DrupalCon 2025

Paragraphs and Single Directory Components: A Dynamic Duo

Michele Smolensky

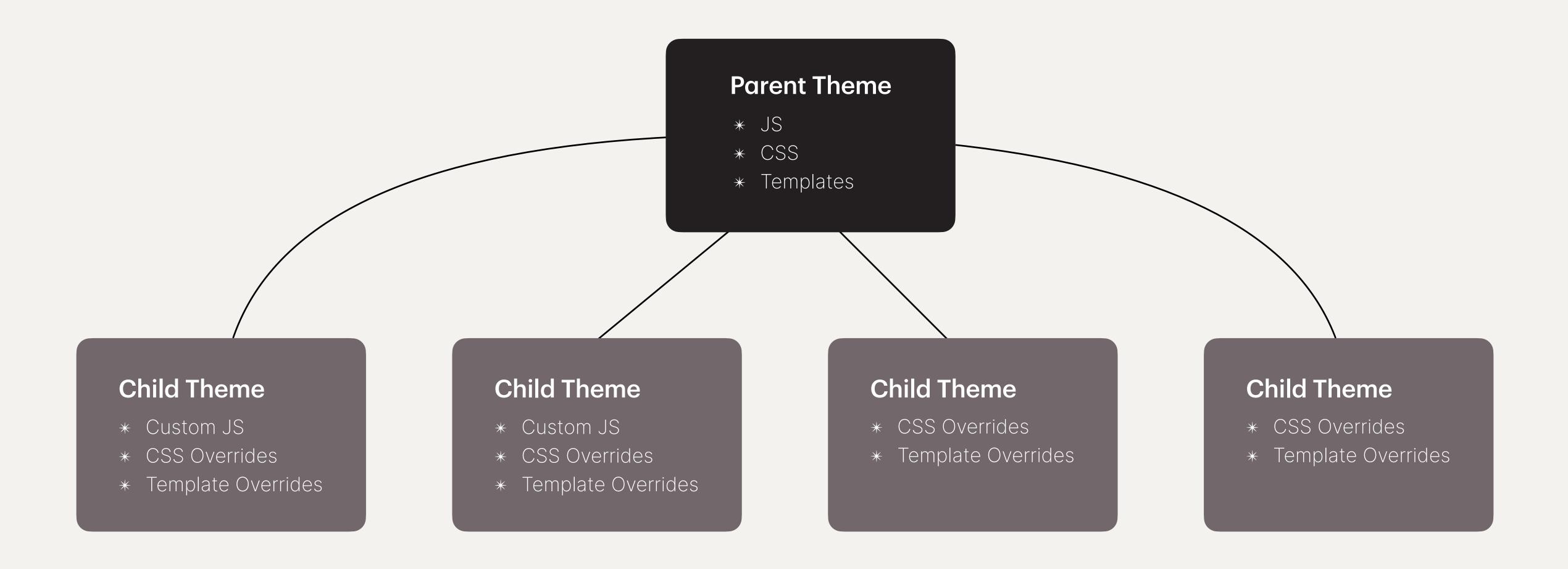
Lead Developer @ Chromatic

Märt Matsoo

Senior Developer @ Chromatic



Project Rundown



Pros of the Approach

1.	Reduced maintenance costs & upkeep
2.	Reusable components for editors via Paragraphs
3.	Scalable, reliable, and stable
4.	Shared config for all child sites



Cons of the Approach

- 1. Scalability still an issue
- 2. Doesn't go far enough to reduce maintenance costs
- 3. Lack of an ethos/standards to the coding
- 4. Difficult to manage which Paragraphs had styles (or not) from site to site.
- 5. No easy way to preview components



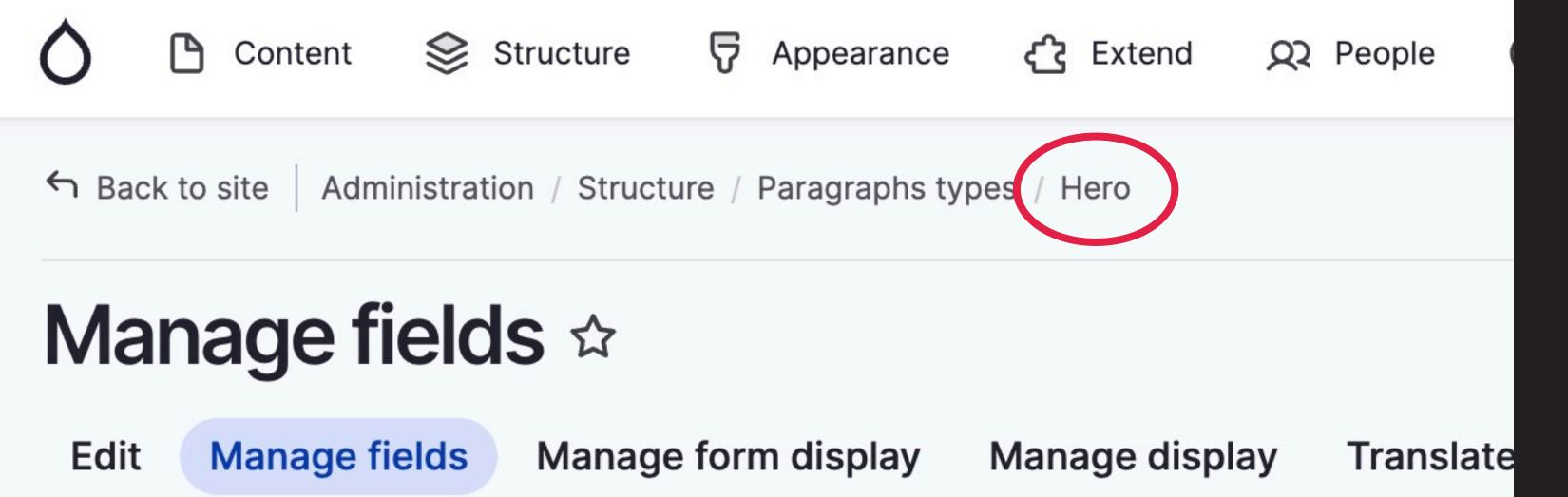
Effort & Investment

	Task	Effort
1	Discovery & Protoyping	L
2	Designs	M
3	Update Paragraphs	XL
4	Consolidating Templates	M
5	SCSS to CSS Transition	XXXL
6	Component Library	XL
7	QA	XXXL
	Total	\$\$\$\$



Technical Details

Paragraphs Module



Label Machine name Component Links field_component_links CTA field_cta Description field_description

field_eyebrow

Eyebrow

<u>—</u> мепи Search Q

Your new mental health benefit

Modern Health covers the full spectrum of your mental wellbeing needs.

Learn more







Health and wellness









Free money in your HSA

We contribute to your Health Savings Account.

→ Learn more

Embrace wellness, get money back

Get reimbursed up to \$1,000 a year for wellness-related expenses.

