

Migration Plan from Drupal 6 to Drupal 8



Gung Wang

Lead Drupal Developer
Web Development Professional

CIT, State University of New York Geneseo



Topics

Phase I. Research & Drupal 8 Features

Phase II. Geneseo Drupal 6 Platform Overview

Phase III. Upgrading Modules from D6 to D8

Phase IV. Upgrading Themes & Templates

Phase V. Database Migration

Phase VI. Geneseo Websites Migration & Cut Over



Migration Progress

Research & Outsource

Do research for Drupal 7 and Drupal8

Compare D6 with D8

Outsource Migration?

Upgrading Modules

Drupal Contributed Modules

Geneseo Custom Modules

Rewrite code based on D8 standard

Migrate & Test

Themes & Templates

Geneseo Custom Themes & templates

Geneseo all Geneseo library Mobile theme Geneseo garland

Rebuild themes & templates

Test

Database D6 to D8

Drupal migration module

DB structure: D6 VS D8

Write scripts to export/import data ?

Manually fix data ??

Websites Migration & Test

Contents, nodes, images, files

Websites cut over

Test & review

Drupal 8 training



Phase I.

Research & Drupal 8 Features

With more than 200 new features and improvements





I. Do Research in Drupal 8

Installed XAMPP1.8.3 package on Testing Server

- Drupal 8 requires PHP 5.4 or above
- Apache 2.4.9, MySQL 5.6.16
- PHP 5.5.11 & PEAR + SQLite + multibyte
- phpMyAdmin 4.1.12

Current Web Server

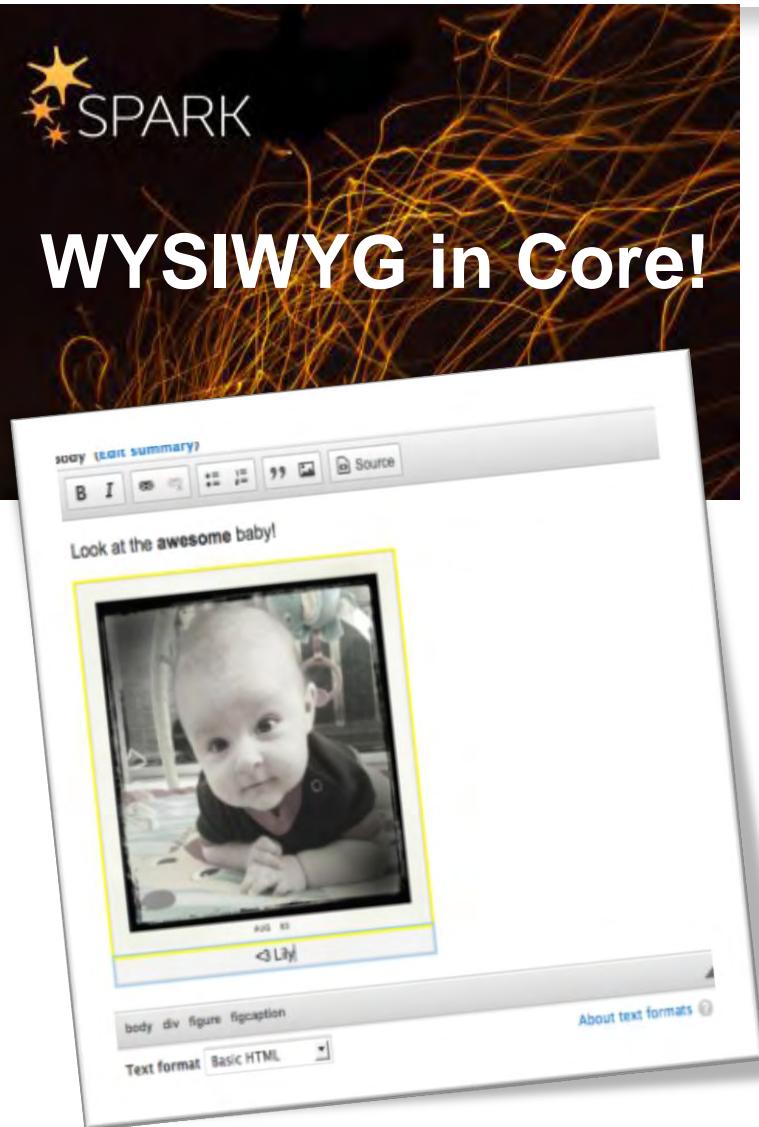
- Drupal 6, PHP 5.2, Red Hat Linux 2.6
- Installed Current Geneseo Website (Drupal 6) on **PHP5.5** Web Server
- PHP 5.4 has finally removed "call time pass by reference"
- Drupal 6 Views module not working well

Installed & Tested Drupal 8

- Drupal 8.0.0-alpha12
- Drupal 8.0.0-alpha13
- Drupal 8.0.0-beta3
- Drupal 8.0.0-beta7
- Drupal 8.0.0-dev (the latest dev version)

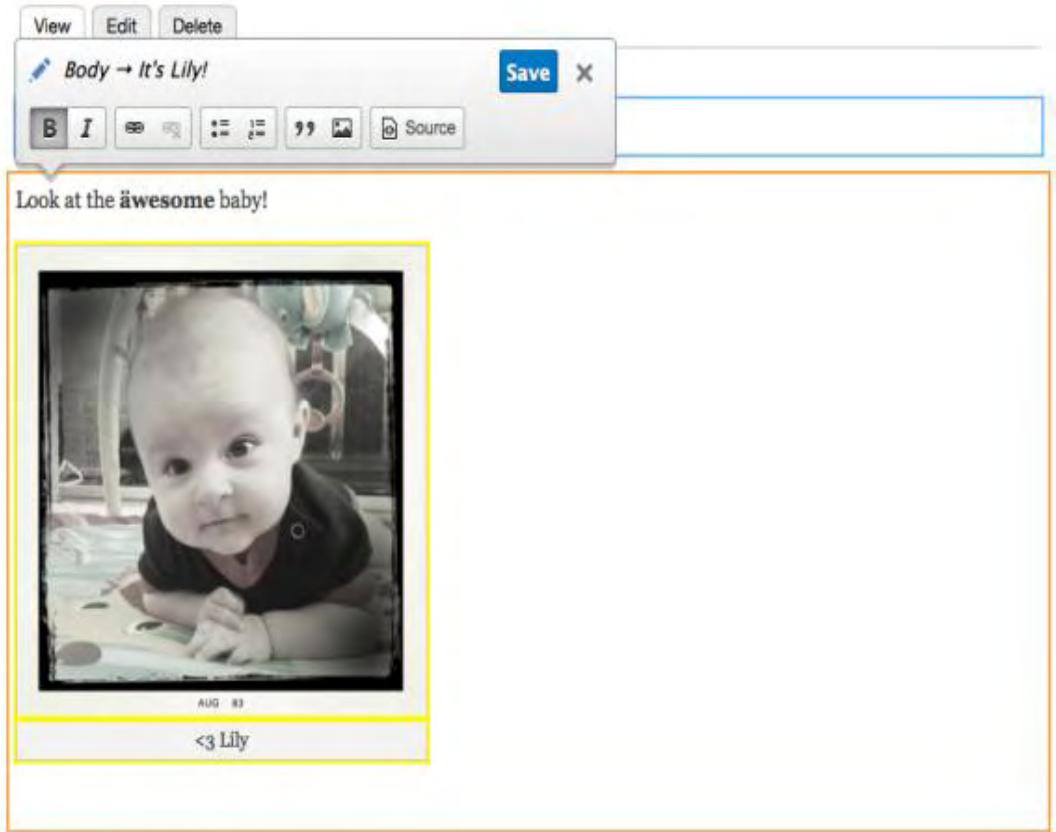


I. New Features in Drupal 8



In-Place Editing

It's Lily!





I. New Features in Drupal 8



Mobile Improvements



Mobile is in its DNA





I. New Features in Drupal 8



Responsive themes, images, and breakpoints

Drupal 8 site

Home About Us

Home

User login

Username*

Password*

Log in

- Create new account
- Request new password

Drupal rocks!

