



THE GREAT CONSOLIDATION: ENTERTAINMENT WEEKLY MIGRATION CASE STUDY

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Slides: <http://goo.gl/qJi8Kl>

WHO ARE WE?



Time Inc.

- ★ Jon Peck - drupal.org/u/fluxsauce
- ★ Matt Grill - drupal.org/u/drupal
- ★ Preston So - drupal.org/u/prestonso



PROJECT OVERVIEW

WHAT DID WE DO & WHO DID IT?

Jon

ENTERTAINMENT WEEKLY

- ★ Entertainment news magazine
- ★ 40th largest in the US
- ★ ew.com serves 13.7 million consumers per week

The screenshot shows the Entertainment Weekly website interface. At the top, there are social media icons for Facebook, Twitter, YouTube, and Instagram. The main logo 'Entertainment WEEKLY' is prominently displayed. Below the logo is a navigation bar with categories: TV, TV RECAPS, MOVIES, MUSIC, BOOKS, VIDEO, and SUBSCRIBE. A secondary navigation bar lists specific content: Stage, Lightbulb Videos, Game of Thrones, Winter Is Coming Recap Show, TV Themes Bracket, Star Wars, and Summer Movies. The main content area features a large article about 'Avengers: Age of Ultron' with a headline stating it earned \$187.7M at the weekend box office. Below this are two smaller article thumbnails: one about Scarlett Johansson in 'Black Widow' and another about Jamie Foxx's performance at the Mayweather-Pacquiao fight. On the right side, there is a dark-themed advertisement for 'New Relic' with the text 'Want Code-Level Application Visibility?' and a 'Yes Please' button. Below the ad is an image of a grey t-shirt with a 'DATANAUT' logo.

MIGRATION SCOPE

WORDPRESS VIGNETTE V6

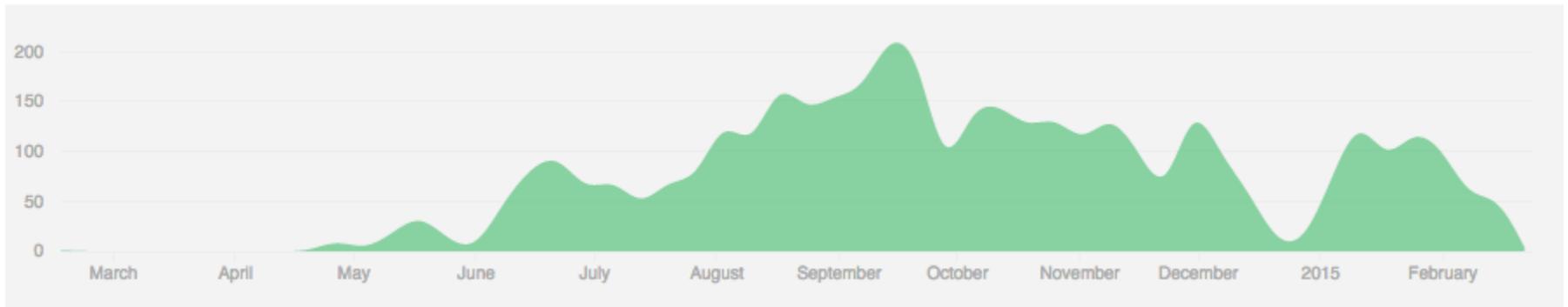
- | | | | |
|---|----------------------|---|-------------------------|
| ★ | 10 blogs | ★ | 117,326 articles |
| ★ | 51,616 terms | ★ | 201,986 images |
| ★ | 101,581 posts | ★ | 97,611 terms |
| ★ | 90,435 images | ★ | 4,924 galleries |

DEVELOPMENT TEAMS

- ★ **Four Kitchens** - 3 to 6 developers
- ★ **Time Inc.** - 1 to 4 developers
- ★ Zoom, HipChat for regular communication
- ★ Video really helps
- ★ **GitHub Selfies** - goo.gl/KrtRur improved morale



TIMELINE



- ★ First commit: April 29th, 2014
- ★ Launch: January 29th, 2015
- ★ 17 sprints

DELEGATION OF RESPONSIBILITIES

FOUR
KITCHENS

TIME INC.

