

Go

Why Golang?

<https://talks.golang.org/2012/splash.article>

Dara Aghamirkarimi

Who made this thing?

- Ken Thompson (B, C, Unix, UTF-8)
- Rob Pike (Unix, UTF-8)
- Robert Griesemer (Hotspot, JVM)
- And a few other engineers at Google

Go was invented by geniuses

performant
multiple-cores
Concurrency in parallel
Compiled, self hosted
network

clean syntax
powerful standard library
garbage collected

Portable

compiles on many OS's

<http://www.infoworld.com/article/2896575/google-go/googles-go-language-pros-and-cons.html>

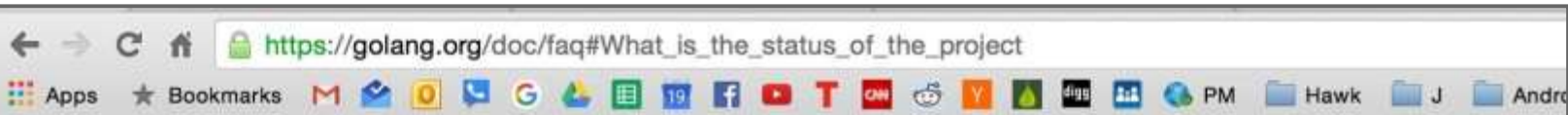
backed by Google

Go is mainly good for what Google does which is web services at scale

Google is rewriting a lot of their infrastructure in go.

open source

<https://golang.org/dl/>



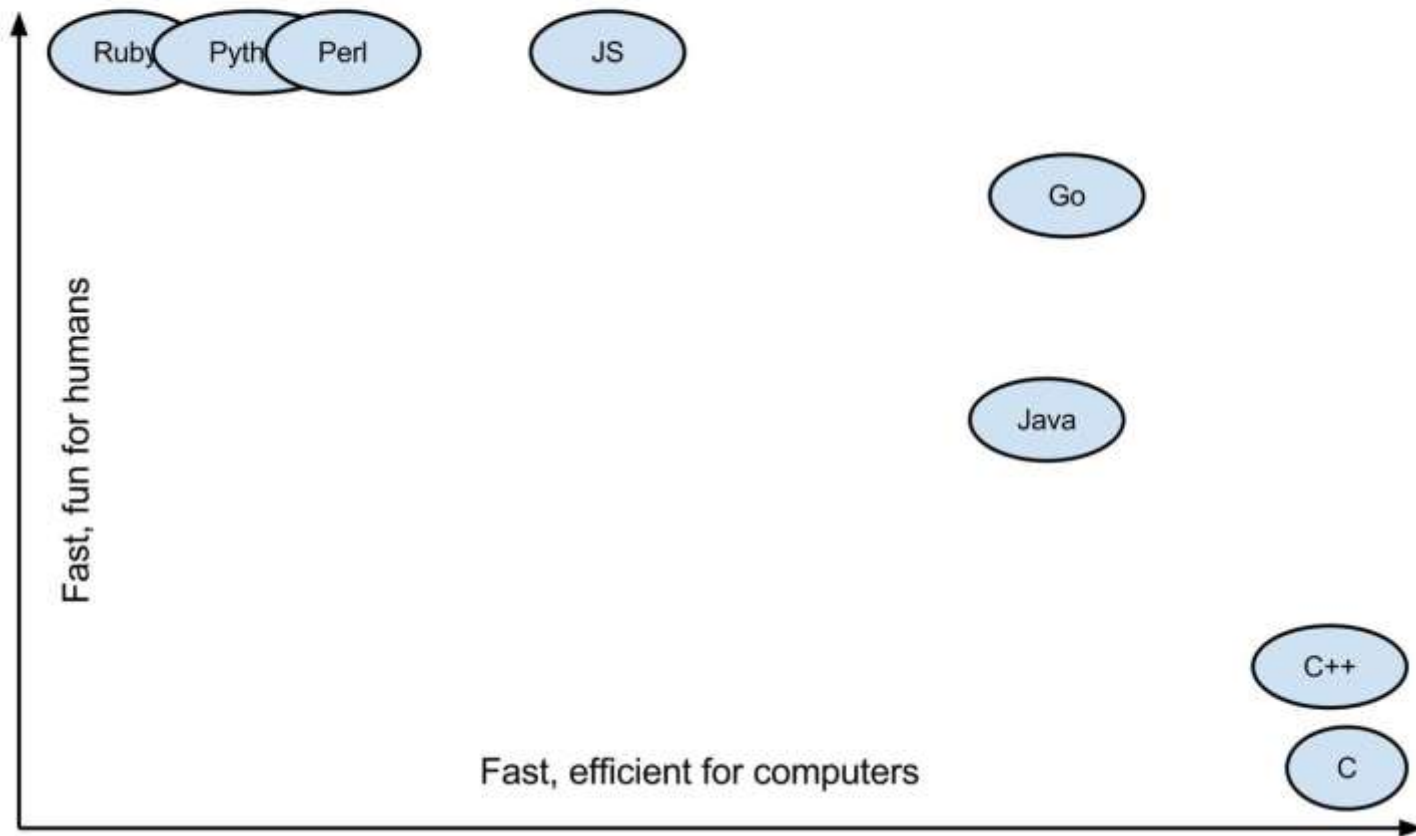
Why are you creating a new language?

