



modular design

January 13, 2017

Kevin Zolkiewicz

1. Why Modular Design?
2. Atomic Design Terminology
3. Creating a Design System
4. Next Steps

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The Web Before



Pages



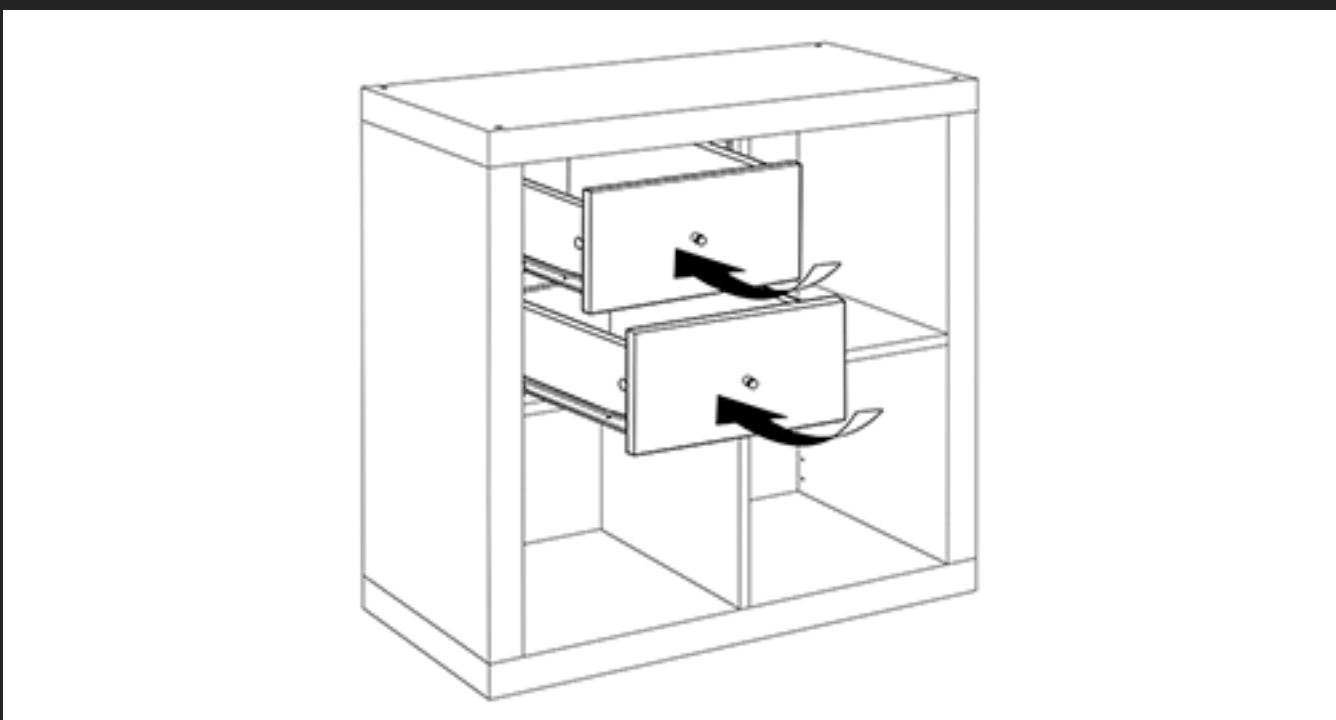
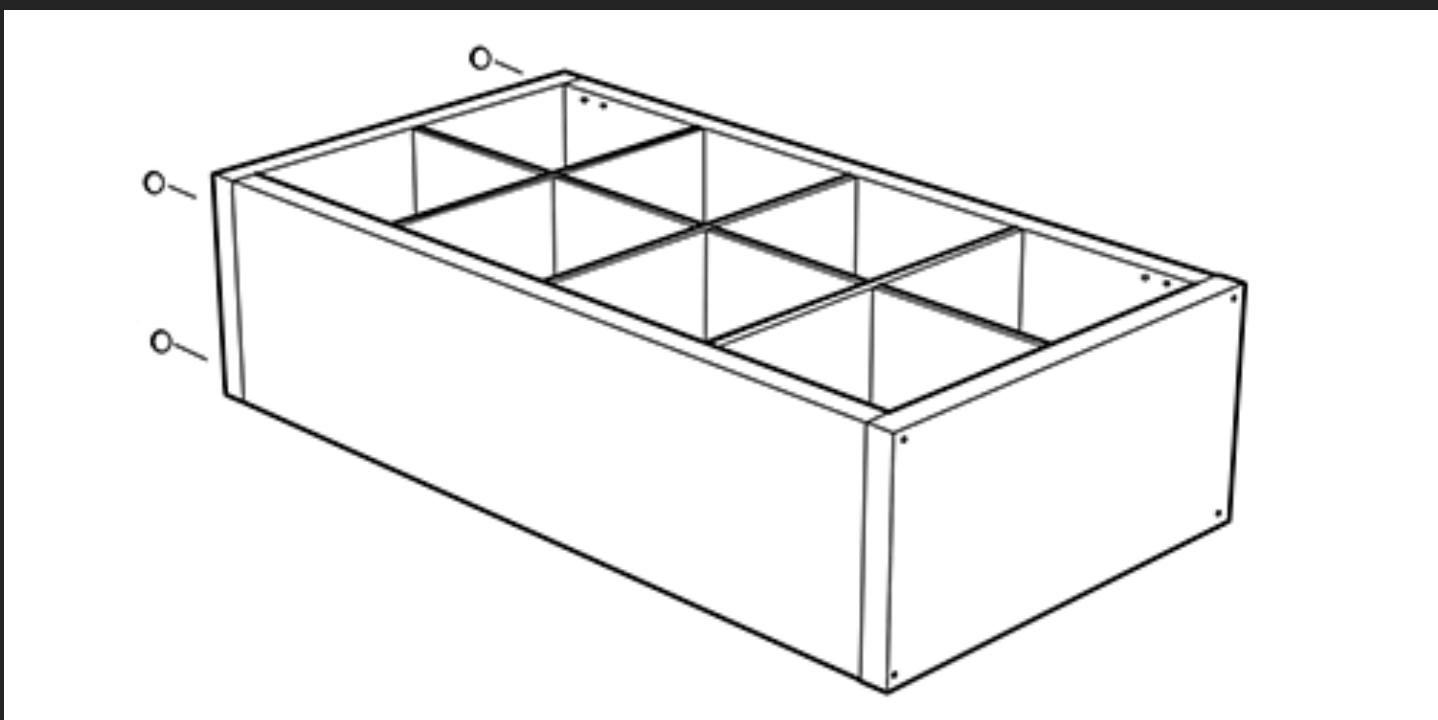
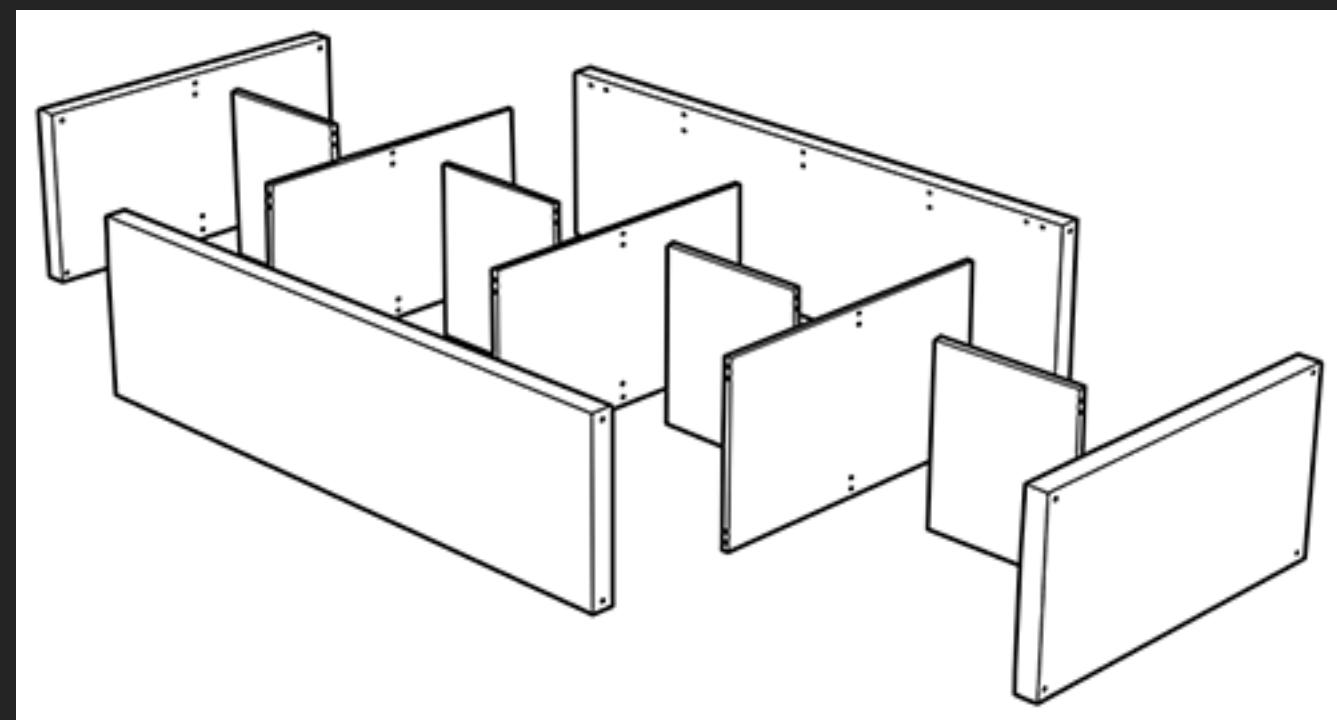
The Web Today



