

The Flexibility of Drupal

9 Ways to Alter a Menu item

<http://drupalnorth.org/node/9>

Drupal North 2015

#DrupalNorth

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From: Boston, MA USA

Work: [Genuine](#) @WeAreGenuine(.com)

Exp: Working with Drupal since 2008.

Twitter: @mikemiles86 **Drupal.org:** mikemiles86

All the Places: mikemiles86

Goals of this Session

- *To show there is no "right" way, just "right for me" way.*
- *To demonstrate data manipulation methods.*
- *To teach considerations to take into account.*

Examples we'll use

Manipulating Menu Items

- *On just about every Drupal site.*
- *Can be manipulated in many places.*
- *What we'll focus on changing*
 - *Title*
 - *Destination*
 - *Display*

Why should you care?

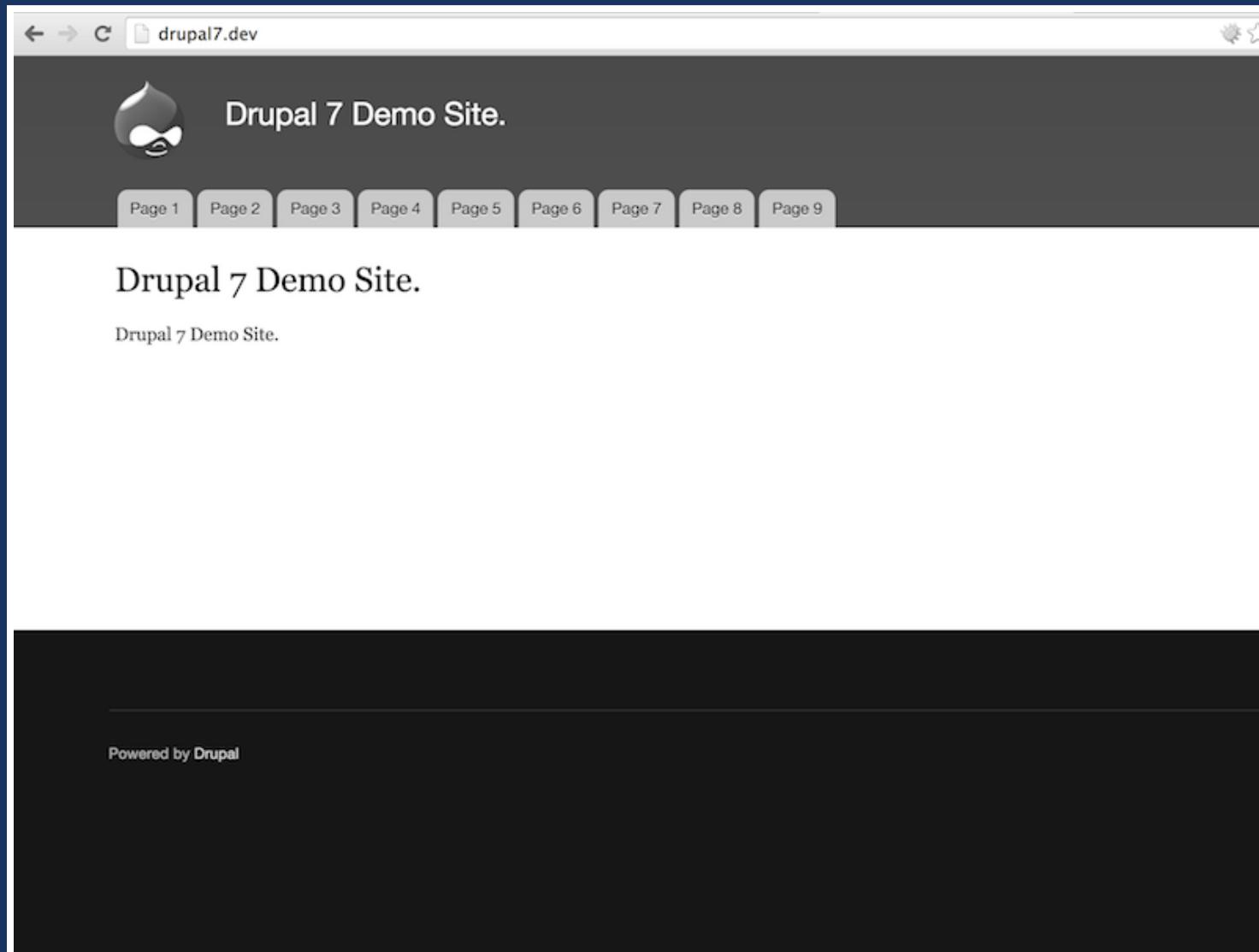
- *Menu items are just data.*
- *Everything in Drupal is just data.*
- *If it is data, it can be manipulated!*

Everything in Drupal can be manipulated!

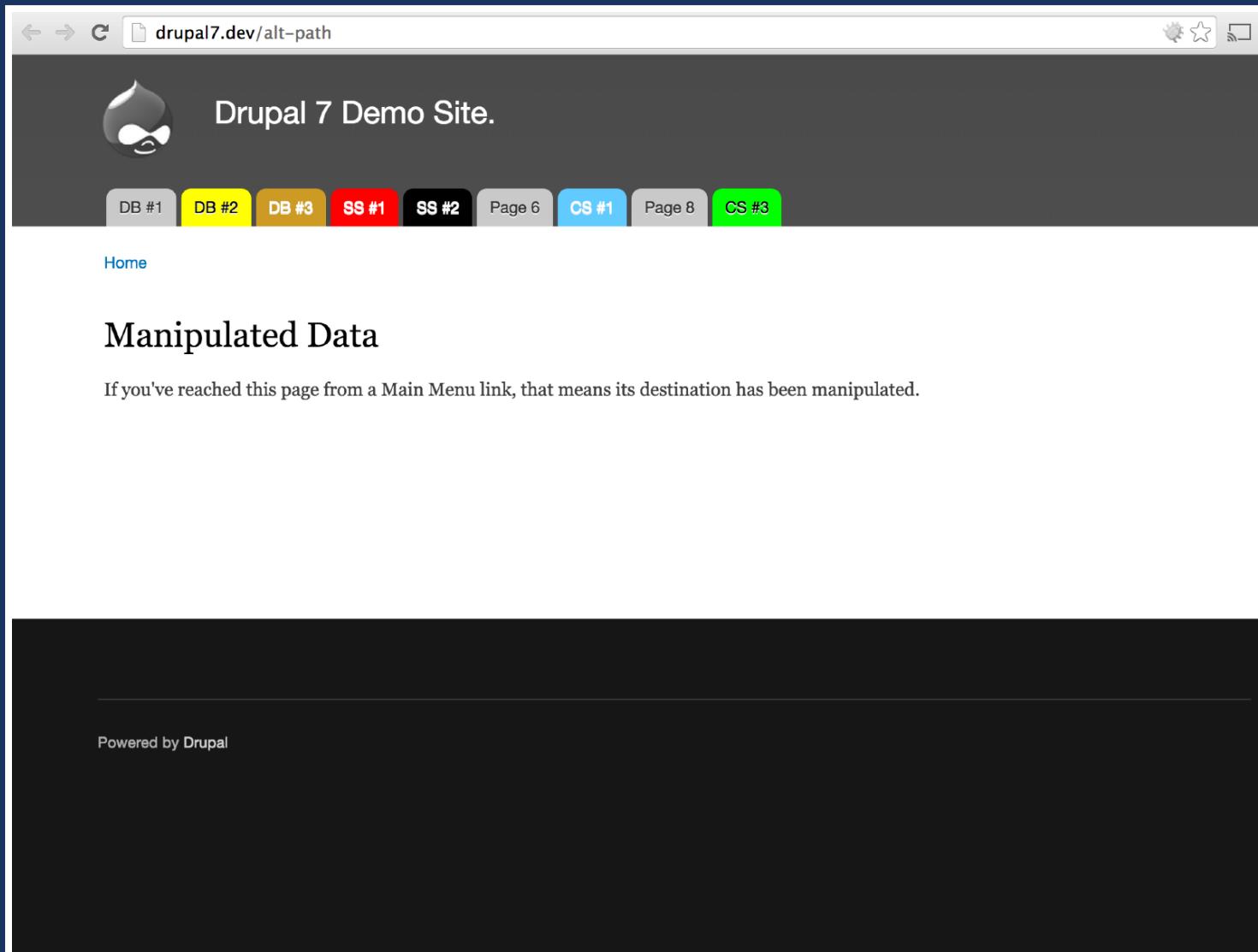
Environments

- *Drupal 7.37: Standard. bartik subtheme. slate color.*
- *Drupal 8.0.0-beta11: Standard. bartik subtheme. slate color.*
!!WARNING!! *Drupal 8 still in development.*
- *Not live. (blame Murphy)*

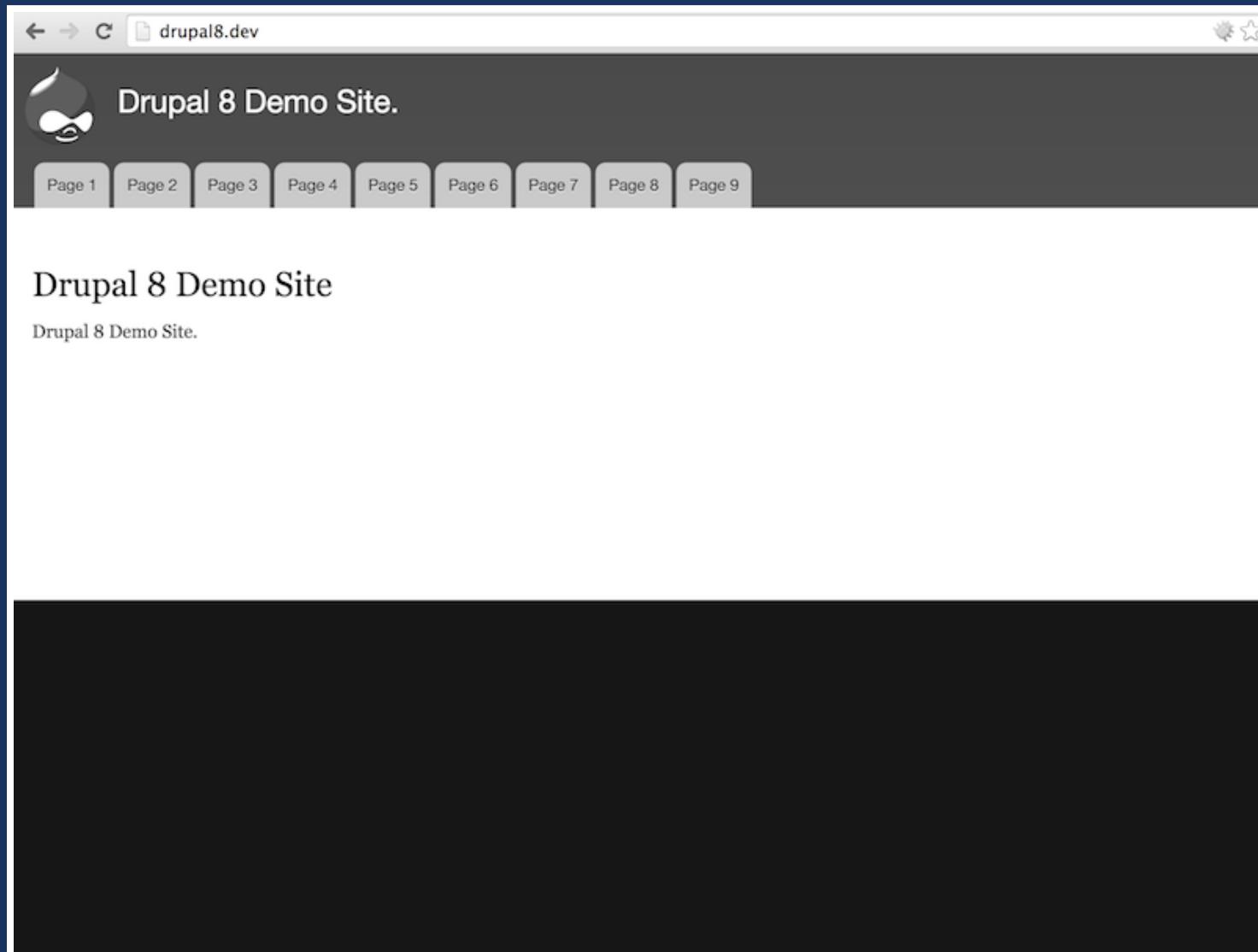
Drupal 7: before



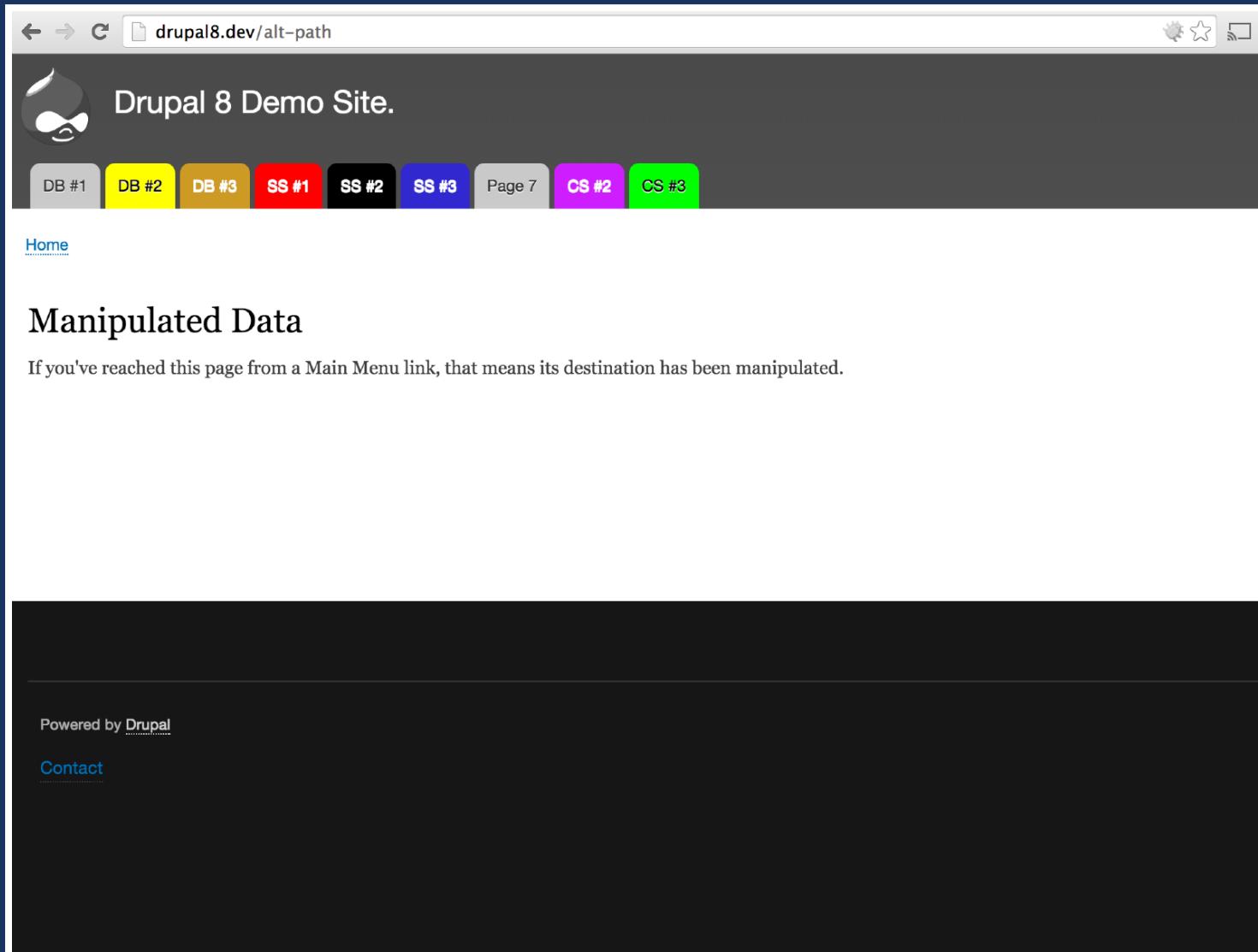
Drupal 7: after



Drupal 8: before



Drupal 8: after



Data Manipulation

Three general layers

- *Database (MySQL, etc...)*
- *Server side (PHP)*
- *Client side (HTML/JS/CSS)*

Database Layer

Data stored in, sent to or retrieved from the database.

#1. Drupal Core UI

Pros

- *Nothing extra is needed.*
- *"Easy" to use interface.*
- *Changes made are stable.*

Cons

- *Capabilities are limited.*
- *Solution may be too broad.*
- *Solution may be too narrow.*

tl;dr Easy to use, but limited functionality.

← → C drupal7.dev/admin/structure/menu/item/309/edit

Dashboard Content Structure Appearance People Modules Configuration Reports Help Hello admin Log out

Add content Find content Edit

Home » Administration » Structure » Menus » Main menu

Edit menu link

Menu link title *
DB #1
The text to be used for this link in the menu.

Path *
alt-path
The path for this menu link. This can be an internal Drupal path such as `node/add` or an external URL such as `http://drupal.org`. Enter `<front>` to link to the front page.

Description

Shown when hovering over the menu link.

