

Building a Drupal 8 Theme
with new-fangled awesomeness

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I'm writing a book!

Drupal 8 Responsive Web Design

Packt Publishing



Surprise!

There are new things in Drupal 8 (and front-end in general)



“I get totally overwhelmed by all the new things.
I feel like I know nothing.”

–Me. (And everyone else)



Are any of these things unfamiliar?

- info.yml
- Git
- Composer
- Drush
- Twig
- Handlebars
- Mustache
- Web components
- HAML
- libraries.yml
- Assetic
- config.rb
- Bootstrap
- Foundation
- Web Starter Kit
- Zen Grids
- Singularity
- Susy
- require.js
- Coffee Script
- AMD
- CommonJS
- Backbone
- Underscore.js
- Ember
- Angular
- Ruby
- RVM
- Bundler
- Gemfile
- Gemfile.lock
- Bower
- bower.json
- Node
- npm
- package.json
- Composer
- composer.json
- AcquiaDev Desktop
- MAMP
- Homebrew
- Vagrant
- Docker
- Chef
- Puppet
- Yeoman
- Grunt
- Gruntfile.js
- Gulp
- Gulpfile.js
- Lint
- csslint
- jshint
- eslint
- uglifyjs
- Autoprefixer
- imageoptim
- Grunticon
- Style Prototypes
- Pattern Lab
- KSS
- TDD
- BDD
- Behat
- Casper.js
- BrowserStack
- Wraith
- Pageres
- Selenium
- PhantomJS
- SlimerJS
- Jenkins
- TravisCI

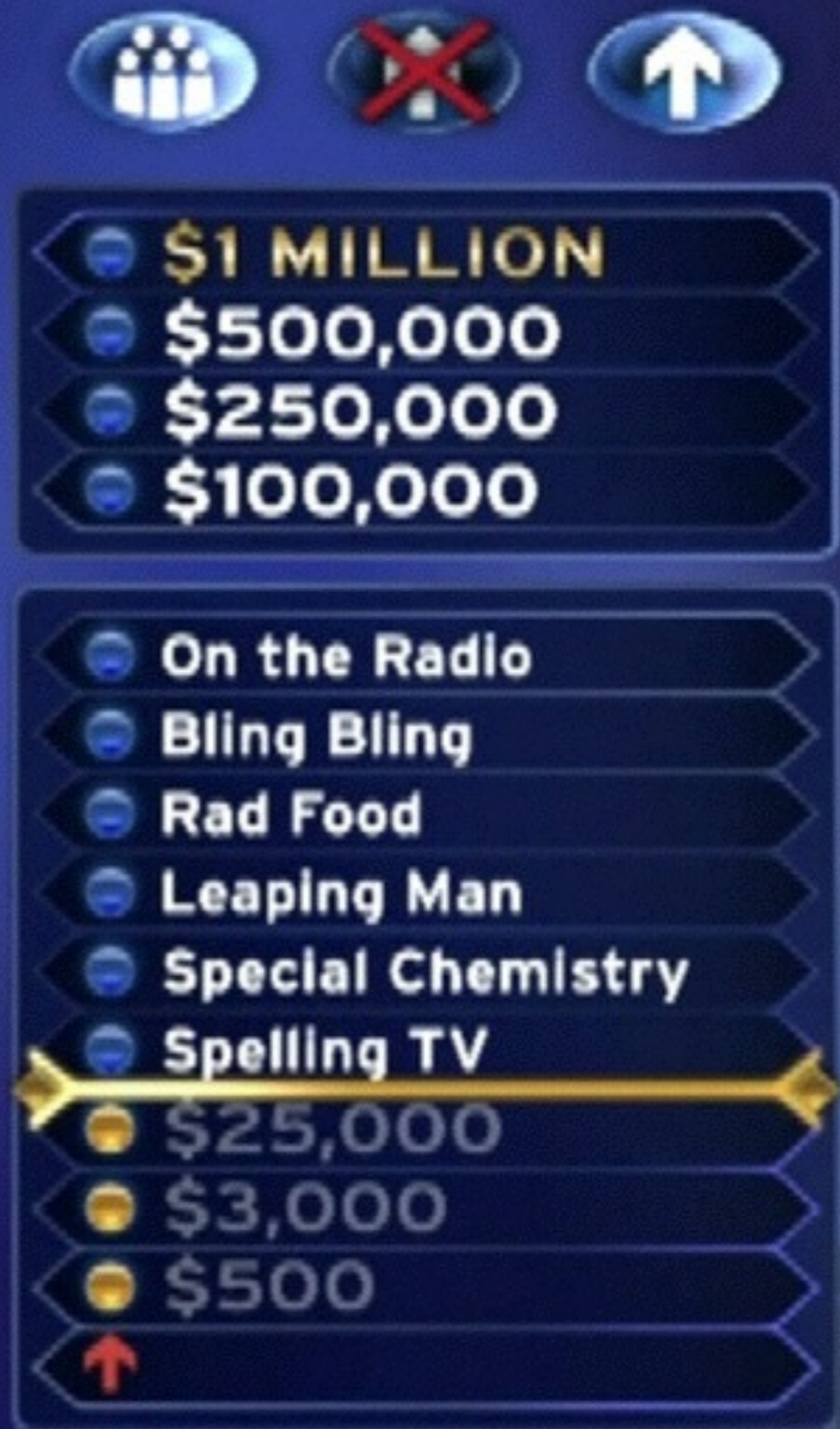
It's ok.



