

# The Flexibility of Drupal

## 9 Ways to Alter a Menu item

<http://nerdsummit.org/node/2069>

NERDSummit 2015

#NERDsummit

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

**Exp:** Working with Drupal since 2008.

*Acquia Grand Master. 2014 Acquia MVP.*

**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?

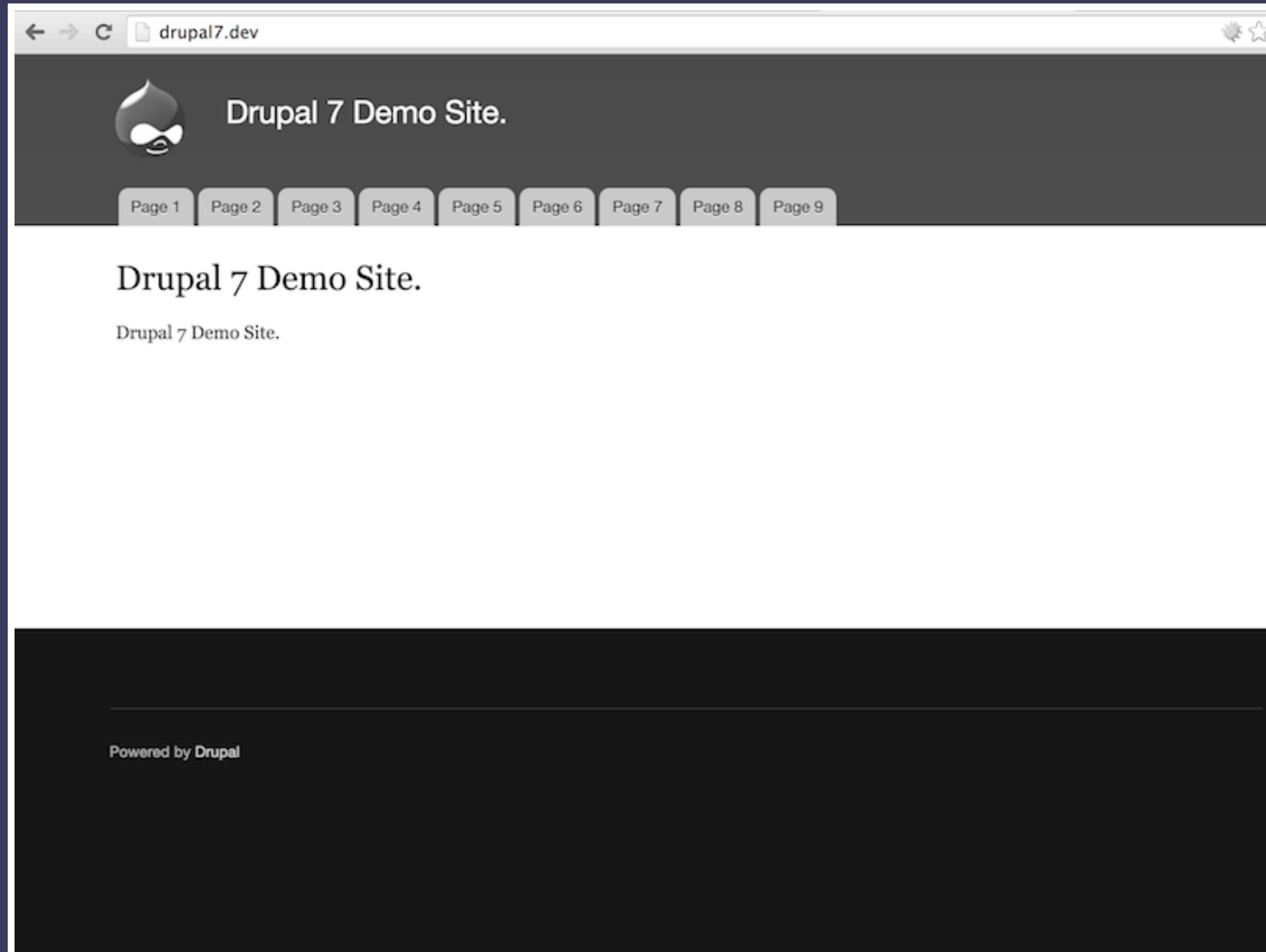
- *Menu items are just data.*
- *Everything in Drupal is just data.*
- *If it is data, it can be manipulated!*

Everything in Drupal can be manipulated!

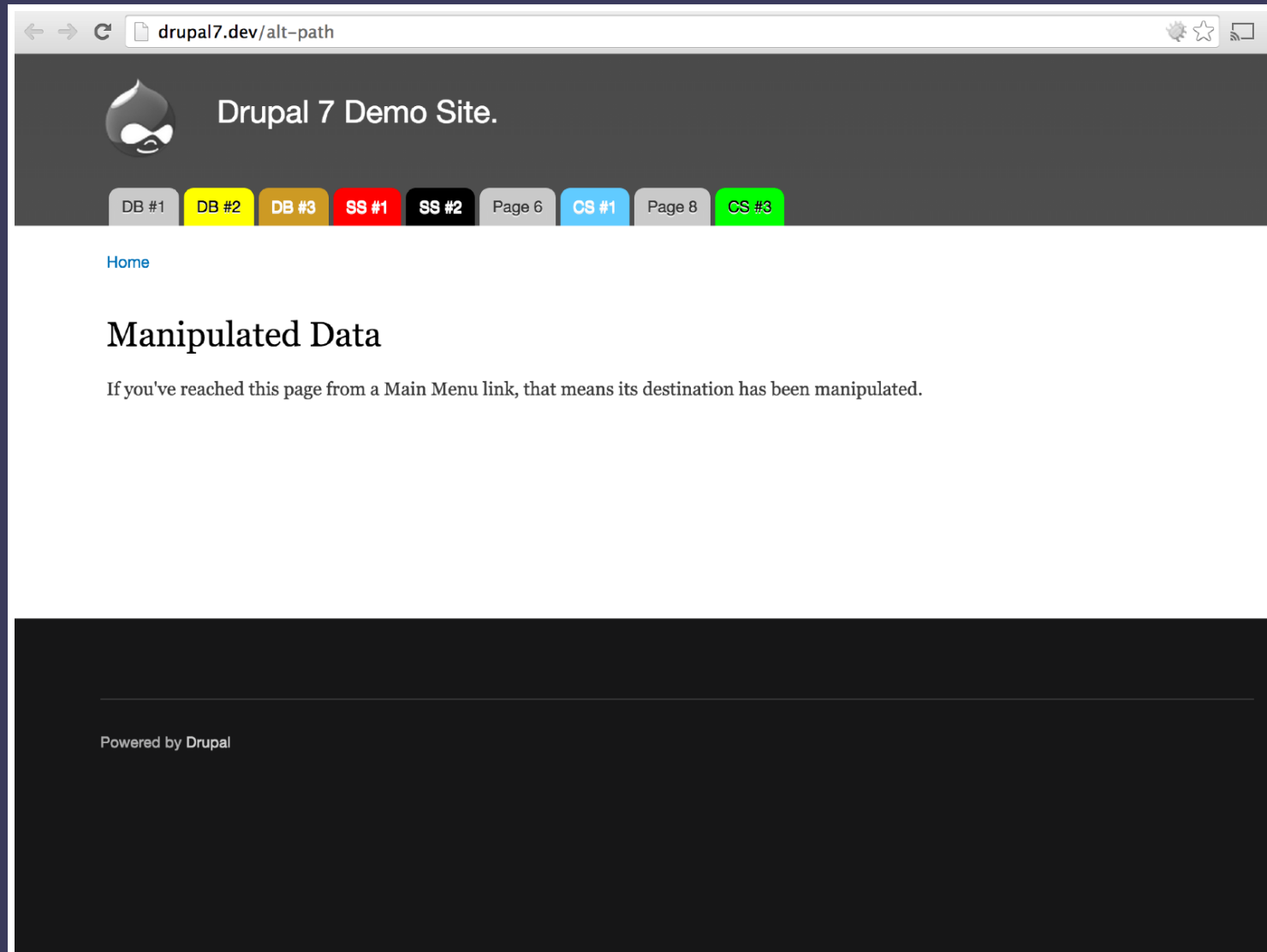
# Environments

- *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



The screenshot shows a web browser window with the address bar containing "drupal7.dev/alt-path". The page header features the Drupal logo and the text "Drupal 7 Demo Site.". Below the header is a navigation menu with several items: "DB #1", "DB #2", "DB #3", "SS #1", "SS #2", "Page 6", "CS #1", "Page 8", and "CS #3". The "CS #3" item is highlighted in green. Below the menu, there is a "Home" link. The main content area displays the heading "Manipulated Data" and a paragraph of text: "If you've reached this page from a Main Menu link, that means its destination has been manipulated." At the bottom of the page, there is a footer that says "Powered by Drupal".

drupal7.dev/alt-path

Drupal 7 Demo Site.