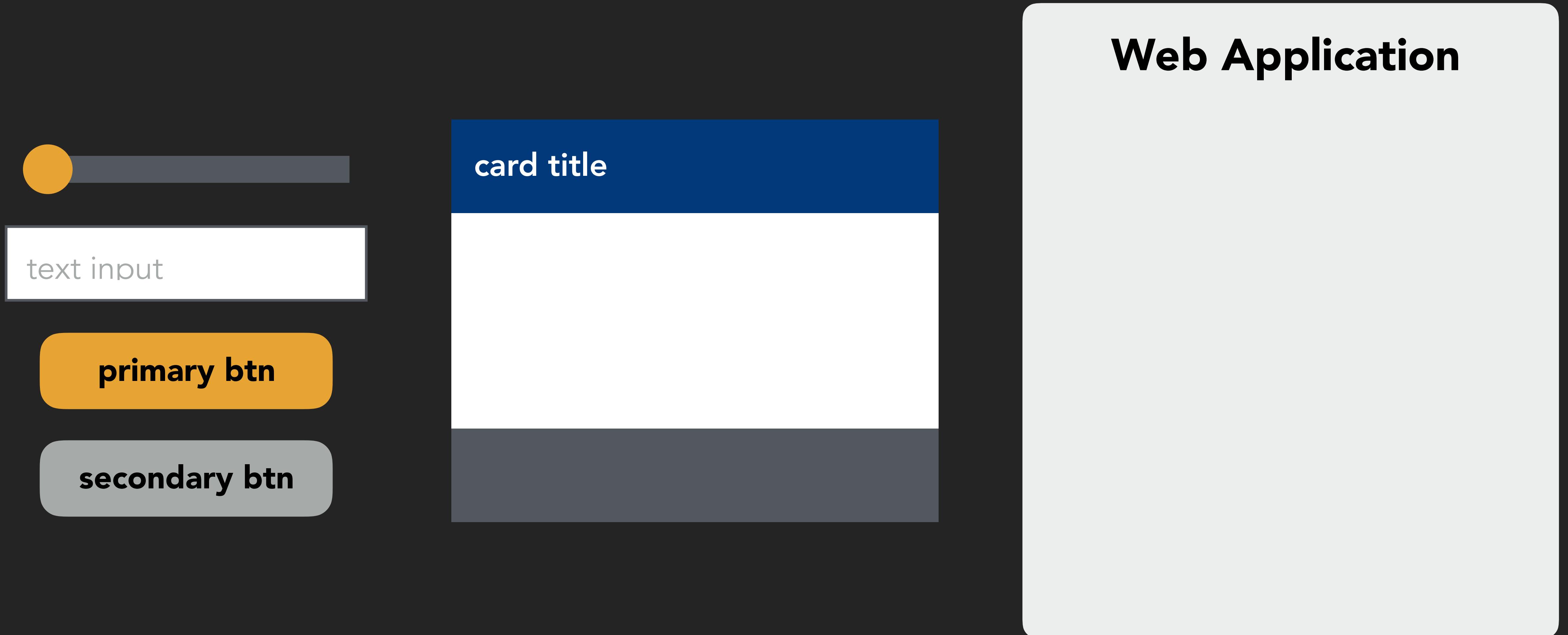
“We’re not designing pages,
we’re designing systems of
components.”

