Drupal DEVELOPER DAYS

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Introducing UI Patterns

Use atomic components everywhere in Drupal 8

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Our Distributed Team

Nuvole: a **100% Drupal company** with a distributed team in:

Italy

Belgium

Czech Republic

Our Clients

- International organisations and institutions
- They maintain their own style guides and UI component libraries
- We integrate external UI components in Drupal 8
- A good cooperation between frontend and backend developers is crucial

Chapter 1

Atomic Design and Drupal

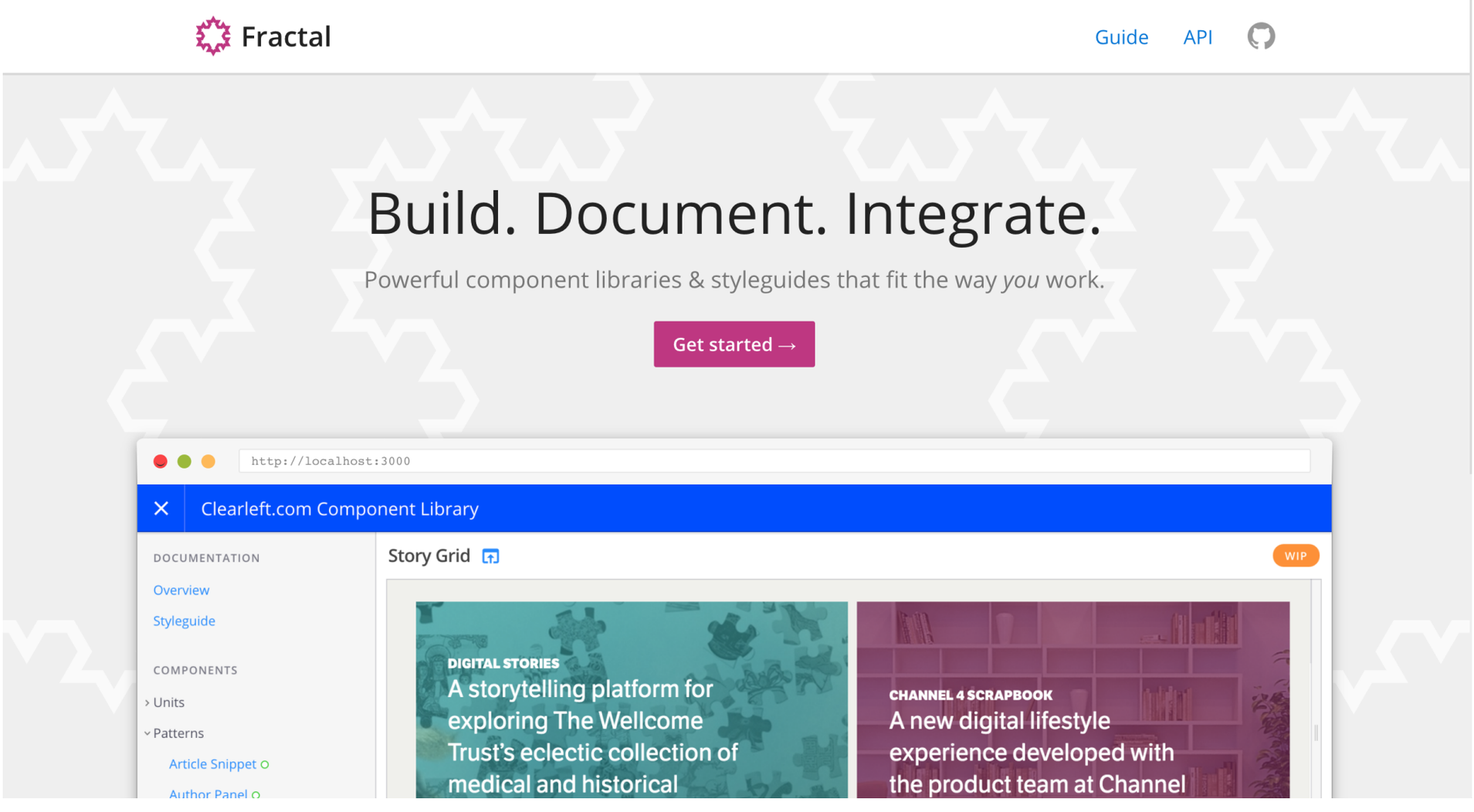
Why Atomic Design?

- It allows to build a consistent and maintainable user interface.
- It creates a living, self-documenting style guide
- It streamlines workflow between frontend and backend developers
- It makes UI components reusable across multiple projects