Go was born out of frustration with existing languages and environments for systems programming. Programming had become too difficult and the choice of languages was partly to blame. One had to choose either efficient compilation, efficient execution, or ease of programming; all three were not available in the same mainstream language. Programmers who could were choosing ease over safety and efficiency by moving to dynamically typed languages such as Python and JavaScript rather than C++ or, to a lesser extent, Java.

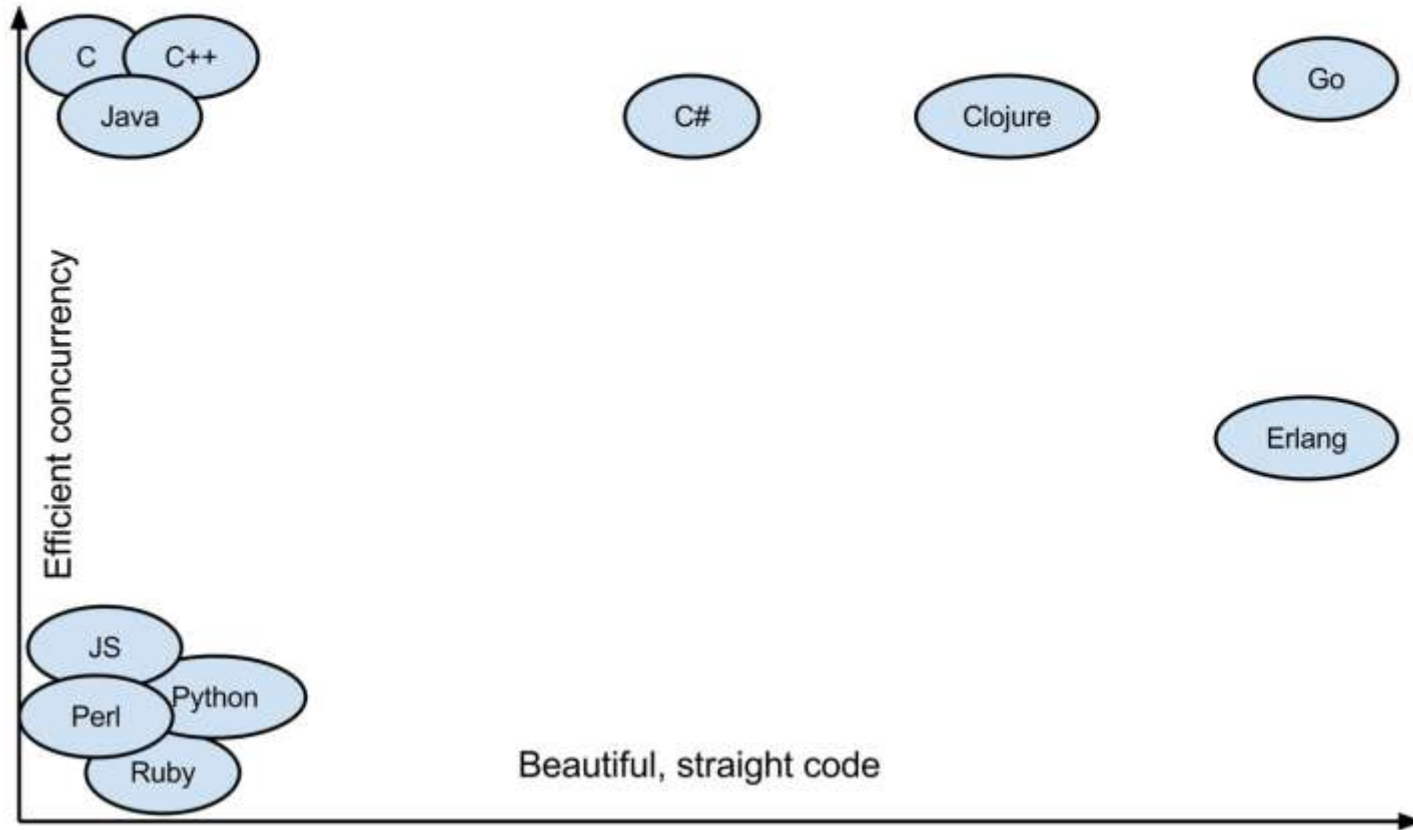
Go is an attempt to combine the ease of programming of an interpreted, dynamically typed language with the efficiency and safety of a statically typed, compiled language. It also aims to be modern, with support for networked and multicore computing. Finally, working with Go is intended to be *fast*: it should take at most a few seconds to build a large executable on a single computer. To meet these goals required addressing a number of linguistic issues: an expressive but lightweight type system; concurrency and garbage collection; rigid dependency specification; and so on. These cannot be addressed well by libraries or tools; a new language was called for.