Learn more

Life is a journey

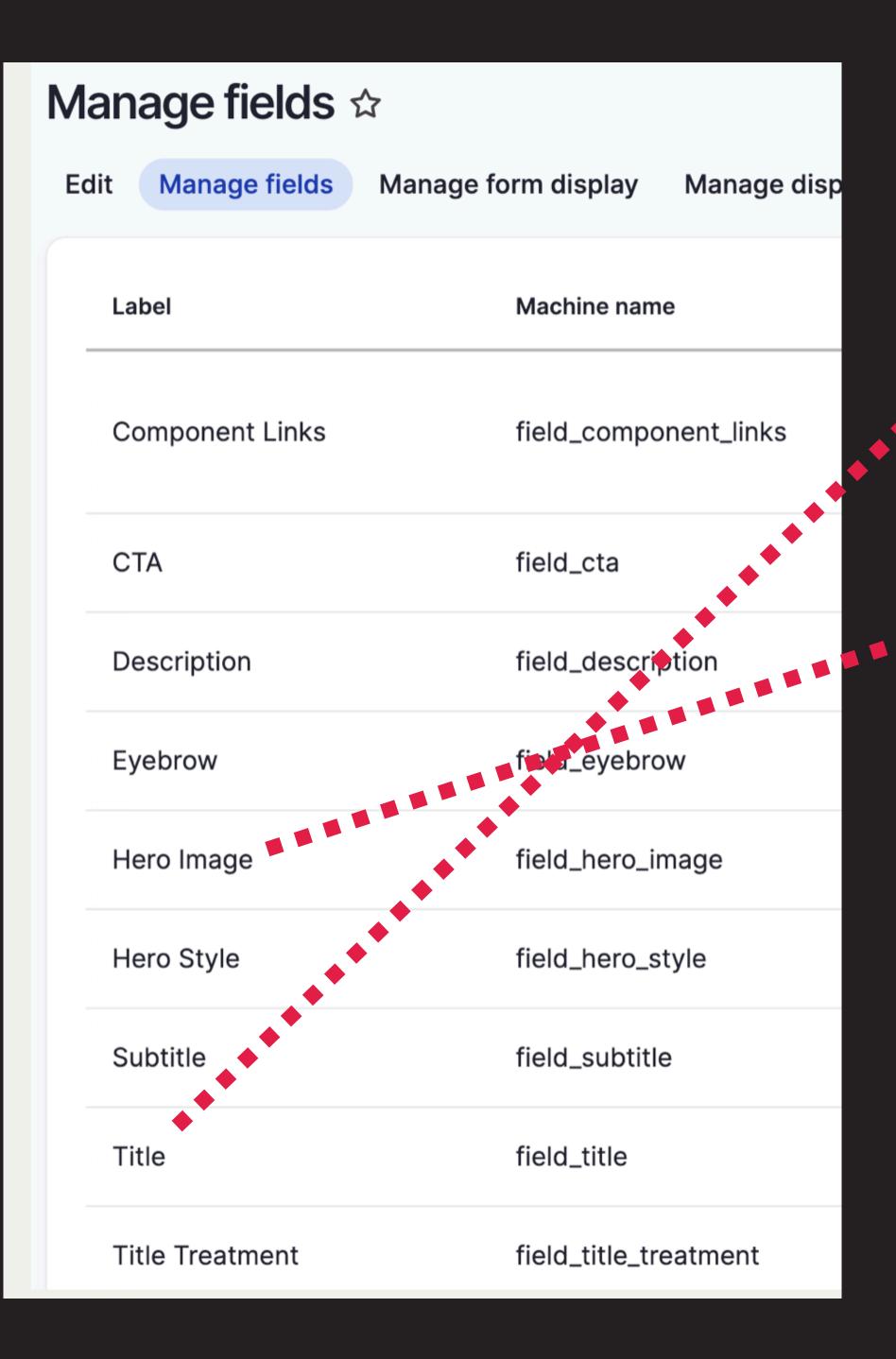
Benefits can support you every step of the way.

Learn more









Menu

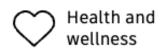
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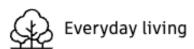














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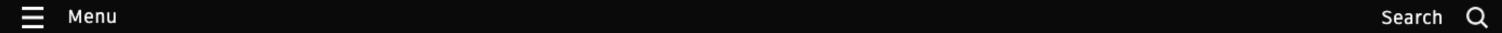
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→ Learn more









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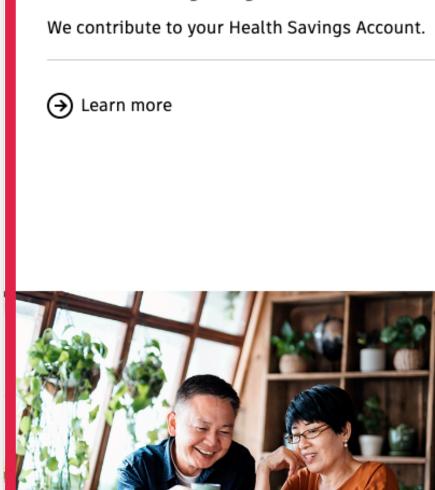


Life is a journey

Benefits can support you every step of the way.

Learn more





Single Directory Components

What is an SDC?

Rendered welcome component

Welcome to the SDC Library!

Have fun playing with the SDC Library!

Enumerated list example (using colors)

blue

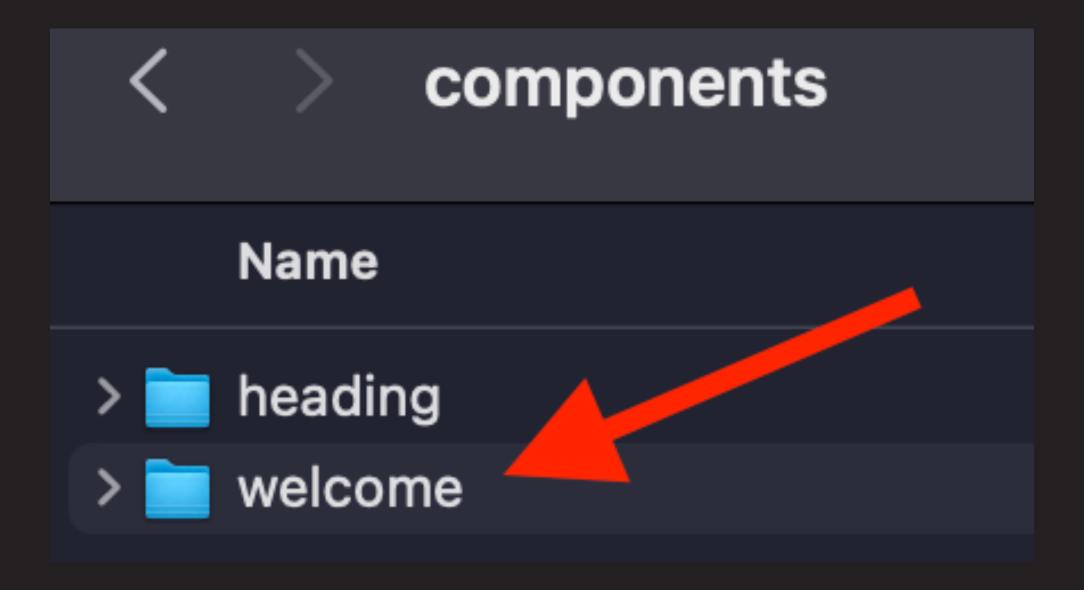
Integer example

3

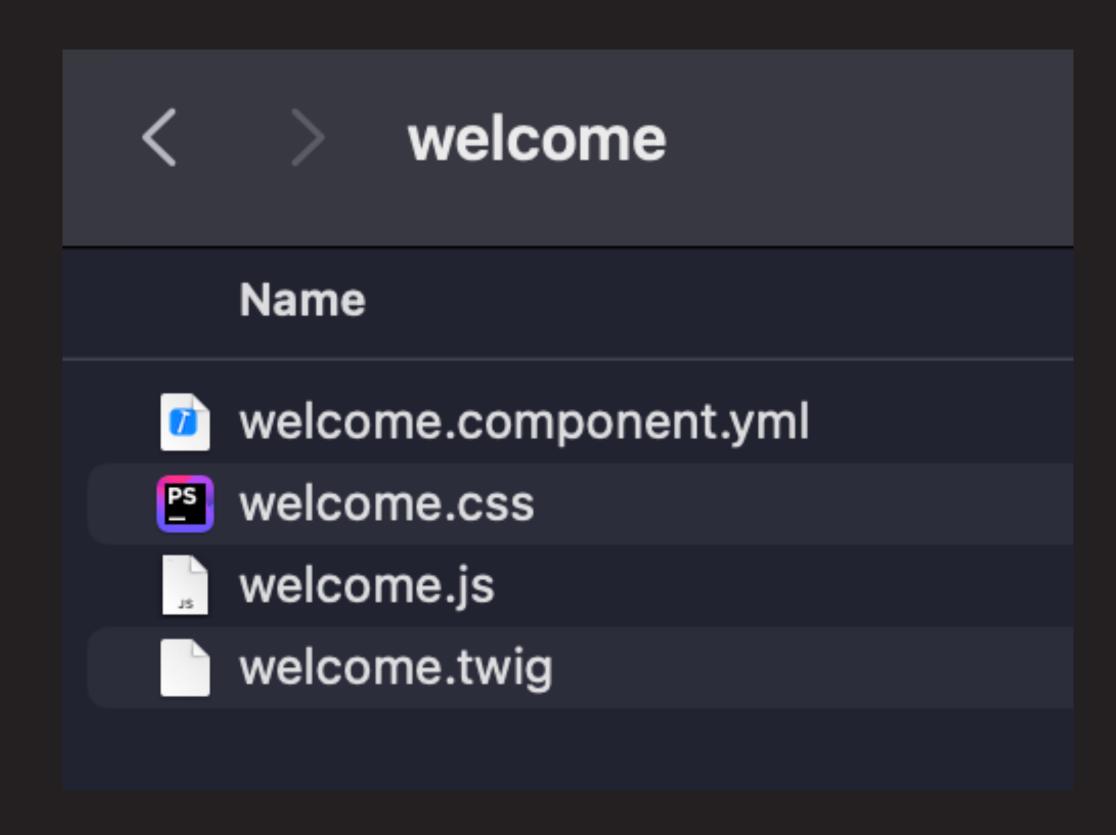
A theme called "Benzy"

benzy.breakpoints.yml benzy.info.yml benzy.libraries.yml benzy.theme components CSS images > **i** js libraries node_modules README.md scss styles templates