Popular Component Libraries

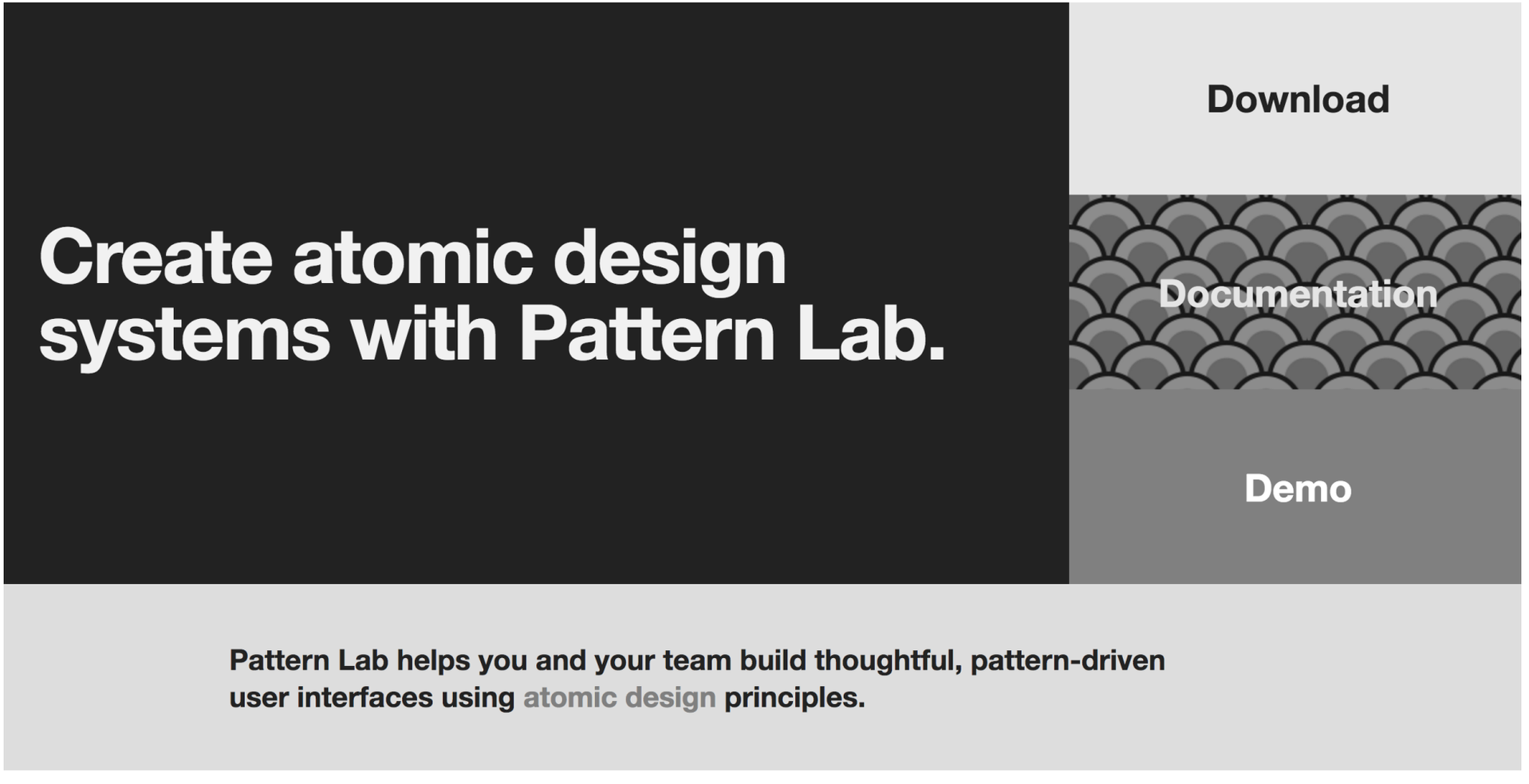
Fractal

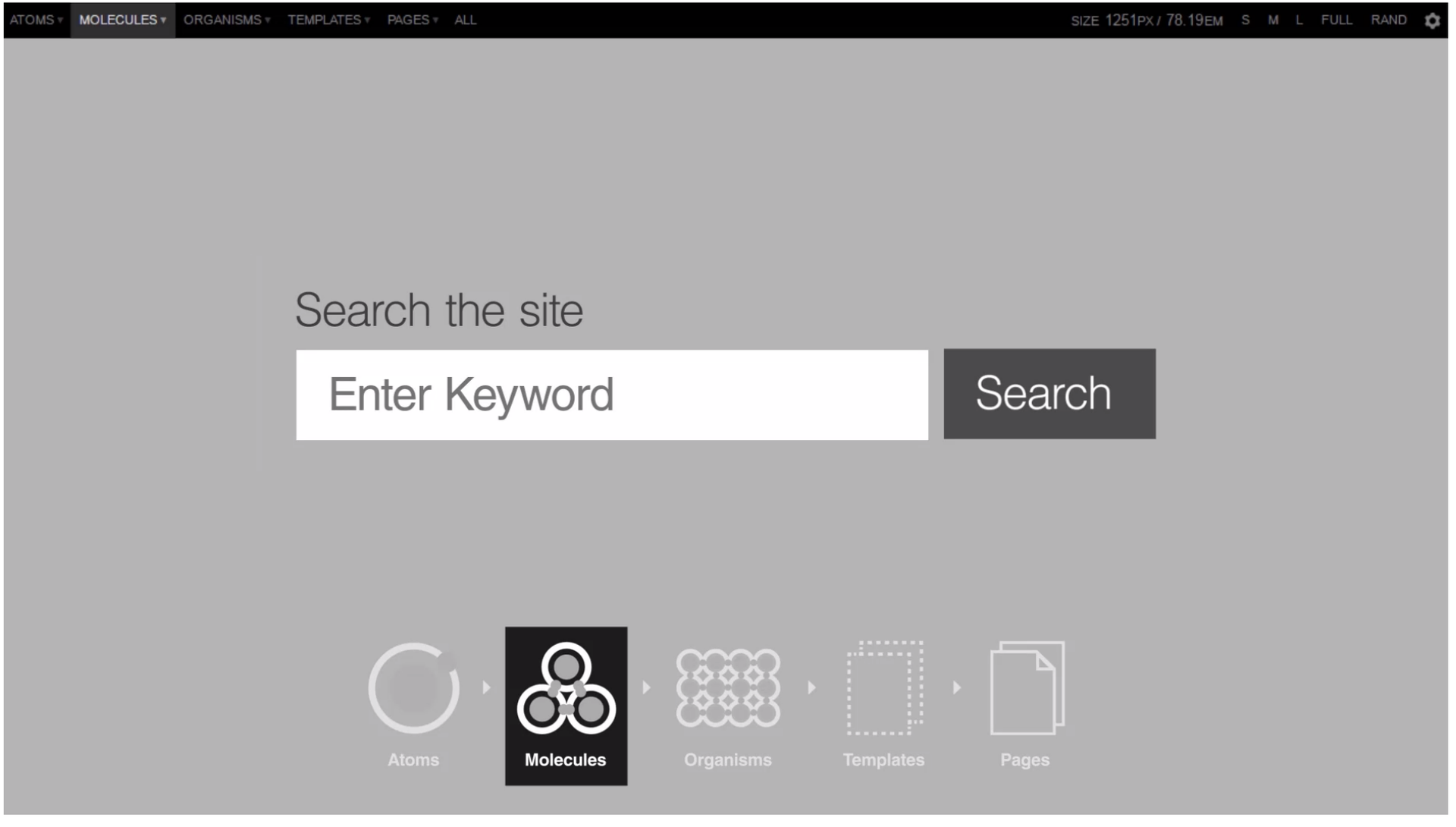
A tool to help you build and document web component libraries,
and then integrate them into your projects.
http://fractal.build



Pattern Lab

Pattern Lab helps you and your team build thoughtful,
pattern-driven user interfaces using atomic design principles.
http://patternlab.io





Source: http://patternlab.io

UI Components and Drupal 8

- **Component Libraries**

  Registers “component libraries” defined by your theme or module as Twig namespaces.

  URL: https://www.drupal.org/project/components
- **Emulsify**

  By integrating with Pattern Lab, Emulsify allows you to build and manage components in a way that makes sense for your workflow.

  URL: http://emulsify.info
- **Minimal StarterKit for Drupal**

  The Minimal StarterKit for Drupal is meant to be used as a near-blank starting point for Drupal-based projects in Pattern Lab.