– Stephen Hay

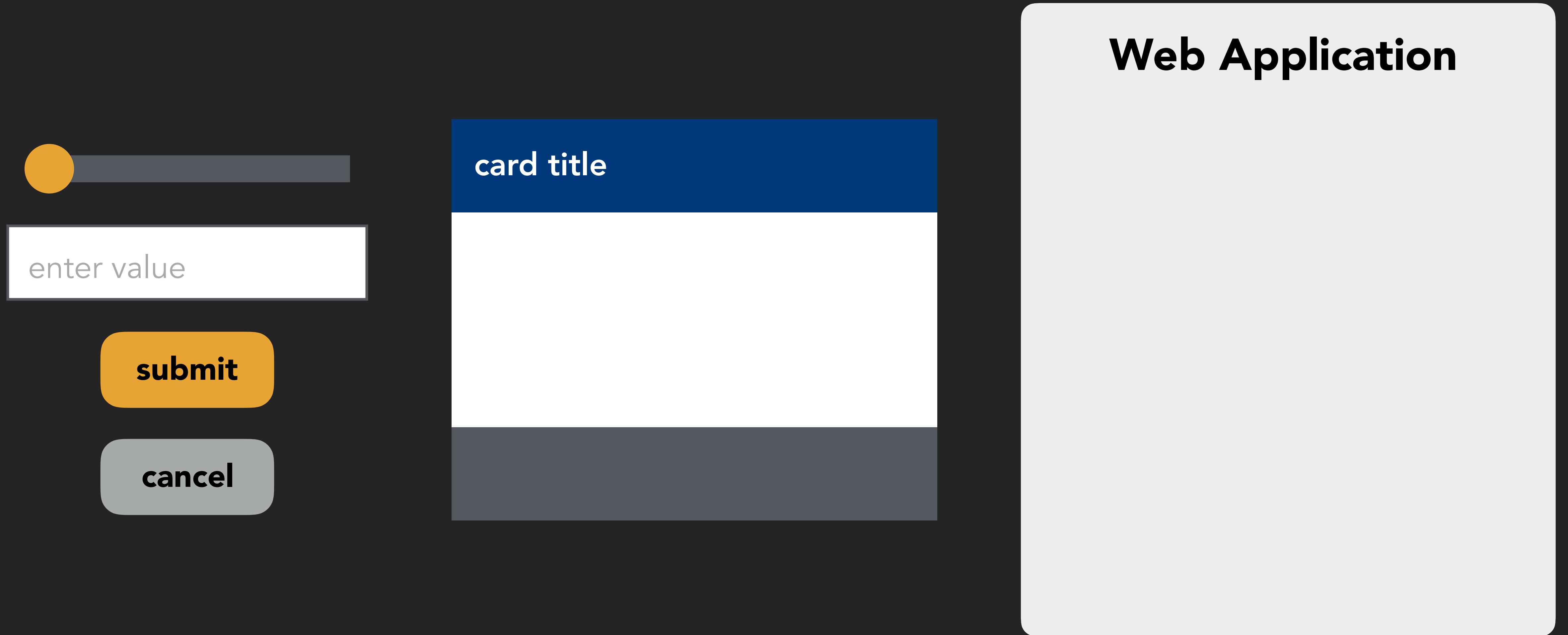
Modular Design



Modular Design In Web Apps



Modular Design In Web Apps



Modular Design In Web Apps

Web Application

update information

A modular design for a web application. It consists of several distinct components: a title bar at the top with the text "update information"; a horizontal slider with a yellow circular trackball and a dark grey slider bar; a rectangular input field with a thin black border containing the placeholder text "enter value"; and a row of two buttons at the bottom: a yellow "submit" button and a grey "cancel" button.

Modular Design In Web Apps

Web Application

update information



enter value

submit

cancel

Benefits of Modular Design

1. Consistency

[Learn More](#)

[Search](#)

[Sign In](#)

[Go](#)

[Learn more](#)

[Offer Details](#)

 [Learn More](#)

[Search](#)

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[Cruise
Reservations](#)



Benefits of Modular Design

1. Consistency
2. Maintainability
3. Performance
4. Accessibility

Design Frameworks

The screenshot shows the official Bootstrap website. At the top is a dark navigation bar with the following items: 'Bootstrap' (highlighted in blue), 'Overview', 'Grid', 'Layouts', 'Typography', 'Tables', 'Forms', 'Navigation', 'Alerts', 'Popovers', and 'LESS'. Below the navigation is a large blue header section with the title 'Bootstrap from Twitter' in white. A subtext below it reads: 'Bootstrap is a toolkit from Twitter designed to kickstart development of webapps and sites. It includes base CSS and HTML for typography, forms, buttons, tables, grids, navigation, and more.' A note at the bottom of this section says: 'Nerd alert: Bootstrap is built with LESS and was designed to work out of the gate with only modern browsers in mind.' The main content area has three columns. The first column, titled 'HOTLINK THE CSS', contains text: 'For the quickest and easiest start, just copy this snippet into your webpage.' followed by a code block: <link type="text/css" href="http://twitter.github.com/bootstrap/css/bootstrap.css" />. The second column, titled 'USE IT WITH LESS', contains text: 'A fan of using LESS.js? No problem, just clone the repo and add these lines:' followed by a code block: <link rel="stylesheet/less" type="text/css" href="css/bootstrap.less" /><script src="less.js"></script>. The third column, titled 'FORK ON GITHUB', contains text: 'Download, fork, pull, file issues, and more with the official Bootstrap repo on GitHub.' followed by a blue button labeled 'Bootstrap on GitHub'.

Grid system Rock the standard 940px or roll your own

Default grid Example grid markup

Modular Design Systems in Practice



Grid System

Typography

Form Elements

Navigation

Tables

Lists

Slats

Stats/Data

Feedback

Dialogs

Freddicons

Helper Classes

Tables

[Subscribers Table](#) [Responsive Tables](#) [Elements](#) [Add-on Classes](#) [Child Rows](#) [Stats](#)

Subscriber table

Example

	Email Address	First Name	Last Name	I'm a ...	Date	Birthday	Mem
<input type="checkbox"/>	sterling@scdp.com	Roger	Sterling	Partner			
<input type="checkbox"/>	cooper@scdp.com	Bert	Cooper	Partner			
<input type="checkbox"/>	draper@scdp.com	Don	Draper	Partner			
<input type="checkbox"/>	pryce@scdp.com	Lane	Pryce	Partner			

```
1 <div class="scdpsubscribers-table full-width lm"
2   margin-bottom-lv3>
3   <div class="st fixed-header selfclear re
latve" style="position: relative;">
4     <div class="full-width inner" data-doj
o-attach-point="accessibleTableHeaderBody">
```

MailChimp

ux.mailchimp.com

Notes

This table helps identify and segment the list subscribers based on the merge fields defined by the list owner. Up to 60 merge fields are allowed per list.

The Email Address column is absolutely-positioned, while the rest of the table scrolls horizontally when the



Search

Getting Started

Platforms

Guidelines

Components

Utilities

Touch

Activity Timeline

App Launcher

Badges

Breadcrumbs

Buttons

Button Icons

Button Groups

Cards

Data Tables

Datepickers

Docked Composer



Cards

Component Overview

Cards are used to apply a container around a related grouping of information.