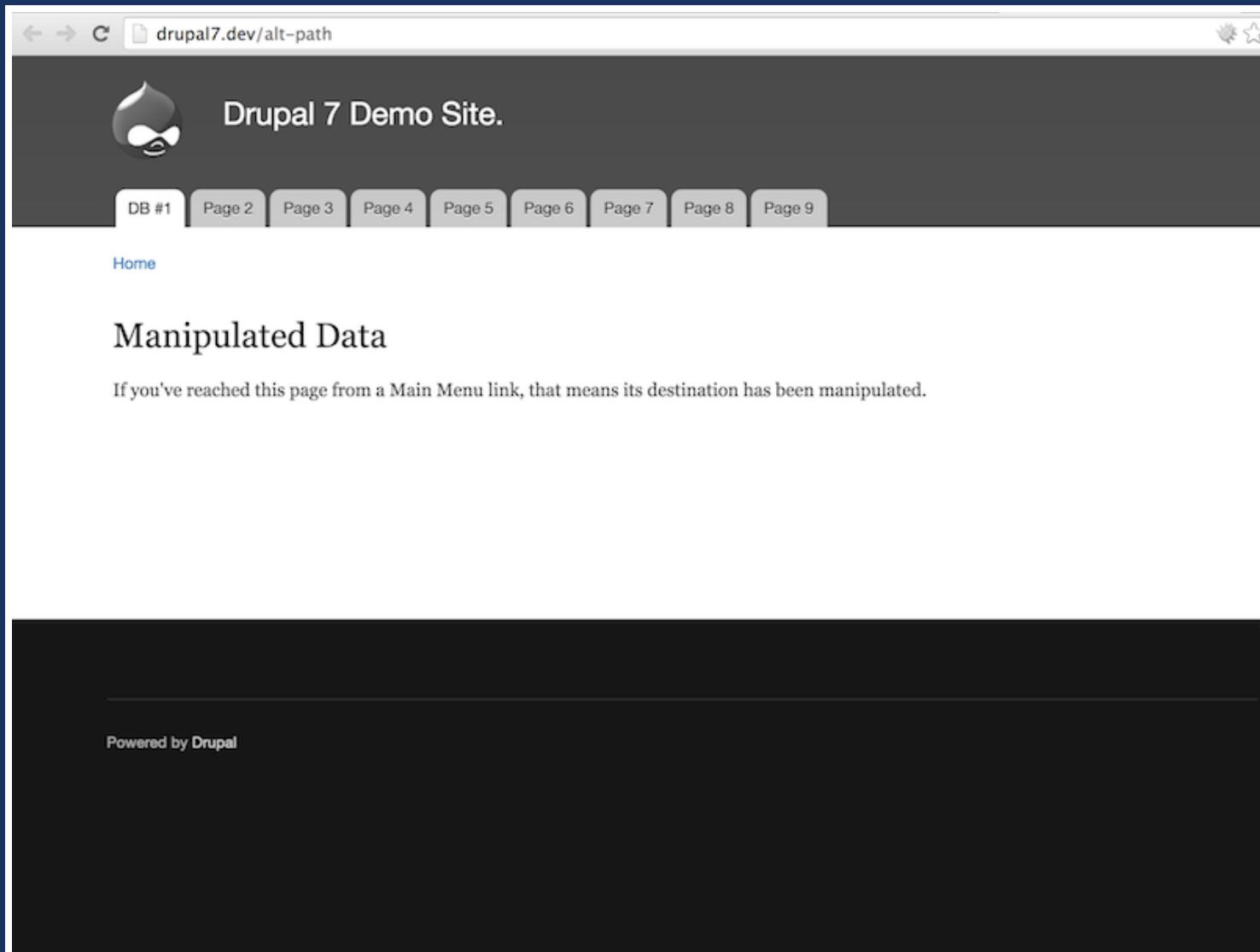
Enabled
Menu links that are not enabled will not be listed in any menu.

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

Parent link
<Main menu>
The maximum depth for a link and all its children is fixed at 9. Some menu links may not be available as parents if selecting them would exceed this limit.

Weight
0
Optional. In the menu, the heavier links will sink and the lighter links will be positioned nearer the top.

Use Drupal 7 core to change menu item title and destination.



First item in Drupal 7 menu now has changed title and destination.

← → C drupal8.dev/admin/structure/menu/item/1/edit?destination=/admin/structure/menu/manage/main

Back to site Manage Shortcuts admin

Content Structure Appearance Extend Configuration People Reports Help

Home » Administration » Structure » Menus

Menu link title *

DB #1

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

Link *

/alt-path

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.

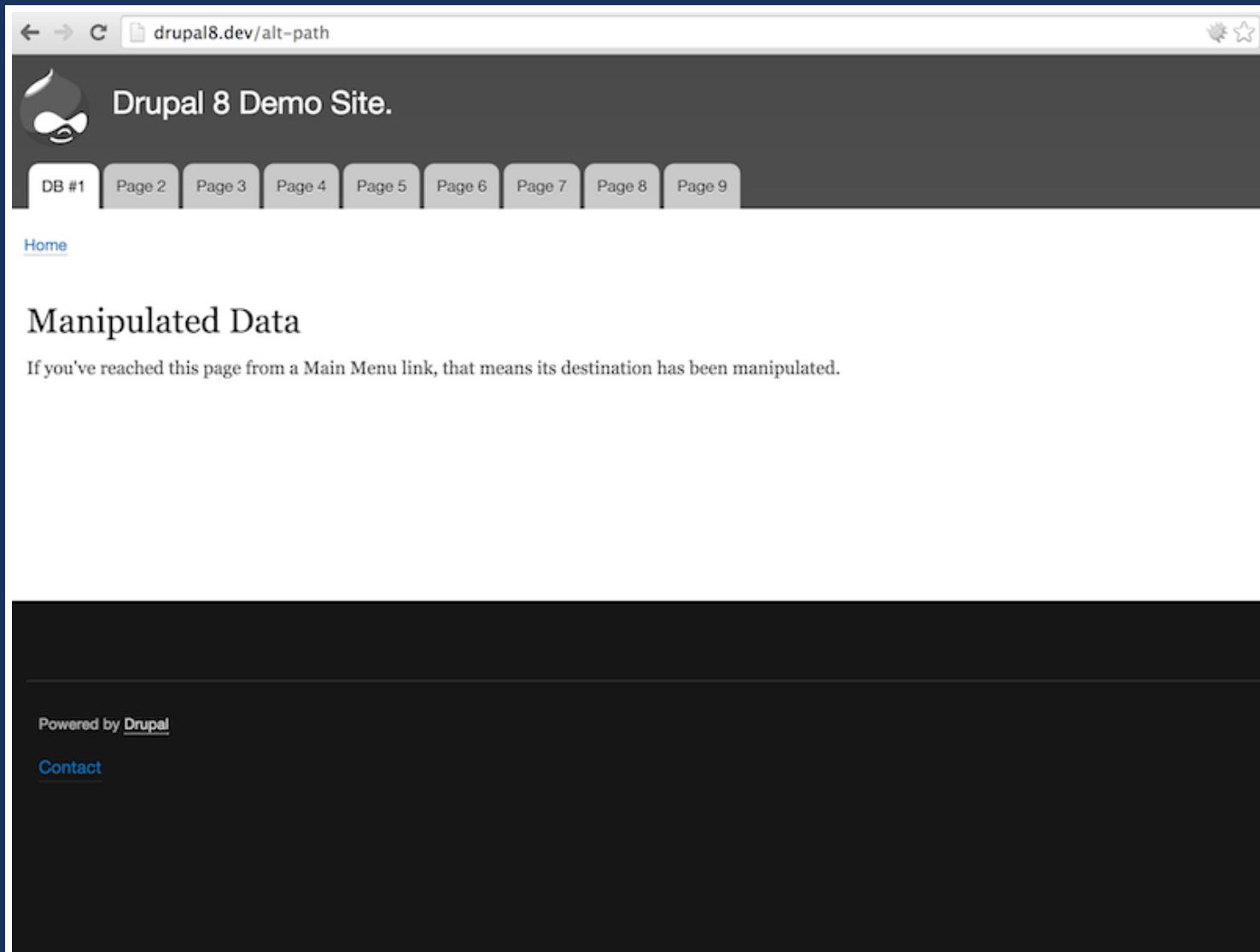
Weight

-50

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 top.

Save **Delete**

Use Drupal 8 core to change menu item title and destination.



First item in Drupal 8 menu now has changed title and destination.

#2. Modules

Pros

- *Extend Drupal core.*
- *Variety of solutions available.*
- *Nothing exists? Build your own.*

Cons

- *Can add complexity.*
- *May do more than needed.*
- *Potential security issues.*

tl;dr Extensive but with added complexity.

https://www.drupal.org/project/menu_attributes

Menu attributes

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

Posted by [Schoonzie](#) on December 29, 2008 at 5:59am

This simple module allows you to specify some additional attributes for menu items such as id, name, class, style, and rel.

You should use this module when

- You want to "nofollow" certain menu items to sculpt the flow of PageRank through your site
- You want to give a menu item an ID so you can easily select it using jQuery
- You want to add additional classes or styles to a menu item

The module currently allows you to set the following attributes for each menu item:

- Id
- Name
- Target
- Rel
- Class
- Style
- Accesskey

Project Information

Maintenance status: [Actively maintained](#)
Development status: [Under active development](#)
Module categories: Administration , Site Navigation
Reported installs: 53,972 sites currently report using this module. [View usage statistics.](#)
Downloads: 363,489
Automated tests: Enabled
Last modified: December 2, 2014

Downloads

Recommended releases

Version	Download	Date	Links
7.x-1.0-rc3	tar.gz (14.31 KB) zip (16.76 KB)	2014-Oct-19	Notes
6.x-2.0-beta1	tar.gz (8.43 KB) zip (9.34 KB)	2010-Sep-05	Notes

Other releases

Version	Download	Date	Links
6.x-1.4	tar.gz (8.14 KB) zip (9.45 KB)	2009-Apr-21	Notes

Maintainers for Menu attributes

[amateescu](#) – 13 commits
last: 4 months ago, first: 3 years ago

[joelpittet](#) – 3 commits
last: 5 months ago, first: 11 months ago

[Dave Reid](#) – 17 commits
last: 3 years ago, first: 4 years ago

[Schoonzie](#) – 8 commits
last: 6 years ago, first: 6 years ago

[View all committers](#) [View commits](#)

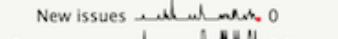
Issues for Menu attributes

To avoid duplicates, please search before submitting a new issue.
[Advanced search](#)

All issues
36 open, 146 total

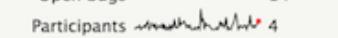
Bug report
14 open, 61 total
[Subscribe via e-mail](#)

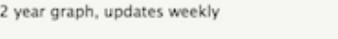
Statistics

New issues  0

Response rate  0 %

1st response  0 hours

Open bugs  14

Participants  4

[2 year graph, updates weekly](#)

Resources

Menu Attributes module, allows setting additional Menu item settings.

← → C https://www.drupal.org/project/menu_attributes

Menu attributes

drupal7 — bash — 98x44

```
bosgen-nmx0608:drupal7 mike.miles$ drush @dev.d7 dl menu_attributes
Project menu_attributes (7.x-1.0-rc3) downloaded to
/Users/mike.miles/www/drupal7/docroot/sites/all/modules/menu_attributes. [success]
bosgen-nmx0608:drupal7 mike.miles$ drush @dev.d7 en menu_attributes
The following extensions will be enabled: menu_attributes
Do you really want to continue? (y/n): y
menu_attributes was enabled successfully. [ok]
menu_attributes defines the following permissions: administer menu attributes
bosgen-nmx0608:drupal7 mike.miles$
```

Use drush to download and enable Menu Attributes into D7 site.

← → C drupal7.dev/admin/structure/menu/item/310/edit

Dashboard Content Structure Appearance People Modules Configuration Reports Help Hello admin Log out

Add content Find content Edit

Specifies a unique ID for the link.

Name

Relationship

Specifies the relationship between the current page and the link. Enter 'nofollow' here to nofollow this link.

Classes

Enter additional classes to be added to the link.

Style

Enter additional styles to be applied to the link.

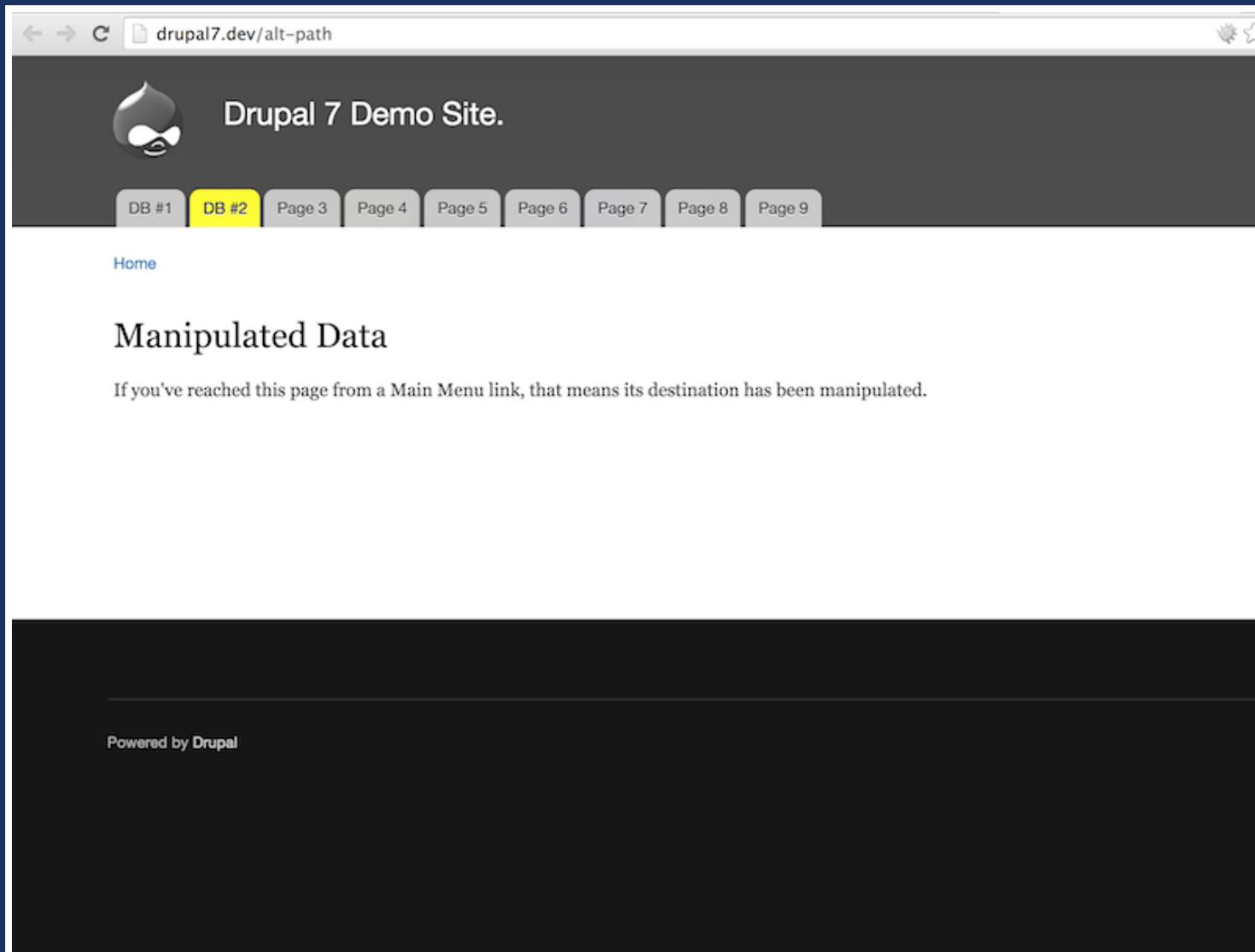
Target
 Specifies where to open the link. Using this attribute breaks XHTML validation.

Access Key

Specifies a [keyboard shortcut](#) to access this link.

▶ MENU ITEM ATTRIBUTES

Altering Drupal 7 menu item from admin, can now set style and target.



Second item in Drupal 7 menu now has changed title, destination and style.

https://www.drupal.org/project/menu_attributes

Menu attributes

[View](#) Version control Automated Testing

Posted by [Schoonzie](#) on December 29, 2008 at 5:59am

This simple module allows you to specify some additional attributes for menu items such as id, name, class, style, and rel.

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The module currently allows you to set the following attributes for each menu item:

- Id
- Name
- Target
- Rel
- Class
- Style
- Accesskey

No Drupal 8 release.