DB #1 DB #2 DB #3 SS #1 SS #2 Page 6 CS #1 Page 8 CS #3

[Home](#)

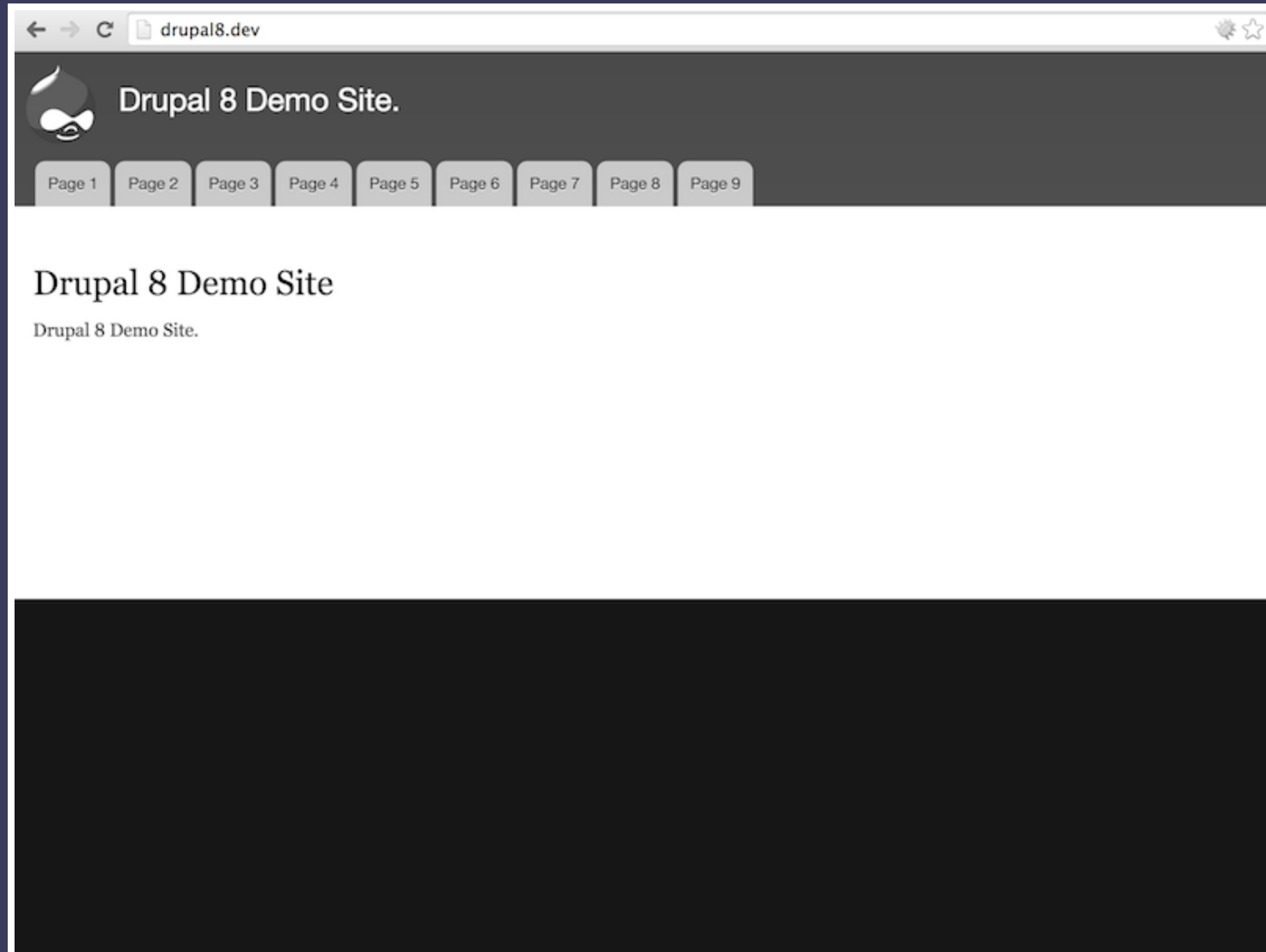
## Manipulated Data

If you've reached this page from a Main Menu link, that means its destination has been manipulated.

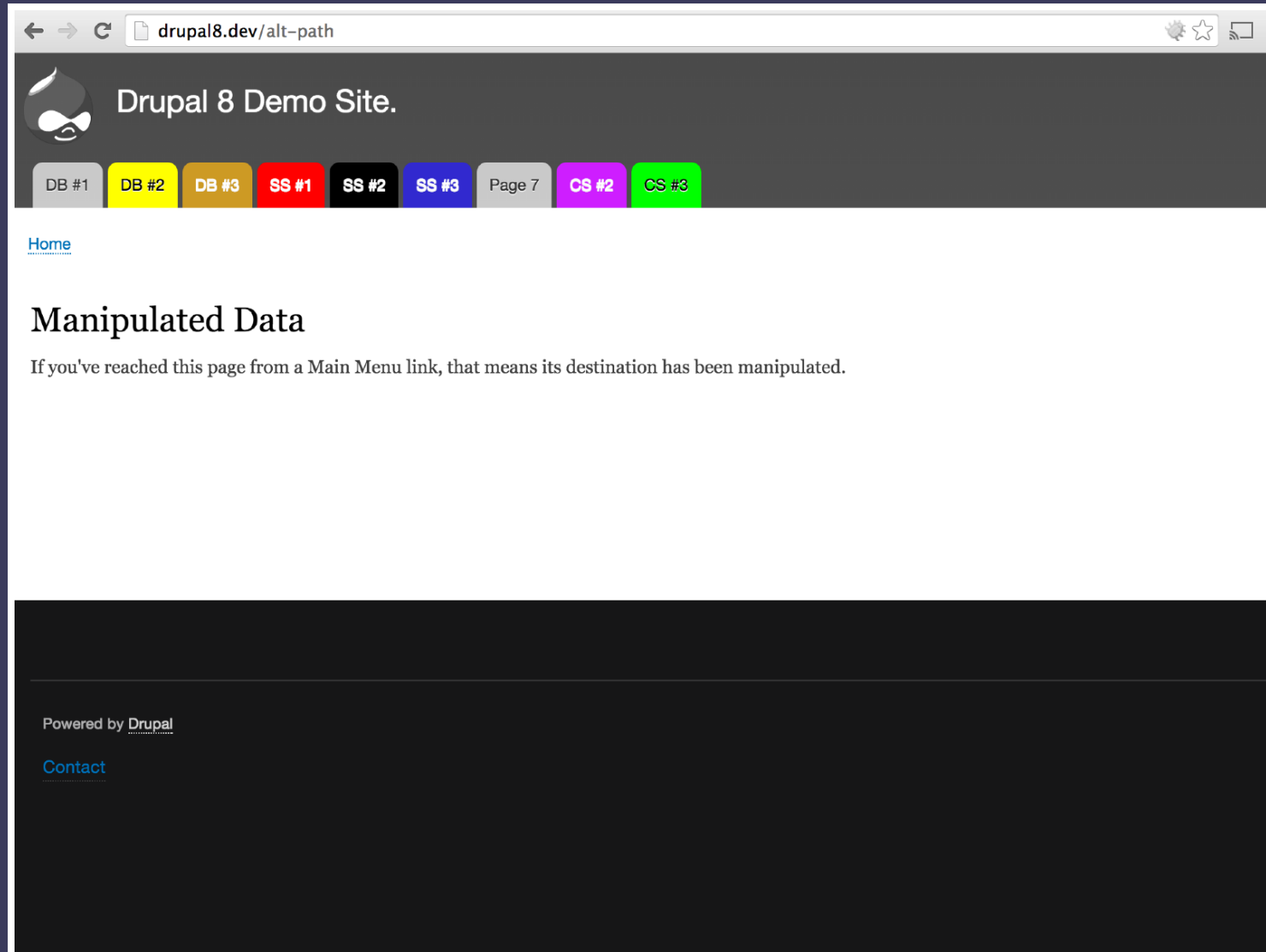
Powered by Drupal



## Drupal 8: before



## Drupal 8: after



The screenshot shows a web browser window with the address bar containing "drupal8.dev/alt-path". The page header features the Drupal logo and the text "Drupal 8 Demo Site." Below the header is a navigation bar with several colored buttons: "DB #1" (grey), "DB #2" (yellow), "DB #3" (orange), "SS #1" (red), "SS #2" (black), "SS #3" (blue), "Page 7" (grey), "CS #2" (purple), and "CS #3" (green). The main content area has a "Home" link in blue. The primary heading is "Manipulated Data" in a large, bold, black serif font. Below this heading is a paragraph of text: "If you've reached this page from a Main Menu link, that means its destination has been manipulated." At the bottom of the page, there is a dark grey footer containing the text "Powered by Drupal" and a "Contact" link in blue.

drupal8.dev/alt-path

Drupal 8 Demo Site.

DB #1 DB #2 DB #3 SS #1 SS #2 SS #3 Page 7 CS #2 CS #3

[Home](#)

## Manipulated Data

If you've reached this page from a Main Menu link, that means its destination has been manipulated.