Let's start with themes.
So what is a theme?

Your theme
*Is that your
final
answer?*

- HTML
- CSS
- JS
- Media (images)



“All your YAML and PHP belongs to us.”

-Drupal theme files

Theme information and settings

THEME.info.yml



Theme information and settings

THEME.info.yml

```
name: 'Atomic'  
type: theme  
engine: twig  
description: 'Base theme based on atomic design principles.'  
core: 8.x  
stylesheets:  
  all:  
    - css/styles.css  
settings:  
  atomic_typekit_id: '0'
```


Theme settings

theme-settings.php



Theme settings

theme-settings.php

```
<?php
/**
 * Implements hook_form_system_theme_settings_alter() function.
 *
 * @param $form
 *   Nested array of form elements that comprise the form.
 * @param $form_state
 *   A keyed array containing the current state of the form.
 */

function atomic_form_system_theme_settings_alter(&$form, $form_state) {

    ////////////////
    // Miscelaneous
    ////////////////

    $form['typography'] = array(
      '#type' => 'fieldset',
      '#title' => t('Typography'),
      '#description' => t('Typography settings for your theme.'),
      '#collapsible' => FALSE,
      '#collapsed' => FALSE
    );

    $form['typography']['atomic_typekit_id'] = array(
      '#type' => 'textfield',
      '#title' => t('Typekit Kit ID'),
      '#default_value' => theme_get_setting('atomic_typekit_id'),
      '#size' => 7,
      '#maxlength' => 7,
      '#description' => t('If you are using <a href="!link" target="_blank">Typekit</a> to serve webfonts, put your Typekit
      Kit ID here', array('!link' => 'https://typekit.com/')),
    );
}
}
```


Settings files

THEME.settings.yml

Settings files

THEME.settings.yml

```
# @todo There is no UI yet for configuring this, but the setting is included
# here, because ConfigImportUITest requires a non-empty bartik.settings.yml
# file: https://drupal.org/node/2235901.
shortcut_module_link: false
```


Setting schema files

THEME.schema.yml



Setting schema files

THEME.schema.yml

```
# Schema for the configuration files of the Bartik theme.
```

```
bartik.settings:
```

```
  type: theme_settings
```

```
  label: 'Bartik settings'
```

```
  mapping:
```

```
    # @todo Module-specific settings should be defined by the module:
```

```
    # https://drupal.org/node/2235901.
```

```
    shortcut_module_link:
```

```
      type: boolean
```

```
      label: 'Shortcut module link'
```


Theme config defaults

other.stuff.yml



Theme config defaults

other.stuff.yml

```
id: theme.bartik.bartik
name: bartik
label: Bartik
breakpoint_ids:
  - theme.bartik.mobile
  - theme.bartik.narrow
  - theme.bartik.wide
source: bartik
sourceType: theme
status: true
langcode: en
```


Let's look at...

How do Drupal 8 themes work with...?

- HTML
- CSS
- JavaScript

Turning data into markup

HTML



Theme functions & preprocess

THEME.theme

Theme functions & preprocess

THEME.theme

```
<?php

/**
 * Implements hook_page_alter()
 */
//function atomic_page_alter(&page) {

function atomic_page_alter(&$page) {

    ////////////////////////////////////////////////////
    // Add in TypeKit Code.
    ////////////////////////////////////////////////////
    if (theme_get_setting('atomic_typekit_id')) {
        $kit_id = theme_get_setting('atomic_typekit_id');
        $kit_url = "//use.typekit.net/" . $kit_id . ".js";
        $kit_try_catch = "try{Typekit.load();}catch(e){}";
//    $kit = array();
        $page['#attached']['js'][] = array('type' => 'external', 'data' => $kit_url, 'every_page'
=> TRUE);
        $page['#attached']['js'][] = array('type' => 'inline', 'data' => $kit_try_catch,
'every_page' => TRUE);
//    drupal_render($kit);
    }
}
```