VARIANTS & STATES

Base

Default

Empty

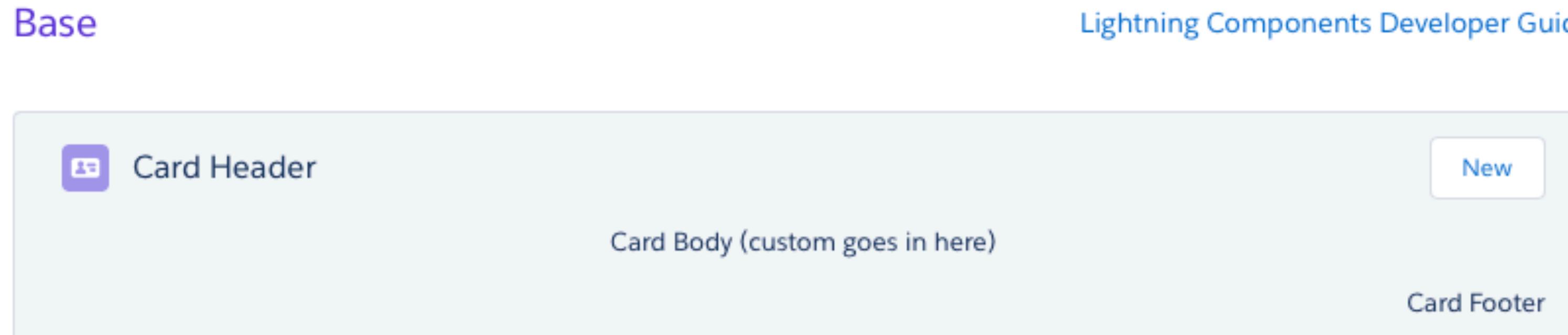
Base Narrow

Related List With Tiles

Related List With Table

Related List Narrow

DOCUMENTATION



```
<article class="slds-card">
  <div class="slds-card__header slds-grid">
    <header class="slds-media slds-media--center slds-has-flexi-truncate">
      <div class="slds-media__figure">
        <img alt="Placeholder for a contact icon" data-small="true" data-large="false" data-list-item="false" data-align="center" data-size="small">
          <use xlink:href="/assets/icons/standard-sprite/svg/glyphs.svg#contact"></use>
        </div>
      </div>
      <div class="slds-media__body slds-truncate">
        <h2>
          <a href="#" data-pointmid="621" class="slds-link--base">
```

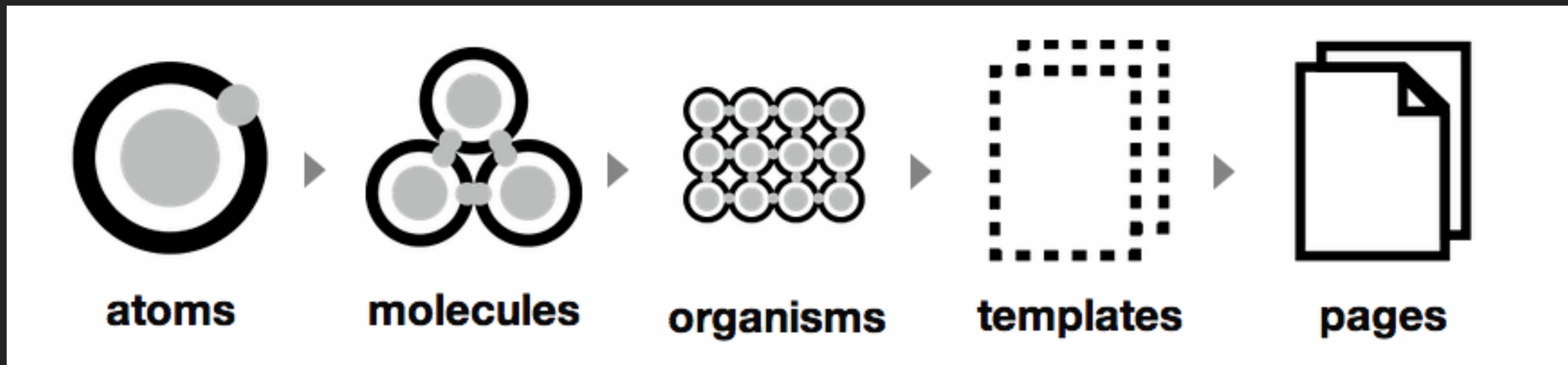
Salesforce Lightning Design System

lightningdesignsystem.com

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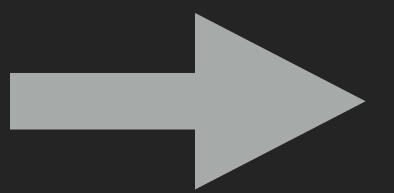
Atomic Design

Brad Frost

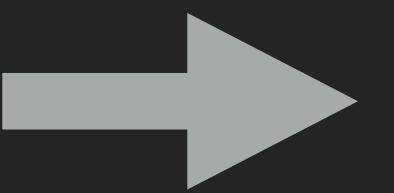




Atom



Molecule



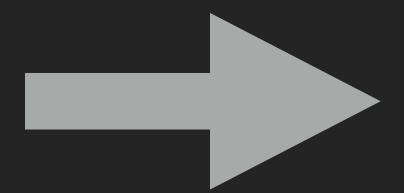
Organism

search the site

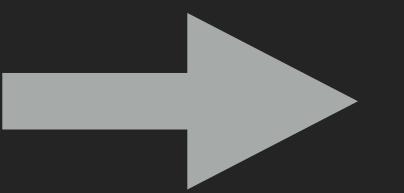
enter keyword

search

Atom



Molecule



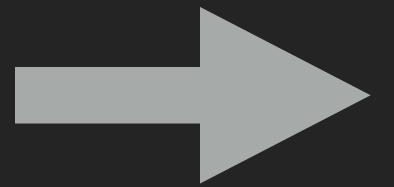
Organism

search the site

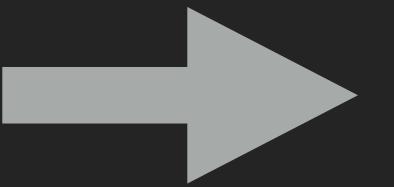
enter keyword

search

Atom



Molecule



Organism

LOGO

[Home](#) [About](#) [Contact](#)

