

THANKS!!!!

Matt Brent | <https://rdst.mp/gutenberg-design-system>

ANIMATE

Give thanks to the organizers

Thank sponsors

Excited to be here

Super pumped to be sharing

I'm hoping there'll be lots for you to learn from in this talk

Hi! Nice to meet you.

Matt Brent | <https://rdst.mp/gutenberg-design-system>

Name,
10 years design and development experience
BA in design
Started as a designer in the UK and moving to Canada
Really enjoyed problem-solving aspect of development
Started my development career



Clever

pipefy



imperva



Redstamp says

Hello.

Matt Brent | <https://rdst.mp/gutenberg-design-system>



Remote Front end team lead at redstamp.

Full service agency in Vancouver serving some very amazing clients across north america, especially in SV, Vancouver and beyond



Matt Brent | <https://rdst.mp/gutenberg-design-system>

working in both Londons and York worked with agencies in Paris and Hilversum



SAAS NORTH



HEAP



Kimberly-Clark



Nestlé



Matt Brent | <https://rdst.mp/gutenberg-design-system>

Clients I've worked with include Nestlé, Kimberley Clarke, UofT, Ontario Government. Worked under some amazing designers.

Royal Mail Logo Overview

Royal Mail Type Overview

About

RM Regular

Royal Mail. Royal Mail.

RM Regular is a simple sans serif font designed for the Royal Mail. It is to be used in all instances where typography is required.

This is RM Regular

abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
0123456789@£\$%!?,;:-)

abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
0123456789@£\$%!?,;:-)

AaBbCc1234

Upper & Lowercase

Aa

abcde^{fghijklmn}opqrstuvwxyz
ABCDEF^{GHIJKLMNOP}QRSTUVWXYZ

All Rights Reserved. Copyright © 2011 Royal Mail Group Ltd.

In this time, I've worked with a lot of style guides and design systems for the big companies you learn how to be creative within restrictions. Restraint becomes a canvas for creativity

Josef Muller Brockmann et al

RDDS EXAMPLES

Container Examples

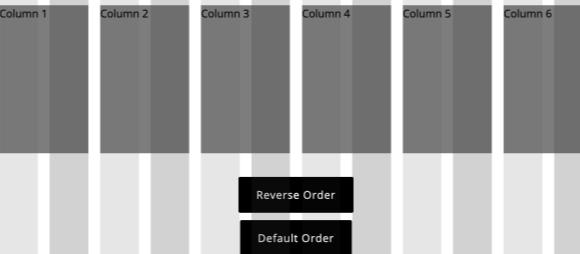
Full width, 3 column desktop, 1column mobile. Last column contains 3 child columns



Full width with gutter, 12 columns, 3 child divs with different spans and starting positions



Contained width, 6 columns, hidden on mobile. Toggle column ordering



Matt Brent | <https://rdst.mp/gutenberg-design-system>

Just led the launch a dynamic design and development system for the web

Integrates with Gutenberg,

using this experience, with all this in mind

Today my aim is to help you achieve success on your next project in Gutenberg.

I'm going to do that by doing 2 things

1. Story time.

How we screwed up and then succeeded.

2. Top tips.

Things we learned the hard way and the harder way.

Matt Brent | <https://rdst.mp/gutenberg-design-system>

1. I'm going to share two stories on how not to and how to approach working with Gutenberg and the block system
2. I'm going to share with you some insights and tips we've discovered on our journey ...

WORDCAMP NIAGARA — 10.19.19

Implementing a Design System in Gutenberg



MATTHEW BRENT

- 1. Who is familiar with the idea of design systems?**
- 2. Any experiences working with design systems?**
- 3. Who is thinking:**
“Does it really matter, it’s not relevant for me because I don’t have a team of experts to implement one!”?

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Everyone likes audience participation

Design Systems

What are they and
why create one?

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Been around since man sent a rocket to the moon. - seriously. CLICK

The NASA Logotype: Use of Color

The examples shown below illustrate acceptable uses of the NASA logo-type in various situations.

White Background
Against a white background the logo-type should always be black and, if necessary, white.

Black or Very Dark Value Background
Against a black or very dark color value background, the logo-type should always be white.

Very Light Value Background
Against a very light background, the logo-type should never be shown in white against a background of NASA red. The logo-type should never be shown in NASA red against a black or very dark background.

Medium-Value Background
Against a medium-value background, the logo-type may be shown in either black or white depending on which is more appropriate.

The logo-type should never be shown in NASA red against a medium-value background.

Cover Design: Quality Publications

Covers in this category are dramatic and appealing. The main purpose of the cover is to attract attention and serve as an effective preview of what is inside. In addition to the packaging problem and both front and back covers, the following should be considered:

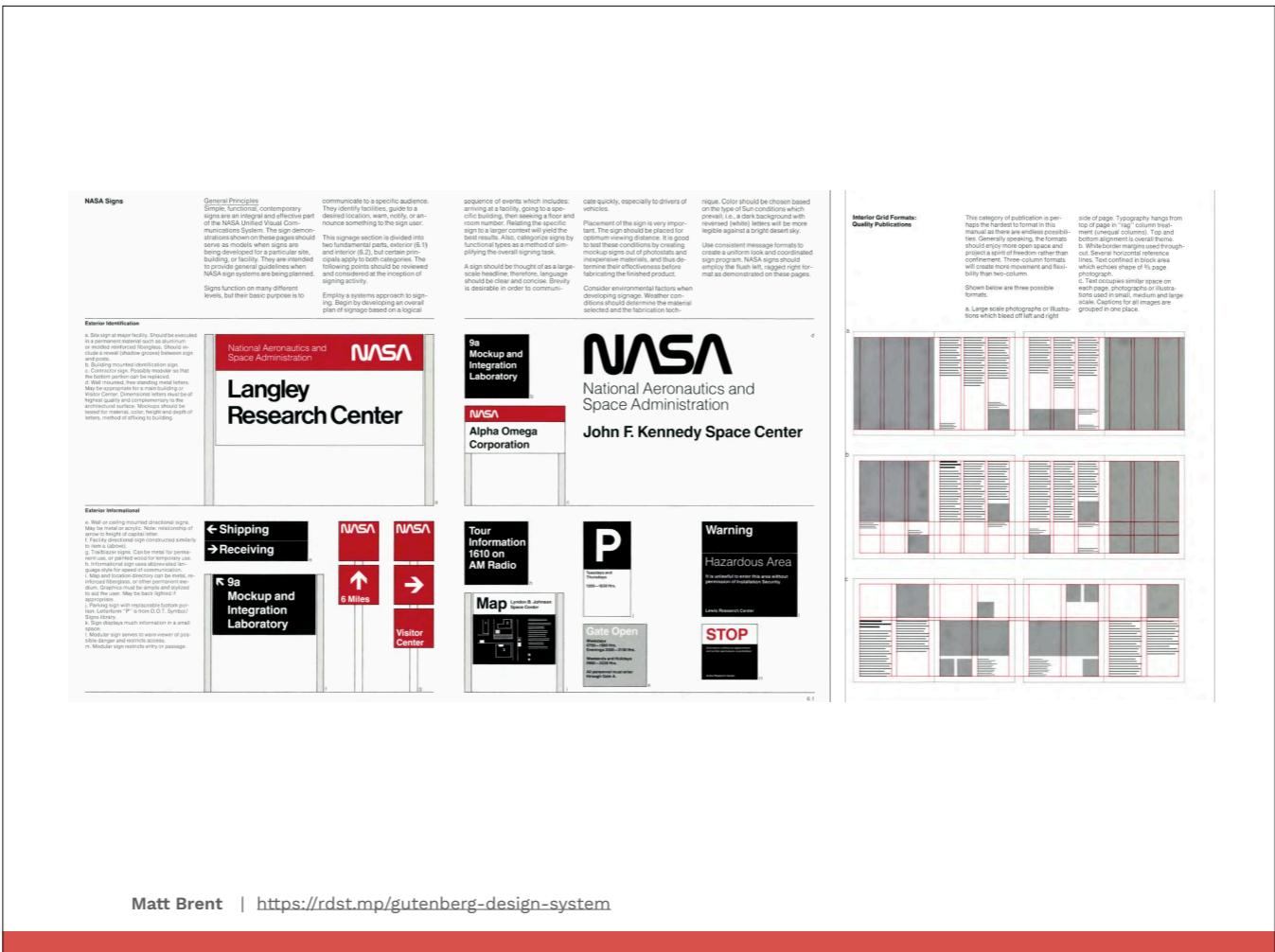
- Concepts play an important role in quality publications and should be emphasized. The quality of the photographs and illustrations will have the general effect and prestige of the publication. It is important to choose to show our demonstrations in color, all of the covers below were designed for 4-color printing.
- Note that space has been used to separate the mission patch from the NASA logo-type and signature.

Distinguish the cover from other competitive publications.

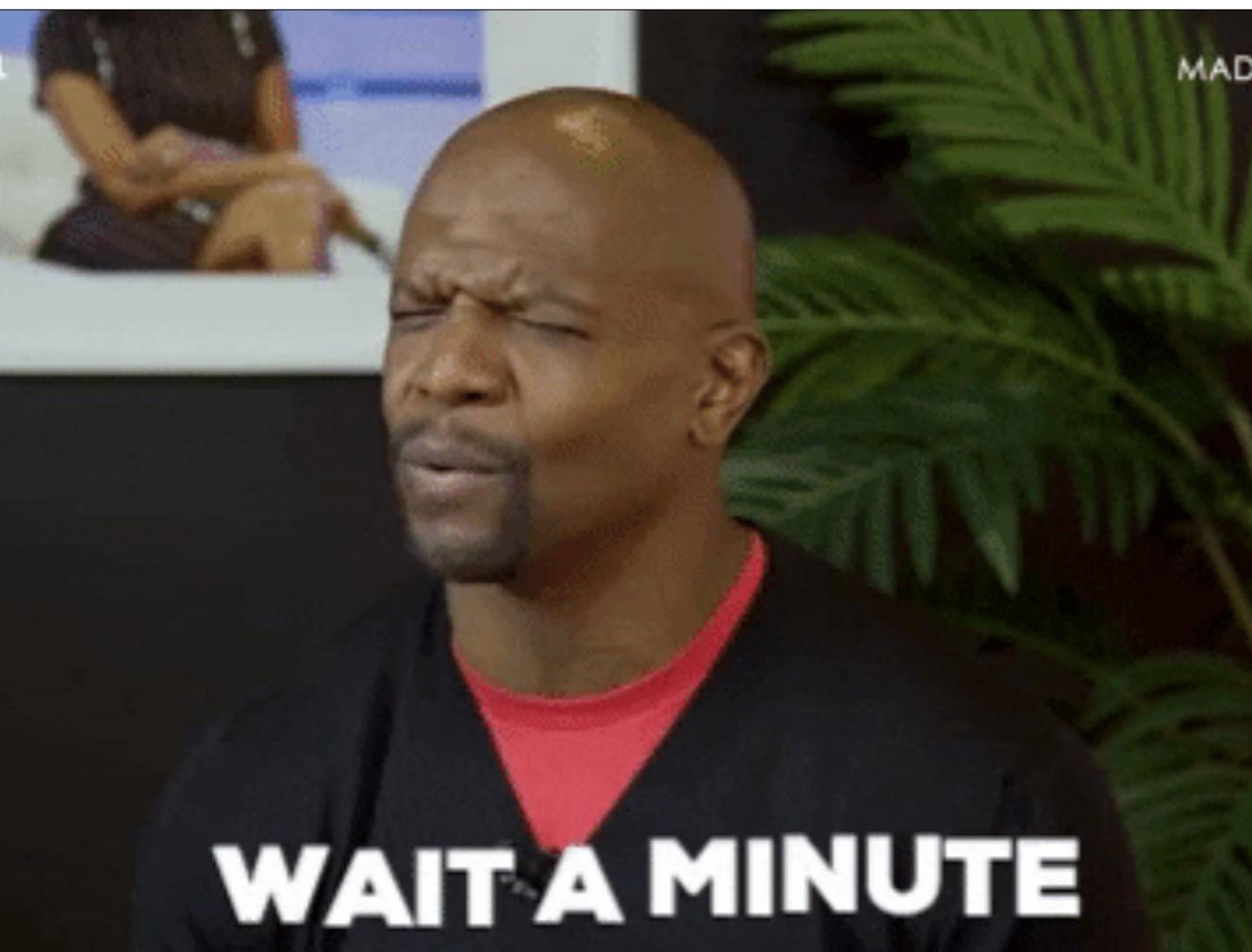
4/Color process printing is desirable, the logo-type and signature may be in color. This is an area of design which is less critical since graphics are modern but not elaborate.

The main function of a directory is to convey data and information in a concise and efficient manner. Since most directories will have very plain interiors, there is potential to apply a graphic element to the front page, logo-type to the cover. One example of this is shown in the demonstrations below.

Press Kits/Directories

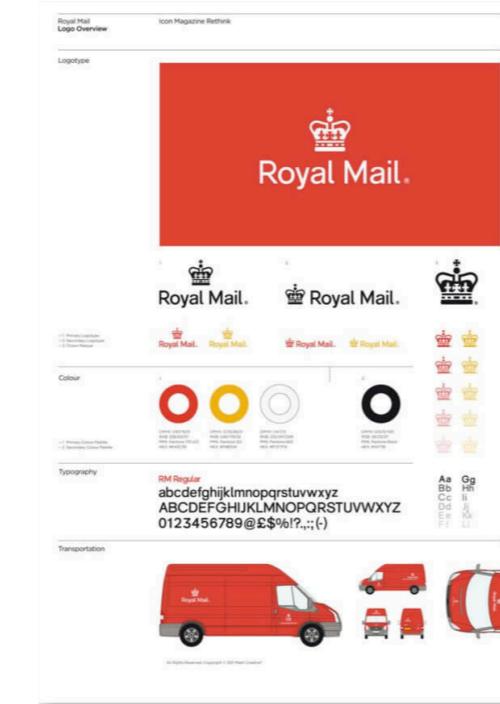


Signage and page layouts



Whats the difference between a design system and a style guide.