The article [Go at Google](#) discusses the background and motivation behind the design of the Go language, as well as providing more detail about many of the answers presented in this FAQ.

After Go



After Go



“Go has its own elegance and programming idioms that make the language productive and fun to code. The language designers set out to create a language that would let them be productive without losing access to the lower-level programming constructs they needed. This balance is achieved through a minimized set of keywords, built-in functions, and syntax. Go also provides a comprehensive standard library. The standard library provides all the core packages programmers need to build real-world web and network based programs.”

~ Bill Kennedy, Go In Action

<https://golang.org/ref/spec#Keywords>



Go is a procedural, imperative, modular, object-oriented, statically-typed, garbage-collected, compiled programming language with syntax broadly similar to the C family of languages (C, C++, C#, Java, Javascript, etc...) and CSP-inspired concurrency features. We will examine each of those descriptions in greater detail, but before we do lets write our first Go program.

Here at Google, we believe programming should be fast, productive, and most importantly, fun. That's why we're excited to open source an experimental new language called [Go](#). Go combines the development speed of working in a dynamic language like Python with the performance and safety of a compiled language like C or C++. Typical builds feel instantaneous; even large binaries compile in just a few seconds. And the compiled code runs close to the speed of C. Go lets you move fast.

Go is a great language for systems programming with support for multi-processing, a fresh and lightweight take on object-oriented design, plus some cool features like true closures and reflection.

Want to write a server with thousands of communicating threads? Want to spend less time reading blogs while waiting for builds? Feel like whipping up a prototype of your latest idea? Go is the way to go! Check out the [video](#) for more information or visit golang.org.

The creator of [Nodejs](#) has abandoned node in favor of [Golang](#)

<https://mappingthejourney.com/single-post/2017/08/31/episode-8-interview-with-ryan-dahl-creator-of-nodejs/>

<https://edneypitta.com/on-node-go-concurrency/>

Farewell Node.js

TJ leaving node.js

Posted on [July 5, 2014](#)

I just saw the news. TJ Holowaychuk, one of node's important and respected contributors is [leaving node.js](#) for Go. Of course, this is not good news, especially for people like me who have invested a lot into node.js and have bet an industrial project on it.

Why is TJ leaving? Part of it has to do with the intrinsic attractiveness of Go. But a large part is related to deficiencies on the node side. Usability and the lack of robust error handling come first:

Error-handling in Go is superior in my opinion. Node is great in the sense that you have to think about every error, and decide what to do. Node fails however because:

- *you may get duplicate callbacks*
- *you may not get a callback at all (lost in limbo)*
- *you may get out-of-band errors*
- *emitters may get multiple "error" events*
- *missing "error" events sends everything to hell*
- *often unsure what requires "error" handlers*
- *"error" handlers are very verbose*
- *callbacks suck*

TJ also complains about APIs, tooling, lack of conventions:

Streams are broken, callbacks are not great to work with, errors are vague, tooling is not great, community convention is sort of there, but lacking compared to Go. That being said there are certain tasks which I would probably still use Node for, building web sites, maybe the odd API or prototype. If Node can fix some of its fundamental problems then it has good chance at remaining relevant, but the performance over usability argument doesn't fly when another solution is both more performant and

TJ Holowaychuk, a prominent module writer, made his farewells to Node.js and is turning to Go, which he calls a “next generation,” programming language in the same company as Rust and Julia.

It's the latest high profile departure from Node.js to Go, as noted by [Zef Hemel](#) in a post today. In particular, he cited [Felix Geisendörfer](#), a frequent contributor who moved on to Go in 2012.

**Felix Geisendörfer**

@felixge



bye #nodejs, hello #golang

11:28 AM - 2 Dec 2012



54



24

Hemel also cited [Koding](#), which provides a web-based development environment.

What other language is used for all of these?

- web apps
- network servers
- [mobile applications](#)
- machine learning
- image processing
- load balancers
- system admin
- hardware
- scripts
- crypto

“Initially, our Go-based system ran on 20 servers, with 20 million real-time connections in total. The system sent 2 million messages a day. That system now runs on 400 servers, supporting 200 million+ real-time connections. It now sends over 10 billion messages daily.”