The "Benzy" theme's "components" folder



The "welcome" component



welcome.component.yml

```
1 $schema:
    https://git.drupalcode.org/project/drupal/-/raw/10.1.x/core/modules/sdc/src/metadata.schema.json
  2 name: Welcome
  3 group: sdc_library
  4 description: A component welcoming the user to the SDC Library.
  5 status: stable
  6 props:
     type: object
     required:
       - blurb
 10
      properties:
       blurb:
 11
 12
         type: string
 13
         title: Blurb
 14
          description: An optional blurb.
          default: Have fun playing with the SDC Library!
 15
        welcome_enum_example:
 16
 17
          type: string
          title: Welcome component enumerated list example
 18
 19
          description: Errors if a value outside of the list is used.
          enum: ['blue', 'black', 'white']
 20
          default: blue
 21
```

Props and Slots

welcome.component.yml

```
1 $schema:
    https://git.drupalcode.org/project/drupal/-/raw/10.1.x/core/modules/sdc/src/metadata.schema.json
  2 name: Welcome
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          type: string
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          enum: ['blue', 'black', 'white']
 20
 21
          default: blue
```

welcome.component.yml

```
1 $schema:
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  4 description: A component welcoming the user to the SDC Library.
  5 status: stable
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 17
          type: string
          title: Welcome component enumerated list example
 18
         description: Errors if a value outside of the list is used.
 19
          enum: ['blue', 'black', 'white']
 20
 21
         оетаиіт: ріше
```

welcome.component.yml pt.2

```
welcome_integer_example:
         type: integer
         title: Welcome component integer
          description: This is an example of an integer field in welcome.component.yml.
  5
         default: 3
 6
       welcome_number_example:
         type: number
          title: Welcome component number
 8
          description: This is an example of a number (different from integer) field in
         welcome.component.yml.
 10
 11
         default: 3.141592653589793
       welcome_array_example:
 12
 13
         type: array
          title: Welcome component array
 14
          description: An example of an array field in welcome.component.yml.
 15
         default:
 16
            - Hello
 18
            - Ter
            - Bonjour
 19
```

welcome.component.yml pt.2

```
welcome_integer_example:
          type: integer
          title: Welcome component integer
          description: This is an example of an integer field in welcome.component.yml.
          default: 3
        welcome_number_example:
  6
          type: number
          title: Welcome component number
  8
          description: This is an example of a number (different from integer) field in
  9
          welcome.component.yml.
 10
          default: 3.141592653589793
 11
 12
        welcome_array_example:
 13
          type: array
          title: Welcome component array
 14
 15
          description: An example of an array field in welcome.component.yml.
          default:
 16
            - Hello
 18
            - Ter
            - Bonjour
 19
```

welcome.component.yml

```
1 $schema:
   https://git.drupalcode.org/project/drupal/-/raw/10.1.x/core/modules/sdc/src/metadata.schema.json
 2 name: Welcome
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     type: object
     required:
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     properties:
       blurb:
11
         type: string
         title: Blurb
14
         description: An optional blurb.
          default: Have fun playing with the SDC Library!
 16
      welcome_enum_example:
         type: string
          title: Welcome component enumerated list example
 18
          description: Errors if a value outside of the list is used.
 19
20
          enum: ['blue', 'black', 'white']
          default: blue
```

welcome.twig

```
1 <div class="sdc_library__welcome">
     {% block welcome_header %}
       This header markup lives in welcome.twig.
     {% endblock %}
  5
  6
     <h2>{{ title }}</h2>
     {{ blurb }}
  8
  9
     <h3>String example</h3>
 10
     {{ welcome_string_example }}
 11
 12
     <h3>Enumerated list example (using colors)</h3>
 13
     {{ welcome_enum_example }}
 14
     {% block welcome_footer %}
 15
       This footer markup lives in welcome.twig.
 16
 17 {% endblock %}
 18 </div>
```

welcome.twig

```
1 <div class="sdc_library__welcome">
     {% block welcome_header %}
       This header markup lives in welcome.twig.
     {% endblock %}
 5
     <h2>{{ title }}</h2>
     {{ blurb }}
 8
 9
     <h3>String example</h3>
 10
     {{ welcome_string_example }}
     <h3>Enumerated list example (using colors)</h3>
13
     {{ welcome_enum_example }}
14
15
     {% block welcome_footer %}
       This footer markup lives in welcome.twig.
 16
17 {% endblock %}
 18 </div>
```

Rendered welcome component

Welcome to the SDC Library!

Have fun playing with the SDC Library!

Enumerated list example (using colors)

blue

Integer example

3

welcome.twig, rendered welcome, welcome.component.yml

Welcome to the SDC Library!

Have fun playing with the SDC Library!

Enumerated list example (using colors)

blue

Integer example

3

```
1 $schema:
   https://git.drupalcode.org/project/drupal/-/raw/10.1.x/core/modules/sd
 2 name: Welcome
 3 group: sdc_library
 4 description: A component welcoming the user to the SDC Library.
 5 status: stable
 6 props:
     type: object
     required:
      - blurb
     properties:
       blurb:
         type: string
         title: Blurb
         description: An optional blurb.
         default: Have fun playing with the SDC Library!
      welcome_enum_example:
         type: string
         title: Welcome component enumerated list example
         description: Errors if a value outside of the list is used.
         enum: ['blue', 'black', 'white']
         default: blue
```

welcome.component.yml and welcome.twig

```
welcome_array_example:
12
13
         type: array
         title: Welcome component array
14
         description: An example of an array field in welcome.component.yml.
15
         default:
16
           Hello
17
18
           - Ter
19
           Bonjour
```

```
<h3>Array example</h3>

{% for array_item in welcome_array_example %}
{{ array_item }}
{% endfor %}
```

Rendered welcome component array

Array example

- Hello
- Tere
- Bonjour

Slots

welcome.component.yml

```
57 slots:
    welcome_header:
    title: Welcome header
59
      description: A place for the welcome component header.
60
      examples:
61
62
        - An example of header markup
     welcome_footer:
63
     title: Welcome footer
64
65
      description: A place for the welcome component footer.
      examples:
66
        - Copyright...this year
67
```

welcome.twig

```
1 <div class="sdc_library__welcome">
     {% block welcome_header %}
       This header markup lives in welcome.twig.
     {% endblock %}
     <h2>{{ title }}</h2>
     {{ blurb }}
 8
 9
     <h3>String example</h3>
10
     {{ welcome_string_example }}
     <h3>Enumerated list example (using colors)</h3>
13
     {{ welcome_enum_example }}
14
     {% block welcome_footer %}
15
       This footer markup lives in welcome.twig.
16
     {% endblock %}
 18 </div>
```

Rendered welcome.twig

Welcome to the SDC Library!

Peruse your site components using the SDC Library. You can change text and styles and see the results quickly.

Below are simply examples of various field types that are supported. Reference welcome.component.yml.

String example

A warm welcome string for you to read.