Glad you asked me Terry



Style guide

Matt Brent | <https://rdst.mp/gutenberg-design-system>

sequence of events which includes: arriving at a facility, going to a specific building, then seeking a floor and room number. Relating the specific sign to the overall task will yield best results. Also, categorize signs by functional types as a method of simplifying the overall signing task.

A sign should be thought of as a large-scale headline; therefore, language should be clear and concise. Briefly describe in order to communicate quickly, especially to drivers of vehicles.

Placement of the sign is very important. The sign should be placed for optimum viewing distance. It is good to test these conditions by creating mock-up signs out of prints and inexpensive materials, and then determine their effectiveness before fabricating the finished product.

Use consistent message formats to create a sense of look and feel for the organization. NASA signs should employ the flush left, ragged right format as demonstrated on these pages.



Design system

6.1

**Give it to me
plain and
simple**

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Matt man, enough of the gifs -

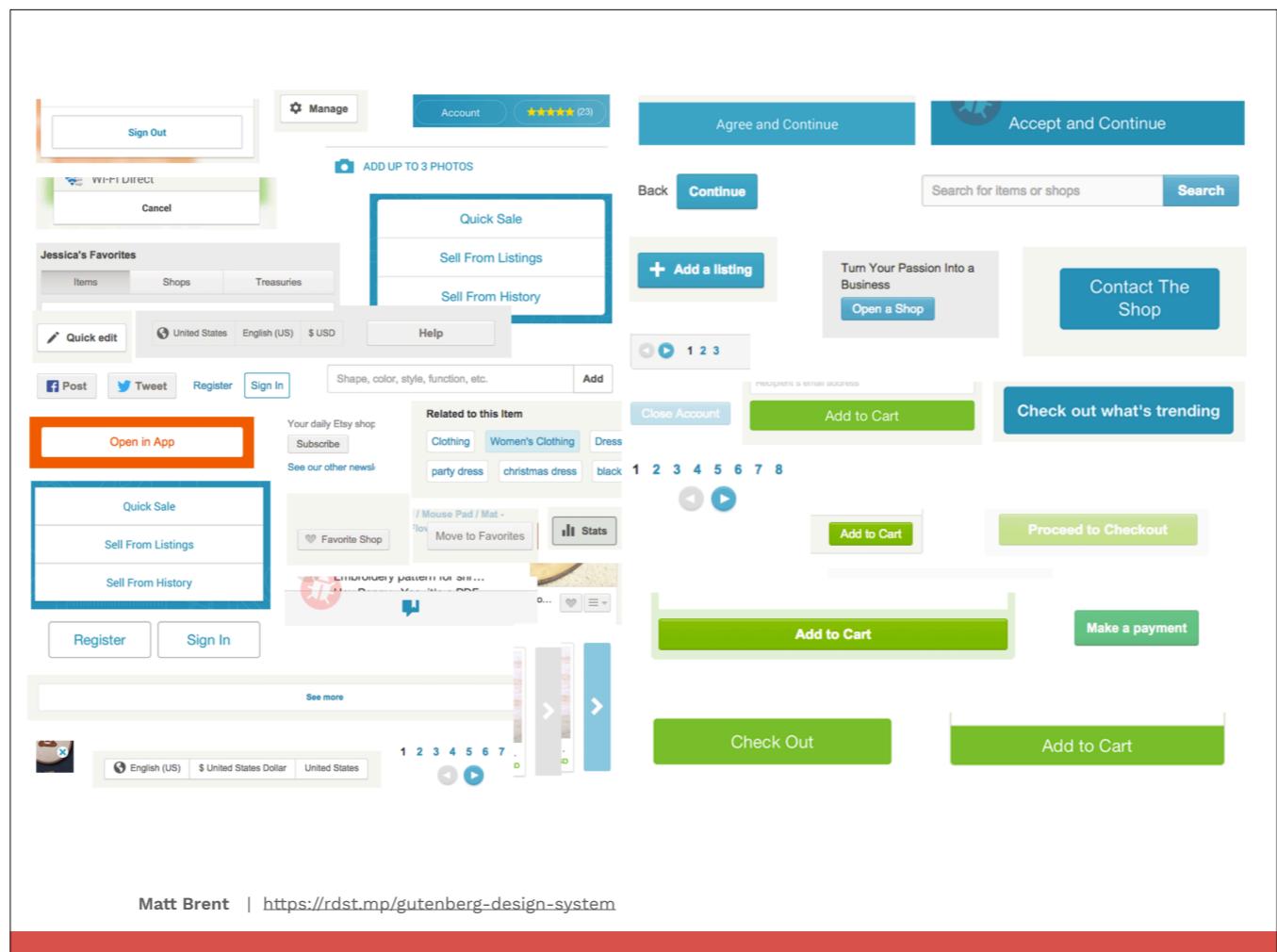
Style guides are a checklist.

Design systems are a framework.

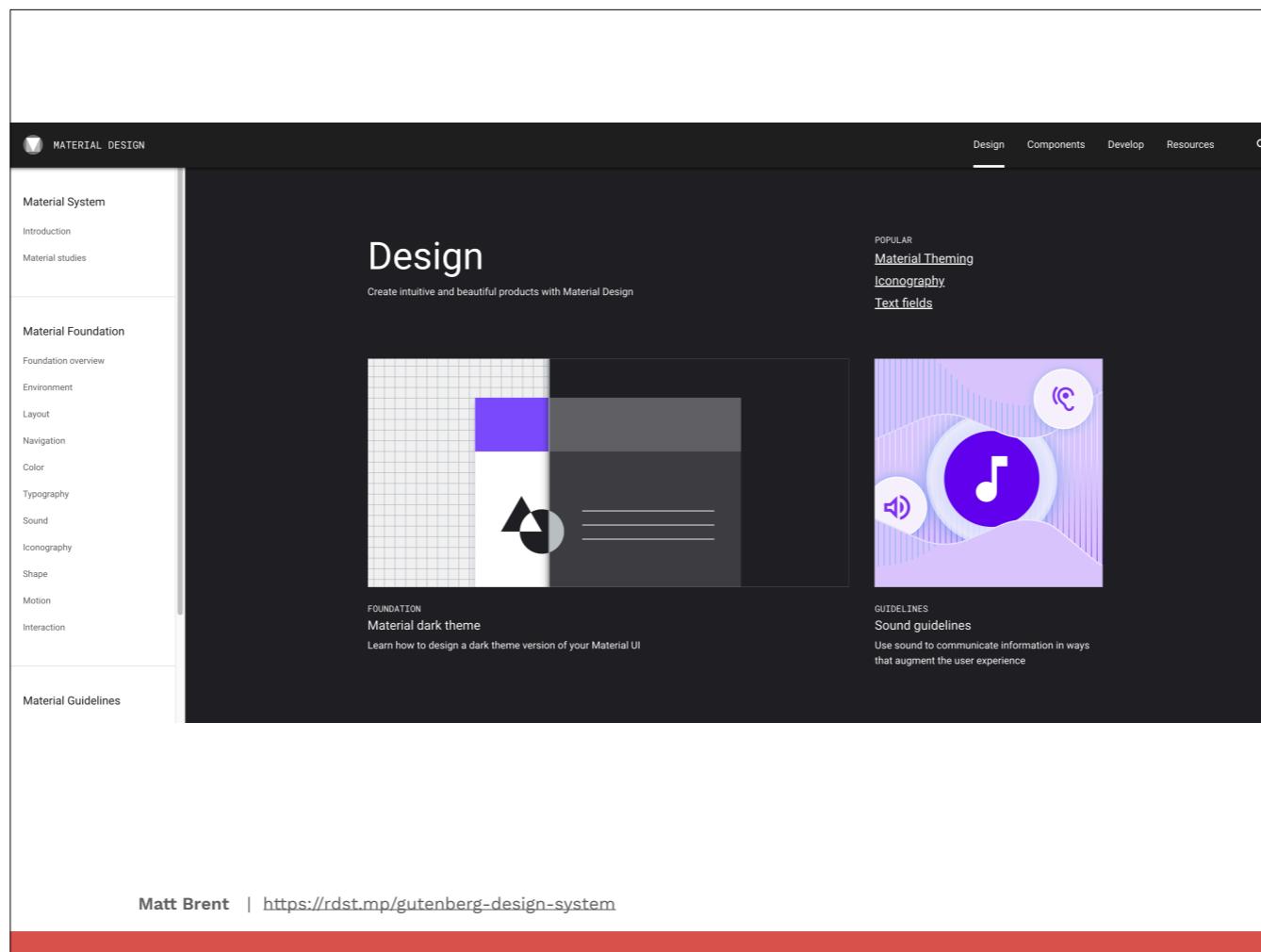
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- Style guides are just a checklist of things to do
- Design systems create a framework that give you a good understanding of the organization as a whole and are more strategic

You just “do” a style guide but you build over a design system.



In the web a style guide is essentially a UI kit - there's nothing wrong with that.



A design system will result in a UI kit, and also a framework around how to use said UI kit. That's the difference.

Its an eco system. A successful design system conveys who the company is

Our Design System: Pilot

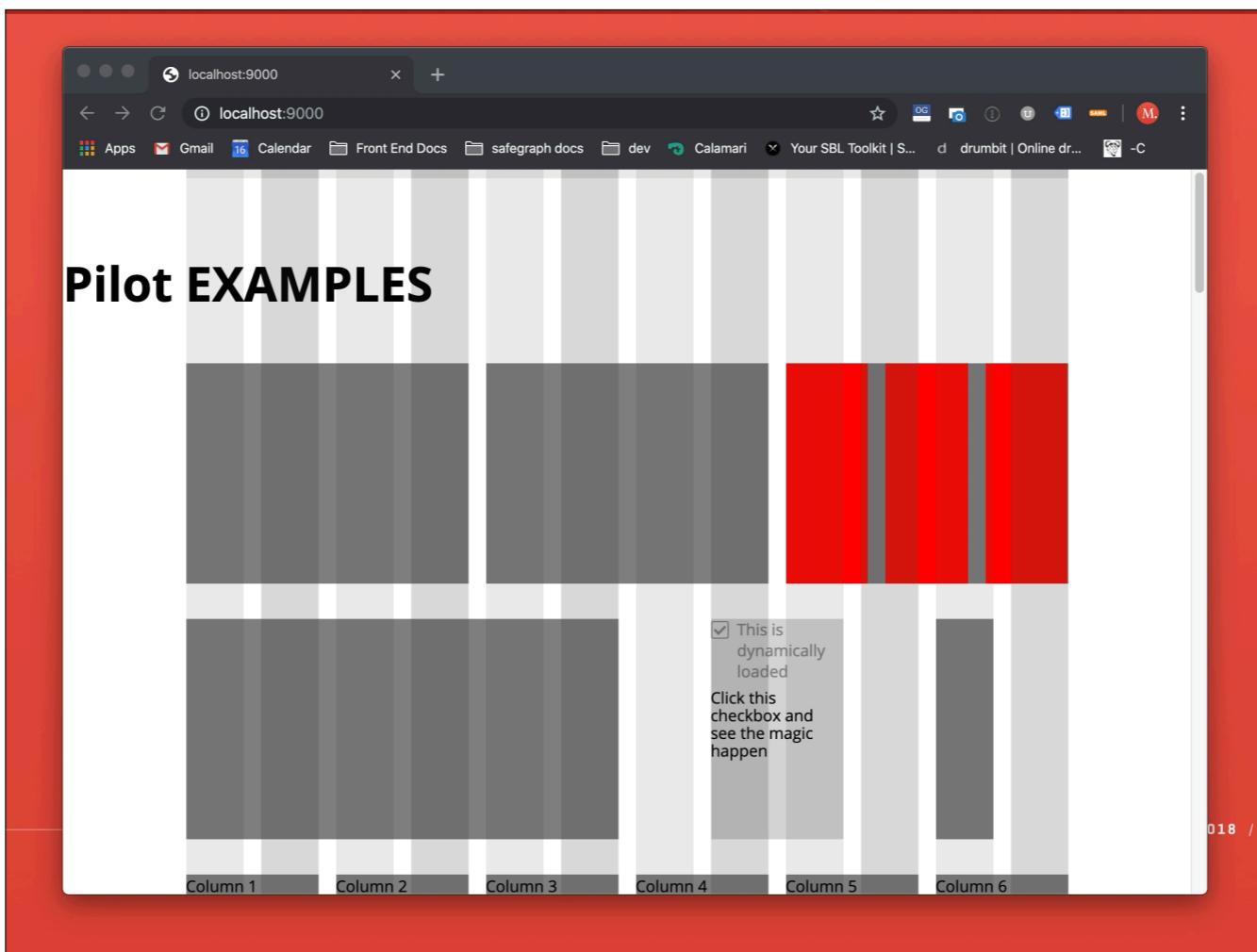
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Mentioned our design system so I couldn't go through this without explaining it a bit more - Its my baby

Our design system is dynamic and acts as an extendable ES6 module that is installed via NPM. Imagine a more amped up version of Bootstrap.