Maintainers for Menu attributes

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last: 4 months ago, first: 3 years ago

[joelpittet](#) – 3 commits
last: 5 months ago, first: 11 months ago

[Dave Reid](#) – 17 commits
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36 open, 146 total

Bug report
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Subscribe via e-mail

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Open bugs 14

Participants 4

2 year graph, updates weekly

Downloads

Recommended releases

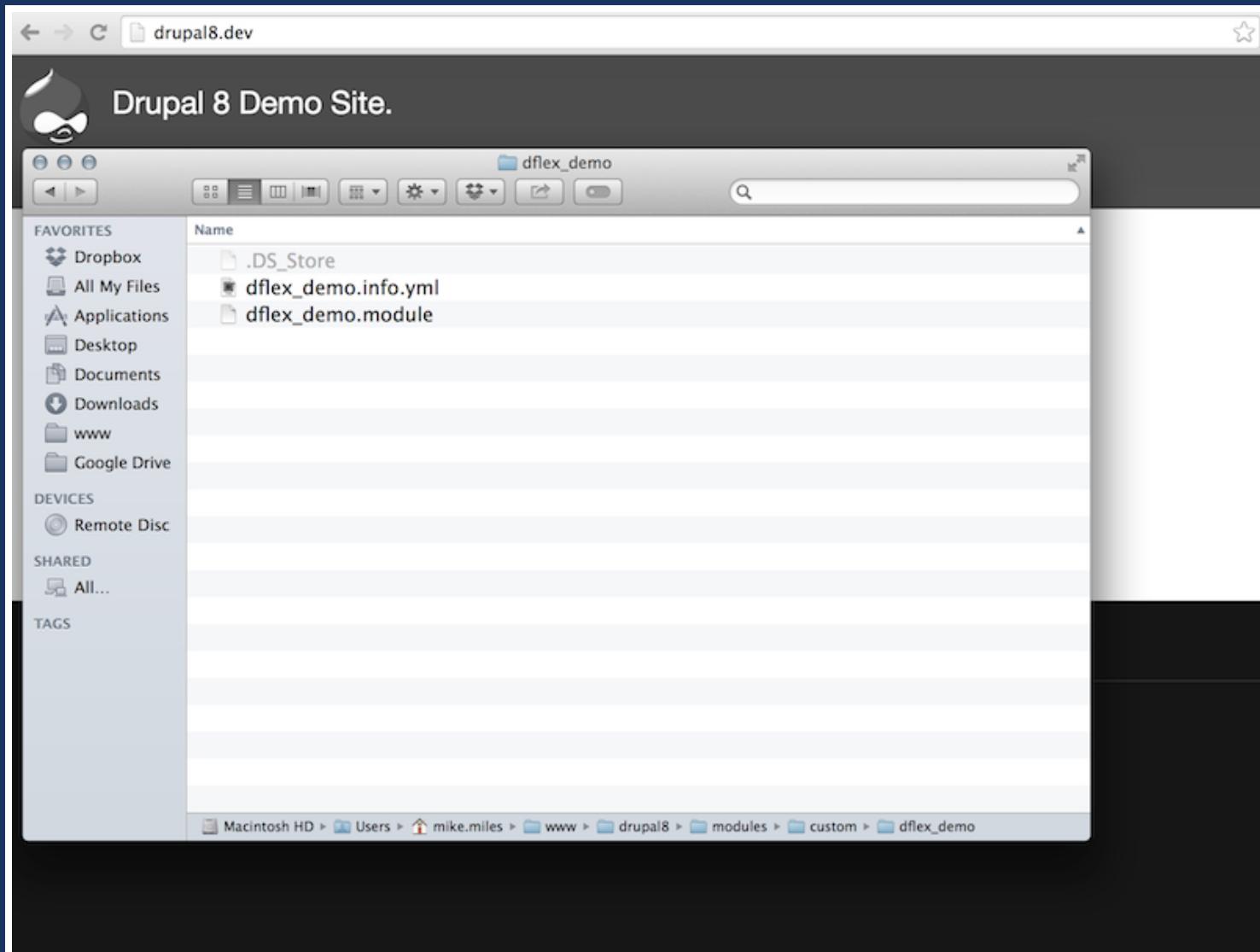
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Other releases

Version	Download	Date	Links
6.x-1.4	tar.gz (8.14 KB) zip (9.45 KB)	2009-Apr-21	Notes

Resources

No Drupal 8 release of Menu Attributes.



Create a custom "dflex_demo" module for Drupal 8.

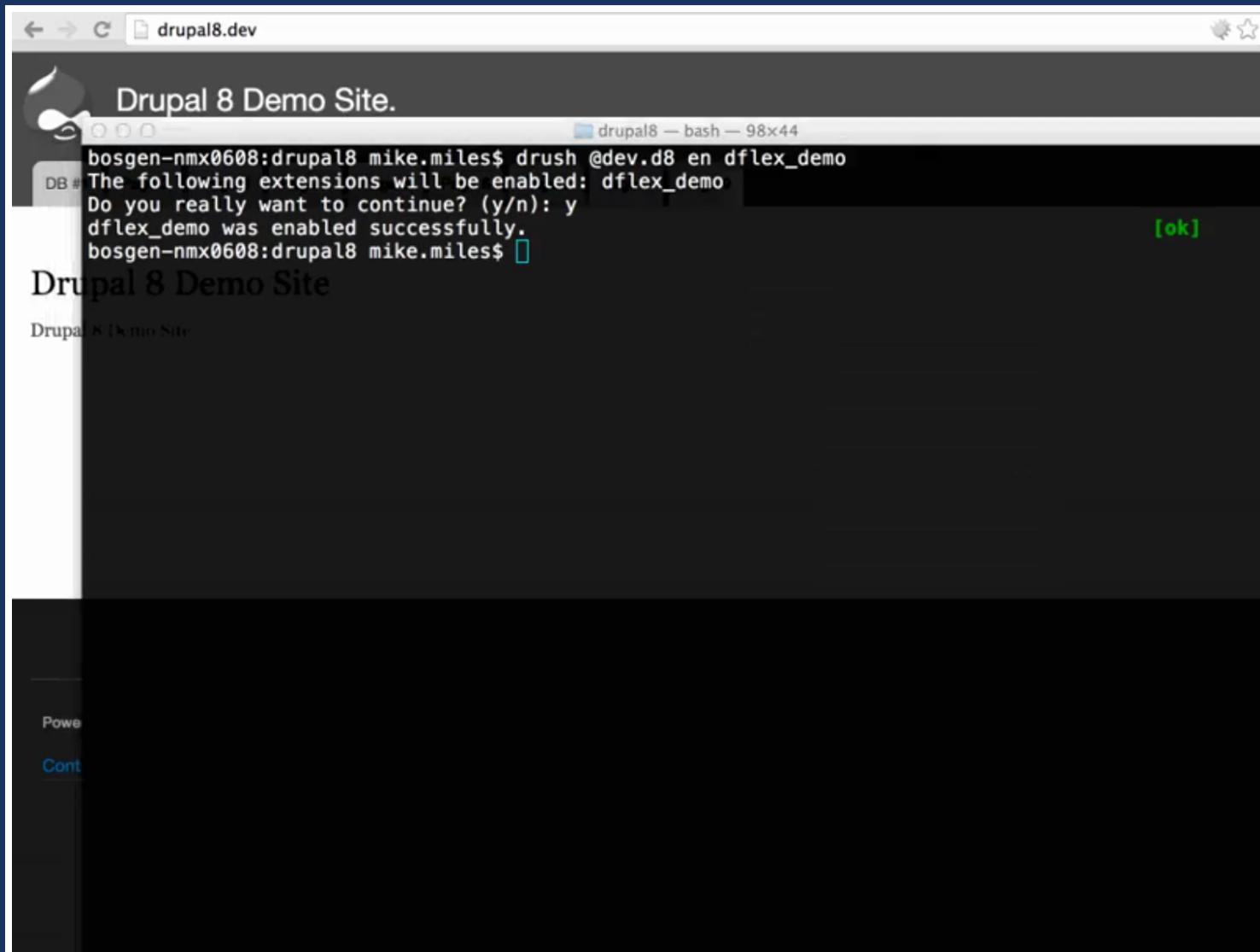
dflex_demo.info.yml

```
name: Drupal Flex Demo
type: module
description: This is a demo module to show off Drupal Flexibility
core: 8.x
package: Other
```

dflex_demo.module

```
use Drupal\Core\Entity\EntityInterface;
use Drupal\menu_link_content\Entity\MenuLinkContent;
/**
 * Implements hook_entity_update().
 */
function dflex_demo_entity_update(EntityInterface $entity) {
  if ($entity instanceof MenuLinkContent) {
    if ($entity->getTitle() == 'DB #2' && $entity->getMenuName() == 'main') {
      db_update('menu_tree')
        ->fields(array(
          'options' => serialize(array(
            'attributes' => array(
              'style' => 'background:#FF0;color:#000',
              'target' => '_blank',
            ),
          )),
        )));
      ->condition('id', 'menu_link_content:' . $entity->uuid())
      ->execute();
    }
  }
}
```

Drupal 8 custom module dflex_demo implement instance of entity update hook, to alter menu link data saved to the database.



Use Drush to enable custom Drupal 8 module on Drupal 8 site.

← → C drupal8.dev/admin/structure/menu/item/2/edit?destination=/admin/structure/menu/manage/main

Back to site Manage Shortcuts admin

Content Structure Appearance Extend Configuration People Reports Help

Home » Administration » Structure » Menus

Menu link title*

DB #2

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

Link*

/alt-path

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.

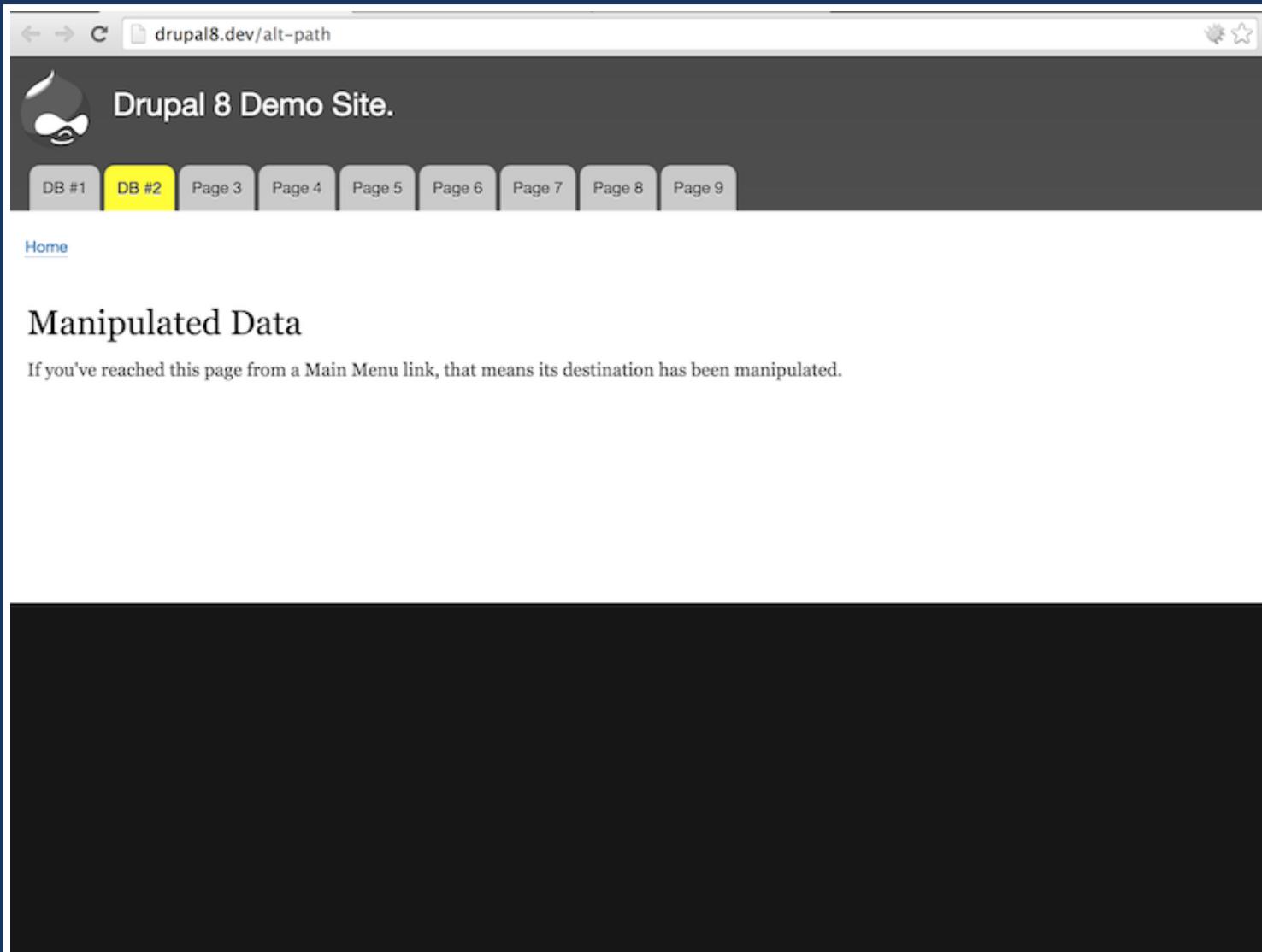
Weight

-49

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 top.

Save **Delete**

*Use Drupal 8 core to change second menu item title and destination.
Custom module alters before saving to database.*



Second item in Drupal 8 menu now has changed title, destination and style.

#3. Direct Queries

Pros

- *Extremely powerful method.*
 - *Direct data manipulation.*
 - *Can be implemented quickly.*
- *Queries can be complex.*
 - *Changes may not be stable.*
 - *Can be very dangerous.*

tl;dr Powerful, but can be dangerous.

Server: localhost » Database: drupal7 » Table: menu_links "Contains the individual links within a menu."

	Browse	Structure	SQL	Search	Insert	Export	Import	Privileges	More
<input type="button" value="←"/> <input type="button" value="→"/>	▼	menu_name	mlid	link_path	link_title	options			
		The menu name. All links with the same menu name (such as 'navigation') are part of the same menu.	The menu link ID (mlid) is the integer primary key.	The Drupal path or external path this link points to.	The text displayed for the link, which may be modified by a title callback stored in menu_router.	A serialized array of options to be passed to the url() or l() function, such as a query string.			
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	main-menu	309	node/10	DB #1	a:0:{}			
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	main-menu	310	node/10	DB #2	a:2:{s:10:"attributes";a:2:{s:5:"style";s:26:"background:#FF0;color:#000";s:6:"target";s:2:"_self";s:0:"";s:5:"class";s:0:"";s:5:"style";s:0:"";}}			
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	main-menu	311	node/3	Page 3	a:0:{}			
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	main-menu	312	node/4	Page 4	a:0:{}			
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	main-menu	313	node/5	Page 5	a:0:{}			
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	main-menu	314	node/6	Page 6	a:0:{}			
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	main-menu	315	node/7	Page 7	a:0:{}			
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	main-menu	316	node/8	Page 8	a:0:{}			
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	main-menu	317	node/9	Page 9	a:0:{}			
<input type="button" value="↑"/>	<input type="checkbox"/> Check All	With selected:	<input type="button" value="Change"/>	<input type="button" value="Delete"/>	<input type="button" value="Export"/>				

menu_links database table contains Drupal 7 menu link data.

```
UPDATE
  menu_links
SET
  options = "a:1:{s:10:attributes;a:1:{s:5:'style';s:26:'background:#C93;color:#FFF';}}",
  link_title = 'DB #3',
  link_path = 'node/10'
WHERE
  menu_name = 'main-menu'
AND
  link_path = 'node/3';
```

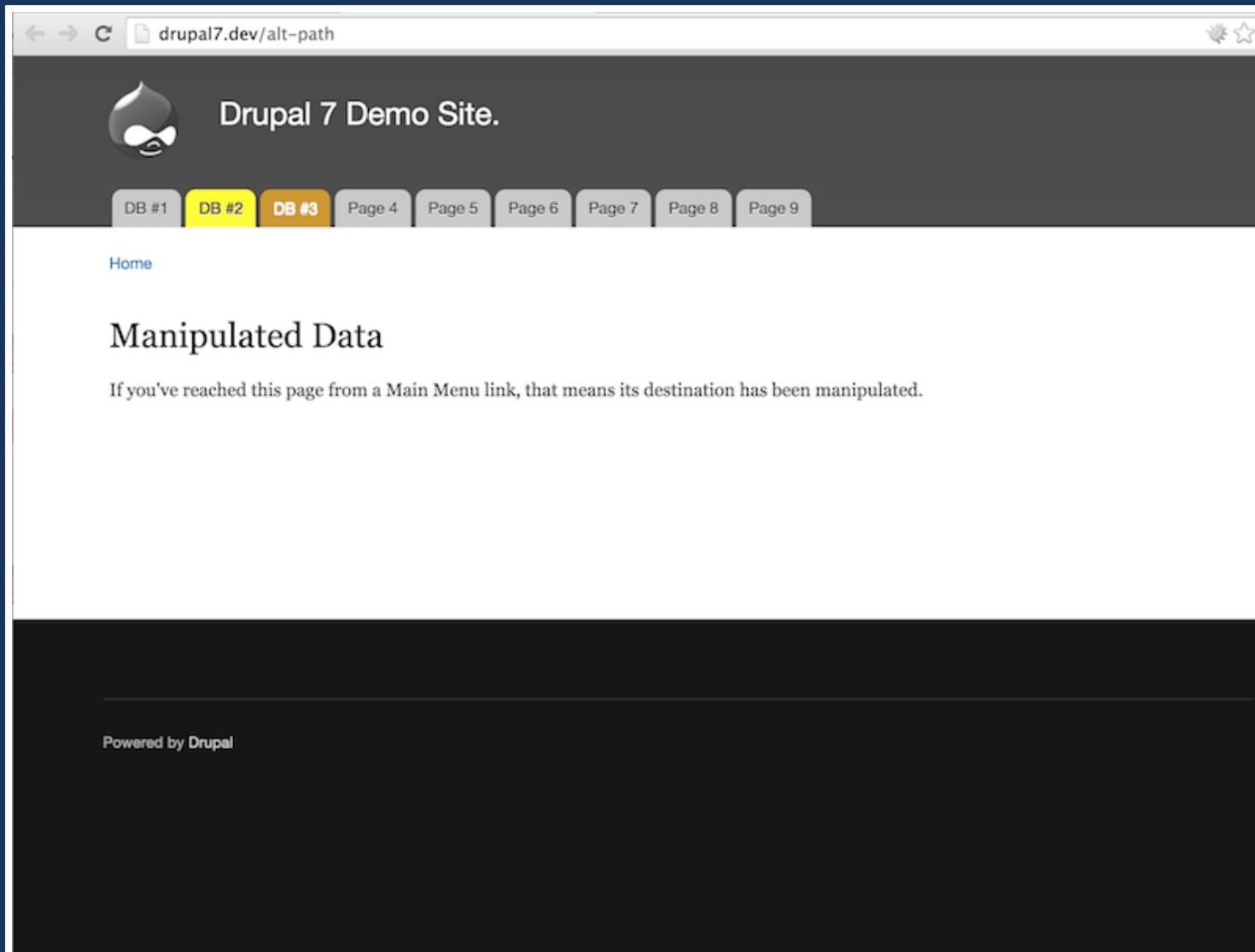
Write custom query to update a Menu link in Drupal 7.

