

# THE FLEXIBILITY OF DRUPAL 8

# MIKE MILES

Genuine ([wearegenuine.com](http://wearegenuine.com))

All the internet places: [mikemiles86](https://mikemiles86)



**FLEXIBILITY**

# WHAT MAKES DRUPAL FLEXIBLE

- Modular design
- Decoupled systems
- Open Source nature

# WHY FLEXIBILITY IS IMPORTANT

- Make Drupal do what you want
- No "right way", just a "right for me" way
- Adjust for skillsets, time and budget

# THREE AREAS OF FLEXIBILITY

- The Interface
- Display Layer
- Data Layer

# FOCUS OF THIS SESSION

- To prove the flexibility of Drupal
- To demonstrate abilities of all skillsets
- To discuss considerations and limitations

# THE DEMO

- Drupal 8.1.3
- Standard Install Profile
- Change menu tabs using 8 different methods

# THE BEFORE

Log in

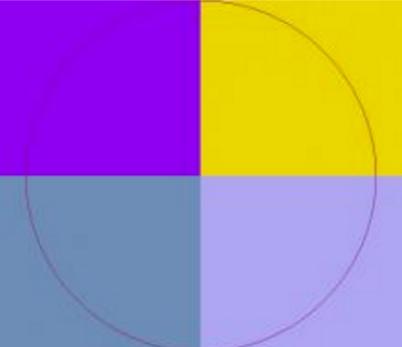
 Flexibility

Home Core Modules Twig CSS Javascript Hooks Services Combo

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**Commoveo**

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Capto ibidem roto suscipit torqueo vulputate. Aptent commodo ex pala praemitto quidne te ut.

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**Henderit Saepius**

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Abico luptatum minim wisi. Dolus odio quadrum zelus. Abluo brevitas commodo facilisis laoreet nunc pneum quia refero wisi.

*A plain Drupal 8 install with menu menu links before altering.*

# THE AFTER

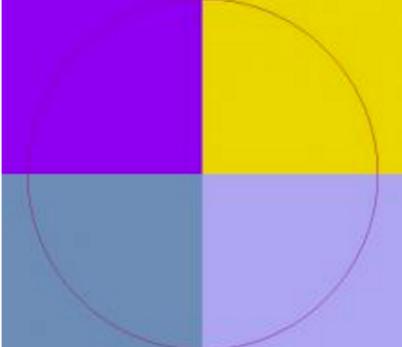
Log in

Flexibility

Home Core Alt. Modules Alt. Twig Alt. CSS Javascript Alt. Hooks Alt. Services Alt. tIA obmoC

Commovo

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Capto ibidem roto suscipit torqueo vulputate. Aptent commodo ex pala praemitto quidne te ut.

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Hendrerit Saepius

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Abico luptatum minim wisi. Dolus odio quadrum zelus. Abluo brevitas commodo facilisis laoreet nunc pneum quia refero wisi.

*Drupal 8 main menu after altering 8 different ways.*

\ /  
OPEN CLOSED BYPASS

GAS  
VALVE

VALVE  
OPEN

VALVE  
CLOSED

PUMP  
BYPASS

#1 DRUPAL CORE

LOW SULFUR  
VALVE

VALVE  
OPEN

VALVE  
CLOSED

PUMP  
BYPASS

# THE "CLICKING BUTTONS" METHOD

- "Easy" and "Quick"
- Little to No dev skills needed
- Capabilities are limited

[Back to site](#) [Manage](#) [Shortcuts](#) [admin](#)

[Content](#) [Structure](#) [Appearance](#) [Extend](#) [Configuration](#) [People](#) [Reports](#) [Help](#)

[Home](#) » [Administration](#) » [Structure](#) » [Menus](#)

**Menu link title \***

Core Alt.

The text to be used for this link in the menu.

**Link \***

Core (1)

Start typing the title of a piece of content to select it. You can also enter an internal path such as /node/add or an external URL such as http://example.com. Enter <front> to link to the front page.

Enabled

A flag for whether the link should be enabled in menus or hidden.

**Description**

Shown when hovering over the menu link.

Show as expanded

If selected and this menu link has children, the menu will always appear expanded.

**Parent link**

<Main navigation>

The maximum depth for a link and all its children is fixed. Some menu links may not be available as parents if selecting them would exceed this limit.

**Weight**

-49

*Use Drupal core to edit a main menu link. Limited to changing the title and the destination.*

Log in



## Flexibility

Home

Core Alt.

Modules

Twig

CSS

Javascript

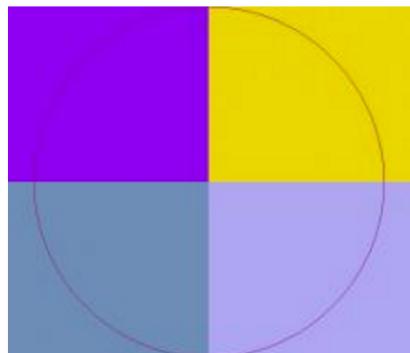
Hooks

Services

Combo

### Commoveo

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Capto ibidem roto suscipit torqueo vulputate. Aptent commodo ex pala praemitto quidne te ut.

### Hendrerit Saepius

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Abico luptatum minim wisi. Dolus odio quadrum zelus. Abluo brevitas commodo facilisis laoreet nunc pneum quia refero wisi.

