jQuery-free JavaScript

Native Animation
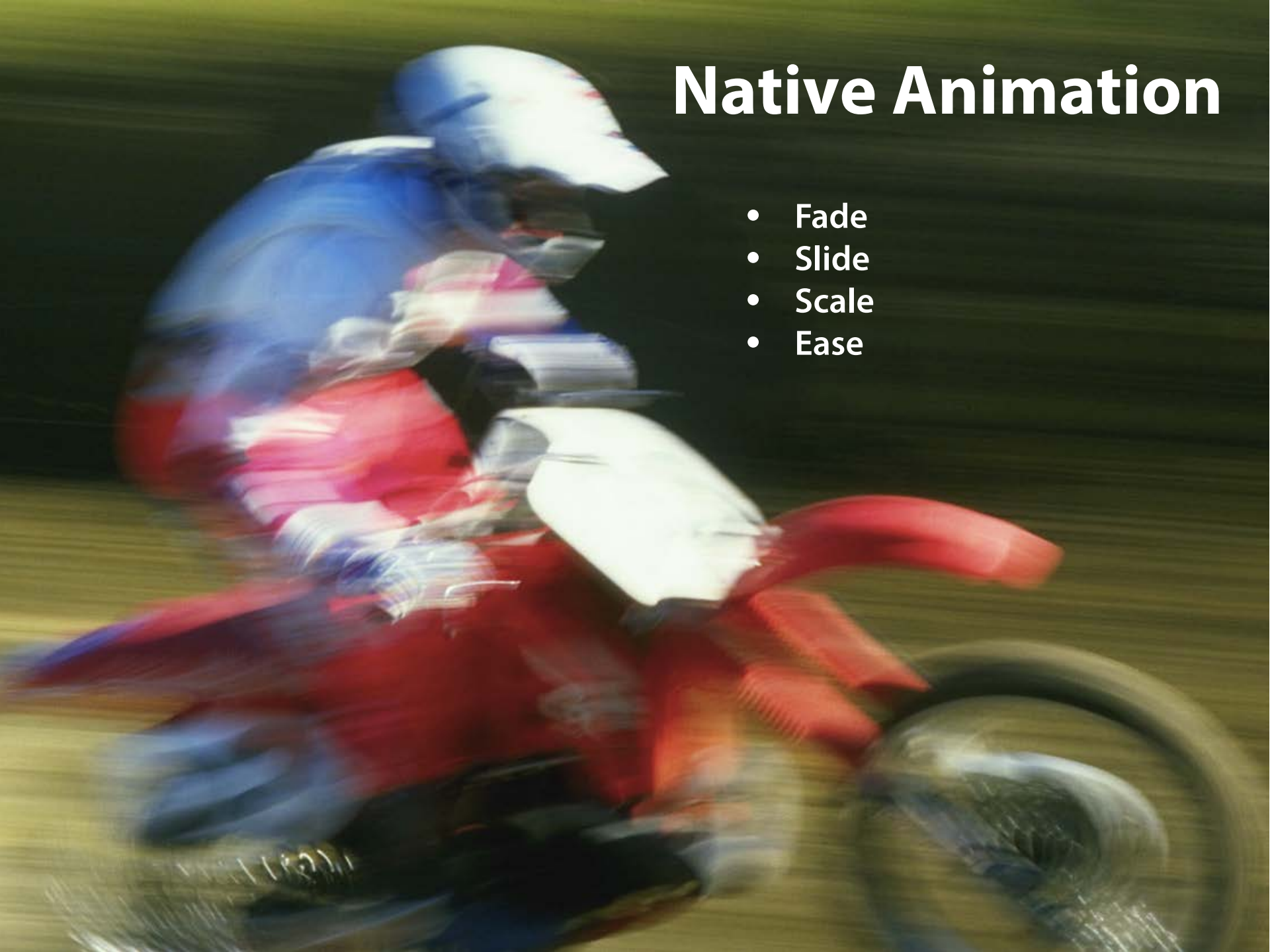
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pluralsight
hardcore developer training