Drupal 7 Demo Site.

```
bosgen-nmx0608:drupal7 mike.miles$ drush @dev.d7 sqlq "UPDATE menu_links SET options = \"a:1:{s:10:attributes;a:1:{s:5:'style';s:26:'background:#C93;color:#FFF';}}\", link_title = 'DB #3', link_path = 'node/10' WHERE menu_name = 'main-menu' AND link_path = 'node/3';"

bosgen-nmx0608:drupal7 mike.miles$
```

Use Drush sqlq command to run custom query to change menu link data in Drupal 7.



Third item in Drupal 7 menu now has changed title, destination and style.

Server: localhost » Database: drupal8 » Table: menu_tree "Contains the menu tree hierarchy."

	Browse	Structure	SQL	Search	Insert	Export	Import	Privileges	More
← →									
	menu_name	mlid	route_param_key	route_parameters		title	options		
	The menu name. All links with the same menu name (such as 'tools') are part of the same menu.	The menu link ID (mlid) is the integer primary key.	An encoded string of route parameters for loading by route.	Serialized array of route parameters of this menu link.		The text displayed for the link.	A serialized array of URL options, such as a que		
	Edit Copy Delete	main	68	node=10	a:1: (s:4:"node";s:2:"10";)	DB #1	a:1:{s:5:"query";a:0:{}}		
	Edit Copy Delete	main	69	node=10	a:1: (s:4:"node";s:2:"10";)	DB #2	a:1:{s:10:"attributes";a:2: {s:5:"style";s:26:"background:#FF"		
	Edit Copy Delete	main	75	node=3	a:1: (s:4:"node";s:1:"3";)	Page 3	a:0:{}		
	Edit Copy Delete	main	70	node=4	a:1: (s:4:"node";s:1:"4";)	Page 4	a:0:{}		
	Edit Copy Delete	main	71	node=5	a:1: (s:4:"node";s:1:"5";)	Page 5	a:0:{}		
	Edit Copy Delete	main	76	node=6	a:1: (s:4:"node";s:1:"6";)	Page 6	a:0:{}		
	Edit Copy Delete	main	72	node=7	a:1: (s:4:"node";s:1:"7";)	Page 7	a:0:{}		
	Edit Copy Delete	main	73	node=8	a:1: (s:4:"node";s:1:"8";)	Page 8	a:0:{}		

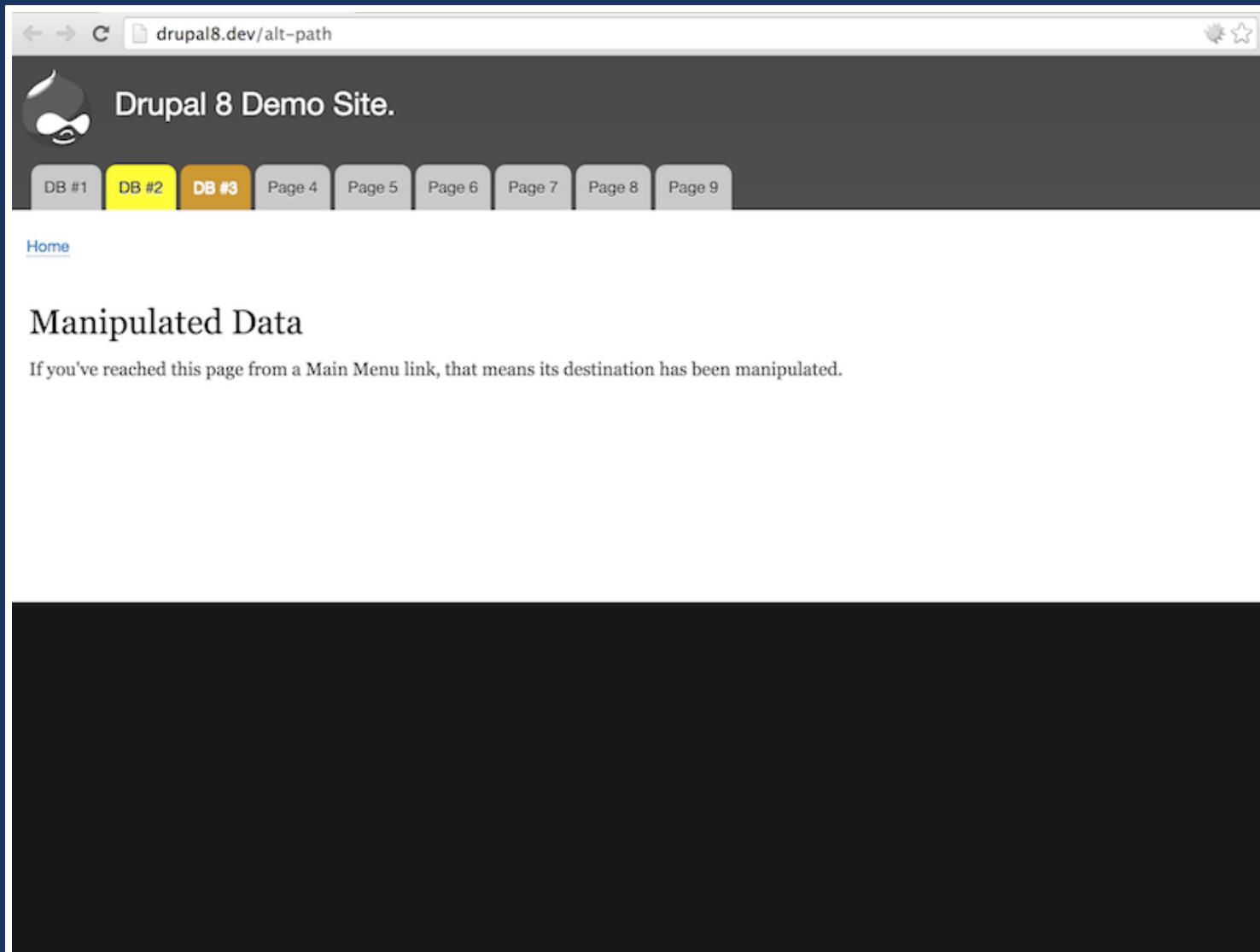
menu_tree database table contains Drupal 8 menu link data.

```
UPDATE
  menu_tree
SET
  options = "a:1:{s:10:attributes;a:1:{s:5:'style';s:26:'background:#C93;color:#FFF';}}",
  title = 'DB #3',
  route_param_key = 'node=10',
  route_parameters = "a:1:{s:4:'node';s:2:'10';}"
WHERE
  menu_name = 'main'
AND
  route_param_key = 'node=3';
```

Write custom query to update a Menu link in Drupal 8.

```
bosgen-nmx0608:drupal8 mike.miles$ drush @dev.d8 sqlq "UPDATE menu_tree SET options = \"a:1:{s:10:attributes;a:1:{s:5:'style';s:26:'background:#C93;color:#FFF';}}\", title = 'DB #3', route_param_key = 'node=10', route_parameters = \"a:1:{s:4:'node';s:2:'11';}\\" WHERE menu_name = 'main' AND route_param_key = 'node=3';"
```

Use Drush sqlq command to run custom query to change menu link data in Drupal 8.



Third item in Drupal 8 menu now has changed title, destination and style.

Server Side Layer

Data retrieved from the database, before being rendered.

#4. Hooks

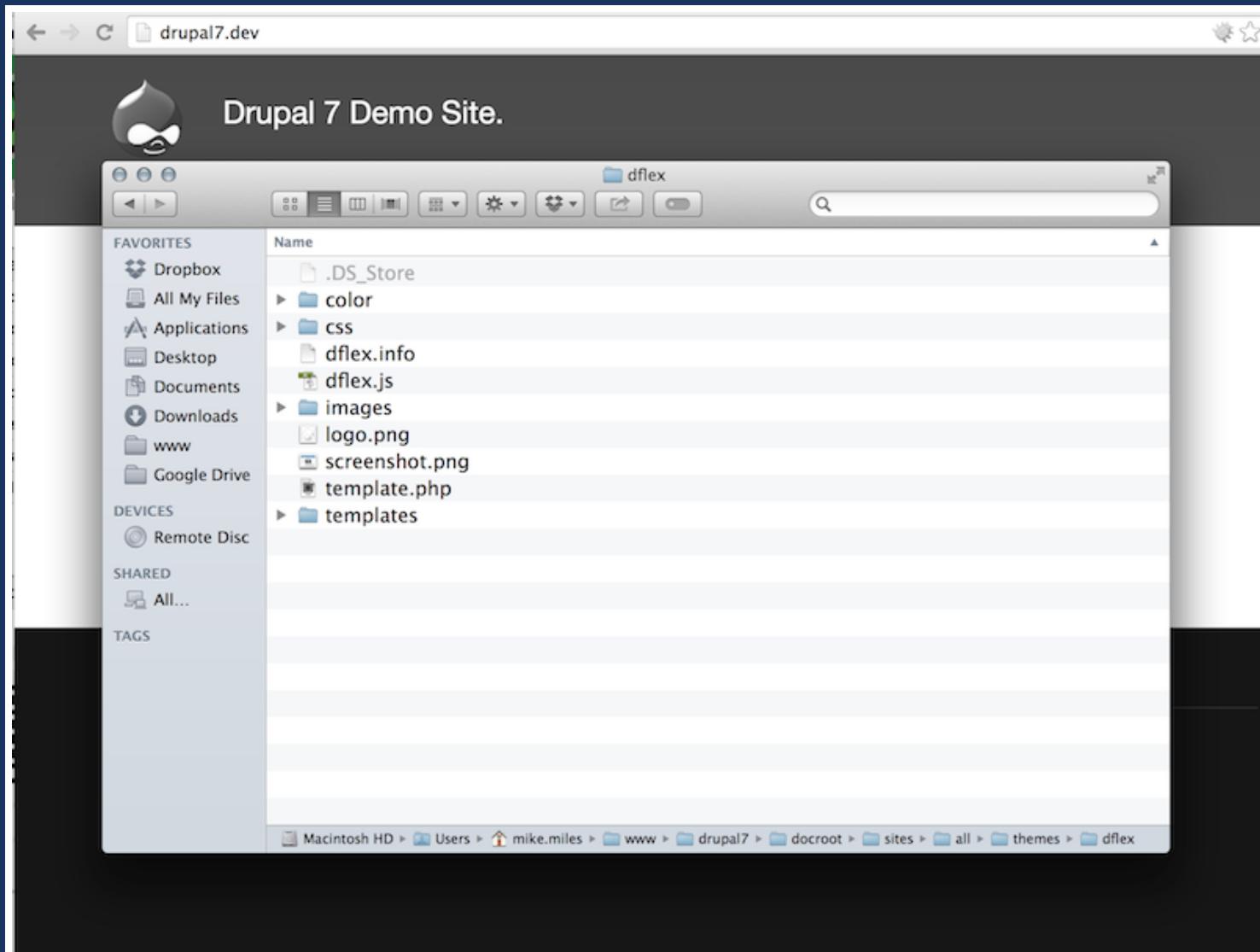
Pros

- *Provided by core and modules.*
- *Easiest way to extend core.*
- *Many are available.*

Cons

- *Not used everywhere.*
- *Hooks maybe too broad/narrow.*
- *May be early/late in a process.*

tl;dr The core method for extending...core.

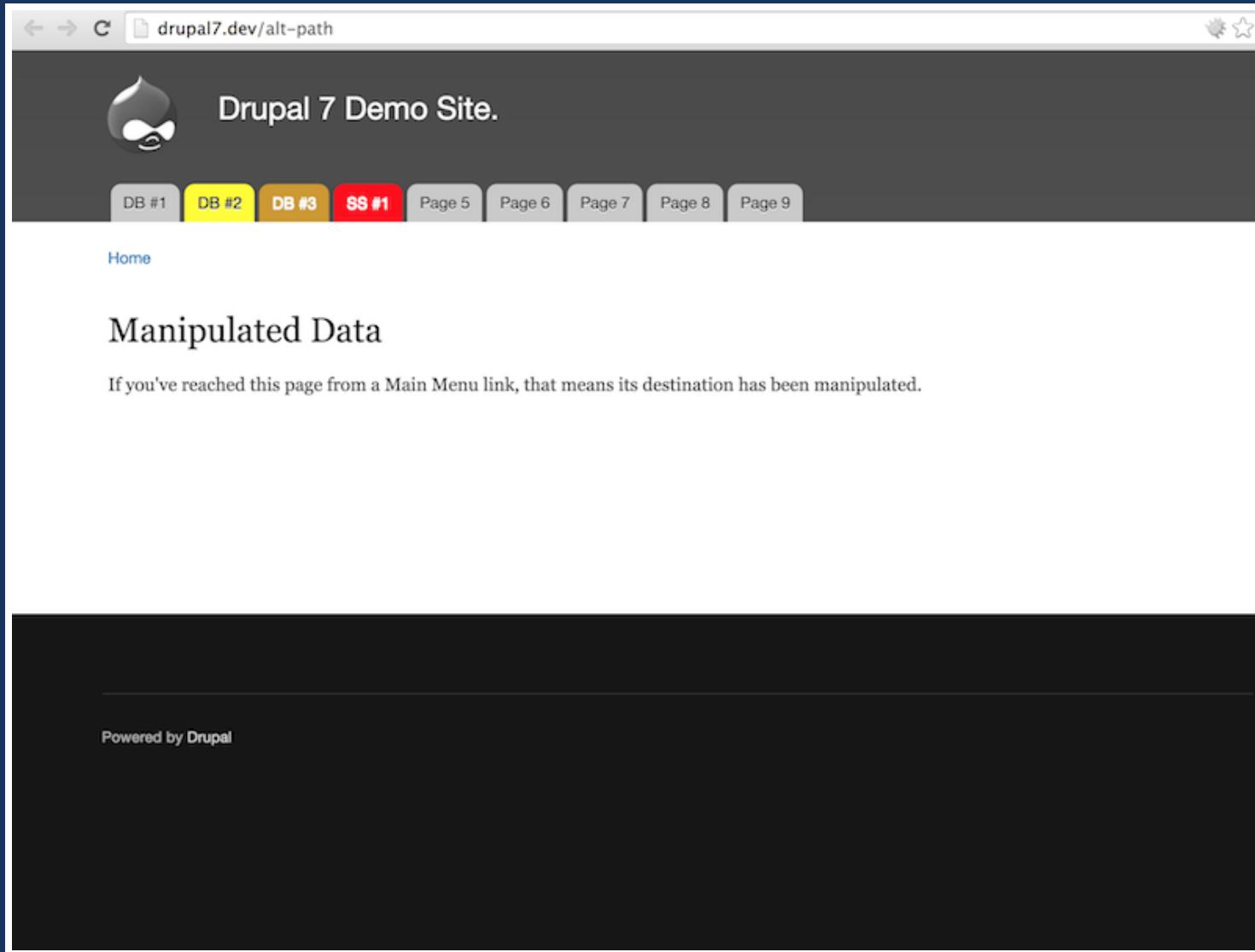


Custom Drupal 7 theme 'dflex'. Includes template.php for hooks.