Submitted by admin on Sun, 12/08/2013 - 11:30





I. New Features in Drupal 8



Menu Shortcuts admin

Content Structure Appearance Extend Configuration

People

+ Add user

Name or e-mail contains	Role	Permission
	- Any -	- Any -

Filter

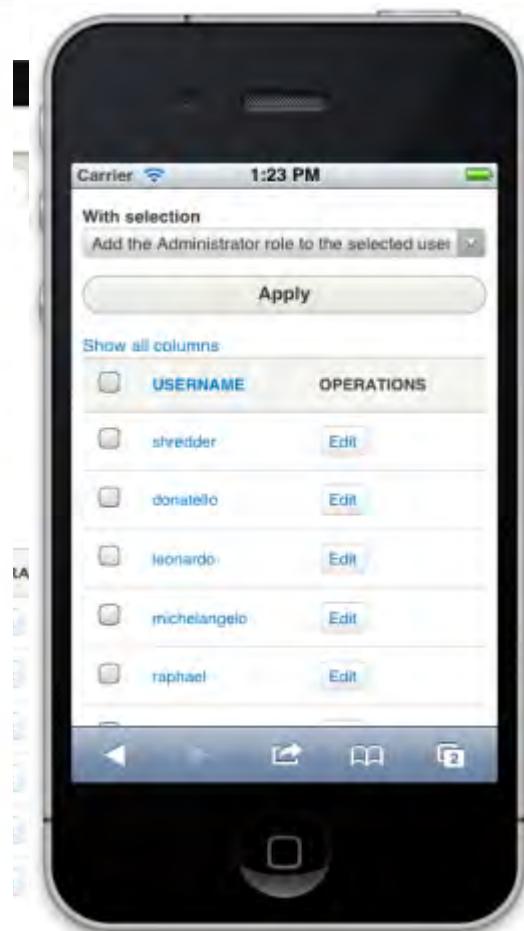
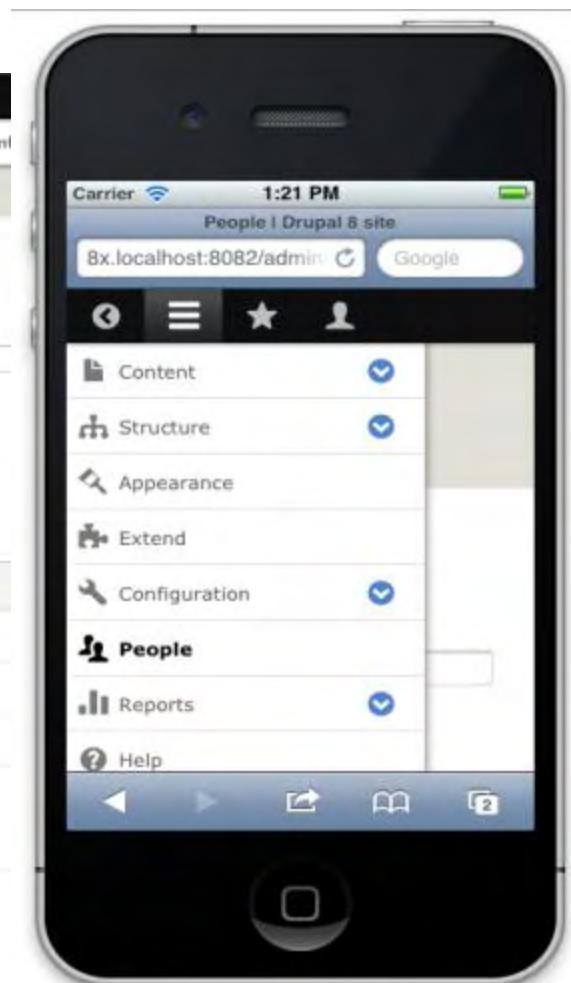
With selection

Add the Administrator role to the selected users

Apply

USERNAME	STATUS	ROLES
shredder	Blocked	
donatello	Active	
leonardo	Active	
michelangelo	Active	
raphael	Active	
admin	Active	* Administrator

Mobile-friendly administration



I. New Features in Drupal 8



Changes for site builders



- Improved Data Modeling Tools: New field types
- Improved Data Modeling Tools: New entity types
- Form displays: customize the look and feel of data entry forms
- Views in Drupal 8 Core!

Views = fully customizable...

- Restyled administration interface (Site management)
- Multilingual Improvements

