COFFEESCRIPT VS. TYPESCRIPT

What should you use in your application?

ABOUT ME

- Paul Oliver
- Lead Developer @Farm Credit Services of America
- Twitter: @ItsPaultastic
 - (Slides and links will be tweeted after conference)

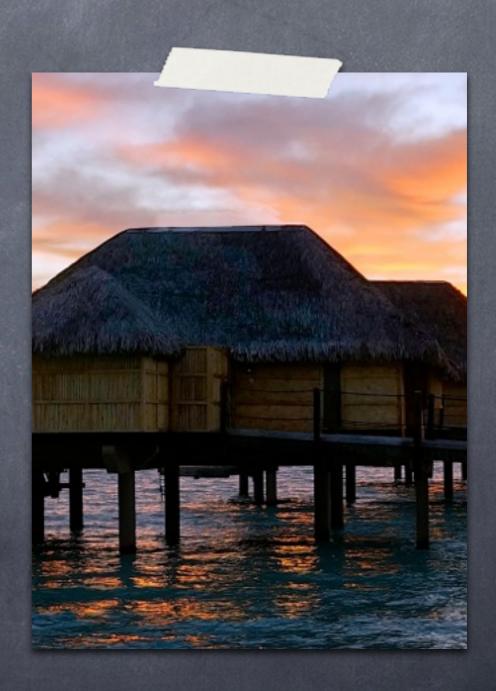
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AGENDA

- About Each Language
- Setup
- Demo
- Comparisons
- Conclusion



ABOUT COFFEESCRIPT

- First Release October 2009
- Open Source (Github)
- 11th Most Popular language on Github.
- The original idea was for CoffeeScript to be "unfancy JavaScript"--JavaScript boiled down to its regular essence without the language quirks you usually have to watch out for. Java is a fancy word for coffee, so unfancy JavaScript is CoffeeScript.'