*The first menu link has been altered using only Drupal core.*

## #2 MODULES



# THE EXTEND CORE METHOD

- Requires time for research.
- Can't find one? Can build your own (Dev skills needed)
- Requires long term maintenance

# Menu Link Attributes

[View](#) [Version control](#) [Automated Testing](#)

Posted by [yannickoo](#) on October 2, 2015 at 9:14am

This module allows you to add attributes to your menu links.

Let's see whether we can merge this module into [Menu Attributes](#) - #[2174435: Port Menu attributes to Drupal 8](#)

You can create [issues](#) and [pull requests](#) on [Github](#).

## Project Information

Maintenance status: [Actively maintained](#)

Development status: [Under active development](#)

Module categories: Content Display , Utility

Reported installs: 730 sites currently report using this module. [View usage statistics](#).

Downloads: 2,189

Last modified: October 20, 2015

## Downloads

### Recommended releases

Version	Download	Date
<a href="#">8.x-1.0-beta1</a>	<a href="#">tar.gz (10.17 KB)</a>   <a href="#">zip (13.18 KB)</a>	2015-Oct-17

### Development releases

Version	Download	Date
<a href="#">8.x-1.x-dev</a>	<a href="#">tar.gz (10.26 KB)</a>   <a href="#">zip (13.26 KB)</a>	2016-Feb-23

[View all releases](#)

## Maintainers for Menu Link Attributes

[yannickoo](#) – 16 commits

last: 8 months ago, first: 9 months ago

[View all committers](#)

[View commits](#)

## Resources

[Home page](#)

[Read documentation](#)

[Read license](#)

[Read complete log of changes](#)

[Try out a demonstration](#)

[View project translations](#)

## Development

[View pending patches](#)

[Browse code repository](#)

[View commits](#)

[Report a security vulnerability](#)

[View change records](#)

Look for modules on Drupal.org to see if there is one that meets your needs. Found the Menu Links Attributes module for Drupal 8.

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## Extend

[List](#) [Update](#) [Uninstall](#)

[Home](#) » [Administration](#)

Download additional [contributed modules](#) to extend your site's functionality.

Regularly review and install [available updates](#) to maintain a secure and current site. Always run the [update script](#) each time a module is updated.

[+ Install new module](#)

attri

Enter a part of the module name or description

**▼ CORE**

**RDF** ► Enriches your content with metadata to let other applications (e.g. search engines, aggregators) better understand its relationships and attributes.

**▼ OTHER**

**Menu Link Attributes** ► Allows you to add attributes to menu links.

[Install](#) 

*Many ways to download and enable modules. Will use the core interface to enable the Menu Links Attributes module after downloading.*

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[Content](#) [Structure](#) [Appearance](#) [Extend](#) [Configuration](#) [People](#) [Reports](#) [Help](#)

**Modules (2)**

Start typing the title of a piece of content to select it. You can also enter an internal path such as /node/add or an external URL such as <http://example.com>. Enter <front> to link to the front page.

**Enabled**  
A flag for whether the link should be enabled in menus or hidden.

**Description**

Shown when hovering over the menu link.

**Show as expanded**  
If selected and this menu link has children, the menu will always appear expanded.

**▼ ATTRIBUTES**

Manage available attributes [here](#).

**Class**  
  
Enter value for class attribute.

**Target**  
  
Enter value for target attribute.

**Parent link**

The maximum depth for a link and all its children is fixed. Some menu links may not be available as parents if selecting them would exceed this limit.

*When editing a menu link, now have more attributes available to set.*

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## Menu link attributes

[List](#) [Available attributes](#)

Home » Administration » Configuration

 It is recommended to install the [YAML Editor](#) module for easier editing.

### Configuration

```
attributes:  
  class:  
    label: "  
    description: "  
  target:  
    label: "  
    description: "  
  options:  
    _blank: 'New window (_blank)'  
    _self: 'Same window (_self)'  
_core:  
  default_config_hash: 9nRDOclwSlz2Os9mJXM1LXNbV2g-bADV0zipiWPXymk
```

Available attributes can be defined in YAML syntax.

► [EXAMPLE STRUCTURE](#)

*Menu Links Attributes module requires some technical (YAML) knowledge to customize*

```
1 attributes:
2   class:
3     label: ''
4     description: ''
5 target:
6   label: ''
7   description: ''
8 options:
9   _blank: 'New window (_blank)'
10  _self: 'Same window (_self)'
11 style:
12   label: ''
13   description: ''
14 _core:
15   default_config_hash: 9nRDOclwSlz2Os9mJXM1LXNbV2q-bADV0zipiWPXymk
```

*Add a new configurable 'style' attribute (lines 11-13) to the YAML*

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[Content](#) [Structure](#) [Appearance](#) [Extend](#) [Configuration](#) [People](#) [Reports](#) [Help](#)

Description:

Shown when hovering over the menu link.

Show as expanded  
If selected and this menu link has children, the menu will always appear expanded.

**▼ ATTRIBUTES**

Manage available attributes [here](#).

**Class**  
Enter value for class attribute.

**Target**  
 Enter value for target attribute.

**Style**  
`background:black;color:yellow`  
Enter value for style attribute.

**Parent link**  
 The maximum depth for a link and all its children is fixed. Some menu links may not be available as parents if selecting them would exceed this limit.