Community translation downloads

Translation on (almost) everything





I. New Features in Drupal 8



HTML



HTML5 Form Elements

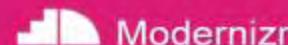


Native Schema.org Output

New front-end libraries



BACKBONE.JS



Modernizr

TWIG



normalize.css

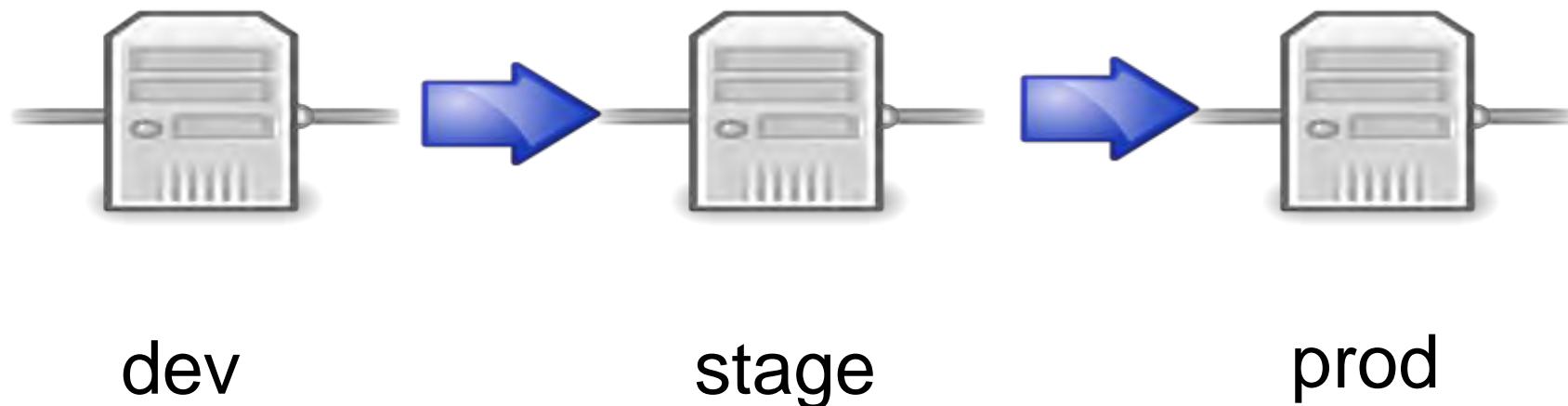


I. New Features in Drupal 8



Changes for developers

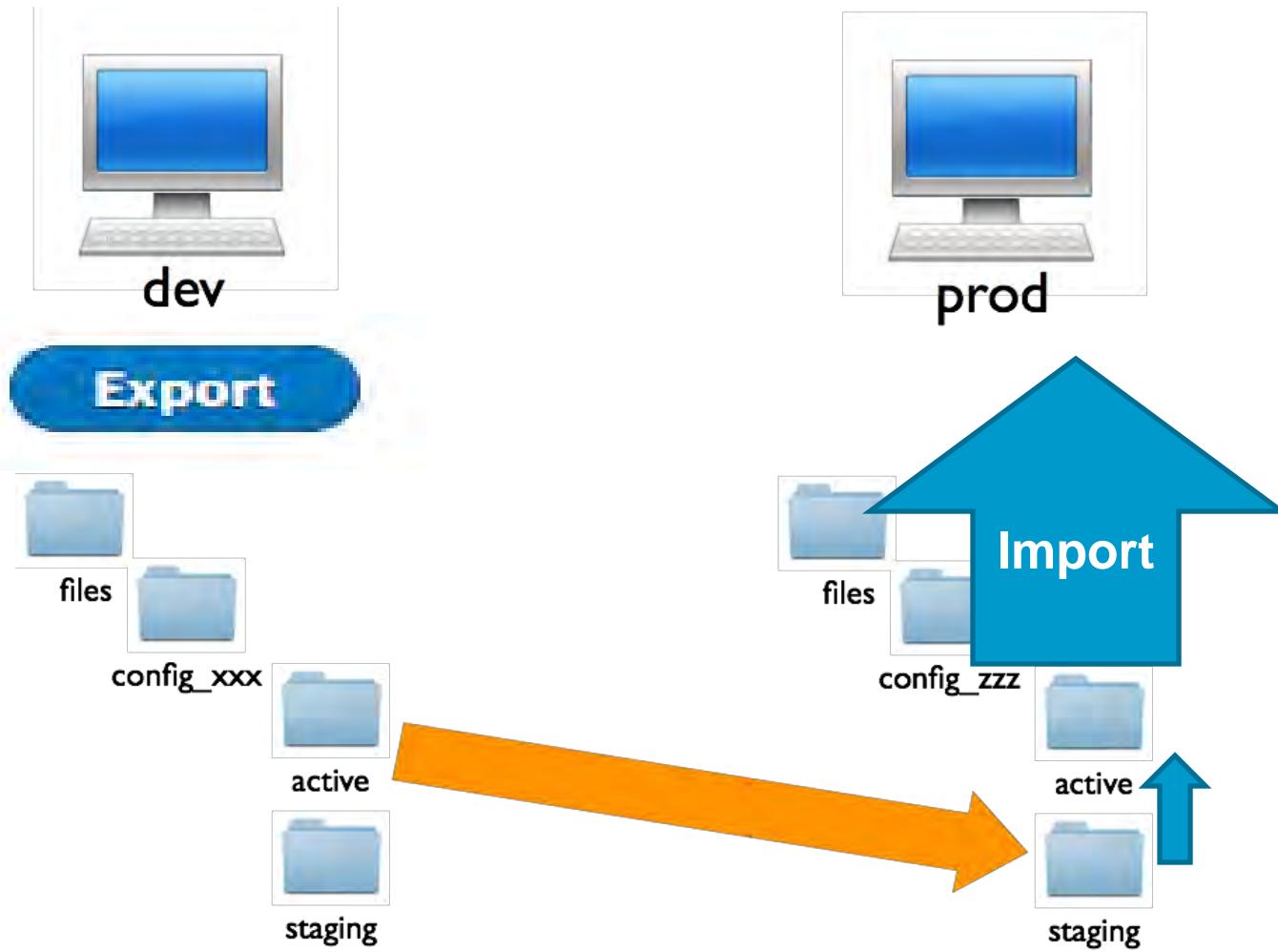
Configuration Management



I. New Features in Drupal 8



Changes for developers



I. New Features in Drupal 8



Changes for developers

Drush integration for automation!

```
runserver (rs)           Runs a lightweight built in http server for development.  
Config commands: (config)  
  config-edit (cedit)    Open a config file in a text editor. Edits are imported  
                        into Drupal after closing editor.  
  config-get (cget)      Display a config value, or a whole configuration object.  
  config-import (cim)    Import config from the file store.  
  config-list (cli)     List config names by prefix.  
  config-set (cset)     Set config value in the active store. This does not  
                        invoke config_sync_changes().  
Field commands: (field)
```

Drush is a command-line shell and scripting interface for Drupal



I. New Feature in Drupal 8

Web Services



Drupal 8 implements the state-of-the-art Hypertext Application Language (HAL)

Expose content as JSON or XML easily

Authenticate the client with HTTP authentication

I. New Features in Drupal 8



Symfony Framework



Changes for developers

- **HttpFoundation**: defines an object-oriented layer for the HTTP specification
- **HttpKernel**: a structured process for converting a Request into a Response
- **Dependency Injection**: standardize and centralize the way objects are constructed
- **EventDispatcher**: communicate with each other
- **Routing**: maps an HTTP request to a set of configuration variables
- **Yaml**: a human-readable data serialization format
- **Security**
- **Serializer**
- **Translation**



I. New Features in Drupal 8



Changes for developers

- GETting data out of Drupal: RESTful Web Services module
- GETting data into Drupal: Guzzle
- "Proudly Found Elsewhere"
 - Much more modern, object-oriented code (classes, inheritance, interfaces, etc.)
 - Embracing latest PHP standards (e.g. PSR-0, namespaces, traits)
 - Using many “best of breed” external libraries: Composer, PHPUnit, Guzzle, Zend Feed Component, Assetic...
- Catch *all* of the changes!



Phase II.

Our Drupal 6 Platform Overview



II. Our Drupal 6 Platform Overview

✚ Chief Purpose

- ✚ Old Websites: So many websites with different looks
- ✚ Make all websites look like one Geneseo website

✚ Outsource And Do It Ourselves

- ✚ Outsource for website design & graphic design
- ✚ DIY: Drupal design and implementation

✚ Optimize Site Navigation System

✚ Attractive ‘Look and Feel’

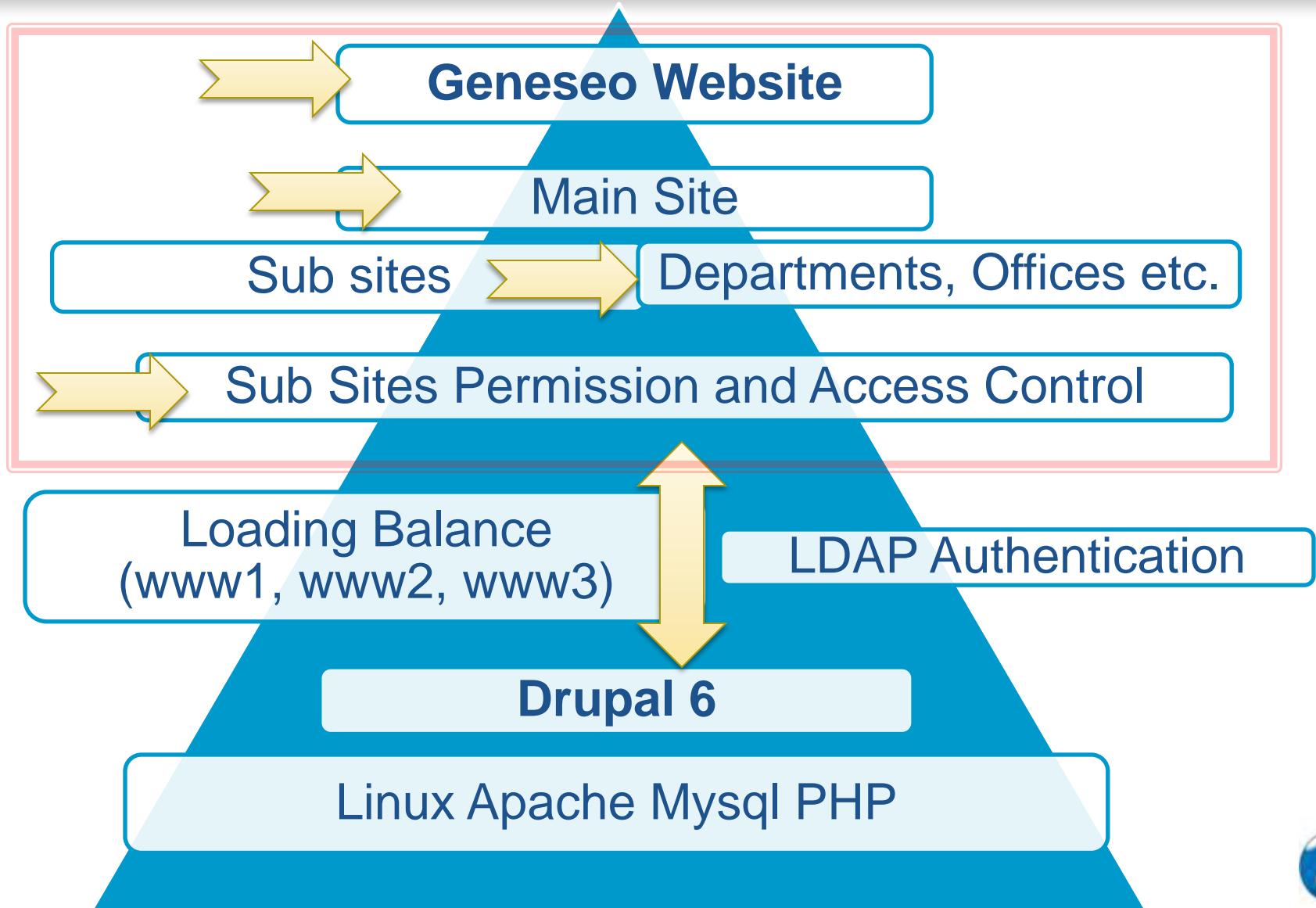
✚ CMS for Easy to Use

✚ CMS for Easy to Maintain





Infrastructure



Integrated & consistent

Go



camp
emplo

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CIT Services - CIT HelpDesk

Welcome Services Problems & Requests Self Help Facilities Publications Policies About Us

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Page Header CSS

Whole Site Style: Default Preview CSS

Header Logo: Header Animations:

Top Menu:

Left Navigation Menu CSS

Left Menu Styles: Left Menu Background:

Page Content CSS

Background: Default Font:

Default Font Color: Default Font Size:

Warning:

- “ Any change you made will affect ALL WebPages of your department.
- “ You must have the permission to change it. Contact your supervisor if you aren’t sure.
- “ Please make sure you really want to change the CSS.