Powered by [Drupal](#)

[Contact](#)

# 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

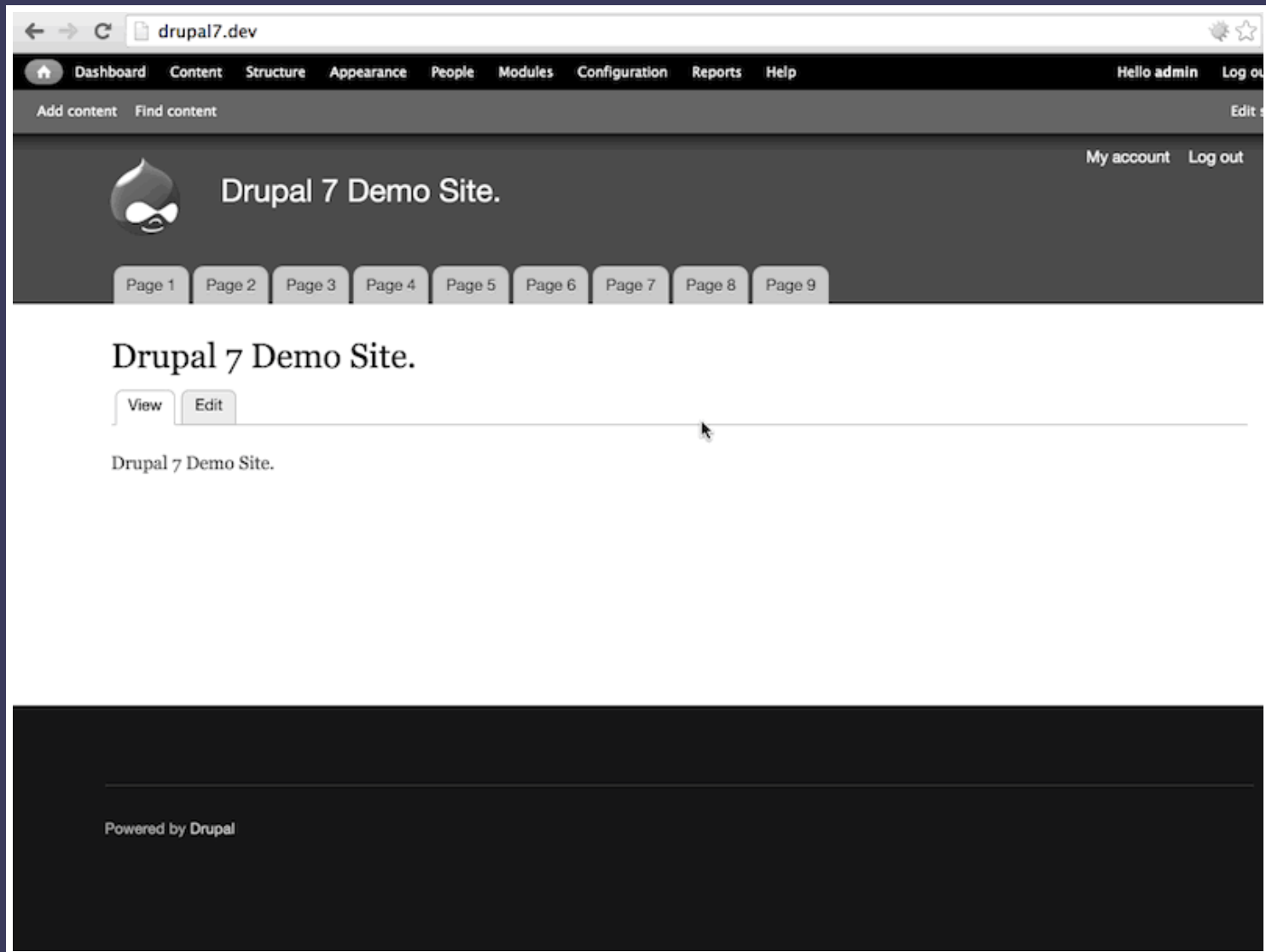
## Pros

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

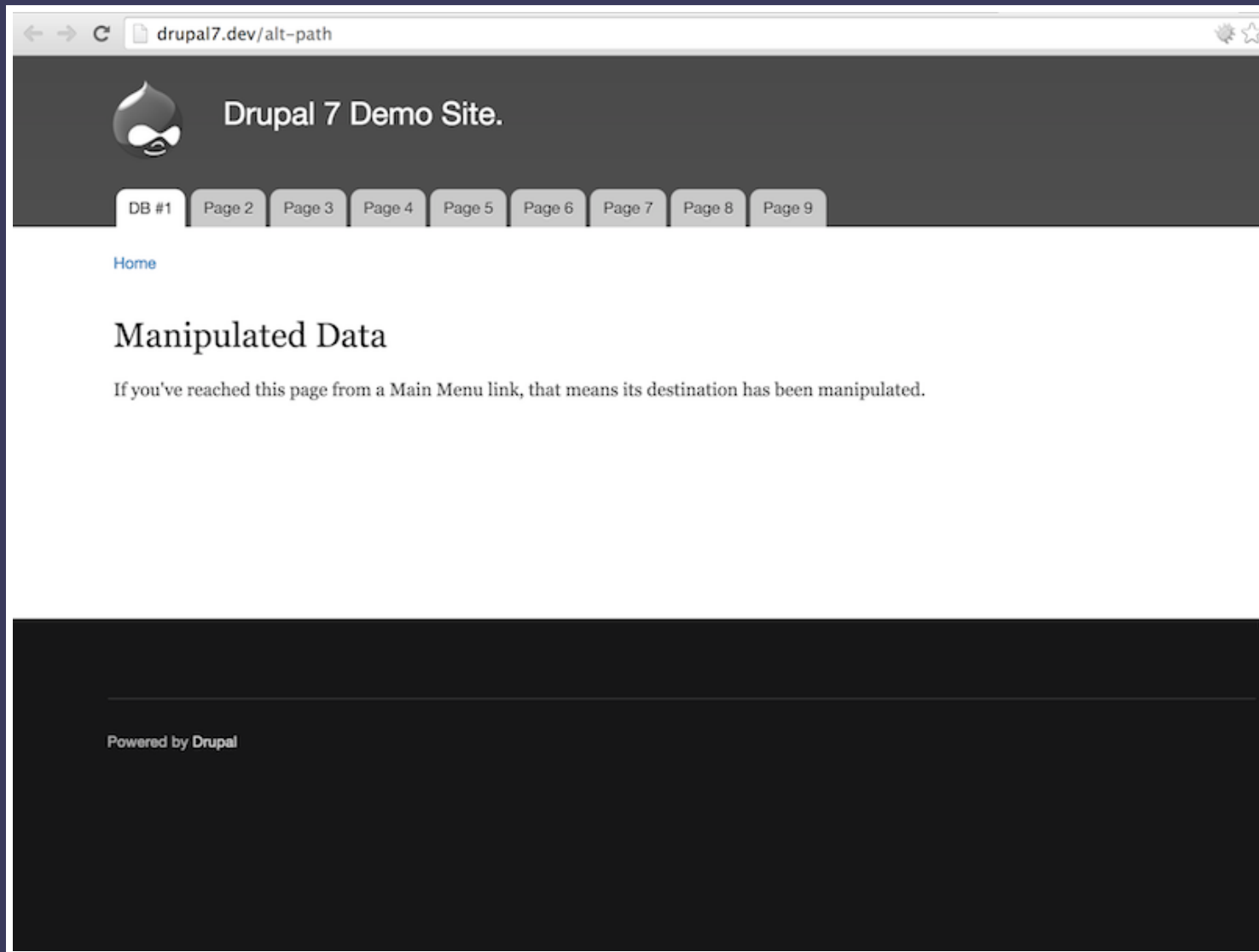
## Cons

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

**tl;dr** Easy to use, but limited functionality.



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



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

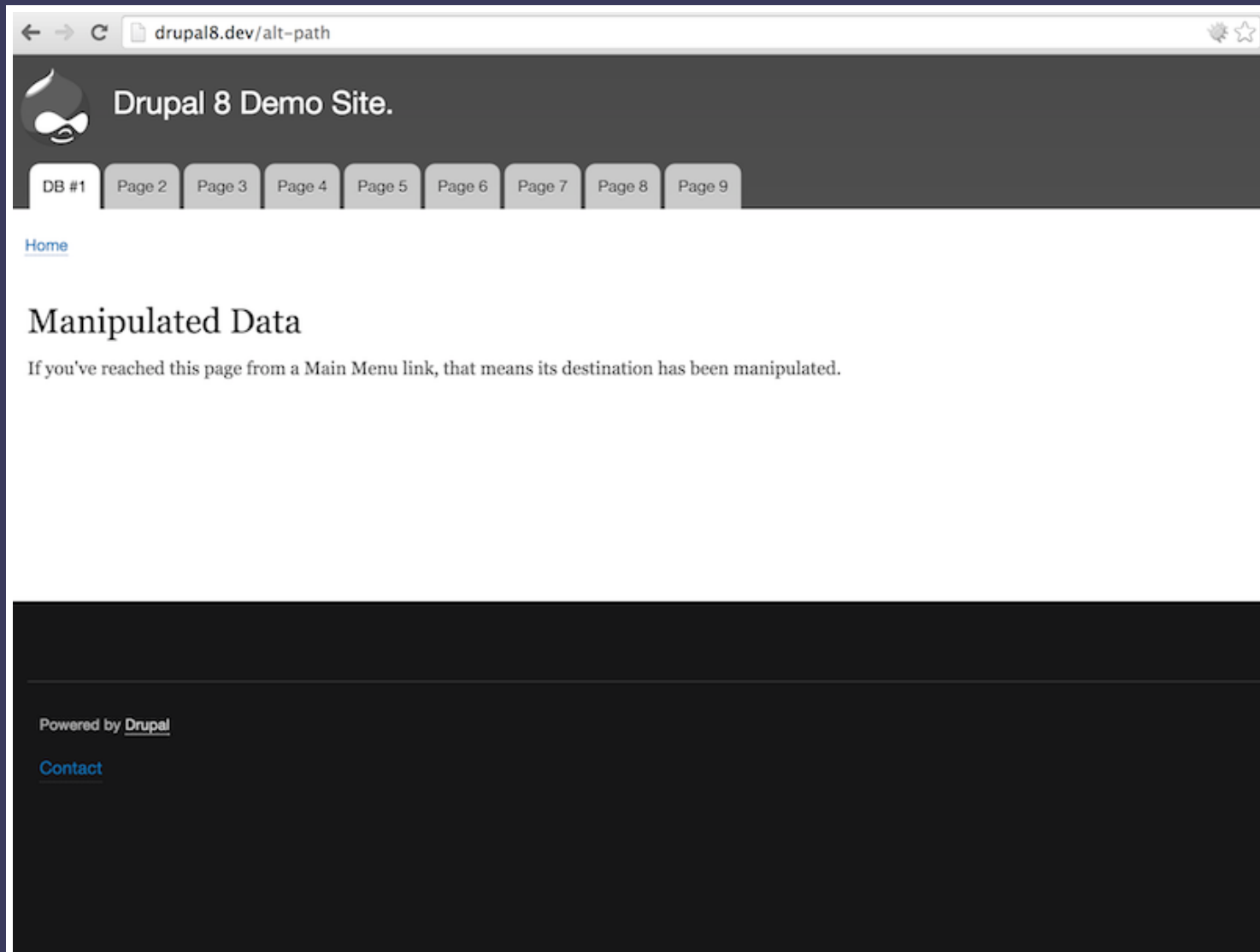
The screenshot shows the Drupal 8 administration interface. The browser address bar displays `drupal8.dev/admin/structure`. The top navigation bar includes links for **Back to site**, **Manage**, **Shortcuts**, and the user **admin**. Below this is a secondary navigation bar with icons and labels for **Content**, **Structure** (highlighted), **Appearance**, **Extend**, **Configuration**, **People**, **Reports**, and **Help**.

The main content area is titled **Structure** with a star icon. Below the title is a breadcrumb trail: [Home](#) » [Administration](#). A list of configuration options follows, each with a right-pointing arrow icon and a brief description:

- Block layout**: Configure what block content appears in your site's sidebars and other regions.
- Comment types**: Manage form and displays settings of comments.
- Contact forms**: Create and manage contact forms.
- Content types**: Manage content types, including default status, front page promotion, comment settings, etc.
- Display modes**: Configure what displays are available for your content and forms.
- Menus**: Add new menus to your site, edit existing menus, and rename and reorganize menu links.
- Taxonomy**: Manage tagging, categorization, and classification of your content.
- Views**: Manage customized lists of content.

*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.

# 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
<a href="#">7.x-1.0-rc3</a>	<a href="#">tar.gz (14.31 KB)</a>   <a href="#">zip (16.76 KB)</a>	2014-Oct-19	<a href="#">Notes</a>
<a href="#">6.x-2.0-beta1</a>	<a href="#">tar.gz (8.43 KB)</a>   <a href="#">zip (9.34 KB)</a>	2010-Sep-05	<a href="#">Notes</a>

### Other releases

Version	Download	Date	Links
<a href="#">6.x-1.4</a>	<a href="#">tar.gz (8.14 KB)</a>   <a href="#">zip (9.45 KB)</a>	2009-Apr-21	<a href="#">Notes</a>