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 CoffeeScript creator

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ABOUT TYPESCRIPT

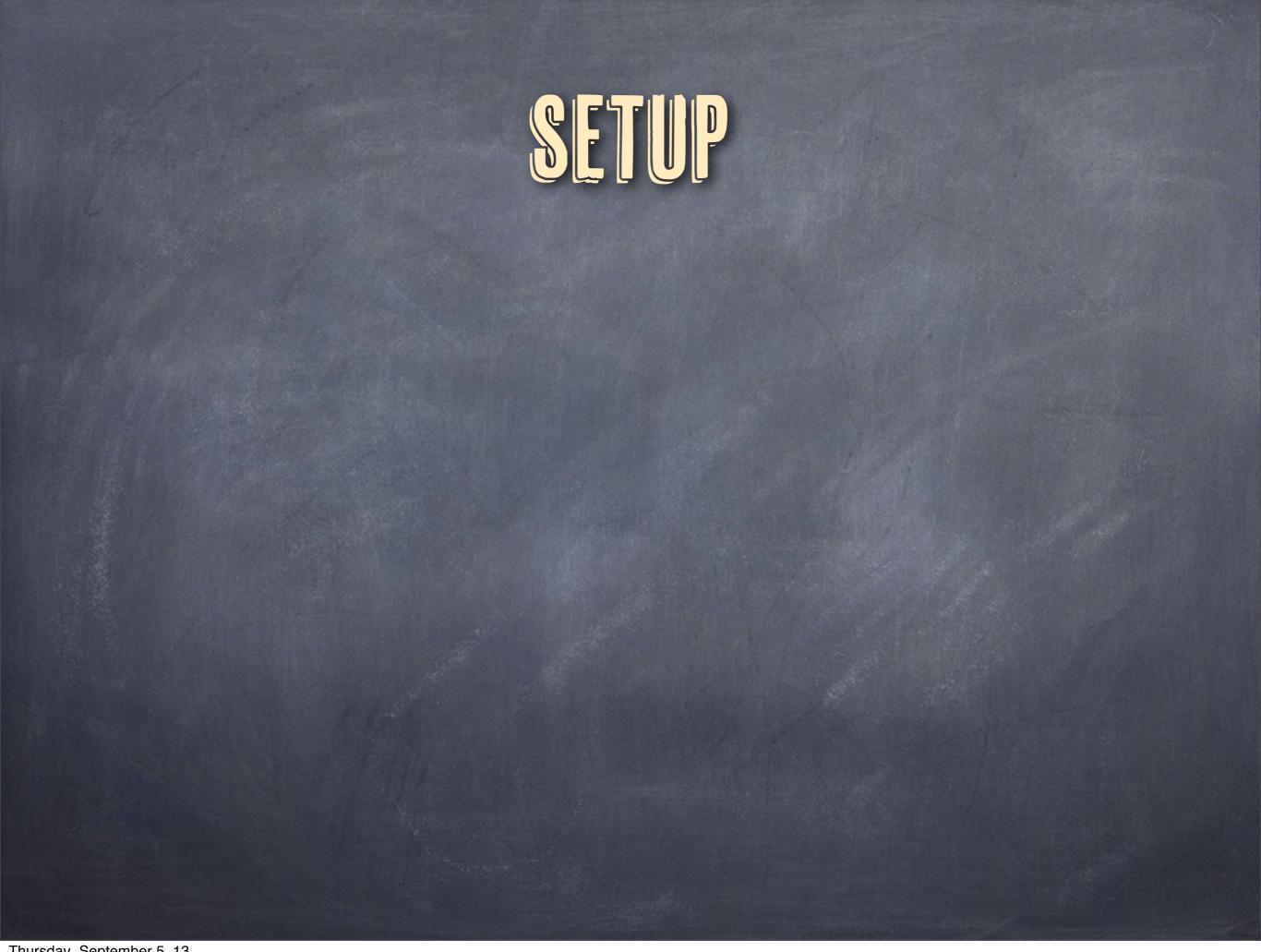
- First released in October2012 by Microsoft.
- Anders Hejlsberg designed much of TypeScript.
- Open Source and hosted on CodePlex
- Not in the Top 90 languages on Github (yet)
- Transcompiles to JavaScript (ES3 and ES6)