You can see why I moved into development

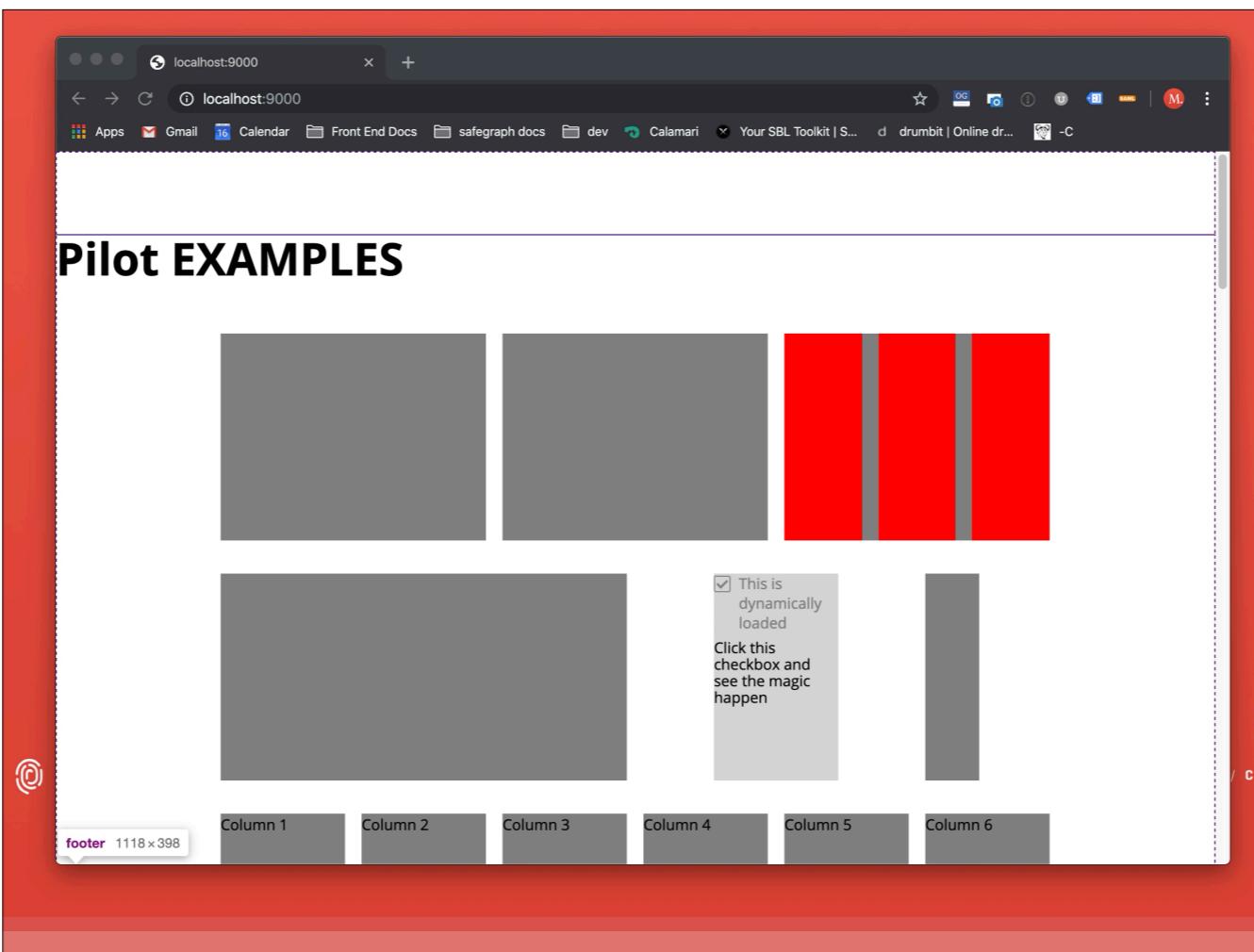


CLICK It includes a configurable grid system using the newish CSS grid spec.

It uses CSS variables to define custom brand colours.

The CSS is as un-opinionated as possible - it's one level above a reset

Grid in the background helps match up the layout in sketch to the actual thing



DONT CLICK We built a series of separate JS APIs that are very loosely coupled and interface with each other.

AJAX interface

an events system

an image lazy-loading library

an object-oriented component library which drew influence from the architecture used in Google's MDL. (click)

Notice the modal

```
36
37  // open modal on button click
38  const modal = _RS.entities.get('test-modal');
39  const openModalBtn = _RS.entities.get('open-modal-btn');
40
41  openModalBtn.onInteraction(() => {
42    modal.open = true;
43  }, 'open-modal');
44
```

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These 5 lines of code is all that was needed to make that modal work

50kb gzipped for the JS and 40kb for the CSS.

Keep in mind the JS functionality included in Pilot drastically decreases the amount of code necessary in a theme. We've seen page load speed increase on sites with less boilerplate code.

```

1 $baseline_grid: 8px;
2 $column_total: 12;
3 $mobile_column_total: 6;
4 $body-max-width: 800px;
5 $outer-gutter-size: $baseline_grid * 2; // font base size needs to visually match up with the grid and can't be automatic
6 $font_base_size: 14.5px; // font base size
7 $font_family: 'Open Sans', serif;
8 $x-large_screen: 1600px;
9 $large_screen: 1200px;
10 $medium_screen: 850px;
11 $small_screen: 650px;
12
13 @import "../src/sass/index.scss";
14
15 .full-width-example {
16   margin-top: $baseline_grid * 10;
17 }
18
19 .text {
20   text-align: center;
21   padding: ($baseline_grid * 10) 0;
22 }
23 h2 {
24   max-width: 500px;
25   margin: 0 auto ($baseline_grid * 3) auto;
26 }
27
28 .example-column {
29   background: #grey;
30   height: 200px;
31 }
32
33 // implement typography here in the "theme" styles
34
35 p {
36   font-size: 1em;
37   line-height: $baseline_grid * 3; // always use the baseline grid for line height as it affects the grid structure
38   font-weight: 400;
39   margin: 0 auto ($baseline_grid * 2);
40   // font size to baseline adjustments
41   // a simple way of doing this is using the inspector to
42   // adjust pixel by pixel, then convert pixel back into REMs (value / REM value)
43   // will need to use a mixture of padding, margin and top/bottom (make sure the element is positioned relatively)
44   top: -0.4096552px;
45 }
46
47 h1 {
48   font-size: 3rem;
49   font-weight: 600;
50   line-height: $baseline_grid * 5;
51   margin: 0 auto ($baseline_grid * 2);
52   // font size to baseline adjustments (not needed here)
53 }
54 h2 {
55   font-size: 2rem;
56   font-weight: 600;
57   line-height: $baseline_grid * 4;
58   // font size to baseline adjustments
59   top: -0.204896rem;
60 }
61
62 h3 {
63   font-size: 1.6rem;
64   font-weight: 600;
65   line-height: $baseline_grid * 3;
66   // font size to baseline adjustments
67   top: -0.102496rem;
68 }
69
70 h4 {
71   font-size: 1em;
72   line-height: $baseline_grid * 3;
73   // font size to baseline adjustments
74   top: -0.4096552px;
75 }
76
77 .test-carousel {
78   .rc-carousel__slide {
79     width: 25%;
80   }
81 }
82
83 #reverse-order-btn, #default-order-btn {
84   border: none;
85   margin: 10px auto;
86   display: block;
87 }

```

```

1 $baseline_grid: 8px;
2 $column_total: 12;
3 $mobile_column_total: 6;
4 $body-max-width: 800px;
5 $outer-gutter-size: $baseline_grid * 2; // font base size needs to visually match up with the grid and can't be automatic
6 $font_base_size: 14.5px; // font base size
7 $font_family: 'Open Sans', serif;
8 $x-large_screen: 1600px;
9 $large_screen: 1200px;
10 $medium_screen: 850px;
11 $small_screen: 650px;
12
13 @import "../src/sass/index.scss";

```

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Entirety of CSS for that page.

Variables declare values at the top that get loaded into the design system

Most custom styles are just typography sizes.

- Facilitates component and code reuse
- Makes abstraction easier
- Facilitates better code practice

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A design system implemented for the web can

Facilitates - boon for dev and design - iterate faster on future content creation

Abstraction - focus on what you are trying to do not how you do it

Practice - Organise your CSS more, think about your website in a more abstract manner

Not everyone needs a design system for their website.

Everyone can benefit from understanding design systems.

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Perhaps you're a small business owner
Needs are different to some of our larger clients in SV
But ultimately we are all creating websites that,
In nature are large projects, multiple pages,
Communicating and trying to get the user to do a number of things ultimately (CLICK)

Case Study (How NOT to build a Design System)



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(DONT CLICK) Design thinking or human-centred design

Iterative

Empathize with user

Understand their needs

Prototype and implement features <CLICK>

We like to talk a lot about it don't we? well this is a story of how we meant to "do" design thinking but failed (CLICK)

- Create an MVP
- Blindly implement solution
- Assume how Gutenberg and blocks work will fit your use case
- Forget about the people using your product
- Proudly declare the product is finished and distribute



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HOW NOT TO IMPLEMENT A DESIGN SYSTEM

(CLICK THROUGH FIRST) After a lot of hard work we finished it and were so proud

<CLICK> ...then the client started using it.

Useful templates and content

Human Resources

Streamline requests, centralize communications, and more.

[Learn more](#)

Finance and Accounting

Automate more work using a reliable, robust, and secure platform.

[Learn more](#)

IT & Service Desk

Manage requests and target improvement areas using one interface.

[Learn more](#)

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Turned this design

+ New View Page pipefy-test Revisionize English Copy to a new draft

Switch to Draft Preview Update

Useful templates and content

Human Resources

Streamline requests, centralize communications, and more.

Finance and Accounting

Automate more work using a reliable, secure platform.

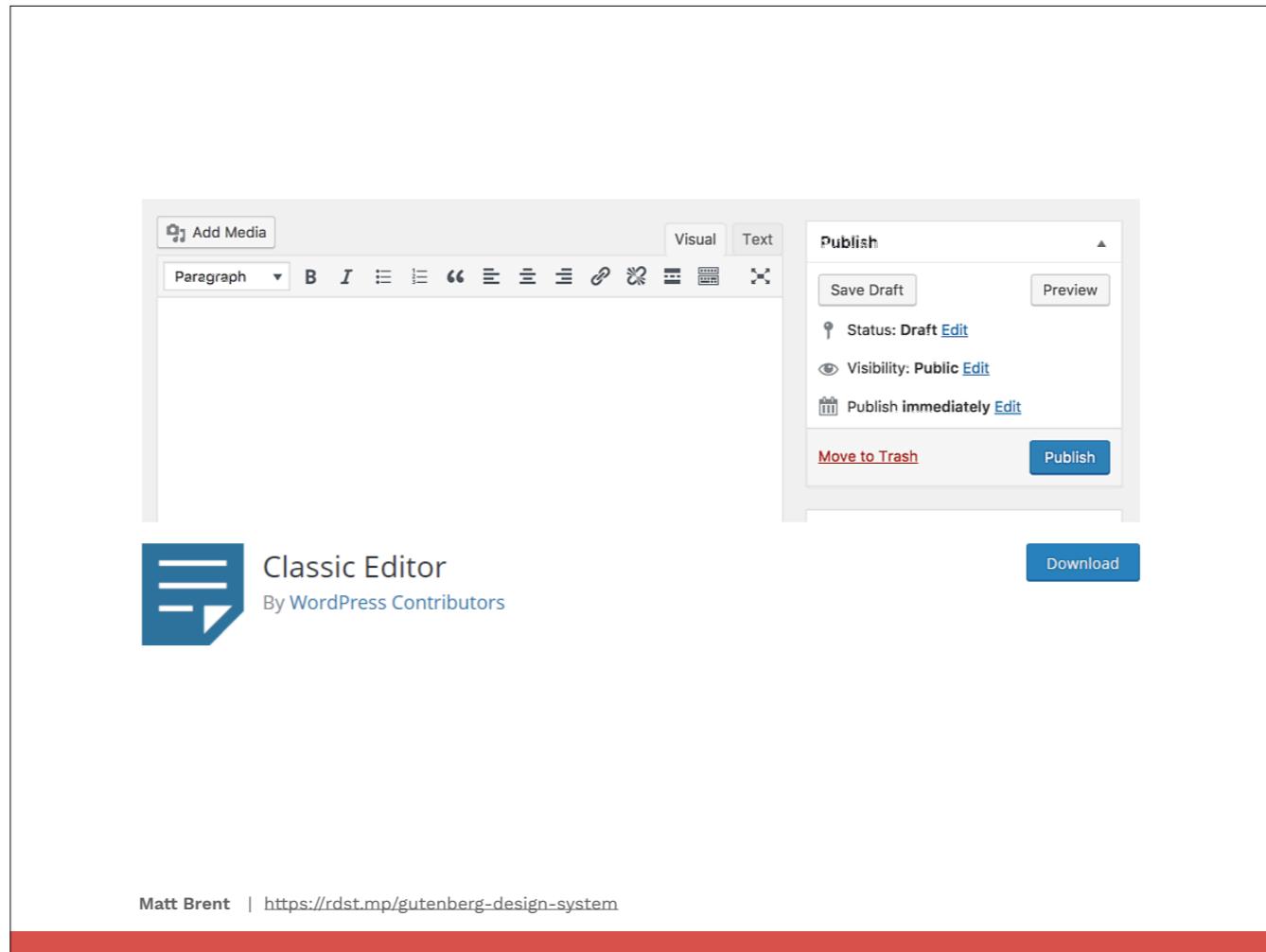
IT & Service Desk

Manage request and target improvements using one interface.

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The screenshot shows a web-based page editor interface. At the top, there are standard browser controls (New, View Page, pipefy-test, Revisionize, English, Copy to a new draft) and a header with 'Switch to Draft', 'Preview', and 'Update' buttons. The main content area has a dark header with the text 'Useful templates and content'. Below this, there are three columns of cards. Each card features an image, a title, a brief description, and a 'Learn more' button. The cards are labeled from left to right: 'Human Resources', 'Finance and Accounting', and 'IT & Service Desk'. The entire layout is annotated with red boxes and labels: 'Column' and 'Child-Container' are used to label the grid structure; 'Section' and 'Image' are used to label specific components like the title and the images themselves. On the right side, there is a vertical sidebar titled 'Document' with sections for 'Heading', 'Spacing Settings', 'Text Settings', 'Text Color', and 'Advanced'.

Into this. And it worked - and it was a million miles away from (next slide)



This - the old editor. Gutenberg is not the same as page builders - don't get me started.

Useful templates and content

Human Resources

Streamline requests, centralize communications, and more.

[Learn more](#)

Finance and Accounting

Automate more work using a reliable, secure platform.

[Learn more](#)

IT & Service Desk

Manage request and target improvement using one interface.

