

**IMPLEMENTING AN  
ENTERPRISE DESIGN  
SYSTEM THE RED HAT WAY**



# redhat®

Derek "tachyon" Reese is a developer at Red Hat.

**blurb:** Derek Reese is a self-directed full-stack developer experienced with enterprise software and pipeline development and has been working with Drupal since Drupal 5. Derek has experience speaking at both Drupal Camps and to private audiences.

He's helped present everything from new technology pipelines to film pitches.



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# PREREQUISITES

## BUILDING DRUPAL SITES WITH COMPONENTS

<https://www.slideshare.net/DerekReese1/building-drupal-sites-with-components>

<https://www.youtube.com/watch?v=SJVGNpOovJw>

# IMPLEMENTING AN ENTERPRISE DESIGN SYSTEM THE RED HAT WAY

A DRUPAL STORY

# DESIGN SYSTEMS

The Red Hat Way



```
graph LR; A[Digital Design Philosophy] --> B[Design Systems Implementation]; B --> C[Drupal Integration]
```

Digital Design Philosophy

Design Systems  
Implementation

Drupal Integration

# DIGITAL DESIGN PHILOSOPHY

# DIGITAL DESIGN PHILOSOPHY



The image features a light gray background with decorative geometric patterns in the corners. The top-left and bottom-right corners contain a series of concentric squares, creating a tunnel-like effect. The text is centered in the lower-left quadrant.

# **BRANDING MARKETING UX**



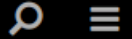


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# BRANDING

2017

OPEN, AUTHENTIC, HELPFUL, BRAVE



## THIS IS THE SOURCE CODE OF THE RED HAT BRAND

### THESE ARE THE BASICS:

Our logo is Shadowman and the “Red Hat” wordmark, our color is red, our typeface is Interstate, and we write the way real people talk.

[Skip to the details ▶](#)

## OUR LOGO IS SHADOWMAN AND THE “RED HAT” WORDMARK,





**IN ORDER TO TALK  
ABOUT DESIGN SYSTEMS,  
WE NEED TO TALK  
ABOUT...**

The background features a dark teal overlay on a photograph of a suspension bridge, likely the Golden Gate Bridge, spanning a body of water. The bridge's towers and cables are visible, and the water reflects the light. The overall tone is moody and professional.

**DESIGN LANGUAGES**

vs

**DESIGN SYSTEMS**

# **DESIGN** (VISUAL) **LANGUAGES**

- Communication
- Graphical

# EXAMPLES

(past, present, & future)

