WEB DEVELOPER’S GUIDE TO THE DHTS ENVIRONMENT
## 1 Project Lifecycle

<table>
<thead>
<tr>
<th>Vendor Engagement Phase</th>
<th>Supporting Section</th>
<th>Involved Parties</th>
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</thead>
<tbody>
<tr>
<td><strong>Project Planning / RFP</strong></td>
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<td>Client / Vendor</td>
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<tr>
<td>This level involves determining</td>
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<td>the project goal and running a</td>
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<td>like project cost, equipment</td>
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<td>cost, practicality etc.</td>
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<tr>
<td>**System Requirements Analysis /</td>
<td>2. Drupal Build</td>
<td>Vendor / DHTS Technical Representative</td>
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<tr>
<td>Scope**</td>
<td>3 Roles and</td>
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<td></td>
<td>Responsibilities</td>
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<td>Refinement of project goals into</td>
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<td>defined functions and operations</td>
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<td><strong>System Design</strong></td>
<td>2 Drupal Build</td>
<td>Client / Vendor / DHTS Technical Representative</td>
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<td>Documentation of various details</td>
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<td>such as screen layouts, process</td>
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<td>diagrams and other documentation</td>
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<td>are done here.</td>
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<td><strong>Implementation / Coding</strong></td>
<td>4.1 Source Code</td>
<td>Vendor</td>
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<td>This is where the expertise of</td>
<td>Repository</td>
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<td>web development services are</td>
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<td>needed the most when actual back</td>
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<td>end coding is done.</td>
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<td><strong>Testing</strong></td>
<td>4. Deployment</td>
<td>Vendor / Client</td>
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<td>In this phase the product is put</td>
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<td>and used by web development</td>
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<td>services to make the product to</td>
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<td>remove its bugs and errors to</td>
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<td>ensure harmonious execution.</td>
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<td><strong>Acceptance / Deployment</strong></td>
<td>4.5 Change Meetings</td>
<td>Vendor / DHTS System Admin</td>
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<td>Finally the web development</td>
<td>and Deadlines</td>
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<td>services deploy and install the</td>
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<td>system after getting formally</td>
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<td>approved by the client.</td>
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<td><strong>Non Environmental Site</strong></td>
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<td>Vendor / Client</td>
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<td><strong>Maintenance</strong></td>
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<td>The web development services not</td>
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<td>only make sure the installation</td>
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<td>maintenance and upgrading if and</td>
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<td>when needed.</td>
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2 Drupal Build

2.1 Platform Features / Limitations

Core: Aquia Drupal 7.26 Multi-Site Configuration

- Shibboleth managed by Duke for managed DHE accounts.
- No external authentication at this time.
- No session data without DHTS authorization.
- No outbound connections DHTS authorization.
- Site access roles are generally limited to Contributors and Editors.
  - Contributors may author content but not promote to publish status.
  - Editors may author, publish and promote contributor content.
  - Exceptions can be made to allow site administration for development and account access management.
- Content Management (ability to change navigation links, banners, center content, adding right side bars, content in the right side bars, new pages)
- Authentication with DHE Active Directory for Content Contributors / Editors.
- Site Search (Google Custom Search).
- Simple Web Forms (non SEI data to be sent through the emails, no workflow)
- Google Analytics tracking code and access to self-serve reports.
- After the site is moved to production, DNS name change may take up to 3 days
- Files uploaded to the web server must follow standard file name convention (alpha, numeric, hyphen and underscore characters only – no special characters, such as period or parentheses)
- Each site is allotted 75MB total for all document and image files uploaded through the WYSIWYG; maximum file size is 5 MB. Larger files must be hosted on file servers and linked.

Note the following constraints for any content editor / contributor:

- No access to module code or to core code
- The Drupal CMS is designed for use by non-programmers. No knowledge of html or other code is required. The CMS uses a WYSIWYG-type edit interface to populate page content and administrative pages to manage menus, blocks, banners and other content types. (Note: management of any custom html is not part of the default CMS and requires editor knowledge of HTML coding; Web Services does *not* provide training in HTML and is not responsible for broken code)
- Client-provided java scripting is typically not allowed, but may be considered.
- No access to Drupal administration
- No access to user permissions
- Editor and Writer roles have the ability to edit any content on the site – there is no capability to limit editing privileges by section or page. However, at no additional charge, the client may opt to use a workflow module, which will allow editors to approve any content before it is published.
2.2 Architecture
2.3 Authoring System

Items (nodes) are created and updated on the authoring system allowing a single SSL certificate to service multiple domains. Public facing domains generally do not have SSL certificates.