search the site

enter keyword

search

Template → Page

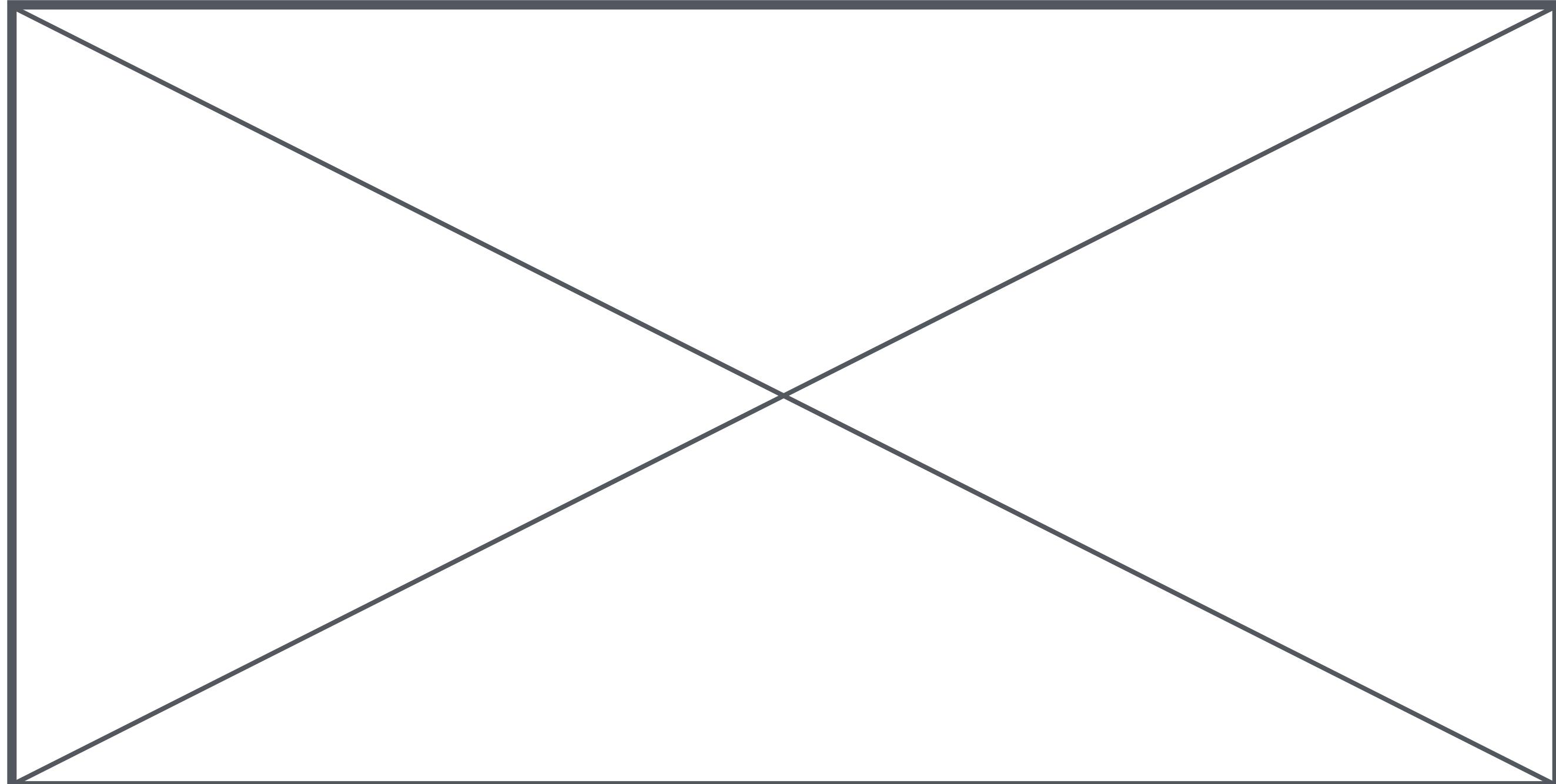
LOGO

Home About Contact

search the site

enter keyword

search



Template → Page

LOGO

Home About Contact

search the site

enter keyword

search

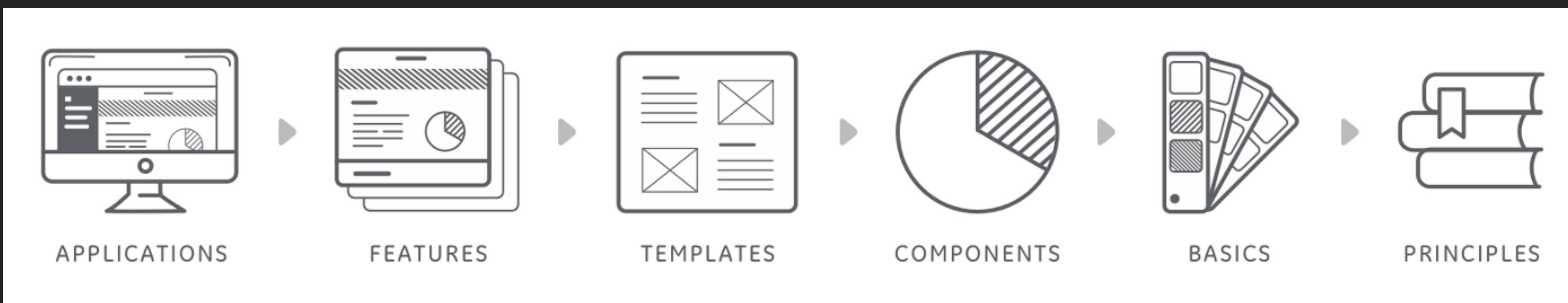


Chicago's Top Rated Doggy Day Care Service

This is copy further describing our doggy day care services and additional offerings. This is copy further describing our doggy day care services and additional offerings. This is copy further describing our doggy day care services and additional offerings. This is copy further describing our doggy day care services and additional offerings.

Alternative Terminologies

GE's Predix Design System



goo.gl/w2IMCs

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Patterns in the Design Process



Demo

Creating a Pattern Library

Pattern Lab
patternlab.io

Demo

Why Use a Pattern Library Tool?

1. Separates content & structure.
2. Establishes an ad hoc CMS.
3. Serves as a blueprint for back-end developers.
