



Frontend **Masters**

HTML Email v2

Developing modern, responsive emails for everyone.



Jason Rodriguez

I'm Jason Rodriguez

Email evangelist at Litmus, author of a few books on email design, all around email educator.

 rodriguezcommaj.com

 [@rodriguezcommaj](https://twitter.com/rodriguezcommaj)





What We'll Be Doing Today

Pre Lunch

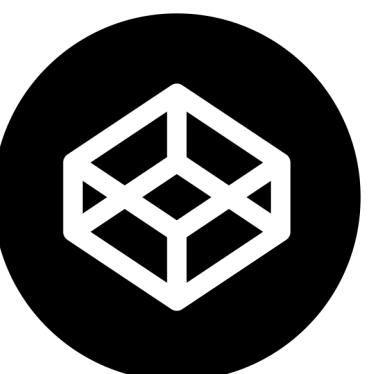
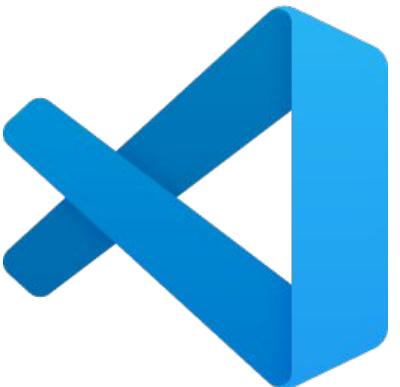
HTML and CSS for email and accessibility.

Post Lunch

Layouts, responsive design, and interactivity.



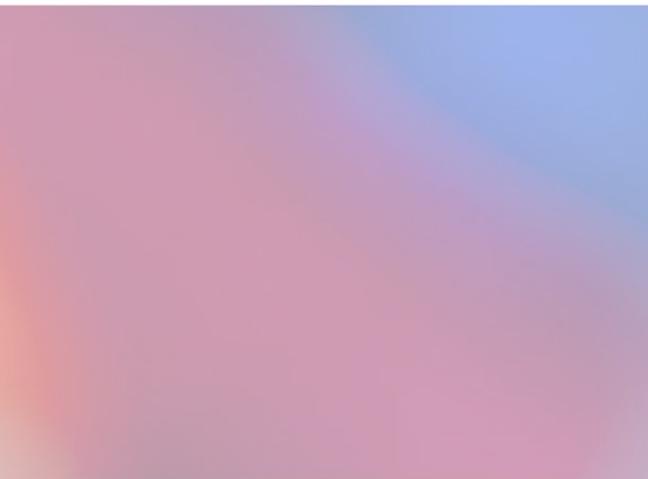
Basic Tools



```
71
72    <!-- Container: Set default
73    <div style="background-color: #f0f0f0;
74      line-height: 1.4; margin: 0 auto; padding: 0 15px;">
75      <!-- Logo image -->
76      
77
78      <!-- Headline -->
79      <h1 style="margin: 0; font-size: 2em; font-weight: bold;">Basic Tools
80
81      <!-- Hero image -->
82      
83
84      <!-- Body copy -->
85      <p style="margin: 2em 0;">Reprehenderit temporibus debitis dolores. Eos
86      <p style="margin: 0 0 1em 0;">Reprehenderit temporibus debitis dolores. Eos
87
88      <!-- CTA -->
89
90      <!-- Footer information -->
91      <div style="border-top: 1px solid #ccc; border-left: 1px solid #ccc; padding: 1em 0; width: fit-content; margin: 0 auto; text-align: center;">
92          <p style="margin: 0;">better for everyone
93          <br/>you'd like.</p>
94      </div>
95  </div>
```

Who loves H

Basic Tools



Lorem ipsum dolor sit amet, consectetur
temporibus quaerat tempora laborum,
quidem, ipsam debitis dolores. Eos del
aliquam.

Lorem ipsum dolor sit amet, consectetur
temporibus quaerat tempora laborum,
quidem, ipsam debitis dolores. Eos del
aliquam.