[Learn more](#)

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But I mean cmon

All those red rectangles are blocks

Play with settings per block

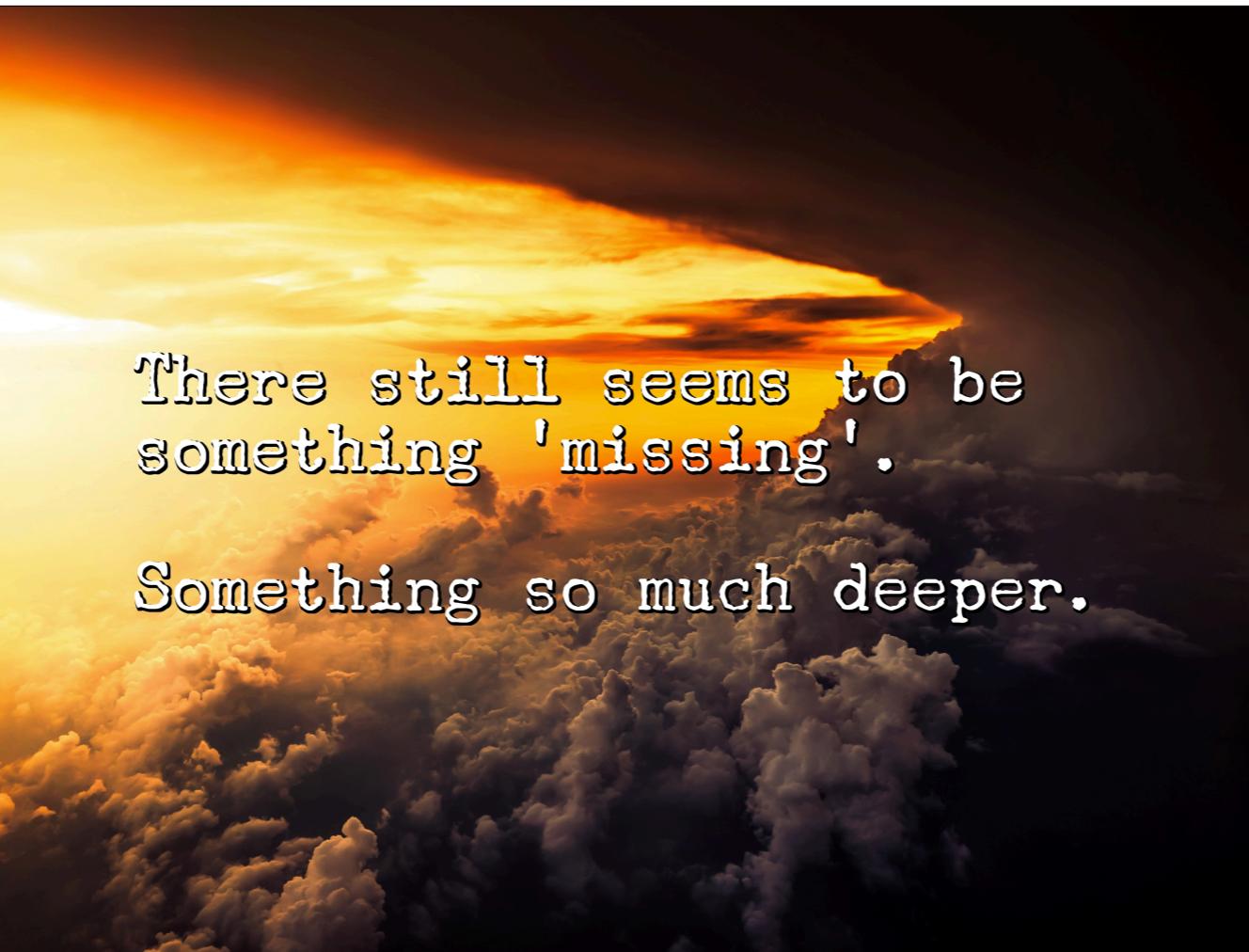
Implicit relationship between different settings

Because of css

Clients got confused - regularly broke layouts.

It was obvious to a dev but that kind of defeats the point

went away did soul searching



There still seems to be
something 'missing'.

Something so much deeper.

I came to terms, it's quite funny
Grieved a little bit aka self pity
Josef Muller Brockmann himself was speaking to me from the grave
"Matthew your missing the bigger picture" (didnt actually happen)

The Design System thinking approach

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We totally lost sight of the bigger picture - why - focused on details
Recognised irony of implementing a dynamic design system
I did a lot of thinking around our approach
Really wanted to get it right - we were so close
After discussions with colleagues we adjusted our approach (animate in)

Micro

Macro

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Thinking about what a design system is fundamentally.

Realised thinking about the details too early is a dangerous game (click)

Thinking holistically is better (click)

It's not unique to design systems.

programming stubbing in functions.

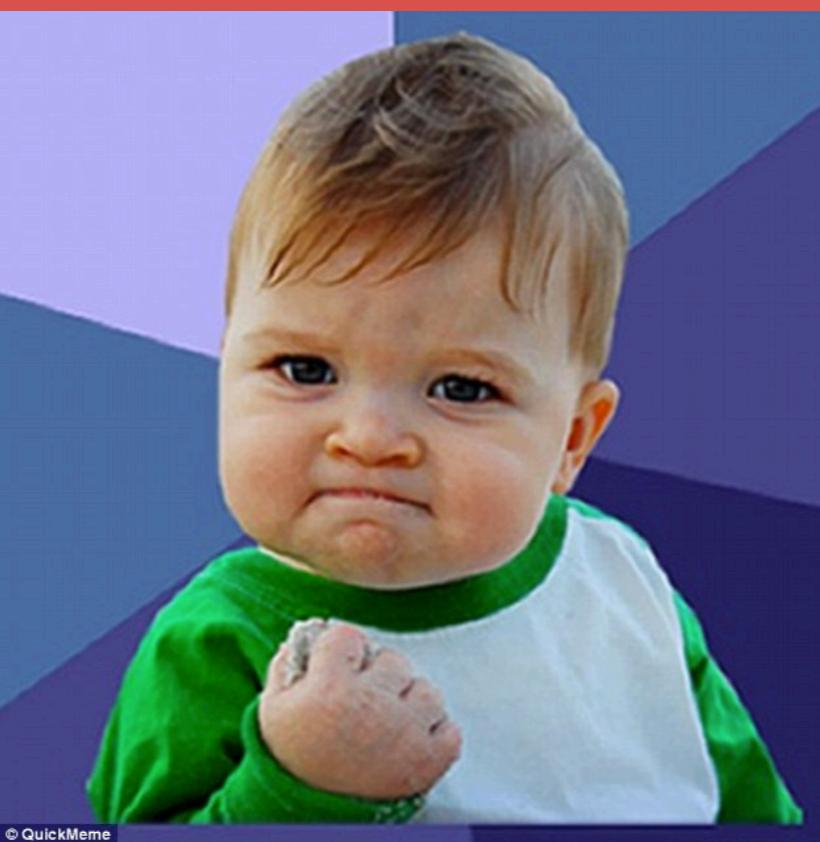
Top tip: Start macro

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As I worked on the technical project plan
Figured out how we were implementing
Realized working on macro -> micro relationship was repeating itself

get your priorities right
work inwards in stages,
reach the most atomic part of the problem.

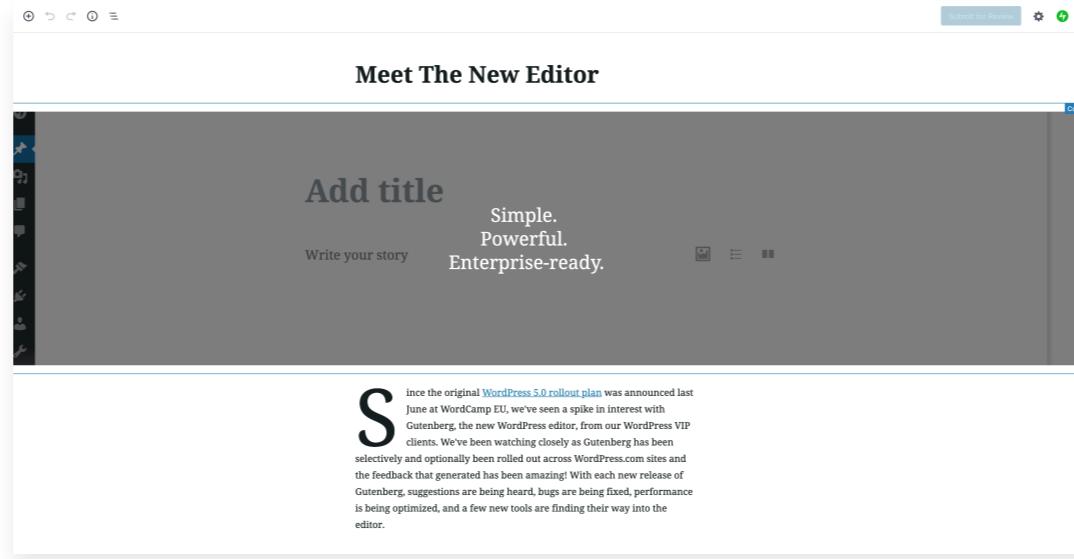
Casper (How to own)



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After some internal user interviews,
experiences with clients that used the interface
we realised we needed something much more stripped down in terms of options
but still with the extensibility of Gutenberg - hmmm thats a lofty goal.

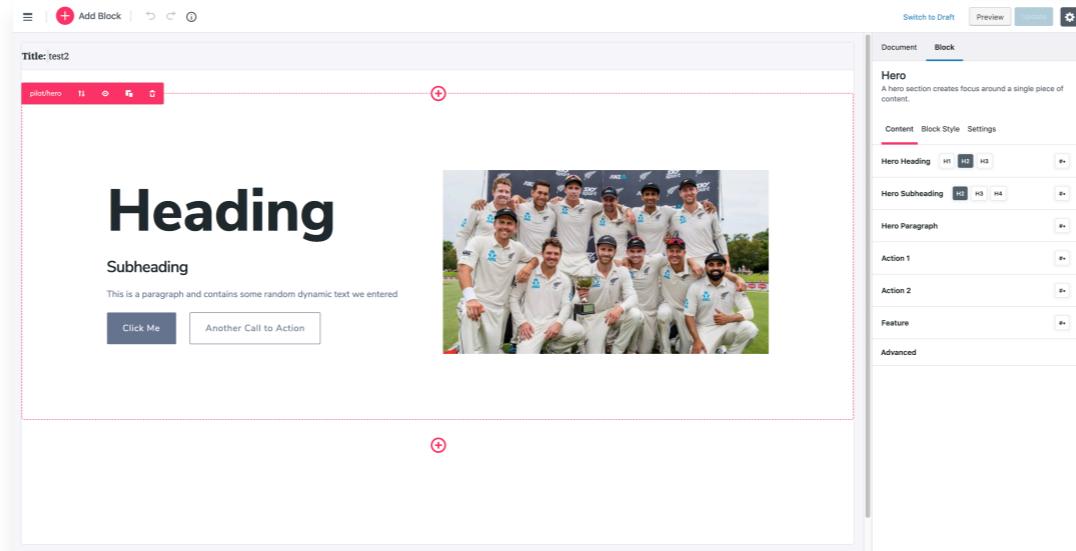
Gutenberg is not optimized for marketing site designs



Gutenberg optimized for blog content.

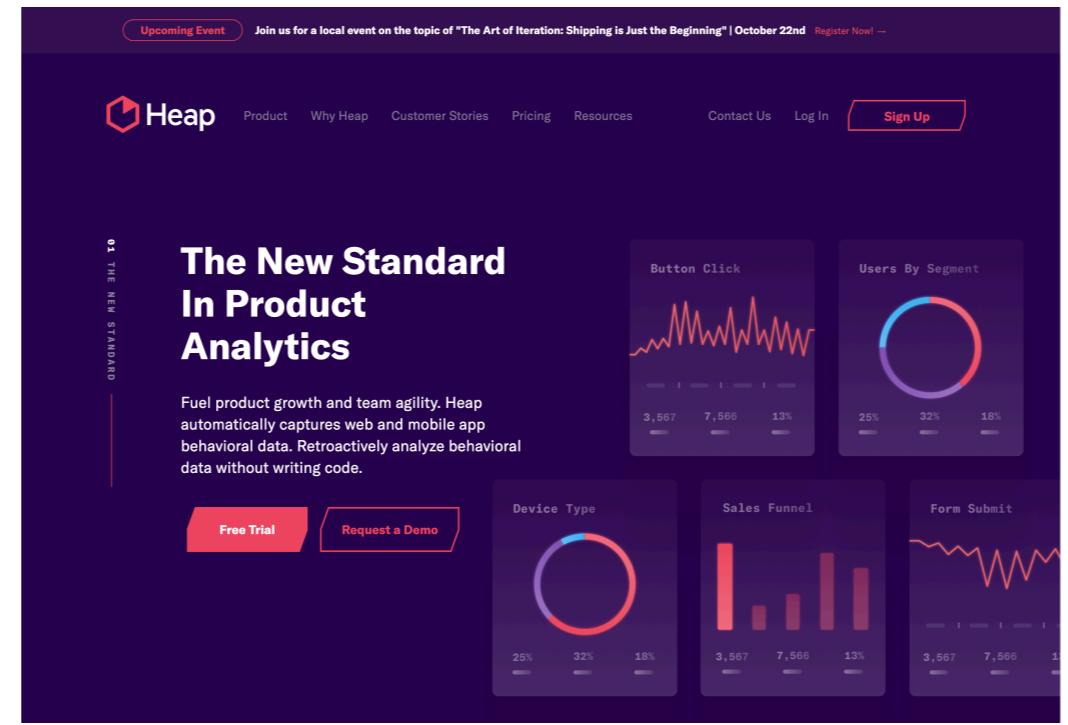
But it's less flexible when it comes to marketing style websites. Its not a page builder

