

CoffeeScript

AarhusJS Meetup #1

Chriztian Steinmeier

Først lidt om giraffen...

Først lidt om giraffen...

■ Chriztian Steinmeier, anno 0111 1011 0010

Først lidt om giraffen...

- Chriztian Steinmeier, anno 0111 1011 0010
- Frontend Developer @ **Vokseværk** **Heyday** **Dynamieweb**

Først lidt om giraffen...

- Chriztian Steinmeier, anno 0111 1011 0010
- Frontend Developer @ **Vokseværk** **Heyday** **Dynamieweb**
- Faldt i gryden med XSLT som spæd ...

Først lidt om giraffen...

- Chriztian Steinmeier, anno 0111 1011 0010
- Frontend Developer @ **Vokseværk** **Heyday** **Dynamieweb**
- Faldt i gryden med XSLT som spæd ...
- Leder pt. efter gryden med CoffeeScript!



CoffeeScript



CoffeeScript

▪ Jeremy Ashkenas (@jashkenas)



CoffeeScript

- Jeremy Ashkenas (@jashkenas)
- Backbone.js, Underscore.js

CoffeeScript

- Et sprog der compiles til JavaScript

CoffeeScript

- Et sprog der compiles til JavaScript
- **Læsbar** JavaScript

CoffeeScript

- Et sprog der compiles til JavaScript
- Læsbar JavaScript
- Compileren er skrevet i CoffeeScript < w000t! >

Men hvorfor?

Men hvorfor?

“*JavaScript er da for fedt!*”

Men hvorfor?

“*Der er jo ingen browsere der fatter CoffeeScript! (^brynn^)*”

Men hvorfor?

Det er slet ikke meningen at en browser skal "se" CoffeeScript...

Men hvorfor?

“*It's just JavaScript*”

CoffeeScript Basics

CoffeeScript Basics

Simpel lille `help()` funktion...

CoffeeScript Basics

Simpel lille `help()` funktion...

Java
Script

o-help.js

```
1. function help(topic) {  
2.   return "Currently I can't help you with " + topic + ", sorry.";  
3. }
```

CoffeeScript Basics

Simpel lille `help()` funktion...

help.coffee

```
1. help = (topic) ->
2.   "Currently I can't help you with #{topic}, sorry."
```

Coffee
Script

CoffeeScript Basics

Simpel lille `help()` funktion...

help.coffee

```
1. help = (topic) ->
2.   "Currently I can't help you with #{topic}, sorry."
```

Coffee
Script

Java
Script

help.js

```
1. var help;
2. help = function(topic) {
3.   return "Currently I can't help you with " + topic + ", sorry.";
4. };
```

CoffeeScript Basics

Simpel lille `help()` funktion...

help.coffee

```
1. help = (topic) ->
2.   "Currently I can't help you with #{topic}, sorry."
```

Coffee
Script

Java
Script

help.js

```
1. var help;
2. help = function(topic) {
3.   return "Currently I can't help you with " + topic + ", sorry.";
4. };
```

- Automatisk deklarering af variabler

CoffeeScript Basics

Simpel lille `help()` funktion...

help.coffee

```
1. help = (topic) ->
2.   "Currently I can't help you with #{topic}, sorry."
```