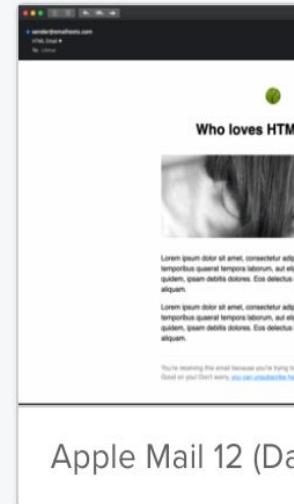
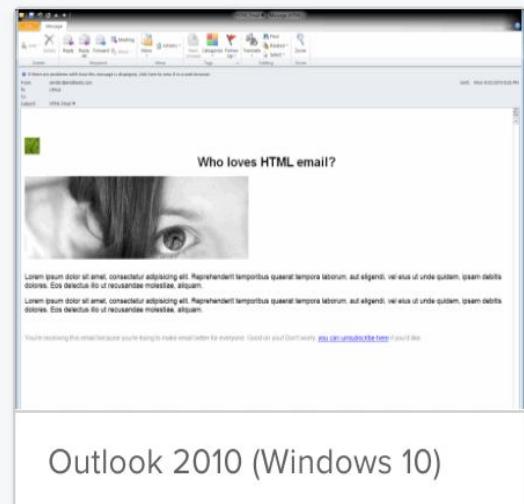
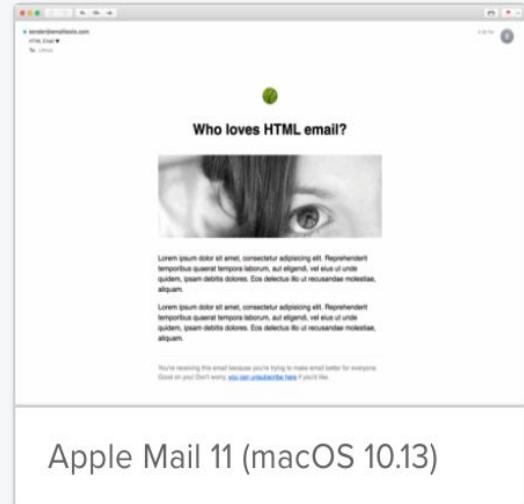
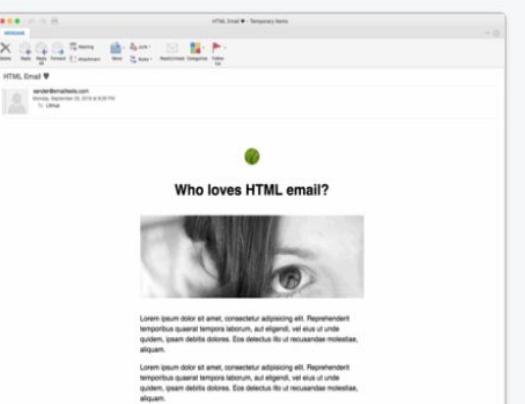
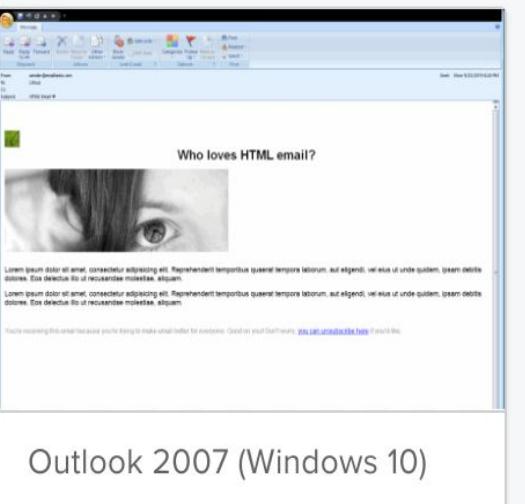
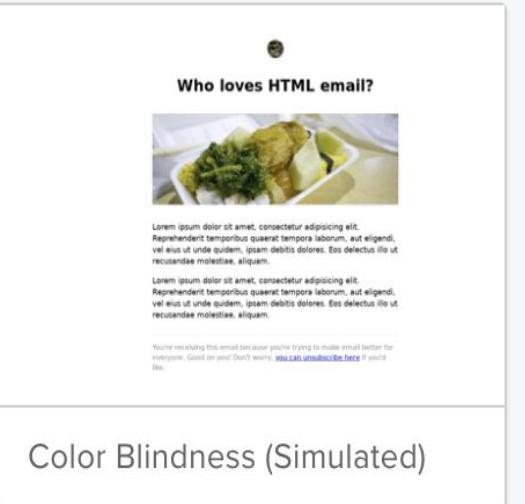
You're receiving this email because you're t
Good on you! Don't worry, [you can unsubscribe](#)

Basic Tools

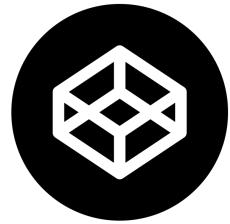


litmus

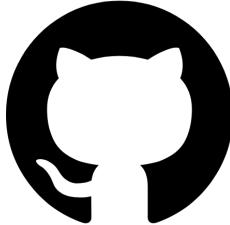
42 out of 87 clients selected. [Choose email clients](#)



Grab the Code



bit.ly/2mNErYM



github.com/rodriguezcommaj/frontendmasters



Why does email matter?

3.9 billion email users in 2019 ([Radicati Group](#))

2.5 hours per weekday spent in email ([Adobe](#))

\$42 made for every dollar spent ([Litmus](#))

... all despite email being dead for years.



Why does email matter?

Email is easy to send and relatively affordable.

Tracking email is simple.

Testing email is quick and makes iterating easy.

Email is forgettable. Sucks for posterity, but good when we screw up.

Apr 2019



May 2019



Jun 2019



Gmail iOS App

Gmail Android App

Outlook iOS App

Outlook Android App

Source: Litmus

**No one really
owns email.**

It's universal.
It's ubiquitous.
It makes money.



HTML and CSS for Email

It's not quite the web you know...

We'll learn about:

HTML and CSS essentials

How to apply them to email



Hotmail



Windows Live®



YAHOO!



There are no standards.

Web ≠ Email

What works

Basic HTML

Basic CSS

Table-based design

Simple semantics

What Doesn't

Float-based designs

CSS grid-based designs

JavaScript

A lot of CSS

A Basic Document

Check out [Starter.html](#)

CSS Resets

We need to reset:

Microsoft Office behavior

Browser and client default behavior

Blue auto-linking behavior

BOSTON BECKONS FROM \$179

- Get away Thurs-Sun
- Or get 15% off our best available rate Mon-Wed
- Stay June 20 - September 2, 2013

Email-Friendly HTML

Use these for most things:

Basic, non-structural containers: **div**, **span**

Headings: **h1** – **h6**

Other text: **p**, **strong**, **em**

Images: **img**

Your turn:

Add a heading and some text to
your basic email.

Where do we put our styling?

~~Linked stylesheets~~

Embedded styles

Inline styles

Email-Friendly CSS

For text:

**color, font-family, font-size, font-style,
font-weight, line-height, text-align**

For block-level elements:

margin, padding, width, max-width

Your turn:

**Adjust the styles (inline) for the text
in your email.**

Links and Buttons

Some guidelines:

Use descriptive links

Embrace link conventions

Don't use images for buttons

See [Buttons.html](#) for button examples.

Your turn:

Go to buttons.cm, create something cool, and add it to your email.

Images in Email

Some guidelines:

Make images responsive by default!