But it is possible to extend the editor



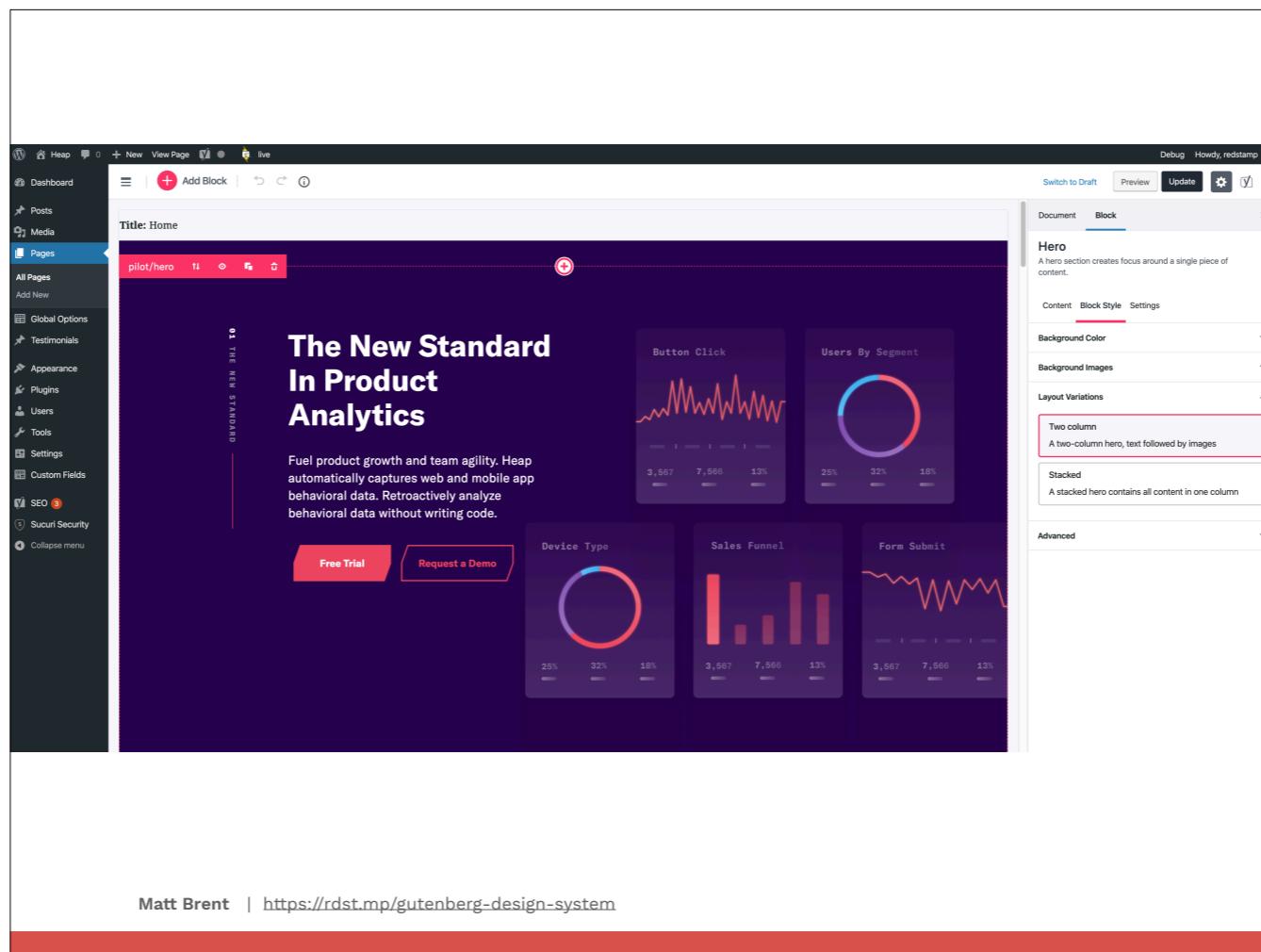
Matt Brent | <https://rdst.mp/gutenberg-design-system>

To their credit it's also possible to completely extend Gutenberg and make it work although takes some effort and in some places some workarounds nicer word for dirty hacks.



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Difference in our approach was massive.
And our success was much higher



We were the same team with the same skills

We didn't write the code differently

We used our newly discovered methodology of design system thinking

Where we take the principles of design thinking

layer them over the framework of design system thinking

starting macro, finishing micro

Design System Thinking

Huh?

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The key point I want to communicate
Listen this is key
is moving from how something looks to
how something looks and feels as it's being used and how that impacts the user.



Matt Brent | www.redstamp.com/wordcampniagra

Which has to come from research - taking those discoveries

Implementing them in phased approach where we start with the most generalized implementations

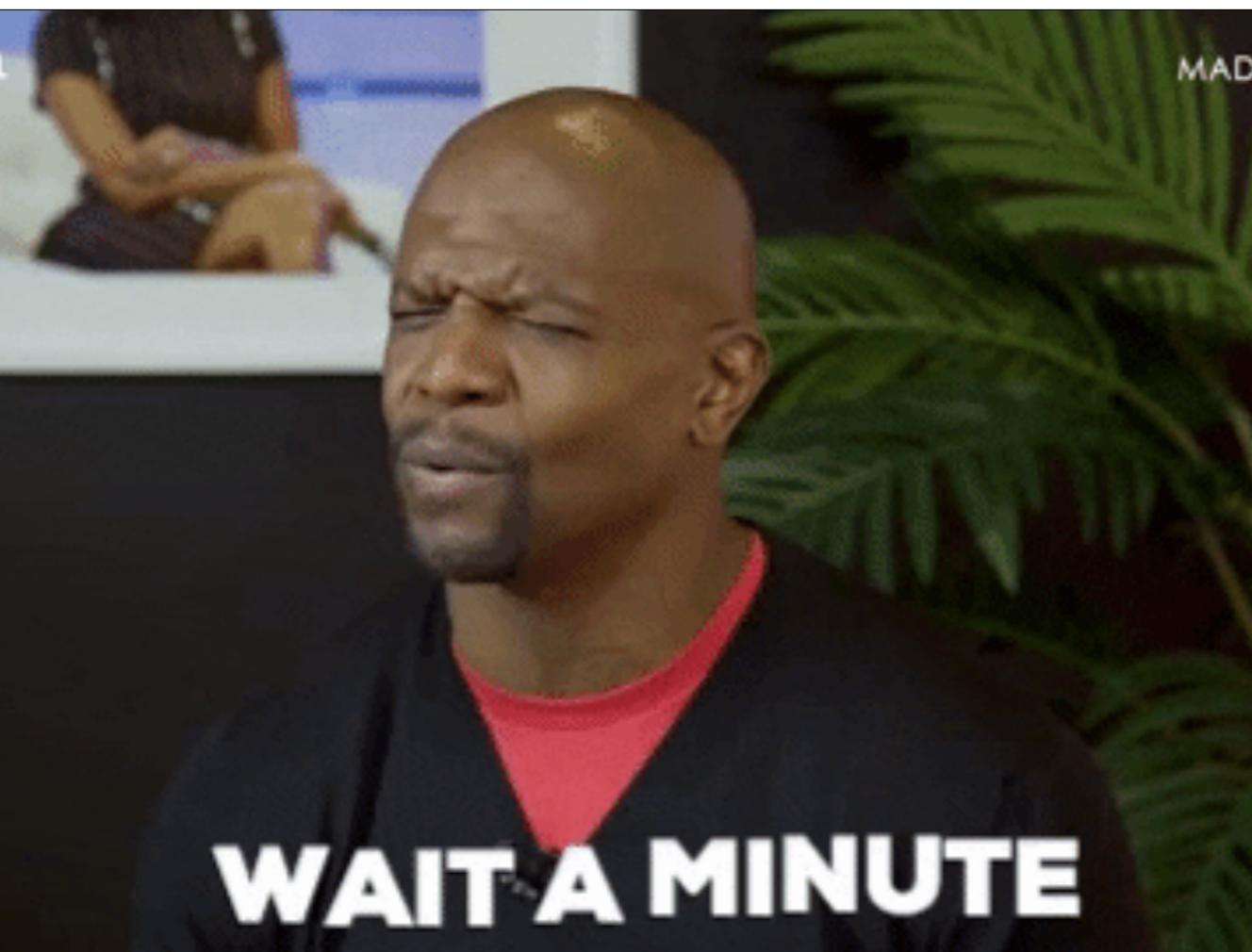
Move into the details

Design thinking
addresses the **what**

Design System thinking
addresses the **how**

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In essence



Our friend Terry is back

I don't understand how your discoveries can help me
Im not building my own block library any time soon

Let me give you a simple example

Then what that looks like as a concrete example



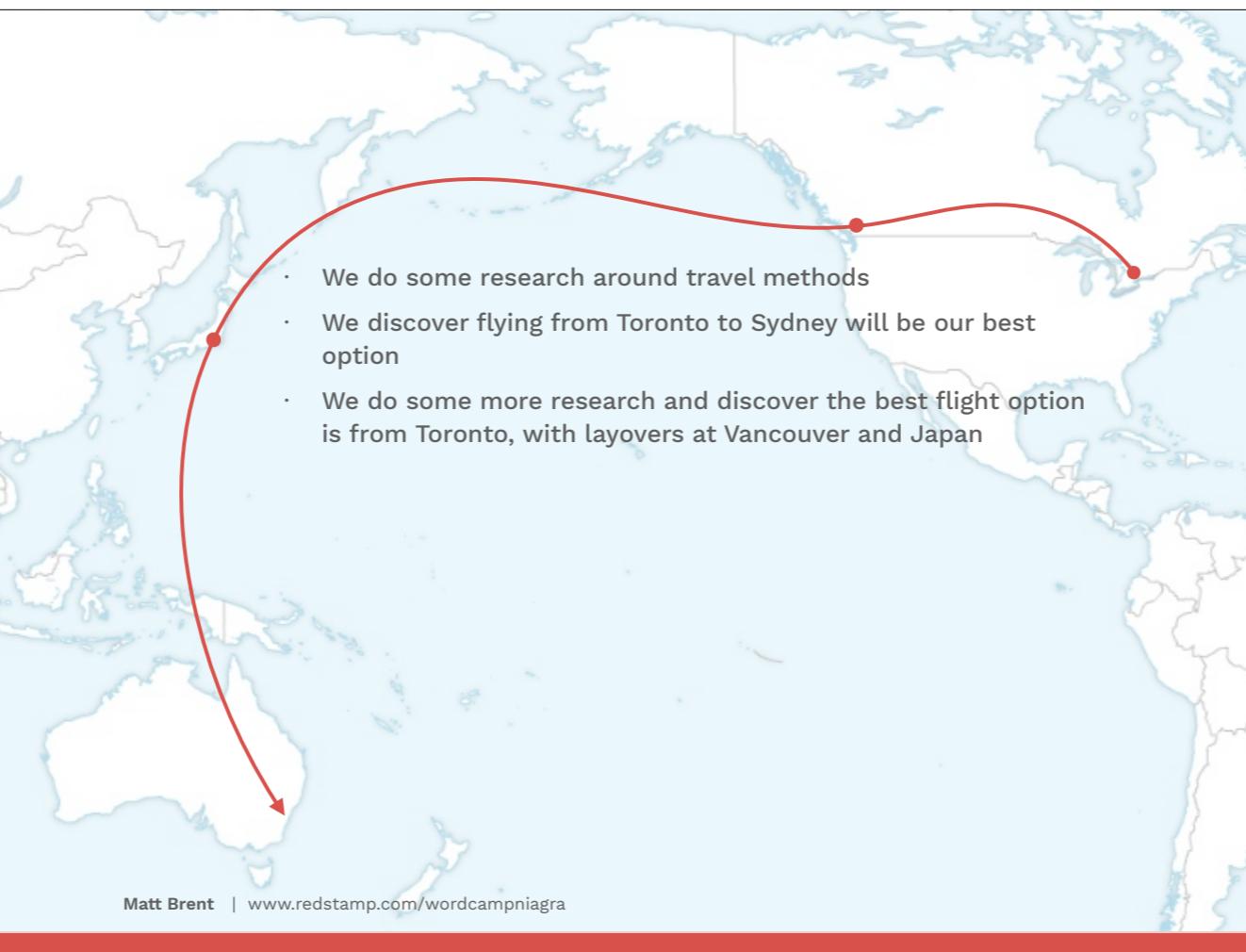
We want to go on a trip we want to travel from Canada to Australia. That's our highest most abstract view right there.