**Weight**  
 Link weight among links in the same menu at the same depth. In the menu, the links with high weight will sink and links with a low weight will be positioned nearer

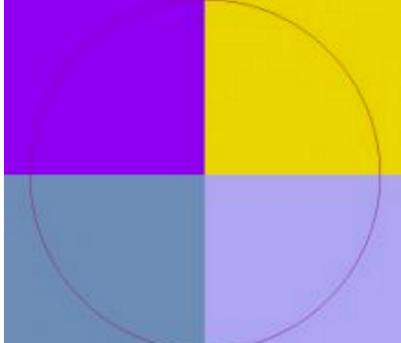
*After saving configuration, now able to add inline style to menu links*

Log in

Flexibility

Home Core Alt **Modules Alt** Twig CSS Javascript Hooks Services Combo

Commoveo  
Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16

 Capto ibidem roto suscipit torqueo vulputate. Aptent commodo ex pala praemitto quidne te ut.

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Hendrerit Saepius  
Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16

 Abico luptatum minim wisi. Dolus odio quadrum zelus. Abluo brevitas commodo facilisis laoreet nunc pneum quia refero wisi.

*Using a contrib module allowed for altering the style of the "Modules" main menu link.*

## #3 TWIG TEMPLATES

# THE ALTER MARKUP METHOD

- Almost everything is templated
- Need to know HTML and/or Twig
- Requires a custom theme

```
<div class="content">
  <div class="menu-toggle-target menu-toggle-target-show" id="show-block-bartik-main-menu"></div>
  <div class="menu-toggle-target" id="hide-block-bartik-main-menu"></div>
  <a class="menu-toggle" href="#show-block-bartik-main-menu">Show – Main navigation</a>
  <a class="menu-toggle menu-toggle--hide" href="#hide-block-bartik-main-menu">Hide – Main navigation</a>
  <!-- THEME DEBUG -->
  <!-- THEME HOOK: 'menu_main' -->
  <!-- FILE NAME SUGGESTIONS:
    * menu--main.html.twig
    x menu.html.twig
  -->
  <!-- BEGIN OUTPUT from 'core/themes/classy/templates/navigation/menu.html.twig' -->
<ul class="clearfix menu">
  ><li class="menu-item">...</li>
  ><li class="menu-item">...</li>
  ><li class="menu-item">...</li>
  ><li class="menu-item">
    <a href="/node/3" data-drupal-link-system-path="node/3">Twig</a> == $0
  </li>
  ><li class="menu-item">...</li>
  ><li class="menu-item">...</li>
  ><li class="menu-item">...</li>
  ><li class="menu-item">...</li>
  ...
```

html body #page-wrapper #page #header div div nav#block-bartik-main-menu.block.block-menu.navigation.menu--main div.content ul.clearfix.menu li.menu-item a

⋮ Console X

Can use Twig debug to learn which template the main menu uses.

```
1 <!-- THEME DEBUG -->
2 <!-- THEME HOOK: 'menu_main' -->
3 <!-- FILE NAME SUGGESTIONS:
4   * menu--main.html.twig
5   x menu.html.twig
6 -->
7 <!-- BEGIN OUTPUT from 'core/themes/classy/templates/navigation/menu.html.twig'
8 <ul class="clearfix menu">
9 <!-- // ... -->
10 <li class="menu-item">
11   <a href="/node/3" data-drupal-link-system-path="node/3">Twig</a>
12 </li>
13 <!-- // ... -->
14 </ul>
15 <!-- END OUTPUT from 'core/themes/classy/templates/navigation/menu.html.twig'
```

*Twig debug tells the available template names to override current template.*

Name	Kind
autoload.php	PHP
core	Folder
index.php	PHP
modules	Folder
profiles	Folder
robots.txt	Plain Text
sites	Folder
themes	Folder
flex_theme	Folder
flex_theme.info.yml	YAML
logo.svg	SVG Image
templates	Folder
menu--main.html.twig	Document
	PHP
web.config	Document

Create a custom theme (`flex_theme`), to override the `menu--main.html.twig` template.

```

1  {# ... #}
2  {% if items %}
3      {# ... #}
4      {% for item in items %}
5          {# ... #}
6          <li{{ item.attributes.addClass(classes) }}>
7              {% if item.title == 'Twig' %}
8                  {% set style = 'background:#0F0;color:#F00' %}
9                  {{ link(item.title ~ ' Alt', item.url, { 'style': style }) }}
10             {% else %}
11                 {{ link(item.title, item.url) }}
12             {% endif %}
13             {# ... #}
14         </li>
15     {% endfor %}
16     </ul>
17 {% endif %}

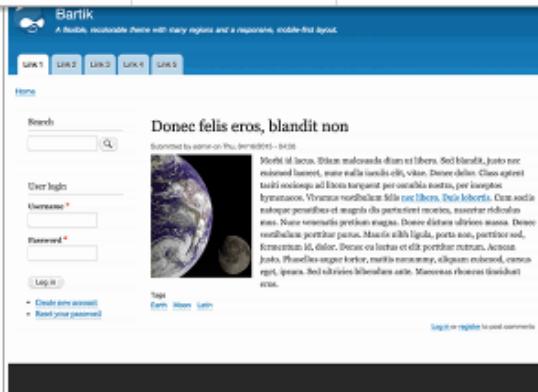
```

*flex\_theme/templates/menu--main.html.twig*

*Add logic to twig template (lines 7-12) to check title of current link and alter the styling.*