  URL: https://github.com/pattern-lab/starterkit-twig-drupal-minimal
- **PatternLab Starter**

  A starting place for using the prototyping tool, Pattern Lab, in tandem with a Drupal theme. Can be used standalone as well.

  URL: https://github.com/phase2/pattern-lab-starter

Worth checking out!

- **Theming Components with D8 and Fractal** by Tassilo Gröper
  https://seville2017.drupaldays.org/sessions/theming-components-d8-and-fractal
- **Drupal 8 Component based theming** by Lauri Eskola
  http://slides.com/lauriii/dmc-2017-component-based-theming

`./templates/views-view-fields--articles--page.html.twig`

```
{% embed "@molecules/cards/card.twig"
  with {
    "url": fields.path.content,
    "title": fields.title.content,
    "read_more": "Read more"|t,
    "card_header": fields.created.content,
  }
%}
```

Possible curlpits

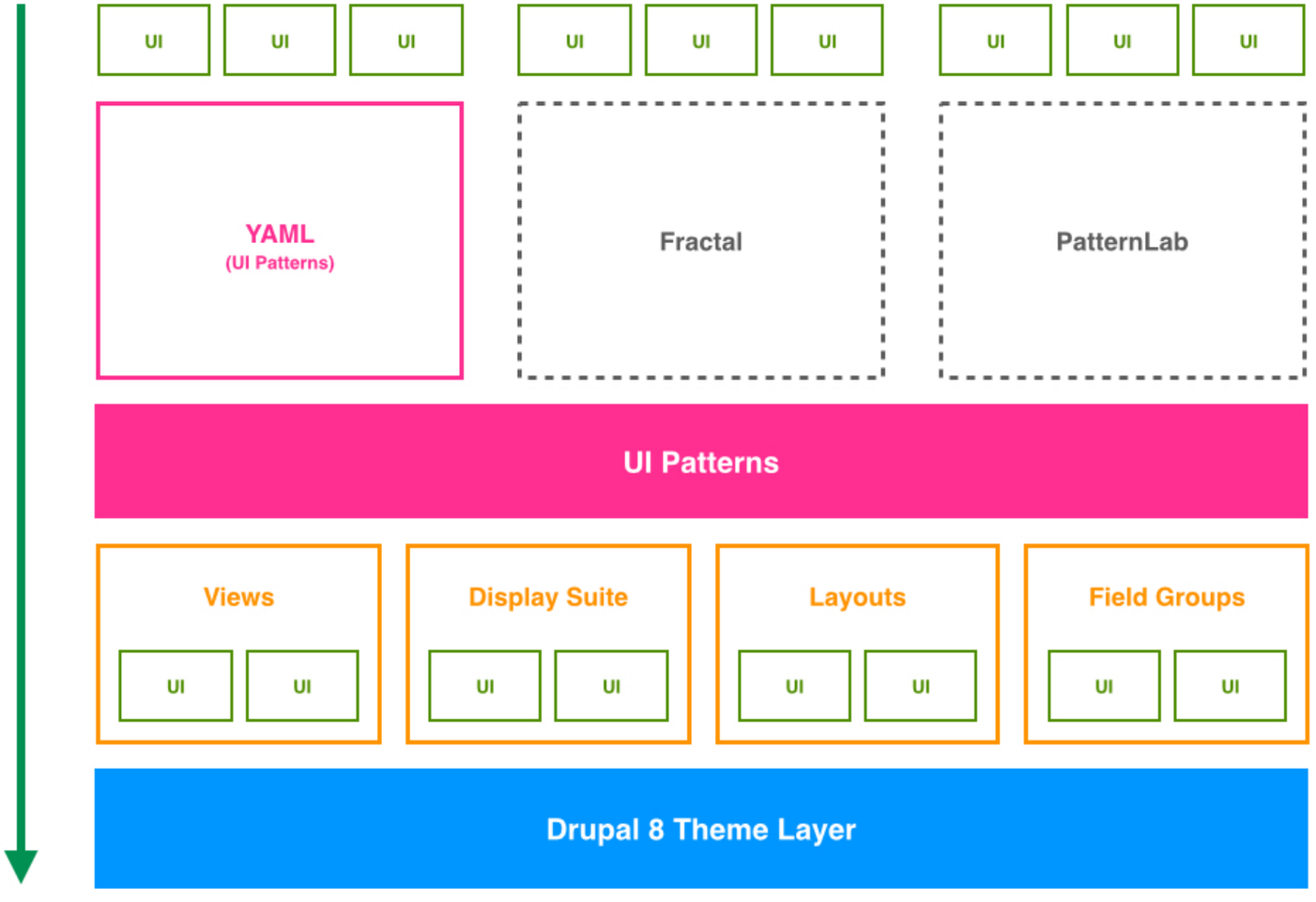
- Re-usability across different Drupal systems
- Component assets loading
- Caching invalidation

Introducing UI Patterns

- It allows developers to define and expose self-contained UI patterns as Drupal 8 plugins.
- It allows site-builders to use patterns as drop-in templates for panels, field groups, views, Display Suite and field templates.
- It generates a pattern library page to be used as self-documenting style guide.
- It allows to take full control of each pattern by leveraging Drupal 8 theme suggestions.

