:** CSS3 Transitions are a presentational effect which allows property changes in CSS values, such as those that may be defined to occur on :hover or :focus, to occur smoothly over a specified duration – rather than happening instantaneously as is the normal behavior.

- Transition effects can be applied to a wide variety of CSS properties, including background-color, width, height, opacity, and many more.

When to use transitions

- Transitions specify how a property (or properties) should perform their change. By setting transition in the css style you define different (smooth) way to perform these changes.

- It can be said that transitions define a default animation that should be performed every time the specified property has changed.

CSS3 Transition Properties

The following table lists all the transition properties:

Property	Description
transition	A shorthand property for setting the four transition properties into a single property
transition-delay	Specifies a delay (in seconds) for the transition effect
transition-duration	Specifies how many seconds or milliseconds a transition effect takes to complete
transition-property	Specifies the name of the CSS property the transition effect is for
transition-timing-function	Specifies the speed curve of the transition effect

How to use CSS transitions

The transition property is a shorthand property used to represent up to four transition-related longhand properties:

```
.example {

    transition: [transition-property] [transition-duration]
    [transition-timing-function] [transition-delay];

}
```

How to use CSS transitions

```
div {
  transition: background-color 0.5s ease;
  background-color: red;
}
div:hover {
  background-color: green;
}
```

How to use CSS transitions

```
div {
  transition: all 0.5s ease;
  background: red;
  padding: 10px;
}
div:hover {
  background: green;
  padding: 20px;
}
```

How to use CSS transitions

```
div {
    transition: background 0.2s ease,
                padding 0.8s linear;
}
```

How to use CSS transitions

```
.example {

    -webkit-transition: background-color 500ms ease-out 1s;

    -moz-transition: background-color 500ms ease-out 1s;

    -o-transition: background-color 500ms ease-out 1s;

    transition: background-color 500ms ease-out 1s;

}
```

Sources

- **CSS-Tricks -** code examples
- **W3 schools -** properties charts
- **CSS Specs -** definitions
- **My own code -** live code example

Animated Button Challenge

1. Download starter files from: **https://github.com/dom-dom-dom/animated-buttons-clean**

2. Style the buttons using animations, transitions, and transforms to recreate the examples at: **http://dom-dom-dom.github.io/projects/animated-buttons/**

3. After you have completed your buttons, you may refer to example code for drop shadows and gradients if you wish. Feel free to use your on styles as long as you retain the intended functionality

4. **Ask questions!**

Keep Going!

- **CSS Specifications:** http://www.w3.org/Style/CSS/specs
- **CSS Animations vs. Transitions:** http://www.kirupa.com/html5/css3_animations_vs_transitions.htm
- **CSS Animations vs. JavaScript:** https://css-tricks.com/myth-busting-css-animations-vs-javascript/
- **CSSdeck.com**
- **CanIUse.com**