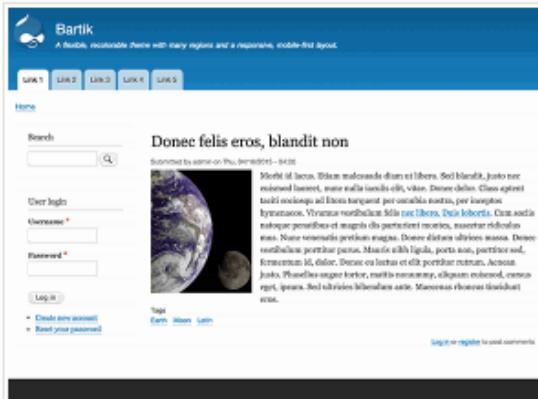
[Back to site](#) [Manage](#) [Shortcuts](#) [admin](#)

[Content](#) [Structure](#) [Appearance](#) [Extend](#) [Configuration](#) [People](#) [Reports](#) [Help](#)



**Bartik 8.1.3 (default theme)**  
A flexible, recolorable theme with many regions and a responsive, mobile-first layout.

**Settings**



**Flex Theme 8.1.3**  
An theme to demo the flexibility of Drupal 8.

**Settings** | [Uninstall](#) | [Set as default](#)



**Seven 8.1.3 (admin theme)**  
The default administration theme for Drupal 8 was designed with clean lines, simple blocks, and sans-serif font to emphasize the tools and tasks at hand.

*Enabling the new theme as default so that Drupal will use the custom twig template for output.*

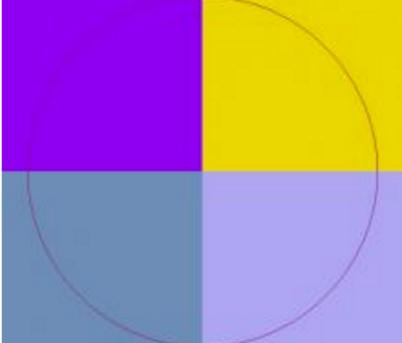
Log in

Flexibility

Home Core Alt. Modules Alt **Twig Alt** CSS Javascript Hooks Services Combo

Commoveo

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Capo ibidem roto suscipit torqueo vulputate. Aptent commodo ex pala praemitto quidne te ut.

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Hendrerit Saepius

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Abico luptatum minim wisi. Dolus odio quadrum zelus. Abluo brevitas commodo facilisis laoreet nunc pneum quia refero wisi.

*Result of using a custom theme with template to alter "Twig" menu link.*



#4 CSS

## THE ALTER DISPLAY METHOD

- Target any element on the "page"
- Need to know CSS and how to add a library
- Requires a custom theme or module

▶	profiles	Folder
	robots.txt	Plain Text
▶	sites	Folder
▼	themes	Folder
▼	flex theme	Folder
▼	css	Folder
	menu_alter.css	Cascading Style Sheet
	flex_theme.info.yml	YAML
	flex_theme.libraries.yml	YAML
	logo.svg	SVG Image
▼	templates	Folder
	menu--main.html.twig	Document
	update.php	PHP
	web.config	Document

*Will add some custom styling to existing custom theme (flex\_theme)*

```
1 .menu--main .menu li:nth-child(5) a {  
2     background: #0000FF;  
3     color: #FFF;  
4 }
```

*themes/flex\_theme/css/menu\_alter.css*

*Use custom CSS to target the 5th item in the main menu*

```
1 menu-alter:  
2   version: VERSION  
3   css:  
4     component:  
5       css/menu_alter.css: {}
```

*themes/flex\_theme/flex\_theme.libraries.yml*

*Custom CSS and JavaScript need to be added to a custom library. Custom libraries are defined in a \*.libraries.yml file.*

```
1 name: Flex Theme
2 type: theme
3 description: An theme to demo the flexibility of Drupal 8.
4 package: Core
5 version: VERSION
6 core: 8.x
7 base theme: bartik
8 libraries:
9   - flex_theme/menu-alter
```

*themes/flex\_theme/flex\_theme.info.yml*

*Add custom library as a dependency of the theme in the \*.info.yml file. Drupal will include this library on any page where this theme is used.*

Log in



## Flexibility

Home

Core Alt.

Modules Alt

Twig Alt

CSS

Javascript

Hooks

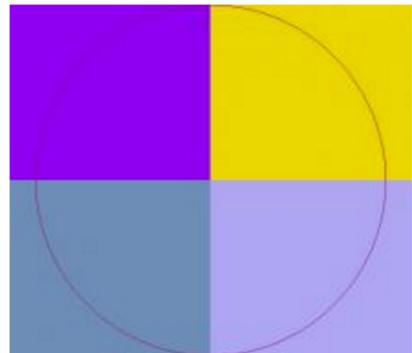
Services

Combo



### Commoveo

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Caption ibidem roto suscipit torqueo vulputate. Aptent commodo ex pala praemitto quidne te ut.

### Hendrerit Saepius

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Abico luptatum minim wisi. Dolus odio quadrum zelus. Abluo brevitas commodo facilisis laoreet nunc pneum quia refero wisi.