## 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](#)

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Statistics

New issues  0

Response rate  0 %

1st response  0 hours

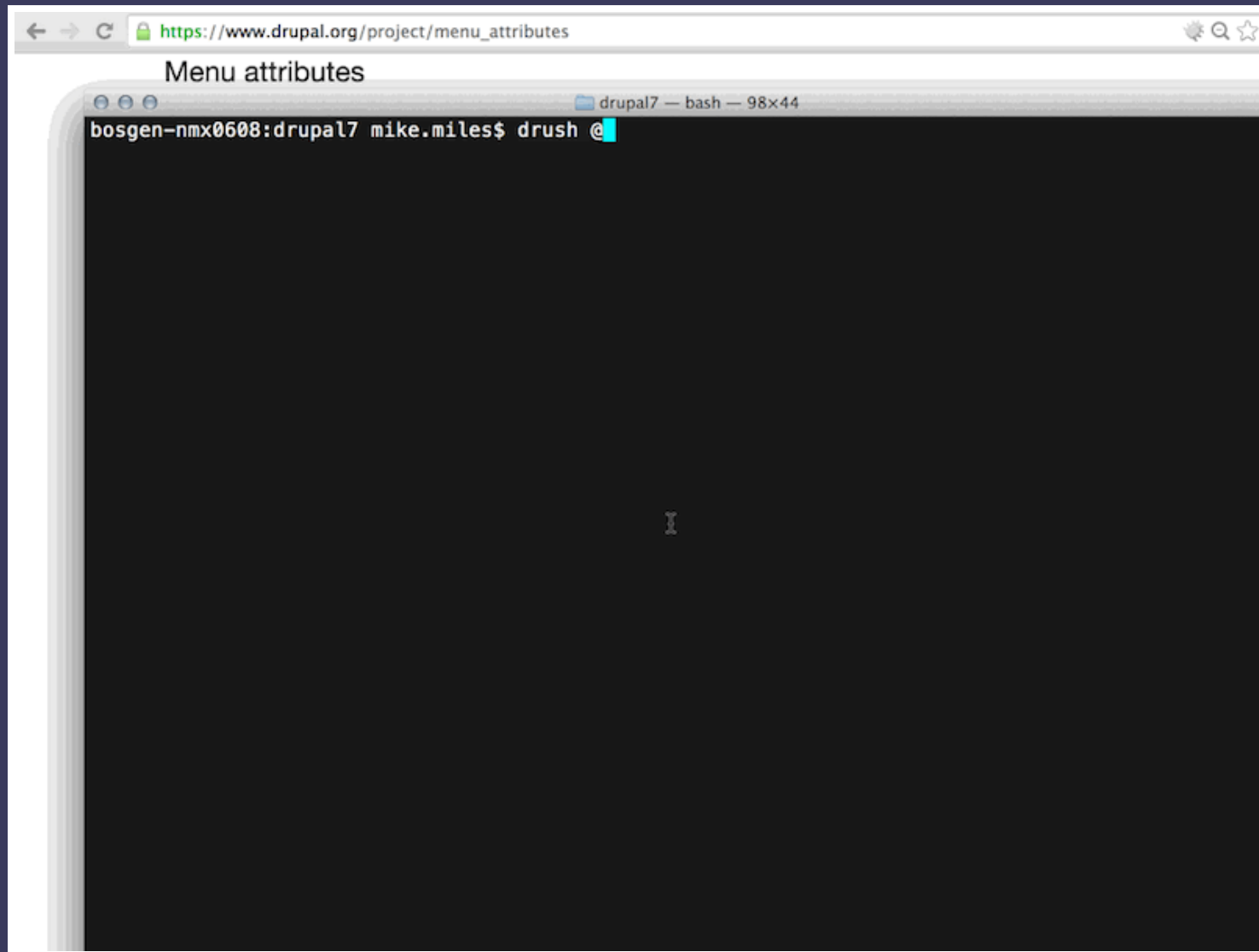
Open bugs  14

Participants  4

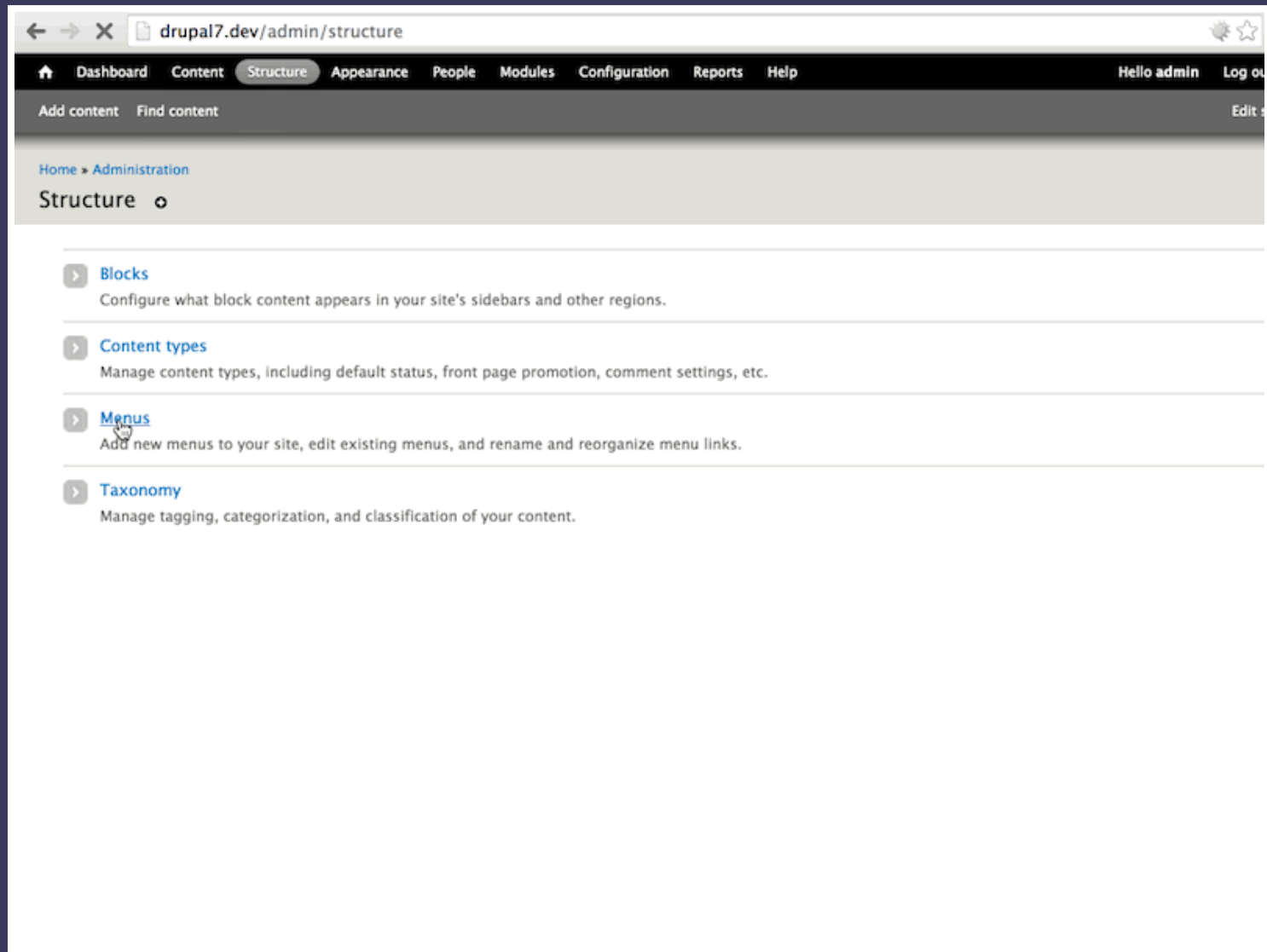
2 year graph, updates weekly

## Resources

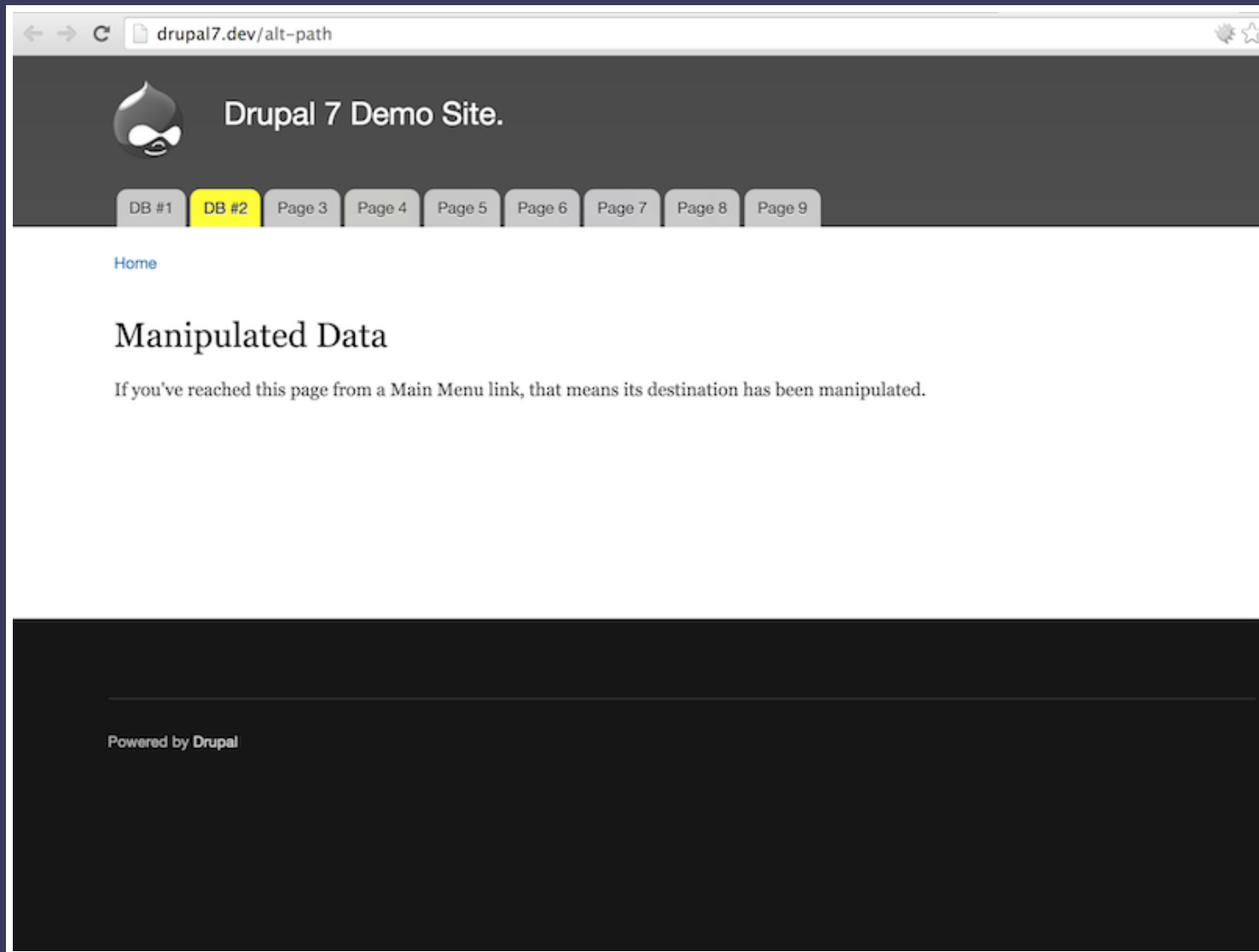
*Menu Attributes module, allows setting additional Menu item settings.*



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



*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.*