# DESIGN (VISUAL) LANGUAGES

- Skeuomorphic Design



# DESIGN (VISUAL) LANGUAGES

- Skeuomorphic Design
- Flat Design

via drupal.com

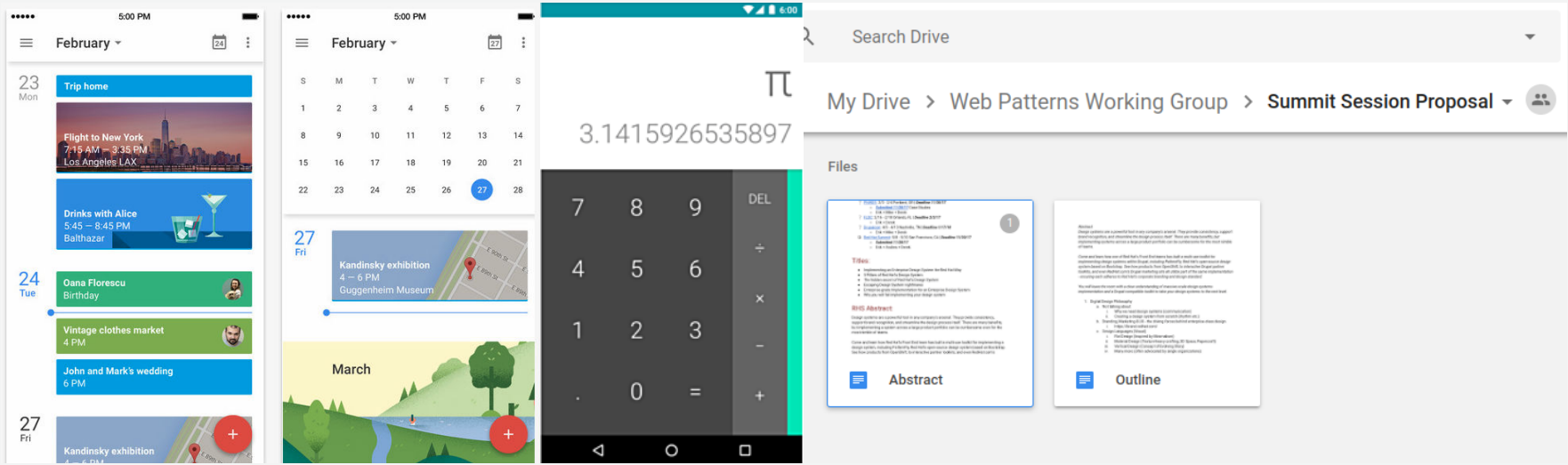
and

<https://www.tillamook.com/our-story/our-story.html>



# DESIGN (VISUAL) LANGUAGES

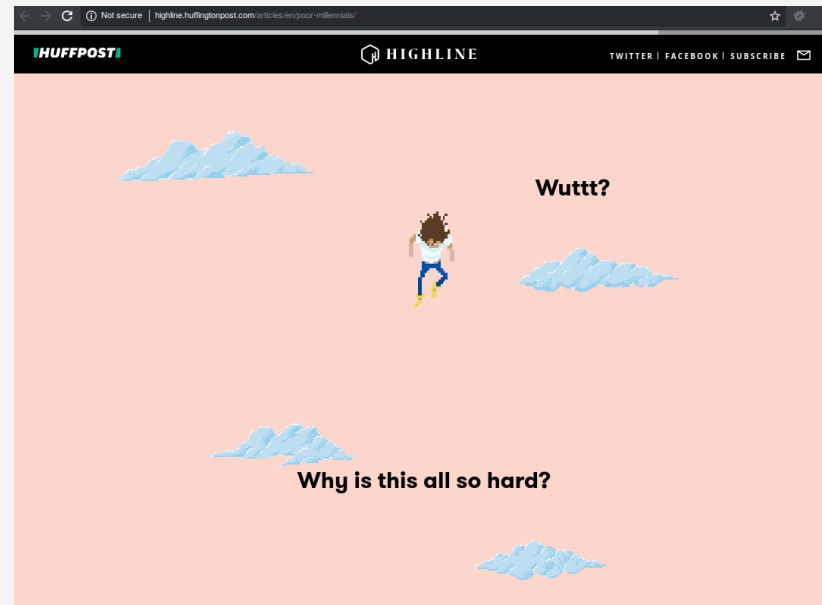
- Skeuomorphic Design
- Flat Design
- Material Design





# DESIGN (VISUAL) LANGUAGES

- Skeuomorphic Design
- Flat Design
- Material Design
- Vertical Design



Via <http://highline.huffingtonpost.com/articles/en/poor-millennials/>

# DESIGN (VISUAL) LANGUAGES

- Skeuomorphic Design
- Flat Design
- Material Design
- Vertical Design
- ...and more! (US Web, AirBnB, Microsoft, etc.)



(you can google any of these for tons of examples)