Enumerated list example (using colors)

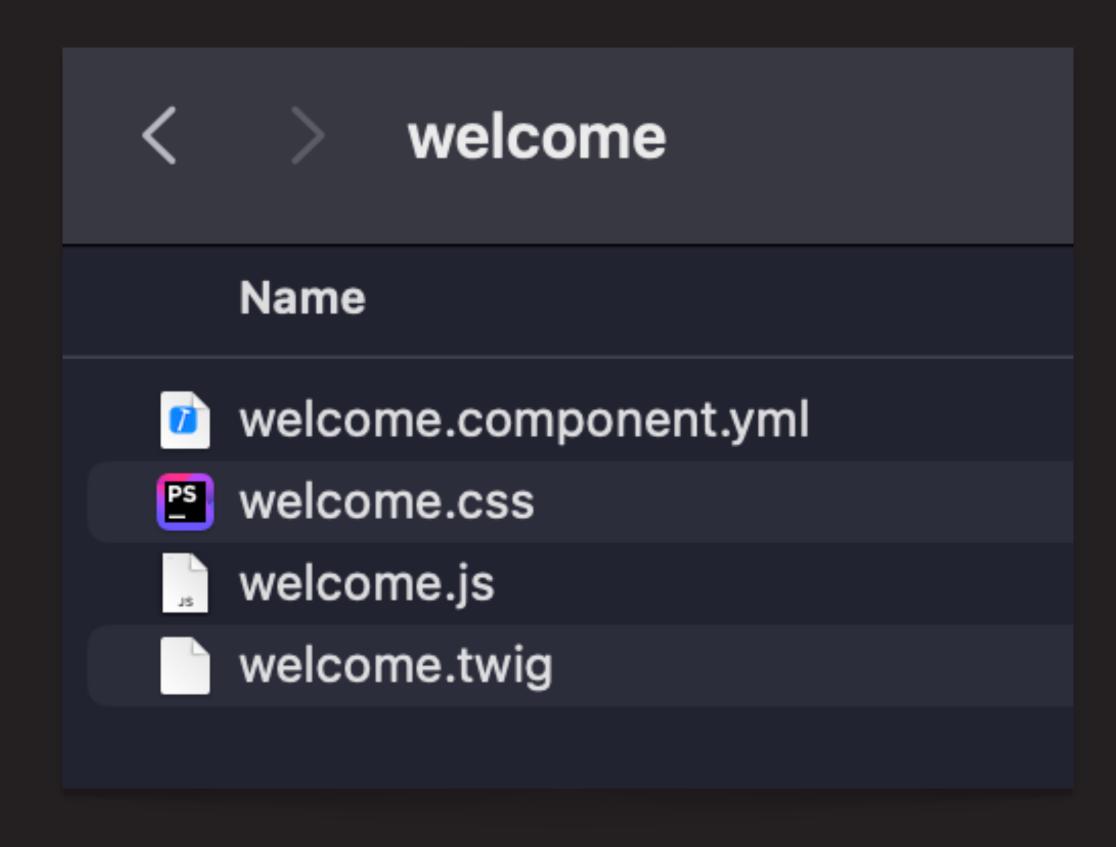
blue

Copyright...this year



Component CSS / JS

Welcome component directory



Rendered welcome component

Welcome to the SDC Library!

Have fun playing with the SDC Library!

String example

A warm welcome string for you to read.

Enumerated list example (using colors)

blue

Integer example

3

welcome.css

```
div { color: black; }

div { color: red; }
```

Welcome to the SDC Library!

Have fun playing with the SDC Library!

String example

A warm welcome string for you to read.

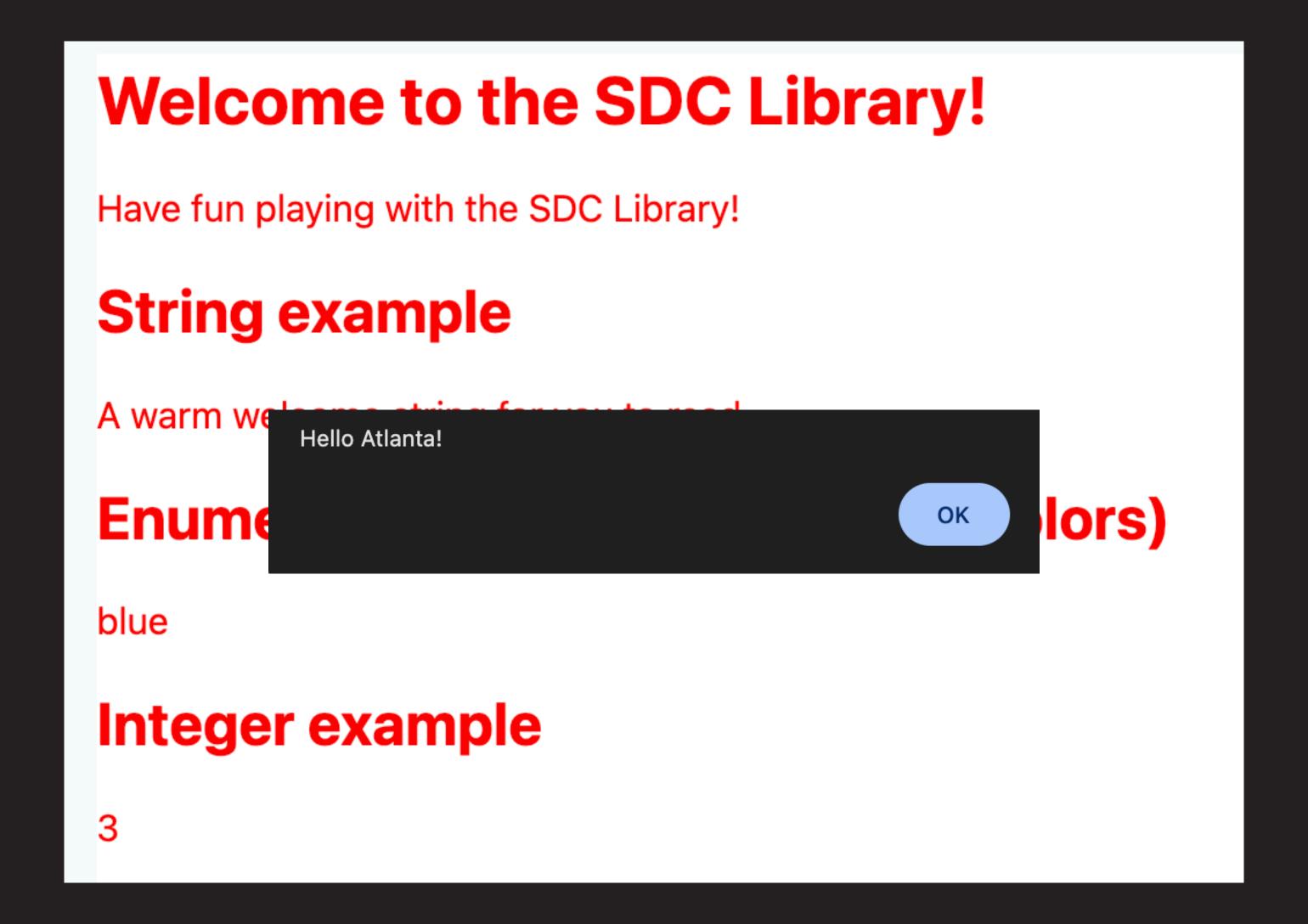
Enumerated list example (using colors)

blue

Integer example

welcome.js

alert('Hello Atlanta!');



Paragraphs & Single Directory Components

Paragraphs + SDC

The "WHY"

- → Paragraphs are already like components—for the site editor experience
- → And SDC are...well...components!

Paragraphs + SDC

The "HOW"

- → Passing Paragraph data as Props
- → Passing Paragraph data as Slots

```
19 name: Hero
20 group: Benzy
21 props:
22 type: object
    properties:
24
      title_treatment:
25
        type: string
26
        title: Title treatment
        description: Default setting is 'Single Title' or 'inline'.
   Translatable and optional.
28
        enum:
          - width--inline
          - width--new-row
31
32
        default: ''
33
      variant:
        type: string
34
35
        title: Hero Variant
36
        description: Default setting is 'primary'. Translatable.
37
        default: primary
38
        enum:
          - primary
39
40
          secondary
41 slots:
    background_image:
43
      title: Background Image
      description: Optional and translatable field.
44
    cta_link:
45
      title: Link
46
      description: Field to be deprecated in favor of component links.
47
    description:
48
      title: Description
49
50
      description: Translatable and optional.
51
     image:
52
      title: Hero Image
53
      description: Optional and translatable field.
54
    links:
55
      title: Component Links
      description: 'List of links'
57 title:
      title: Titl
58
59
      description: Translatable and optional.
60
    subtitle:
      title: Subtitle
61
      description: Translatable and optional secondary title.
62
63
```