Going one level deeper

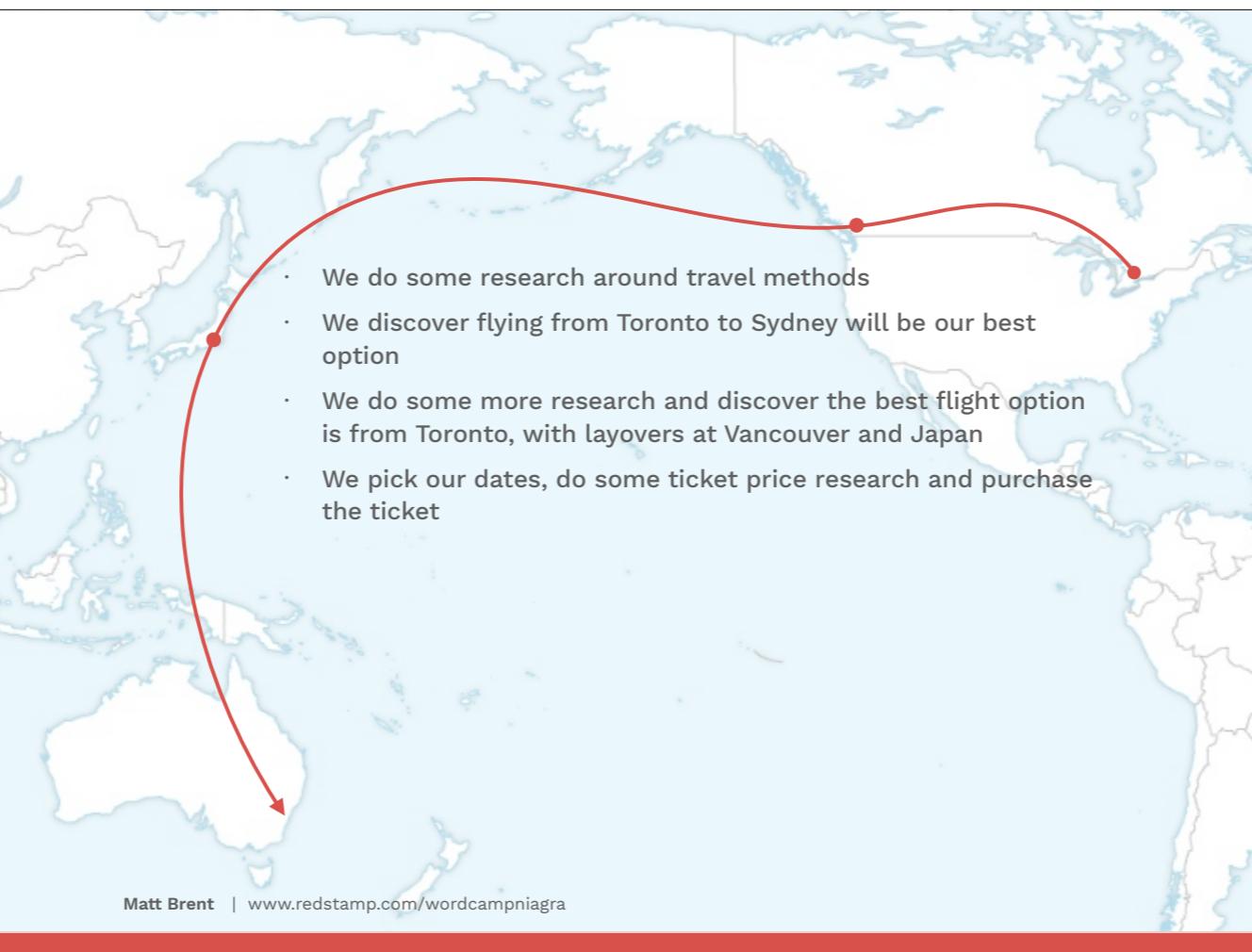
We do some research around travel methods



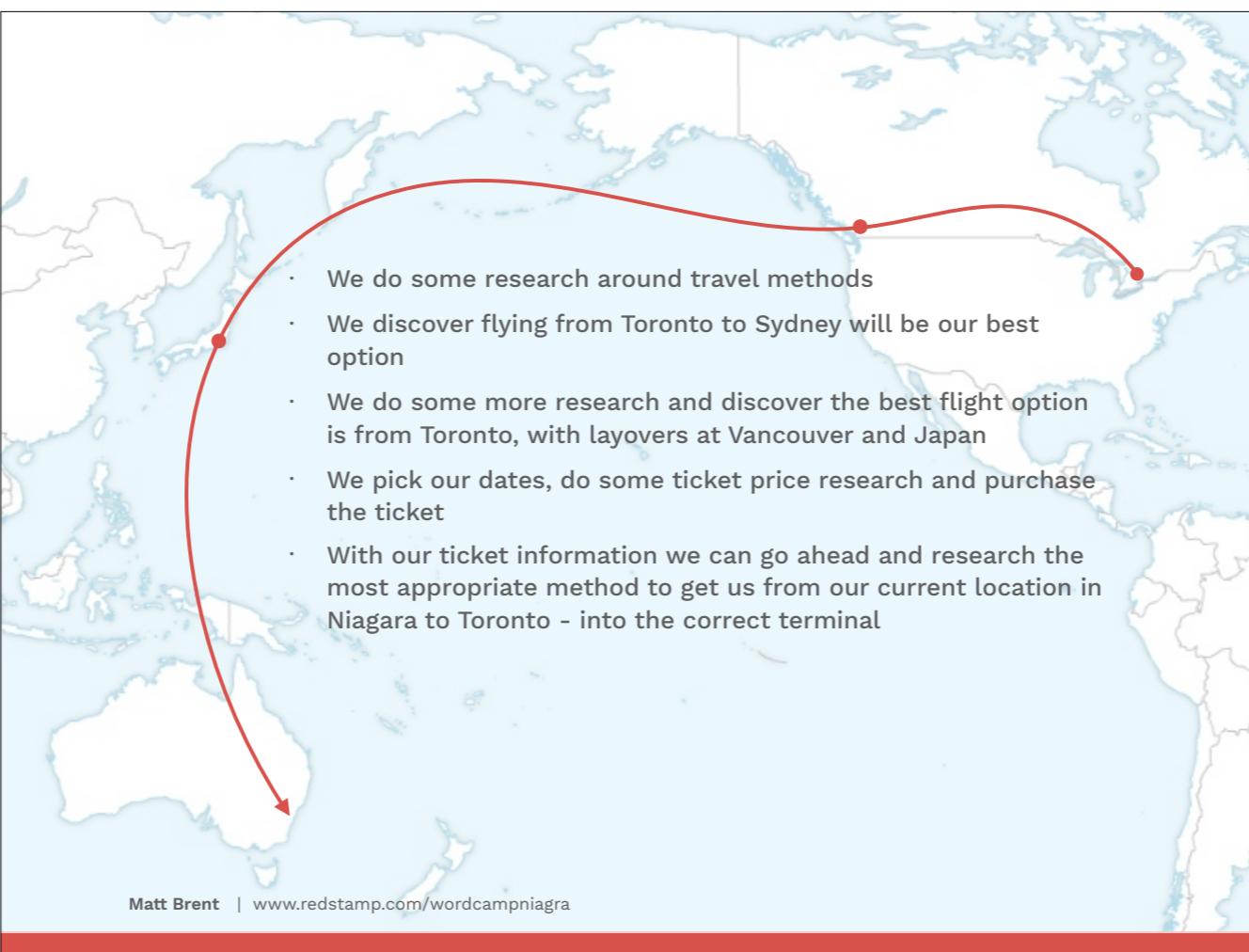
We discover flying from toronto to sydney will be our best option



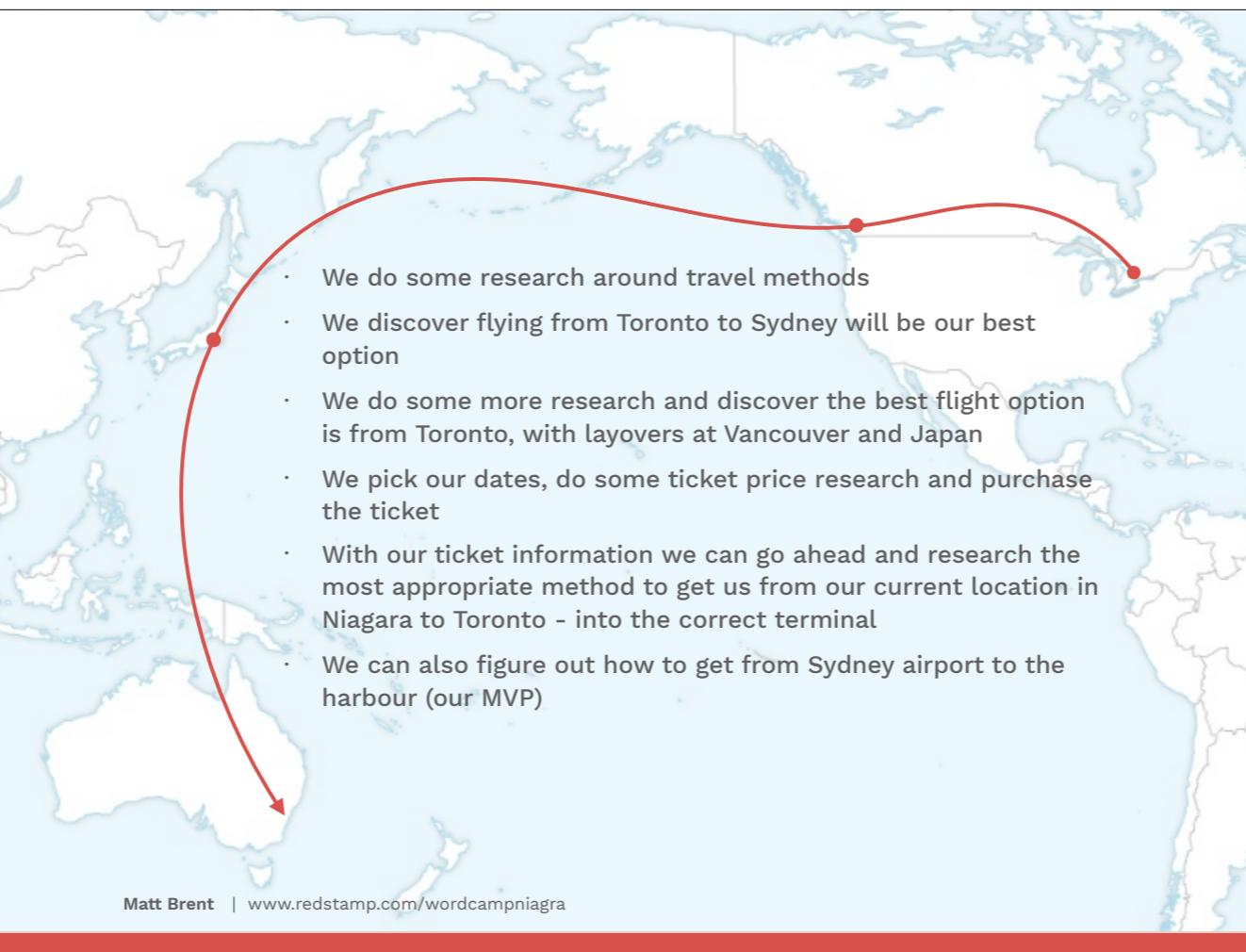
We do some more research
discover the best flight option is from toronto, with layovers at Vancouver and japan



We pick our dates
do some ticket price research and purchase the ticket

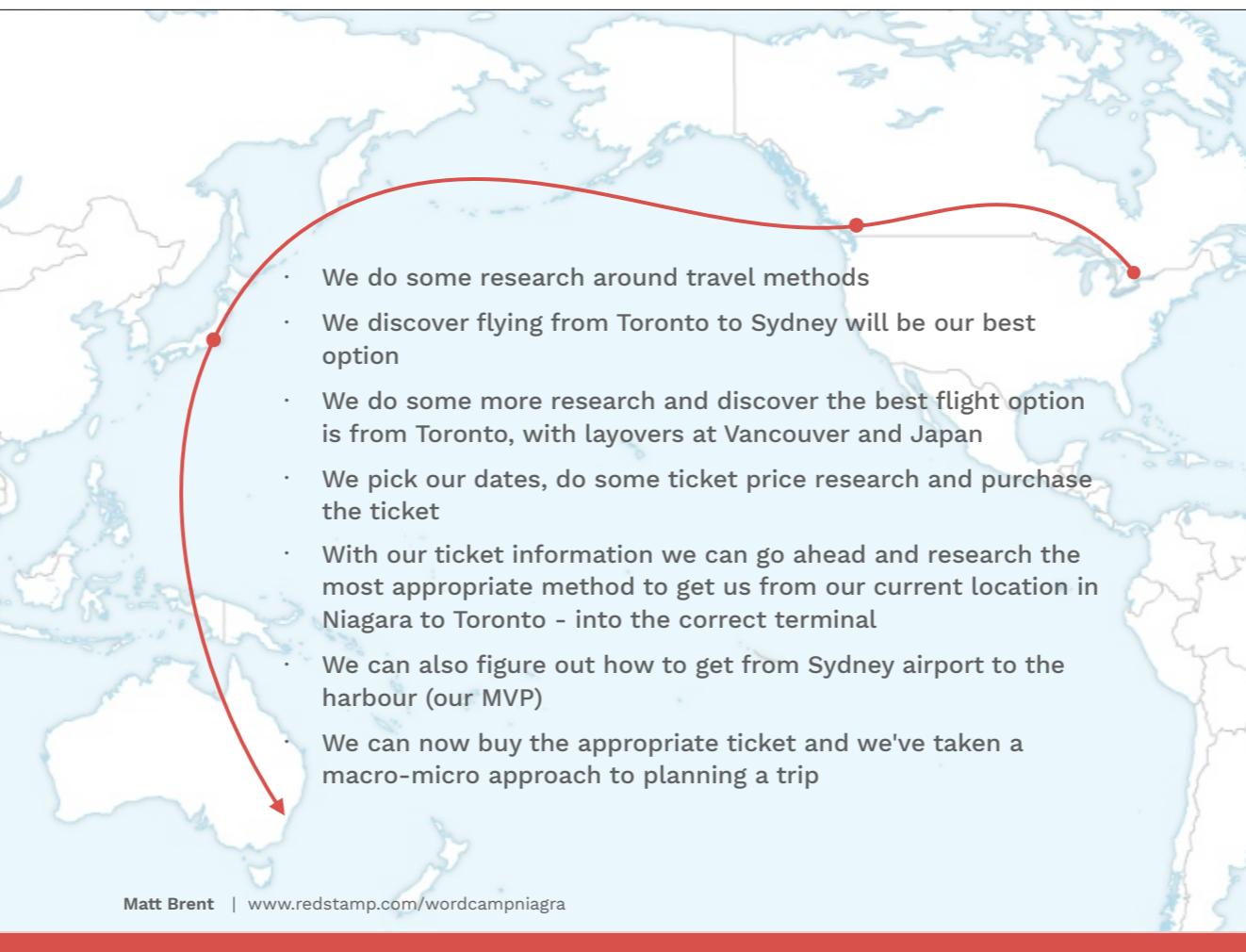


With our ticket information we can go ahead and research the most appropriate method to get us from our current location in Niagara to Toronto -into the correct terminal



We can also figure out how to get from sydney airport to the harbour (our MVP)

We can now Buy the appropriate ticket



We can now Buy the appropriate ticket and we've taken a macro-micro approach to planning a trip

One thing to notice in this - every major decision was predicated with research.