Update Site Now





Integrated & consistent

⊕ Consistent Color Style

- ⊕ Pre-designed color styles for Drupal content editors

⊕ Integrated Theme Design

- ⊕ Pre-designed templates

⊕ Consistent CSS

- ⊕ Pre-designed CSS for `<h1><h2><h4><h5>` `<p>` tags, etc.

⊕ Consistent Page Layout

⊕ Consistent Global Navigation Menu System

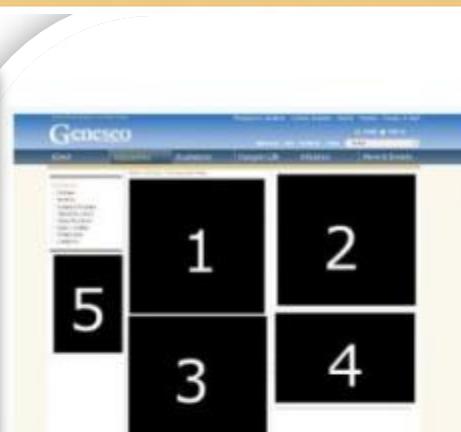
⊕ Consistent Header and Footer

⊕ Integrated Sub-Site Navigation Menu





- » Drupal Training Home
- » Printable Quick Guide (.pdf)
- » Basics
- » Creating Pages
 - » Page Layouts
 - » Layout Gallery
- » Styling Guidelines
 - » Font Styles
 - » Departmental Homepages
 - » Departmental Directories
 - » Faculty Templates
- » Menus
- » Page FAQ
- » Links and Anchors
- » Images
- » Videos
- » File Attachments
- » Photo Slideshows
- » Node Revision Control
- » Web Forms
- » Advanced Features
- » Questions?



Layout 4:

age layout with two columns; the left column is one large area and the right column has three areas; menu is on the left

template



Example

The screenshot shows the Geneseo website's Department of English page. The layout features a sidebar on the left with a menu and a 'Contact Us' button. The main content area on the right is divided into three sections: a large top section with text and a photo, a middle section with a list of 'English Department News', and a bottom section with a 'Faculty' list.

Example

The screenshot shows the Geneseo website's Volunteer Center page. The layout features a sidebar on the left with a menu and a 'Get Involved' button. The main content area on the right is divided into three sections: a large top section with text and a photo, a middle section with a 'Volunteer Center' heading and a video player, and a bottom section with a '23' badge and a 'ENGAGEMENT' link.

& h1-large Use this
h1-medium *

mall *

rey Use this style on page title headings

12-grey-32 *

old *

UE Use when subheads are needed

D Use when subheads are needed

when subheads are needed

subheads are needed

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⊕ Single Mysql Database Instance / Schema

- ⊕ Not Drupal multiple installations with multiple DB instances
- ⊕ Share the same database instance
- ⊕ One Data Source Center for all Applications

⊕ Mysql Cluster Database Server

- ⊕ Performance

⊕ Share The Same Code Base

- ⊕ Share All Modules
- ⊕ Share All Templates
- ⊕ Share All Functionality



Permission and Access Control

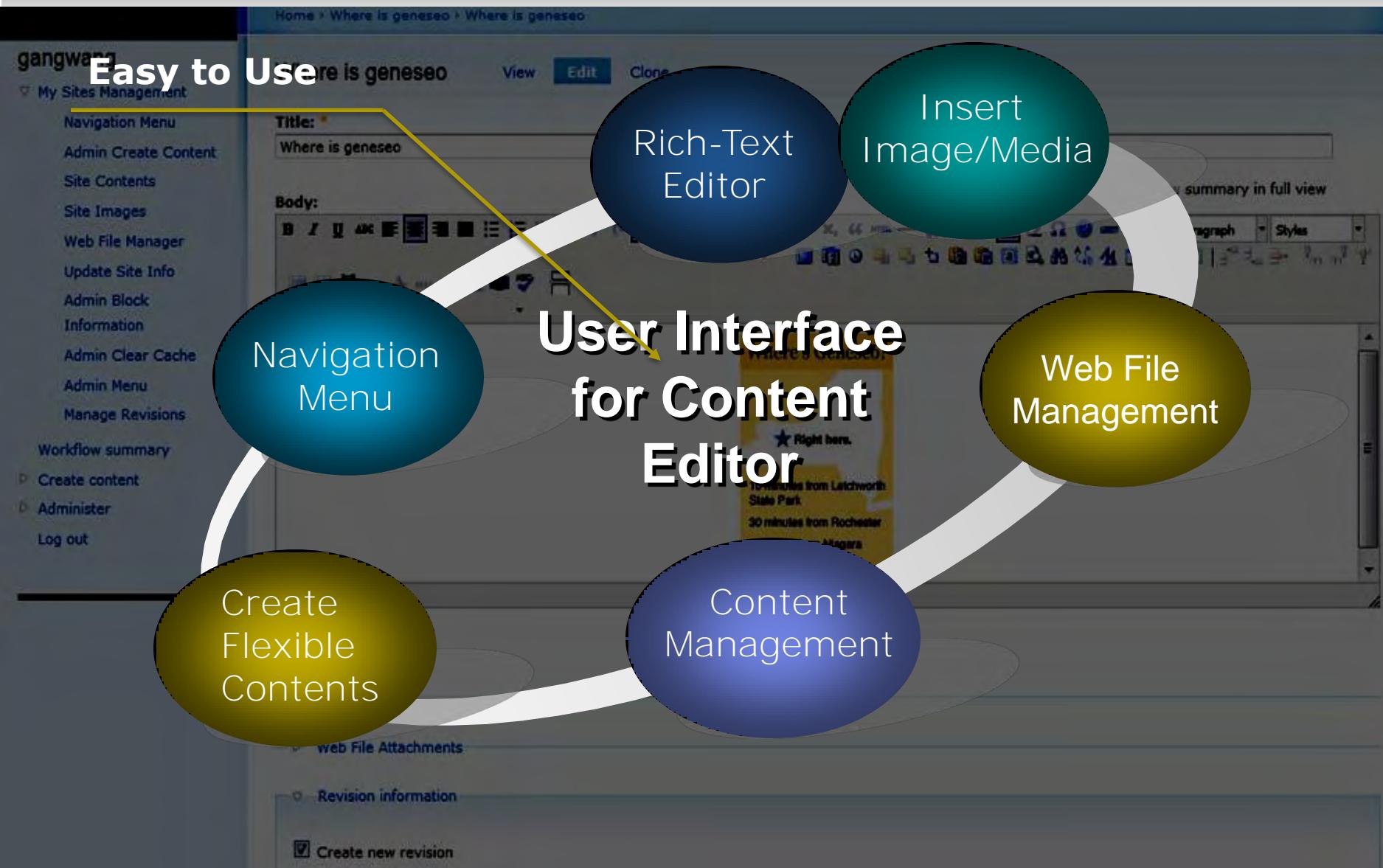
-  **SUB SITE : Department, Office, Program, Organization, Project Website**
-  **Sub Site Role Permission Control**
-  **Create a new sub site, also create a new ROLE permission**
-  **Make sure users of admission office can NOT change any content of Math department site**

