

A decaf introduction to

CoffeeScript



Hector Correa

hector@hectorcorrea.com

Agenda

- What is CoffeeScript
- Why CoffeeScript
- Code Samples (client and server side)
- Q&A

What's not in the agenda

- CoffeeScript Installation
- Specific configurations
- Node.js
- Advanced Topics

What is CoffeeScript?



“CoffeeScript is a little language that
compiles into JavaScript”

<http://coffeescript.org>

Type CoffeeScript
Code

```
file: hello.coffee  
-----  
alert 'Hello World!'
```

Compile to
JavaScript

```
> coffee -c hello.coffee  
  
file: hello.js  
-----  
alert('Hello World!');
```

Reference
JavaScript
in HTML

```
file: index.html  
-----  
<script  
type="text/javascript" src="hello.js">  
</script>
```

“CoffeeScript is an attempt to expose the good parts of JavaScript in a simple way.”

<http://coffeescript.org>

What's wrong with this code?

```
function priceWithTax(price, tax) {  
    return price + (price * (tax / 100));  
}
```

```
price = 100;  
tax = 6.5;  
total = priceWithTax(price, tax);
```

```
alert("Total = " + total);
```

var not
used

What happens if another
priceWithTax function
already exists?

Same Code in CoffeeScript

```
priceWithTax = (price, tax) ->  
  price + (price * (tax/100))  
  
price = 100  
tax = 12  
total = priceWithTax(price, tax)  
  
alert "Total = #{total}"
```

JavaScript generated by CoffeeScript

```
(function() {  
  var price, priceWithTax, tax, total;  
  
  priceWithTax = function(price, tax) {  
    return price + (price * (tax / 100));  
  };  
  
  price = 100;  
  tax = 12;  
  total = priceWithTax(price, tax);  
  
  alert("Total = " + total);  
  
}).call(this);
```

All variables are declared (including the function)

Local scope has been defined (module pattern)

The golden rule of CoffeeScript is:

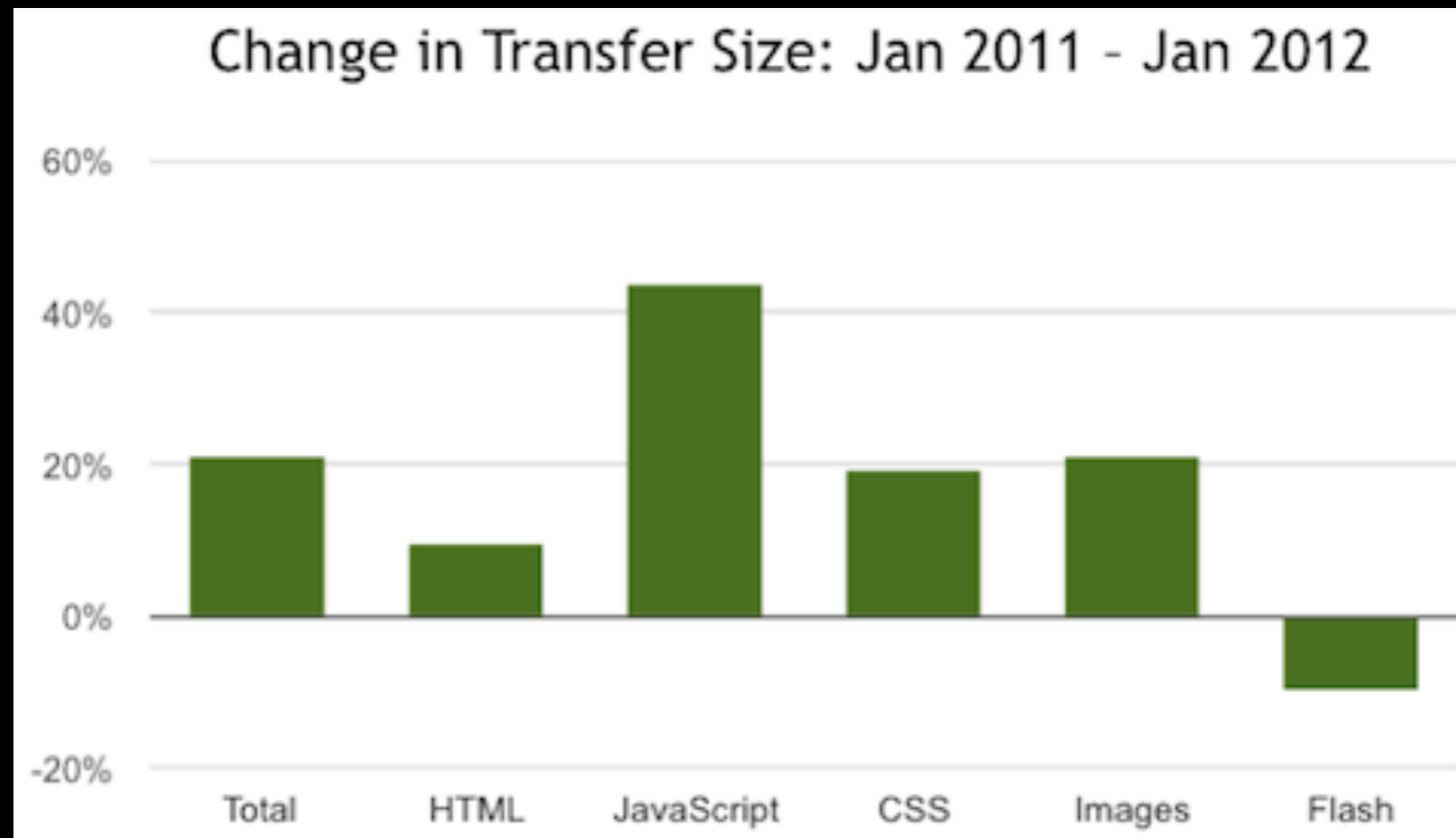
“It’s just JavaScript”