Use alternative text

Stick to the standbys: jpg , png , gif

Responsive Images

Set a fixed width as an HTML attribute for Outlook.

Use **max-width: 100%; min-width: X;**
width: 100%; to make them adjust across screen sizes.

[View this email on a mobile device.](#)
[Here's what's on our style radar this month...](#)
If you can't see the images in this email, [click here](#).

J.CREW

[WOMEN](#) [MEN](#) [KIDS](#) [WEDDING](#) [SALE](#)

[FORWARD](#)

SEPT

Here's what's on our style radar this month...

— **FALL EXTRAS**

THE HANDBAG & SHOE SHOP

Our roundup of luxe and colorful extras. Plus, enjoy complimentary shipping and returns on all handbags and shoes.*



[VISIT THE SHOP >](#)

— **STYLE STORY**

LOOKS WE LOVE

Our latest must-copy outfits for fall, courtesy of our superstylist, Gayle. What's new this month? Tons of textures, layering and menswear-inspired prints.



[SEE THE LOOKS >](#)

— **FABRIC FOCUS**

[View this email on a mobile device.](#)
[Here's what's on our style radar this month...](#)
If you can't see the images in this email, [click here](#).

[JCrew.com](#)

[Women](#) [Men](#) [Kids](#) [Wedding](#) [Sale](#) [JCrew.com](#)

[Forward](#)

[JCrew.com](#)

[JCrew.com](#)

[JCrew.com](#)

Your turn:

**Add a small logo at the top of your
email, and a hero image in the body.
Make them responsive!**

Background Images in Email

See [Background-Image.html](#) for example.

Most reliable on table cells (**td**)

Use both HTML attributes and inline CSS

Creating Accessible Emails

How to make emails **accessible for everyone.**

285 Million Low Vision Users

39 million of which are blind

8% of Men are Colorblind

0.5% of Women are, too



Accessible Design

Some guidelines:

Keep color contrast high

Create a strong visual hierarchy

Focus on readability

Keep layouts simple and usable



Loveramics

Coffee culture is at the heart of Loveramics – as evidenced by the ceramics brand's in-house coffee bar, installed by founder William Lee last year. Lee launched the modern homeware brand with his wife in 2008. Since then a global boom in coffee shops and restaurants has given the business a caffeine kick that now accounts for more than half of revenue. Brightly coloured Loveramics cups serve up cappuccinos and flat whites all over the world, from Brooklyn-based Colombian roastery Devoción to UK's Has Bean. "Hong Kong is in a really great position, at the centre of the world," says Lee.

DISCOVER MORE:



Loveramics

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DISCOVER MORE:



Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Maecenas porttitor, augue at rhoncus commodo, nibh nulla feugiat odio, bibendum ornare dolor arcu id nibh. Quisque nibh risus, dignissim nec, ultricies eu, bibendum fringilla, ligula. Curabitur vehicula. Mauris laoreet. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Maecenas lacus. Donec erat. Nunc eleifend magna a massa.

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Maecenas porttitor, augue at rhoncus commodo, nibh nulla feugiat odio, bibendum ornare dolor arcu id nibh. Quisque nibh risus, dignissim nec, ultricies eu, bibendum fringilla, ligula. Curabitur vehicula. Mauris laoreet. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Maecenas lacus. Donec erat. Nunc eleifend magna a massa.

**What's the best way to
make emails accessible?**

Use real text.



Your April Stats

4
active days

....

Share your #stravastats



Total Distance

9 mi



Your April Stats

4
active days

Share your #stravastats

Total Distance

9 mi

9 more than last month

Accessible Development

Some guidelines:

Keep tables quiet using **role="presentation"**

Use semantic markup to reinforce hierarchy

Include text alternatives for images

Include the language of an email

Testing Emails for Accessibility

Screen readers: **NVDA, VoiceOver, JAWS**

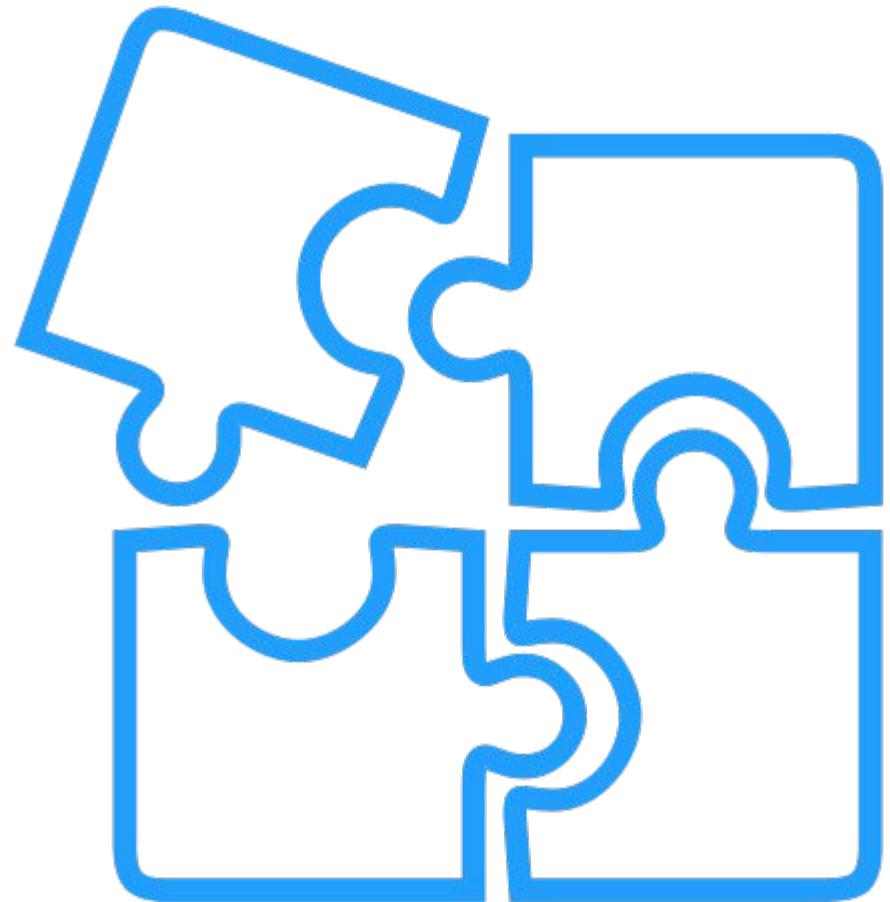
Browser extensions

Litmus Accessibility Checker

Email Layouts

How to structure emails to work across clients...