Coffee
Script

Java
Script

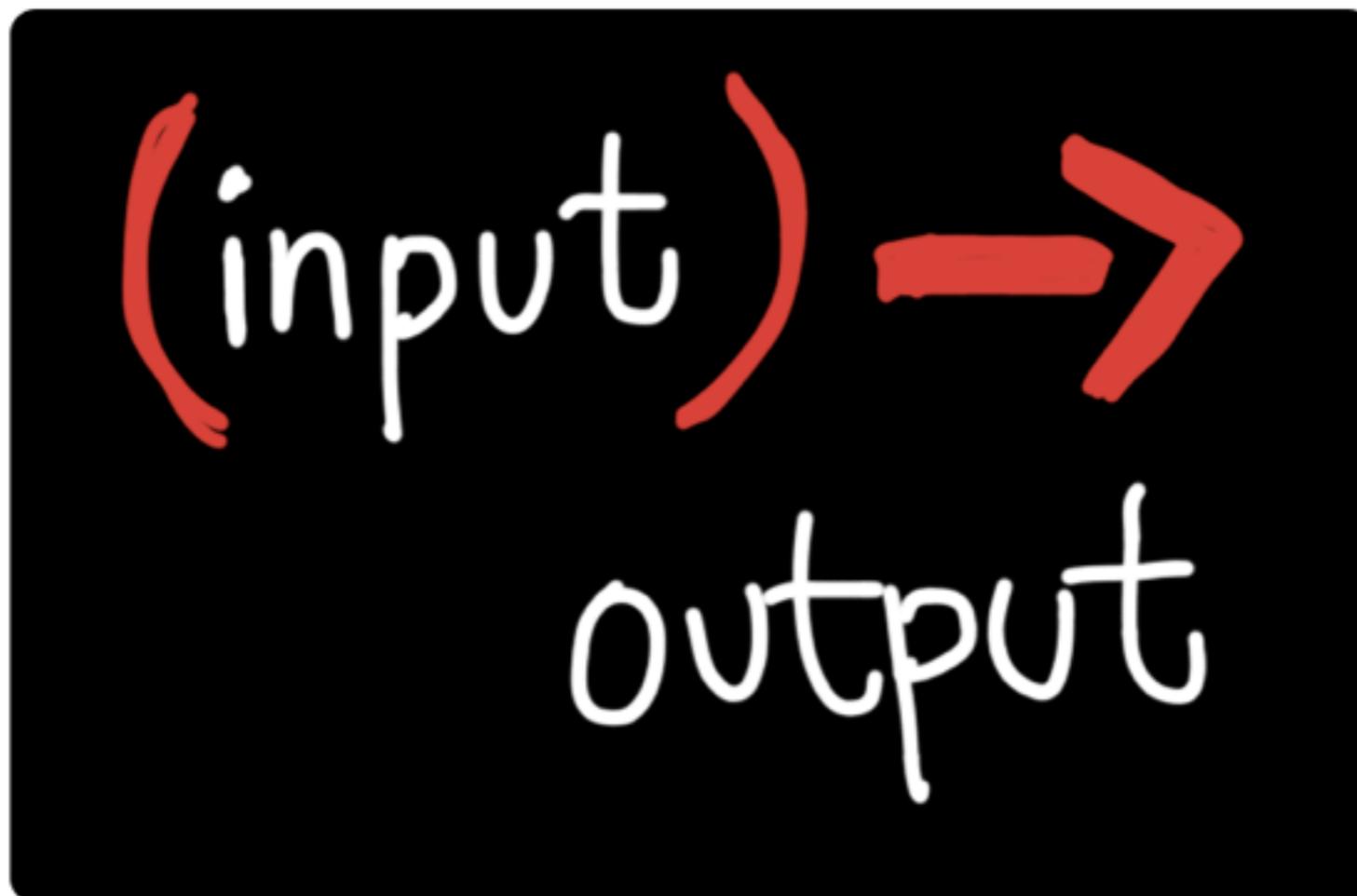
help.js

```
1. var help;
2. help = function(topic) {
3.   return "Currently I can't help you with " + topic + ", sorry.";
4. };
```

- Ny funktions-syntax vha. "dash-rocket".

“*Dash* hvad-for-noget???”

CoffeeScript Basics



Funktioner defineres som "input goes to output"

CoffeeScript Basics

help.coffee

```
1. help = (topic) ->
2.   "Currently I can't help you with #{topic}, sorry."
```

Coffee
Script

Java
Script

help.js

```
1. var help;
2. help = function(topic) {
3.   return "Currently I can't help you with " + topic + ", sorry.";
4. };
```

- Ny funktions-syntax vha. dash-rocket.

CoffeeScript Basics

help.coffee

```
1. help = (topic) ->
2.   "Currently I can't help you with #{topic}, sorry."
```

Coffee
Script

Java
Script

help.js

```
1. var help;
2. help = function(topic) {
3.   return "Currently I can't help you with " + topic + ", sorry.";
4. };
```

- Interpolering (a la Ruby) i double-quotedstreng

CoffeeScript Basics

help.coffee

```
1. help = (topic) ->
2.   "Currently I can't help you with #{topic}, sorry."
```

Coffee
Script

Java
Script

help.js

```
1. var help;
2. help = function(topic) {
3.   return "Currently I can't help you with " + topic + ", sorry.";
4. };
```

- Interpolering (a la Ruby) i double-quotedstreng
- Automatisk returnering af sidste udtryk

Bonus!