Native Animation

- Fade
- Slide
- Scale
- Ease

Vendor Prefixes

I'm not going to show vendor prefixes in the following slides. Use one of the following libraries to auto generate the necessary vendor prefixes…

- -prefix-free - **http://leaverou.github.io/prefixfree/**
- Prefixr - **http://prefixr.com/**
- Autoprefixer - **https://github.com/ai/autoprefixer**
- Compass for Sass - **http://compass-style.org/**
- Nib for Stylus - **http://visionmedia.github.io/nib/**

Fade

jQuery

```html
<div id="block">jQuery Fade Out</div>
<button>Fade Out</button>
```

HTML

```css
#block {
  width: 100px;
  height: 100px;
  background-color: #ccc;
}
```

CSS

```javascript
$("button").click(function() {
  $("#block").fadeOut();
});
```

JavaScript

Fade

Native

```html
<div id="block">CSS3 Fade Out</div>
<button>Fade Out</button>
```

HTML

```css
#block {
  width: 100px; height: 100px;
  transition: opacity .4s linear; background-color: #ccc;
}
.fade-block { opacity: 0; }
```

CSS

```javascript
document.querySelector("button")
  .addEventListener("click", function () {
    var block = document.getElementById("block");
    block.classList.toggle("fade-block");
  });
```

JavaScript

Slide

jQuery

```html
<div id="block">jQuery Slide</div>
<button>Slide</button>
```

```css
#block {
    width: 99px; height: 99px;
    background-color: #ccc;
    margin: 0 0 15px 0;
    overflow: hidden;
}
```

```javascript
$("button").click(function () {
    $("#block").slideToggle();
});
```

HTML

CSS

JavaScript

Slide

Native

```html
<div id="block">CSS3 Slide</div>
<button>Slide</button>
```

```css
#block {
  width: 99px; height: 99px; overflow: hidden;
  transition: height .4s linear; background-color: #ccc;
}
#block.slide-block { height: 0; }
```

```javascript
document.querySelector("button")
  .addEventListener("click", function () {
    var block = document.getElementById("block");
    block.classList.toggle("slide-block");
  });
```

Scale

jQuery

```html
<div id="block">jQuery</div>
<button>Scale</button>
```

```css
#block {
  width: 100px; height: 100px;
  margin-bottom: 15px; background-color: yellow;
  position: relative; overflow: hidden;
}
```

```javascript
$("button").on("click", function() {
  var $block = $("#block");
  $block.animate({ left: $block.width() / 2,
    top: $block.height() / 2, width: 0, height: 0 });
});
```

Scale

jQuery UI

```html
<div id="block">jQuery UI</div>
<button>Scale</button>
```

```javascript
$("button").on("click", function() {
  $("#block").toggle("scale");
});
```

Scale

Native: Transform

```html
<div id="block">CSS3 Transform</div>
<button>Scale</button>
```

```css
#block {
  transition: all 0.6s ease; /* etc... */
}
#block.scale-out { transform: scale(0, 0); }
```

```javascript
document.querySelector("button")
  .addEventListener("click", function() {
    document.getElementById("block")
      .classList.toggle("scale");
  });
```

Scale

Native: Animation

```html
<div id="block">CSS3 Animation</div>
<button>Scale</button>
```

HTML

```css
@keyframes scale-out {
  0%    { transform: scale(1, 1); }
  100% { transform: scale(0, 0); }
}
#block.scale { animation: scale-out 0.6s ease forwards; }
```