Most importantly

It complements but does not replace existing Drupal 8 solutions, such as Component Libraries, Emulsify, etc.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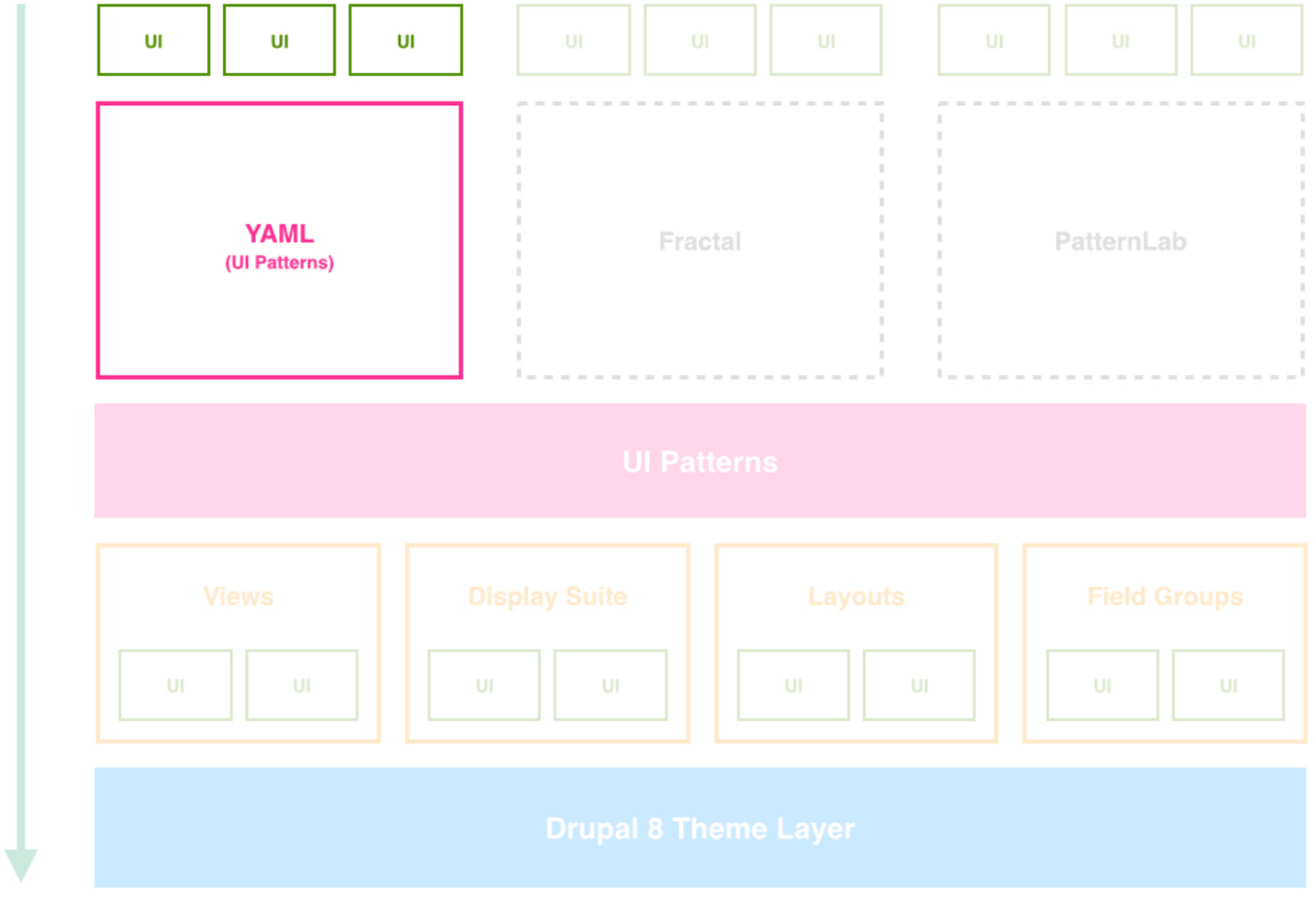