- og næsten ingen parenteser, tuborg-klammer eller semikolon...

Compiling

Compiling

- Vha. coffee kommandoen: `coffee --compile help.coffee`

Compiling

- Vha. coffee kommandoen: `coffee --compile help.coffee`
- Vha. et tool, eks.: **CodeKit (Max OS X)** eller **Mindscape Web Workbench (Visual Studio)**

Compiling

- Vha. coffee kommandoen: `coffee --compile help.coffee`
- Vha. et tool, eks.: **CodeKit (Max OS X)** eller **Mindscape Web Workbench (Visual Studio)**
- Direkte i **TextMate**, **Vim** etc.

Demo

Comprehensions

Comprehensions

- Loops på den fede måde

Comprehensions

▪ Loops på den fede måde

Java
Script

o-comprehensions.js

```
1. var sum = 0, numbers = [1, 2, 3, 4, 5, 6, 7, 8];
2. for (var i=0; i<numbers.length; i++) {
3.     sum += numbers[i];
4. }
```

Comprehensions

▪ Loops på den fede måde

comprehensions-1.coffee

```
1. sum = 0
2. numbers = [1..8]
3. sum += i for i in numbers
```

Coffee
Script

Comprehensions

- Loops på den fede måde

Java
Script

comprehensions-1.js

```
1. var i, numbers, sum, _i, _len;
2. sum = 0;
3. numbers = [1, 2, 3, 4, 5, 6, 7, 8];
4. for (_i = 0, _len = numbers.length; _i < _len; _i++) {
5.   i = numbers[_i];
6.   sum += i;
7. }
```

Comprehensions

- Fungerer også med f.eks. en hash (+ evt. condition):

comprehensions-2.coffee

```
1. ratings =
2.   "Fluffy's Comeback": 4
3.   "Sanity Sleeps on the Porch": 2
4.   "Instant Republication 4: A New Beginning": 3
5.   "The Saint from St. Patricks ain't no Saint": 5
6.
7.   goodies = (title for title, rating of ratings when rating >= 4)
```

Coffee
Script

Comprehensions

Java
Script

comprehensions-2.js

```
1. var goodies, rating, ratings, title;
2. ratings = {
3.   "Fluffy's Comeback": 4,
4.   "Sanity Sleeps on the Porch": 2,
5.   "Instant Republication 4: A New Beginning": 3,
6.   "The Saint from St. Patricks ain't no Saint": 5
7. };
8. goodies = (function() {
9.   var _results;
10.  _results = [];
11.  for (title in ratings) {
12.    rating = ratings[title];
13.    if (rating >= 4) _results.push(title);
14.  }
15.  return _results;
16. })();
```

Classes

Classes

point.coffee

```
1. class Point
2.   constructor: (@x = 0, @y = 0) ->
3.     @timestamp = (new Date).getTime()
4.
5.   toString: ->
6.     "({{@x}}, {{@y}})"
```

Coffee
Script

Classes

Java
Script

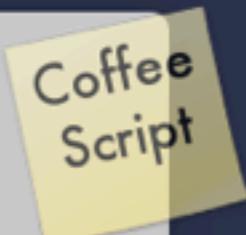
point.js

```
1. var Point;
2. Point = (function() {
3.   function Point(x, y) {
4.     this.x = x != null ? x : 0;
5.     this.y = y != null ? y : 0;
6.     this.timestamp = (new Date).getTime();
7.   }
8.   Point.prototype.toString = function() {
9.     return "(" + this.x + ", " + this.y + ")";
10.  };
11.  return Point;
12. })();
```

Classes

point3d.coffee

```
1. class Point3D extends Point
2.   constructor: (@x = 0, @y = 0, @z = 0) ->
3.     super @x, @y
4.
5.   toString: ->
6.     "({{@x}}, {{@y}}, {{@z}})"
```