# DESIGN (ORGANIZATIONAL) SYSTEMS

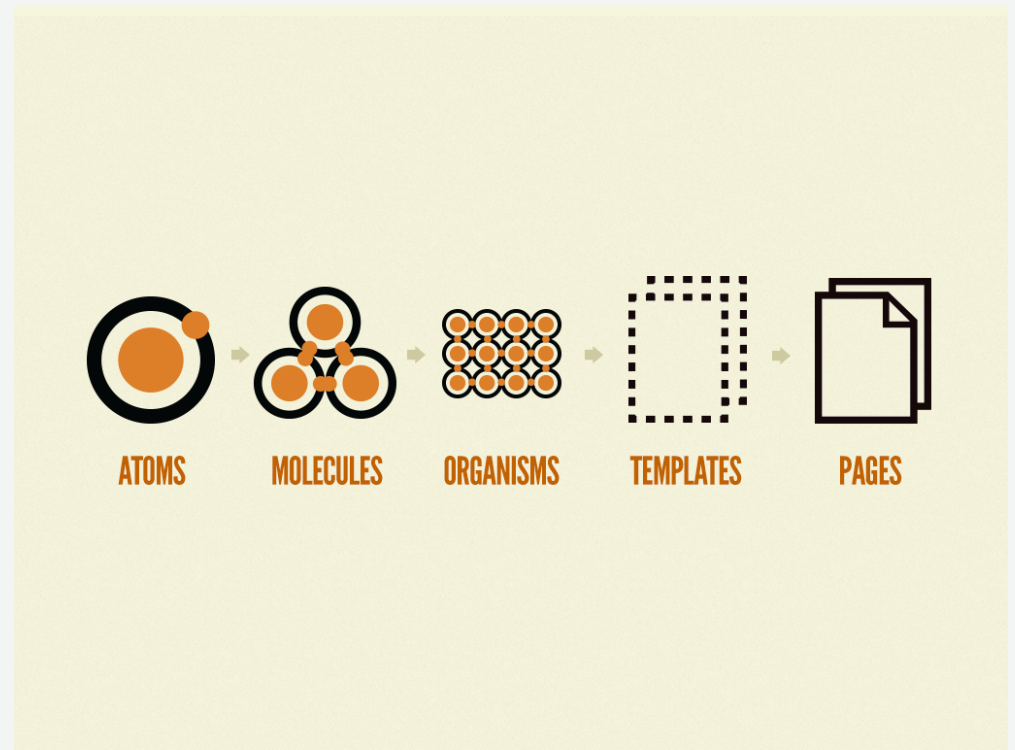
- Work with other developers
- Structural

# EXAMPLES

(past, present, & future)

# DESIGN (ORGANIZATIONAL) SYSTEMS

- Monolithic Design
- Modular Design
- **Atomic Design**  
/ Style Tiles



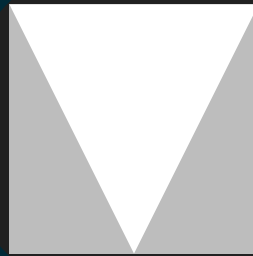
via <http://atomicdesign.bradfrost.com/chapter-2/>

# DIGITAL DESIGN PHILOSOPHY

all together now



Branding, Marketing, & UX



Design Languages



Design Systems

# DESIGN DELIVERABLES

- Mood Boards
- Design Specification PDF
- Initial CSS / HTML Mockups



**...BUT HOW DO WE GET  
FROM OUR  
*DESIGN DELIVERABLES*  
TO A  
*WORKING*  
*IMPLEMENTATION*  
ACROSS MULTIPLE  
ENTERPRISE-SCALE  
WEB PROPERTIES?**



The image features a light gray background with decorative geometric patterns in the corners. The top-left and bottom-right corners contain a series of concentric squares, creating a tunnel-like effect. The text is centered in the middle of the page.

# **DESIGN SYSTEMS IMPLEMENTATION**

# THE IMPLEMENTATION LIST

- Rulesets
  - Design Spec Docs
  - Style Guides
- Design Guides / Full Implementations
  - Pattern Libraries
  - Frameworks

The image features a light gray background with decorative geometric patterns in the corners. The top-left and bottom-right corners contain a series of nested squares, creating a tunnel-like effect. The text is centered in the middle of the page.

# **RED HAT'S DESIGN SYSTEM FRAMEWORKS**

# WEBRH

- Style Ruleset & Implementation
  - SASS / CSS
  - Twig Patterns, JSON Schema, YAML Docs
  - Complicated
- Editors & builders
- Tightly coupled
- Multiple properties @ Red Hat

# WEBRH

The screenshot displays the WebRH Schema Editor interface. At the top, a navigation bar includes 'WebRH Schema Editor' and several dropdown menus: 'Pages', 'Patterns', 'Sub patterns', 'Layouts', 'Components', and 'Atoms'. A 'Styleguide' link is located in the top right corner. The main content area is divided into two columns. The left column features a 'Pattern content type' section with a sub-header 'Page' and a descriptive paragraph. Below this is a preview of a Red Hat website layout, including a navigation menu with 'Technologies', 'Services & support', and 'Success stories', and a featured success story for 'Cigna builds a private cloud'. The right column contains a 'Pattern content type builder' section with a 'Save and share this prototype' button and a note about generating a unique URL for sharing.