ONE Content Type For ONE Sub Site

-  **Content Type Permission Control**
-  **Navigation Menu Permission Control**



UI for Content Editor





Theme & Template Design

Geneseo Garland Theme: Drupal PHP Templates, CSS and My Site Management

Home My Contents My Images My Files Drupal Help

Content Management System

Home > My Sites Management

My Sites Management

Navigation Menu
Manage your site menu: add, edit, delete menu items

Site Contents
Manage your site contents: list your site contents (pages and nodes), edit and delete your pages, view updating history

Site Images
Manage your images

Web File Manager
Manage your uploaded files, such PDF files, images, MS-Word/excel/powerpoint files; upload a new file

Update Site Info
Update your site information

Content Manager
Show all contents; find your content via Filter; find other content types which are not listed on "Site Contents" page

Image Manager
Show all images; find your images via Filter. (Images must be upload via the "Image Assist" tool)

Drupal Help
Drupal help will be the best place to start working on our Drupal CMS





Geneseo_all theme

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WHAT'S NEW AT GENESEO

GeneSEO Jazz Ensemble, Combo to perform Dec. 2

GeneSEO Dance Ensemble to Perform '46Live: Songs of the Body' Dec. 5-8

Broomfield Brings Thalents to Geneseo Through SUNY Faculty Diversity Program

MORE NEWS >

STUDENT BLOG

GE Virtu

Home • Academics • Academic

Academic

GeneSEO is distinguished by its commitment to prepare our students to lead productive lives. As a public college, we provide our students with a quality education through a variety of learning experiences. We believe that intellectual engagement is key to success, and that you'll remember for years to come.

- » Academics Home
- » Academic Affairs/Office of the Provost
- » Dean of Academics
- » Academic Calendar
- » Majors, Minors & Degree Programs
- » Course Offerings
- » Degree Requirements
- » Milne Library
- » Scholarships
- » Student Learning Centers
- » Undergraduate

Home > Parents > Parent Relations

Parents

Quite simply, parents are our partners. Together, we support your student's intellectual and personal growth — and we're here to connect you.

The Office of Parent Relations provides a variety of information, events and services to help you stay in touch and in step with Geneseo. Become an active member of our community and see why Geneseo is an experience that's meant to be shared.



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To expand the photo gallery, select the play button, then select the arrows in the lower right corner.

What's Next?

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Siblings Weekend



March 2014
More details to follow!

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Sociology
Theatre and Dance

Academic Calendar 

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@SUNYGeneseo

Author James Patterson (@JP_Books) Creates Scholarship Program at SUNY Geneseo to Promote Literacy [ow.ly/rhIPP](#)

 **SUNY Geneseo** 24 Nov
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Templates

css

Demo Pages



Geneseo_library & Mobile theme

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State University of New York at Geneseo

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- » Political Science
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- » ERIC
- » GLOCAT Classic
- » JSTOR
- » Lexis-Nexis Academic
- » MLA
- » ProQuest
- » PsycInfo
- » Rosetta Stone
- » ScienceDirect
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Student Resources

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Contributed modules utilized

⊕ Contributed Modules Besides of Drupal Core Modules

acl	draggableviews	captcha	google_analytics
Addtoany	dynamicfield	cas	iframe
advanced_help	faq_ask	cck	Image
advuser	fast_facts	computed_field	imagefield
ajax	feedapi	connect_geneseo	image_fupload
alumni_profile	feeds	contact_forms	imce
assign_depts	flag	css	img_assist
backup_migrate	front	cssapi	jquery_ui
block_manager	geneseo_admin	ctm	jquery_update
brilliant_gallery	geneseo_themes	ctools	jstimer
browscap	gen_maps	custom_breadcrumbs	late_form_alter
by_geneseo	Globalredirect	date	ldap_integration
	calendar	Devel	lightbox2
	calendar_block	gmap	link





Contributed modules utilized



Contributed Modules Besides of Drupal Core Modules

Location	pathauto	views
login_destination	path_redirect	views_calc
logintoboggan	print	views_modify_query
menu_block	read_rss	vocabindex
menu_breadcrumb	Scheduler	webfm
menu_per_role	site_map	Webform
mini_site	site_pages	webform_validation
mobile_tools	slideshow	workflow
news_events	tagadelic	world_war2
news_events_enco	taxonomy_blocks	Wys
nicer_ui	teaserbytype	Wysiwyg
node_clone	themekey	wysiwyg_spellcheck
panels	token	

How many contributed modules did we install? About 90





Customize Drupal



Custom Drupal 6

■ A good solution for the SUB-SITE web infrastructure

■ Group permission for Sub Sites:

Menu,
Web Files,
Web Forms,
Roles,
Content types,
etc.





Custom Modules to Fill Gaps



We built modules



Totally 19 Modules

alumni_profile

fast_facts

gen_maps

assign_depts

geneseo_admin

connect_geneseo

by_geneseo

geneseo_themes

Webfm

mini_site

read_rss

Webform

news_events

site_map

world_war2

news_events_enco

site_pages

Wys

slideshow





Alumni Profile module

ENGLISH

- English Home
- Faculty & Staff
- About the English Major
- Programs Will Change in 2014!
- Our Programs
- Events Calendar
- Spring 2014 Course Descriptions
- What Counts Where?
- Student Resources
- Gandy Dancer
- Alumni Stories
 - What's the story?
 - What our alums are doing
 - Browse alums by career
 - Tell your story
- Harding Lecture
- Thoreau-Harding Project
- Department Awards
- DVD and Video Listings
- Wiki
- Donate
- Contact Us

TELL YOUR STORY

[Go here to complete one](#)

What Our Alums Are Doing

Alumni Profile: english

To share your story, please complete the form below, letting us know how the study of English major helped take you where you are now. Don't hesitate to offer current information on your experience negotiating the world of careers.

Please keep in mind that it's this particular connection — between the English major and the career you've chosen — that we're interested in, so keep your narrative tightly focused. (You should have a clear idea of what you expect from your English major, right?) We may decide to edit what you send us for length, relevance, appropriate punctuation (well, what did you expect?), but we promise to meddle as little as possible.

First Name: *

Your name will appear below your photograph.

Last Name: *

E-mail Address: *

For follow-up purposes only. We promise not to clutter up your inbox!

Re-Enter E-Mail Address: *

Graduation Year: * If you graduated from SUNY Geneseo, please select your graduation year.

Current Position: *

Other Degrees/Study: *

Photo (Orientation is Landscape):
 No file chosen
 Please upload your photo. The file size must be less than 2 MB, and ideally the orientation should be landscape (e.g., 6" W x 4" H). It may be necessary for us to crop and/or resize the photo to fit our page layout.

YOUR STORY (You may wish to compose your narrative in an external document and paste it in here.): *

File ▾ Edit ▾ View ▾ Format ▾

Browse Stories by Career


Jesse Goldberg | Ph.D. Student In English At Cornell University | Graduated In 2012
 Posted on Sun, 18 Aug, 2013

I came to Geneseo declared as an English major with the intention of earning an Adolescent Education certification through the School of Education so I could be a high school English teacher.

[Read More >>](#)


Amy Ludwig VanDerwater | Author And Writing Teacher | Graduated In 1992
 Posted on Tue, 27 Aug, 2013

As a little girl, I wrote in big letters in a gingham diary and pretended to teach my dog to read. At forty-three, my life is, happily, much the same.

[Read More >>](#)


Tracy Strauss | Faculty, New England Conservatory Of Music | Graduated In 1996
 Posted on Sat, 17 Aug, 2013

With a love for writing and literature, I arrived at SUNY Geneseo as a declared freshman English major. I'd been involved with my high school newspaper as both a writer and editor, and thought I might want to pursue a career in journalism. Though I was also interested in creative writing, Over my four years as a Geneseo student, so many of my experiences fostered my interests and exposed me to a variety of avenues. I had a passion for 'becoming' a writer, but I had no idea when I was an undergraduate that, along the way, I'd also become a college writing professor.

[Read More >>](#)

RELATED ALUMNI

Jesse Goldberg, Amy Ludwig VanDerwater, Tracy Strauss, Ethan Waddell,

CAREERS

Attorney, Education, English Teacher, Graduate Student, Higher Education, Libraries, Public Relations, Publishing, Research, Social Worker, Writer, Writing, Writing Education,

What's Your Story module

Admissions | Academics | Campus Life | News & Events | Athletics

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What's Your Story?