CSS

```javascript
document.querySelector("button")
  .addEventListener("click", function() {
    document.getElementById("block").classList.add("scale");
  });
```
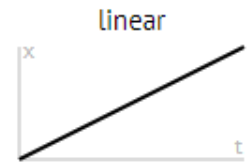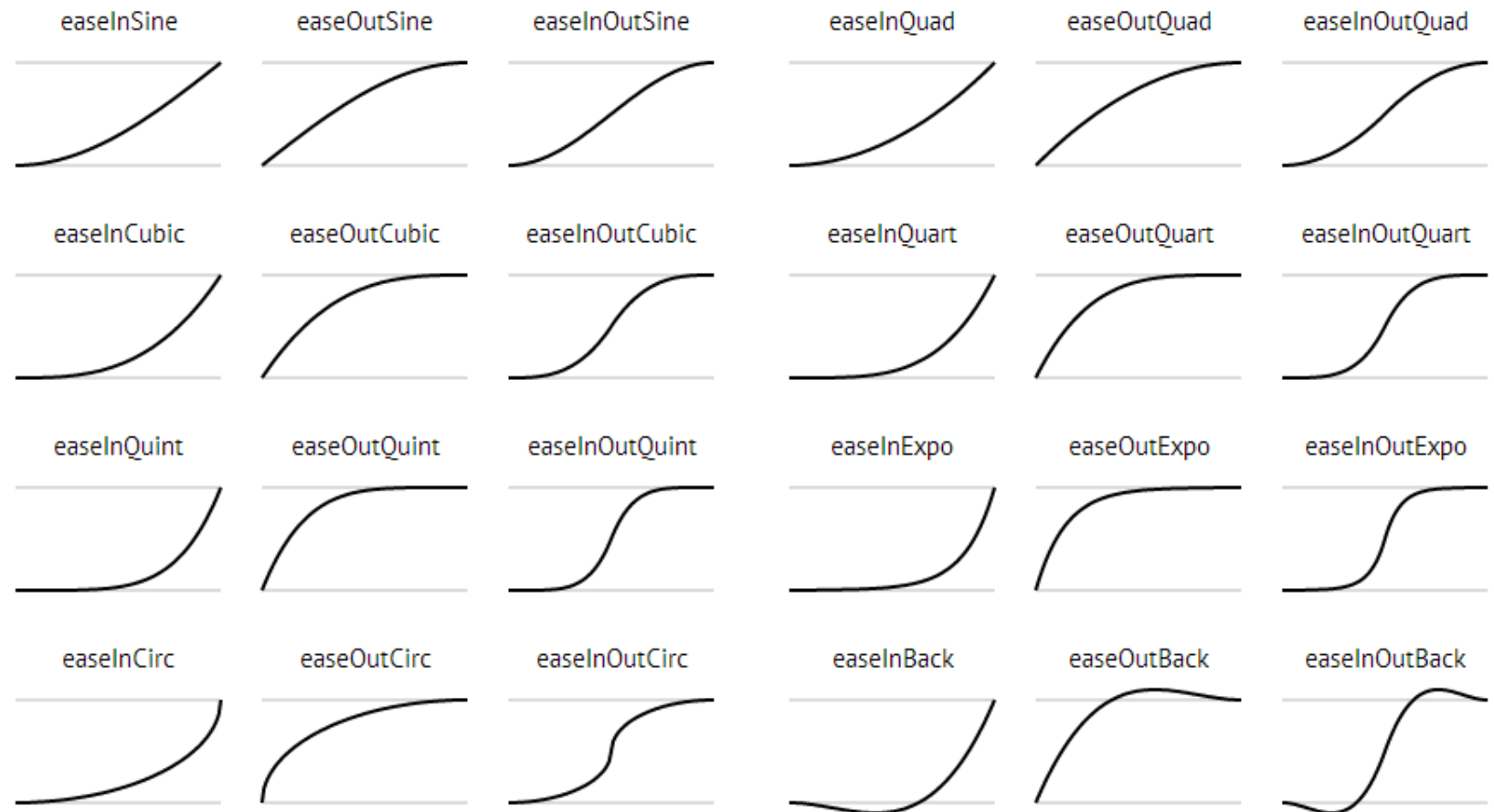
JavaScript

Easing

Easing functions specify the rate of change of a parameter over time.