	41 Stots:
19 name: Hero 20 group: Benzy 21 props: 22 type: object 23 properties: 24 title_treatment: 25 type: string 26 title: Title treatment 27 description: Default setting is 'Single Title' or 'inline'.	<pre>background_image: title: Background Image description: Optional and translatable for title: Link description: Field to be deprecated in for description: title: Description description: Translatable and optional</pre>
Translatable and optional. enum: - widthinline - widthnew-row	<pre>50 description: Translatable and optional. 51 image: 52 title: Hero Image 53 description: Optional and translatable for the second contract of the second c</pre>
default: '' variant: type: string title: Hero Variant description: Default setting is 'primary'. Translatable. default: primary enum: primary primary	links: title: Component Links description: 'List of links' title: title: Titl description: Translatable and optional. subtitle:
40 - secondary	61 title: Subtitle 62 description: Translatable and optional se 63

hero.twig

```
19 <div{{ attributes.addClass(classes) }}>
     <div class="hero">
        {# If background image variable exists, add a wrapper class and a
   duplicate image. #}
        {% if enable_image_wrapper %}
 23
          <div class="hero__image-container">
       {% endif %}
 24
        {% block background_image %}
 25
          <div class="hero__bg-container">
 26
            {{ background_image }}
 27
 28
          </div>
 29
        {% endblock %}
 30
        {% block image %}{% endblock %}
 31
        {% if enable_image_wrapper %}
 32
          </div>
 33
        {% endif %}
        <div class="hero__container benz-container">
 34
 35
        <div class="hero__overlay"></div>
 36
          <div class="hero__text-container">
            {% block eyebrow %}{% endblock %}
 37
            {% block title %}{% endblock %}
 38
            <div class="hero__pattern"></div>
 39
            {% block description %}{% endblock %}
 40
 41
            {% block cta_link %}{% endblock %}
            {% block links %}{% endblock %}
 42
 43
          </div>
       </div>
 44
     </div>
 45
 46 </div>
```

hero.twig

```
19 <div{{ attributes.addClass(classes) }}>
     <div class="hero">
20
21
       {# If background image variable exists, add a wr
   duplicate image. #}
       {% if enable_image_wrapper %}
22
23
         <div class="hero__image-container">
       {% endif %}
24
       {% block background_image %}
25
26
         <div class="hero__bg-container">
27
           {{ background_image }}
         </div>
28
       {% endblock %}
29
       {% block image %}{% endblock %}
30
       {% if enable_image_wrapper %}
31
         </div>
32
33
       {% endif %}
       <div class="hero__container benz-container">
34
35
       <div class="hero__overlay"></div>
36
         <div class="hero__text-container">
           {% block eyebrow %}{% endblock %}
37
           {% block title %}{% endblock %}
38
           <div class="hero__pattern"></div>
39
40
           {% block description %}{% endblock %}
41
           {% block cta_link %}{% endblock %}
           {% block links %}{% endblock %}
42
   </div>
43
44
   </div>
45 </div>
46 </div>
```

hero.css

```
28 .hero {
      --hero-display: block;
 29
     --hero-position: relative;
 30
      --hero-flex-flow: unset;
31
      --hero-align-items: initial;
 32
 33
      --hero-justify-content: initial;
      --hero-width: 100%;
34
      --hero-max-width: inherit;
 36
     --hero-height: initial;
      --hero-min-height: initial;
37
 38
      --hero-margin: initial;
      --hero-padding: initial;
 39
     --hero-overflow: hidden;
 40
      --hero-border-radius: initial;
 41
      --hero-background: transparent;
 42
      --hero-color: initial;
 43
44
 45
     display: var(--hero-display);
 46
     position: var(--hero-position);
      flex-flow: var(--hero-flex-flow);
 47
     align-items: var(--hero-align-items);
 48
      justify-content: var(--hero-justify-content);
 49
     width: var(--hero-width);
 50
 51
      max-width: var(--hero-max-width);
 52
     height: var(--hero-height);
 53
     min-height: var(--hero-min-height);
 54
     margin: var(--hero-margin);
 55
     padding: var(--hero-padding);
     overflow: var(--hero-overflow);
     border-radius: var(--hero-border-radius);
      background: var(--hero-background);
 58
     color: var(--hero-color);
59
60 }
 61
 62 .hero::after {
   --hero-after-content: none;
```

paragraph—hero.html.twig

```
19 {% block paragraph %}
      {% embed 'benzy:hero' with {
 20
        hero_style: hero_style,
 21
        title_treatment: title_treatment ? 'width--' ~ title_treatment : '',
 22
 23
        enable_image_wrapper: content.enable_image_wrapper
        } %}
 24
 25
        {% block background_image %}{{ content.background_hero_image }}{%
    endblock %}
        {% block image %}{{ content.field_hero_image }}{% endblock %}
 26
        {% block content %}
 27
 28
          {% block eyebrow %}{{ content.field_eyebrow }}{% endblock %}
          {% block title %}{{ hero_title ?: content.field_title }}{% endblock
 29
   %}
          {% block description %}{{ content.field_description }}{% endblock %}
 30
          {% block cta_link %}{{ content.field_cta }}{% endblock %}
 31
          {% block links %}{{ content.field_component_links }}{% endblock %}
        {% endblock %
 33
      {% endembed %}
 34
 35 {% endblock paragraph %}
```

CSS Variables

Parent-theme/components/hero/hero.css

```
1 .paragraph--type--hero {
     --paragraph-hero-position: initial;
      --paragraph-hero-max-width: initial;
      --paragraph-hero-margin: initial;
     --paragraph-hero-padding: initial;
     --paragraph-hero-overflow: initial;
      --paragraph-hero-background: initial;
     --paragraph-hero-border-radius: 0;
  8
  9
 10
      position: var(--paragraph-hero-position);
     max-width: var(--paragraph-hero-max-width);
 11
     margin: var(--paragraph-hero-margin);
 12
 13
      padding: var(--paragraph-hero-padding);
      overflow: var(--paragraph-hero-overflow);
 14
      backgroun: var(--paragraph-hero-background);
      border-radius: var(--paragraph-hero-border-
 17 }adius);
```

[child-theme]/styles/hero.css

```
1 .paragraph--type--hero {
     --paragraph-hero-position: relative;
     --paragraph-hero-max-width: 1600px;
     --paragraph-hero-margin: 24px auto 0;
     --paragraph-hero-overflow: hidden;
     --paragraph-hero-background: var(--brand-
 7 beige);
 8
  @media screen and (min-width: 1600px) {
10
     .paragraph--type--hero {
11
       --paragraph-hero-border-radius: 24px;
12
13 }
```

```
1 .paragraph--type--hero {
    --paragraph-hero-padding: 30px 20px 50px;
    --paragraph-hero-background:
       url('../../../sites/brand-2/themes/brand-2/images/b
   auto 169px no-repeat,
    linear-gradient(to bottom, var(--base-white) 0, var(--base-
    150px) center top / auto no-repeat,
    var(--brand-2-black);
  9 @media screen and (min-width: 768px) {
      .paragraph--type--hero {
       --paragraph-hero-padding: 50px 0;
       --paragraph-hero-background: url('../../../../sites/bi
    tablet.svg') center 58px / auto 225px no-repeat,
         linear-gradient(to bottom, var(--base-white) 0, var(--l
   200px) center top / auto no-repeat,
         var(--brand-2-black);
 14
 15
 16 }
```

[child-theme]/child-theme.info.yml

```
12 ...
13 libraries-extend:
14 core/components.benzy--hero:
15 - child-theme/hero
```

CSS over SCSS

Why sunset SCSS?

- → Modern CSS has improved a lot since SCSS was created.
- → No need for a compiler or watcher
- > FE Devs no longer reinventing the wheel
- → Using SDC, we can load CSS as needed.

Drupal-Native Component Library

Module: sdc_library

- Heading
- Welcome

Module: benz_core

Button

Theme: benzy

- Accordion Container
- Back to top Link
- Column content
- Column content container
- Component Link
- Custom Promo
- Fixed Tile
- Fixed Tile Alternate
- Fixed Tile container
- Flex Card Container
- Flip card container
- Hero
- Highlighted Aside
- Masonry card
- Masonry cards container
- Promo
- Questions
- Related Content
- Ribbon

sdc_library:welcome

An example of header markup

Welcome to the SDC Library!

Peruse your site components using the SDC Library. You can change text and styles and see the results quickly.

Below are simply examples of various field types that are supported. Reference welcome.component.yml.