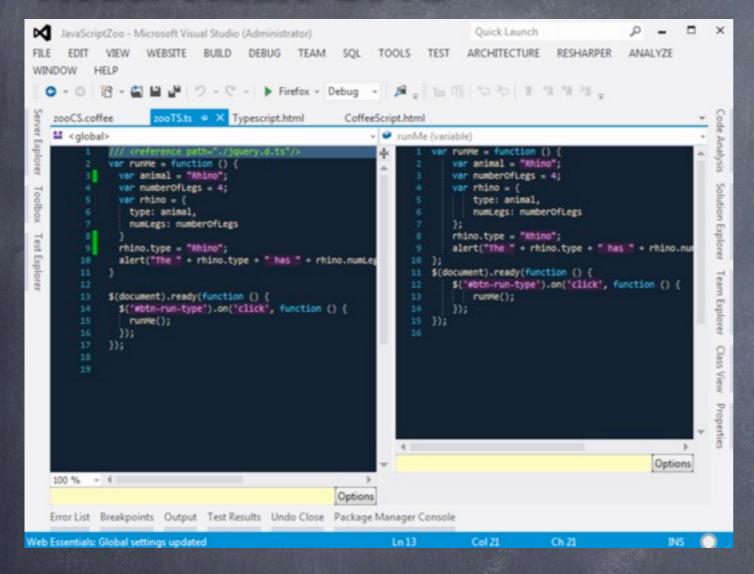
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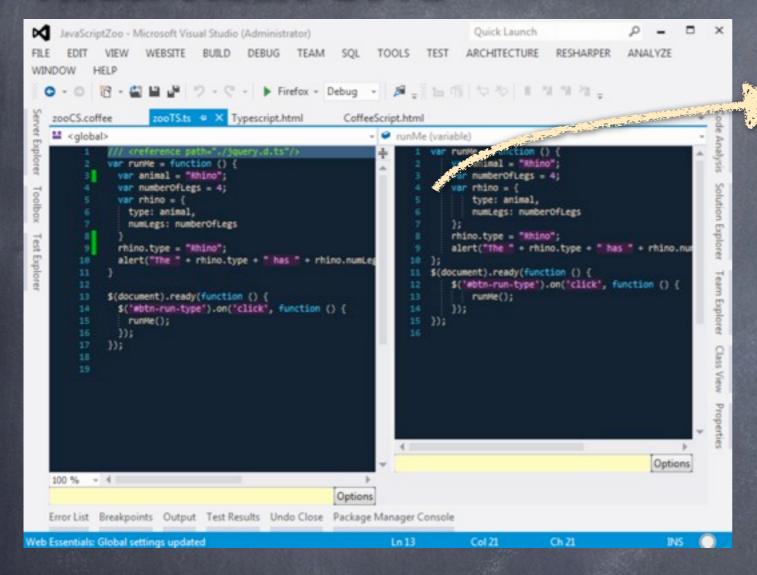
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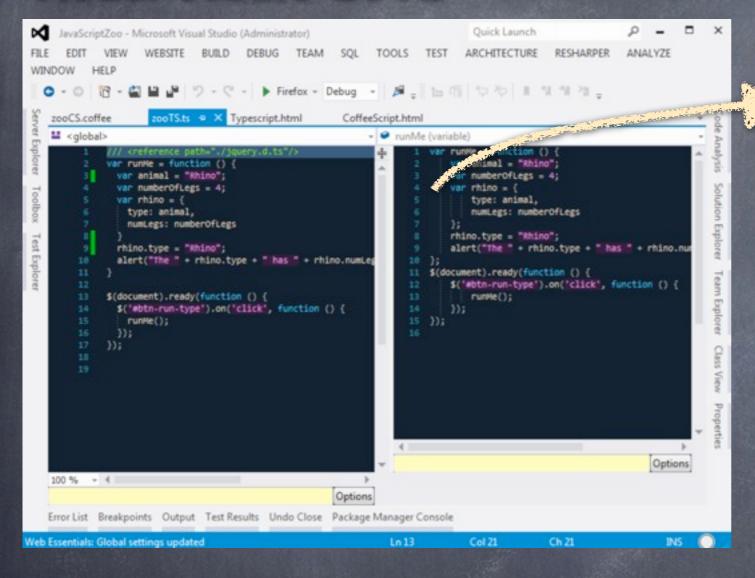