## Menu attributes

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last: 3 years ago, first: 4 years ago

[Schoonzie](#) – 8 commits

last: 6 years ago, first: 6 years ago

[View all committers](#)

[View commits](#)

# No Drupal 8 release.



### Issues

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

[All issues](#)

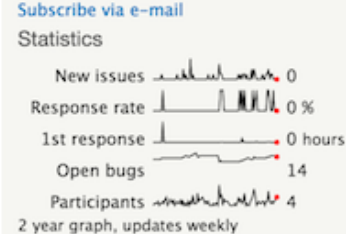
[36 open, 146 total](#)

[Bug report](#)

[14 open, 61 total](#)

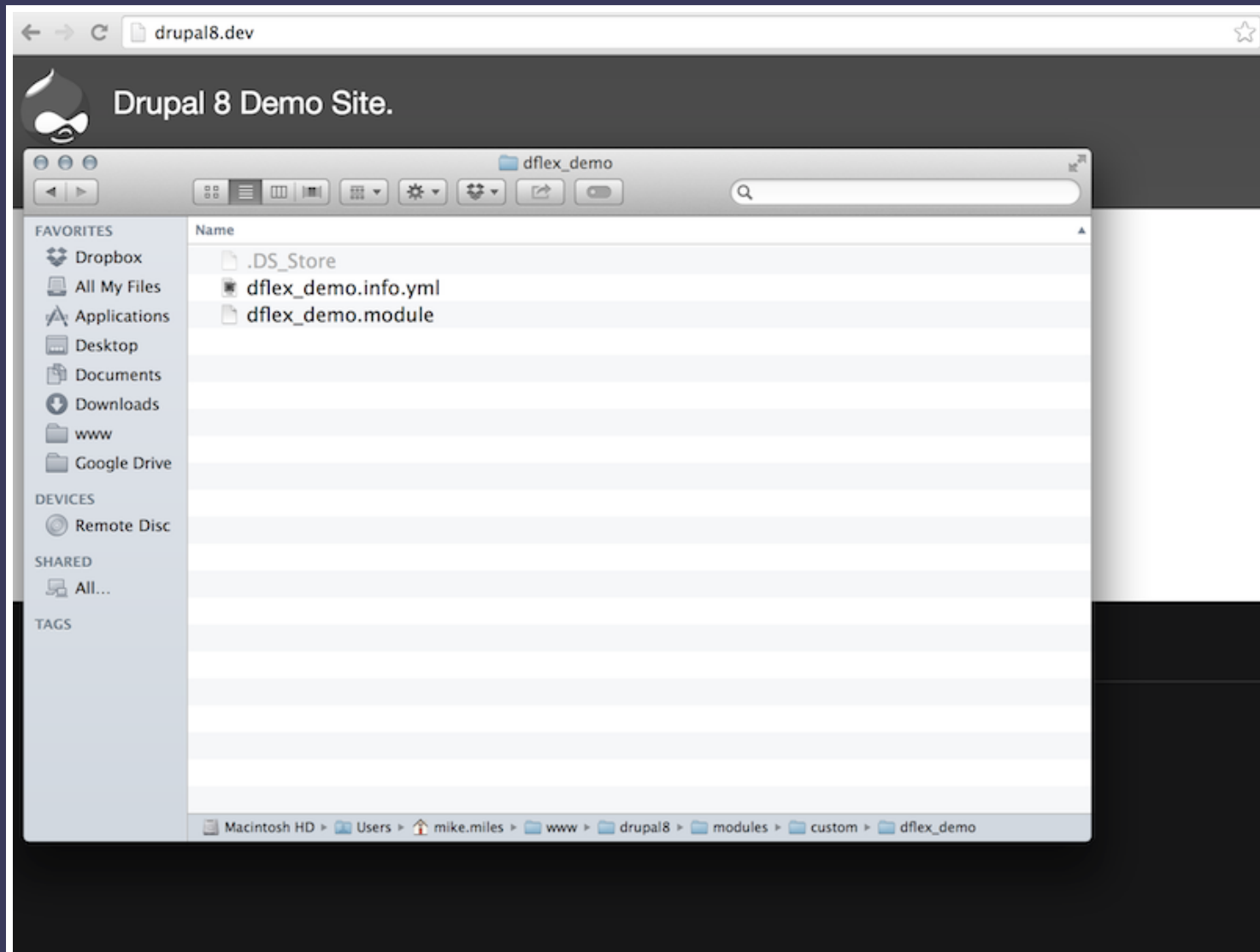
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### Resources