String example

A warm welcome string for you to read.

 \vee

Enumerated list example (using colors)

hlua

Change theme

autodesk

Update component

Props

Module: sdc_library

- Heading
- Welcome

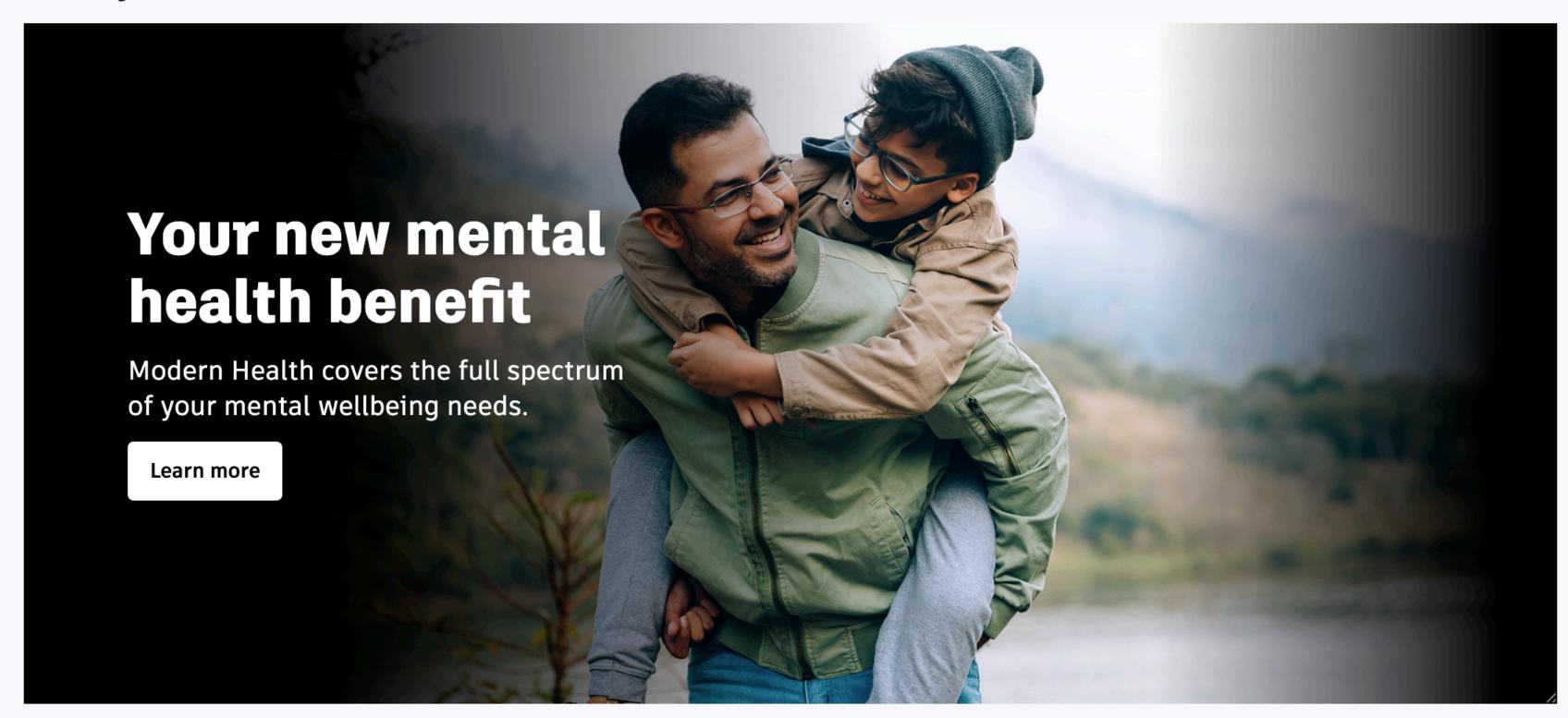
Module: benz_core

• Button

Theme: benzy

- Accordion Container
- Back to top Link
- Column content
- Column content container
- Component Link
- Custom Promo
- Fixed Tile
- Fixed Tile Alternate
- Fixed Tile container
- Flex Card Container
- Flip card container
- Hero
- Highlighted Aside
- Masonry card
- Masonry cards container
- Promo
- Questions
- Related Content
- Ribbon
- Showcase