WebRH Schema Editor Pages Patterns Sub patterns Layouts Components Atoms Styleguide

## Pattern content type Page

This provides a general preview of what is available in the Pattern content type in Drupal.

CUSTOMERS PARTNERS OPEN SOURCE COMMUNITIES

redhat. Technologies Services & support Success stories

### FEATURED SUCCESS STORIES

#### Cigna builds a private cloud

Migrating your company's operating system may seem like an overwhelming task but Red Hat® Technical Account Management (TAM) is at your disposal throughout the entire migration process to assist your team.

READ MORE

### SIMPLIFY

#### Keeping life simple with 5 easy steps

Short summary paragraph here is totally optional but not required.

## Pattern content type builder

Use this pattern to mock-up a Pattern page using existing patterns or raw bands with custom styles.

Save and share this prototype

A unique URL will be generated that contains all your content and settings within this pattern, which you can then share with anyone who has access to this tool.

# WEBRH

## Hero \*

REMOVE

### Hero Height \*

Full Height will stretch hero to fill the browser window

content ▾

### BACKGROUND

#### Background Color

rich-black ▾

Fixed Background

Checking this box will make the image stay in place while you scroll

#### Desktop Background Image

If omitted, background color will be used at desktop breakpoint



header-detail-tech-industry\_media-2000x941.jpg

REMOVE

EDIT

#### Mobile Background Image

If omitted, background color will be used at mobile breakpoint

BROWSE

Reordering patterns? [Show row weights](#)

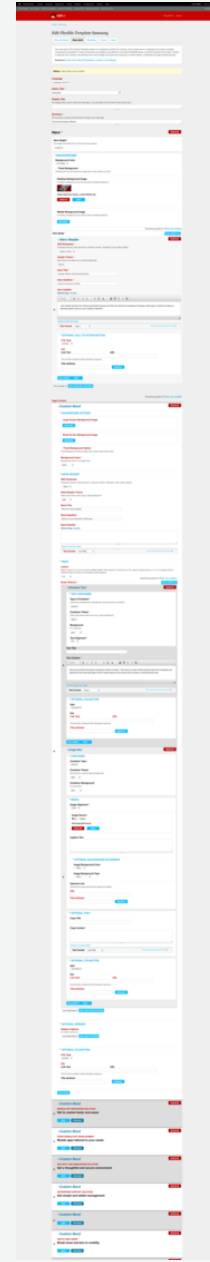
## Hero Body \*

COLLAPSE ALL

### Hero Header

SEO Emphasis \*


REMOVE



# PATTERNFLY

- Style Ruleset & Guide
  - SASS / CSS
  - Documentation
- Bootstrap
- Scalable
- Skinnable: RCUE
- Openshift

# PATTERNFLY

 **PATTERNFLY**

[Get Started](#) [Pattern Library](#) [Styles](#) [Community](#) [Download](#) [Blog](#)

**Pattern Library**

- Overview
  - > Application Framework
  - > Cards
    - Aggregate Status Card
    - Base Card
    - Trend Card
    - Utilization Bar Card
    - Utilization Trend Card
  - > Communication
  - > Content Views
  - > Dashboard
  - > Data Visualization
  - > Forms and Controls
  - > Navigation
  - > Widgets

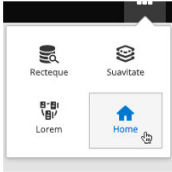
## Pattern Library Overview

The PatternFly library is a collection of UI design patterns. Design patterns are recurring solutions that solve common design problems and provide a common language for people who create user interfaces. In general, patterns do not specify requirements, but rather, present recommended solutions to design problems. PatternFly patterns build on that approach by additionally considering the needs of complex enterprise IT software, and the habits and motivations of its users, in their recommendations.