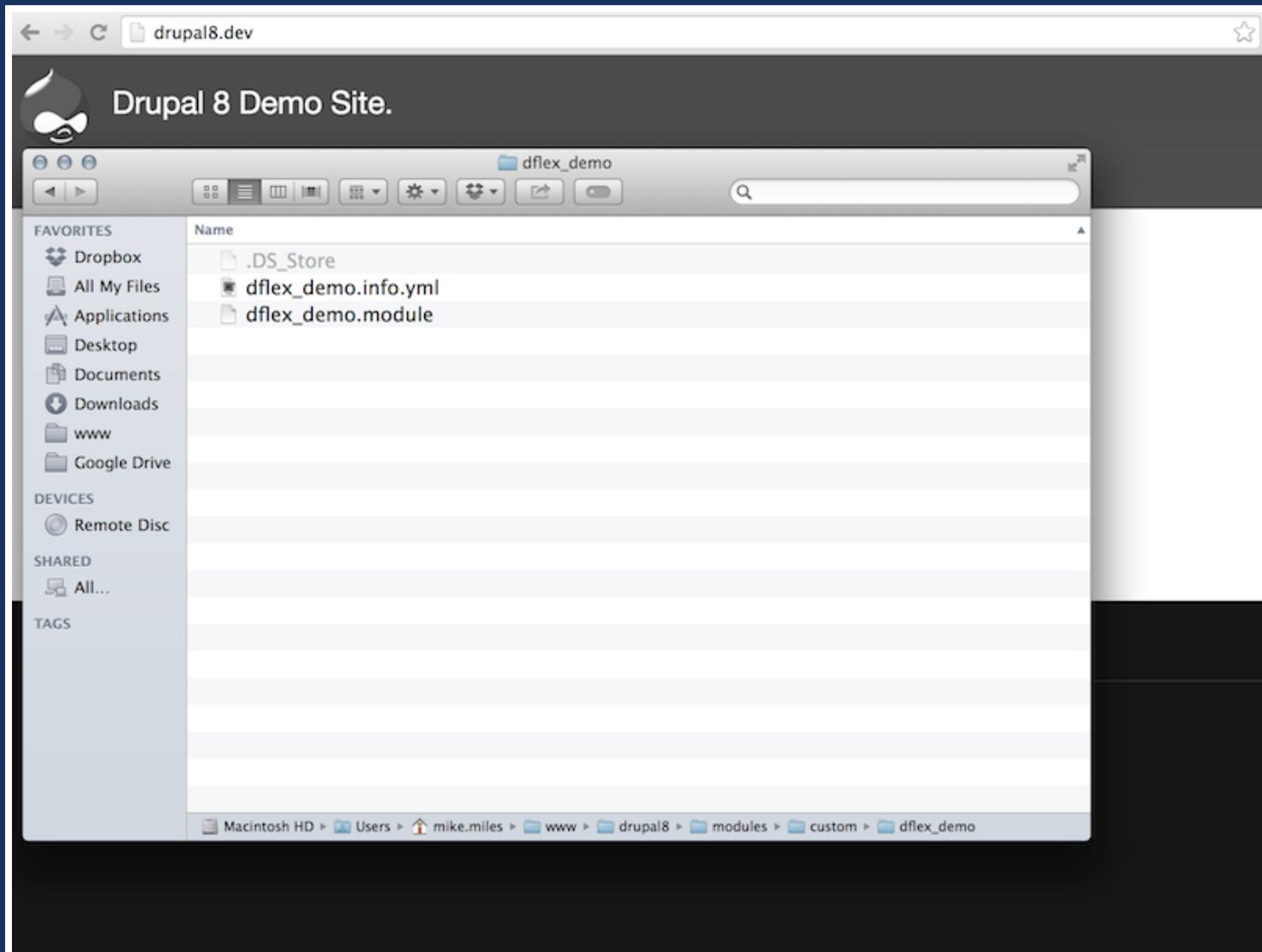
dflex/template.php

```
/**
 * Implements THEME_links__MENUNAME().
 */
function dflex_links__system_main_menu($variables) {
  foreach ($variables['links'] as &$menu_link) {
    if ($menu_link['href'] == 'node/4') {
      $menu_link['href'] = 'node/10';
      $menu_link['title'] = 'ss #1';
      $menu_link['attributes']['style'] = 'background:#F00;color:#FFF;';
      $menu_link['attributes']['target'] = '_blank';
    }
  }
  return theme_links($variables);
}
```

Implements an instance of a menu theme hook, to alter a menu link.



*Before render, menu hits template hook.
Fourth menu link in Drupal 7 has changed title, destination and style.*

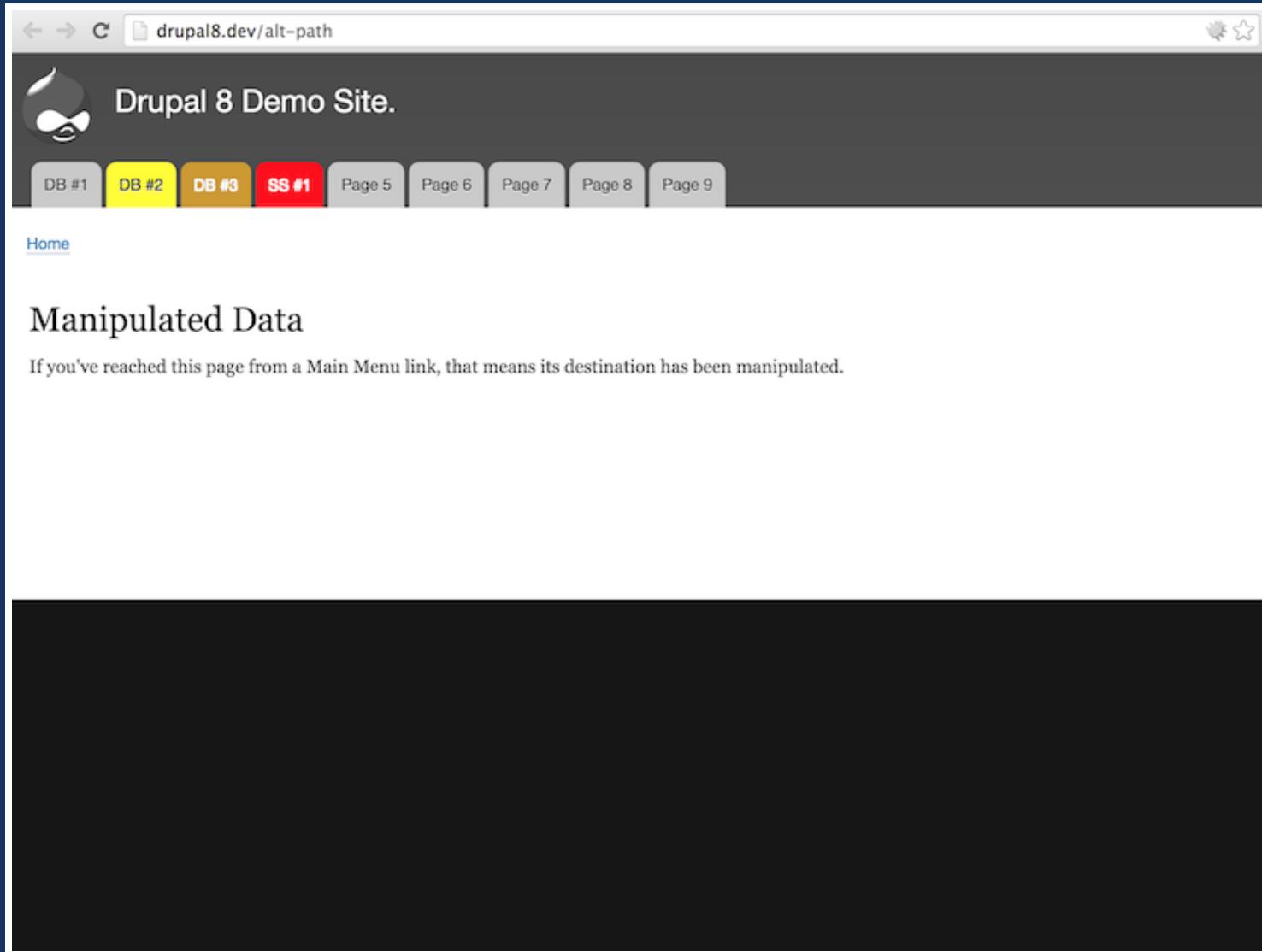


Custom Drupal 8 module 'dflex_demo'. Will add another hook to .module file.

dflex_demo.module

```
/**
 * Implements hook preprocess_HOOK().
 */
function dflex_demo_preprocess_menu(&$variables) {
  if ($variables['theme_hook_original'] == 'menu_main') {
    foreach ($variables['items'] as &$menu_link) {
      if ($menu_link['url']->toString() == '/node/4') {
        $menu_link['title'] = 'SS #1';
        $menu_link['url'] = \Drupal\Core\Url::fromUri('entity:node/10', array(
          'attributes' => array(
            'style' => 'background:#F00;color:#FFF',
            'target' => '_blank',
          ),
        )));
      }
    }
  }
}
```

Implements an instance of a preprocess menu, to alter a menu link.



*Before render, menu hits preprocess hook.
Fourth menu link in Drupal 8 has changed title, destination and style.*

#5. Hack Core

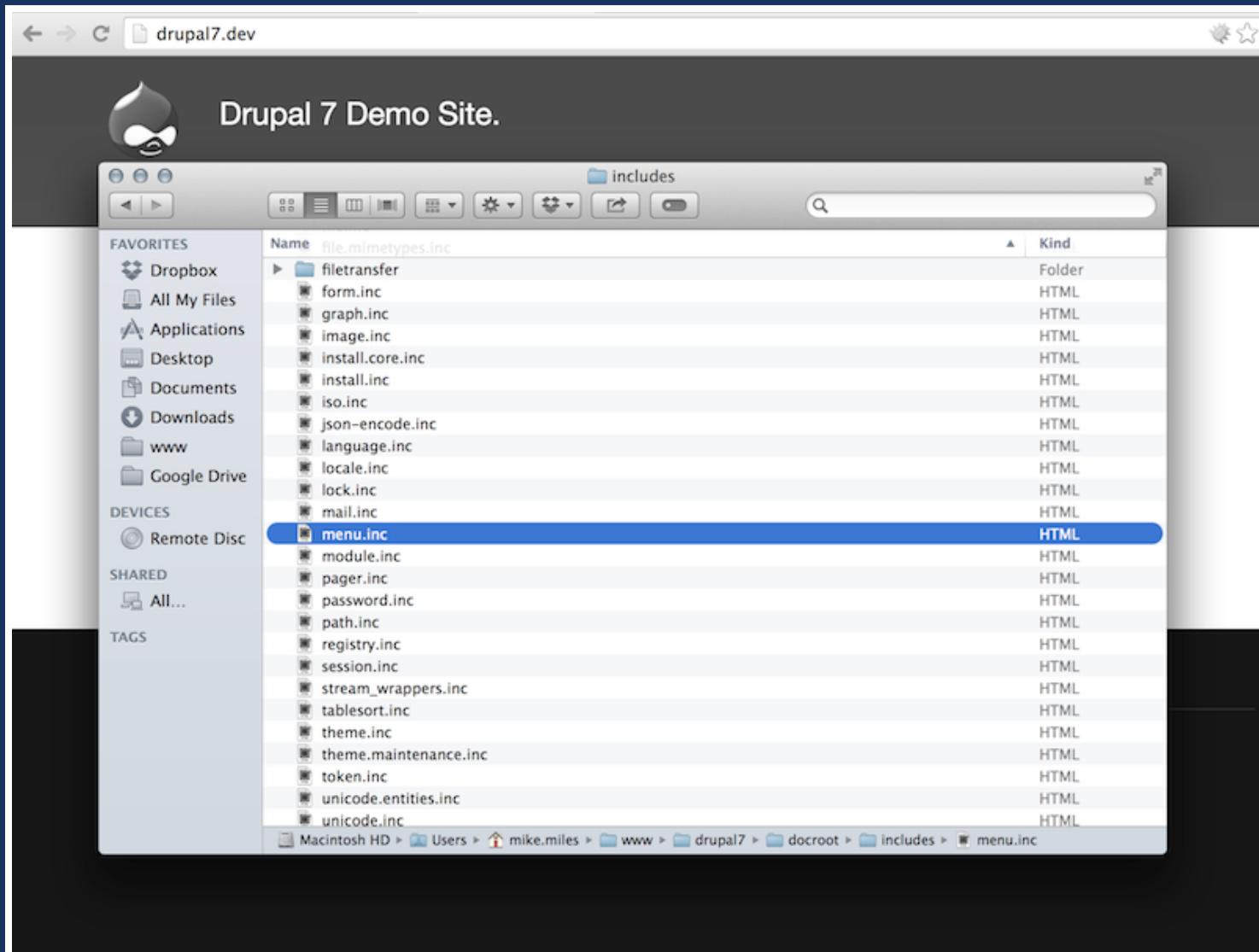
Pros

- *Absolute control of Drupal.*
- *Change any core functionality.*
- *Extremly powerful.*

Cons

- *May cause unknown issues.*
- *Will break upgrade ability.*
- *Introduces security risks.*

tl;dr "With great power, comes great responsibility" ~ Uncle Ben.

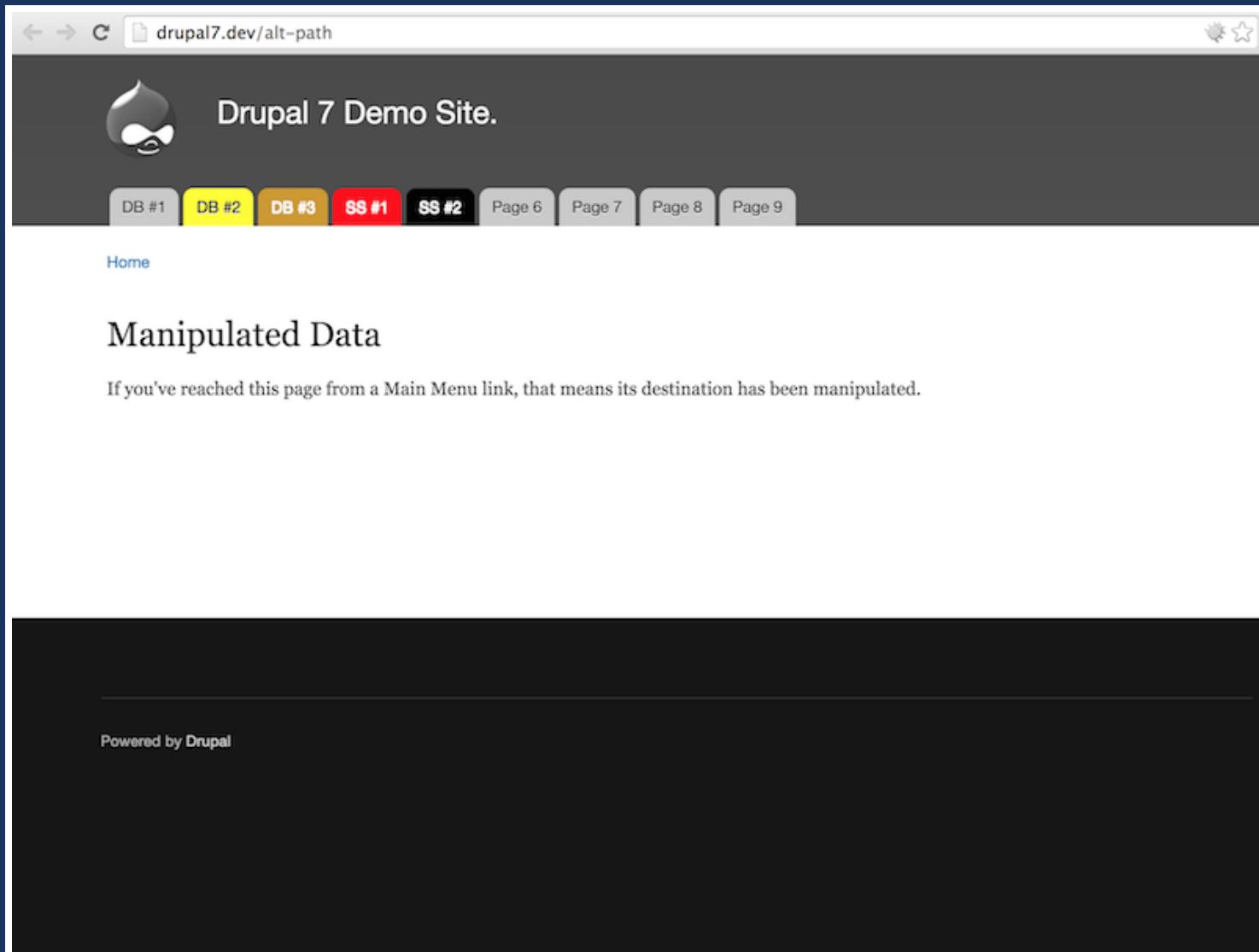


Drupal 7 core file menu.inc, controls menu functionality.

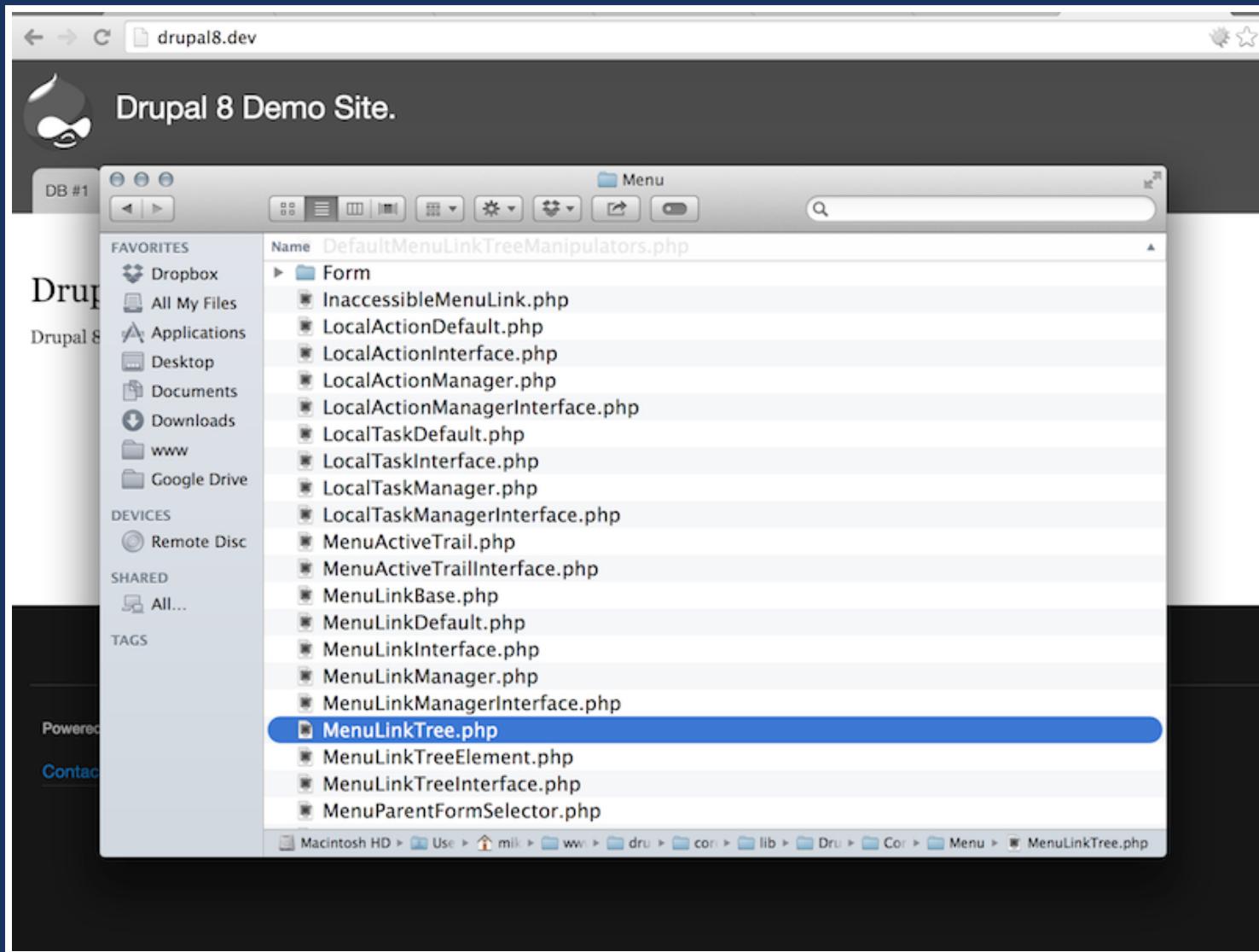
includes/menu.inc

```
/**  
 * Returns an array of links for a navigation menu.  
 * ...  
 */  
function menu_navigation_links($menu_name, $level = 0) {  
    // ...  
    $router_item = menu_get_item();  
    $links = array();  
    foreach ($tree as $item) {  
        if (!empty($item['link']['hidden'])) {  
  
            if (($menu_name == 'main-menu') && ($item['link']['href'] == 'node/5')) {  
                $item['link']['href'] = 'node/10';  
                $item['link']['title'] = t('SS #2');  
                $style = 'background:#000;color:#FFF';  
                $item['link']['localized_options']['attributes']['style'] = $style;  
                $item['link']['localized_options']['attributes']['target'] = '_blank';  
            }  
            $class = '';  
        //...  
    }
```

Alter menu_navigation_links function to change a menu link in main menu.