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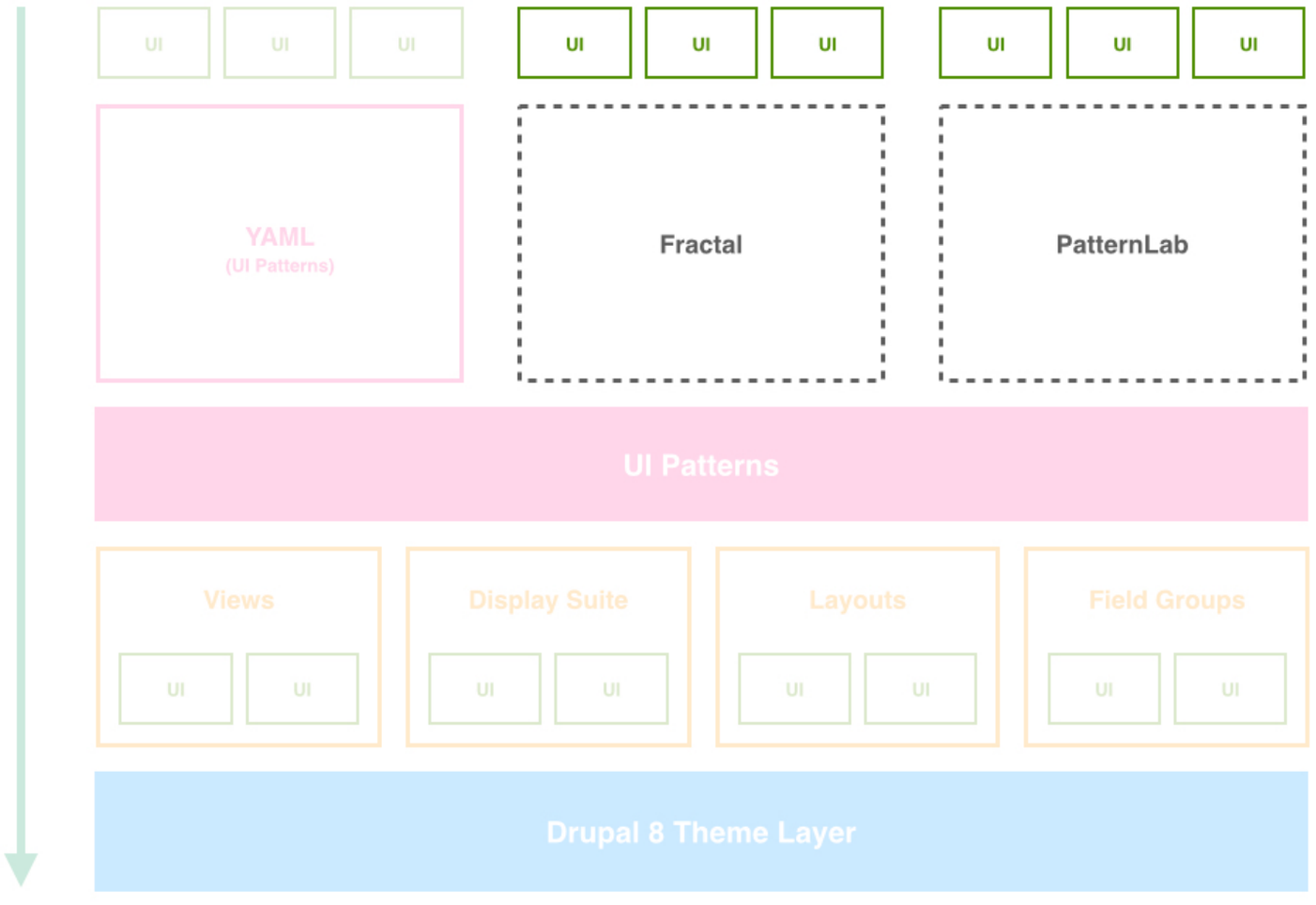
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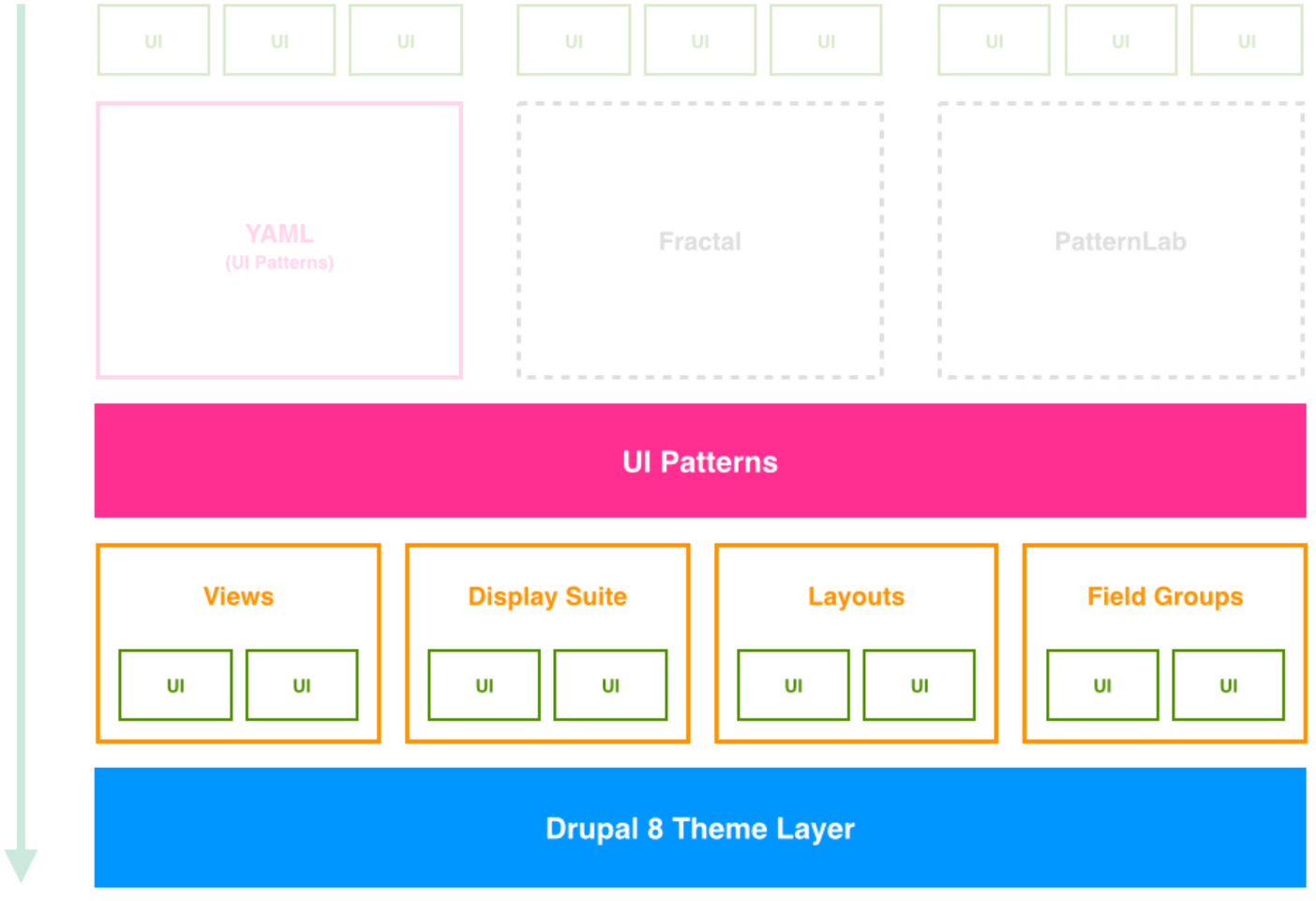
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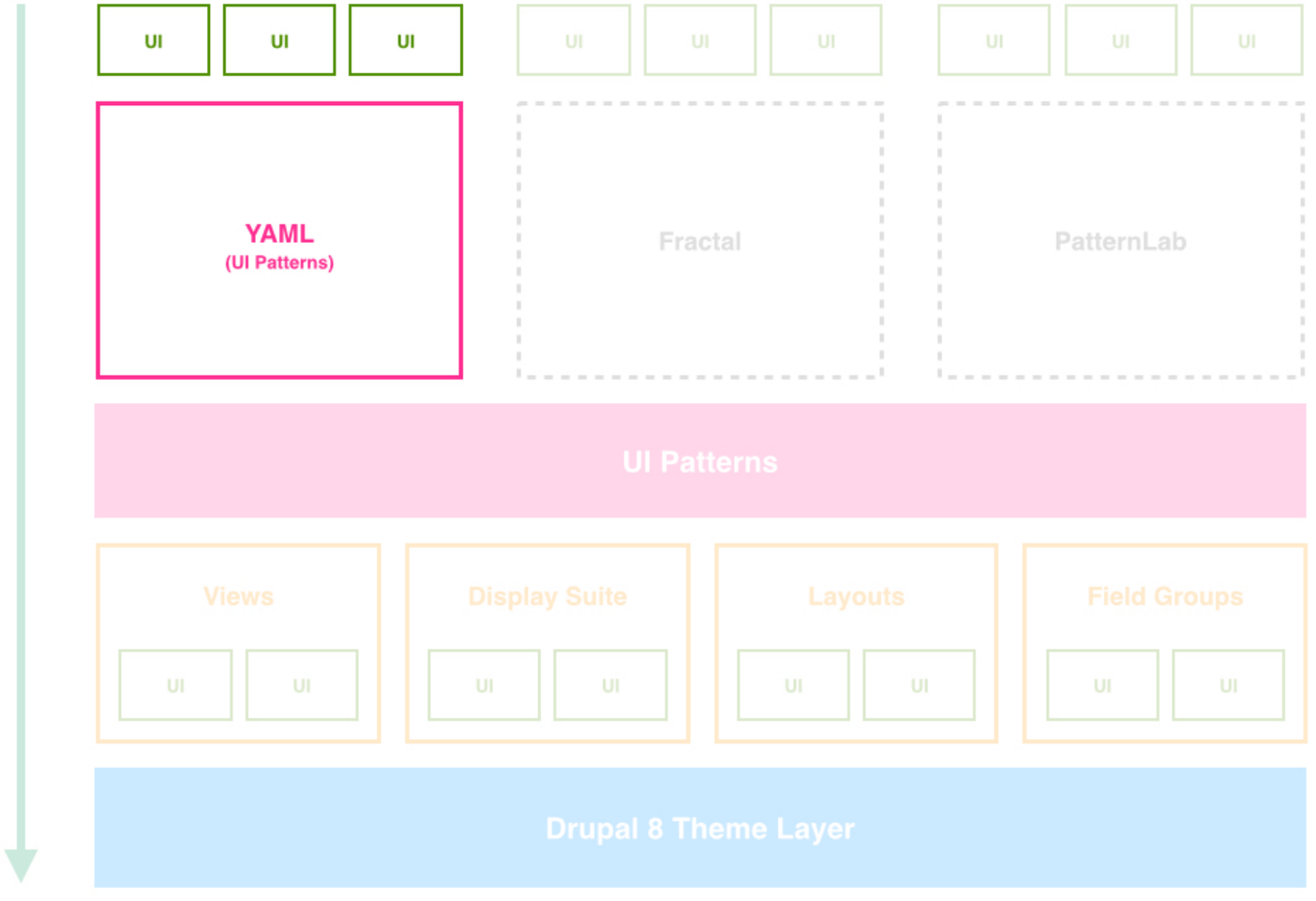
Chapter 2