*The "CSS" menu link has been altered using custom CSS. Only able to alter the display of menu item.*

# #5 JAVASCRIPT

25 15.150.104

02 - "Captain Drupal"

Dries Buytaert

26.9.08

# THE DOM MANIPULATION METHOD

- Change based on actions
- Need to know JavaScript and how to add a library
- Dependent on client browser, delay in execution

►	sites	Folder
▼	themes	Folder
▼	flex_theme	Folder
▼	css	Folder
	menu.Alter_main.css	Cascade...ument
	menu.Alter.css	Cascade...ument
	flex_theme.info.yml	YAML
	flex_theme.libraries.yml	YAML
	js	Folder
	menu.Alter_main.js	JavaSc...ument
	logo.svg	SVG Image
▼	templates	Folder
	menu--main.html.twig	Document
	update.php	PHP
	web.config	Document

*Will add new JavaScript and CSS to custom theme to alter data using custom JavaScript.*

```
1 (function ($, Drupal) {
2   "use strict";
3   Drupal.behaviors.flexThemeMenuAlterMain = {
4     attach: function (context) {
5       $('.menu--main ul.menu li a').each(function(){
6         if ($(this).attr('href') == '/node/5') {
7           $(this).addClass('yellow-menu');
8           $(this).attr('style', 'color: #000;');
9           $(this).attr('target', '_blank');
10          $(this).text($(this).text() + Drupal.t(' Alt'));
11        }
12      });
13    }
14  }
15 })(jQuery, Drupal);
```

*themes/flex\_theme/js/menu\_alter\_main.js*

*Write a Drupal Behaviour that will trigger whenever the DOM loads. Target a specific menu item to change value and add a custom class.*

```
1 .yellow-menu {  
2     background: #FFFF00;  
3 }
```

*themes/flex\_theme/css/menu\_alter\_main.css*

*Add some basic CSS for to a custom class name.*

```
1 menu-alter:  
2   version: VERSION  
3   css:  
4     component:  
5       css/menu_alter.css: {}  
6 menu-alter-main:  
7   version: VERSION  
8   css:  
9     component:  
10      css/menu.Alter_main.css: {}  
11   js:  
12     js/menu.Alter_main.js: {}  
13   dependencies:  
14     - core/jquery  
15     - core/jquery.once  
16     - core/drupal
```

*themes/flex\_theme/flex\_theme.libraries.yml*

*Add a second library to libraries.yml file. A Library can define both CSS and JS files to include, as well as, any dependencies on other libraries.*

```
1 {{ attach_library('flex_theme/menu-alter-main') }}
```

```
2 {# ... #}
```

```
3 {%- if items %}
```

```
4 {# ... #}
```

```
5 {%- for item in items %}
```

```
6 {# ... #}
```

```
7     <li{{ item.attributes.addClass(classes) }}>
```

```
8         {% if item.title == 'Twig' %}
```

```
9             {% set style = 'background:#0F0;color:#F00' %}
```

```
10            {{ link(item.title ~ ' Alt', item.url, { 'style': style }) }}
```

```
11        {% else %}
```

```
12            {{ link(item.title, item.url) }}
```

```
13        {% endif %}
```

```
14 {# ... #}
```

*themes/flex\_theme/templates/menu--main.html.twig*

*Libraries can be attached from within a template files, by using the twig function 'attach\_library'. Attaching new library only when the template menu--main.html.twig is included on page.*

Log in



## Flexibility

Home

Core Alt.

Modules Alt

Twig Alt

CSS

Javascript Alt

Hooks

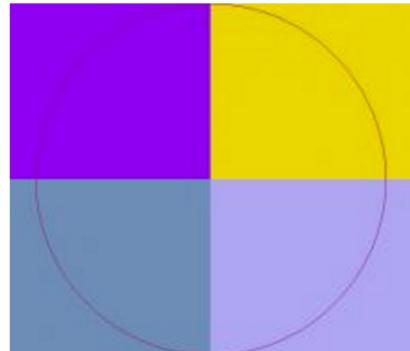
Services

Combo



### Commoveo

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Capto ibidem roto suscipit torqueo vulputate. Aptent commodo ex pala praemitto quidne te ut.

### Henderit Saepius

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Abico luptatum minim wisi. Dolus odio quadrum zelus. Abluo brevitas commodo facilisis laoreet nunc pneum quia refero wisi.

*The "JavaScript" menu item is altered after custom JavaScript triggers, changing values and assigning a new class name for styling.*



#6 HOOKS

# THE ALTER DATA METHOD

- Provided by core and modules
- Requires PHP and Drupal skillset
- Requires custom theme or module

The screenshot shows a Drupal website with a dark theme. At the top, there is a navigation bar with the following tabs: Home, Core Alt., Modules Alt. (highlighted in yellow), Twig Alt, CSS, Javascript Alt, Hooks, Services, and Combo. To the right of the navigation bar is a "Log in" link. The main content area features a large orange header with the word "Flexibility" and a small orange icon. Below the header is a navigation menu. A browser's developer tools are open, specifically the "Elements" tab, which displays the HTML code for the main navigation. The code includes a menu toggle button, a list of menu items, and a specific item for "Hooks" with the URL "/node/6". The developer tools also show the class names used in the CSS, such as "menu\_\_item" and "menu--main". The bottom of the developer tools interface shows the current state of the browser's memory, with a list of loaded files and their memory usage.

```
<a class="menu__toggle menu__toggle--hide" href="#hide-block-flex-theme-main-menu">Hide – Main navigation</a>
<!-- THEME DEBUG -->
<!-- THEME HOOK: 'menu__main' -->
<!-- FILE NAME SUGGESTIONS:
  x menu--main.html.twig
  x menu--main.html.twig
  * menu.html.twig
-->
<!-- BEGIN OUTPUT from 'themes/flex_theme/templates/menu--main.html.twig' -->
▼<ul class="clearfix menu">
  ▶<li class="menu__item">...</li>
  ▶<li class="menu__item">...</li>
  ▶<li class="menu__item">...</li>
  ▶<li class="menu__item">...</li>
  ▶<li class="menu__item">...</li>
  ▶<li class="menu__item">...</li>
  ▶<li class="menu__item">...
    <a href="/node/6" data-drupal-link-system-path="node/6">Hooks</a> == $0
  </li>
  ▶<li class="menu__item">...</li>
  ▶<li class="menu__item">...</li>
  ::after
</ul>
```