... or how to bring table-based designs back.



Think in Modules
It'll make your life easier.

Using Tables in Email

Some guidelines:

Keep tables quiet using **role="presentation"**

Ignore table headers, body, footer

Keep components in their own rows/tables

Overwrite defaults using HTML attributes

Place most styles on table cells

Boilerplate Tables

```
<table border="0" cellpadding="0" cellspacing="0"  
role="presentation" width="100%>  
  <tr>  
    <td style="styles go here">  
    </td>  
  </tr>  
</table>
```

Single Column Layouts

Basic structure is:

FLUID TABLE



FIXED TABLE



CONTENT



Your turn:

Create a single column layout 600px wide using tables.

Single Column Layouts

Check out [**Single-Column-Tables.html**](#)

Multiple Column Layouts

Basic structure is:

FLUID TABLE



FIXED TABLE



FLUID TABLE



FIXED TABLE



Your turn:

Add a two column section into your email with some copy. Try three columns, too.

Multiple Column Layouts

Check out [Multiple-Columns-Tables.html](#)

Making Emails Responsive

3 Approaches to Mobile Email

- 1.** Mobile-aware
- 2.** Traditional responsive
- 3.** Hybrid or “spongy” coding



Mobile-Aware Design

Simple layouts

Large text

Large buttons

Design scales down



It's a celebration—with updates! Get the scoop on Trello's newest features.

[See What's New](#)



Introducing a brand new way to interact with your tasks and team updates.

[Check Out Activity Feed](#)



Reimagined notifications that help you better manage your alerts.

[Get Notified](#)

Trello just surpassed a huge milestone. **2 billion** thank yous are in order!

[Let's Keep Rocking](#)

Traditional Responsive

Just like on the web... but with tables.

1. Fluid layouts
2. Fluid images
3. Media queries for adjustments

Ethan Marcotte

**RESPONSIVE
WEB DESIGN**

FOREWORD BY Jeremy Keith

Your turn:

**Take your multi-column layout and
make the columns stack on mobile.
Adjust the text size, too.**

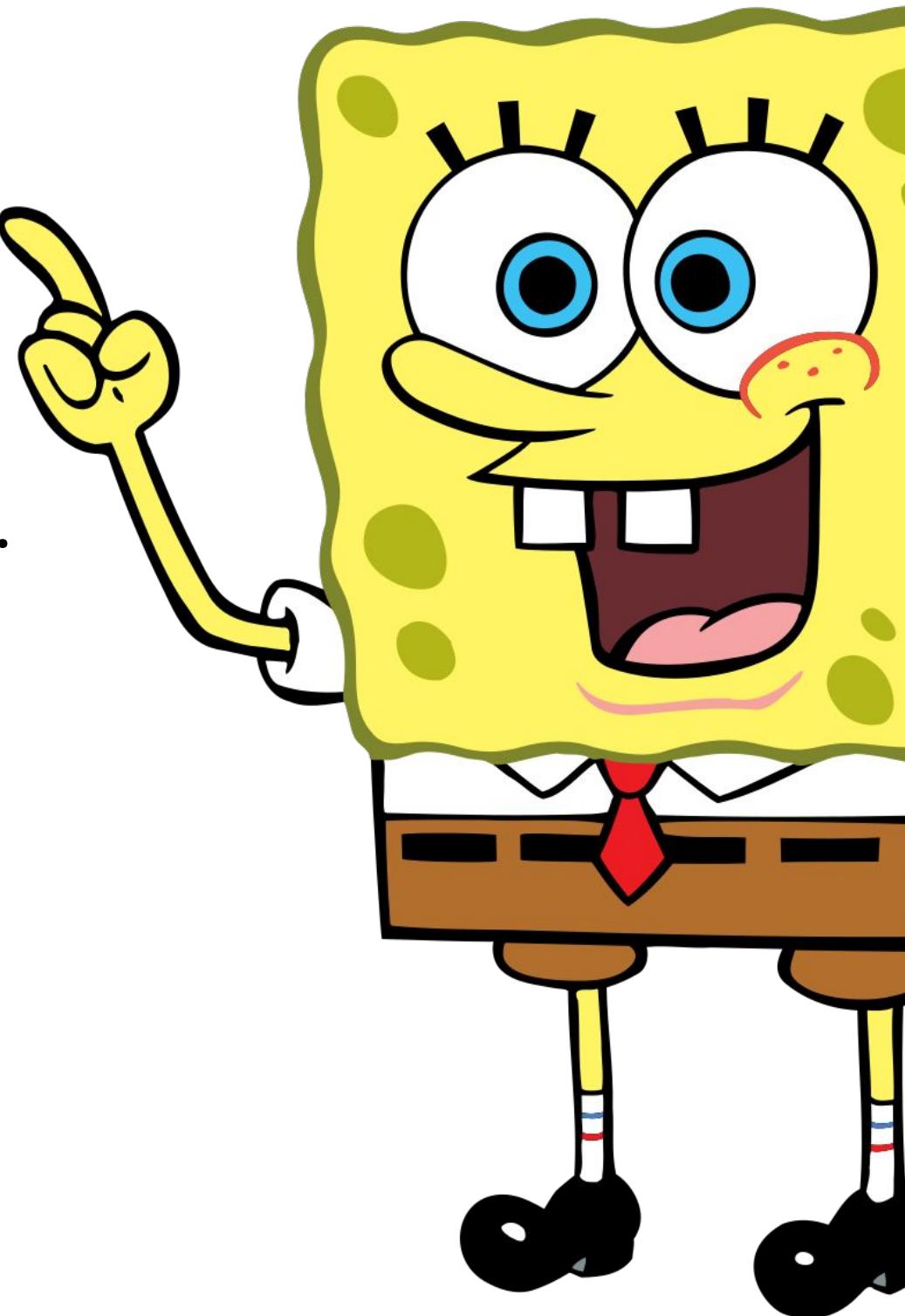
Traditional Responsive

See [**Multiple-Column-Tables.html**](#) for an example.

Hybrid/Spongy Coding

For when you need to get non-traditional.

1. Fluid by default
2. `max-width`
3. MSO ghost tables



What are MSO ghost tables?

A handy way to target Microsoft Office!

```
<!--[if (gte mso 9)|(IE)]>  
<![endif]-->
```

MSO Targeting

Outlook 2000: **Version 9**

Outlook 2002: **Version 10**

Outlook 2003: **Version 11**

Outlook 2007: **Version 12**

Outlook 2010: **Version 14**

Outlook 2013: **Version 15**

gte = Greater Than Equal To

gt = Greater Than

lte = Less Than Equal To

lt = Less Than

Hybrid/Spongy Coding

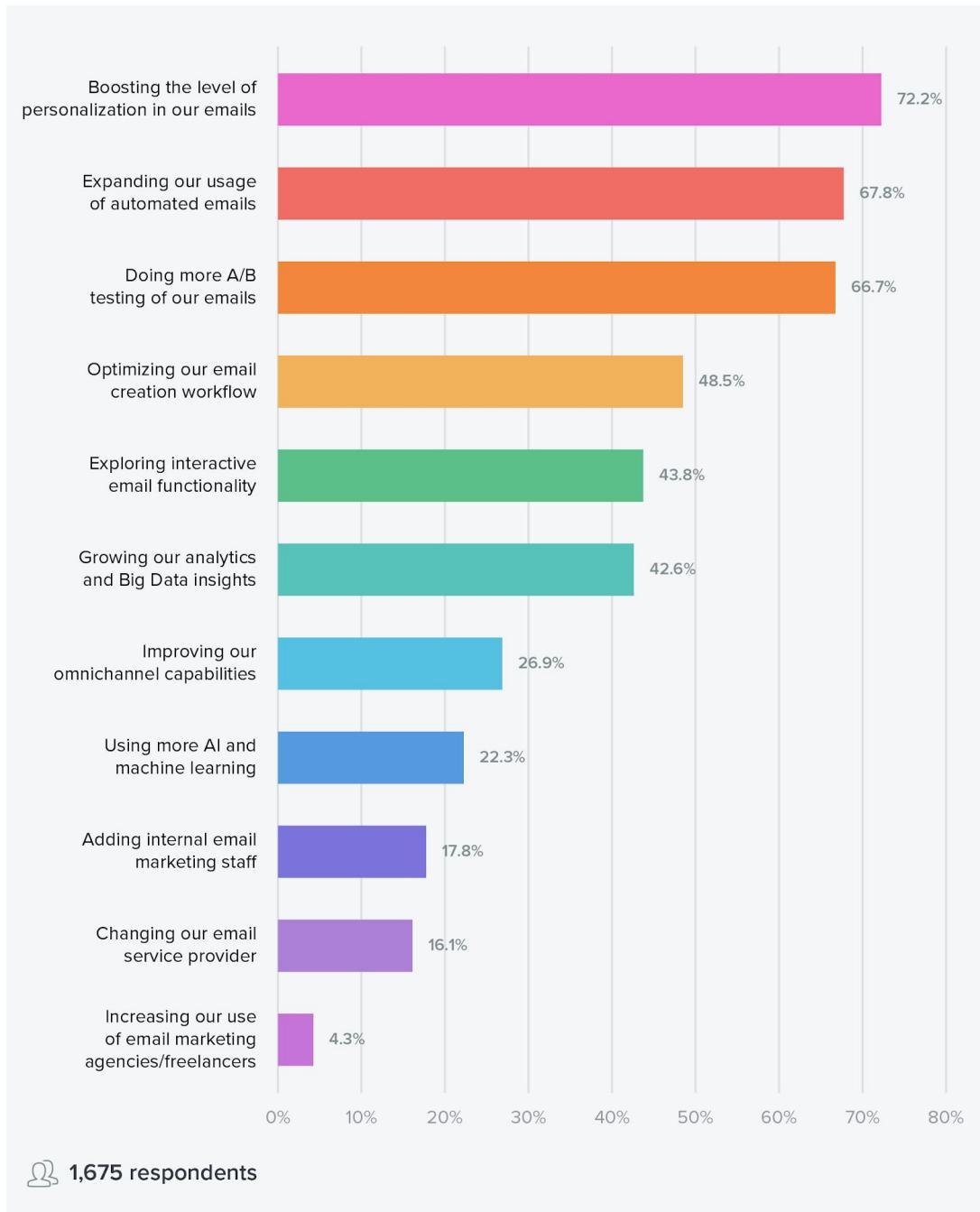
See [**Single-Column-Hybrid.html**](#) for an example.

Animated and Interactive Emails

Add a little fun and functionality to your campaigns.