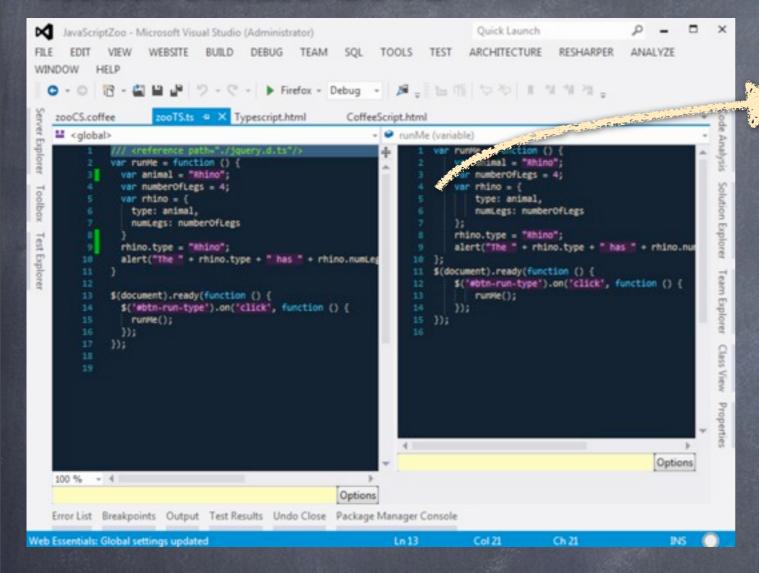
ASP.NET Web Tools 2012.2



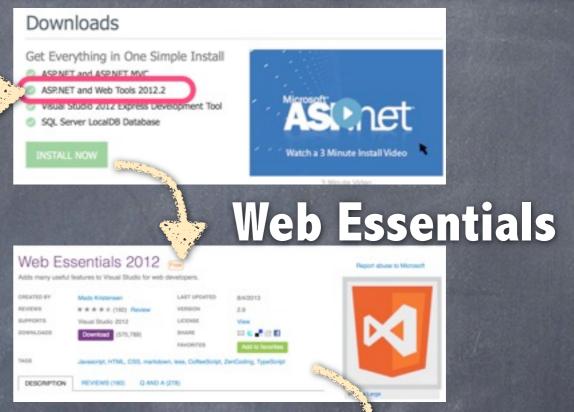


ASP.NET Web Tools 2012.2

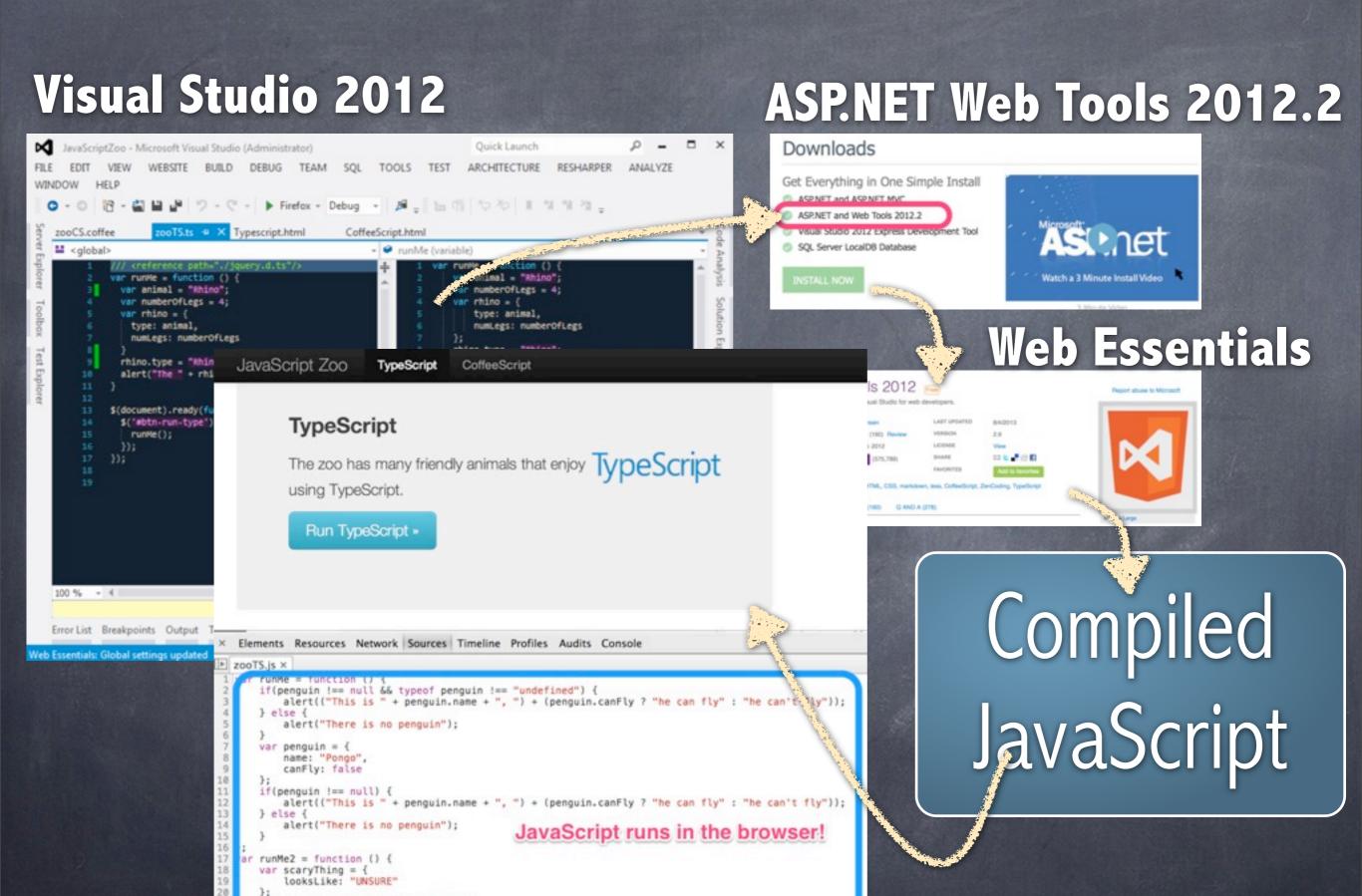




ASP.NET Web Tools 2012.2



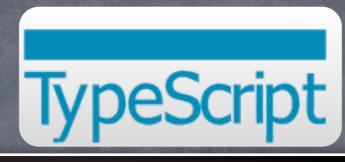
Compiled JavaScript



if((scaryThing.looksLike) == null) {
 scaryThing.looksLike = "sasquatch";

WAIT? COMPILED JAVASCRIPT?





```
zookeeper = "Paul"
session = 106
alert(zookeeper)
alert(session)
```

```
var zookeeper : string = "Paul";
var session : number = 106;
alert(zookeeper);
alert(session);
```

Compiler

Compiler

```
var session, zookeeper;
zookeeper = "Paul";
session = 106;
alert(zookeeper);
alert(session);
```

TYPESCRIPT IS IN ALPHA!

- DON'T install the latest version (0.9 alpha)...it has major memory problems.
- Look for an older version0.8.3.1 http://bit.ly/1eLhX9X
- Requires Restart. Why?

The compiler consumes a gig of RAM in 10 seconds. Sadly, I'll stay with 0.8.3 until things are worked out. by web2nr on Wed at 11:37 AM



While the concept of the changes are good, this is not a good release. The handling of 'this' is unstable, getting generic compiler errors (Unable to get value of the property 'flags': object is null or undefined), and compile on save. It's unusable for me

by kevinsbennett on Tue at 12:38 PM



memory leaking visual studio. unusable.

by mickdelaney on Mon at 12:05 PM

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TypeScript

FROM THE CREATOR OF C#, DELPHI AND TURBO PASCAL

THERE BE DRAGONS

TYPESCRIPT IS IN ALPHA STATUS



Scrolling down the errors list will cause VS2012 to stop responding, 1 CPU pegged at 100% I have disabled all plugins (ie WebEssentials) and I still get the same problem. Not ready by rslaney on Aug 6 at 8:29 PM