Review

- **Golang** is awesome
- Holy crap! A lot of great companies are already using golang
- You should have already learned Golang a year ago
 - but at least you're starting now.

companies using Go

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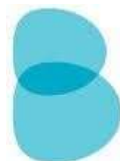


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By NIGEL GOUGH 8:14 AM ET

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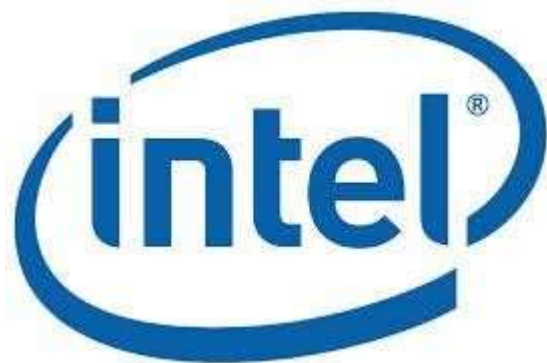
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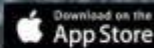
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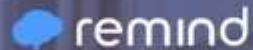
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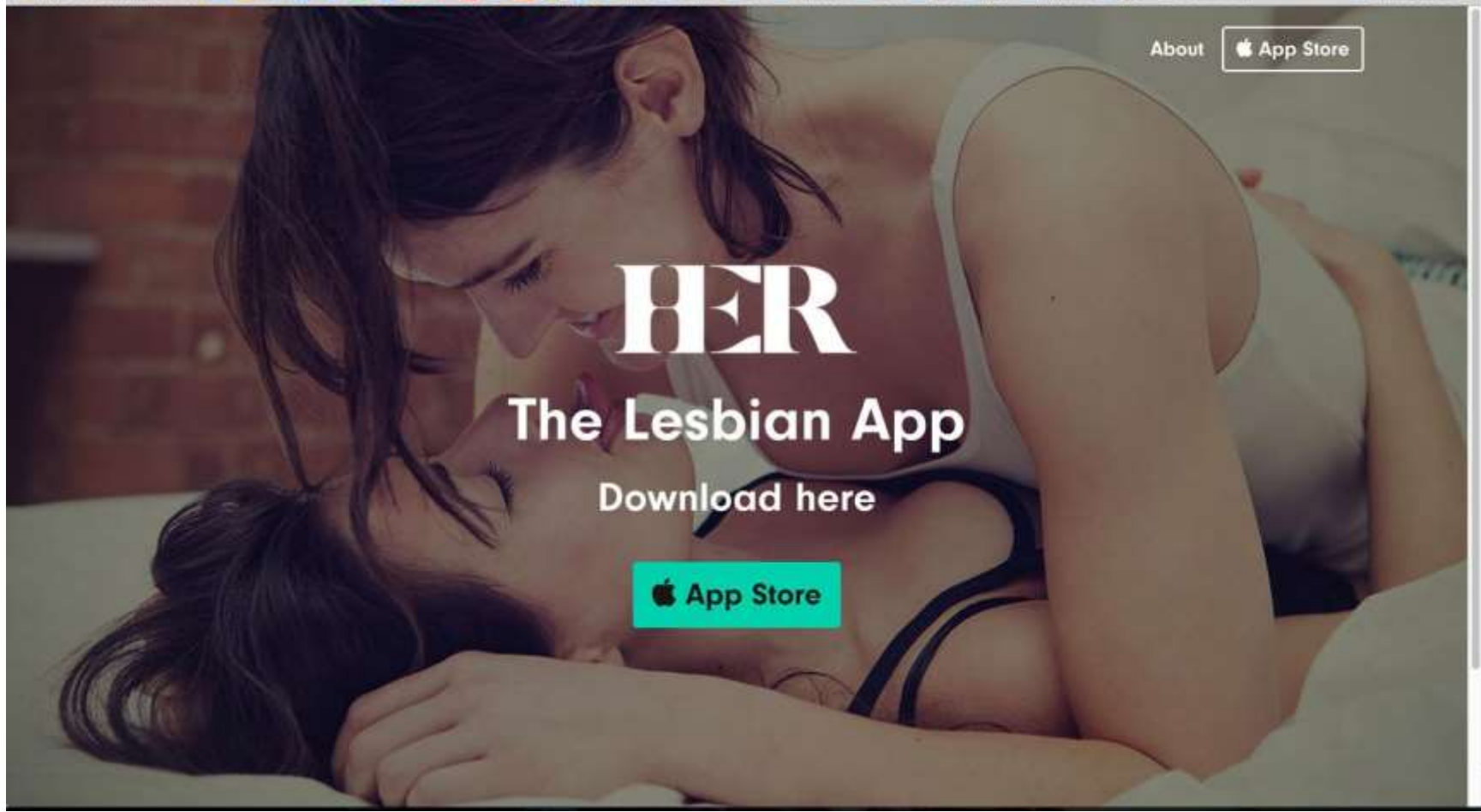