Objects in real life don't just start and stop instantly, and almost never move at a constant speed. When we open a drawer, we first move it quickly, and slow it down as it comes out. Drop something on the floor, and it will first accelerate downwards, and then bounce back up after hitting the floor.

This page helps you choose the right easing function.

linear

css+js

easeInSine	easeOutSine	easeInOutSine	easeInQuad	easeOutQuad	easeInOutQuad
easeInCubic	easeOutCubic	easeInOutCubic	easeInQuart	easeOutQuart	easeInOutQuart
easeInQuint	easeOutQuint	easeInOutQuint	easeInExpo	easeOutExpo	easeInOutExpo
easeInCirc	easeOutCirc	easeInOutCirc	easeInBack	easeOutBack	easeInOutBack

Easing

jQuery

```html
<div id="block">jQuery</div>
<button>Ease</button>
```

```css
div {
  background-color: yellow;
  width: 100px; height: 100px;
  margin-bottom: 15px; position: relative;
}
```

```javascript
$("button").on("click", function () {
    $("#block").animate({
        left: 300
    }, 600, "easeInOutQuad");
});
```
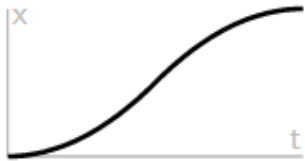
Easing

easeInOutQuad

JavaScript

jQuery with the jQuery Easing Plugin is the easiest way to describe animation with easing. Pass the easing name (like `easeInCirc`) to the `.animate()` function as the third argument, or use it as the value of the `easing` option.

```
div.animate({ top: '-=100px' }, 600, 'easeInOutQuad', function () { … })
```

SCSS

Sass/SCSS can describe animations too! Compass removes prefixes before the `transition` and `animation` properties, and the Compass Ceaser plugin lets you pass the easing function by name (without specifying the exact Bezier curves).

```
div {
  @include transition(all 600ms ceaser($easeInOutQuad)); }
```

CSS

CSS properties `transition` and `animation` allow you to pick the easing function.

```
div {
  -webkit-transition: all 600ms cubic-bezier(0.455, 0.03, 0.515, 0.955);
  transition:         all 600ms cubic-bezier(0.455, 0.03, 0.515, 0.955); }
```

Edit on cubic-bezier.com.

Easing

Native: Transition

```html
<div id="block">CSS3 Transition</div>
<button>Ease</button>
```
HTML

```css
#block {
  transition: left 600ms
    cubic-bezier(0.455, 0.03, 0.515, 0.955);
}
#block.move { left: 300px; }
```
CSS

```javascript
document.querySelector("button")
  .addEventListener("click", function() {
    document.getElementById("block").classList.add("move");
  });
```
JavaScript

Easing

Native: Animation

```html
<div id="block">CSS3 Animation</div>
<button>Ease</button>
```

HTML

```css
@keyframes move {
  from {}
  to { left: 300px; }
}
#block.move { animation: move 600ms cubic-bezier(0.455,
0.03, 0.515, 0.955) forwards; }
```

CSS

```javascript
document.querySelector("button")
  .addEventListener("click", function() {
    document.getElementById("block").classList.add("move");
  });
```

JavaScript

CSS Animation Safety Net

jQuery Transit

"Super-smooth CSS transitions & transformations for jQuery"

```
$("#widget").transition({ x: "100px" });


$("#widget").transition({ rotate: "60deg" });


$("#widget").transition(
  { scale: 1.5 },
  500,
  "cubic-bezier(0.455, 0.03, 0.515, 0.955)"
);
```

http://ricostacruz.com/jquery.transit/

jQuery Animate Enhanced

"Extend $.animate() to detect CSS transitions for Webkit, Mozilla and Opera and convert animations automatically. Compatible with IE6+"

```
$("#widget").animate({
  left: "+=100px"
}, 600);
```

http://playground.benbarnett.net/jquery-animate-enhanced/

DEMO

- **Fade**
- **Slide**
- **Scale**
- **Easing**
- **jQuery Transit**
- **jQuery Animate Enhanced**