*No Drupal 8 release of Menu Attributes.*



*Create a custom "dflex\_demo" module for Drupal 8.*



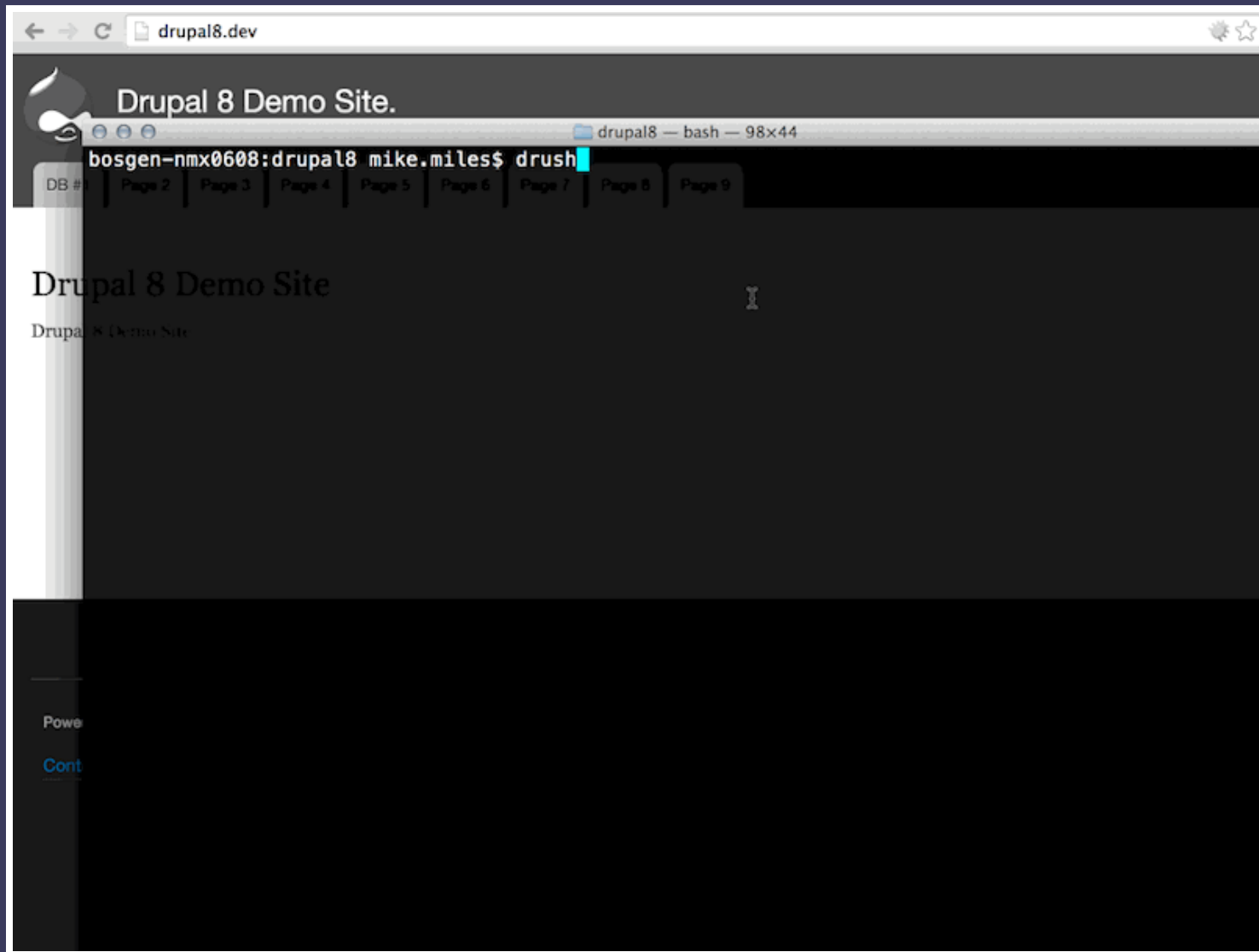
*dflex\_demo.info.yml*

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

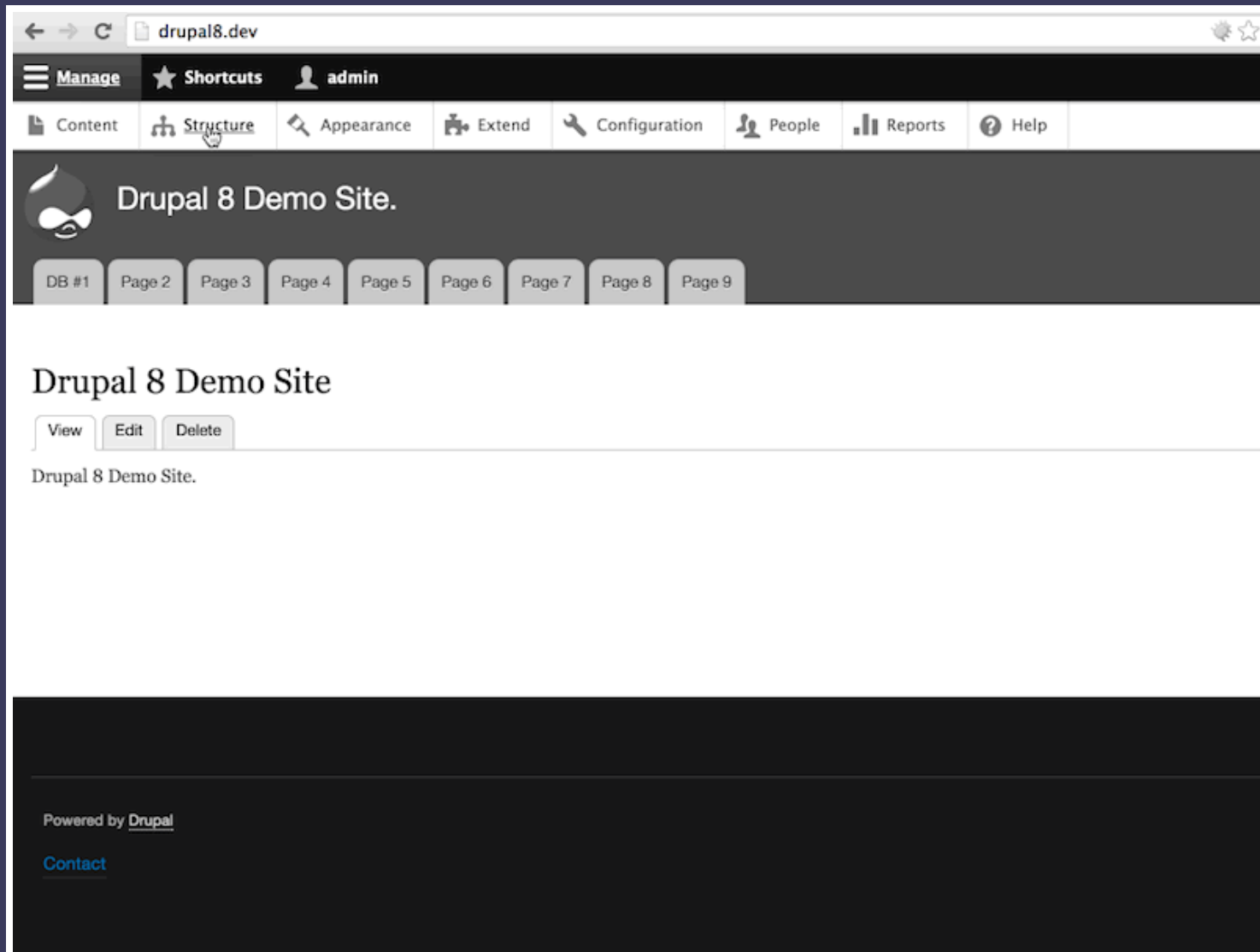
## *dflex\_demo.module*

```
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();
    }
  }
}
```