Twig: Templates that make sense

TEMPLATE.html.twig



Twig: Templates that make sense

TEMPLATE.html.twig

```
<!DOCTYPE html>
<html{{ html_attributes }}>
  <head>
    {{ page.head }}
    <title>{{ head_title }}</title>
    {{ page.styles }}
    {{ page.scripts }}
  </head>
  <body{{ attributes }}>
    <a href="#main-content" class="visually-hidden focusable skip-link">
      {{ 'Skip to main content'|t }}
    </a>
    {{ page_top }}
    {{ page.content }}
    {{ page_bottom }}
    {{ page.scripts('footer') }}
  </body>
</html>
```


Psst...

Other templating tools

- Handlebars
- Mustache
- Web components
- HAML

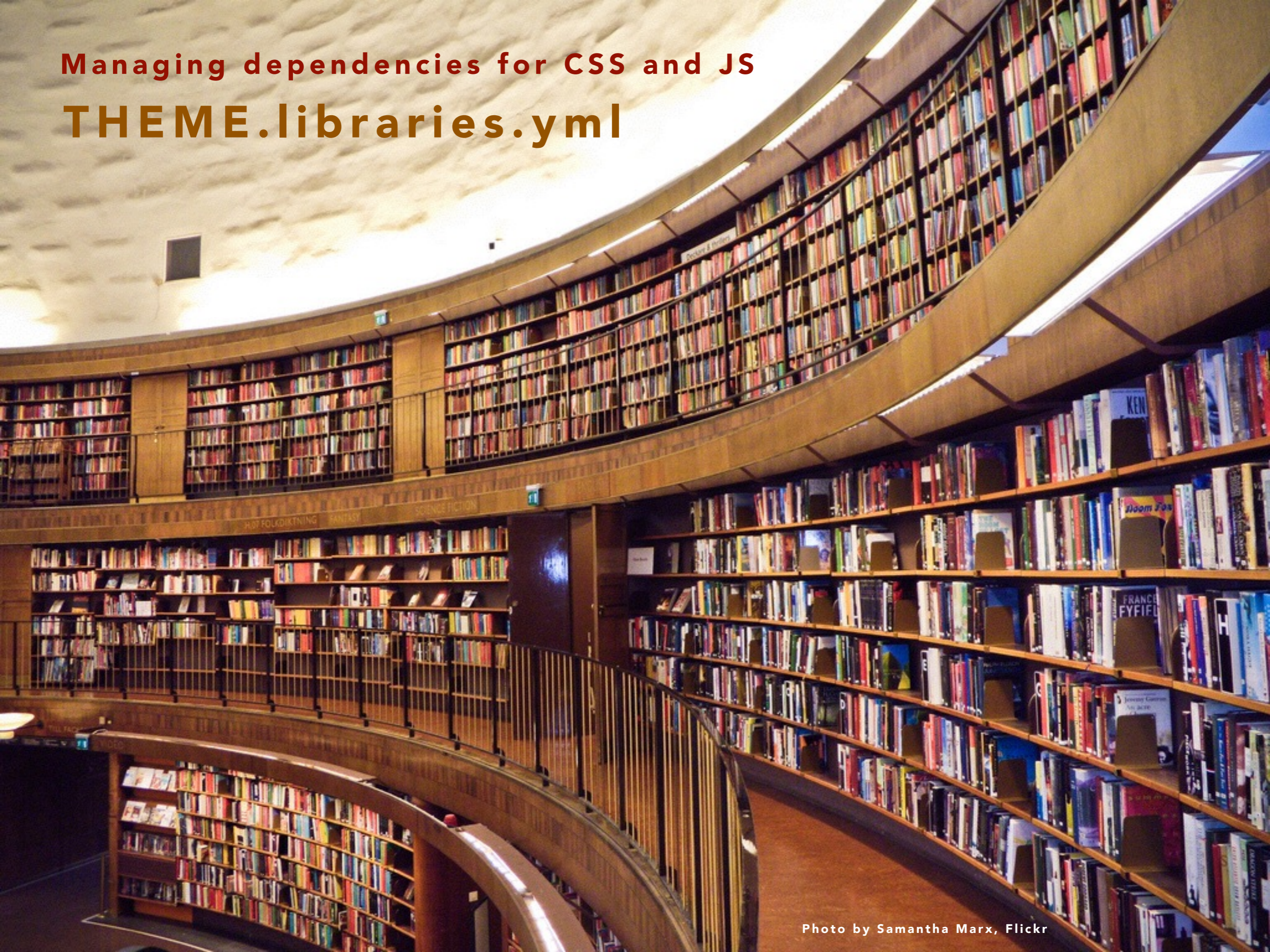
Managing stylesheets and scripts

CSS/JS assets



Managing dependencies for CSS and JS

THEME.libraries.yml



Managing dependencies for CSS and JS

THEME.libraries.yml

```
base:  
  version: VERSION  
  css:  
    theme:  
      css/layout.css: {}  
      css/style.css: {}  
      css/colors.css: {}  
      css/print.css: { media: print }  
  
maintenance_page:  
  version: VERSION  
  css:  
    theme:  
      css/maintenance-page.css: {}  
  dependencies:  
    - system/maintenance
```


Tool for managing CSS and JS

Assetic



Not just jQuery anymore

JavaScript all the things



JS tools

- Modernizr
- Underscore
- CoffeeScript

Fun with JS frameworks

- Backbone
- Ember
- Angular

(MVC for Javascript)

JS module loaders

- AMD
- CommonJS

JS script loaders

- require.js
- curl.js

Sass, Compass and more

CSS for fun and profit



Photo by Ismael Celis, Flickr

Compass configuration

config.rb

Compass configuration

config.rb

```
# Require any additional compass plugins here.
require 'compass/import-once/activate'
require 'compass-normalize'
require 'toolkit'
require 'breakpoint'
require 'susy'
require 'modular-scale'
require 'color-schemer'
require 'sassy-buttons'

# Default to development if environment is not set.
saved = environment
if (environment.nil?)
  environment = :development
else
  environment = saved
end