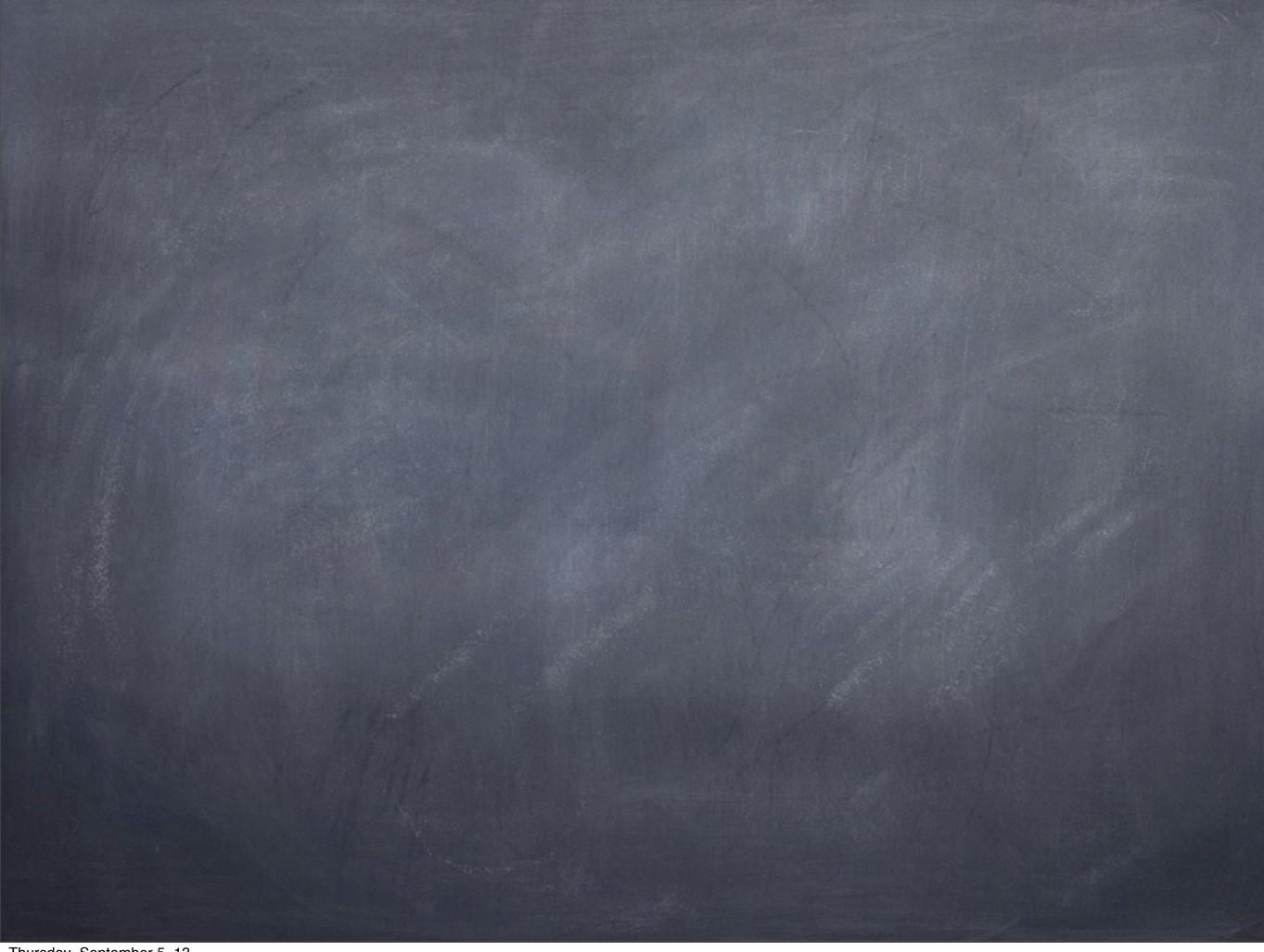
I think this release needs to be rolled back. It chews up horrible amounts of RAM until it crashes Visual Studio. Steer clear of this one, folks.

by smithkl42 on Aug 6 at 4:49 PM



I hate to do this as I love TypeScript, but this release is not ready for primetime. Visual Studio now consumes memory out of control until ultimately crashing, something it didn't do with 0.9.0.1. The quality control REALLY needs to be improved before you drop these releases.

by MgSam on Aug 6 at 4:25 PM



Thursday, September 5, 13



COFFEESCRIPT FEATURES NOT IN TYPESCRIPT

- Fixes comparison operators(==, !==)
- Correctly hoists variable declarations
- Loop comprehensions
 for food in foods
 where...
- Better default parameter handling (null and undefined)

- Great support for arrays
 elements = arr[3..6]
- Does not require all the "ceremony" of static typing
- Wraps the compiled JavaScript in a safety wrapper to prevent global contamination
- String interpolation:
 "Hello #{name}"
- Many more...

