



**Wait, We Can Re-use this? Design
Systems and Component Libraries for
Fun and Profit**

CMS Philly

May 1, 2020

About me

when I started...



Zivtech Opening Party, 2008



Mt. Airy Meetup, 2008

<https://www.flickr.com/photos/31206276@N07/albums/72157607864494439>

now...





Promet Fast Facts

- Founded in 2004
- HQ in Chicago - distributed team
- Full service web design and development agency
- Specializes in Drupal, Wordpress, and open source
- Clients span government at all levels, nonprofits and associations, Fortune 500 corporations, and start-ups.
- Hundreds of site launches
- Frequent sponsor and presenter

Government Clients



Why Are We Here?

We want to...

- Reuse more items across projects
- Improve tooling for reuse
- Use design system for clients
- Build a component library

Deliver projects faster...

Why Are We Here?

"Work it harder,
Make it better,
Do it faster,
Makes us stronger-"



Audience

- Coders and non-coders alike
- New(ish) to component libraries
- Foster examples
- Drupal mostly but Wordpress too



Nouns

- Design System
- Component Library
- Emuslify
- Drupal blocks
- Drupal layout builder

Design System

A design system is a collection of reusable components, guided by clear standards, that can be assembled together to build any number of applications.

<https://www.invisionapp.com/inside-design/guide-to-design-systems/>

component
library



style guide



methodology



vision or context

Design System

- Source of truth
- Common language
 - What is this thing called?
- Documentation

01 Colors

Primary
Second Hex# is shown for hover state use

PSU Green #6A3D9A #607081
PSU Blue #0070C0 #008080

Accent
Second Hex# is shown for hover state use

Pine Green #2E8B57 #308030
Accent Green #9ACD32 #90EE90
PSU Red #D9534F #E9967A
PSU Orange #FFA500 #FFD700
PSU Purple #800080 #800080

Text / Background

Header Black #000000
Body Dark Text #002060
Body ADA Gr #808080

02 Typography

Titles & Headings

HERO TEXT
Font: Knockout - Junior (OpenType) 22px (Mobile Hero)

HEADER 1
Font: Knockout - Junior Featherlet 22px - All Caps / It

03 Buttons

Styling

Highest Emphasis - Regular
Font: Header 2 / Color: Approved for Primary and Accent Color Use

VISIT PSU EXPLORE ONLINE APPLY NOW

Highest Emphasis - Hover
Font: Header 2 / Color: Add low Black to Original Hex# - see section 01

VISIT PSU EXPLORE ONLINE APPLY NOW

Medium Emphasis - Static
Font: Header 4

SEE ALL NEWS →

Medium Emphasis - Hover
Font: Header 4

SEE ALL NEWS →


Low Emphasis - Static
Font: Header 4

CALL TO ACTION

Low Emphasis - Hover
Font: Header 4

CALL TO ACTION

Carousel Status Indicator
Color: #CC4E2B #FFFFFF

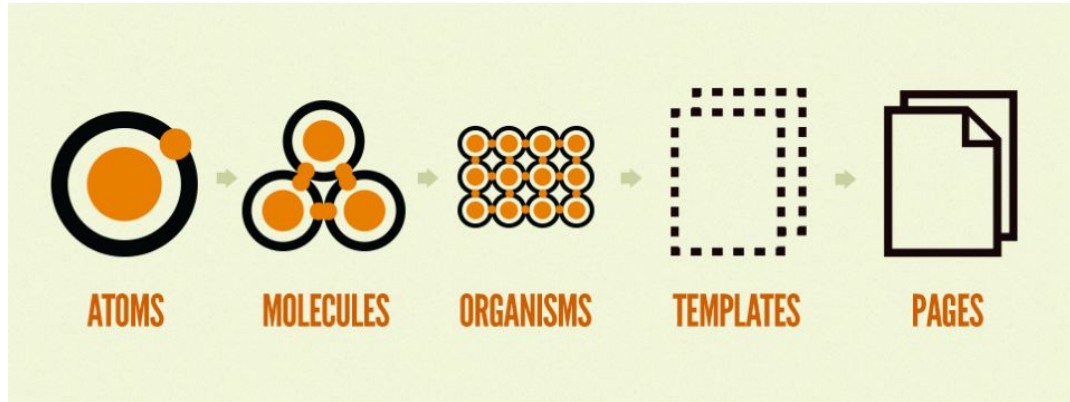


Pagination
Color: #CC4E2B / Font Awesome Icon F10AB, F10AB- 32 px / Opacity in non-use state 40%