# In development, turn on the FireSass-compatible debug_info by default.
firesass = (environment == :development) ? true : false

# Location of the theme's resources.
css_dir = "css"
sass_dir = "sass"
images_dir = "images"
javascripts_dir = "js"

output_style = (environment == :development) ? :expanded : :compressed
relative_assets = true

# Conditionally enable line comments when in development mode.
line_comments = (environment == :development) ? true : false
sass_options = (environment == :development && firesass == true) ? {:debug_info => true} : {}
```


CSS Architecture

- OOCSS
- BEM
- SMACSS

CSS Frameworks

- Bootstrap
- Foundation
- Web Starter Kit

Grid Frameworks

- Zen Grids
- Susy
- Singularity

New CSS layout tools

- Flexbox
- Regions
- Grids

Sassy Gems

- Breakpoint
- Toolkit
- Modular Scale
- Color Schemer
- Sassy buttons

But wait, there's more!

Let's talk tools



Tools you probably want to use

- Command line
- Git
- Composer
- Drush

(It's not all that scary. Really.)

Managing dependencies and packages

Lean on me...



Photo by Marin, Flickr

PHP

Composer

- `composer.json`

Front-end

Bower

- `bower.json`

Node

npm

- package.json

Ruby

Ruby environment

- RVM
- rbenv

Bundler: Ruby gems

- Gemfile
- Gemfile.lock

Setting up a local server, manage languages, etc.

Dev environment tools



Dev environment tools

- MAMP/WAMP/LAMP/XAMPP
- Acquia Dev Desktop
- Homebrew
- Vagrant and Docker
- Chef and Puppet

Scaffolding tool to build files for themes or modules

Yeoman



Multiple command line tasks with one command

Task runners



Task runners

Grunt

- `gruntfile.js`

Gulp

- `gulpfile.js`

Node-based: `npm install`

What's a task runner without tasks?

Fun with tasks



Lints

- `csslint`
- `jslint`
- `eslint`

Minifiers

- `uglifyjs`

Autoprefixer

Image tools

- `imageoptim`
- `grunticon`

Other tasks

- `shell`
- `contrib-copy`

Building in the browser with component-based design

Prototyping tools

Pixel perfection is the enemy of the good.