TYPESCRIPT FEATURES NOT IN COFFEESCRIPT

- Intellisense! (in Visual Studio)
- Squiggly Lines! (in Visual Studio)
- Static Type Checking
- JavaScript-like syntax
- You can use == if you want. (Why?)
- Supports some of the EcmaScript standards still being solidified (like module and let)

CAN'T WE ALL JUST GET ALONG?

There's Room for Both

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FEATURES OF BOTH

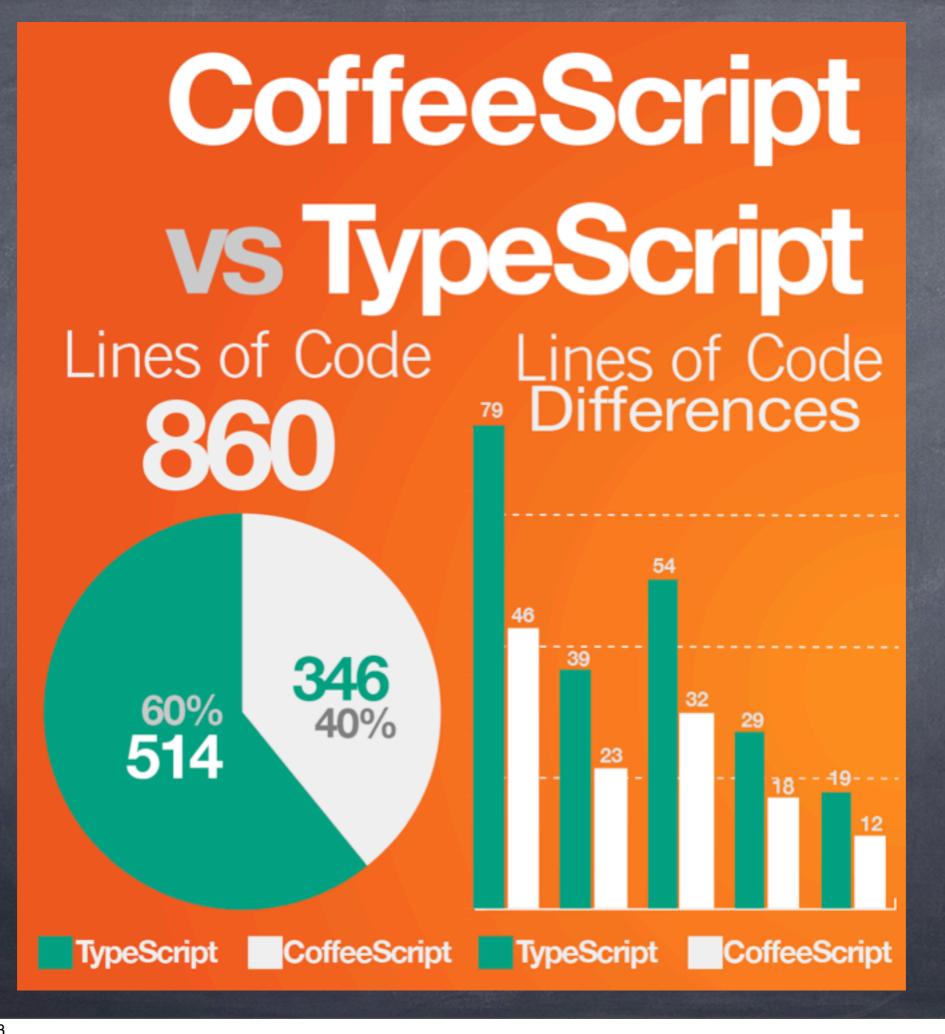
FEATURE	COFFEESCRIPT	TYPESCRIPT
Compiles to JavaScript	0	0
Static Type Checking		0
Interfaces		0
Visual Studio Support	0	0
Intellisense		0
Loop Comprehensions	0	
Splats/RestParameters()	0	0
Classes	0	0
String Interpolations	0	
Proper Variable Hoisting	0	
Prevents use of ==	0	
Operator Goodness (?, < val <, etc)	0	
Generics		0
Write less code	0	
Stable	0	