benzy:hero



Change theme

autodesk ~

Module: sdc_library

- Heading
- Welcome

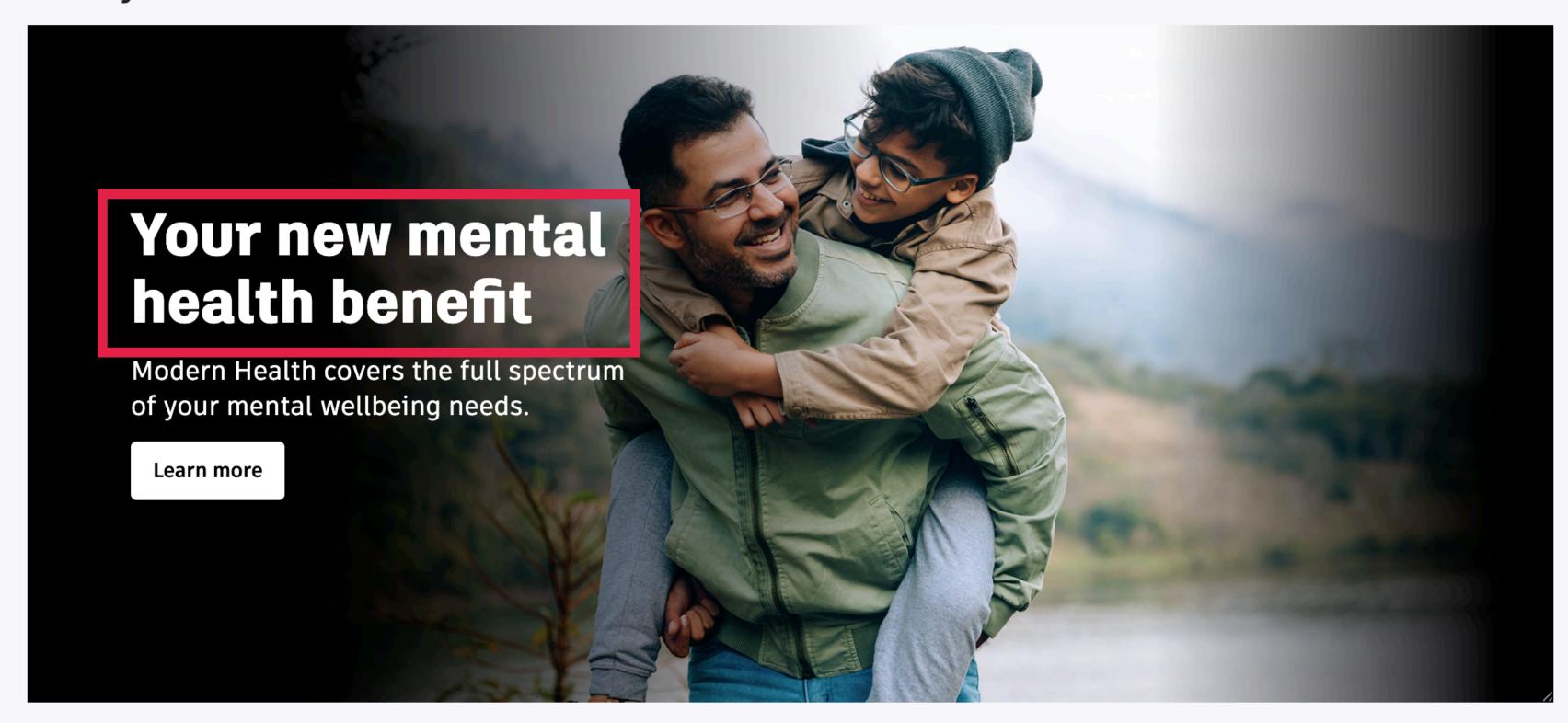
Module: benz_core

• Button

Theme: benzy

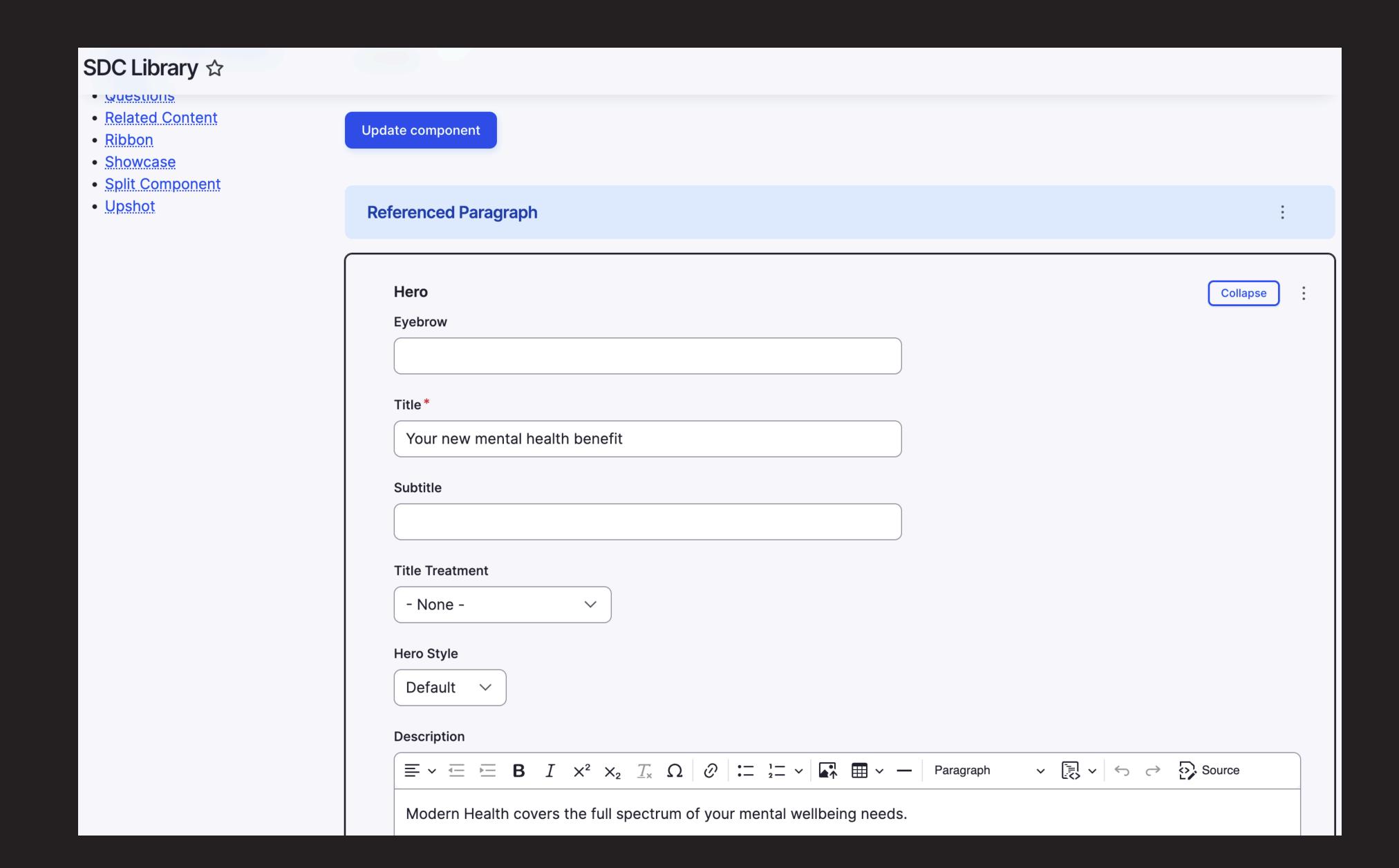
- Accordion Container
- Back to top Link
- Column content
- Column content container
- Component Link
- Custom Promo
- Fixed Tile
- Fixed Tile Alternate
- Fixed Tile container
- Flex Card Container
- Flip card container
- Hero
- Highlighted Aside
- Masonry card
- Masonry cards container
- Promo
- Questions
- Related Content
- Ribbon
- Showcase