0:00 / 1:15

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WHAT'S YOUR STORY?

Everyone has a story.
A Geneseo story.

A story about a person, place or event that shaped your life in ways big or small.
Our stories connect us to each other and to this special place. They strengthen the common bond of 'being here' that unites us all.

In the words of Kerry Fogarty Alexander '87, "This place stays with you. I come back every year. So does my husband. This is where our story started. Be here. Let it lead you."

So tell us: What's your story?

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Geneseo Campus Maps (Google MAP API)

The image displays two screenshots of the Geneseo Campus Maps (Google MAP API). The left screenshot shows a map of the campus with various buildings and landmarks labeled, including Sturges Hall, Blake Hall, Integrated Science Center, and Welles Hall. A pop-up window for Sturges Hall provides a detailed description of the building's history and features. The right screenshot shows a larger view of the campus map with several buildings highlighted by orange markers. A pop-up window for Welles Hall lists the academic departments located there: English, Languages & Literatures, Philosophy, and Political Science & International Relations, along with their respective phone numbers.

Sturges Hall was constructed in 1938 to serve as an administrative facility. Today, the lived architecture and pleasant clock tower has made Sturges the face of Geneseo. This building houses the departments of Psychology, Sociology, Anthropology, and History. It also contains some clinical facilities, small laboratory settings, and an auditorium dedicated to student performance. If that were not enough, the ornament above the main entrance bears a striking resemblance to the seal of House Gryffindor. This should be enough to explain why Sturges Hall is so universally revered. Turning our attention to Sturges Quad, there are actually two famous pieces of foliage that deserve mention. First, there is the Dr. Seuss Spruce in the center of the quad. The Seuss Spruce contributes considerably to school spirit and campus mythology. The reason it looks so cartoonish is because of severe snow accumulation during the ice storm of 1991 (either that, or some very heavy squirrels). Fortunately, the tree survived the conditions and is still standing strong today. To the left of the Spruce and further downhill, there is the Painted Tree. Legend has it that this practice began sporadically in the 1950s and was firmly established by the late 60s. Any student organization can paint the tree provided they follow one simple rule: they must wait until after sundown. Whichever organization has claimed the space at sunset earns free advertising for the day. Filled with character, Sturges Quad is always busting with students.

Building: Welles Hall

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[Philosophy](#)
[Political Science & International Relations](#) Welles 2 585-245-5371





Phase III.

Upgrading Modules From Drupal 6 to Drupal 8





Module Migration

About 90 modules including our customer modules

- + Module upgrade form version 6.x.x to version 8.x.x
- + Some modules will be removed because new features of Drupal 8, such as the image_assist, TinyMCE
- + Some modules might be rebuilt by ourselves because there is no new Drupal 8 version maintained by the author.
- + We need dig into each module for version 8 release

Features/Modules no Longer in Use?

Are these Contributed Modules Ready?





Contributed modules

Drupal 6	Drupal 7	Drupal 8
Acl (Access Control)	Yes	In plan
Addtoany	Yes	No
advanced_help	Yes	No
Ajax	No	Embedded?
backup_migrate	Yes	Under development
block_manager	Yes	In plan
brilliant_gallery	Yes	No





Contributed modules

Drupal 6	Drupal 7	Drupal 8
draggableviews	Yes	Embedded in the core?
dynamicfield	No	Dynamic Entity ? Embedded?
faq_ask	Yes	No
feedapi	No	No
feeds	Yes	Under development
flag	Yes	Under development
Front	Yes	Under development
Globalredirect	Yes	Under development
calendar	Yes	No
calendar_block	Yes	No





Contributed modules

Drupal 6	Drupal 7	Drupal 8
captcha	Yes	Under development
cas	Yes	Under development
cck	In Core	In Core
computed_field	Yes	In Core?
contact_forms	Yes	No
css	No	No
cssapi	No	No
ctm, Menu Setting per CT	No, in core?	No. In Core?
ctools	Yes	In plan
custom_breadcrumbs	Yes	No
date	Yes	Under development
Devel	Yes	Under development
gmap	Yes	Under development





Contributed modules

Drupal 6	Drupal 7	Drupal 8
Iframe (CCK)	Yes	CCK in core
Image	In the Core	In Core
imagefield	In the Core	In Core
image_fupload	Not supported	Not supported
imce	Yes	Alternative in Core
img_assist	No	No
jquery_ui	Not supported	Not supported
jquery_update	Yes	In plan
Jstimer (JS Timer)	Yes	No
late_form_alter	No	No
ldap_integration	No (LDAP)	Under development
lightbox2	Yes	No
link	Yes	Under development



Contributed modules

Drupal 6	Drupal 7	Drupal 8
Location	Yes	Under development
login_destination	Yes	No
logintoboggan	Yes	No
menu_block	Yes	In core or not?
menu_breadcrumb	Yes	Under development
menu_per_role	Under dev	No
mobile_tools	Yes	No
nicer_ui	No	No
node_clone	Yes	No





Contributed modules

Drupal 6	Drupal 7	Drupal 8
pathauto	Yes	Under development
path_redirect	Alternative: Redirect	No
Print	Yes	No
Scheduler	Yes	Under development
site_map	Yes	No
teaserbytype	In Core	In Core
themekey	Yes	Under development
token	Yes	Under development





Contributed modules

Drupal 6	Drupal 7	Drupal 8
views	In Core	In Core
views_calc	Yes	No
vocabindex	No	No
Webfm(WebFileManager)	No	No
Webform	Yes	In plan
webform_validation	Yes	No
Workflow	Yes	No
Wysiwyg	Yes	Alternative in Core
wysiwyg_spellcheck	Yes	Alternative





Customize Drupal

■ We modified Drupal modules:

- Menu module to add the Group permission for sub sites
 - menu.admin.inc functions :
`menu_overview_page()`, `menu_overview_form()`,
 - `menu_edit_menu()`
 - Menu.module functions :
`menu_help()` , `menu_menu()`, `menu_get_menus()`
- Node module to add the access control for nodes
 - Node.module:
`node_access()`, `node_dept_access()`,
 - `node_is_dept_access_type()`, `node_has_dept_access()`
- Customize a Patch in Drupal 8 ?





Why custom Drupal 6 ?

- # Can NOT find a good solution for the SUB-SITE web infrastructure
- # Sub-site permission for Navigation MENU
 - # Different sub-site users have different access to their own NAV menu
- # Web File Manager module needs sub-site level access
- # Web Form module needs sub-site level access
- # Content Type access (one CT => one sub site)
- # User Roles permission (one Role => one sub site)





Custom Modules to Fill Gaps



We built modules

alumni_profile (Alumni News & Stories)

fast_facts (Geneseo Fast Facts)

assign_depts (Sub-site System)

geneseo_admin (Sub Site Admin)

by_geneseo (Geneseo by Geneseo)

geneseo_themes (Themes and Layout Templates)

mini_site (Create new Sub Site)

read_rss (Read RSS Feed)

news_events (Geneseo News & Events)

site_pages (Sub Site Pages/Nodes)

news_events_enco (Emcampus News)

Slideshow (Pictures SlideShow)





Custom Modules to Fill Gaps



We built modules

gen_maps (Geneseo Campus Google Maps)

connect_geneseo (Connect Geneseo/Social Media)

Webfm (Web File Manager, customized for sub site)

Webform (Web Form, customized for sub site)

world_war2 (Alumni Stories of World War 2)

Wys (What Your Story, Featured Alumni)





Upgrading Custom Modules

Preparing

- Change Records for Drupal 8 Core
- Drupal 8 API Documentation
- Drush – a command-line interface
- Drupal Module “upgrader”

Module Porting Process

1. Place modules under D8 dir
2. **Debug and Find problem**
3. Search D8 List Changes
4. Rewrite the Code
5. Repeat Step 2

- Comment out Code
- Use debug() function
- Run rebuild.php script
- Uninstall/reinstall modules





Upgrading Custom Module

Home > Create content > Read RSS Feed

Create Read RSS Feed

Title: *

Which site is the RSS Feed page being created for?: *

5k

▼

Home > Support RSS feed

Support RSS feed

- Geneseo Alumni: Join Us for Great Knight April 21
- Two Students Receive Honorable Mentions in Prestigious NSF Fellowship Competition
- GENseng Staging Asian American Theater Standard 'The Wash' April 23-25
- April 21 is GREAT Day at Geneseo
- Geneseo Faculty Elects 83 Students to Phi Beta Kappa
- More >>