Some nodes contain items such as images, video, and pdfs which are not stored in the database but rather the filesystem. These items are replicated from the authoring system to the content systems. Defined items dynamically created on the content system are optionally replicated to the authoring system.
Varnish caches store cacheable contents and serve non-cached items from any available content servers.
Solr master replicates search content to multiple Solr read-only search systems.
2.4 Core Modules

Site should include but are not necessarily limited to the following features:

1. Content easily created and edited by content owners using a wysiwyg interface
   Modules: Wysiwyg, Tiny MCE

2. Page creation includes the ability to upload, link and maintain image and document files.
   Modules: Link, Linkit,

3. Created pages have friendly URLs with the ability edit these and add additional aliases.
   Modules: Path, Pathauto,

4. Created content should have the ability to be hidden while being developed and then published later.
   Modules: Core,

5. Edited content should have revisioning so edits can be rolled back if needed.
   Modules: Diff, Revisioning

6. Content should be able to be placed in positionable blocks or areas.
   Modules: Core, Panels,

7. Hierarchical menu structure easily created, edited and administered.
   Modules: Core

8. Breadcrumbs
   Modules: Easy Breadcrumb

9. Editors/users authenticated against DHE Active Directory
   Modules: Users, Shibboleth authentication, Shibboleth User Provisioning, Redirect User Login?

10. May be required by some clients, 2 or more roles of editor/admin/writer so a second tier role can create and edit content that is not automatically published until approved by a higher tier. Preferably with rules and structure so that the upper tier is notified via email about new content or changes.
    Modules: Rules

11. Webforms easily created and submissions emailed, with the ability to set HTML Mime type in output if needed. Editor should be able edit and control on submission messages or landing pages. (With SMPT authentication support)
    Modules: Webform, HTML Mail*, SMPT authentication support*

12. Editors should be able to manage page blocks and control their display
    Modules: Core

13. Every page (ie by footer/header) should display links to the following:
    a. Privacy Policy
    b. Contact info or contact form for site feedback
    c. Sitemap
    d. Search form to search site content
    Modules: Search, Search API, Search views, XML sitemap

14. Ability to display a calendar list and details from a json feed of Duke University Calendar application, differentiated by group, or alternate calendar display.
    Modules: OIT Calendar Version 2, Check OIT modules

15. Ability to display and aggregate News Feeds and other RSS material
    Modules: Core, Feeds, Feeds Admin UI

16. Maintain and display Blog type pages
    Modules: Blog, Core

17. FAQ type displays
    Modules: FAQ*

18. Connect with the Dukehealth.org faculty feed and display: (Transition to Scholars feed later)
    a. Individual profile page with standard info and picture
    b. Individual related information block and links
    c. Display list of faculty by department/division
d. Or alphabetical Index

e. And/or ability to search for faculty

   Modules: DukeHealth Feeds, Duke Faculty, Check OIT Scholars@Duke modules

19. Option to display images in a banner carousel, gallery and/or slideshow format.

   Modules: TBD

20. Ability to embed a Google map with location data or display a map with multiple data points linked to secondary information details.

   Modules: GMap, GMap Location, Location,

21. Ability to add Google Analytics account tracking code.

   Modules: Google Analytics*

22. Editor menu to create content types, access and manage content, menus and features.

   Modules: Core

23. Separate administrative menu for site administration and setup

   Modules: Administration menu, Dashboard, Toolbar

24. Dynamic Themeing style/layout based of platform display width (ie Desktop vs mobile)

   Modules: Color, Conditional Stylesheets, Mobile Detect, Strongarm

25. CSS injector or other means for experienced editors/admins to add/modify CSS styles.

   Modules:

26. Other required modules and tools to support the above features.

   Modules: Chaos Tools, Contextual links, Delete content and users, Features, Image, jQuery Update, JSONPath Parser, Media, Media: YouTube, Number, Options, System, Taxonomy, Text, Views, Syslog, Memcache, Varnish, APC

3 Roles and Responsibilities

3.1 Site Owner Responsibilities

- RFP, development & support contract with vendor
- Demonstration of ability to perform common tasks with the CMS and verification of the template and styles, immediately following training
- Content population (input) and page layout; Drupal does not have functionality to pull in data automatically from other sources. It is incumbent on site editors to use the tool provided to strip out extraneous code from source content to prevent display errors.
- Proficiency with Word page layout and formatting is desirable. Proficiency with an image editor is desirable.
- Training of new editors, post-launch
- Provision of DHE-domain Active Directory accounts for editors (work with your local IT Admin)
- Designating an in-house support person to troubleshoot editor questions
- Content accuracy & validation
- Provision of photo and image files and image editing software
- Management of a hosting account on media servers, as necessary
- Backup storage of document and image files on local drive; deletion of un-used files from the server – Note: files accidentally deleted cannot be recovered.
- Posting only public information; information targeted to internal Duke users must be posted on the separate Intranet SharePoint platform and is outside the scope of this project Adherence to Web Policies and Standards, which provide guidelines for site owners and editors in managing and administering Duke-hosted web sites; no PHI or SEI is allowed
- Approvals at key intervals from key stakeholders and coordination of any user testing prior to launch
- Collaboration, through a single, designated point of contact, with vendor staff resources
3.2 DHTS Web Services Group Responsibilities