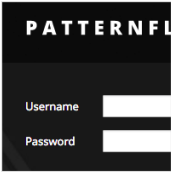
Each pattern within this library contains suggested usages and examples that are annotated with Interaction and visual design specifications. Patterns that have gone through usability testing include a link to the PatternFly blog where relevant findings are described in more detail. Many patterns also include the code you can use to build the example. The library is continually being updated with new patterns or code samples for existing patterns. Stay current with these updates by checking out "What's New" on the [PatternFly blog](#)

### Application Framework

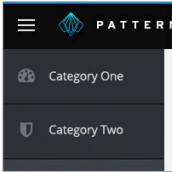
**Launcher**



**Login Page**

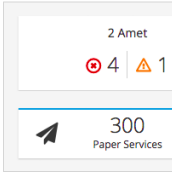


**Masthead**

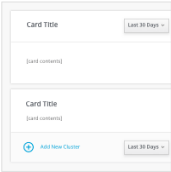


### Cards

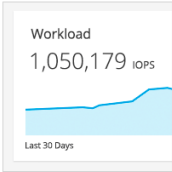
**Aggregate Status Card**



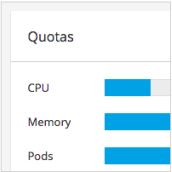
**Base Card**



**Trend Card**



**Utilization Bar Card**





# MY TEAM (CONNECT)'S FRAMEWORK

- Style Ruleset, Implementation
  - SASS / CSS
  - Twig Patterns, JSON Schema, YAML Docs
- WebRH & PatternFly
- Dev-centric

# MY TEAM (CONNECT)'S FRAMEWORK

## RHC UI Style Guide

0 Overview

1 Patterns

1.1 Patterns.Components

1.1.1 / Drupal messages

1.1.2 / Drupal tabs

1.1.3 / RHC UI Form

1.1.4 / RHC UI Form step indicator

1.1.5 / RHC UI Label

1.1.6 / RHC4TP Legacy Header

1.1.7 / RHC Pagination

1.1.8 Patterns.Components.Popover

1.1.9 / RHC Sub Tabs

1.1.10 / RHC UI Table

Section 1

## Patterns

Section 1.1

### Patterns.Components

Section 1.1.1

#### / Drupal messages



/ Drupal messages

A Drupal messages component.

#### Example

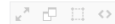
- Problem number one happened at Wed, 12/06/2017 - 08:15.
- Problem number two happened at Wed, 12/06/2017 - 10:15.

▶ Markup: components/drupal\_messages/drupal\_messages.html.twig

Source: components/drupal\_messages/drupal\_messages.scss, line 1

Section 1.1.2

#### / Drupal tabs



# IMPLEMENTATION PT. 2

Adoption, Education, Tooling

# ADOPTION

- Selling it to the business
  - Cost Studies & Comparisons
- Selling it to developers
  - Scrum of Scrums
  - Learn from other teams

# DOCUMENTATION

- Include w/ Style Guides
- Not just local: Hosted
- Knowledge Shares

# TOOLING

- Current Status:

- PatternKit REST Server + Composer + Grunt + Bower  
/ Pattern Builder Importer module or PatternKit modules
- KSS + Composer + Gulp / Custom Twig Presenters
- PatternFly Custom App + Custom Implementation
- Testing out WebComponents Lib

- WIP:

- PatternLab + Composer + Gulp & PatternKit
- Twig Patterns w/  
Web Component Compatibility

- Unify Dev Tools, Train & Maintain

The image features a light gray background with decorative geometric patterns in the corners. The top-left and bottom-right corners contain a series of concentric squares, creating a tunnel-like effect. The text is centered in the middle of the page.