Email Marketing Priorities for 2018

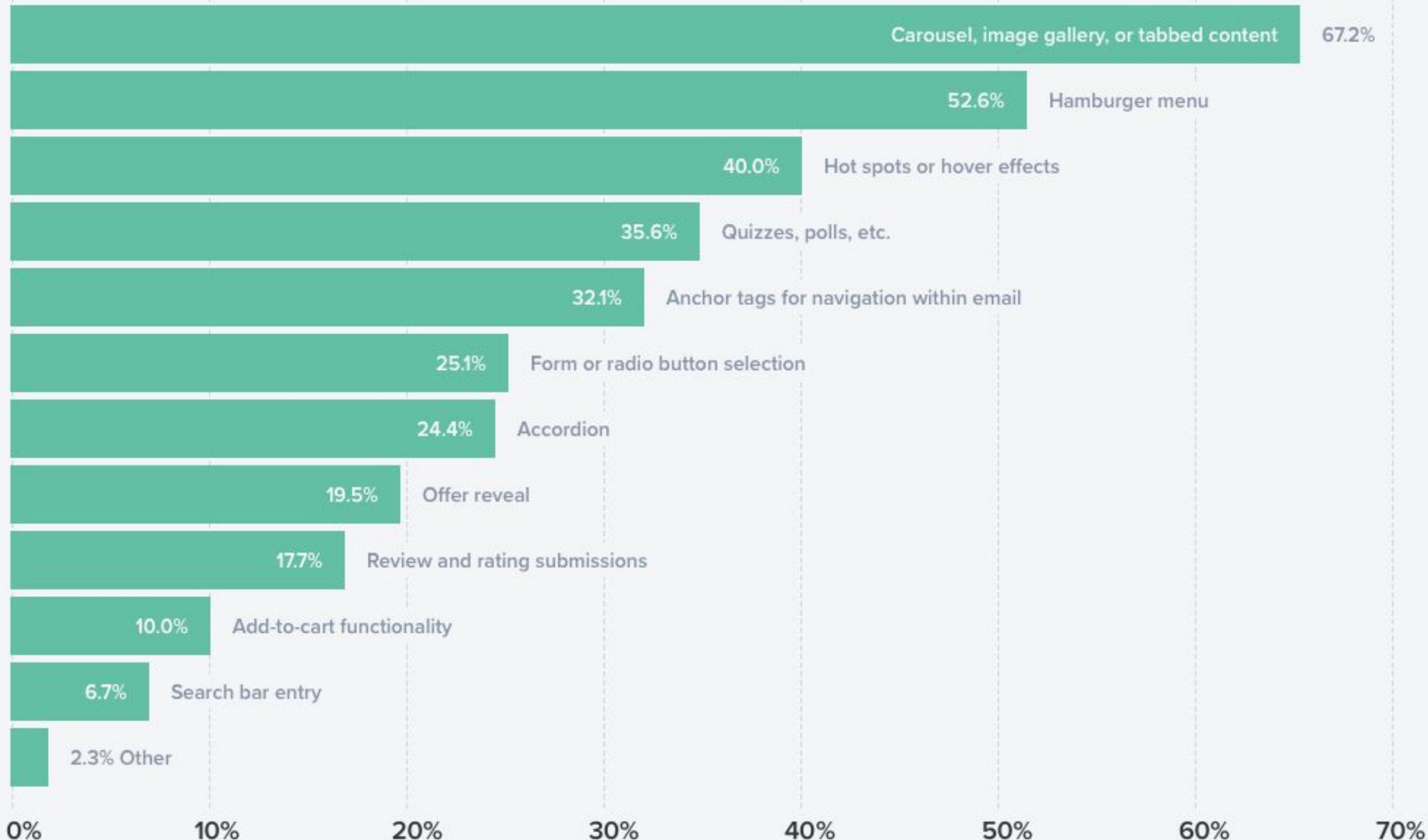
Which of the following, if any, is a priority for your email marketing program in 2018?
(select all that apply)



**43.8% of marketers
want to prioritize
interactivity in emails.**

Source: Litmus' 2018 State of Email Survey between Dec. 19, 2017 and Jan. 31, 2018.

More results at litmus.com/stateofemail.



Interactivity Pros

Increased accessibility

Added functionality

Increased engagement

And Cons

Doesn't work everywhere

Often complex

Harder to track

Flashy instead of functional

Simple Hover States

Great for accessibility and super easy to code.

Must be included in the `<head>` of your doc.

Uses the `:hover` pseudo selector.

See [CSS-Animations.html](#) for examples.

CSS Animations

Adds a nice touch to emails.

Use **transition** for simple effects.

Use **@keyframes** for more complex animations.

See [**CSS-Animations.html**](#) for examples.

```
@keyframes animation-name {  
    from { some state }  
    to { another state }  
}
```

```
.class {  
    animation: duration count name;  
}
```

Your turn:

Create an interactive hover state for your button. Make it do more than change background colors.

Reclaim Your Gear + Get 10% Off!

You left these items in your cart. Purchase these items in the next 24 hours to grab your discount.

ITEM	QTY	TOTAL
 Goodale Norwood Corduroy Pant \$350.18 \$249.00 Color: Tan Size: 32 Edit Remove	1	Sale \$249.00
 Retrofit Aztec Raglan Hoodie \$58.00 Color: Dk Char Hea Size: M Edit Remove	2	\$116.00
 Of All Threads Bull Dogs & Birds \$12.00 Edit Remove	1	\$12.00
Subtotal:		\$377.00
Tax:		\$18.85
10% Discount:		\$39.59
Total Price:		\$395.85

The Checkbox Hack

Use checkboxes and radio inputs to track state.

Selectively hide and show content, or adjust styles, based on state.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

A Simple Interactive Example

Check out [Interactivity.html](#) for details.