<http://coffeescript.org>

Why CoffeeScript?

JavaScript development will
continue to grow...

JavaScript Growth



“tremendous growth in JavaScript size – up 44% over the course of the year”

<http://www.stevesouders.com/blog/2012/02/01/http-archive-2011-recap/>

CoffeeScript is a great way to manage this growth

- Write less code
- Clean and concise syntax
- Easier to write good code
- Produces correct JavaScript (“the good parts”)

Show me the code

Language Features

- Syntactic sugar
- Classes
- Other features

Syntactic Sugar

- Functions (declaration, callbacks, default arguments)
- Significant white space, string interpolation, equality operator
- Existential and soak operators
- Bare objects
- Bound functions =>

Classes

- **Classes**
- **Default arguments**
- **Bound methods**
- **Inheritance**

Other Features

- Destructuring assignment
- Conditional iteration (unless, while, loop)
- Loops, arrays, ranges, and comprehensions
- Everything is an expression

CoffeeScript on the Server Side



node.js

- A server-side JavaScript interpreter
- it uses the V8 JavaScript interpreter that Google wrote for Chrome...
- ...and repurposes it for use on the server

<http://www.ibm.com/developerworks/opensource/library/os-nodejs/>

“Node.js uses an **event-driven, non-blocking I/O model** that makes it lightweight and efficient, perfect for data-intensive real-time applications that run across distributed devices.”

<http://nodejs.org>

Type CoffeeScript
Code

```
file: hello.coffee  
-----  
console.log 'Hello World!'
```

Compile to
JavaScript
and
execute on the
server
(via node.js)

```
> coffee hello.coffee  
Hello World!
```


Gotchas

- Significant space will trip you initially
- Debugging (source maps coming)
- It's not a framework, it does not give structure to your project

Who is using CoffeeScript?

“**Trello** started out as a pure JavaScript [after experimenting with CoffeeScript] we converted the rest of the code over and started coding CoffeeScript exclusively.”

Brett Kiefer (January, 2012)

<http://blog.fogcreek.com/the-trello-tech-stack/>

“[Basecamp Next] has just over 5,000 lines of CoffeeScript — almost as much as Ruby! This CoffeeScript compiles to about twice the lines of JavaScript”

David Heinemeier Hansson (January/2012)

<http://37signals.com/svn/posts/3094-code-statistics-for-basecamp-next>

Summary

“CoffeeScript isn’t just about prettier code. [...]

It’s about **being more confident that you got it right the first time**, while knowing that you could change it all in just a few keystrokes.”

Trevor Burnham

Author of CoffeeScript Accelerated JavaScript Development

<http://pragprog.com/magazines/2011-05/a-coffeescript-intervention>

tl;dr

CoffeeScript allows you
to write less, cleaner, and better
JavaScript code

More Information

- Visit <http://coffeescript.org>
- Book: CoffeeScript Accelerated JavaScript Development by Trevor Burnham (The Pragmatic Programmers)
- Code: <https://github.com/hectorcorrea/intro-to-coffeescript>

Questions?



Thanks

hector@hectorcorrea.com