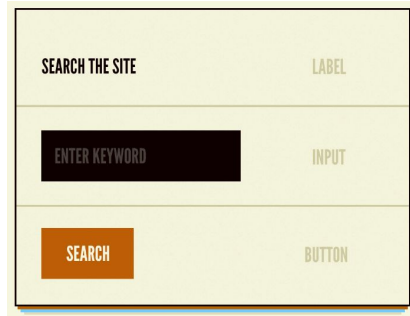
#FIRST PAGE 1 / 15 #LAST

Atomic Design

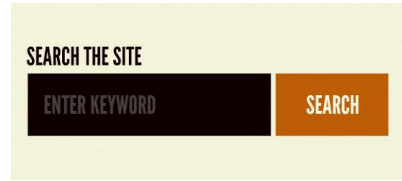
- Methodology for creating design systems
- <http://atomicdesign.bradfrost.com/>



Atomic Design



atoms



molecules



organisms

Component Library

- The place you store your components
- Think of it as a happy place
- Living toolbox
- Many out there:


<http://styleguides.io/tools.html>

<https://github.com/aleksip/component-based-theming>



Lovett Library, Philadelphia


Storybook.js



Press "f" to search...

- Base
- Atoms
- Molecules
- Organisms
 - Banner
 - Content
 - Footer
 - Grids
 - Group
 - By The Number
 - Link Group Multicard Carousel
 - Link Group Carousel 3 Items
 - Four Card Featured Group
 - Quicklinks List


LINK GROUP CAROUSEL



Cal Optima Recruitment 1

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad


minim



Lactation Rooms 1

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad

minim



Stigma Free OC 1

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad

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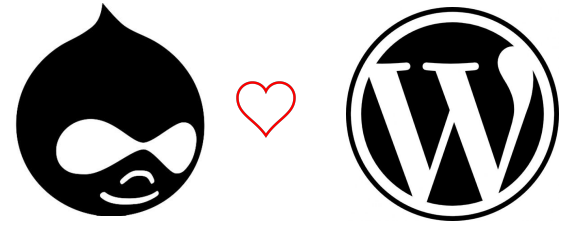
15

Emulsify

- Component Library “setup”
- Component Library tool (storybook)











<https://emulsify.info/>



Emulsify









- Component Library “setup”

Branch: **master** [emulsify-wordpress-theme](#) / **components** /

 evanwillhite working menu in wordpress	
..	
 00-base	images dir in place, eslint fix for Attach change, commenting
 01-atoms	images dir in place, eslint fix for Attach change, commenting
 02-molecules	working menu in wordpress
 03-organisms	put back WP footer for admin menu
 04-templates	pager change as well as bem function fix for WP
 05-pages	cleaning up things, removing styleguide, moving authoritative
 style.scss	cleaning up things, removing styleguide, moving authoritative



Branch: **develop** [emulsify-drupal](#) / **templates** /

 evanwillhite GH-69: fix node teaser heading path	
..	
 block	Drupal fixes for paths, webpack change, components module path
 content	GH-69: fix node teaser heading path
 dataset	deleted components drupal files, removed/replaced excess Drupal
 fields	relative path fixes
 form	Drupal fixes for paths, webpack change, components module path
 layout	dist js fix, paths fixes for Drupal JS files
 media	Drupal fixes for paths, webpack change, components module path

Emulsify

- Component Library “setup”

Branch: **develop** ▾ [emulsify-drupal](#) / [templates](#) / [navigation](#) / [menu--main.html.twig](#)

23 lines (23 sloc) | 811 Bytes

```

1  {#
2  /**
3   * @file
4   * Theme override to display a menu.
19  */
20  #}
21  {% include "@molecules/menus/main-menu/main-menu.twig" with {
22     menu_items: items,
23  } %}
  
```



The Story

- Largish distributed team
 - 50+ people
- Similar clients
 - counties, universities
- Similar designs
- Similar components
 - Banners, groups of images etc