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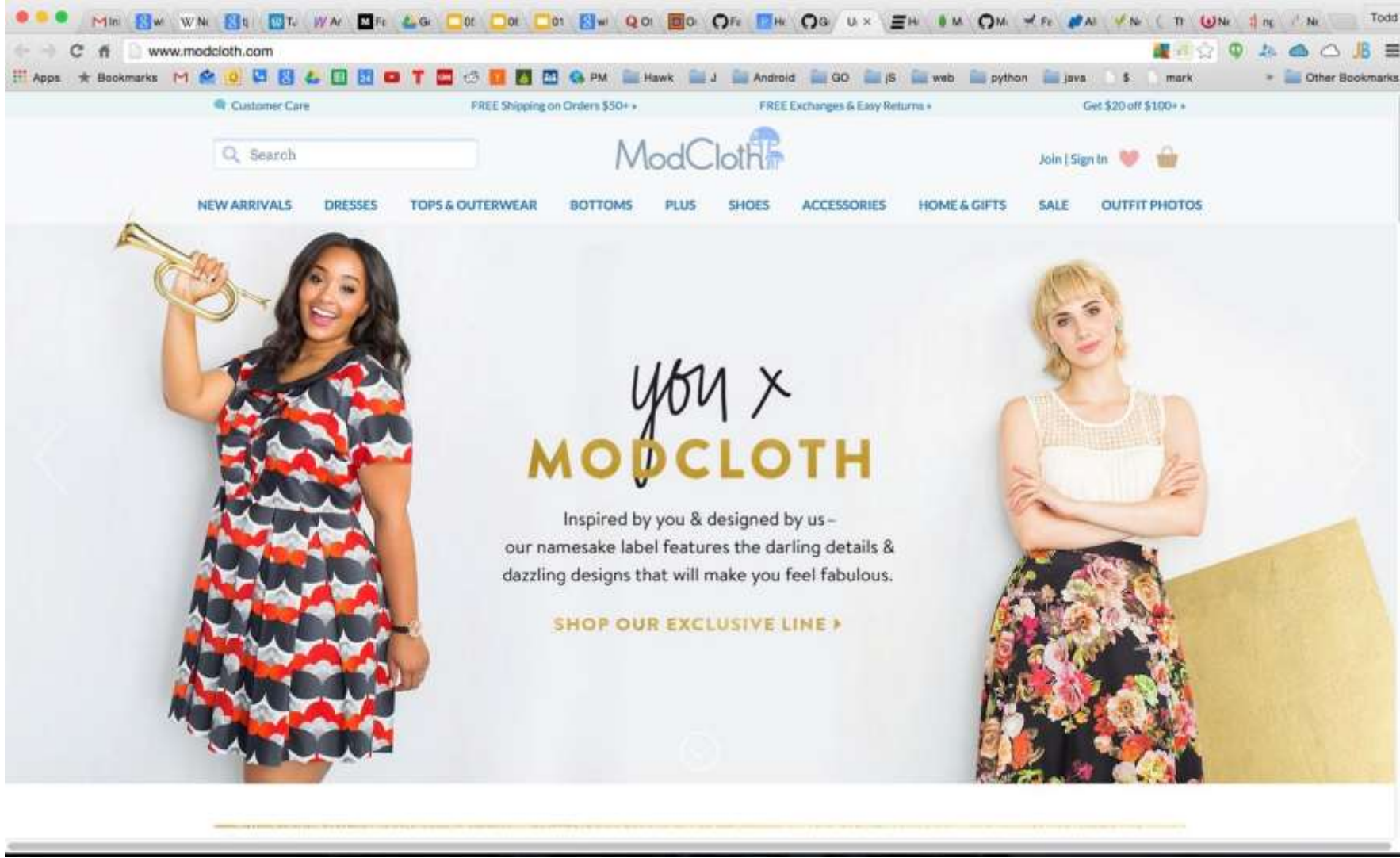
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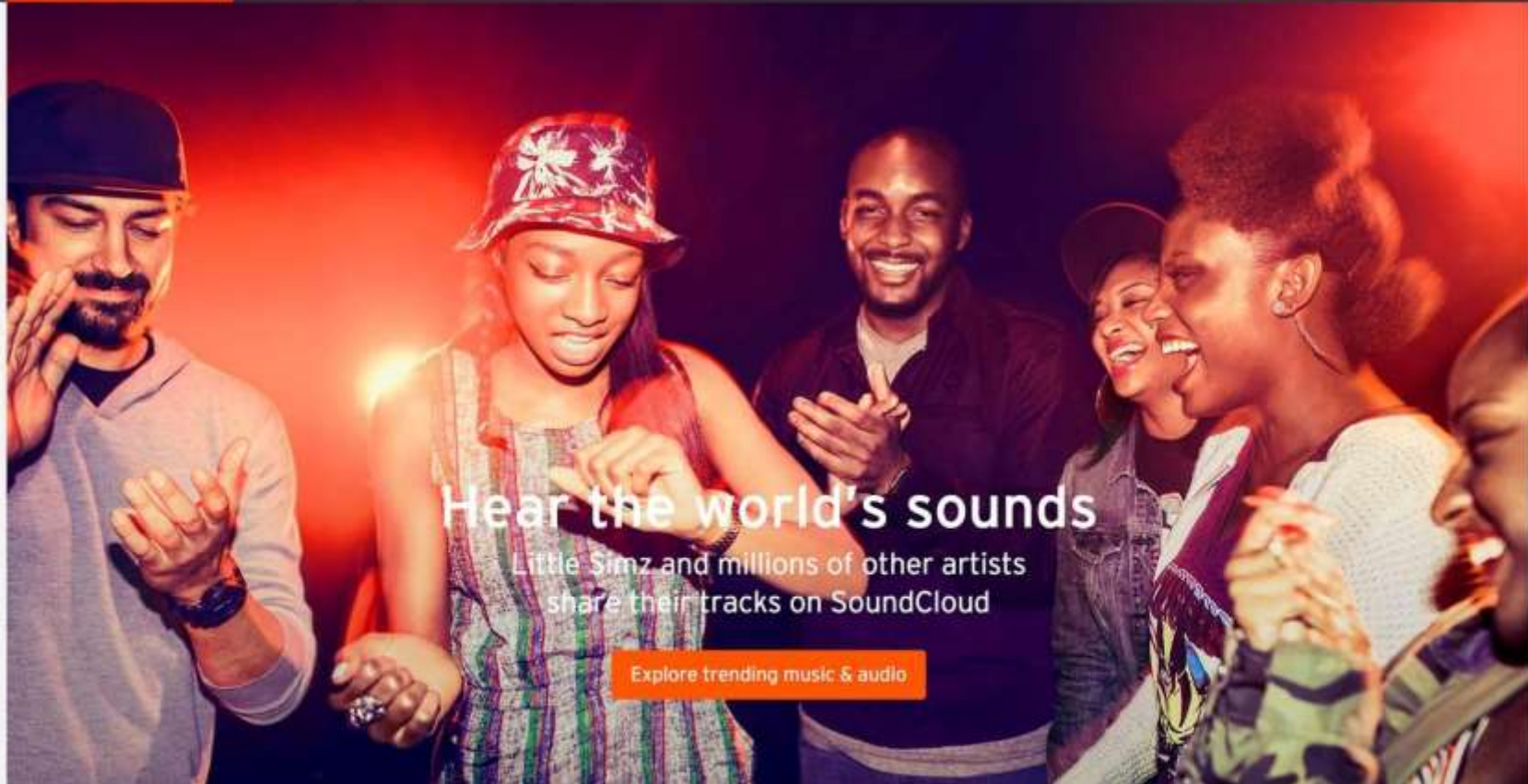
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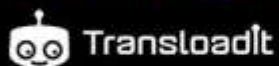
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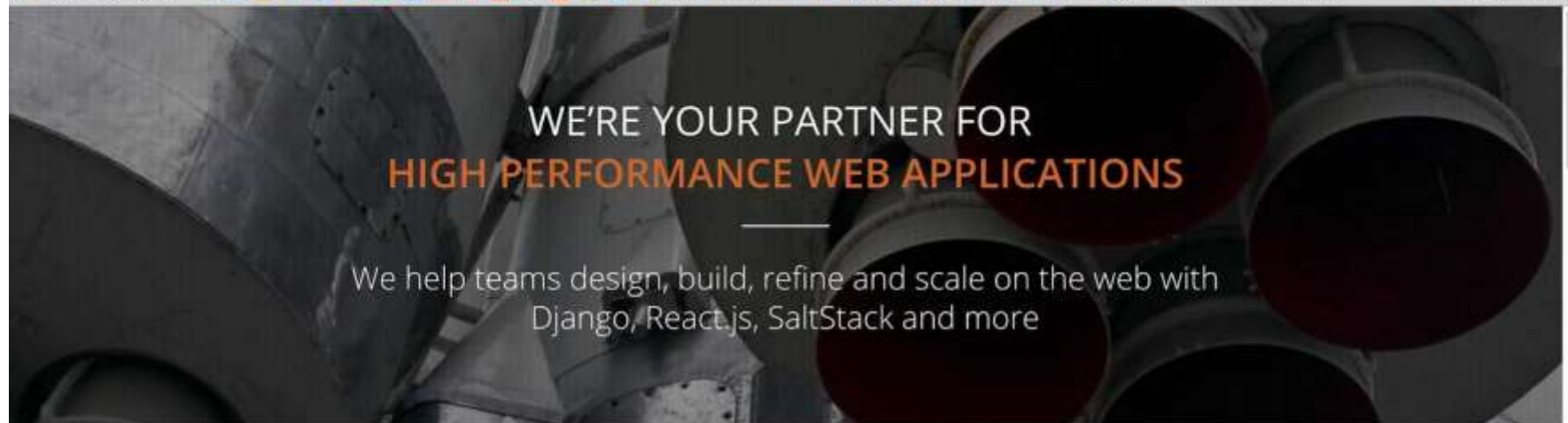
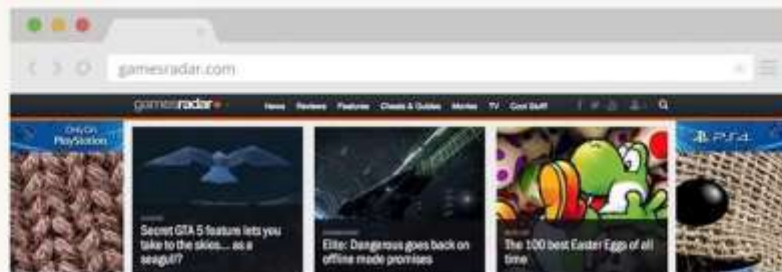