- ★ Project Management
- ★ Data structures
- ★ Migration
- ★ Implement design, advertising

- ★ Product Owner
- ★ Design
- ★ Workflow
- ★ Infrastructure, build process



PROCESS

STANDARDS AND DOCUMENTATION

Preston

DEFINITION OF READINESS AND COMPLETION

- ★ Stakeholders: Context necessary for development
- ★ Developers: Reviews, PO acceptance, demo, docs
- ★ Evolving framework

CODE AND STYLE STANDARDS ALGORITHMICALLY ENFORCED

- ★ PHP_CodeSniffer **with Drupal rules from coder**
- ★ jshint **syntax and errors**
- ★ jscs **code style**
- ★ EditorConfig **settings**

COMMIT AND PULL REQUEST WORKFLOW

- ★ Descriptive commit messages
- ★ Robust testing instructions
- ★ Pull request labels

PEER CODE REVIEWS

CODE REVIEW: DOES IT...

- ★ Pass code and style standards?
- ★ Accomplish the task gracefully?
- ★ Perform at an optimal level?

PEER CODE REVIEWS

FUNCTIONAL REVIEW: DOES IT...

- ★ Fulfill the intent of the story?
- ★ Use best practices?
- ★ Avoid technical debt?

DEVELOPMENT ENVIRONMENTS

- ★ Documented project-specific process
- ★ Greatly reduced on-boarding time
- ★ Provided detailed feedback

BRANCHING STANDARD

- ★ Reduces clutter, helps manage releases
- ★ Improves communication, navigation
- ★ `sprint-XX` (kept for one sprint)
- ★ `PROJECT-YY` (deleted after merge)
- ★ Tags added when deleting sprint branch



FRONT-END

THEMING, PERFORMANCE AND
ADVERTISING

Matt

AURORA, MOBILE FIRST THEMING

- ★ Separate themes hard requirement
- ★ Edge device detection set cookie
- ★ `theme_key` switched theme using cookie
- ★ Used `Aurora` as base theme
- ★ HTML5, Sass & Compass
- ★ Mobile theme is sub-theme of `Aurora`
- ★ Desktop is a sub-theme of `Mobile`

GULP TASK MANAGEMENT

- ★ Compiles Sass
- ★ Runs JavaScript checkers
- ★ Watches for changes



JAVASCRIPT GLOBAL SCOPING

```
▼ Object {ping: function, helpers: Object, screenWidth: 1306, viewportHeight: 628, isMobile: false...}
  ▶ advertising: Object
  ▶ comments: Object
  ▶ helpers: Object
  isMobile: false
  ▶ omniture: Object
  ▶ ping: function () {
    screenWidth: 1306
  }
  ▶ social: Object
  ▼ variables: Object
    article_id: "2180393"
    article_type: "1"
    ▶ authors: Array[1]
      blog_name: null
      body_trunc: "<p>The summer blockbusters are officially here. Kicking off the&nbsp;season with an estimated $187.7 million debut,
      <em>Avengers: Age of Ultron</em> has secured its place as the second largest domestic opening of all time. Still, it fell short
      of the record set by the first film: <em>The Avengers </em>is still the only movie to make more than $200 million in its opening
      weekend.</p>"
      canonical_url: "http://www.ew.com/article/2015/05/03/box-office-report-age-of-ultron-opening"
      chartbeat_uid: "50274"
    ▶ content_modules: Object
      content_type: "article"
    ▶ creative_works: Array[1]
      custom_ad_tag: null
    ▶ dates: Object
      display_ads: true
```



Created global JS
object for all EW
functions



Centralized point of
entry



Easy access

ATOMIC JAVASCRIPT FUNCTIONALITY

- ★ Break related functions into individual files
- ★ Only load what's needed
- ★ Improves front-end performance



PRE- PROCESSING

- ★ Node template data built in pre-processing
- ★ Clean & reusable
- ★ Helper and abstractions

GLOBAL METADATA OBJECT

- ★ Useful for integrations requiring metadata
- ★ Avoids repetition
- ★ Facilitates data collection by crawlers