A built-in YAML-based component library

- a.k.a Poor-man's Fractal
- a.k.a Poor-man's PatternLab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Defining patterns

- Patterns can be defined via `YAML`.
- Definitions can be placed in `MY_MODULE.ui_patterns.yml` or `MY_THEME.ui_patterns.yml`.
- Patterns are converted into Drupal 8 render elements of type `pattern`.
- **Given** the `media` pattern ID
- **Then** a theme function `pattern_media` is available
- **And** the `pattern-media.html.twig` template is rendered

A basic pattern definition

`./themes/custom/MY_THEME/MY_THEME.ui_patterns.yml`

```
  blockquote:
    label: Blockquote
    description: Display a quote with attribution information
    fields:
      quote:
        type: text
        label: Quote
        preview: Life is like riding a bicycle. To keep your balance, you must keep mov
      attribution:
        type: text
        label: Attribution
        preview: Albert Einstein
```

`./themes/custom/MY_THEME/templates/pattern-blockquote.html.twig`

```
<blockquote>
  <p>{{ quote }}</p>
  <footer>{{ attribution }}</footer>
</blockquote>
```

Pattern preview

Blockquote

Display a quote with attribution information.

Field	Label	Type	Description
`quote`	Quote	`text`	Quote text.
`attribution`	Attribution	`text`	Quote attribution.

> Life is like riding a bicycle. To keep your balance, you must keep moving.
>
> — Albert Einstein

The meta information

- `id`

  The root of a new pattern definition, it must contain only lowercase characters, numbers and underscores

- `label` / `description`

  Pattern label and description, used on the pattern library page.

- `fields`

  Each field **must** have a `type` and a `label` and it **can** have a `description` and a `preview`.

```
blockquote:
  label: Blockquote
  description: Display a quote with attribution information
  fields:
    quote:
      type: text
      label: Quote
      preview: Life is like riding a bicycle. To keep your balance
```

The `preview` property

Preview content can be either a string or a Drupal render array:

```
id: image
fields:
  image_field:
    ...
    preview:
      theme: image
      uri: http://lorempixel.com/350/250/nature/1
```

```
id: gallery
fields:
  gallery_field:
    ...
    preview:
      type: pattern_preview
      id: image
```

Override pattern templates

- `theme hook`

  If specified it overrides the default `pattern_[id]` theme hook with the given value. The template file will change accordingly.

- `template`

  If specified it overrides only the template file keeping the default `pattern_[id]` theme hook.

- `use`

  If specified it will use a stand-alone Twig file as template. This value supports **Twig namespaces** so the following notations are valid examples:

```
use: "@my_module/templates/my-template.html.twig"
```

```
use: "@molecules/media/media.html.twig"
```

Spoiler alert! This makes it possible to quickly integrate your YAML patterns with PatternLab.

Organize patterns in sub-folders

```
.
├── templates
│   └── patterns
│       ├── button
│       │   ├── button.ui_patterns.yml
│       │   └── pattern-button.html.twig
│       ├── media
│       │   ├── media.ui_patterns.yml
│       │   └── pattern-media.html.twig
...
│       └── pattern-jumbotron.html.twig
├── MY_THEME.info.yml
└── MY_THEME.ui_patterns.yml
```

Attach and/or define libraries

```
media:
  label: Media object
  ...
  libraries:
    - core/jquery.ui.autocomplete
    - my_module/my_library
    - local_library:
        css:
          component:
            media1.css: {}
            http://example.com/style.css: { type: external }
```

```
...
└── patterns
    └── media
        ├── media1.css
        ├── media.ui_patterns.yml
        └── pattern-media.html.twig
```