Your turn:

Add three inputs, three labels, and three “slides” to your email. Use the labels to make the slides swap using display.

AMP ⚡ **Email**

Google

Your turn:

**Explore the AMP documentation
and test drive a few examples in the
AMP Playground.**

Testing, Tools, and Resources

A few things to guide you on your way...

Testing Emails



litmus

File Templates Partials Snippets Tracking Timeline View Help

Share Send Test Sync to ESP

Dynamic Content Complex HTML

Choose email clients Browser Run Email Previews

```
1 <!DOCTYPE html>
2 <html lang="en">
3   <head>
4     <title>Wonderblum </title>
5     <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
6     <meta name="viewport" content="width=device-width, initial-scale=1">
7     <meta http-equiv="X-UA-Compatible" content="IE=edge" />
8     <link rel="shortcut icon" type="image/png" href="https://thebetter.email/favicon.png">
9     <style type="text/css">
10    /* CLIENT-SPECIFIC STYLES */
11    body, table, td, a { -webkit-text-size-adjust: 100%; -ms-text-size-adjust: 100%; }
12    table, td { mso-table-lspace: 0pt; mso-table-rspace: 0pt; }
13    img { -ms-interpolation-mode: bicubic; }

14    /* RESET STYLES */
15    img { border: 0; height: auto; line-height: 100%; outline: none; text-decoration:
16      none; }
17    table { border-collapse: collapse !important; }
18    body { height: 100% !important; margin: 0 !important; padding: 0 !important; width:
19      100% !important; }

20    /* iOS BLUE LINKS */
21    a[x-apple-data-detectors] {
22      color: inherit !important;
23      text-decoration: none !important;
24      font-size: inherit !important;
25      font-family: inherit !important;
26      font-weight: inherit !important;
27      line-height: inherit !important;
28    }
```

Apple Mail 10 (macOS 10.12) Apple Mail 11 (macOS 10.13) Apple Mail 9 (OS X 10.11)

Outlook 2016 (macOS 10.12.6) iPad (Retina) (iOS 11.0) iPad Mini (iOS 11.0)

Testing Emails - Putsmail.com

Recipients – up to 10 email addresses

Add

Subject Line

Body (HTML)

HTML

Apple Watch

Plain Text

Troubleshooting - Caniemail.com

Can I email

HTML, CSS, ...

?

@font-face

`@font-face` in CSS allows to include your own fonts inside an email.

- Apple Mail
- Gmail
- Outlook
- Other clients

Apple Mail

macOS

iOS

Gmail

Desktop
Webmail

iOS

Android

Outlook

macOS

Outlook.com

iOS

Android

Yahoo!

Desktop
Webmail



Troubleshooting - Campaignmonitor.com/css



Features Pricing Resources Customers Gallery Agencies

Contact us Log in

Sign up

Desktop

✓ AOL Desktop

✓ Apple Mail 10

✓ IBM Notes 9

✓ Outlook 2000-03

Mobile

✓ Android 4.2.2 Mail

✓ Android 4.4.4 Mail

✗ AOL Alto Android app

✗ AOL Alto iOS app

Webmail

✗ AOL Mail

✓ G Suite

✓ Gmail

✓ Google Inbox

Troubleshooting - Freshinbox.com/resources

Kinetic Email CSS Support

The following table lists the major HTML & CSS features that are commonly used by interactive and dynamic CSS techniques and their support among the major email clients.

Summary of Quirks

Learn more about [kinetic email](#).

Feature	Android/ Samsung	AOL Mail	Apple Mail	Gmail	Gmail App	iOS	Outlook 2007-2016	Outlook.com/ Office 365	Outlook App	Outlook Mac	Yahoo! Mail	YMail App	
Kinetic support	?				?	?				?		?	?

Tools - Litmus Builder

Adapting to Consumer's New... ○

Choose email clients

Browser Run Email Previews

The screenshot shows the Litmus Builder interface. On the left, there is a dark panel containing the HTML code for an email template. The code includes a DOCTYPE declaration, a comment about being built with Litmus Builder, a question to tweet @LITMUSAPP, and standard HTML tags for a title, meta viewport, and meta X-UA-Compatible. On the right, there is a grid of preview panes for different email clients. The top row shows three desktop clients: Apple Mail 11, Apple Mail 12, and Outlook 2013. The bottom row shows three mobile clients: iPhone 6, iPhone 7, and iPad Air 2. Each client has a preview of the email template with its specific styling and layout.

```
1 <!DOCTYPE html>
2 <!--THIS EMAIL WAS BUILT USING LITMUS BUILDER http://
3 litmusbuilder.com-->
4 <!--QUESTIONS? TWEET US @LITMUSAPP-->
5 <html lang="en">
6   <head>
7     <title>Adapting to Consumer's New Definition of Spam</title>
8     <meta http-equiv="Content-Type" content="text/html;">
9     <meta name="viewport" content="width=device-width">
10    <meta http-equiv="X-UA-Compatible" content="IE=edge">
11    <style type="text/css">
```

Apple Mail 11

Apple Mail 12

Outlook 2013

Tools - mjml.io

mjml. version 4.3.0

[Beautify MJML](#) [Migrate from MJML 3](#)

```
1 <mjml>
2   <mj-body>
3     <mj-section>
4       <mj-column>
5
6         <mj-image width="100px" src="/assets/img/logo-small.png">
7       </mj-image>
8
9       <mj-divider border-color="#F45E43"></mj-divider>
10
11      <mj-text font-size="20px" color="#F45E43" font-
12        family="helvetica">Hello World</mj-text>
13
14     </mj-column>
15   </mj-section>
16 </mj-body>
17 </mjml>
```

Synchronize scroll Minify HTML

[View HTML](#)  



Hello World

Tools - Foundation.zurb.com

v2.2.0

(Changelog)

GETTING STARTED

Overview

CSS Version

Sass Version

Ruby Gem

GUIDES

Using Sass

Using Inky

Media Queries

ZURB Stack

Community

Inky

Library

Inky is a templating language that converts simple HTML tags into the complex table HTML required for emails.