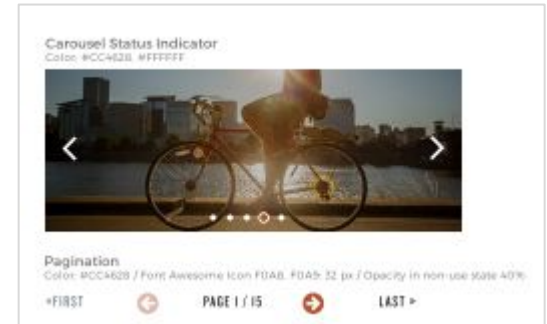
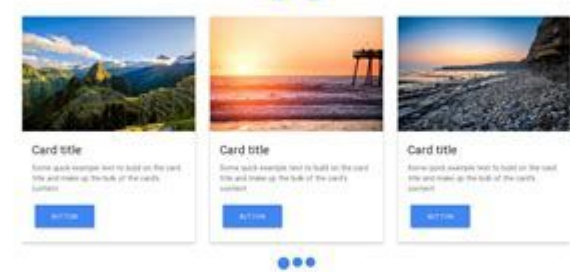
The heroes

New Client



New Client

- A fresh start
- A new path
- A new style guide
- A new set of
 - Menus
 - Blocks
 - Hero slide carousel thingee
 - Grid of images



New Client

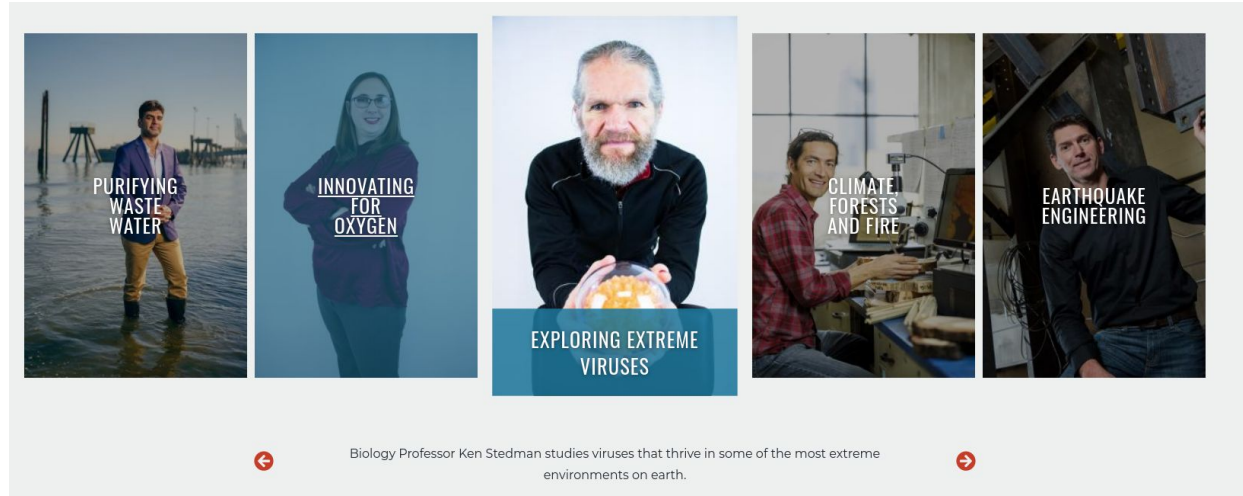
Can't you just
use what we did
last time?



Why can't we reuse that?



Carousel Component



Carousel Component

CSS:

/scss/partial/_paragraphs.scss

template:

/templates/field/field--paragraph--field-multiple-carousel-items--multiple-display-carousel.html.twig

javascript:

/js/theme.js

```

PHILLY MOON... if you were int... Airtable - PUB... .paragraph--type--multiple-display-ca 1/9 ^ v x
30 .paragraph--type--quicklinks,
31 .paragraph--type--news-twitter-facebook-block,
32 .paragraph--type--multiple-lists,
33 .paragraph--type--iframe-tour-calendar,
34 .paragraph--type--multiple-display-carousel,
35 .paragraph--type--multiple-display,
36 .paragraph--type--media-with-text,
37 .paragraph_featured_news_article,
38 .paragraph-featured-blog,
39 .paragraph--type--link-group-4-plus-with-images,
40 .paragraph--type--link-group-8-with-image,
41 .paragraph--type--link-group-4-with-images,
42 .paragraph--type--blog-twitter-facebook-block,
43 .paragraph-feature-stats,
44 .paragraph--type--feature-image-carousel,
45 .paragraph--type--featured-profile-block,
46 .paragraph--type--a-day-in-the-life-slider,
47 .paragraph--type--featured-news,
48 .paragraph--type--full-width-image-link,
49 .paragraph-4-cta-text-blocks,
50 .paragraph--type--short-hero,
51 .paragraph--type--page-title-block,
52 .paragraph--type--link-group-8-with-images {
53   padding-top: $padding-40;
54   padding-bottom: $padding-40;
55
56   &.events_vertical {
57     background-color: $psu-gray-100;
58     padding: $padding-30;
59   }
60 }
61
62 .paragraph--type--multiple-carousel-without-image h2.carousel-without-image--title,
63 .paragraph--type--a-day-in-the-life-full h2.paragraph-title,
64 .paragraph--type--quicklinks-no-images h2.paragraph-title,
65 .paragraph--type--quicklinks h2.paragraph-title,
66 .paragraph--type--news-twitter-facebook-block h2.paragraph-title,
67 .paragraph--type--multiple-lists h2.paragraph-title,
68 .paragraph--type--multiple-display-carousel h2.paragraph-title,
  