4. The first step in achieving the “holy grail.”

- COMPONENTS
- Cards >
 - Ad Units >
 - Alerts > **Selected**
 - Badges >
 - Breadcrumbs >
 - Buttons >
 - Hero Banner >
 - Month blocks >
 - Preloader >
 - Page Title >
 - Pagination >
 - Picture >
 - POI List >
 - POI Maps >
 - Price Label >

Alerts

✓ Congratulations! You are now logged in.

```
= ui_component('alert', properties: {as_below} )
```

```
{  
  type: "success",  
  title: "Congratulations!",  
  message: "You are now logged in."  
}
```

Lonely Planet's Rizzo Pattern Library
rizzo.lonelyplanet.com

```
= ui_component('alert', properties: {as_below} )
```

✓ Congratulations! You are now logged in.

```
= ui_component('alert', properties: {as_below} )
```

```
{  
  type: "success",  
  title: "Congratulations!",  
  message: "You are now logged in.",  
  subtle: true  
}
```

Lonely Planet's Rizzo Pattern Library

✗ Oops! Maybe check yourself before...

rizzo.lonelyplanet.com

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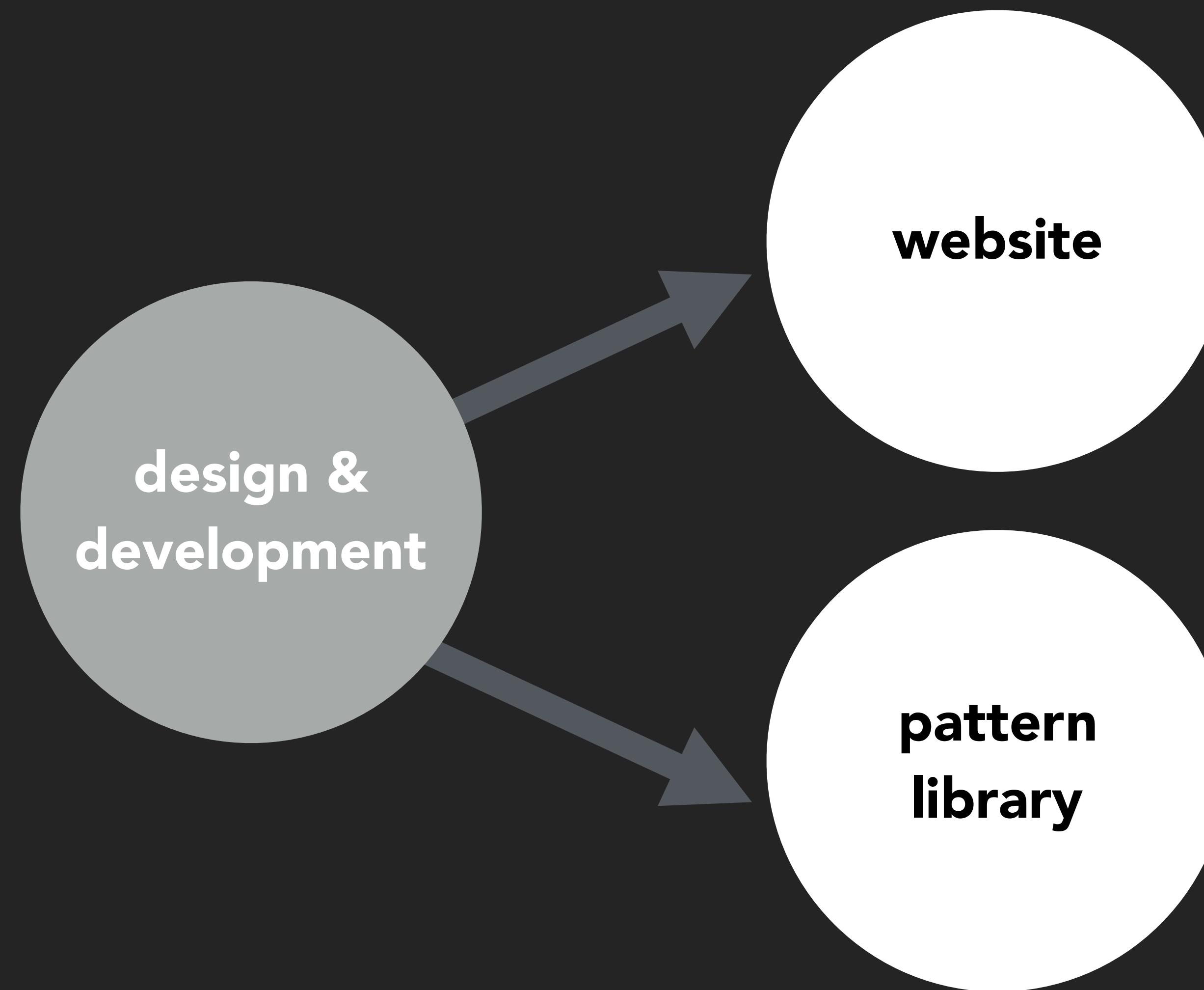
Selling to Clients

