Presentation on Basics of

by
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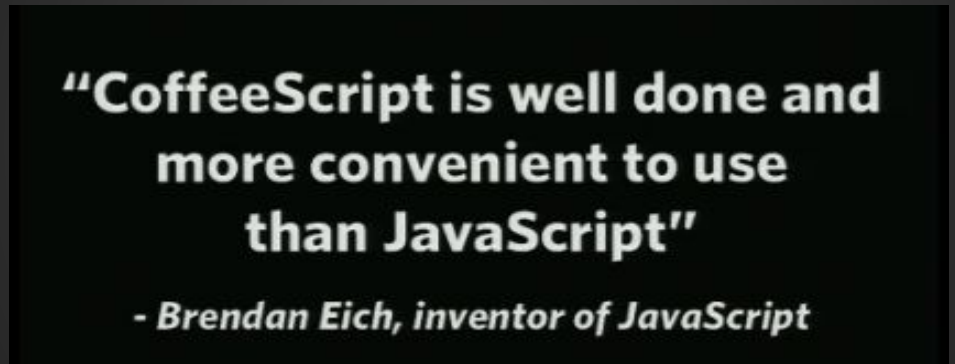
Agenda

- ❑ Introduction
- ❑ Native Javascript Issues
- ❑ Advantages && Disadvantages
- ❑ Setup (Install, compile, Run)
- ❑ Language Basics
- ❑ Who’s Using CoffeeScript
- ❑ Conclusion
- ❑ Resources

Introduction

“It’s just Javascript“



“CoffeeScript is a programming language that *transcompiles* to JavaScript.”

Introduction (2)

CoffeeScript is developed by

“Jeremy Ashkenas”

Jeremy Ashkenas is the creator of the CoffeeScript programming language, the Backbone.js JavaScript framework, and the Underscore.js JavaScript library.

First Release : December 24th 2009
Version 1.0 : February 2010
Current Version: 1.8

Introduction (3)

- Language designed to be a complied into javascript
- Its mission is to "expose the good parts of JavaScript in a simple way"
- Human Readable Code
- Syntax take advantages of modern OO languages like Ruby, Python

Native JavaScript Issues

- == vs ===
- Functional Inheritance and pseudo classical
- Global variable leakage(missing var)

Advantages

Write less, Do more
Less lines of code with better readability
Code easy to understand and maintains
Say Goodbye to ProtoType and Use Classes
Styling with indentation
No Semicolons, optional braces

Disadvantages

- Even if you are writing code in the coffeescript you should know how javascript’s concepts work
- Debugging is a pain

Setup

Install

Assumed installed Node with packed manager npm

```
npm install -g coffee-script
```

Once installed, you should have access to the coffee command, which can execute scripts.

To Know the version of CoffeeScript

```
coffee -v
```

Setup (2)

Compile

Compile a directory tree of .coffee files in src into a parallel tree of .js files in lib

```
coffee -c -0 js/ coffee/
```

Watch a file for changes, and recompile it every time the file is saved:

```
coffee -w -c  <file.coffee>
```

Concatenate a list of files into a single script

```
coffee -j -c  prj.js -c src/ *.coffee
```

Setup (3)

Steps to Create and Run coffee file

1. vi test.coffee
2. type console.log “welcome to Coffee Script”
3. Save the file
4. Compile the file : coffee -c test.coffee (it will create .js file with same name)
5. Run the coffee scripts file
   coffee test.coffee
1. Run the generated js by node
   node test.js

Language Basics

Comments

"comments can be used to explain the code, and make the code more readable."

single line

```
# This is CoffeeScript
```

Multi-line

```
###
    This is CoffeeScript
###
```

Language Basics (2)

Variables

“Variables are containers for storing data values.”

<variable_name> = value

Here value may any type either string, number, boolean, object, float….

Language Basics (3)

String Interpolation

“It’s nothing but Concatenation of String”

“ #{value}”

```
eg:  word = "Hello"
     greeting = "#{word} World!"
```

Language Basics (4)

Operators

"A symbol that represents a specific action."

CoffeeScript	JavaScript
is, isnt	===, !==
and, or , not	&&, ||, !
true, yes, on	true
false, no, off	false
in, of	in, N/A
@, this	this
::	prototype

Language Basics (5)

Functions

A block of code designed to perform a particular task.

Function is executed when "something" invokes it (calls it).

```
fun_name  = ()-> (or) ->
        statements
fun_name = (arg1, arg2) ->
        statements
```

Language Basics (6)

Control Structures

- Conditional Statements
  - if
  - if-else
  - unless
  - switch

- Looping Statements
  - while
  - until- loop
  - for

Language Basics (6.1)

Conditional Statements

- if : if *condition*
  statement
- if-else: if *condition* then true_statement else false_statement
- unless: unless *condition*
  statement
- switch: switch *expr*
  when *condition* then statement1
  when *condition* the statement2
  ….
  else statementn

Language Basics (6.2)

Looping Statements

- while : while condition

  code block to be executed

- until - loop

  until

  code block to be executed (while not true)

  loop

  code block to be executed (while true)

- for : for ele in array

  code block to be executed

Language Basics (7)

Arrays

“An array is a data structure that contains a group of elements. Typically these elements are all of the same data type, such as an integer or string.”

```
arr_name = [value1, value2…..]
arr_name = [
    value1
    value2
]
```

Language Basics (8)

Objects

An object is an associative array (called hash in some languages). It stores key-value pairs.

eg: Real Life Objects, Properties, and Methods

A car has **properties** like weight and color, and **methods** like start and stop

```
obj_name = {key1:value1, key2:value2….}
 obj_name = {
        key1:value1
        key2:value2
        }
```

Language Basics (9)

Comprehensions

“Comprehensions work particularly well if you have a loop with just one line of code.”

```
multiples = (num * 2 for num in [1..10])
```

eg:
```
x = i for i in [0...10] # x = 9 at end of loop
x = (i for i in [0...10]) # x = [0, 1, 2, ...]
y = x: i for i in [0...10] # y = { x: 9 } at end of loop
y = (x: i for i in [0...10]) # y = [{x: 0}, {x: 1}, ... ]
```

Language Basics (10)

Object - Oriented Concepts

Class

Class is a blueprint of an object that contains variables for storing data and functions to performing operations on these data.