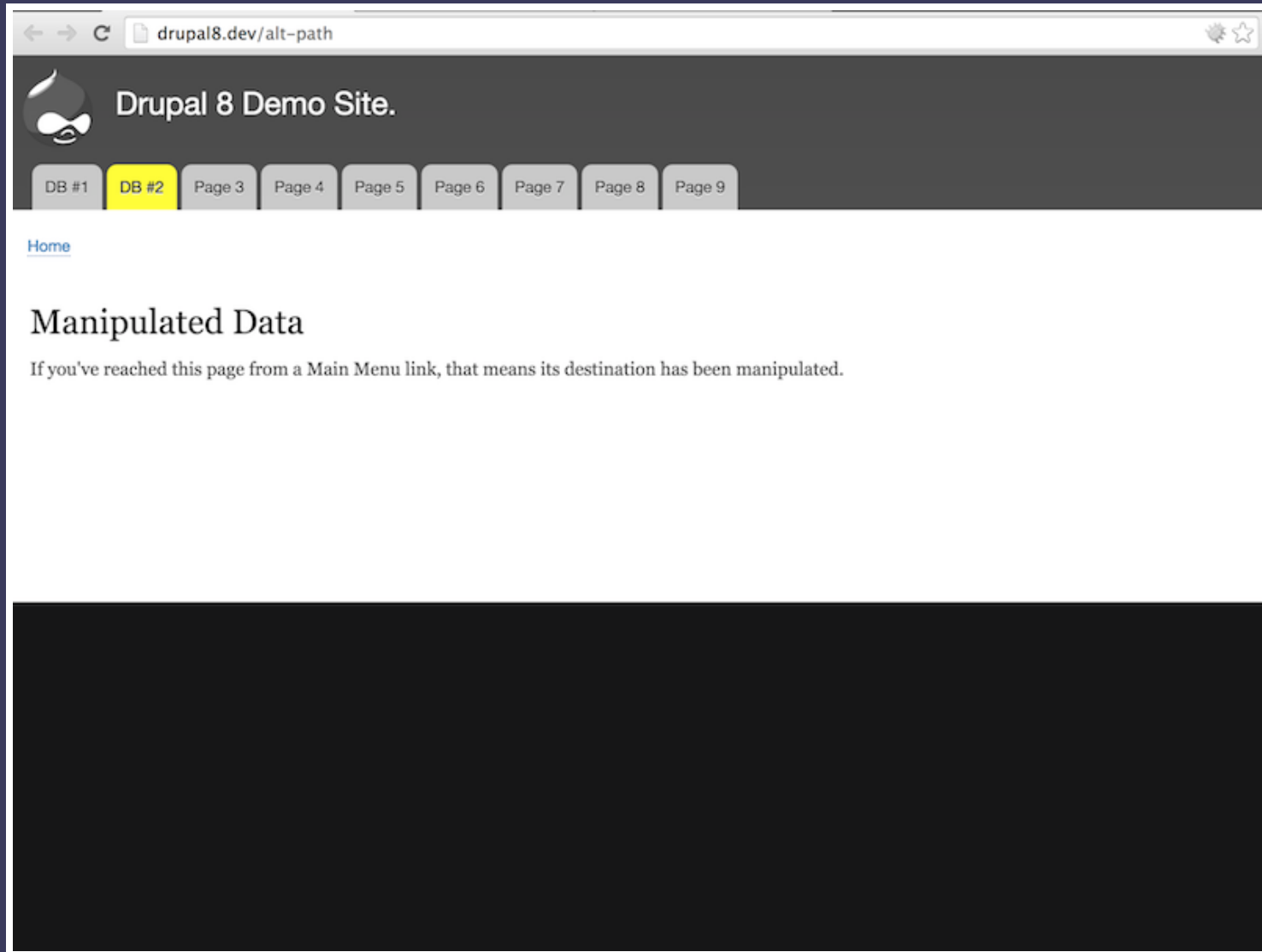
*Drupal 8 custom module dflex\_demo implement instance of entity update hook, to alter menu link data saved to the database.*



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



*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.*

## Cons

- *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

		<b>menu_name</b>	<b>mlid</b>	<b>link_path</b>	<b>link_title</b>	<b>options</b>
		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"/>	Edit  Copy  Delete	main-menu	309	node/10	DB #1	a:0:[]
<input type="checkbox"/>	Edit  Copy  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:6:"_blank";s:2:"id";s:0:"";s:5:"class";s:0:"";s:5:"style";s:0:";}}
<input type="checkbox"/>	Edit  Copy  Delete	main-menu	311	node/3	Page 3	a:0:[]
<input type="checkbox"/>	Edit  Copy  Delete	main-menu	312	node/4	Page 4	a:0:[]
<input type="checkbox"/>	Edit  Copy  Delete	main-menu	313	node/5	Page 5	a:0:[]
<input type="checkbox"/>	Edit  Copy  Delete	main-menu	314	node/6	Page 6	a:0:[]
<input type="checkbox"/>	Edit  Copy  Delete	main-menu	315	node/7	Page 7	a:0:[]
<input type="checkbox"/>	Edit  Copy  Delete	main-menu	316	node/8	Page 8	a:0:[]
<input type="checkbox"/>	Edit  Copy  Delete	main-menu	317	node/9	Page 9	a:0:[]

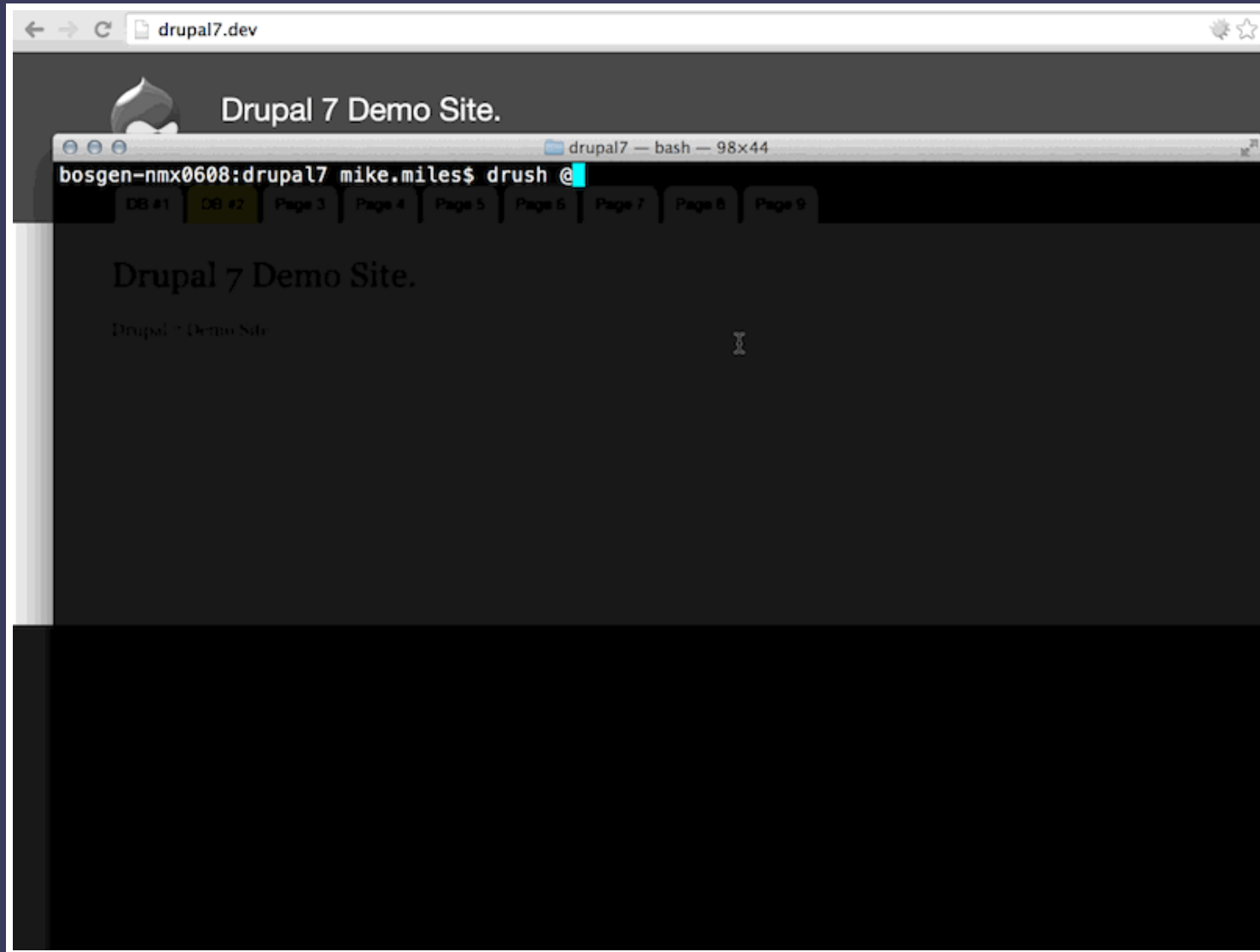
Check All    With selected: Change Delete Export