BEACON PERFORMANCE

- ★ Delay loading of beacons (non-blocking/defer)
- ★ Use defer for injecting JS tags

AD PERFORMANCE

- ★ No ad specific logic in templates
- ★ Data attributes contain relevant values
- ★ Avoids inline JS
- ★ Ads process and render in footer (after page load)



EDITORIAL UI & WORKFLOW

Preston

PACKAGES AND CHANNELS

- ★ Automatic dynamic content
- ★ Editors define rules for selection
- ★ Optional manual curation

CUSTOM CONTENT TYPES

- ★ Used existing TI features to begin
- ★ Rounds of PO, editor feedback
- ★ Usability key to adoption

DYNAMIC ENTITY REFERENCES

- ★ Many aggregate views
- ★ Editorial control of views, but with overrides
- ★ Custom module that "fills in" empty parts of a view based on context
- ★ View lists 15, editor defines 5, DER populates remaining

DYNAMIC ER CHALLENGES

- ★ Modular, extensible, reusable
- ★ Accurate dynamically curated nodes
- ★ High performance
- ★ Editorial expectations for caching
- ★ State Machine integration



CONTENT MIGRATIONS

WORDPRESS, VIGNETTE TO DRUPAL

Jon

WORDPRESS CHALLENGES

- ★ 10 different blogs, structures, taxonomies
- ★ Invalid markup
- ★ Custom shortcodes, filters

WORDPRESS_MIGRATE NOT ENOUGH... BUT STILL USEFUL!

- ★ Extended classes
- ★ Helped normalize WXR structure (*really just XML*)
- ★ Focus on custom logic

WORDPRESS PRE-PROCESSING

- ★ Stripped comments
- ★ Transformed identifiers
- ★ Separated authors, images, tags

WORDPRESS SHORTCODES, FILTERS

- ★ Implemented subset of shortcodes in Drupal
- ★ Most not migrated
- ★ Rendered as HTML in pre-processing
- ★ Used WordPress libraries, existing code
- ★ Faked WordPress bootstrap to execute natively

MAPPING WORDPRESS TAGS ON IMPORT

- ★ Specific vocabularies
- ★ New content types (People, Creative Works)
- ★ CSV Spreadsheet used for defining rules

EXPORTING FROM VIGNETTE

- ★ Rendered as XML files
- ★ Most procs were rendered as HTML
- ★ Transformed overloaded taxonomies to content

IMPROVING MIGRATION PERFORMANCE

- ★ Validate all XML before ingestion
- ★ Eliminate all PHP errors, warnings
- ★ Avoid redundant migrations
- ★ Use `cache_counts`

REDUCING MIGRATION OVERHEAD

- ★ Disabled `solr`, `pathauto`, `metatag`, others during migration
- ★ Indexing lookup tables
- ★ Ran migrations in parallel
- ★ Ensure HW resources are sufficient

REDIRECT STRATEGY

- ★ Minimize Drupal performing redirects
- ★ Redirect farm (rules, 1:1 redirects)
- ★ DNS changes
- ★ Redirects from migrated servers



PERFORMANCE AND CACHING

Matt

FRONTEND PERFORMANCE

- ★ CSS is Sass and Compass optimized
- ★ Targeted - only load needed CSS
- ★ JavaScript is linted, strict standards
- ★ JS in the footer (non-blocking)

FRONTEND CACHING STRATEGY

- ★ Editorial 1 minute publish to live
- ★ Ensure cacheable headers are set
- ★ Shorter TTL on Akamai than Varnish
- ★ Send purges on publishing

BACKEND PERFORMANCE

- ★ Eliminate PHP errors
- ★ Cache, EXPLAIN custom queries
- ★ Minimize unnecessary overhead
- ★ Module count
- ★ Benchmarking

PERFORMANCE TESTING

- ★ Load test production with migrated data
- ★ Blitz.io and custom tooling
- ★ New Relic for introspection
- ★ Exercised different content types, exceeded TTLs
- ★ [WebPageTest.org](https://www.webpagetest.org)



WHAT DID YOU THINK?

EVALUATE THIS SESSION ON
events.drupal.org

THANK YOU!

@fluxsauce @alwaysworking @prestonso