How many RSS items show up on the page.: *

5

▼

Font Size for "Title::Body" (Default is 14::12), eg., "14::12" means 14px for title, 12px for body:





Upgrading Custom Module

Read RSS Feed Module

Drupal 6 Version

read_rss :

read_rss.info
read_rss.install
read_rss.module

Drupal 8 Version

read_rss :

read_rss.install
read_rss.module

read_rss.info.yml
read_rss.routing.yml
/config/install/read_rss.schema.yml





Upgrading Custom Module

read_rss module Drupal 8 Version

The screenshot shows a code editor with two files open:

- (sftp) read_rss.schema.yml**:

```
1 type: read_rss
2 name: Read RSS Feed
3 description: 'Use <em>read_r
4 help: ''
5 new_revision: false
6 display_submitted: true
7 preview_mode: 1
8 status: true
9 langcode: en.setContent("Col
10
```
- (sftp) read_rss.routing.yml**:

```
1① read_rss.overview:
2     path: '/admin/structure/read_rss/help'
3     defaults:
4         _entity_list: 'read_rss'
5         _title: 'Read RSS Feed'
6
7② read_rss.type_list:
8     path: '/admin/structure/read_rss/types'
9     defaults:
10        _entity_list: 'read_rss_type'
11        _title: 'Read RSS Type Configuration'
12        requirements:
13            _permissions: 'administer read_rss'
```





Online Documentation

⊕ Upgrading Your Modules

<https://drupalwatchdog.com/volume-4/issue-1/upgrading-your-modules>

⊕ Converting 7.x modules to 8.x

<https://www.drupal.org/update/modules/7/8>



Phase IV.

Upgrading Themes & Templates From Drupal 6 to Drupal 8



```
<article{{ attributes }}>
  {{ title_prefix }}
  {% if not page %}
    <h2{{ title_attributes }}>
      <a href="{{ url }}" rel="bookmark">{{ label }}</a>
    </h2>
  {% endif %}
  {{ title_suffix }}
  {% if display_submitted %}
    <footer class="node_meta">
      {{ author_picture }}
      <div class="node_submitted {{ author_attributes.class }}"{{
        author_attributes|without('class') }}>
        {% trans %}Submitted by {{ author_name|passthrough }} on {{ date }}{% endtrans %}
        {{ metadata }}
      </div>
    </footer>
  {% endif %}
  <div class="node_content {{ content_attributes.class }}"{{
    content_attributes|without('class') }}>
    {{ content|without('links') }}
  </div>
  {% if content.links %}
    <div class="node_links">
      {{ content.links }}
    </div>
  {% endif %}
</article>
```

1. **HTML5** tags
2. {{ print a variable }}
3. {% logic(stuff) %}



Upgrading Themes & Templates

- + There are 66 templates with fixed width design

- + Convert them to TWIG templates.

- + Convert them to responsive design

node-news_events.tpl.php,
page-calendar_news_home.tpl.php,
page-front.tpl.php,
page-mini4.tpl.php,
views-view-fields--News-Slider-3Col.tpl.php





Theme & Template Design

✚ Geneseo All Theme

- ✚ Main site
- ✚ All sub sites except for the library site
- ✚ Many customized templates
- ✚ Many page layouts
- ✚ Global CSS style sheets
- ✚ Global JavaScript code: JQuery, Slideshow, etc.
- ✚ Views templates



Geneseo All Theme: Templates, CSS



athletics-template.php

brandbox.js

college-offices.php

current-page-template.php

favicon.ico

geneseo_all.info

header.inc.php.LC

html_head_mini_t

layout.css

logo.png

match3cols.js

node-calendar_fe

node-news_even

offices.css

page-about.tpl.ph

page-alumni_pro

page-current.tpl.ph

page-front.tpl.ph

page-mini2.tpl.ph

page-mini6.tpl.ph

page-newsevents

page-standup.tpl

parents.css

prospective-stud

search-results.ph

style.css

style-current.css

style-home.css

style-mini-tpl.css

block.tpl.php

brandbox.php

comment.tpl.php

emergency.inc.php

fix-ie.css

geneseo_themes.php

box.tpl.php

brandbox4.js

comment.tpl.php.original

facultystaff.css

fix-ie6.css

geneseo_themes-class.php

news_slider

brandbox.css

brandbox4.php

current_st.css

faculty-staff.php

forum-topic-navigation.tpl.php

header.inc.php

style-wys.css

tabs.css

template.php

template-new.php

top-navigation.js

top-navigation.js.LCK

views-view.tpl.php

views-view--athlete-block.tpl.php

views-view--athletics-homepage-news

views-view--featured-story.tpl.php

views-view--featured-story-encompass

views-view--featured-story--page-2.tpl.php

views-view-field.tpl.php

views-view-field--athletics-roster--field

views-view-fields.tpl.php

views-view-fields--athletics-homepage

views-view-fields--athletics-roster.tpl.php

views-view-fields--featured-story.tpl.php

views-view-fields--featured-story-encompass

views-view-fields--more-events.tpl.php

views-view-fields--news.tpl.php

views-view-fields--news-encompass.tpl.php

views-view-fields--News-Slider-2Col.tpl.php

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GENESEO
THE STATE UNIVERSITY OF NEW YORK



Journey to
The Frozen Frontier...

Geneseo Knights v.
Nazareth

Sunday, Dec. 15 at 12pm –
Frontier Field, Rochester



Geneseo Jazz
Ensemble, Combo
to perform Dec. 2



Geneseo Dance
Ensemble to
Perform '46Live:
Songs of the Body'
Dec. 5-8



Broomfield Brings
Talents to Geneseo
Through SUNY
Faculty Diversity
Program



VOICES
FROM THE
VALLEY
STUDENT BLOG

360

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⊕ Geneseo Library Theme

- ⊕ Special design with the same color style
- ⊕ Different header, navigation menu, layout

⊕ Geneseo Mobile Theme

- ⊕ Mobile pages



.svn
comment.tpl.php
favicon.ico
geneseo_library.info

block.tpl.php
detectmobile2.js
fix-ie.css
geneseo_themes.php

Name
.svn
images
emergency.inc.php
footer.tpl.php
header.tpl.php
mobile.info
page.tpl.php

MILNE Library
State University of New York at Geneseo

Find Books & Media Find Articles Requests & Services Research Help About Milne Library

Fri, November 29, 2013 Today's library hours: CLOSED

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POPULAR SUBJECT GUIDES

- Biology
- Business and Economics
- Chemistry
- Country, State and City
- Education (lesson planning resources)
- Geosciences
- History
- Literature
- Political Science
- Psychology

» View more subject guides <<

POPULAR RESOURCES

- Academic Search Complete
- ERIC
- GLOCAT Classic
- JSTOR
- Lexis-Nexis Academic
- MLA
- ProQuest
- PsycInfo
- Rosetta Stone
- ScienceDirect
- Scopus

Find a resource by title: Enter a database name Go

Browse resources in A-Z list

QUICK LINKS

- Milne Center for Academic Excellence (CAE)
- Renew your books
- Classes/Events schedule
- Library workshops
- How do I...
- Research consultations
- Cite my sources
- Submit to GREAT Day Proceedings
- Teacher Education Resource Center (TERC)
- New Arrivals at Milne

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views-view-list--News-Slider-3Col.tpl.php
views-view-row-rss.tpl.php

views-view--News-Slider-2Col.tpl.php
views-view-rss.tpl.php

GENESEO | mobile

Campus Maps

Hours

Search for People

Academics

Phone Numbers

News & Events

myGeneseo

Student Resources

Virtual Tour

3Col. | Full Site | Feedback | Help

views-view-unformatted.tpl.php



Drupal Twig Conversion

+.tpl.php => html.twig

Drupal Twig conversion instructions (tpl.php to html.twig)

<https://www.drupal.org/node/2025313>

Comparison of PHPTemplate and Twig theming paradigms

<https://www.drupal.org/node/1918824>

Theme Functions Conversion

Convert a theme function to a template file & preprocess function

- Identify theme function
- Create a *.html.twig template
- Place twig file in the theme (sandbox)
- Search functions in Drupal API Documentation
- Add a PHP-style docblock at the top of file, and comment out
- Copy the source code
- Change the PHP code into mostly HTML and print
- Improve templates: redundant templates, markup/variable names, etc.