html body #page-wrapper #page #header div div nav#block-flex-theme-main-menu.block.block-menu.navigation.menu--main div.content ul.clearfix.menu li.menu-item a

⋮ Console X

Can use Twig debug to learn naming convention for hooks

```
1 <!-- THEME DEBUG -->
2 <!-- THEME HOOK: 'menu_main' -->
3 <!-- FILE NAME SUGGESTIONS:
4   X menu--main.html.twig
5   X menu--main.html.twig
6   * menu.html.twig
7 -->
8 <!-- BEGIN OUTPUT from 'themes/flex_theme/templates/menu--main.html.twig' -->
9 <ul class="clearfix menu">
10 <!-- // ... -->
11 </ul>
12 <!-- END OUTPUT from 'themes/flex_theme/templates/menu--main.html.twig'
```

*Twig debug information informs that theme hooks should contain 'menu\_main' (line 2)*

Name	Kind
autoload.php	PHP
core	Folder
index.php	PHP
modules	Folder
contrib	Folder
custom	Folder
ajax_dblog	Folder
flex_module	Folder
flex_module.info.yml	YAML
flex_module.module	Subli...cument
profiles	Folder
robots.txt	Plain Text
sites	Folder
themes	Folder
update.php	PHP
web.config	Document

*Will create a custom module (flex\_module) to implement hooks.*

```

1 // Implements hook preprocess_HOOK().
2 function flex_module preprocess_menu_main(&$variables) {
3   // Loop through all menu tabs.
4   foreach ($variables['items'] as &$menu_tab) {
5     // Current tab pointing to node/6 ?
6     if ($menu_tab['url']->toString() == '/node/6') {
7       // Alter Title
8       $menu_tab['title'] .= ' Alt';
9       // Existing attributes?
10      $attributes = $menu_tab['url']->getOption('attributes');
11      // Add custom styling.
12      $attributes['style'] .= 'color:#FFF;background:#F00;';
13      // Add back modified attributes.
14      $menu_tab['url']->setOption('attributes', $attributes);
15    }
16  }
17 }
```

*module/custom/flex\_module/flex\_module.module*

*Implement a preprocess hook targeted at the main menu. Loop through all the menu items and alter any that point to node/6*

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Content Structure Configuration Pages Help

web — bash — 69x24

**Extend** ★

[List](#) [Update](#) [ok]

```
bosgen-nmx0608:web mike.miles$ drush en flex_module
The following extensions will be enabled: flex_module
Do you really want to continue? (y/n): y
flex_module was enabled successfully.
bosgen-nmx0608:web mike.miles$
```

Home » Administration

**⚠ There are updates available for one or more of your modules or themes. To ensure the proper functioning of your site, you should update as soon as possible. See the available updates page for more information and to install your missing updates.**

Download additional [contributed modules](#) to extend your site's functionality.

Regularly review and [install available updates](#) to maintain a secure and current site. Always run the [update script](#) each time a module is updated.

[+ Install new module](#)

Filter by name or description

Enter a part of the module name or description

▼ CORE

- Actions** ➤ Perform tasks on specific events triggered within the system.
- Activity Tracker** ➤ Enables tracking of recent content for users.

*Can enable modules from command line using Drush.*

Log in



## Flexibility

Home

Core Alt.

Modules Alt

Twig Alt

CSS

Javascript Alt

Hooks Alt

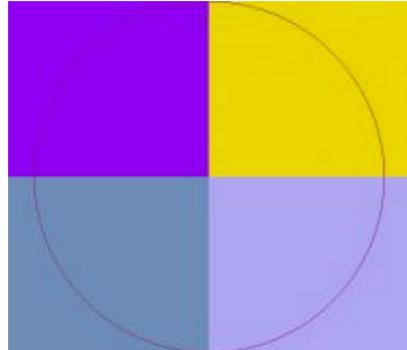
Services

Combo



### Commoveo

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Capto ibidem roto suscipit torqueo vulputate. Aptent commodo ex pala praemitto quidne te ut.

### Henderit Saepius

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Abico luptatum minim wisi. Dolus odio quadrum zelus. Abluo brevitas commodo facilisis laoreet nunc pneum quia refero wisi.