METRICS

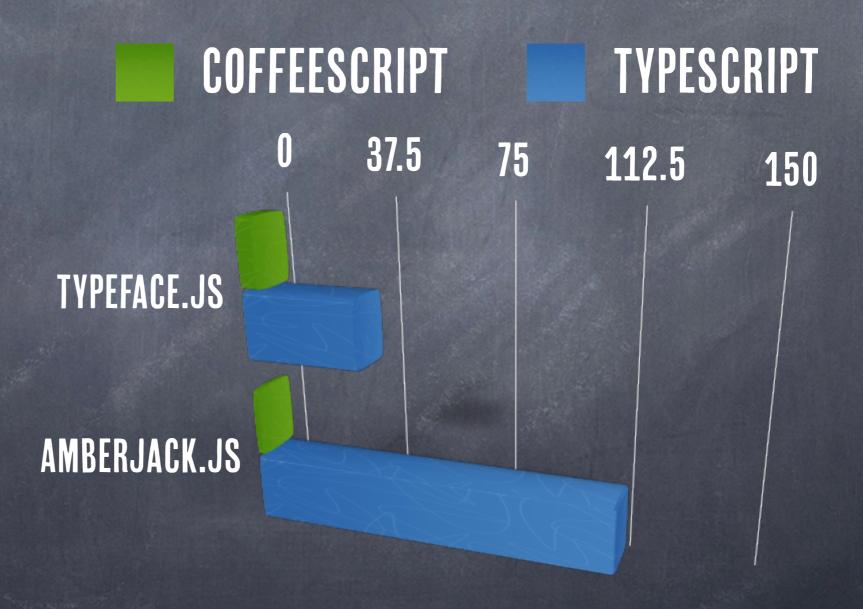
METRIC	COFFEESCRIPT	TYPESCRIPT
Months since initial release	44	10
Language Popularity on GitHub	#11	#91+
Stars	7945	1281
Forks	943	137
Pull Requests	461	32
Developers/Contributors	121	19
Status	Stable	Alpha

TYPESCRIPT IS APTLY NAMED





It took about 25 times longer to convert legacy code to TypeScript



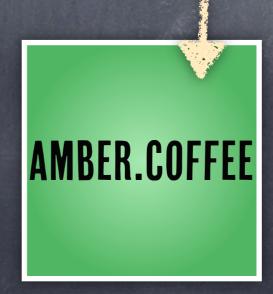


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legacy code to
TypeScript



AMBER.JS

js2coffee amber.js > amber.coffee





AMBER.JS

js2typescript amber.js

Error: Command not found

HOW TO CHOOSE?

- Prefer "stable and popular" to "new and unproven"
- Working with legacy code (new code is fine too!)
- Prefer typing less code
- Don't need Intellisense or refactoring built into your tooling
- Willing to learn a new syntax
- Understand how JavaScript works

- Don't mind working with bleeding edge
- Not working with legacy code
- Don't mind typing more to get more hints and features from your IDE
- Really want Intellisense and static type checking
- Prefer a language that looks similar to JavaScript
- Understand how JavaScript works



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CONTACT ME

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 - (Slides and links will be tweeted after conference)
- Interested in Early Access to Enterprise Mapper?
 - http://enterprisemapper.com