Simple Example

```
<?php
function theme_link($variables) {
    return '<a href="' . check_plain(url($variables['path'],
$variables['options'])) . '" .
drupal_attributes($variables['options']['attributes']) .
'>' . ($variables['options']['html'] ? $variables['text'] :
check_plain($variables['text'])) . '</a>';
}
```

system.module (preprocess function)

```
function template_preprocess_link(&$variables) {
    $variables['url'] = url($variables['path'],
$variables['options']);
}
```

Twig template (link.html.twig)

```
* @see template_preprocess_link()
*
* @ingroup themeable
*/
#
<a href="{{ url }}" class="{{ attributes.class }}{{
attributes }}>{{ text }}</a>
```





Responsive Design

FINGER LAKES OPERA
at SUNY Geneseo

Carousel One | Brief explanation of opera past or present will be going here.

● ○ ○

bootstrap.min.css
font-awesome/4.3.0/css/font-awesome.min.css

jquery.min.js
bootstrap.min.js

FINGER LAKES OPERA
at SUNY Geneseo

[Home](#) > [Finger Lakes Opera](#) > [Leading Role Bios](#)

IN LEADING ROLES

IN LEADING ROLES

J'nai Bridges (*Carmen*)



J'nai Bridges is a rising star in the opera world and is quickly becoming among the most sought-after mezzo-sopranos of her generation. She recently joined the prestigious Lyric Opera of Chicago's Patrick G. and Shirley W. Ryan Opera Center, where she already has appeared as Carmen.



Responsive Design ?

~/themes/geneseo_all/template.php

```
Function phptemplate_preprocess_page()
{
    .....
    switch ($node_type) {
        .....
        case 'fingerlakesopera_carousel':
            $tpl_file = 'page-fingerlakesopera';
            break;
        case 'fingerlakesopera':
            $tpl_file = 'page-fingerlakesopera';
            break;
    }
    ...
}
```

~/page-fingerlakesopera.tpl.php

```
<div id="wrap">
<header class="masthead">
<div id="nav" class="navbar navbar-custom navbar-inverse navbar-static-top affix-top">
<div class="container">
</div>
<div id="section1" class="divider"></div>
<div class="container">
<div class="col-sm-11 col-md-10 col-md-offset-1 col-lg-10 col-lg-offset-1">
<div class="left"></div>
<div class="breadcrumbs">
<div class="page-header text-center">
<div class="divider"></div>
</div>
</div>
<div id="footer">
```

Need to figure out a solution for Drupal 8 template ?





Phase V.

Database Migration From Drupal 6 to Drupal 8





Challenges

⊕ Our Database Contents

- ⊕ Until December 15th, 2014
- ⊕ Totally 34176 nodes in “node” table
- ⊕ Totally 66496 node revisions in “node_revisions” table
- ⊕ Totally 74436 files in “files” table
- ⊕ Totally 332 sub sites
- ⊕ Totally 394 content types
- ⊕ Totally 359 roles for sub site group permission
 - ⊕ 726 users with at least one role permission





DB Structure D6 v.s. D8

node

node_access

node_comment_statistics

node_counter

node_revisions

node_type

content_field_faculty_publication

content_field_featured

content_field_featured_story

content_field_newsevent

D6: node tables

content_type_faculty_information

content_type_featured_faculty

content_type_featured_student

content_type_news_events

content_type_news_events_enc

D8: node tables

node

node_access

node_field_data

node_field_revision

node_revision

node_revision_body

node_revision_comment

node_revision_field_image

node_revision_field_tags

node_body

node_comment

node_field_image

node_field_tags



DB Structure D6 v.s. D8

■ Affect Custom Modules, e.g. “Create Mini Site”

```
/*
 * File: create_mini_site.php
 * Purpose: Get posted data from a submission form and create a mini site (sub site);
 *           Create a new content type, a new role, a new menu, a new department, a new block;
 *           Grant permission to the role, create an index page, add url alias;
 *           Setup the themekey
 */
$query = "INSERT into {node_type} ".
    " (type, name, module, description, help, has_title, title_label, has_body, ".
    " body_label, min_word_count, custom, modified, locked, orig_type) ".
    " VALUES ('$node_type', '$node_type_name', 'node', '$desc', '', 1, 'Title', 1, 'Body', 0, 1, 1, 0, '')";

public function insert_role($role_name)
{
    $query = "insert into {role} (name) values('$role_name')";

    db_query("INSERT INTO {variable} VALUES('%s', '%s')", "root_dir_$role_id", "s:" .
        strlen($node_type) . ":\"$node_type\"", $this->active_db);

    db_query("INSERT INTO {variable} VALUES('%s', '%s')", "webfm_extensions_$role_id",
        's:131:"jpg jpeg gif png txt doc xls pdf ppt avi mpeg mpg mov rm flv wmv 3gp mp4
```

■ Rewrite Code with Database Abstract Functions





Database Migration

⊕ PHP Code in Nodes, Forms, Blocks, Boxes

- ⊕ PHP code in nodes not supported in D8
- ⊕ Found and addressed before upgrading
- ⊕ Run the [Security Review](#) module for the tag <?php
- ⊕ SQL: select * from nodes where body like '%<?php%'

⊕ D8 Compatible Version of Drush

- ⊕ Install Drupal 8
- ⊕ Enable Migrate Module
- ⊕ Migrate
- ⊕ Two databases (D6 & D8) running at the same

⊕ Issues, errors, problems

- ⊕ Go thought each of them and fix





Online Document

Upgrading from Drupal 6 to Drupal 8

 <https://www.drupal.org/upgrade/migrate>





Phase VI.

SUNY Geneseo Websites Migration & Cut Over





Websites Migration

✚ One-time / Big-bang Cut Over ?

- ✚ Test to migrate on the Development server
- ✚ Fixed all possible issues, errors, problems on Dev
- ✚ Migrate on production server
- ✚ Switch Geneseo domain to Drupal 8 production server
 - In the middle of the night

✚ Periodical Migrating Progress?

- ✚ We migrated old Geneseo websites to Drupal 6
- ✚ 10-15 websites each time, and following one-week Drupal training

✚ Drupal 8 Training

- ✚ Content Editor Training
- ✚ Sub-site Webmaster Training





It's Worth To Migrate D8

Even though the Drupal 8 migration is a **BIG** project, it is **WORTH** to do it

- + A powerful **website development platform**.
- + Adheres to modern object oriented programming patterns, PHP best practices
- + Adheres to [HTML5](#) and [YAML](#) standards
- + Incorporates the best available Web technologies, including [CKEditor](#), [Symfony2](#), [Twig](#), [jQuery](#), [Backbone.js](#), and [Guzzle](#).
- + A **robust assortment of add-ons** in the form of modules and themes.
- + **Search engine friendly**
- + Contains intuitive "What You See Is What You Get" (**WYSIWYG**) **content creation tools** and powerful **in-place editing** tools.





Demo

- + <http://www.geneseo.edu>
- + <https://www.geneseo.edu/fingerlakesopera>
- + **Create/Edit node, My site management**
- + **Campus Map:** www.geneseo.edu/m/maps/search/m





Online Documents

Migrate Drupal 6 to Drupal 8

- + **The Drupal 6 to 8 Upgrade Challenge**

<https://drupalwatchdog.com/blog/2014/12/drupal-upgrade-1>

- + **Upgrading from Drupal 6 or 7 to Drupal 8**

<https://www.drupal.org/upgrade/migrate>

- + **Introduction to migrate D6 to D8**

<https://www.drupal.org/node/2350521>

- + **Upgrading Your Modules**

<https://drupalwatchdog.com/volume-4/issue-1/upgrading-your-modules>

- + **Converting 7.x modules to 8.x**

<https://www.drupal.org/update/modules/7/8>





Questions



Any Questions?

Thank You!

Gung Wang

585-245-5577

Department of Computing & Information Technology

SUNY Geneseo