```

Drupal Strategies for Reuse

- Modules
- Theme Layer
 - Templates, JS, CSS
- Data Model
 - Content types, entities
- Configuration

Drupal Modules

- Some useful ones for “components”
 - Views Slideshow
 - bootstrap simple carousel
- Each one does something different
- Not always flexible

Drupal Themes

- Often a direct representation of Drupal internal data structures
 - Hard to reuse if the data model changes
- Often locked into specific methodology
 - Bootstrap vs Foundation
 - Radix vs Zen
 - Do you just keep the same base theme forever?

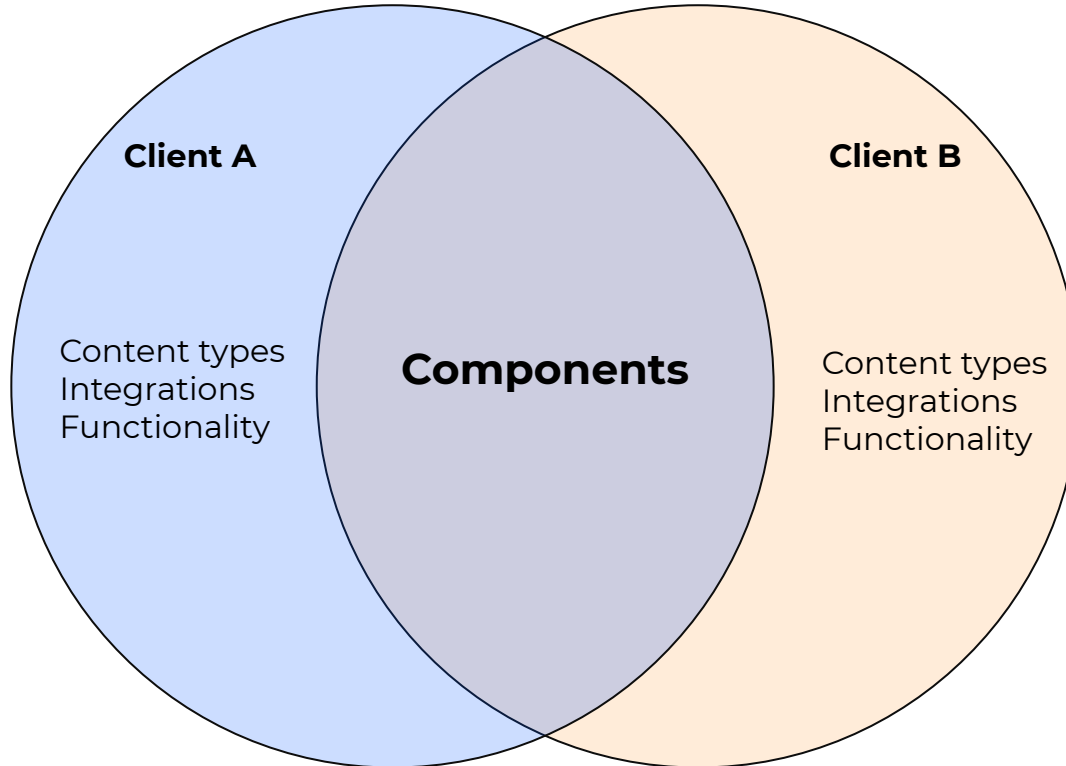
Drupal Data Model and Config

- This is the actual stuff we want to change!
- Difficult to reuse
- Needs a different strategy



Drupal config on enterprise site

Client Overlap




Let's Use Components







What Does that Look Like?

All of the stuff and things are in one place:

Branch: **develop** ▾ / [components](#) / [03-organisms](#) / [group](#) / [carousel](#) / **3-item** /

 **prometjohn** OCDEV02-188: Add bg section styles to blocks. Fix link on card backgr... ⋮

..