1. Promotes consistent experiences.
2. Speeds up workflow.
3. Improves cross-browser/device compatibility, performance, and accessibility.
4. Serves as a foundation for future needs.

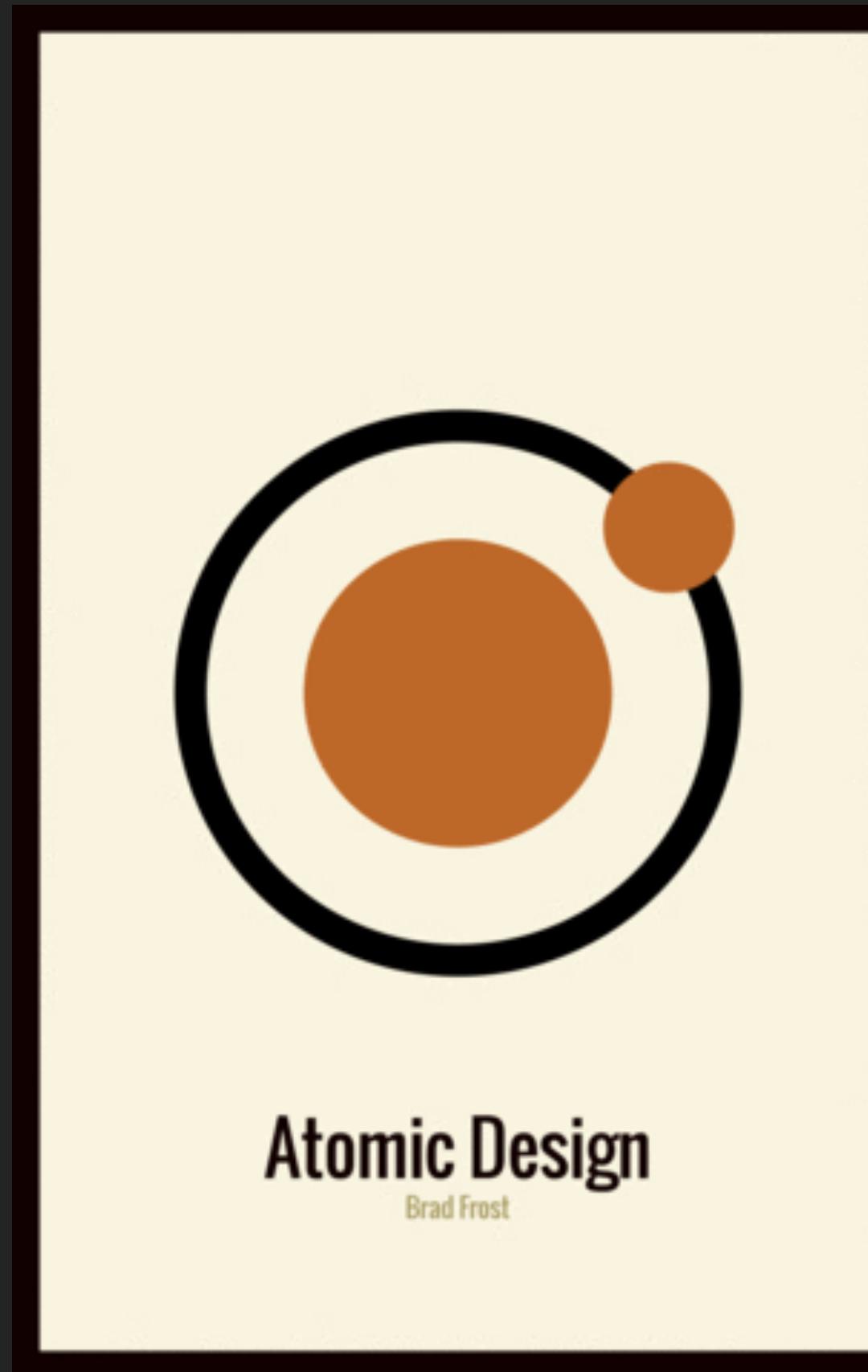
Maintaining Design Systems



Maintaining Design Systems



Further Reading



Atomic Design
by Brad Frost
atomicdesign.bradfrost.com



Questions?



Thank you.

modular.zolk.com