Drupal 7 menu loads, uses hacked function. Fifth menu item now has altered title, destination and style.



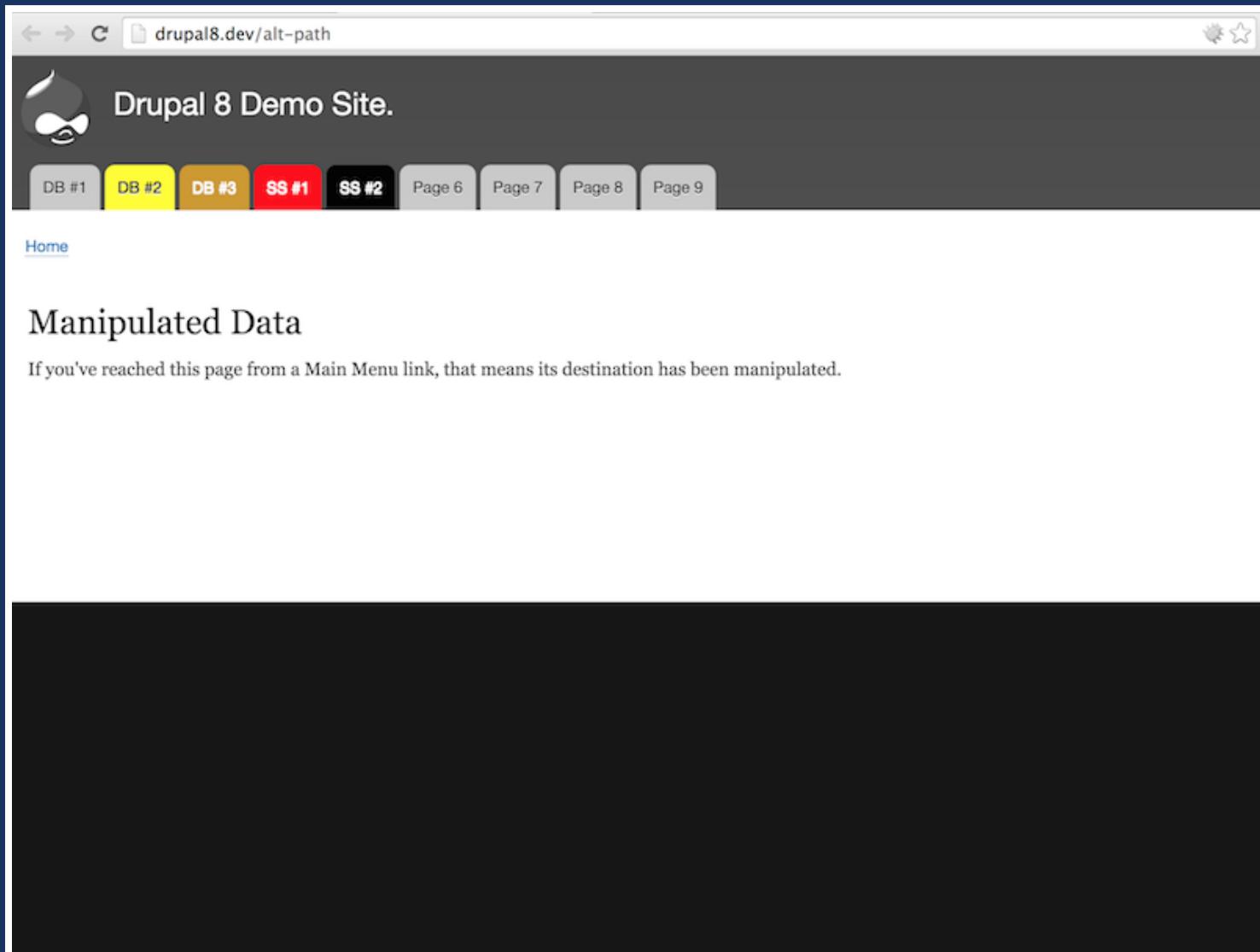
Drupal 8 core class `MenuLinkTree.php` controls menu functionality.

core/lib/Drupal/Core/Menu/MenuLinkTree.php

```
/**
 * Implements the loading, transforming and rendering of menu link trees.
 */
class MenuLinkTree implements MenuLinkTreeInterface {
    // ...
    protected function buildItems(array $tree, ...) {
        // ...
        $url = $element['url']->toString();
        if(($link->getMenuName() == 'main') && ($url == '/node/5')) {
            $element['title'] = 'SS #2';
            $element['url'] = \Drupal\Core\Url::fromUri('entity:node/10', array(
                'attributes' => array(
                    'style' => 'background:#000;color:#FFF',
                    'target' => '_blank',
                ),
            )));
        }
        // Index using the link's unique ID.
        $items[$link->getPluginId()] = $element;
    }

    return $items;
}
//...
}
```

Alter buildItems() function to change menu link in main menu.



Drupal 8 menu loads, uses hacked function. Fifth menu item now has altered title, destination and style.

Credit: Greg Dunlap (@heyrocker) (around 2008?)



**Every time you hack core
God kills a kitten**

Please, think of the kittens!

Hacking core is the "Wrong way". Don't do it or God will kill a kitten.

#6. Services

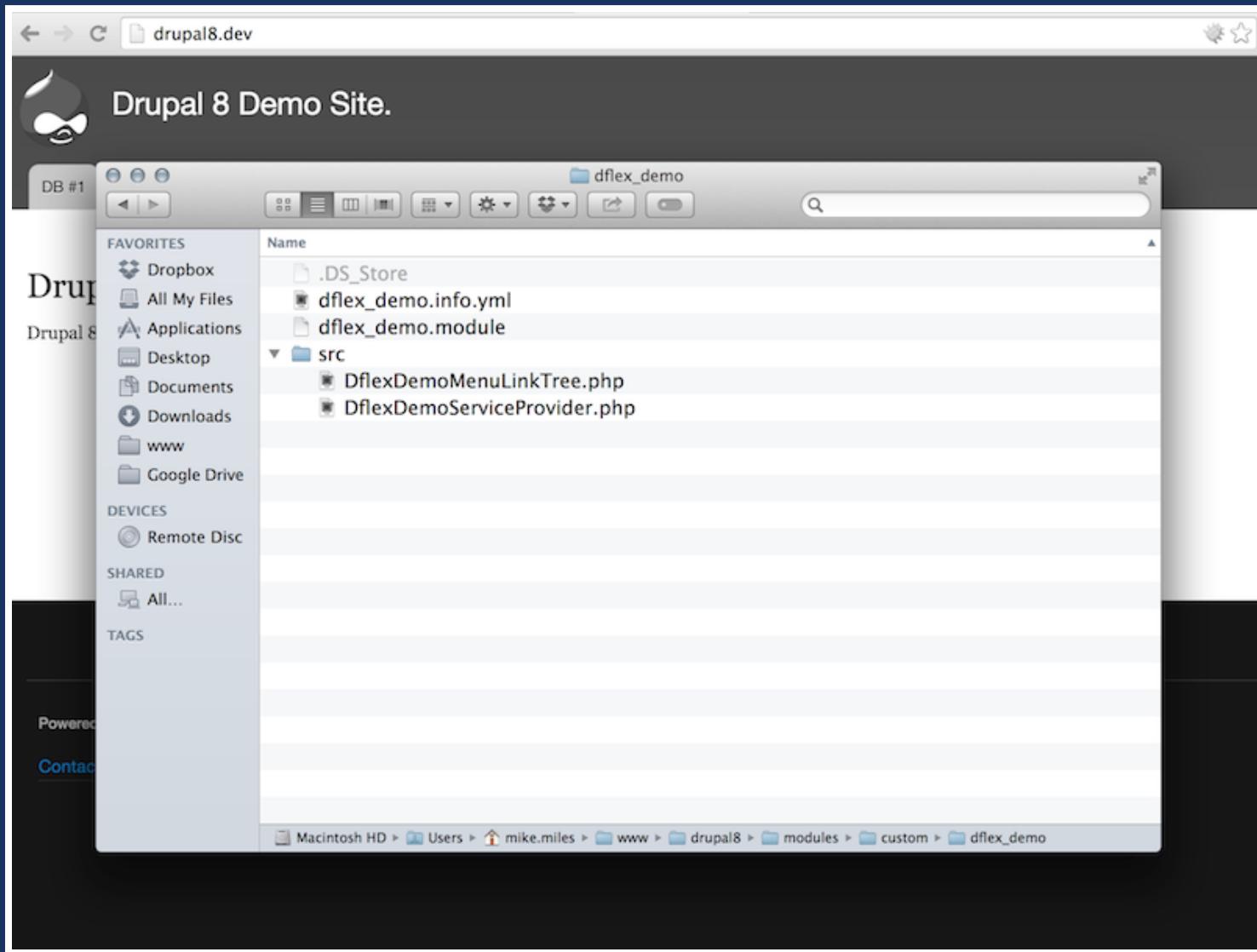
Pros

- *Change any core functionality.*
- *No hacking required!*
- *Can be very powerful.*

Cons

- *Only available for Drupal 8.*
- *Can be complex.*
- *Not for everything.*

tl;dr It's hacking core without hacking core.



Drupal 8 custom module 'dflex_demo' with an 'src' directory, containing two new files.

DflexDemoServiceProvider.php

```
namespace Drupal\dflex_demo;  
use Drupal\Core\DependencyInjection\ContainerBuilder;  
use Drupal\Core\DependencyInjection\ServiceProviderBase;  
  
class DflexDemoServiceProvider extends ServiceProviderBase {  
    /**  
     * {@inheritDoc}  
     */  
    public function alter(ContainerBuilder $container) {  
        // Override the menu_link_tree class with a new class.  
        $definition = $container->getDefinition('menu.link_tree');  
        $definition->setClass('Drupal\dflex_demo\DflexDemoMenuLinkTree');  
    }  
}
```

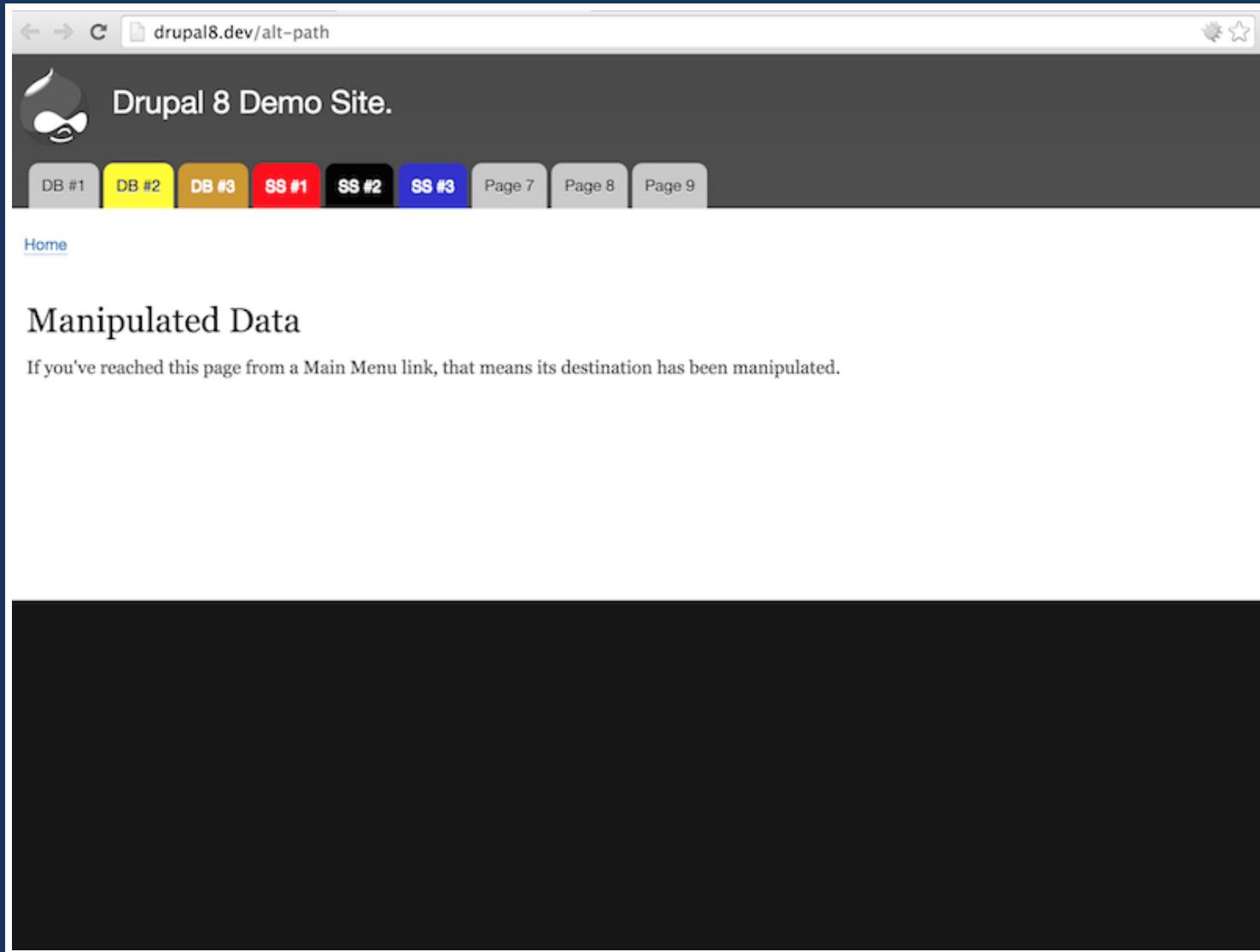
*Extend ServiceProviderBase and override alter function.
Retrieve correct dependency injection container and tell Drupal what class to use as the service.*

DflexDemoMenuLinkTree.php

```
namespace Drupal\dflex_demo;
use Drupal\Core\Menu\MenuLinkTree;

class DflexDemoMenuLinkTree extends MenuLinkTree {
  /**
   * Overrides \Drupal\Core\Menu\MenuLinkTree::build().
   */
  public function build(array $tree) {
    $build = parent::build($tree);
    if (isset($build['#items']) && ($build['#theme'] == 'menu__main')) {
      foreach ($build['#items'] as &$item) {
        if ($item['url']->toString() == '/node/6') {
          $item['title'] = 'SS #3';
          $item['url'] = \Drupal\Core\Url::fromUri('entity:node/10', array(
            'attributes' => array(
              'style' => 'background:#33C;color:#FFF',
              'target' => '_blank',
            )));
        }
      }
    }
    return $build;
  }
}
```

*Custom MenuLinkTree Service.
Extend the core service and override the build function, to alter menu link.*



Drupal 8 menu is loaded using custom service to build menu. Sixth menu item has altered title, destination and style.

Client Side Layer

Data when being rendered.