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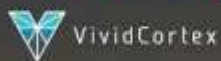
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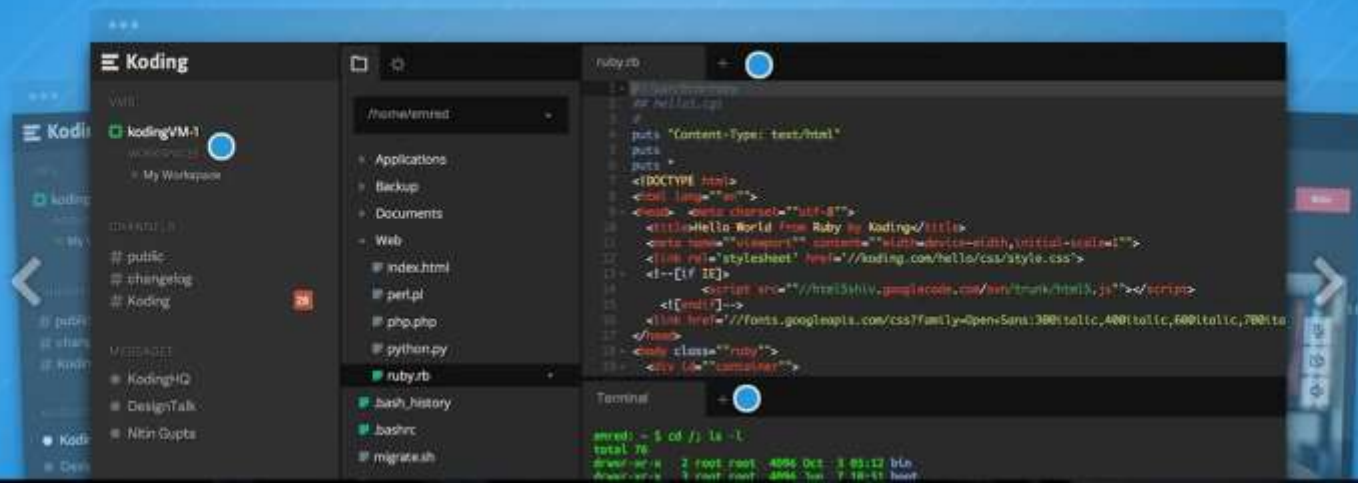