Photo by Enigma Badger, Flickr



Prototype



First Article



Final
Production

Static prototypes

- Style tiles
- Element collages
- Visual inventories

Style guide generators

- Style Prototypes
- Pattern Lab
- KSS

Tools for making sure your site works before deploying changes

Testing & Deployment



Cross-browser testing

- BrowserStack

Screenshot tools

- Wraith
- Pageres

Headless browsers

- PhantomJS
- SlimerJS

BDD

- Behat
- CasperJS

Automated regression testing

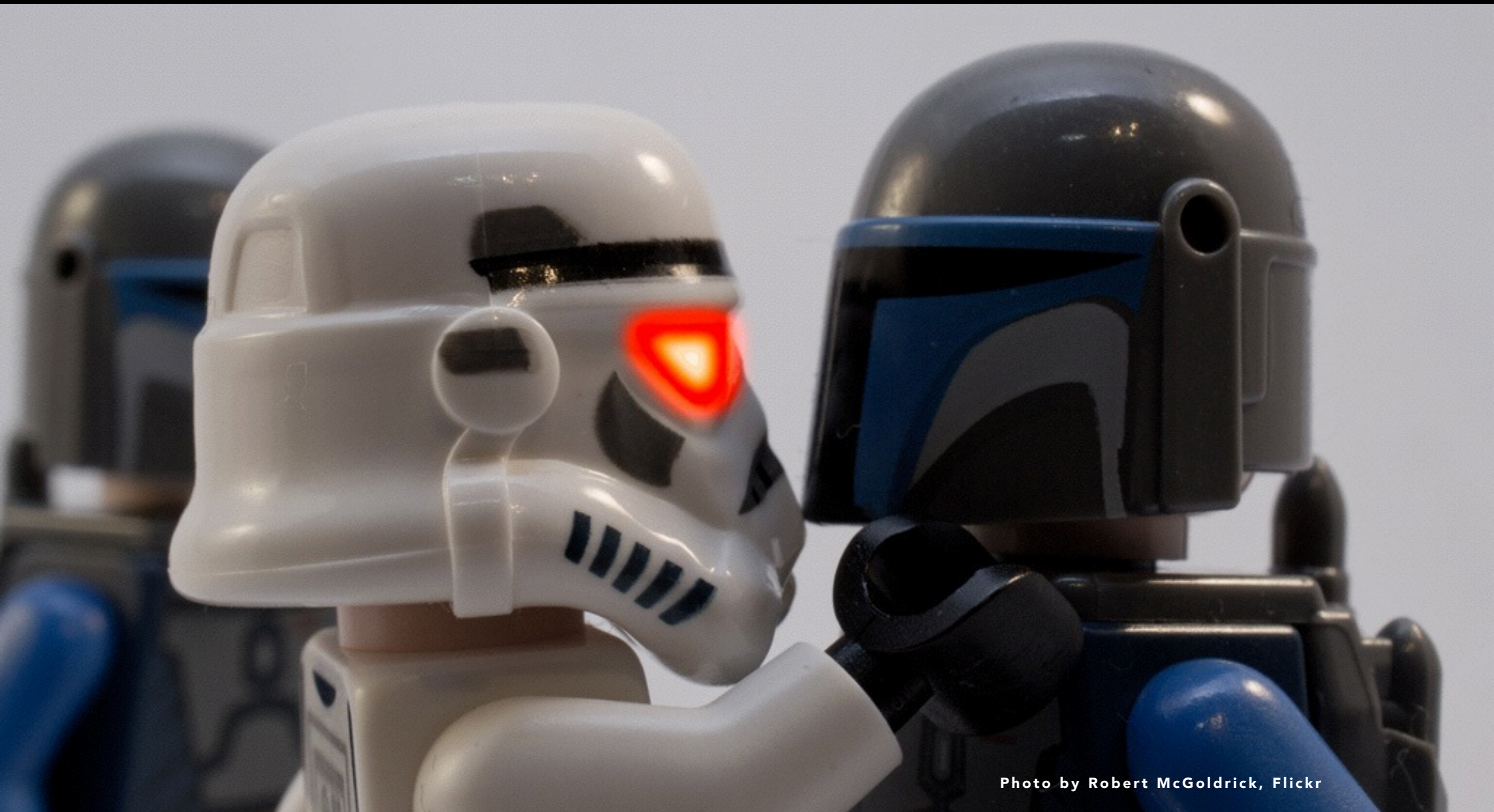
- Selenium

Continuous integration

- Jenkins
- Travis CI

Are you insane? Am I insane? Are we insane?

Why do you vex me so?



Why so complicated?

- Collaboration
- Consistency
- Capabilities
- Automate mundane tasks
- Find errors, improve performance prior to deployment

I'm scared. Hold me.

Coping with madness



You don't have to do all of this.

- Ok to just use HTML, CSS and JS.
- Try one new thing with a project.
- Next project? Try another new thing.
- Or don't.







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