#7. Template Overrides

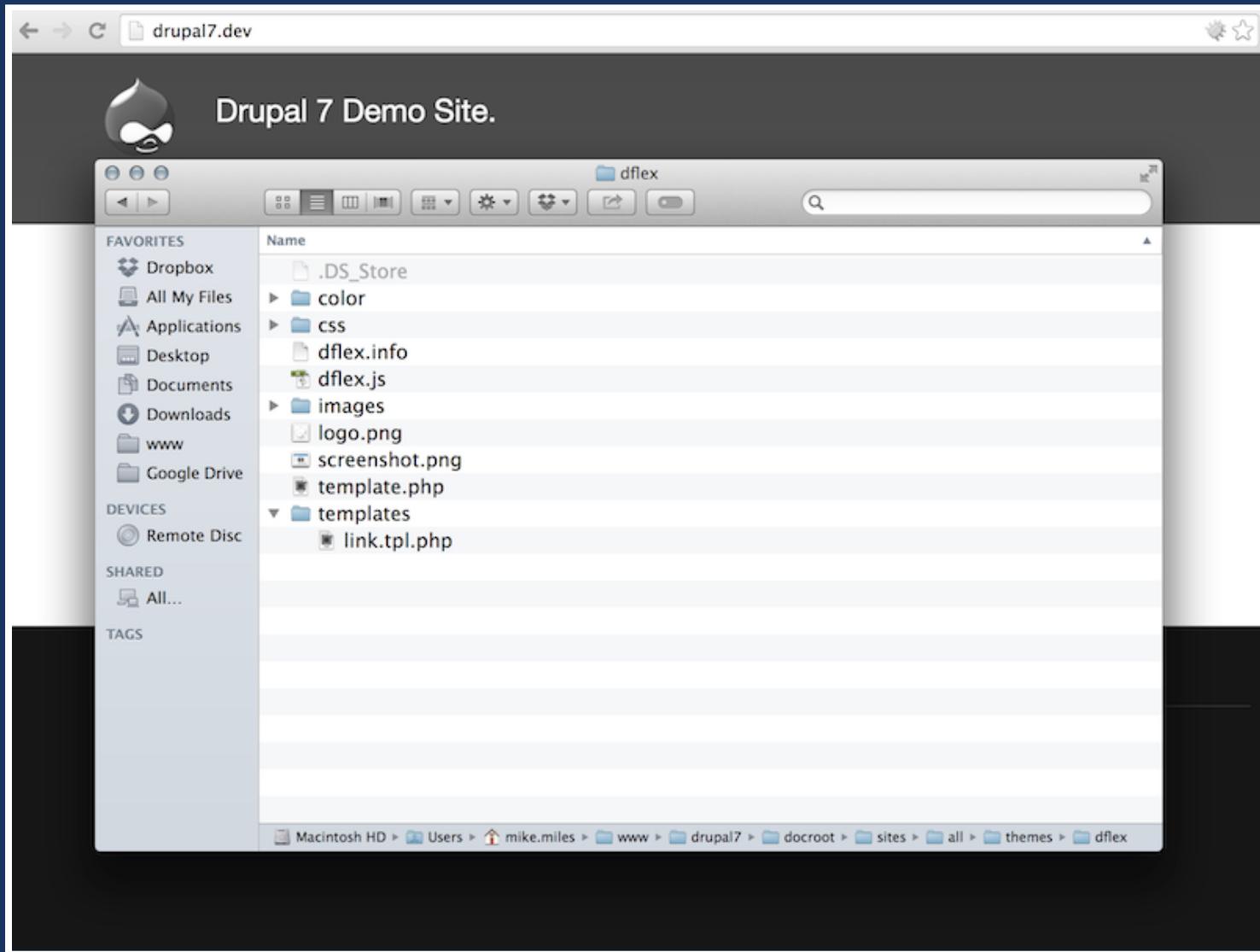
Pros

- *Override Drupal markup.*
- *Make specific with suggestions.*
- *Changes are cached.*

Cons

- *Not everything is templated.*
- *Template may be wrong level.*
- *May still require server side.*

tl;dr Control of the rendered HTML.



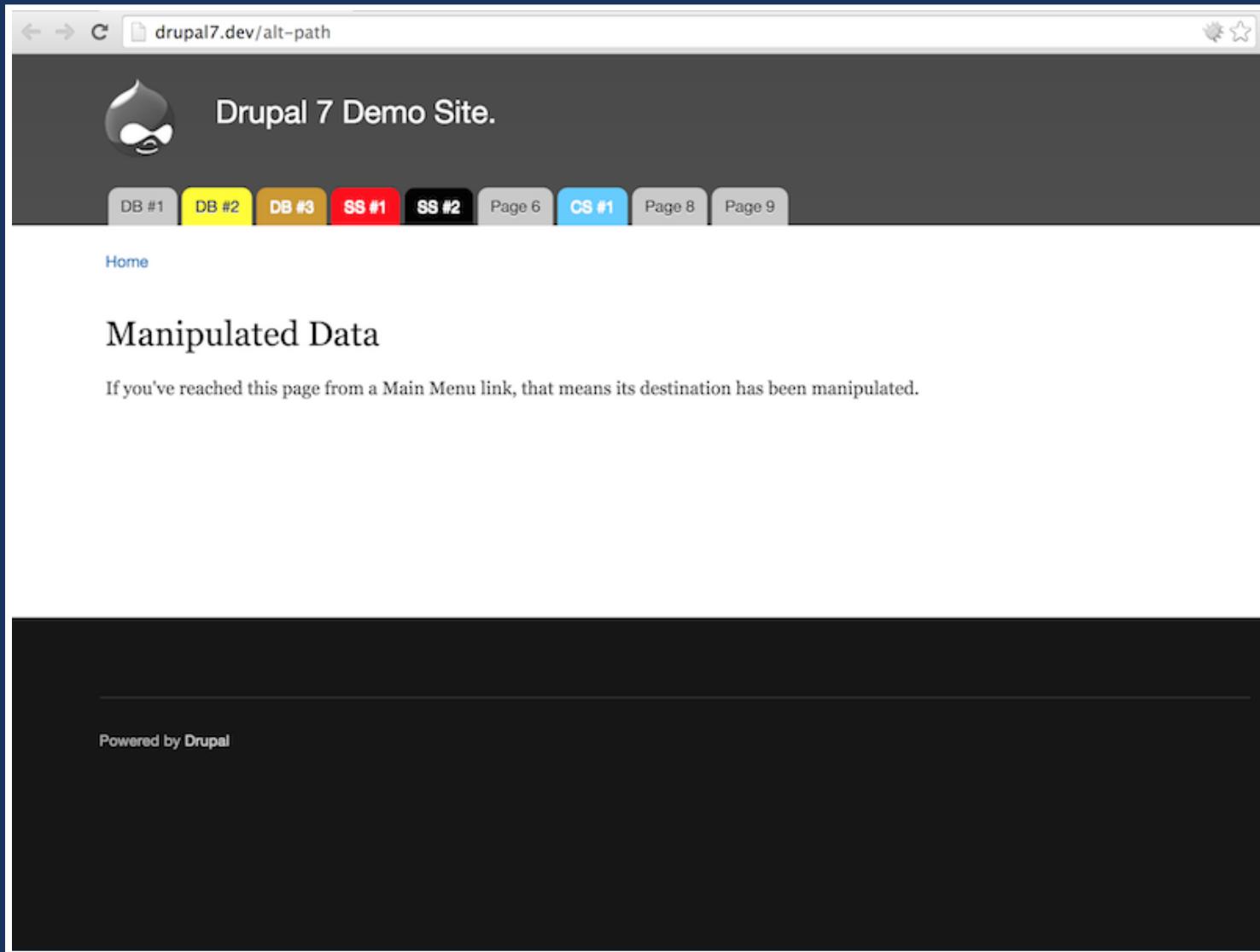
*Drupal 7 custom theme 'dflex', now contains a templates folder.
Contains a template file for rendering links.*

dflex/templates/link.tpl.php

```
<?php
$url = check_plain(url($variables['path'], $variables['options']));
$attributes = drupal_attributes($variables['options']['attributes']);
$text = ($variables['options']['html'] ? $variables['text'] : check_plain($variables['text']));
?>

<?php if(isset($variables['path']) == 'node/7'): ?>
  <a href="/alt-path" style="background:#6CF;color:#FFF;">CS #1</a>
<?php else: ?>
  <a href=<?php print $url; ?>> <?php print $attributes; ?>><?php print $text;
?></a>
<?php endif; ?>
```

Add additional logic to link template to display static link for particular path.



*When Drupal 7 renders links will use overrriden template.
Seventh menu item now has altered title, destination and style.*

#8. Twig

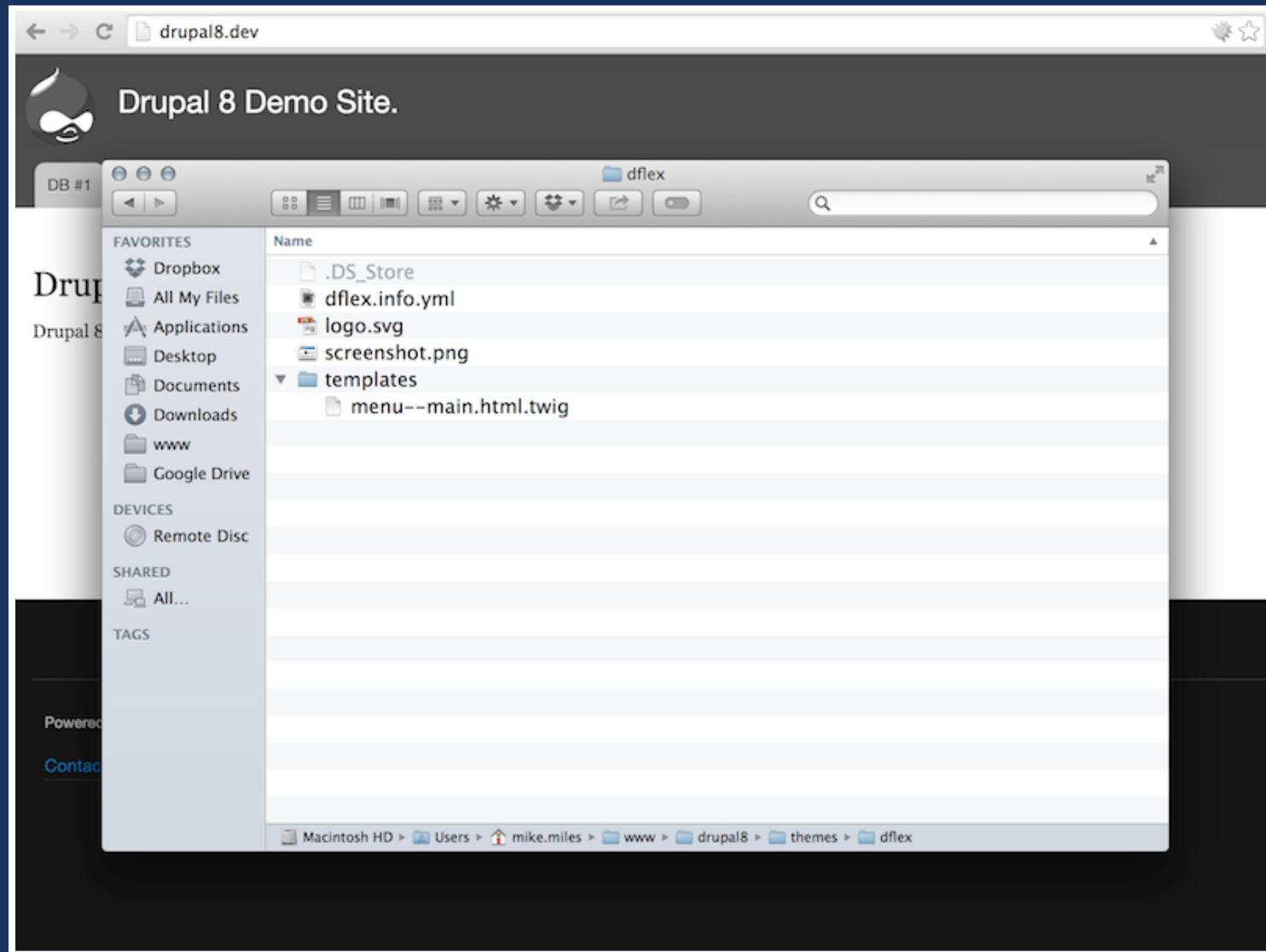
Pros

- *Override Drupal markup.*
- *More secure than old engine.*
- *Serverside logic with no PHP.*

Cons

- *Only in Drupal 8.*
- *Logic abilities are limited.*
- *Requires more processing.*

tl;dr More secure template overrides.

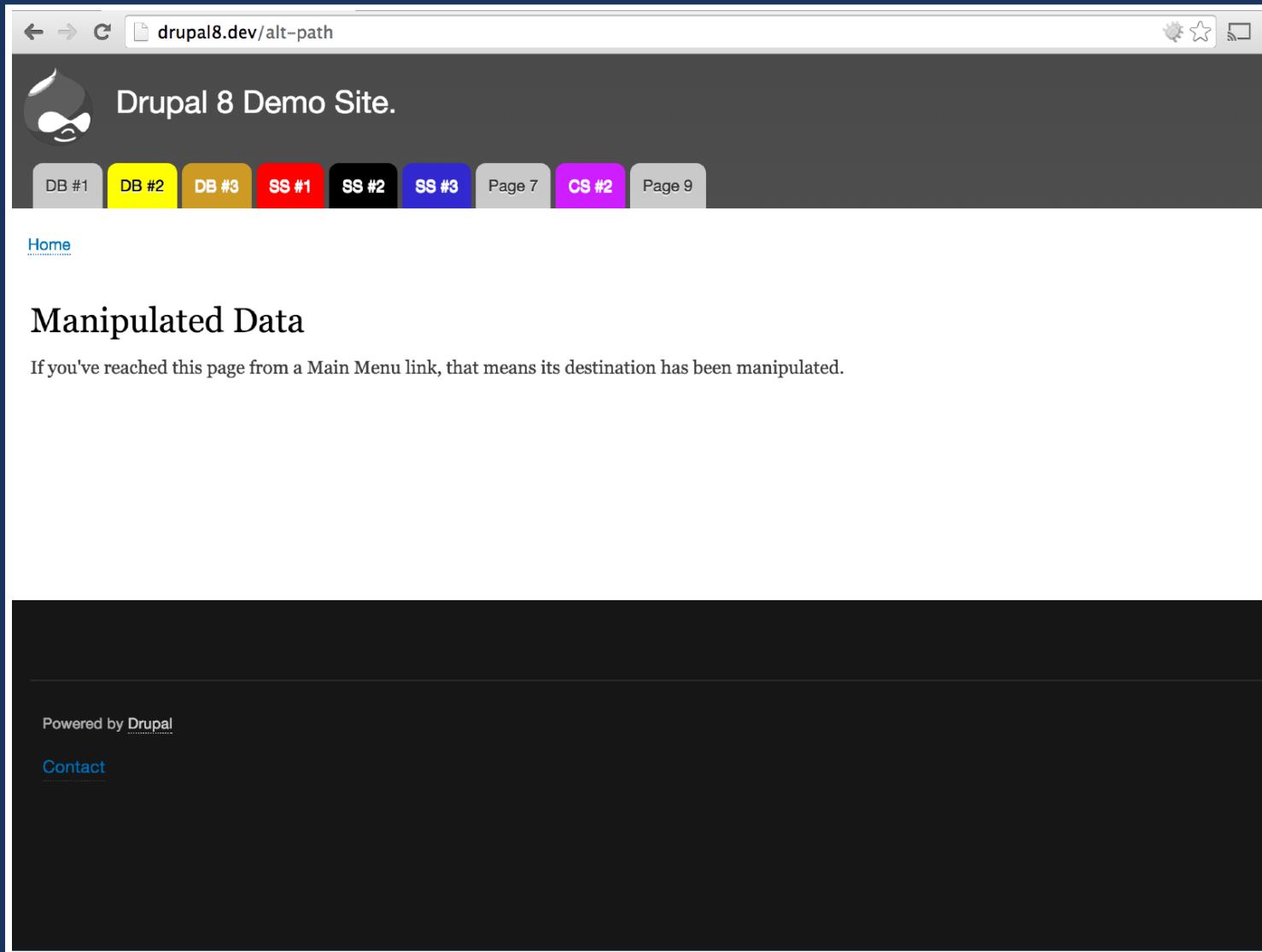


*Custom Drupal 8 theme 'dflex_demo' contains a templates directory.
Along with a twig template suggestion for main menu*

dflex/templates/menu--main.html.twig

```
{% menus.menu_links(items, attributes, 0) %}  
{% macro menu_links(items, attributes, menu_level) %}  
    {% import _self as menus %}  
    {% if items %}  
        {% if menu_level == 0 %}  
<ul{{ attributes.addClass('menu') }}>  
        {% else %}  
            <ul class="menu">  
                {% endif %}  
                {% for item in items %}  
                    <li{{ item.attributes }}>  
                        {% if item.title == 'Page 8' and item.url.toString() == '/node/8' %}  
                            <a href="/alt-path" style="background:#C3F;color:#FFF;">CS #2</a>  
                        {% else %}  
                            {{ link(item.title, item.url) }}  
                        {% endif %}  
                        {% if item.below %}  
                            {{ menus.menu_links(item.below, attributes, menu_level + 1) }}  
                        {% endif %}  
                    </li>  
                {% endfor %}  
            </ul>  
        {% endif %}  
    {% endmacro %}
```

Template override contains twig logic to display static link for specific menu item.



When rendering main menu, Drupal 8 users overriden twig menu template. Eighth menu item has altered title, destination and style.