Java Script

point3d.js

```
1. var Point3D,
2.     __hasProp = Object.prototype.hasOwnProperty,
3.     __extends = function(child, parent) { for (var key in parent) { if
4.         (__hasProp.call(parent, key)) child[key] = parent[key]; } function ctor() {
5.             this.constructor = child; } ctor.prototype = parent.prototype;
6.             child.prototype = new ctor; child.__super__ = parent.prototype; return
7.             child; };
8.
9. Point3D = (function(_super) {
10.     __extends(Point3D, _super);
11.     function Point3D(x, y, z) {
12.         this.x = x != null ? x : 0;
13.         this.y = y != null ? y : 0;
14.         this.z = z != null ? z : 0;
15.         Point3D.__super__.constructor.call(this, this.x, this.y);
16.     }
17.     Point3D.prototype.toString = function() {
18.         return "(" + this.x + ", " + this.y + ", " + this.z + ")";
19.     };
20.     return Point3D;
21. })(Point);
```

Scope

Scope

Compileren wrapper output i en anonym funktion ...

Java
Script

wrapper.js

```
1. (function() {  
2.   // compiler output her ...  
3.   }).call(this);
```

Scope

... hvilket betyder at man skal eksportere objekter/variabler ...

scope.coffee

```
1. class Pane
2.   constructor: (@name) ->
3.     @el = $ "##{@name}"
4.
5.   hide: ->
6.     @el.hide()
7.
8. window.Pane = Pane
```

Coffee
Script

Scope

... hvis man har brug for dem i global scope.

Java
Script

scope-show.js

```
1. $(function() {  
2.  
3.     var pane = new Pane('about');  
4.  
5. });
```

Andre goodies

Andre goodies

Destructuring assignment

destructuring.coffee

```
1. offsets = ($ "container").offset()
2. { left, top } = offset
3.
4. coords = Map.getInstance "spycam"
5. [left, top, width, height] = coords
```

Coffee
Script

Andre goodies

Destructuring assignment

destructuring.coffee

```
1. offsets = ($ "container").offset()
2. { left, top } = offset
3.
4. coords = Map.getInstance "spycam"
5. [left, top, width, height] = coords
```

Coffee
Script

Andre goodies

Destructuring assignment

Java
Script

destructuring.js

```
1. var coords, height, left, offsets, top, width;
2. offsets = $("container").offset();
3. left = offset.left, top = offset.top;
4. coords = Map.getInstance("spycam");
5. left = coords[0], top = coords[1], width = coords[2], height = coords[3];
```

Andre goodies

Destructuring assignment

Java
Script

destructuring.js

```
1. var coords, height, left, offsets, top, width;
2. offsets = $("container").offset();
3. left = offset.left, top = offset.top;
4. coords = Map.getInstance("spycam");
5. left = coords[0], top = coords[1], width = coords[2], height = coords[3];
```

Andre goodies

is, isnt, if/then/else og unless

conditionals.coffee

```
1. console.log "Approaching Pandora" unless debugging is off
2.
3. weapons.setMode if enemy isnt "lethal" then "STUN" else "KILL"
4.
5. if firepower is low
6.   Armory.prepareReload()
7. else
8.   weapons.fire()
```

Coffee
Script

Andre goodies

is, isnt, if/then/else og unless

Java
Script

conditionals.js

```
1. (function() {  
2.   if (debugging !== false) console.log("Approaching Pandora");  
3.   weapons.setMode(enemy !== "lethal" ? "STUN" : "KILL");  
4.   if (firepower === low) {  
5.     Armory.prepareReload();  
6.   } else {  
7.     weapons.fire();  
8.   }  
9. }).call(this);
```

Debugging ???

Debugging ???

- Det er stadig bare JavaScript

Hvad nu?

- Start her: <http://coffeescript.org/>
- Source: <https://github.com/jashkenas/coffee-script/>
- Docco: <http://jashkenas.github.com/docco/>
- Source: <https://github.com/jashkenas/docco>

Spørgsmål?

Tak!

- Email: chriztian@steinmeier.dk
- Twitter: [@greystate](https://twitter.com/greystate)