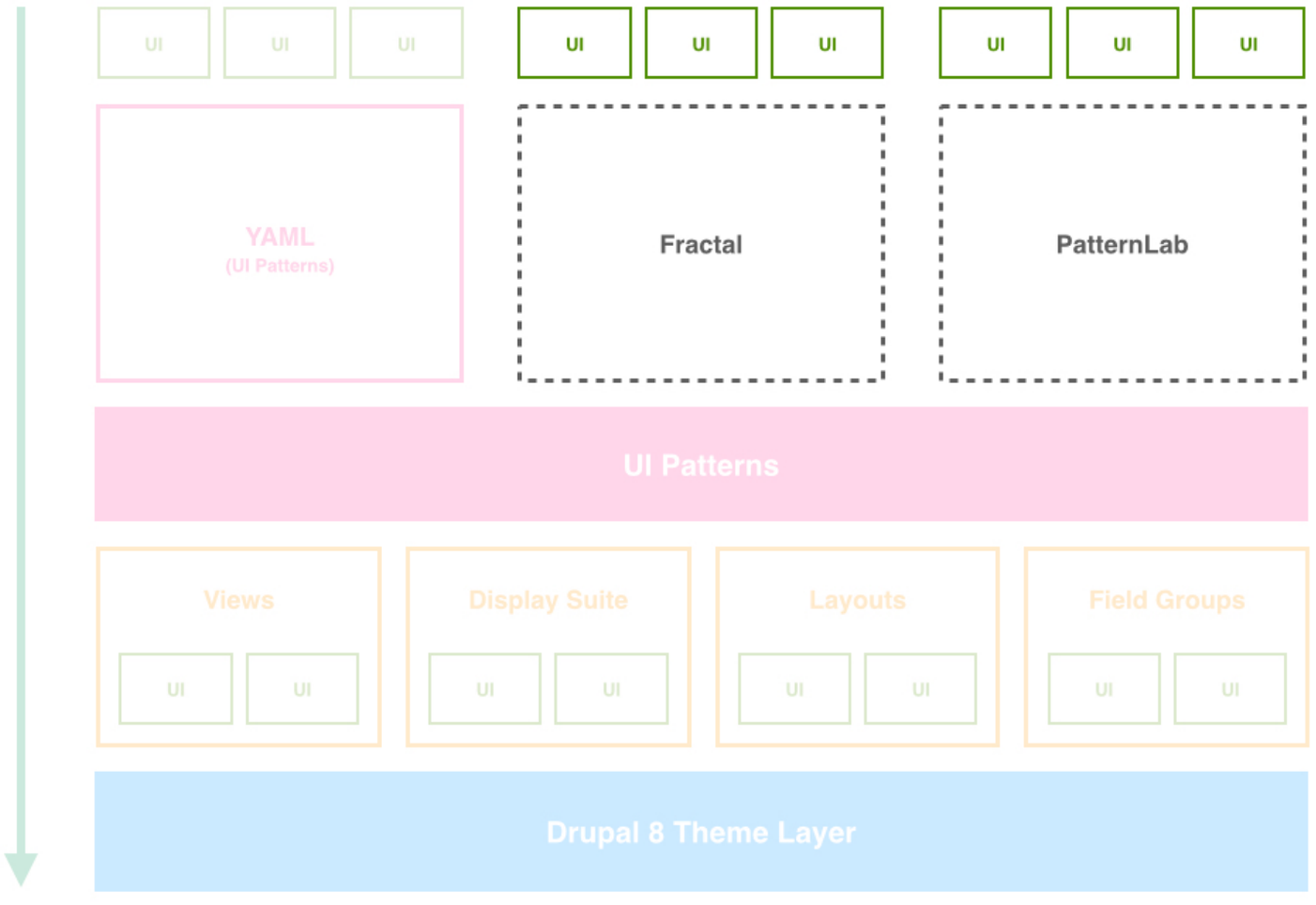
Guided Example

Pattern definitions

1. Define patterns in your theme
2. Display them on the overview page
3. Style the patterns overview page

Chapter 3

Expose your patterns via Fractal and PatternLab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Since this is how YAML patterns are discovered...

```
/**
 * The YAML UI Pattern plugin.
 *
 * @UiPattern(
 *   id = "yaml",
 *   label = @Translation("YAML Pattern"),
 *   description = @Translation("Pattern defined using a YAML file
 *   deriver = "\Drupal\ui_patterns\Plugin\Deriver\YamlDeriver"
 * )
 */
class YamlPattern extends UiPatternBase implements UiPatternInterf
  ...
}
```

...then this is how Fractal components are discovered *

```
/**
 * The Fractal UI Pattern plugin.
 *
 * @UiPattern(
 *   id = "fractal",
 *   label = @Translation("Fractal"),
 *   description = @Translation("Pattern defined using Fractal."),
 *   deriver = "\Drupal\ui_patterns\Plugin\Deriver\FractalDeriver"
 * )
 */
class FractalPattern extends UiPatternBase implements UiPatternInt
  ...
}
```

...and this is how PatternLab components are discovered *

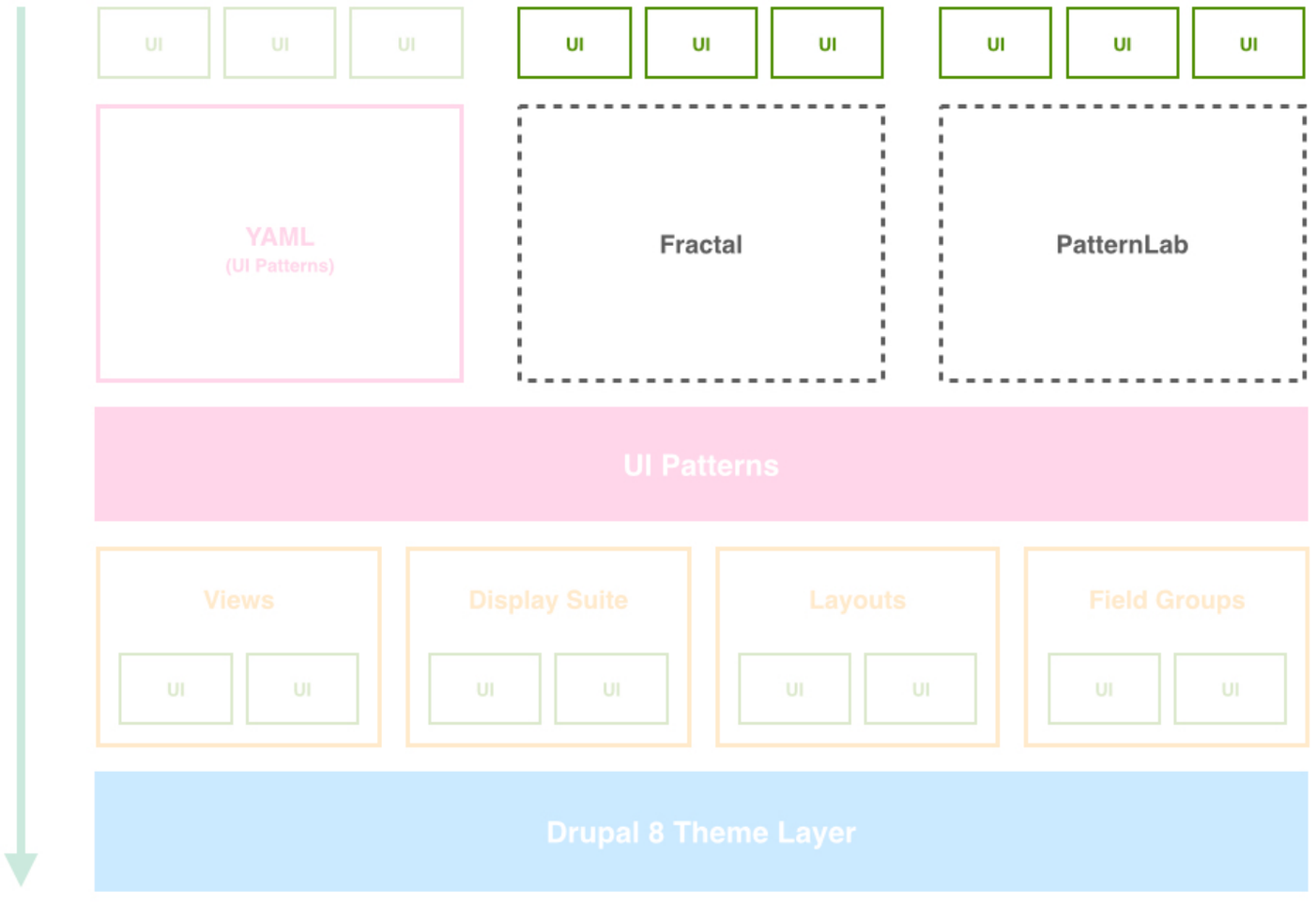
```
/**
 * The PatternLab plugin.
 *
 * @UiPattern(
 *   id = "pattern_lab",
 *   label = @Translation("PatternLab"),
 *   description = @Translation("Pattern defined using PatternLab
 *   deriver = "\Drupal\ui_patterns\Plugin\Deriver\PatternLabDeriv
 * )
 */
class PatternLabPattern extends UiPatternBase implements UiPatterr
  ...
}
```