 _carousel-3-item.scss	OCDEV02-188: Add bg section styles to blocks. Fix link on card
 carousel-3-items.js	OCDEV02-97 Fix for width of promo cards and other carousels
 carousel-3-items.twig	OCDEV02-184 block integration cleanup (#58)
 carousel-3-items.yml	OCDEV02-75 Fixes items in carousels (#32)

What Does that Look Like?

In Drupal you are just embedding:

Branch: `develop` ▾ / [templates](#) / [block](#) / `block--link-group--carousel-3.html.twig`

43 lines (42 sloc) | 1.59 KB

```

1  {#
2  /**
3   * @file
4   * Theme override to display a block.
24  */
27  #}
28  {% set group_base_class = 'carousel-3' %}
29  {% set section_style_class = 'section-bg-' ~ section_style %}
30
31  <div {{ bem('block', [group_base_class, section_style_class]) }}>
32  {% embed "@organisms/group/carousel/3-item/carousel-3-items.twig" with {
33    carousel_heading: label,
34  } %}

```


What Does that Look Like?

Live preview in Storybook.js:

Press "/" to search...


- Base
- Atoms
- Molecules
 - Cards
 - CTA
 - Info
 - Menu
 - Person
 - Search
 - Status
 - Tab
- Organisms
 - Banner
 - Content
 - Footer
 - Grid
 - Group
 - By The Number
 - Link Group Multicard Carousel
 - Link Group Carousel 3 Items
 - Four Card Featured Group
 - Quicklinks List
 - Quicklinks List Icons
 - Tabbed List
 - Column Row
 - Promo Card

LINK GROUP CAROUSEL




Cal Optima Recruitment 1

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Lactation Rooms 1

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Stigma Free OC 1

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim


● ○ ○

The New Workflow

Designers design:




LINK GROUP 4 WITH IMAGES




- O.C. Homeless Crisis Updates
- Watch Board Meetings Live
- Board Meeting Agendas & Minutes
- Biography

LINK GROUP CAROUSEL



- Cal Optima Recruitment
- Lactation Rooms
- Stigma Free OC

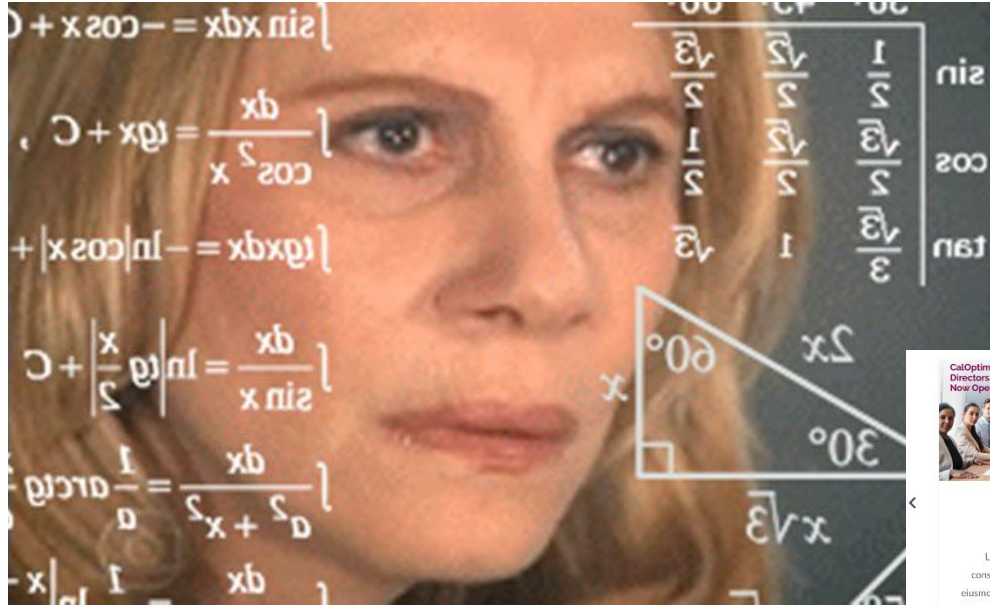
LINK GROUP MULTICARD CAROUSEL



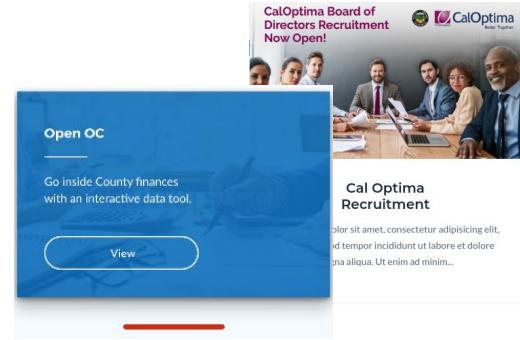
- Budget & Finance
- Open OC
- Access OC
- Subscribe OC