Top tip:

**Every major decision starts
by getting insight.**

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It doesn't mean that your research is going through rounds of user research and spending thousands upon thousands of dollars.

It could be but it isn't necessarily.

It could be asking some clients or friends

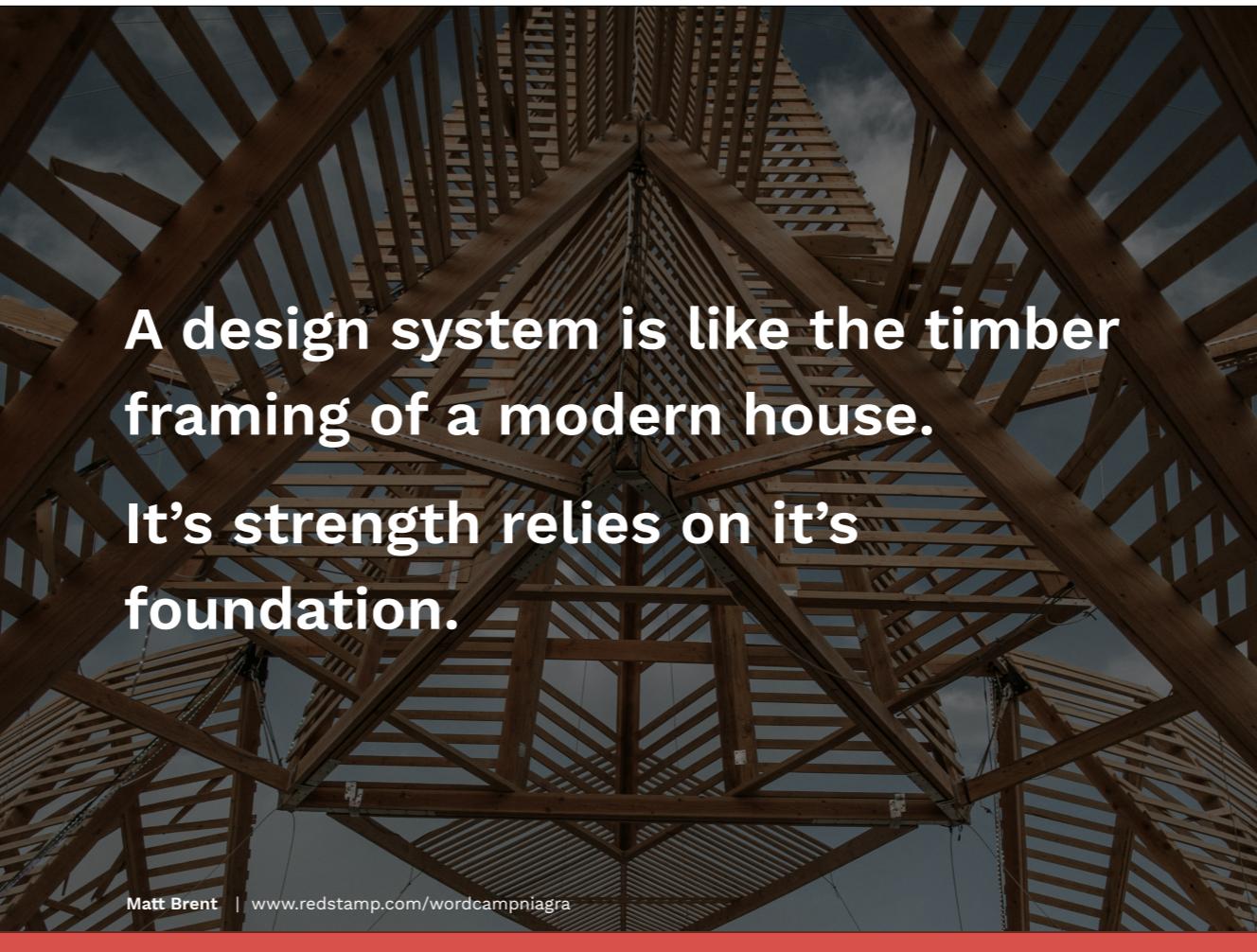
It could be just looking at your business objectively

It could be examining yourself and what you want to achieve

- Start from the most macro level
- Think about what you want to achieve as a business
- Think about your users and what they are trying to accomplish
- Understand what you are trying to achieve before you try to achieve it
- Create some information architecture
- Have good, relevant content
- Implement layout and design that helps you achieve the desired result

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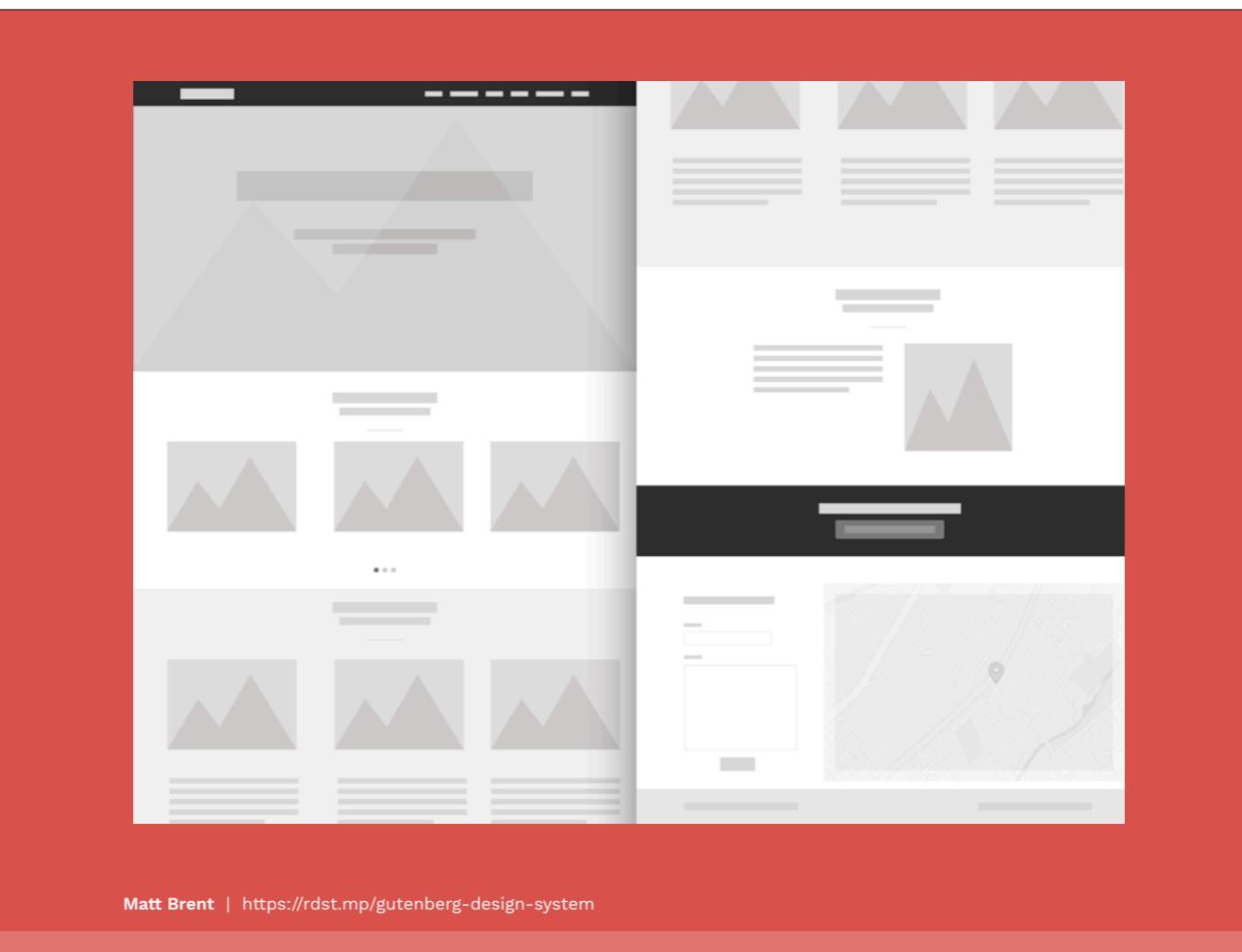
Heres what this looks like on a WordPress project



**A design system is like the timber
framing of a modern house.
It's strength relies on it's
foundation.**

Matt Brent | www.redstamp.com/wordcampniagra

This might not seem very design-systemy but it's a crucial one.



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Ok so you've followed the steps
You've got good content,
You know what pages you want and you've taken that information
Scribbled it on a napkin or some toilet paper

How do I integrate a design system (thinking) in Gutenberg?

Matt Brent | <https://rdst.mp/gutenberg-design-system>

How do I tie a neck tie. Well actually a lot of ways

Hopefully now you understand that really the technical details of implementing a design system is not really any different than a normal site. Its the strategy and thinking.

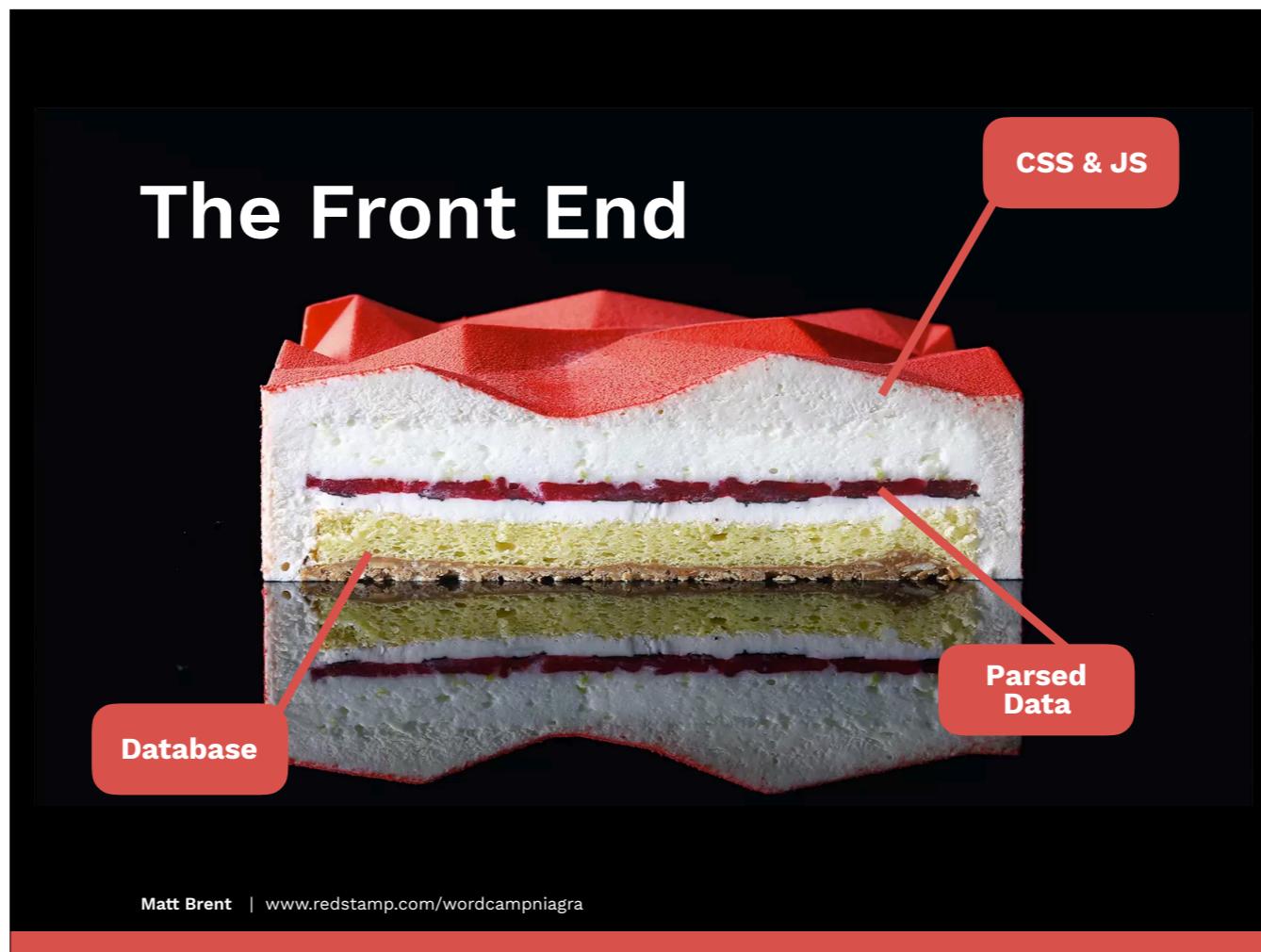
To understand the best approach you need to understand how Gutenberg works

Because I think in food, id share some food metaphors.

The following cakes represent the layers that are involved in Gutenberg.

Understanding these layers is critical.