# **DRUPAL INTEGRATIONS**

# TWIG PRESENTERS (MVP-STYLE)

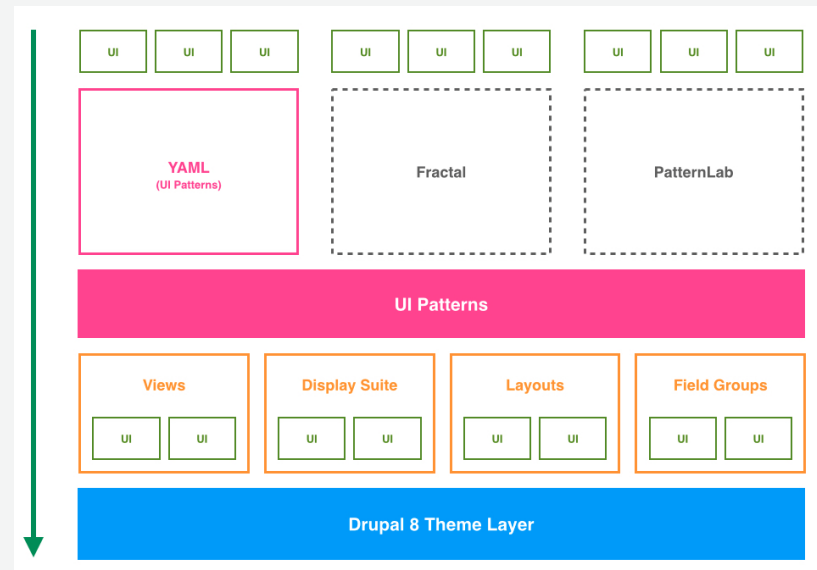
```
{%  
include '@mypatternlibrary/atoms/image/image.twig' with {  
  'src': item.image.src,  
  'alt': item.image.alt,  
  'attributes': item.image['#attributes'],  
  'sources': item.image['#sources'],  
} only  
%}
```



# UI PATTERNS (DRUPAL 8)

[https://www.drupal.org/project/ui\\_patterns](https://www.drupal.org/project/ui_patterns)

- Multiple Integrations
- Views
- 1:1 Mapping
- Works with PatternLab



# UI PATTERNS (DRUPAL 8)

The screenshot shows the configuration interface for a UI pattern in Drupal 8. On the left is a sidebar with a list of configuration options: 'picture', 'appearance', 'and', 'figuration', 'iple', 'orts', and 'p'. The main area is titled 'Read Less Link Label' and has a '- Hidden -' dropdown menu and a 'Plain text' button. Below this are sections for 'Effect In', 'Effect Out', and 'Disabled'. The 'Disabled' section contains the text 'No field is hidden.' There are two expandable sections: 'CUSTOM DISPLAY SETTINGS' and 'LAYOUT SETTINGS'. 'CUSTOM DISPLAY SETTINGS' includes a checkbox for 'Use custom display settings for the following view modes' (with 'Preview' selected) and a link for 'Manage view modes'. 'LAYOUT SETTINGS' includes a 'Select a layout' dropdown menu with 'Read More' selected. Below that is the 'PATTERN SETTINGS' section, which includes a 'Field templates' dropdown menu with 'Only content' selected. A 'Save' button is at the bottom.

The screenshot shows the 'Pattern library' interface in a browser. The browser address bar shows 'https://uipatternsdemo.localhost/patterns'. The page title is 'Pattern library' and the subtitle is 'Available patterns'. Below the subtitle is a list of 15 available patterns, each with a blue link: 'Marketing Site Feature Section', 'Marketing Site Feature', 'Marketing Site Hero Section', 'Marketing Site Content Section', 'Marketing Site Footer', 'Read More', 'Menu Link', 'Top Bar with Animation.', 'Testimonial Slider', 'Testimonial Slider Item', 'Social Link', 'Testimonial Block Vertical', 'Pricing Table Secondary Items', 'Pricing Table', 'Responsive Social Link', and 'Responsive Social Media Section'. Below the list is a section titled 'Marketing Site Feature Section' with a description: 'A responsive feature section to show off the goods.' Below the description is a table with 4 columns: 'Field', 'Label', 'Type', and 'Description'. The table contains 3 rows of data. Below the table is a 'Preview' section.

Field	Label	Type	Description
features_headline	Headline	text	Headline for feature section
subheadline	Subheadline	text	Subheadline for feature section
features	Features	pattern	One or more features patterns to be included in grid.