[!\[\]\(0ebee5381282a89f878dc73b157e0632_img.jpg\) Edit this Page](#) [!\[\]\(f7aa8ee6a13e8fecab1045cfab7cf6bf_img.jpg\) Report a Bug](#) [!\[\]\(06d08d6530fb98430d710873da7ee693_img.jpg\) Get Help](#)

Overview

HTML emails require tables upon tables *upon tables* to work properly. Although Foundation for Emails takes a lot of the pain out of constructing these tables, we've made it even easier with **Inky**, a templating language that converts simple HTML tags like `<row>` and `<columns>` into complex table HTML.

Inky keeps you out of a sea of tables and focused on your email. Check out this example—click "Switch to Inky" to see the difference.

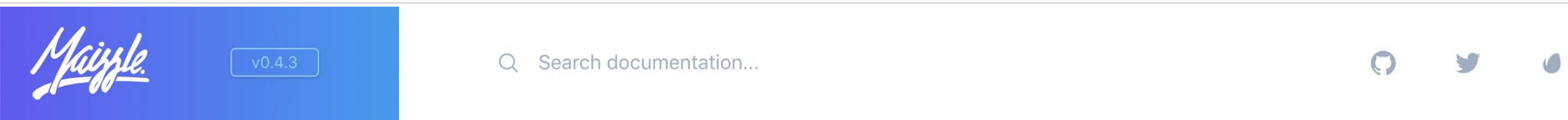
ON THIS PAGE:

Overview

Tags

FAQ

Tools - Maizzle.com



The screenshot shows the Maizzle documentation website. At the top left is the Maizzle logo. To its right is a button labeled "v0.4.3". Next is a search bar with the placeholder "Search documentation...". On the far right are social media icons for GitHub, Twitter, and LinkedIn.

GETTING STARTED

- What is Maizzle?
- Installation

DEVELOPMENT

- Build process
- Commands
- Layouts
- Templates

What is Maizzle?

Maizzle is a framework for HTML email development. It's powered by Tailwind CSS and an email-tailored, custom Node.js build system that enables various transformations necessary for HTML emails. Unlike MJML or HEML, Maizzle doesn't use any custom tags that expand into email client-friendly, table-based HTML markup. Instead, you write your own, *real* HTML that you style with Tailwind's utility classes.

If you're looking for a framework that offers abstractions like `<row>` and

On this page:

- Build System
- Tailwind CSS
- BYOHTML
- Responsiveness
- Configure It Out!

Resources - email.geeks.chat

The screenshot shows the interface of the email.geeks.chat platform. On the left is a sidebar with navigation links like 'Jump to...', 'All Unreads', 'Threads', 'Channels', and a list of hashtags: '#email-careers', '#email-code', '**#email-design**' (which is highlighted in blue), '#email-events', '#email-marketing', '#general', '#oldschool', and '#vendor-litmus'. The main area displays a feed for the '#email-design' channel. At the top of the feed is a post from Michael Warning (@Michael.Warning) at 7:39 AM, asking for examples of event/webinar emails. Below it is a post from Matt V (@MattV) at 10:25 AM, asking for AMP-enabled email examples. The bottom post is from Betty C (@BettyC) at 3:35 PM, asking about date rendering on iOS. The interface includes a search bar, a message center icon, and a settings gear icon.

#email-design

Friday, September 13th

Michael Warning 7:39 AM

anyone have any good examples of event/webinar emails that are nicely designed and that convert well?

2 replies Last reply 7 days ago

Matt V 10:25 AM

Anyone have AMP enabled email examples?

0 1 1

+1 11 replies Last reply 9 days ago

Betty C 3:35 PM

Hey guys! Late Friday afternoon question regarding date rendering on iOS that has probably been asked before. I coded "March 8" to be bold but this shows as unbold on my iPhone. Any workaround for this? TIA!

2 files ▾

The Panama Canal is a remarkable feat of engineering. On our riveting 8-day expedition you'll experience this marvel in a way you never have before. Our expert guides will lead you through the canal's history, engineering, and impact on global trade. You'll also have the opportunity to learn about the local culture and environment. So if you're looking for an adventure that's both educational and exciting, look no further than our riveting 8-day expedition you'll give you rare views of the Canal.

Resources - [Litmus.com/community](https://litmus.com/community)

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iOS 13 and the iPhone 11 are here: Avoid any email disasters - preview your emails on iOS 13 today and see if your emails look great in Dark Mode.

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Display: block is back?

0 votes · updated 17 hours ago by [Zoran Orak](#) · □ 3

● [Design & Development](#)

Resources - TheBetter.Email/resources

TheBetter.Email



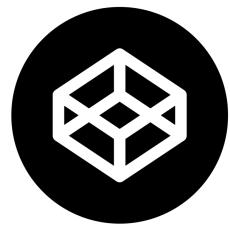
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Email Marketing **Resources**

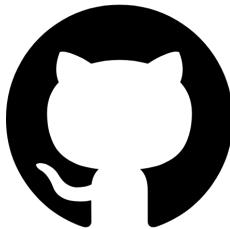
There's a lot of information out there on email. Frankly, a lot

of it's *outdated, ill-informed, or just plain bullshit*.

Grab the Code



bit.ly/2mNErYM



github.com/rodriguezcommaj/frontendmasters

Thank you!

Email me at jason@rodriguezcommaj.com with questions.



Jason Rodriguez