Things load over time - over simplifying

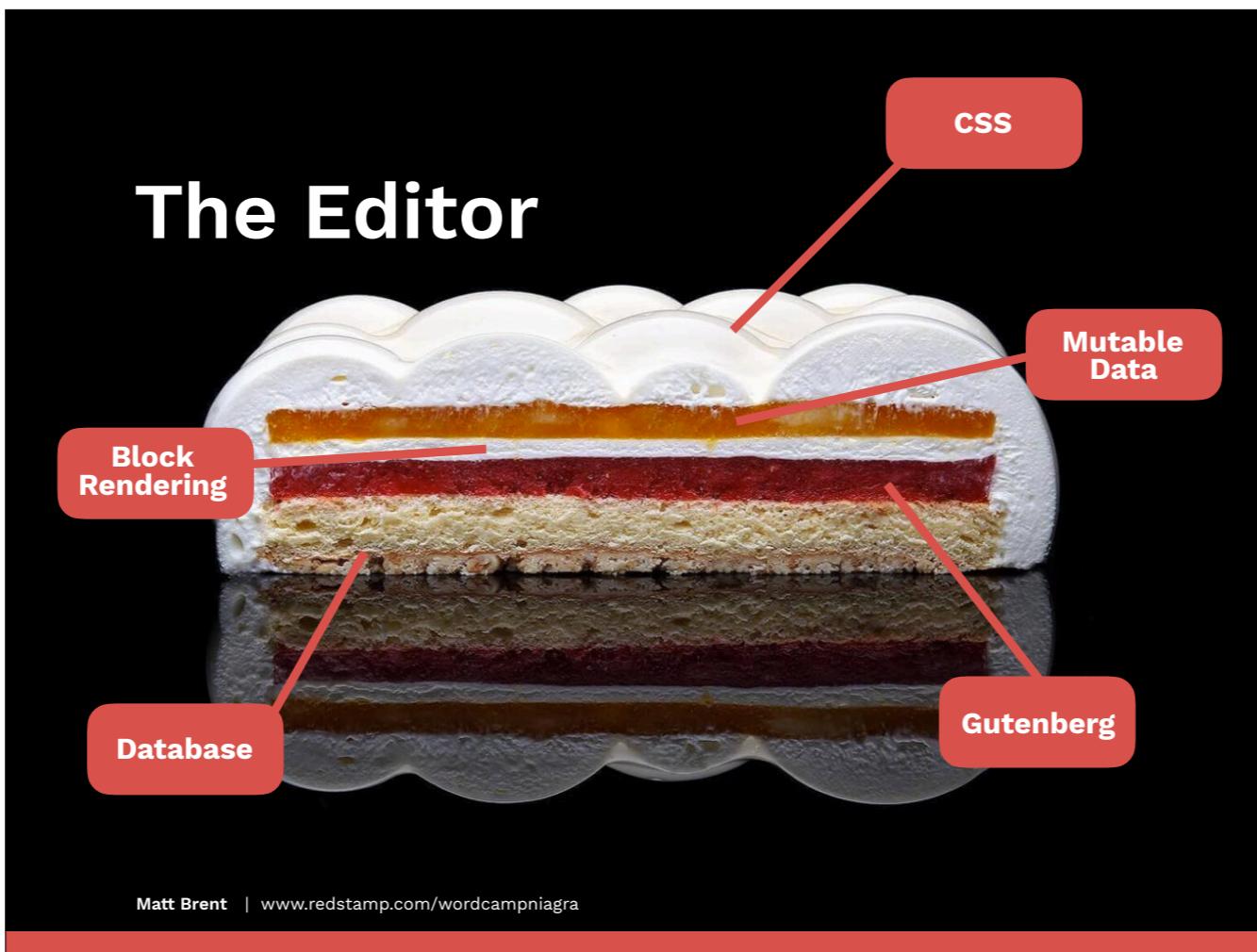


Animate some callouts

Ganache: CSS both user defined and Gutenberg default CSS if you choose to load it in - anything else you'd load in normally like JS etc.

Filling: Static data (Our JSON and HTML) that gets parsed either statically as HTML or passed to block rendering if its a dynamic block (defined in PHP).

Base layer: database, post content (which is everything that persists) is stored



Ganache: CSS both user defined and Gutenberg default CSS if you choose to load it in

Second filling: that's the actual data, before it's saved to the database it is the mutable data, effectively stored as JSON and possibly HTML like

Cream: Blocks. They are in essence React components that define the markup and where the data goes and how the data gets saved

First filling: Gutenberg which sits over React -> wp.element.

Base layer: database, post content (which is everything that persists) is stored

That is unless you have some kind of logic error in your block then you get this



Where to put it?

```
add_action( 'enqueue_block_editor_assets', 'my_enqueue_function' )
```

or

```
add_action( 'after_setup_theme', 'my_supported_features' )
```

Where

```
function my_supported_features() {  
    add_theme_support('disable-custom-font-sizes');  
    add_theme_support('editor_font_sizes', array());  
    add_theme_support('disable-custom-colors');  
    add_theme_support('editor-color-palette', array());  
    add_theme_support('editor-styles');  
}
```

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Then best place typically is in a plugin in plugin.php - new blocks

If you're not - do it in your themes functions.php

Two ways of adding it.

Everybody loves snippets

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Here is my promise to you.

On GitHub at the URL shortener right here. In that repo I'm going to add a whole bunch of snippets

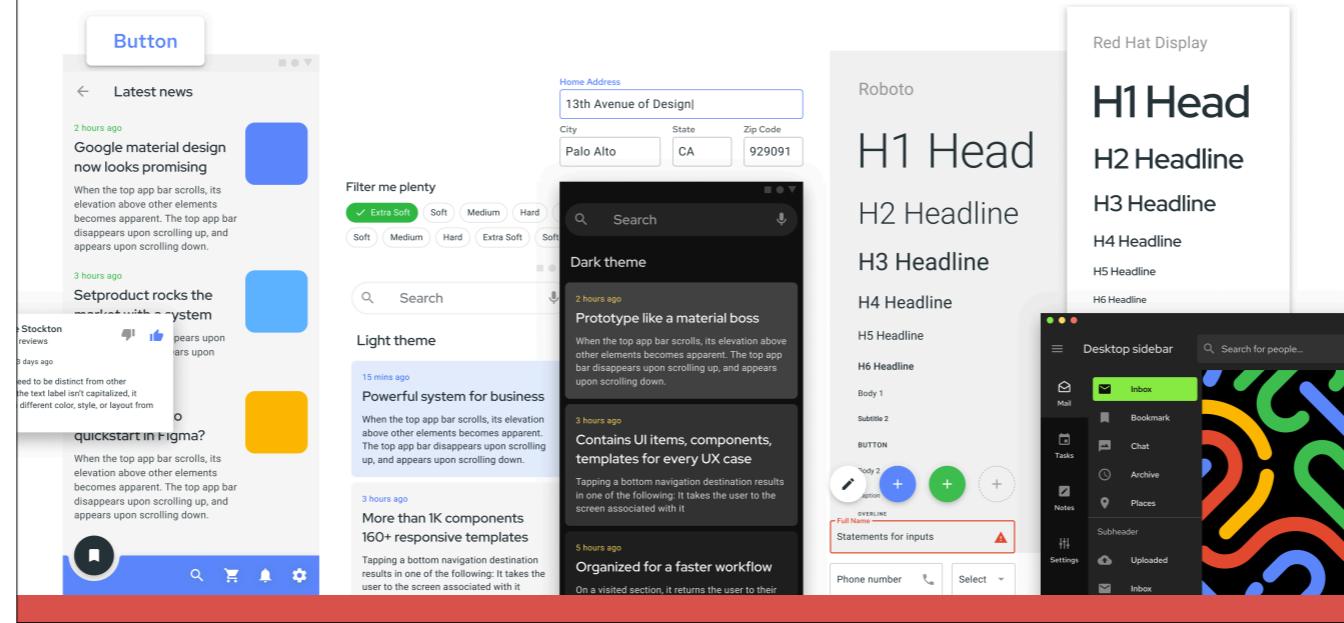
Thoughts approaches etc. There's way too much to cover in this talk

But I wanted to be true to all the help we've received as a team from the literally hundreds of articles and
Snippets that's helped us achieve what we've achieved

Bringing it together

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predefined set of visual and behavioural constraints



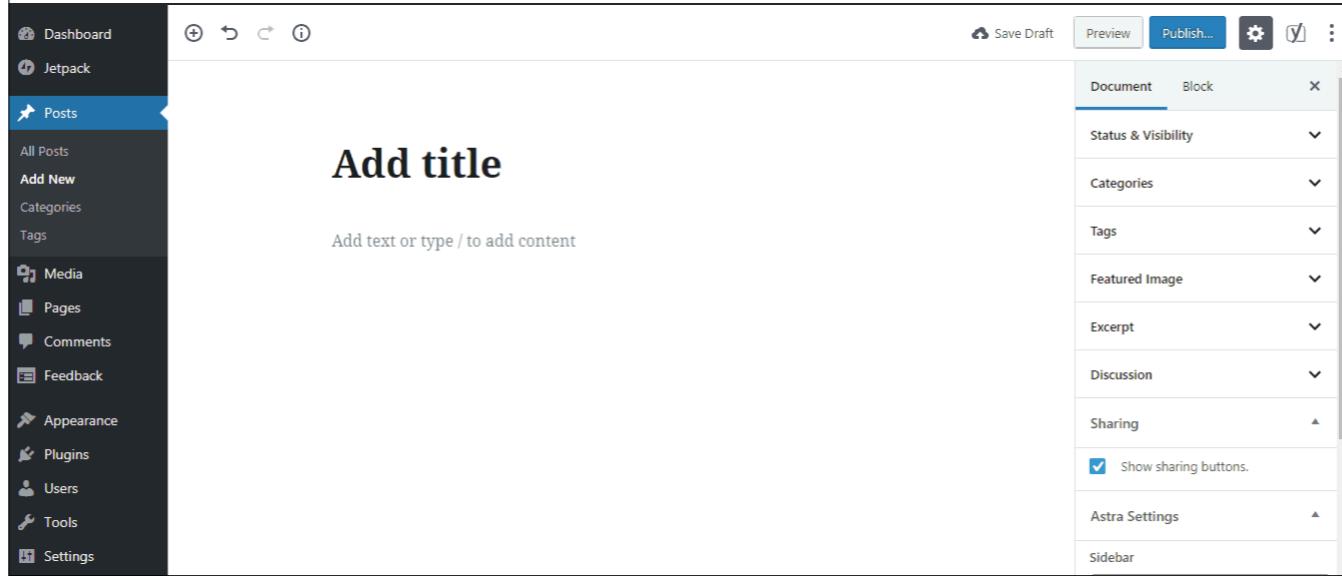
A design system is a predefined set of visual and behavioural constraints around a design. In a web application. It typically involves a set of reusable components

Ensure user & business-centric insight is driving your decision making



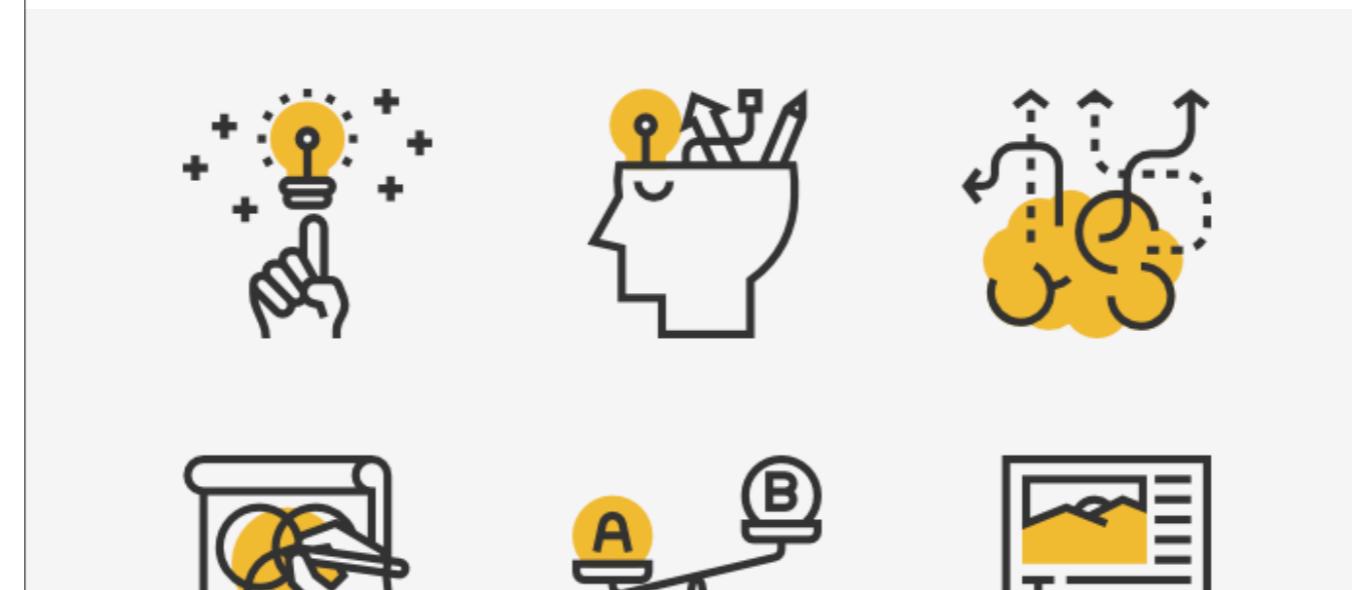
Before every major implementation step, ensure user & business-centric insight is driving your decision making

Gutenberg can help turn the editor experience into a powerful design system



A design system can be complex or simple. With some CSS and some thought, Gutenberg can help turn the editor experience into a powerful tool to structure content over a design system.

Take the Design System thinking approach



Its not just about the details its about the approach

We call this approach Design System Thinking. It puts the focus on the process of working from the macro into the micro.

When designing and writing your CSS, use this approach. Gradually work your way into the details

```
background-image: -webkit-linear-gradient(45deg, transparent, transparent 5px, black 5px, black 10px);
background-image: linear-gradient(45deg, transparent, transparent 5px, black 5px, black 10px);
-webkit-font-smoothing: antialiased;
}

body {
    margin: 0 auto;
    padding: 2em 2em 4em;
    max-width: 800px;
    font-family: "Helvetica Neue", sans-serif;
}
```

Start with global styles -

Typography

Colour

Spacing

Work your way into the details - what does each block look like. Always build in from the macro though.

How will your user relate to this block, what is this blocks purpose?

My Challenge to you

Matt Brent | <https://rdst.mp/gutenberg-design-system>

Go to the URL, download my presentation and review it

Use design system thinking in your next project as a way to improve user experience
achieve your goals for your site

And generally kick ass

You can find me on LinkedIn - my name is Matthew Brent and I'm looking forward to hearing your success stories. <CLICK>



Thank you! Questions?

Matt Brent | www.redstamp.com/wordcampniagara