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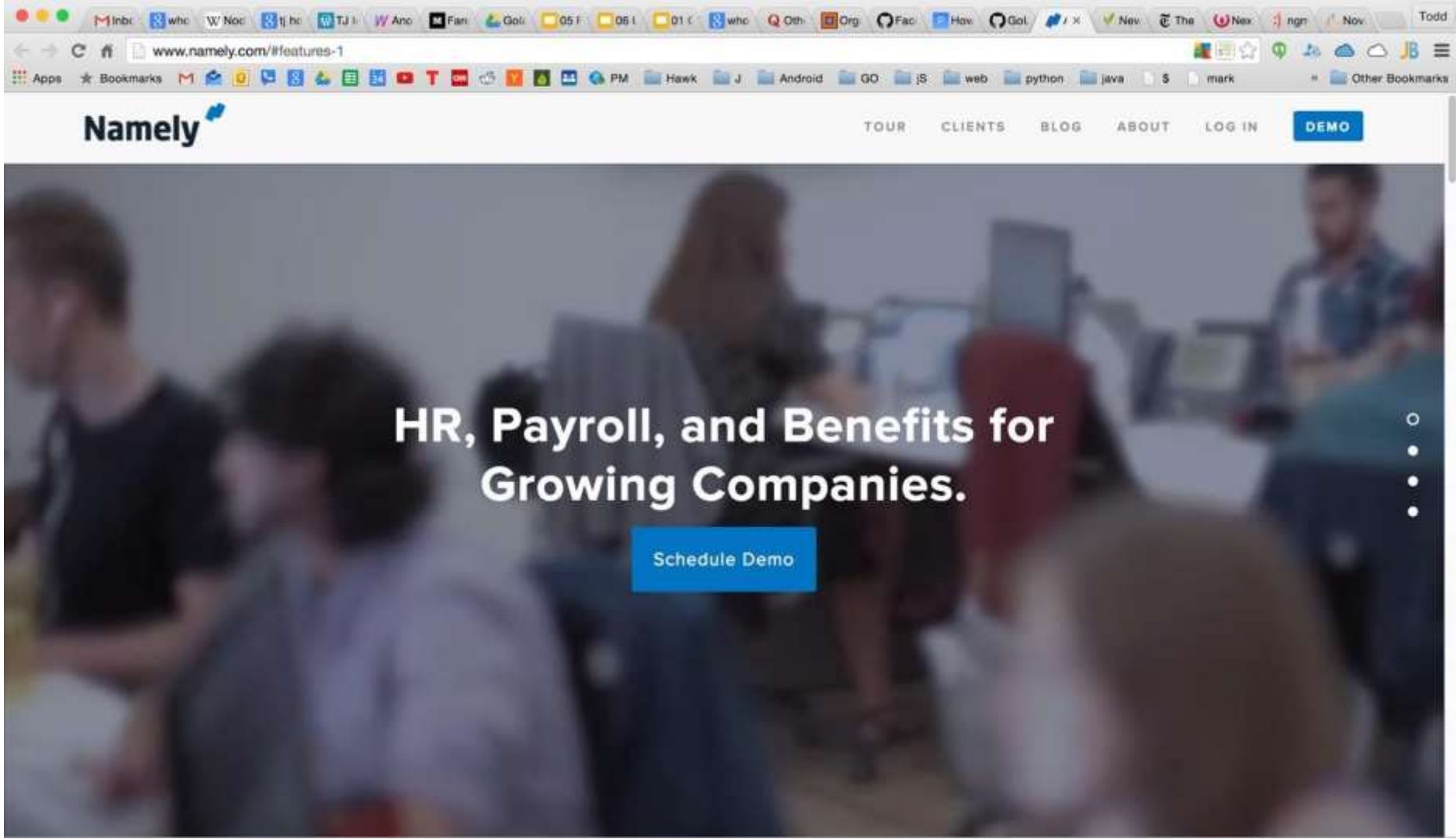
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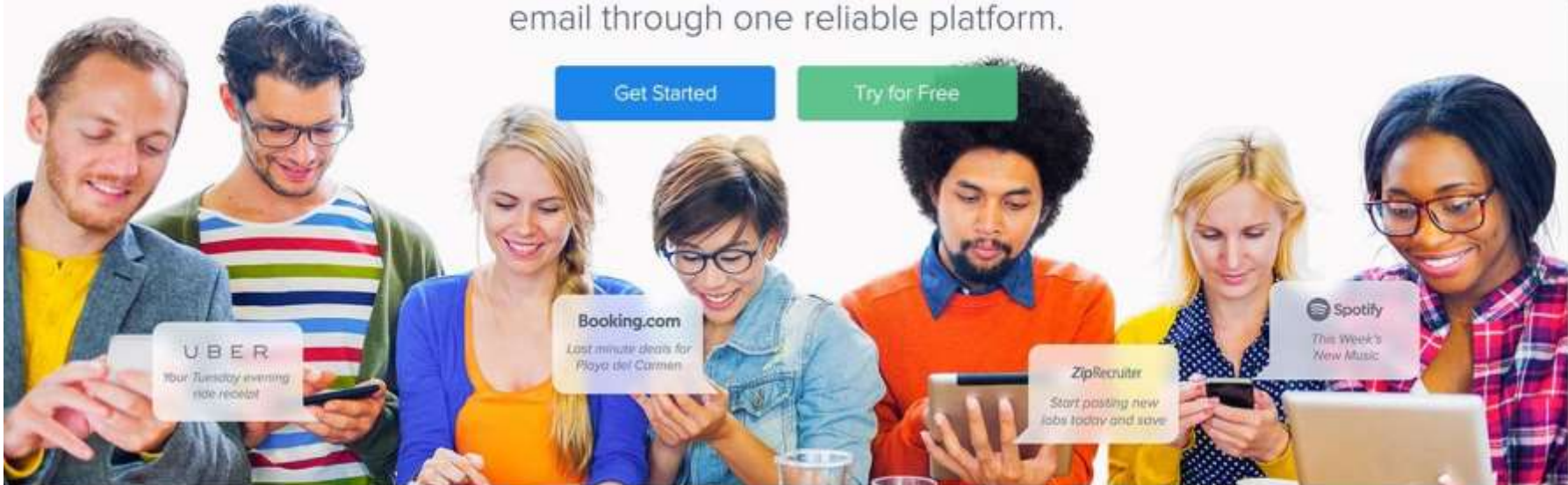
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