Class will not occupy any memory space and hence it is only logical representation of data.

Object

Objects are the basic run-time entities in an object oriented system.They may represent a person,a place or any item that the program has to handle.

Object is an instance of a class

Language Basics (11)

Object - Oriented Concepts

Inheritance

When a class acquire the property of another class is known as inheritance.

Inheritance is process of object reusability.

Who’s Using CoffeeScript

Github
Dropbox
Basecamp
Airbnb(mobile) ....

Conclusion

Good for enterprise and large team, because it;s easier to have common style

Good for developers new to javascript and those coming from oo languages(Ruby, java)

cross-browser / old browser support

Resources

References:

http://blog.teamtreehouse.com/the-absolute-beginners-guide-to-coffeescript

http://www.slideshare.net/godfoca/lets-have-a-cup-of-coffeescript

Ebooks

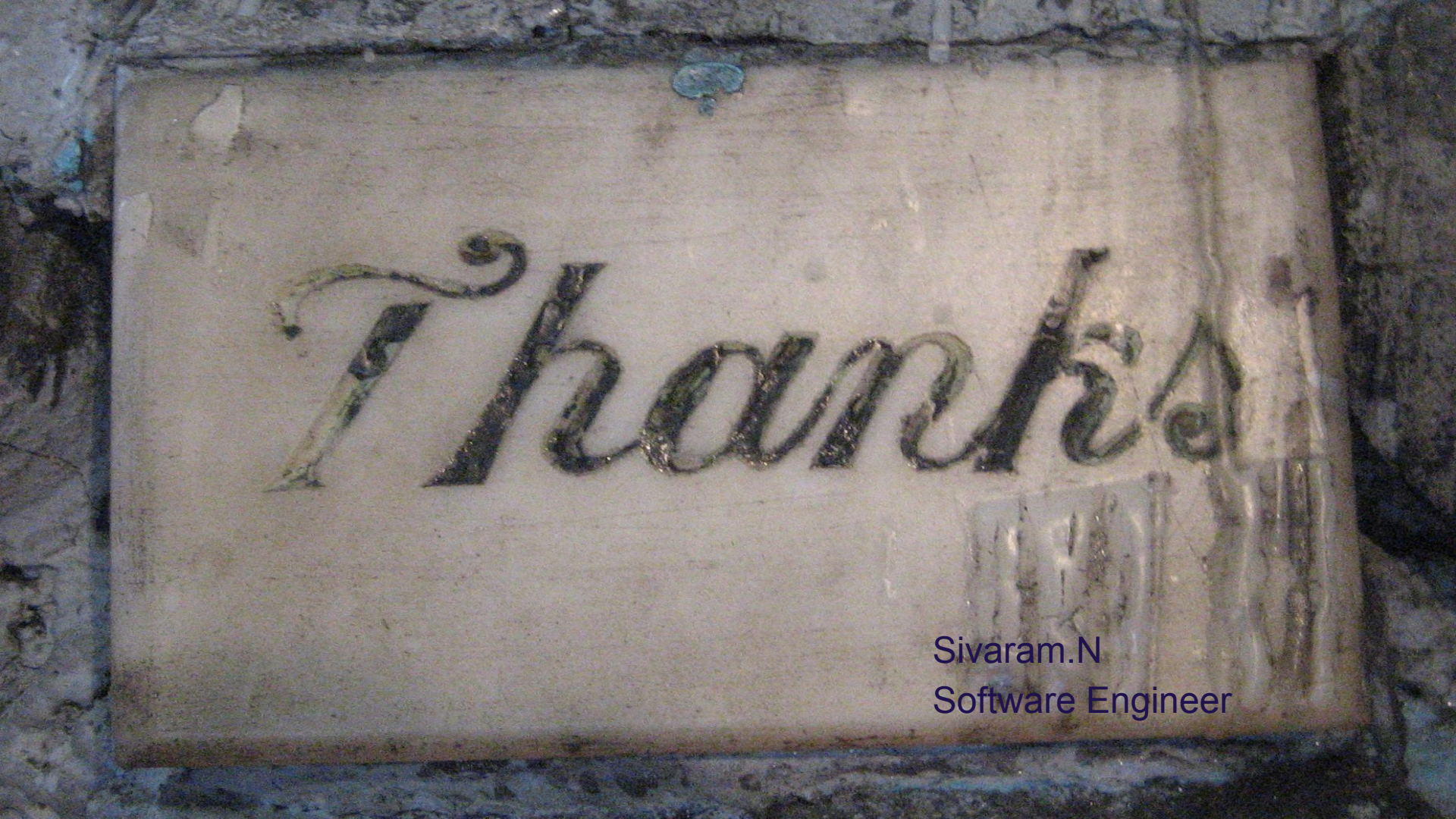
The little book on CoffeeScript: http://arcturo.github.io/library/coffeescript/

CoffeeScript Cookbook : http://coffeescriptcookbook.com

Examples

https://github.com/dimitardanailov/coffeescript-intro

Any Queries?



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