# PATTERNKIT (DRUPAL 7)

- Panels
- Data Mapping
- TFD7-beta3 + namespaces patch

Add content to Content

Close Window

- Activity
- Blocks: By the Numbers
- Blocks: By the Numbers
- Container
- Blocks: Featured Text
- Blocks: Generic Info Block
- Blocks: Homepage Bottom
- Blocks: Homepage Links
- Blocks: Homepage Programs
- Blocks: Image Card
- Blocks: Menu Zone Group
- Blocks: Program Block Item
- Blocks: Program Menu Block
- Blocks: Strategic Strip
- Collection
- Blocks: Strategic Strip Item
- Blocks: Zone Menu Block
- Boxes
- Custom blocks
- Menus
- Mini panel
- Miscellaneous
- Page elements
- Patternkit/atom
- Patternkit/component

Quick-Filter

Configure Standard Text

- Article teaser
- Article teaser list
- Band header
- Call-to-action link
- Card header
- Customer success
- Dynamic form
- Event teaser
- Featured article
- Featured event teaser
- Featured item
- Footnote
- Generic
- Icon embed
- Icon panel
- Image embed
- Jump link
- Link tile
- Menu list
- Mini article teaser

Presentation style

HTML inline

Standard Text

JSON Properties

Container settings

JSON Properties

Card background

rich-black If you select a background color, your content will appear in a card. If you leave this blank, your content will not have any padding and appear in a group.

Text alignment

left

Text Title

Text Title TEST

Text Content

Text Content  
TEST

Optional CTA Button

JSON Properties

Finish

Cancel



RED HAT  
CONNECT  
for technology partners

[jew](#)

Text Title 1  
Text Content 1

Text Title TEST  
Text Content TEST

OTHER RESOURCES

Red Hat Connect for Business Partners  
Certified Catalog

DEVELOPER RESOURCES

Red Hat Developers  
Red Hat Enterprise Linux  
JBoss.org  
OpenShift  
OpenSource.com

**DEMO**

# CAVEATS

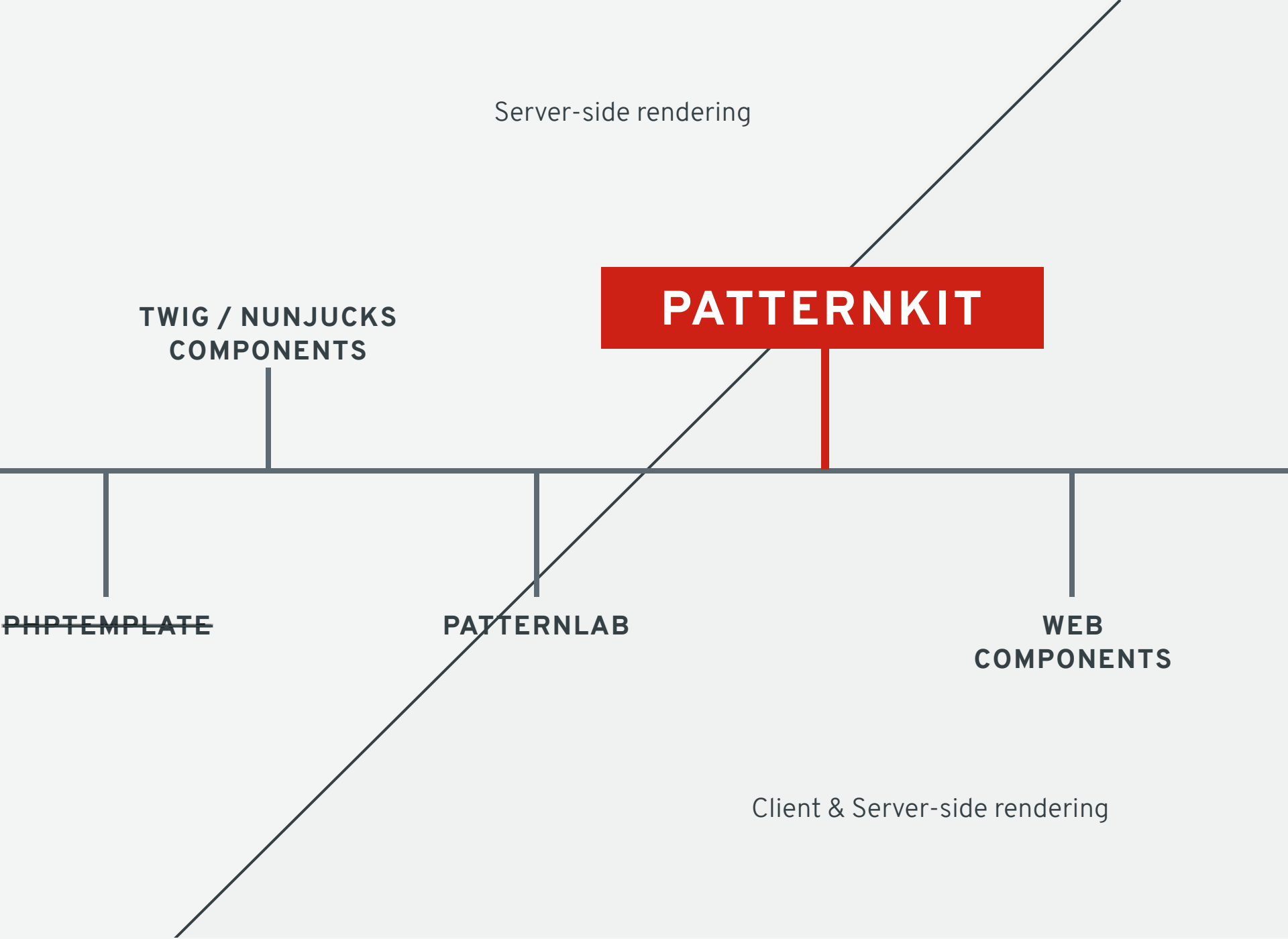
- TFD7 issues - patches needed  
beta3,
- Zurb Foundation node-sass issues  
Base theme is outdated, needs updating
- Drupal theme builds are still complicated