Guided Example

* Well...

They are not there yet!

Except if you are willing to manually add a `COMPONENT.ui_patterns.yml` everywhere.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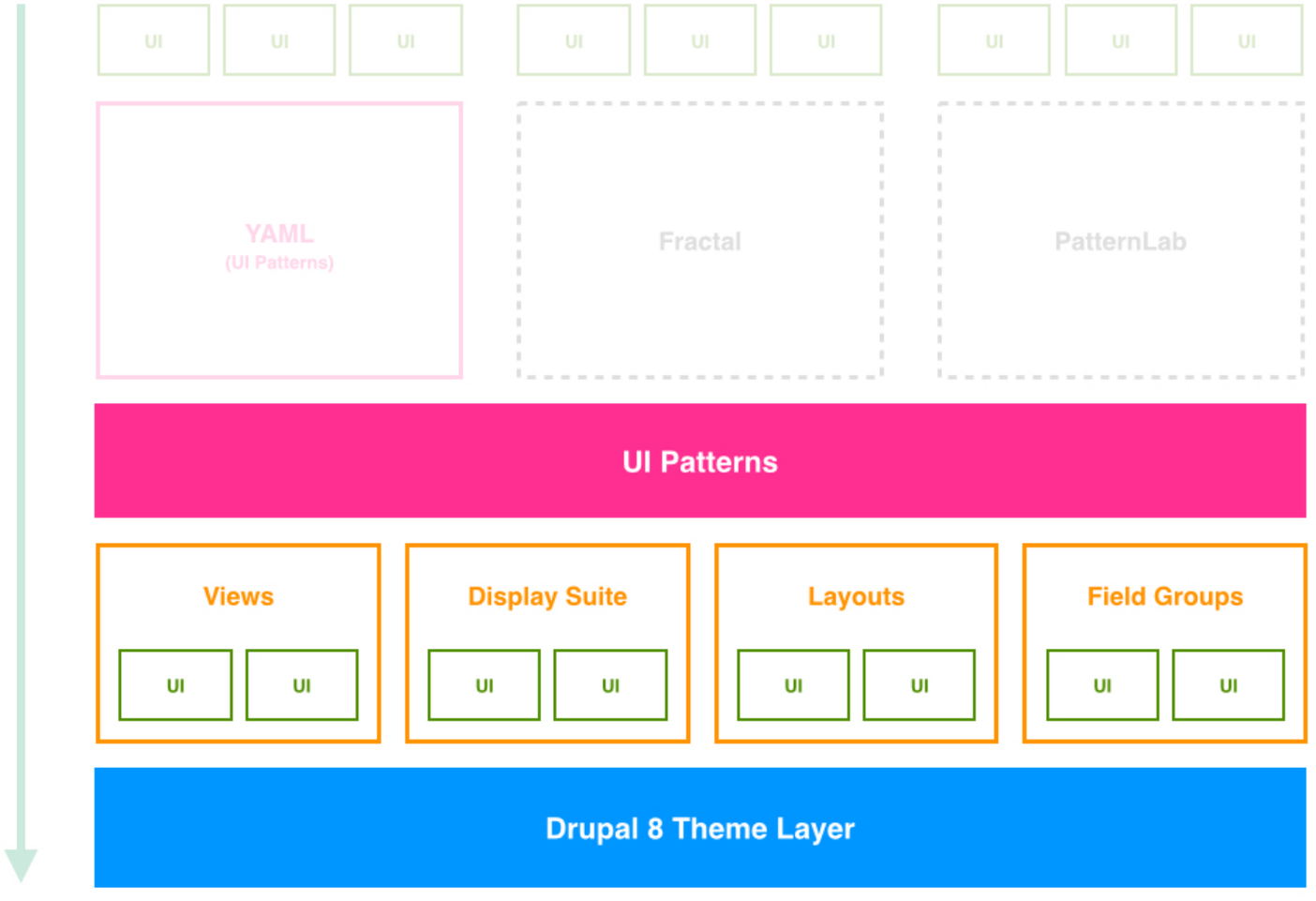
Chapter 4

How do I use my patterns with Drupal?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UI Patterns integration modules

- `ui_patterns_layouts`: allows patterns to be used as layouts via the Layout Plugin module.
- `ui_patterns_views`: allows patterns to be used as Views row templates.
- `ui_patterns_ds`: allows patterns to be used as Display Suite field templates.
- `ui_patterns_field_group`: allows patterns to be used as field groups templates via the Field Groups module.

Guided Example

Integrate patterns with Drupal

1. Style article publishing data using the **Metadata** pattern.
2. Display both post date and changed date as metadata.
3. Style article paragraphs using the **Jumbotron** pattern.
4. Style article teaser using the **Media** pattern on `/articles`.
5. Obtain the same result using the Views plugin.
6. Style article links using the **Button** pattern.

Guided Example

Advanced usage

1. Work with theme suggestions: **see documentation**
2. Render a patterns or pattern previews programmatically: **see documentation**.
3. Render patterns or patterns preview in Twig templates: **see documentation**.

The Future

- Variants
- Sub-fields
- Multiple fields
- Tags
- Hidden patterns
- Integration with PatterLab and Fractal
- *Insert your birthday wish here* 🎁

Give your feedback on this GitHub issue:

https://github.com/nuvoleweb/ui_patterns/issues/76