The New Workflow

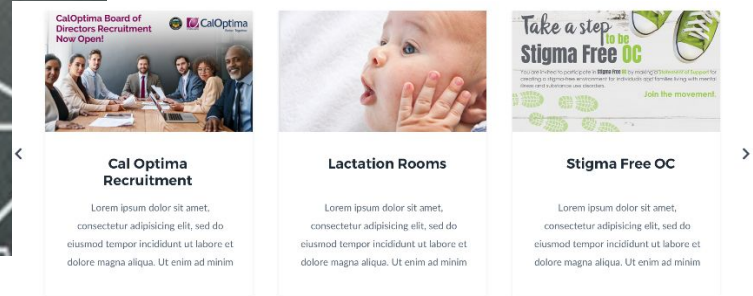
Front-end dev creates components:



atoms



molecules



organisms

QA Right Away

Accessibility and other QA outside of CMS:

- Press "/" to search...
- Base
 - Atoms
 - Molecules
 - Cards
 - CTA
 - Info
 - Menus
 - Person
 - Search
 - Status
 - Tabs
 - Organisms
 - Banner
 - Content
 - Footer
 - Grids
 - Group
 - By The Number
 - Link Group Multicard Carousel
 - Link Group Carousel 3 Items**
 - Four Card Featured Group
 - Quicklinks List
 - Quicklinks List Icons
 - Tabbed List
 - Column Row
 - Promo Card

LINK GROUP CAROUSEL



Cal Optima Recruitment 1

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Lactation Rooms 1

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Stigma Free OC 1

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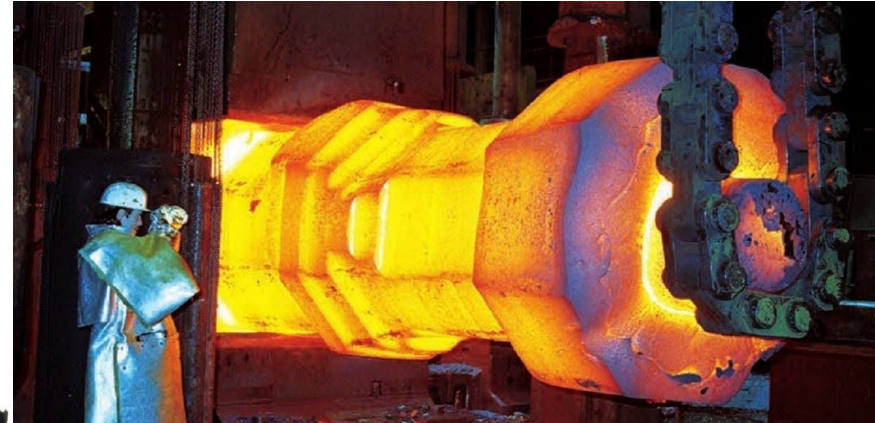


FRONT END DEVS DON'T HAVE TO TOUCH DRUPAL

Add to Drupal / Wordpress Templates

Requires in-depth knowledge of Drupal.

We are getting better at this.