not everything is "npm run build"

... or "./configure; make"

The image features a light gray background with two decorative corner elements. Each element is a triangular shape pointing towards the center, filled with a pattern of concentric squares. The top-left corner element is positioned in the upper-left quadrant, and the bottom-right corner element is in the lower-right quadrant. The text 'THE FUTURE' is centered horizontally and vertically on the page.

# THE FUTURE





# IMPLEMENTING A DESIGN SYSTEM

## YOUR ACTION CHECKLIST

### **BRANDING/MARKETING/UX + DESIGN LANGUAGE + DESIGN SYSTEM**

Start with the Visual Language of your Design

### **STYLEGUIDE + LIBRARY + FRAMEWORKS**

Choose the option that best fits your timeline, system, and deliverables

### **DRUPAL INTEGRATION**

Invest in a pattern-based system & the Twig/Nunjucks + JSON Schema + YAML Stack

# GET INVOLVED

## START HERE

<https://github.com/drupal-pattern-lab/roadmap/issues/8>

## PatternLab

<https://github.com/pattern-lab/patternlab-php-core/issues/116>

# RESOURCES

PatternFly

<https://patternfly.org>

PatternKit

<https://www.drupal.org/project/patternkit>

UI Patterns

[https://www.drupal.org/project/ui\\_patterns](https://www.drupal.org/project/ui_patterns)

PatternLab

<https://patternlab.io/>

Twig for Drupal (7)

<https://www.drupal.org/project/tfd7>

TFD7 Namespace Patch

<https://www.drupal.org/project/tfd7/issues/2904991>

ThemeKey

<https://www.drupal.org/project/themekey>

Nunjucks

<https://mozilla.github.io/nunjucks/>

# COMMAND REFERENCE

## Start a local docker

```
npm install -g generator-docker4drupal  
yo docker4drupal
```

## Create a new Drupal install

```
composer create-project drupal-composer/drupal-project:8.x-dev  
some-dir --stability dev --no-interaction
```

## Install UI Patterns Drupal Module

```
composer require drupal/ui_patterns
```

## Install PatternKit Drupal Module

```
drush en -y patternkit
```



**redhat**

# **SPECIAL THANKS**

**JOHN ALBIN**

**ERIK BALDWIN**

**ROB COFFMAN**

**BRENT DUNN**

**MICAH GODBOLT**

**ZACK HAWKINS**

**MIKE NIELSON**

**CASS ROBERTS**

**JASON SMITH**

**KENDALL TOTTEN**

**and everyone else who has contributed from  
Red Hat.com, Connect, Customer Portal and  
other teams**

**as well as the Drupal community**



redhat.®

Q&A

THANKS!