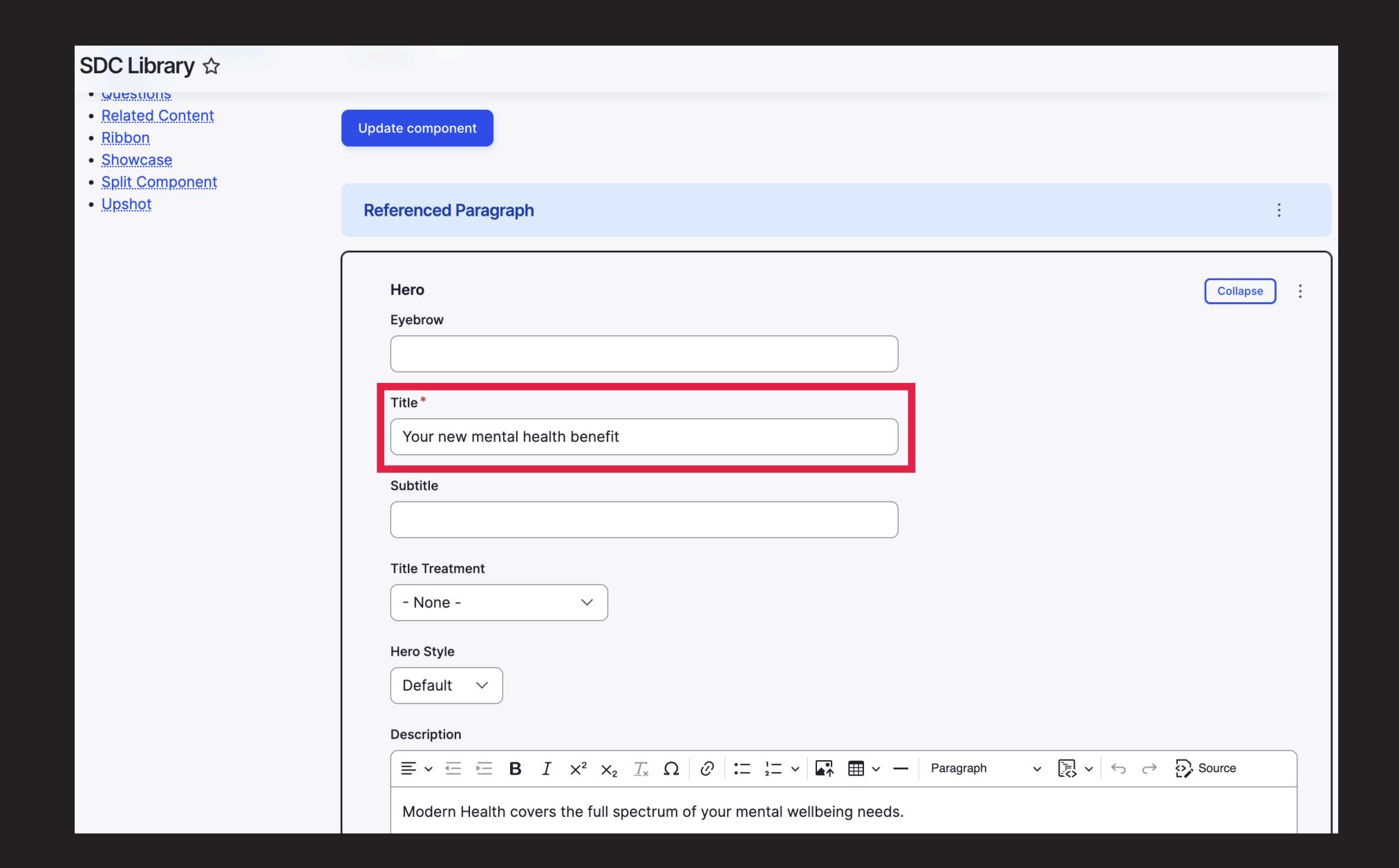
benzy:hero

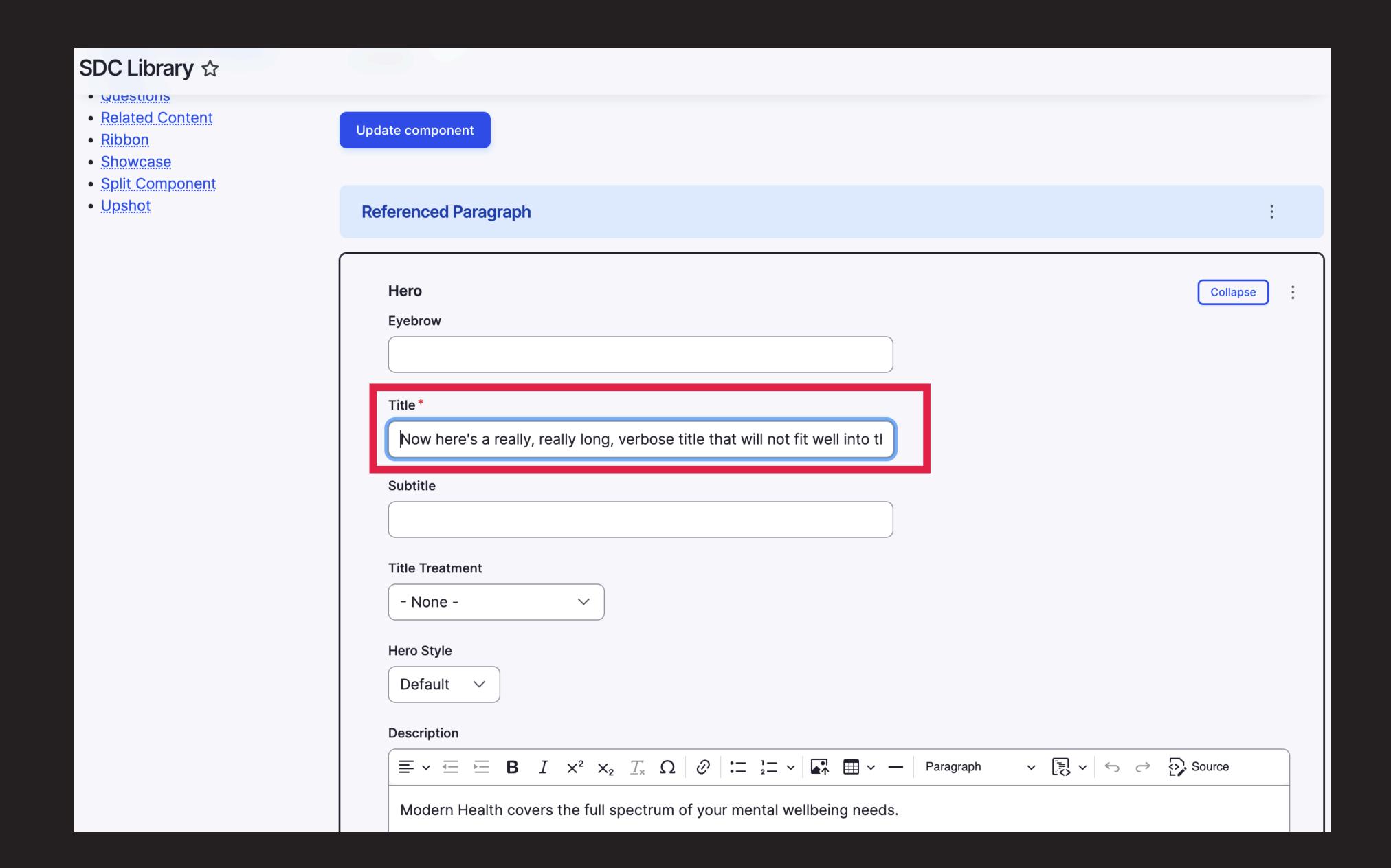


Change theme

autodesk ~







Module: sdc_library

- Heading
- Welcome

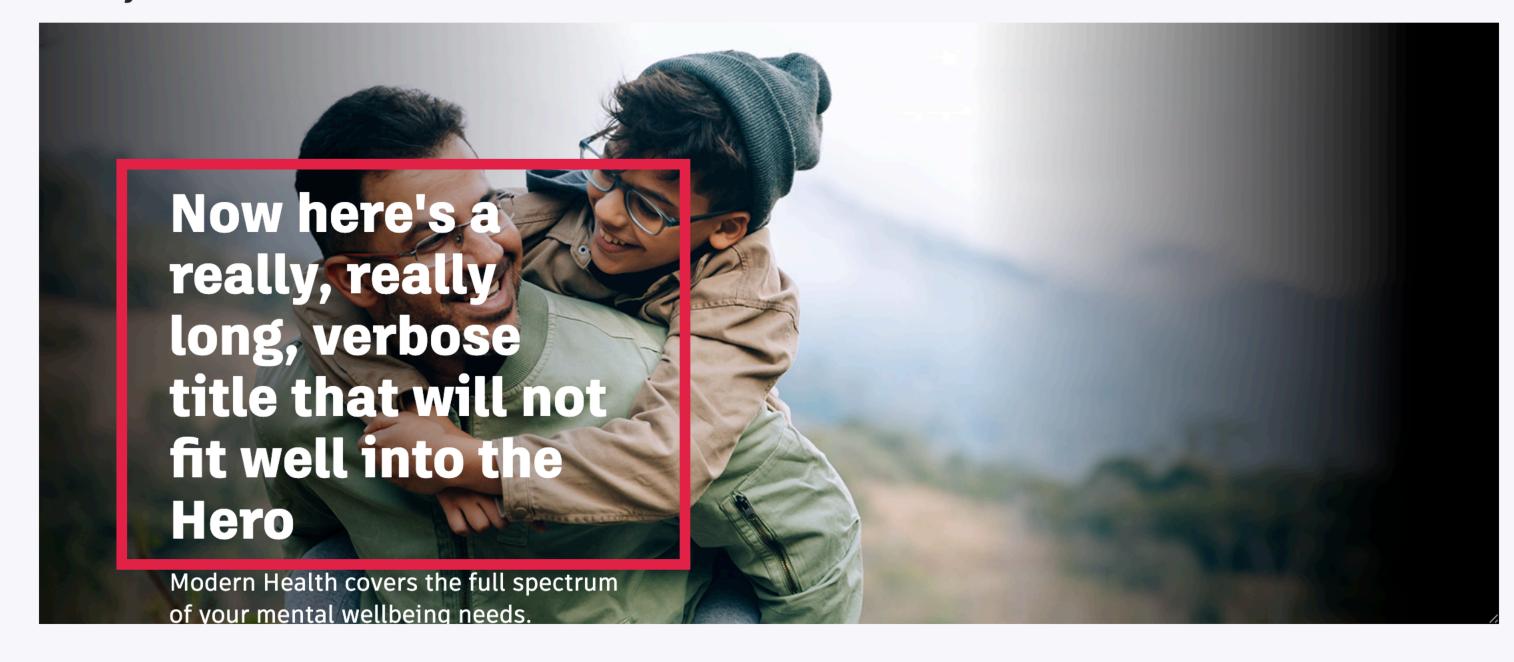
Module: benz_core

Button

Theme: benzy

- Accordion Container
- Back to top Link
- Column content
- Column content container
- Component Link
- Custom Promo
- Fixed Tile
- Fixed Tile Alternate
- Fixed Tile container
- Flex Card Container
- Flip card container
- Hero
- Highlighted Aside
- Masonry card
- Masonry cards container
- Promo
- Questions
- Related Content
- Ribbon
- Showcase
- Split Component

benzy:hero



Change theme



Module: sdc_library

- Heading
- Welcome

Module: benz_core

Button

Theme: benzy

- Accordion Container
- Back to top Link
- Column content
- Column content container
- Component Link
- Custom Promo
- Fixed Tile
- Fixed Tile Alternate
- Fixed Tile container
- Flex Card Container
- Flip card container
- Hero
- Highlighted Aside
- Masonry card
- Masonry cards container
- Promo
- Questions

benzy:hero



Now here's a really, really long, verbose title that will not fit well into the Hero

Modern Health covers the full spectrum of your mental wellbeing needs.

Learn more



Change theme

Benzy

But, Why Not Storybook*?

*We are not part of Chroma Software Inc.

Takeaways

Project Results

Technical Improvements

- → Paragraphs and SDC work great together!
- → Developed 36 new foundational components
- → Reduced client theme templates by 57% and counting
- → Transitioned over 1/3 of styles to pure CSS
- → Reduced amount of CSS that loads per page

Project Results

Workflows

- → Increased alignment between site editors, designers, and developers.
- > Improved new site onboarding process.
- → Improved documentation for available components per site.

Project Results

Component Library

- → SDC Library contrib module
- → SDC Library Paragraphs submodule
- → Actually has been used for its intended purpose!

composer require 'drupal/sdc_library: 1.0@alpha'

Questions?



https://chromatichq.com