- Integrity of web platform
- Functionality of the core code, template, admin pages, WYSIWYG editor and Flash features
- One group training session, and documentation, on use of the CMS
- User permissions (roles) on client request
- Server performance under our direct control (exclusive of network, infrastructure outages)
- Adherence to Duke Information Security Office technical policies and standards
- Domain name registration and/or redirects, and launch
- Hosting environment

3.3 Secured Internal Content or Intranets

Public web sites built with Drupal platform will not host any secured internal content or contain any other restricted areas requiring a log in. DHTS Web Services will work with clients on a case by case basis who require this type of functionality.

3.4 Availability

DHTS Web Services covenants to 99.9% Web server availability, defined as the ability to retrieve the HTTP headers from the hosting server, calculated on a monthly basis. DHTS Web Services will not monitor availability of individual sites but only monitors the server availability as a whole.

3.5 Issues Outside of Scope

The following issues are not included in the scope of this project:

- Content generation (writing, editing, provision of images or of multimedia)
  - Image sources: Duke Photography or free, online stock images
  - Video production: Duke Media Services
- Training in media production or manipulation
- Acquisition of user account on OIT streaming server or Events@Duke (as applicable)

4 Deployment

4.1 Source Code Repository

Source code repository:

Source code and configurations are stored in a git source code repository. Each website is configured with its own git repository. Further repositories for additional breakout of common functions can be discussed further on a case by case basis.

Each repository shall be associated with a designated approver. Requests for access, as well as level of access, shall be approved by this individual. This individual is additionally responsible for notifying the git system administrator when access shall be removed as well verifying access lists on a periodic basis.

Access to the source code repository is based on ssh keys provided to the system administrator.
Sample git clone:

```
git clone git@vml-wsscm01.dhe.duke.edu:/repository.git
```

### 4.2 Change Management

The Change Management process aims to improve and maintain service quality, providing a structured approach to managing and implementing changes in IT Infrastructure and Systems. The actions to achieve this include the requirement to document, test, schedule, approve, report and monitor all changes. The process must evaluate achievement of customer expectations and take steps to improve or modify changes accordingly.

The primary objective of Change Control is to protect the live production environment. The Change Management process helps organizations understand and work to minimize risks of changes to the IT environment. A Change is the addition, modification, or removal of anything that could have an effect on IT services. The scope of changes include IT services, configuration items, architecture, processes, tools, metrics and documentation.

### 4.3 Change Management Benefits

The value of following our Change Management process includes:

- Protecting the business, and other services, while making required changes.
- Reducing failed changes and therefore service disruption, defects and re-work.
- Contributing to meet governance and audit requirements by providing auditable evidence of changes.

### 4.4 Change Management Strategic Focus

- **Reduce unauthorized changes**
  - ensure changes are documented and approved
  - track incidents caused by unauthorized changes
  - ensure change windows are enforced

- **Align the change management process with business, project and stakeholder change management processes**

- **Risk evaluation of all changes are understood to avoid service interruptions**

- **Change boards provide a single focal point for change approvals in order to minimize conflicting changes and potential disruption to supported environments**

### 4.5 Change Meetings and Deadlines

<table>
<thead>
<tr>
<th>Group</th>
<th>Meetings</th>
<th>Submission Deadlines</th>
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<tbody>
<tr>
<td>Duke Medicine Change Advisory Board</td>
<td>Mondays 10:00-11:00 am</td>
<td>by Thursday, 10:00 am</td>
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<td></td>
<td>Wednesdays 3:00-4:00 pm</td>
<td>by Monday, 3:00 pm</td>
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</table>
### Maestro Care Non-Production Change Control Board

| Tuesdays and Thursdays 2:00-3:00 pm | by 9:00 am on day of the meeting |

### Maestro Care Production Change Control Board

| Tuesdays and Thursdays 3:30-4:30 pm |

## 4.6 Change Request Expected Format

All vendors are expected to supply change requests to be represented by DHTS in the following format:

- Reason for Change (Business Justification)
- Implementation Plan
- Test Plan
- Remediation / Back Out Plan
- Communication Plan
- Schedule
- Start Date
- End Date

## 5 DHTS Drupal Team

### DHTS Drupal Team Contacts

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DHTS Analyst / Drupal Trainer  
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