*"Hooks" menu item has been altered by using preprocess hook in a custom module*



## #7 SERVICES

# THE REPLACE CORE METHOD

- Replace/Alter global systems
- Requires advanced Drupal and OOP skillset
- Requires a custom module

▼	modules	Folder
►	contrib	Folder
▼	custom	Folder
►	ajax_dblog	Folder
▼	flex_module	Folder
	flex_module.info.yml	YAML
	flex_module.module	Subli...cument
	src	Folder
	FlexModuleMenuLinkTree.php	PHP
	FlexModuleServiceProvider.php	PHP
►	promises	Folder
	robots.txt	Plain Text
►	sites	Folder
►	themes	Folder

*Using a custom service requires some PHP classes within a custom module.*

```
1 namespace Drupal\flex_module;
2
3 use Drupal\Core\DependencyInjection\ServiceProviderBase;
4 use Drupal\Core\DependencyInjection\ContainerBuilder;
5
6 class FlexModuleServiceProvider extends ServiceProviderBase {
7     /**
8      * {@inheritDoc}
9     */
10    public function alter(ContainerBuilder $container) {
11        // Override menu_link_tree class with custom.
12        $definition = $container->getDefinition('menu.link_tree');
13        $definition->setClass('Drupal\flex_module\FlexModuleMenuLinkTree');
14    }
15 }
```

*modules/custom/flex\_module/src/FlexModuleServiceProvider.php*

*Need to create a \*ServiceProvider class that extends the ServiceProviderBase class (line 6). Will override the 'alter' method (lines 10 -14), and change the PHP class uses for the menu Tree service (lines 12 - 13)*

```

1 namespace Drupal\flex_module;
2 use Drupal\Core\Menu\MenuLinkTree;
3
4 class FlexModuleMenuLinkTree extends MenuLinkTree {
5   // Overrides \Drupal\Core\Menu\MenuLinkTree::build().
6   public function build(array $tree) {
7     $build = parent::build($tree);
8     if (isset($build['#items']) && $build['#theme'] == 'menu_main') {
9       $n = 0;
10      foreach ($build['#items'] as &$item) {
11        if (++$n == 8) {
12          // Change Title, path and add styling.
13          $item['title'] .= ' Alt';
14          $item['url']->setOption('attributes', array(
15            'style' => 'color:#00F;background:#FFA500;',
16          ));
17        }
18      }
19    }
20    return $build;

```

*modules/custom/flex\_module/src/FlexModuleMenuLinkTree.php*

*Create a new service class that extends the core MenuLinkTree service (line 4). Will override the core 'build' method, so that can use custom logic to target the 8th main menu item.*

Log in



## Flexibility

Home

Core Alt.

Modules Alt

Twig Alt

CSS

Javascript Alt

Hooks Alt

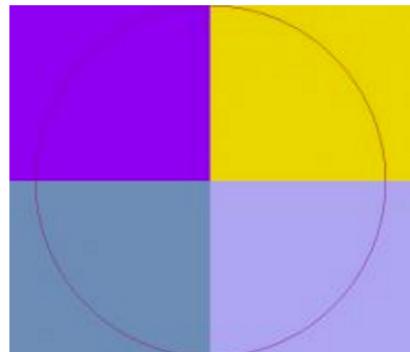
Services Alt

Compo



### Commoveo

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Capo ibidem roto suscipit torqueo vulputate. Aptent commodo ex pala praemitto quidne te ut.

### Hendrerit Saepius

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Abico luptatum minim wisi. Dolus odio quadrum zelus. Abluo brevitas commodo facilisis laoreet nunc pneum quia refero wisi.

*Drupal now uses custom menu link tree service to render menu links. Custom logic thus causes the "Services" menu tab to be altered.*

# #8 COMBINATIONS



MAKE GIFS AT GIFSOUR

## THE REAL WORLD METHOD

- Most control over Drupal
- Use multiple skillsets
- Requires more time and effort

```
1 namespace Drupal\flex_module;
2 use Drupal\Core\Menu\MenuLinkTree;
3
4 class FlexModuleMenuLinkTree extends MenuLinkTree {
5   // Overrides \Drupal\Core\Menu\MenuLinkTree::build().
6   public function build(array $tree) {
7     $build = parent::build($tree);
8     if (isset($build['#items']) && $build['#theme'] == 'menu_main') {
9       $n = 0;
10      foreach ($build['#items'] as &$item) {
11        // ...
12        if ($item['url']->toString() == '/node/8') {
13          $item['title'] .= ' Alt';
14        }
15      }
16    }
17    return $build;
18  }
19 }
```

*modules/custom/flex\_module/src/FlexModuleMenuLinkTree.php*

*Use custom service to alter the Display title of a menu link (lines 12 - 14)*

```
1 // Implements hook preprocess_HOOK().
2 function flex_module preprocess_menu_main(&$variables) {
3   $size = count($variables['items']);
4   $m = 1;
5   // Loop through all menu tabs.
6   foreach ($variables['items'] as &$menu_tab) {
7     // Current tab pointing to node/6 ?
8     if ($menu_tab['url']->toString() == '/node/6') {
9       // ...
10    }
11    $menu_tab['is_combo'] = ($m++ == $size);
12  }
13 }
```

*modules/custom/flex\_module/flex\_module.module*

*Use a preprocess hook in a custom module to target items in main menu. Will add new menu item boolean attribute to check if last item (line #11).*

```
1 (function ($, Drupal) {
2   "use strict";
3   Drupal.behaviors.flexThemeMenuAlterMain = {
4     attach: function (context) {
5       $('.menu--main ul.menu li a').each(function(){
6         // ...
7         if ($(this).data('combo') == 1) {
8           $(this).addClass('combo-item');
9         }
10      });
11    }
12  }
13 })(jQuery, Drupal);
```