The Drupal End

Want a more flexible way of implementing components

Not tied to the name of the component

Flexible data source

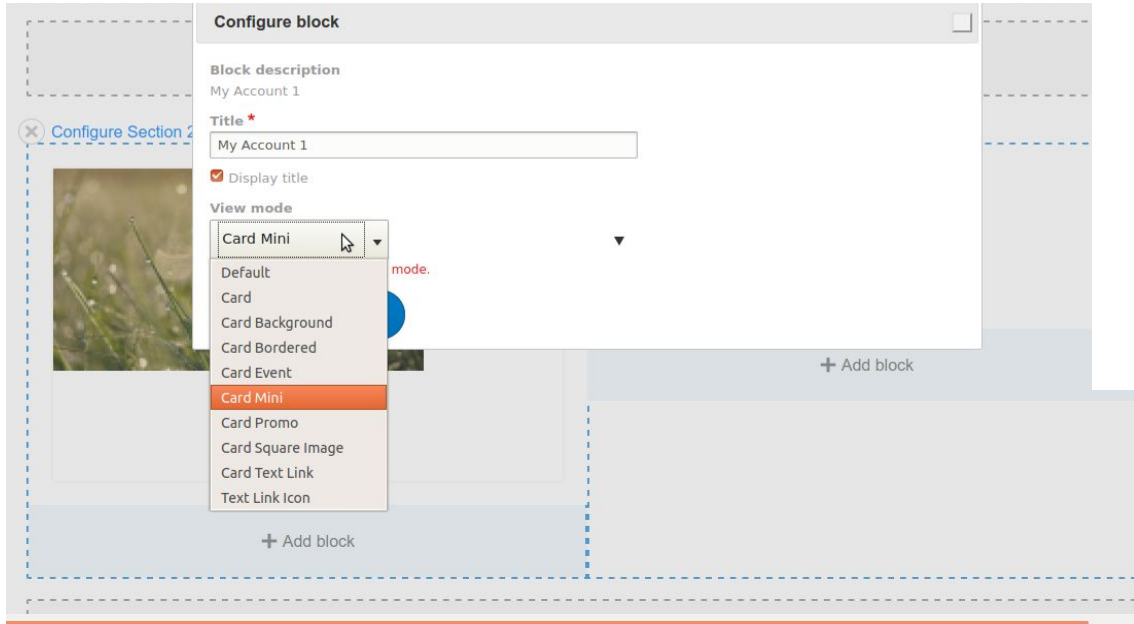
Flexible number and other options

Link Group: 4 Detailed Links with Images	4_cta_text_blocks
Link Group: 4 with Images	link_group_4_with_images
Link Group: 4 with Images and Subtitles	link_group_4_plus_with_images
Link Group: 8 with Images	link_group_8_with_images
Link Group: Image Links with Paragraph	2_images_cta_content

want to avoid this

“Flexible” Blocks

“Card” blocks



Configure block

Block description
My Account 1

Title *
My Account 1

Display title

View mode

- Card Mini
- Default
- Card
- Card Background
- Card Bordered
- Card Event
- Card Mini
- Card Promo
- Card Square Image
- Card Text Link
- Text Link Icon

+ Add block



“Flexible” Blocks

“Group” blocks

Title *

The title of the block as shown to the user.