#9. Custom JS

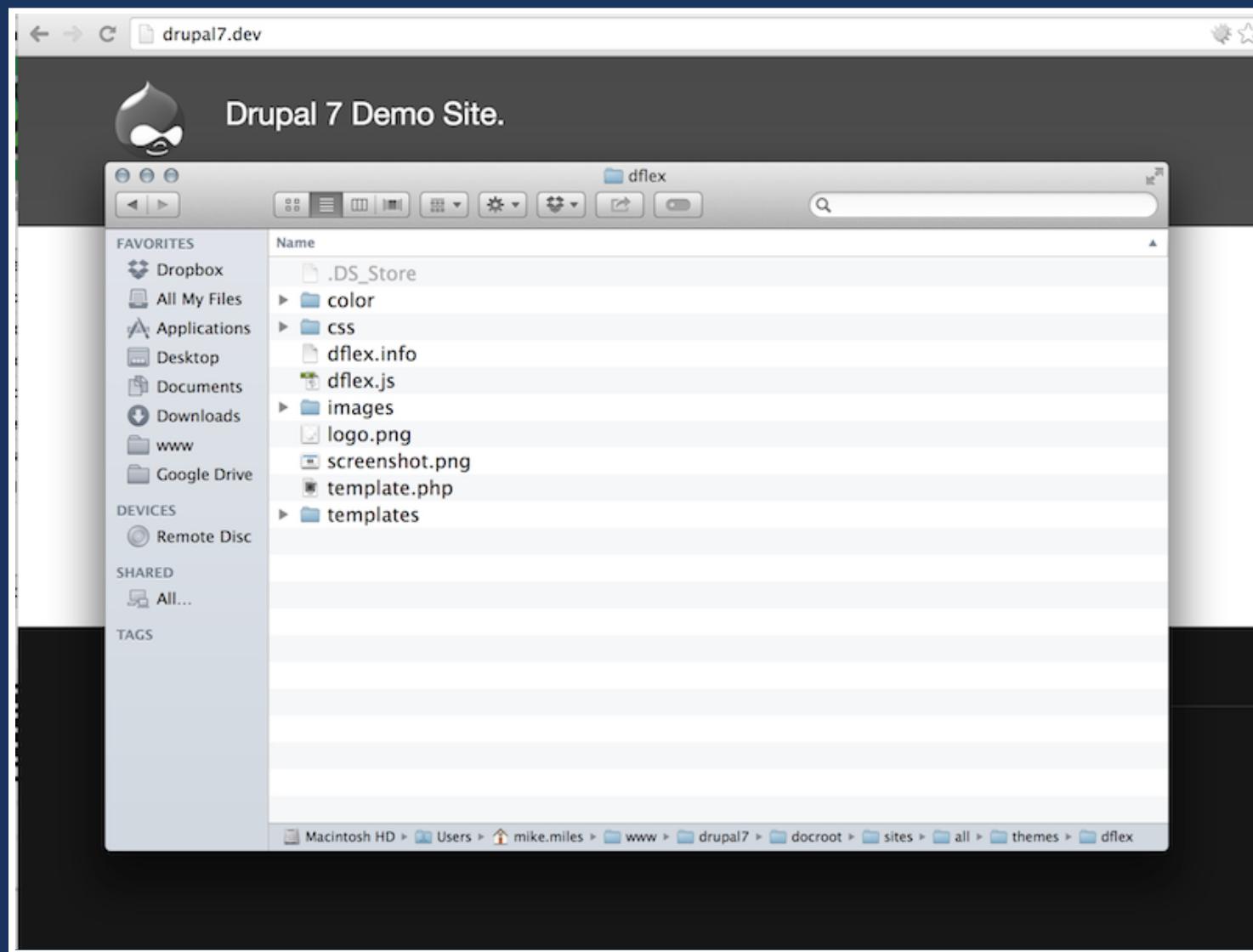
Pros

- *Manipulate any DOM item.*
- *Can be based on user actions.*
- *Less server processing.*

Cons

- *Dependent on browser support.*
- *Delay before it is executed.*
- *Alterable by client.*

tl;dr Fancy client side functionality.



Drupal 7 custom theme 'dflex' contains a javascript file 'dflex.js'.

dflex/dflex.info

```
name = Drupal Flex Demo
description = Demo subtheme for displaying Drupal Flexibility
package = Core
version = VERSION
core = 7.x
base theme = bartik

stylesheets[all][] = css/colors.css

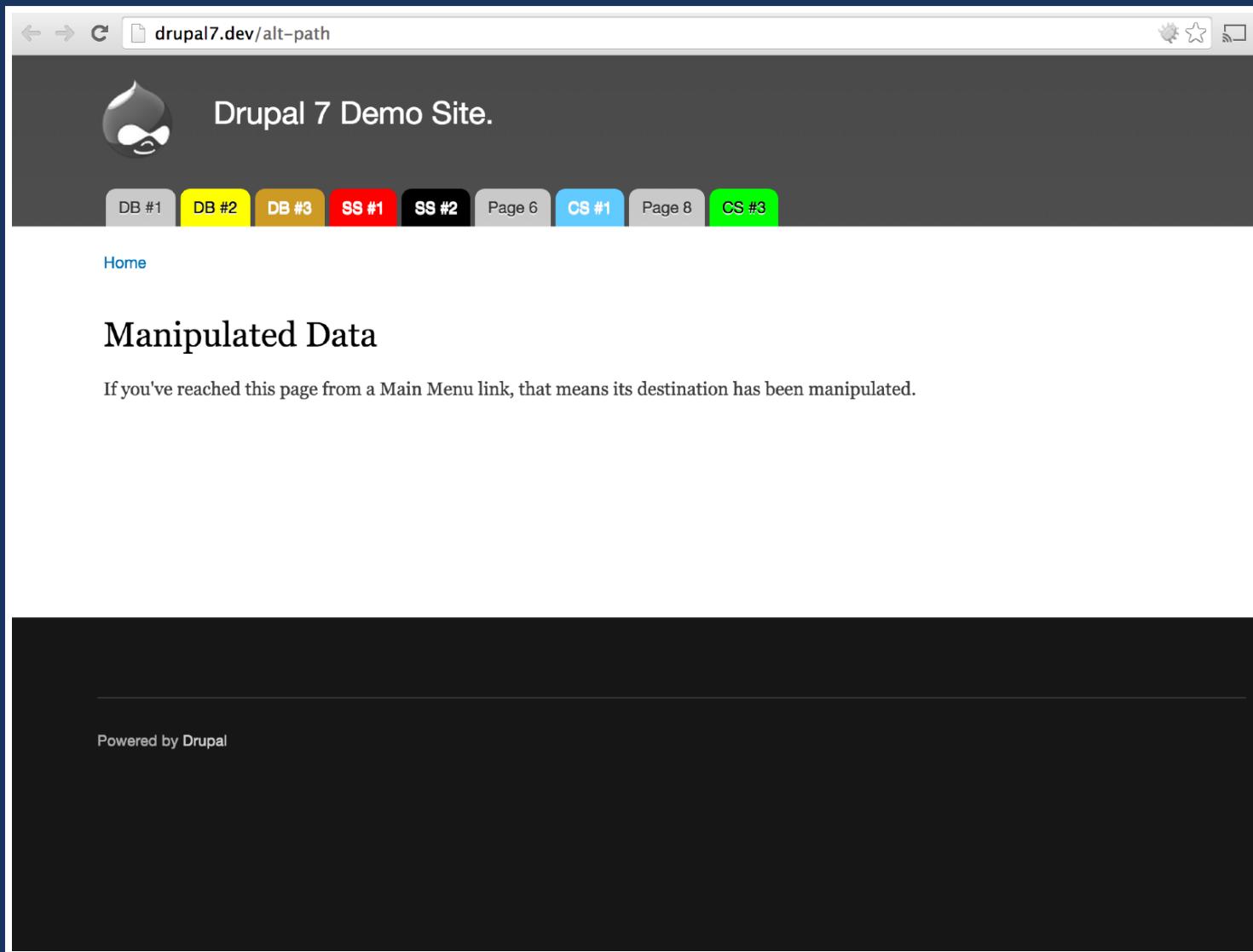
scripts[] = dflex.js
...
```

Tell Drupal 7 about js file by adding it to the themes scripts array in the .info file.

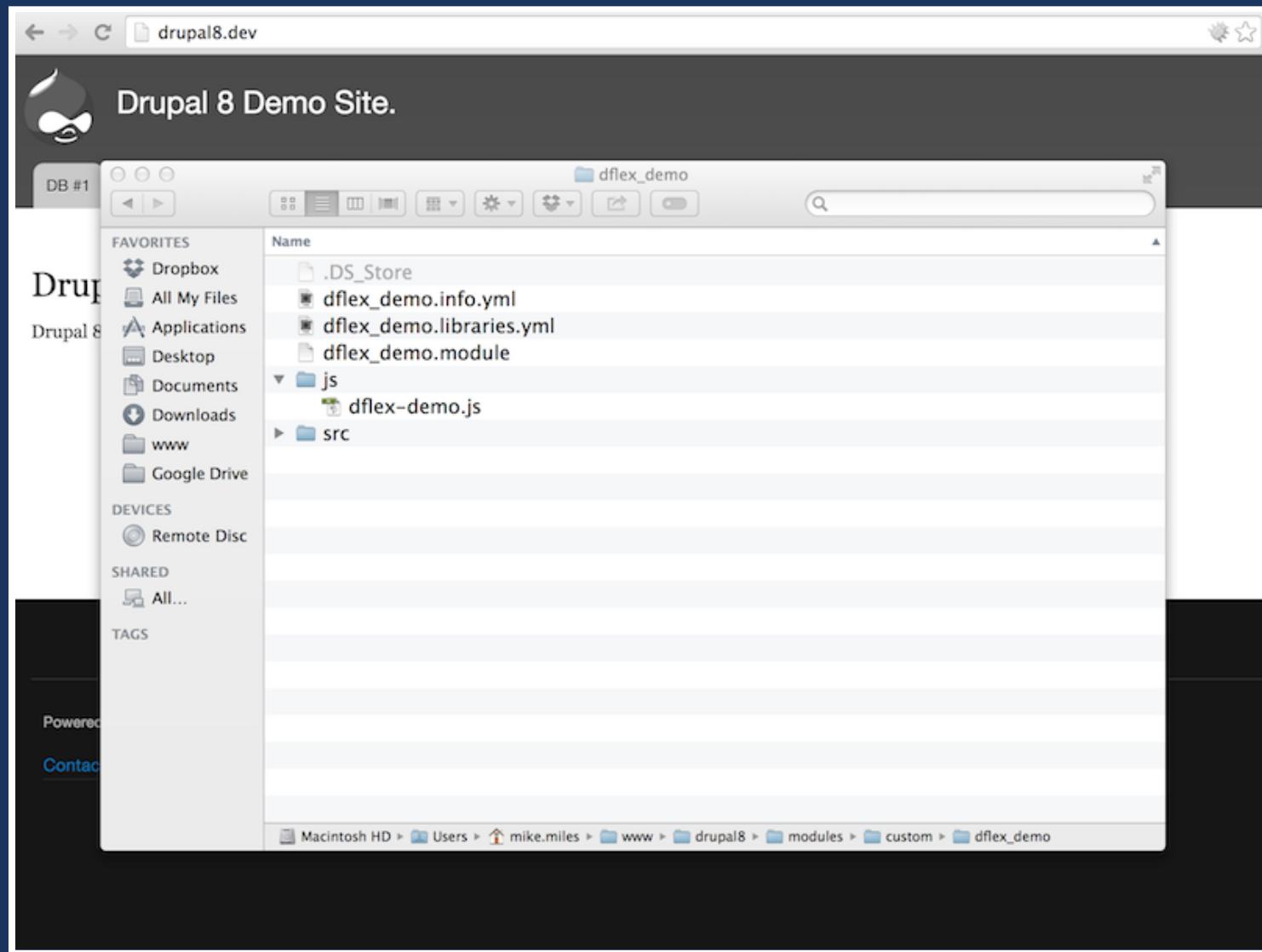
dflex/dflex.js

```
(function($){  
  Drupal.behaviors.dflex = {  
    attach: function (context, settings) {  
      $('#main-menu-links li > a').each(function(){  
        if ($(this).attr('href') == '/node/9') {  
          $(this).attr('style', 'background:#0F0;color:#000;');  
          $(this).attr('target', '_blank');  
          $(this).attr('href', '/alt-path');  
          $(this).text('CS #3');  
        }  
      })  
    }  
  }  
})(jQuery);
```

Add custom Drupal behaviour to alter main menu link after DOM loads.



*After Drupal 7 page loads, custom javascript runs.
Ninth menu item now has altered title, destination and style.*



Drupal 8 custom module 'dflex_demo' has new libraries.yml file and a js directory with a javascript file.

dflex_demo/dflex_demo.libraries.yml

```
dflex_demo:  
  version: VERSION  
  js:  
    js/dflex-demo.js: {}  
  dependencies:  
    - core/jquery  
    - core/jquery.once  
    - core/drupal
```

libraries.yml tells Drupal 8 what javascript libraries are provided and any dependencies they may have.

dflex_demo/js/dflex-demo.js

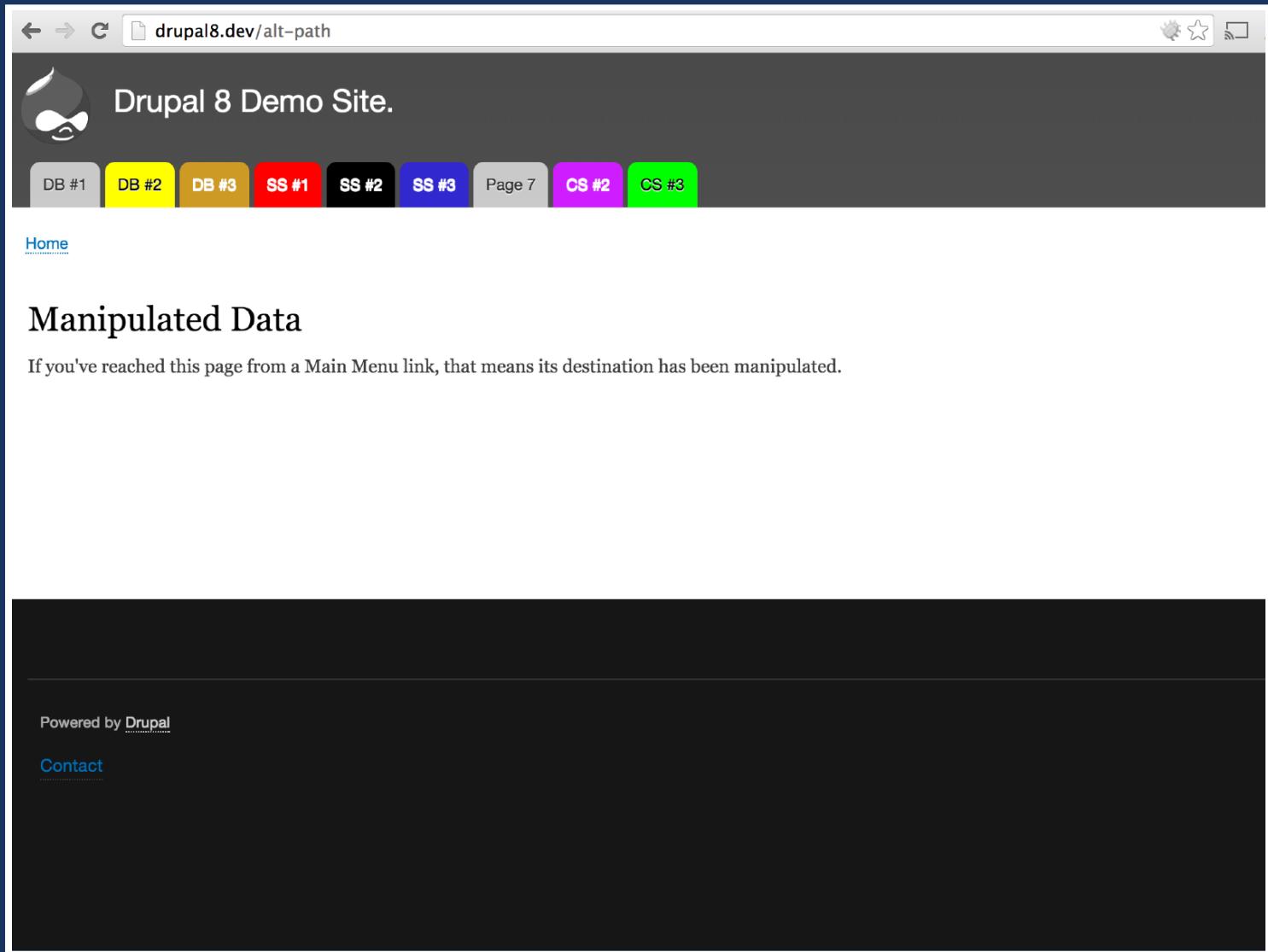
```
(function ($, Drupal) {  
  
  "use strict";  
  
  Drupal.behaviors.dflexDemo = {  
    attach: function (context) {  
      $('nav.menu--main > ul.menu li > a').each(function(){  
        if ($(this).attr('href') == '/node/9') {  
          $(this).attr('style', 'background:#0F0;color:#000;');  
          $(this).attr('target', '_blank');  
          $(this).attr('href', '/alt-path');  
          $(this).text('CS #3');  
        }  
      });  
    }  
  }  
})(jQuery, Drupal);
```

Add custom Drupal behaviour to alter main menu link after DOM loads.

dflex_demo/dflex_demo.module

```
/**  
 * Implements hook_page_attachments().  
 */  
function dflex_demo_page_attachments(&$page) {  
  // Add the dflex_demo js library to all pages.  
  $page['#attached']['library'][] = 'dflex_demo/dflex_demo';  
}
```

*drupal_add_js() no longer exists in Drupal 8. Must add library to a render array.
Custom module does so by implementing the hook_page_attachments.*



When Drupal 8 page loads, drupal adds custom javascript library. After DOM loads custom behaviour is run. Ninth menu item now has altered title, destination and style.

Review

- *Drupal provides many, many ways to manipulate data.*
- *No "right" way or "wrong" way. Just "right for me" way.*

Slides & Notes

- bit.ly/dnorthFLEX
- bit.ly/dnorthFLEXslides

Feedback

@mikemiles86

#DrupalNorth

Thank You!

Questions?



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@WeAreGenuine

Drupal Flexibility / Michael Miles