*themes/flex\_theme/js/menu\_alter\_main.js*

*Will use custom JavaScript that is part of a custom library to add the class 'combo-item' to any main menu link that has the data-attribute "combo"*

```
1 .menu--main .menu li a.combo-item {  
2     color: #000;  
3     font-weight: 800;  
4     text-shadow: 0 0 #000 !important;  
5     background: red; /* not working, let's see some red */  
6     background: -moz-linear-gradient( top ,  
7         rgba(255, 0, 0, 1) 0%,  
8         rgba(255, 255, 0, 1) 15%,  
9         rgba(0, 255, 0, 1) 30%,  
10        rgba(0, 255, 255, 1) 50%,  
11        rgba(0, 0, 255, 1) 65%,  
12        rgba(255, 0, 255, 1) 80%,  
13        rgba(255, 0, 0, 1) 100%);  
14     background: -webkit-gradient(linear, left top, left bottom,  
15         color-stop(0%, rgba(255, 0, 0, 1)),  
16         color-stop(15%, rgba(255, 255, 0, 1)),  
17         color-stop(30%, rgba(0, 255, 0, 1)),  
18         color-stop(50%, rgba(0, 255, 255, 1)),  
19         color-stop(65%, rgba(0, 0, 255, 1)),  
20         color-stop(80%, rgba(255, 0, 255, 1)),
```

*themes/flex\_theme/css/menu\_alter.css*

*Write a CSS rule to change background color of any menu item with the class 'combo-item'*

```
1 <ul class="menu">
2 {%- endif %}
3 {%- for item in items %}
4     {# ... #}
5     <li{{ item.attributes.addClass(classes) }}>
6         {% if item.title == 'Twig' %}
7             {# ... #}
8         {% elseif item.is_combo %}
9             {{ link(item.title | reverse, item.url) }}
10        {% else %}
11            {{ link(item.title, item.url) }}
12        {% endif %}
13        {# ... #}
14     </li>
15 {% endfor %}
16 </ul>
```

*theme/flex\_theme/templates/menu--main.html.twig*

*Will use a custom template to build main menu. Will check to see if menu item has attribute 'is\_combo' and if so, will reverse the menu text.*

```
1 attributes:
2   class:
3     label: ''
4     description: ''
5   target:
6     label: ''
7     description: ''
8   options:
9     _blank: 'New window (_blank)'
10    _self: 'Same window (_self)'
11 style:
12   label: ''
13   description: ''
14 data-combo:
15   label: 'Combo Item'
16   description: 'Is this a combo menu item?'
17   options:
18     0: 'No'
19     1: 'Yes'
20 _core:
```

*Will update the configuration of Menu Link Attributes module, to include a custom 'data-combo' attribute (lines 14-19).*

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[Content](#) [Structure](#) [Appearance](#) [Extend](#) [Configuration](#) [People](#) [Reports](#) [Help](#)

**▼ ATTRIBUTES**

Manage available attributes [here](#).

**Class**  
  
Enter value for class attribute.

**Target**  
- Select -  
Enter value for target attribute.

**Style**  
  
Enter value for style attribute.

**Combo Item**  
 - Select -  
 No menu item?  
 Yes

**Parent link**

The maximum depth for a link and all its children is fixed. Some menu links may not be available as parents if selecting them would exceed this limit.

**Weight**

Link weight among links in the same menu at the same depth. In the menu, the links with high weight will sink and links with a low weight will be positioned nearer the top.

[Save](#) [Delete](#)

*Will use Drupal core to edit menu item and set custom attribute 'data-combo' to 'Yes'*

Log in



## Flexibility

Home

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Twig Alt

CSS

Javascript Alt

Hooks Alt

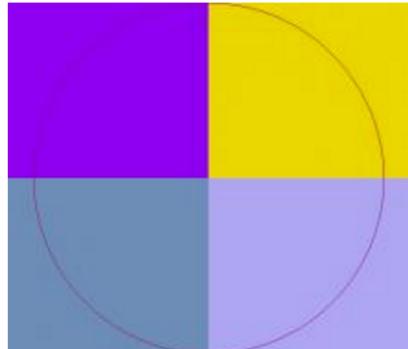
Services Alt

tiA obmoC



### Commoveo

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Capto ibidem roto suscipit torqueo vulputate. Aptent commodo ex pala praemitto quidne te ut.

### Henderit Saepius

Submitted by Anonymous (not verified) on Wed, 06/29/2016 - 01:16



Abico luptatum minim wisi. Dolus odio quadrum zelus. Abluo brevitas commodo facilisis laoreet nunc pneum quia refero wisi.

*Result of using multiple manipulations methods, the last menu item is greatly altered.*

# WHAT DID WE LEARN?

- Drupal is flexible!
- No "right" way, just "right for me" way

# RESOURCES

[bit.ly/NYC16Flex](http://bit.ly/NYC16Flex)

*This presentation*

[bit.ly/NYC16FlexSlides](http://bit.ly/NYC16FlexSlides)

*Annotated Slides*

[bit.ly/NYC16FlexCode](http://bit.ly/NYC16FlexCode)

*Demo code (theme and module)*

[mike-miles.com](http://mike-miles.com)

*My blog*

# FEEDBACK

@MIKEMILES86

# THANK YOU!