Display title

Group Display *

Column Row - 3 ▼

Section Background Style *

None ▼

Item Display *

Card ▼

Content Source *

Manual Inline ▼

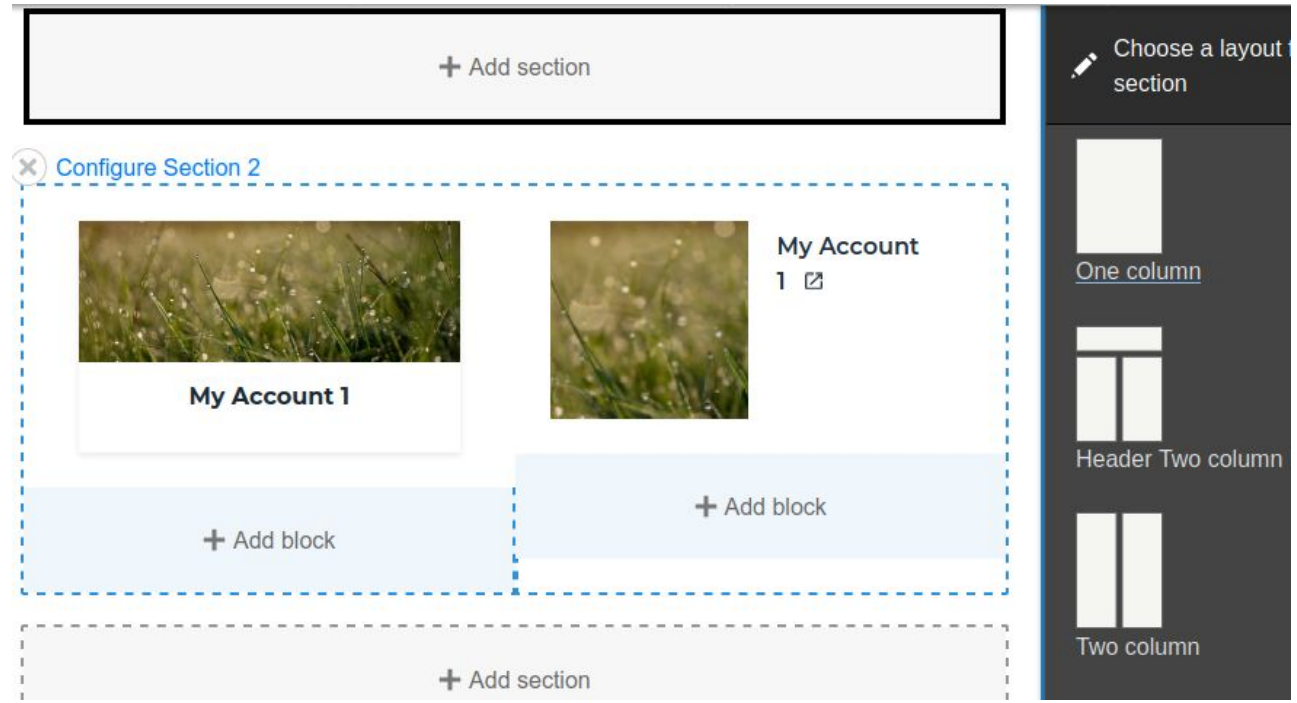
MANUAL INLINE CONTENT

Add new Inline Content
Add existing Inline Content



“Flexible” Layouts

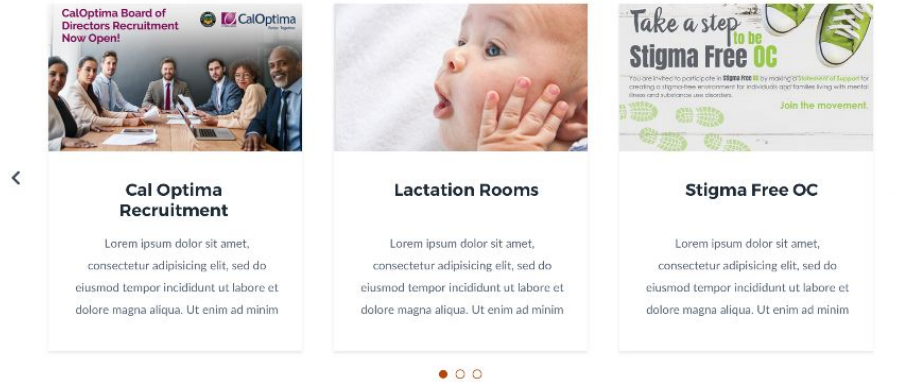
Combine with Layout Builder



The screenshot displays a layout builder interface. At the top, a grey bar contains a '+ Add section' button. Below it, a dashed blue box labeled 'Configure Section 2' contains two columns. The left column features a grass image and a 'My Account 1' block. The right column features a similar grass image and a 'My Account 1' block with a link icon. Below these columns are two light blue bars, each with a '+ Add block' button. At the bottom, another grey bar contains a '+ Add section' button. On the right side, a dark grey panel titled 'Choose a layout section' offers three layout options: 'One column' (a single vertical rectangle), 'Header Two column' (a header bar above two vertical rectangles), and 'Two column' (two vertical rectangles side-by-side).

Challenges

- Naming things is hard

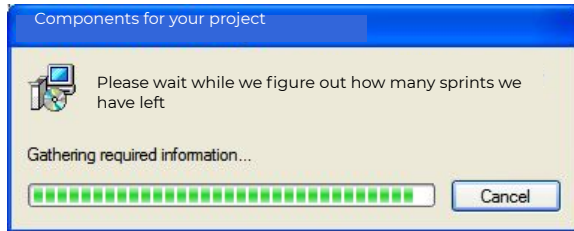


- What is this?
 - Carousel?
 - JS Library?
 - 3 card?
 - Block? Paragraph?



Challenges

- Things in Storybook are not “exactly” the same as CMS
 - Card widths and javascript myths
- Learning curve for Storybook.js
- Learning curve for templating components
- Weird velocity



Challenges

- “Globals”
- Not everything “fits”
 - It is OK to cheat
- User Interface
 - Naming things again
 - State of Layout Builder
- Multiple teams
 - Are we working on the same thing?

Title *

The title of the block as shown to the user.

Display title

Group Display *

Column Row - 3 ▼

Section Background Style *

None ▼

Item Display *

Card ▼

Content Source *

Manual Inline ▼

MANUAL INLINE CONTENT

Add new Inline Content

Add existing Inline Content

Recommended

- Design “champion”
 - Create similar components across projects
- Dev “champion”
 - Owns component library tooling
- Similarity across projects



Next Steps

- More examples of templating in Drupal
- More use cases
- Sharing reusable blocks
- Distribution or example site