*menu\_links database table contains Drupal 7 menu link data.*

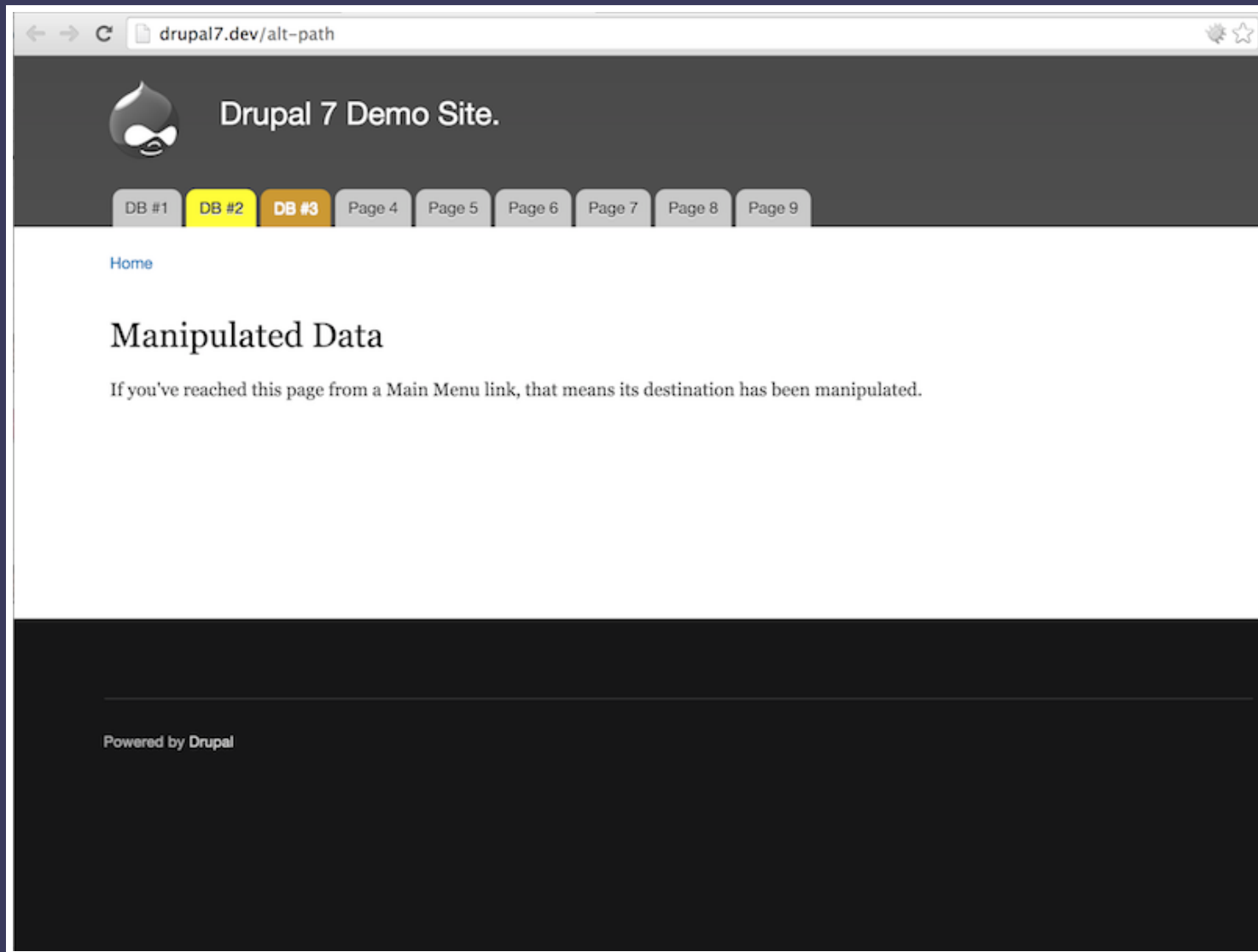
```
UPDATE
  menu_links
SET
  options = "a:1:{s:10:attributes;a:1:{s:5:'style';s:26:'background:#C93;color:#
FFF';}}",
  link_title = 'DB #3',
  link_path = 'node/10'
WHERE
  menu_name = 'main-menu'
AND
  link_path = 'node/3';
```

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





*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."

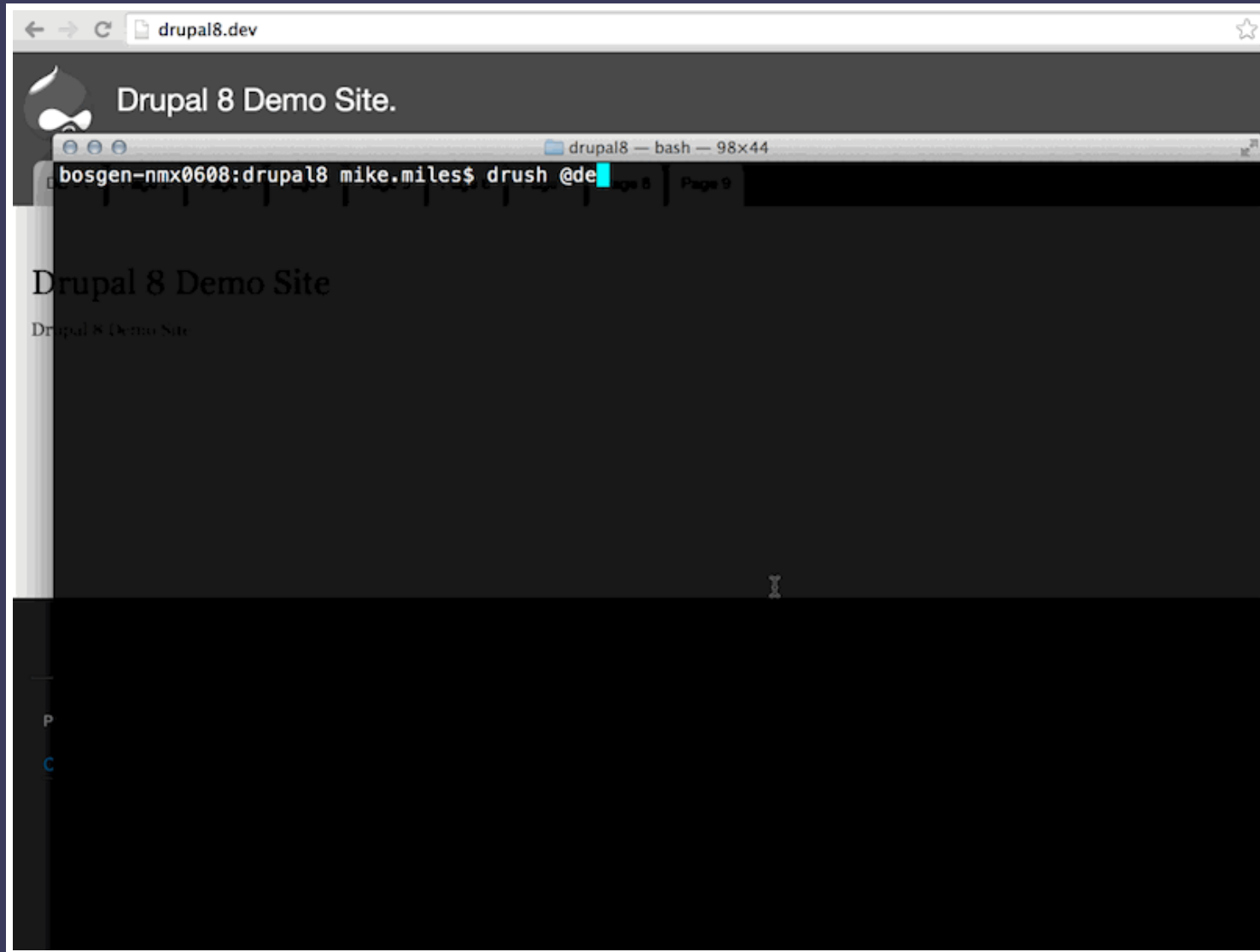
Browse Structure SQL Search Insert Export Import Privileges More

		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
<input type="checkbox"/>	Edit  Copy  Delete	main	68	node=10	a:1: {s:4:"node";s:2:"10";}	DB #1	a:1:{s:5:"query";a:0:{}}
<input type="checkbox"/>	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
<input type="checkbox"/>	Edit  Copy  Delete	main	75	node=3	a:1: {s:4:"node";s:1:"3";}	Page 3	a:0:{}
<input type="checkbox"/>	Edit  Copy  Delete	main	70	node=4	a:1: {s:4:"node";s:1:"4";}	Page 4	a:0:{}
<input type="checkbox"/>	Edit  Copy  Delete	main	71	node=5	a:1: {s:4:"node";s:1:"5";}	Page 5	a:0:{}
<input type="checkbox"/>	Edit  Copy  Delete	main	76	node=6	a:1: {s:4:"node";s:1:"6";}	Page 6	a:0:{}
<input type="checkbox"/>	Edit  Copy  Delete	main	72	node=7	a:1: {s:4:"node";s:1:"7";}	Page 7	a:0:{}
<input type="checkbox"/>	Edit  Copy  Delete	main	73	node=8	a:1: {s:4:"node";s:1:"8";}	Page 8	a:0:{}

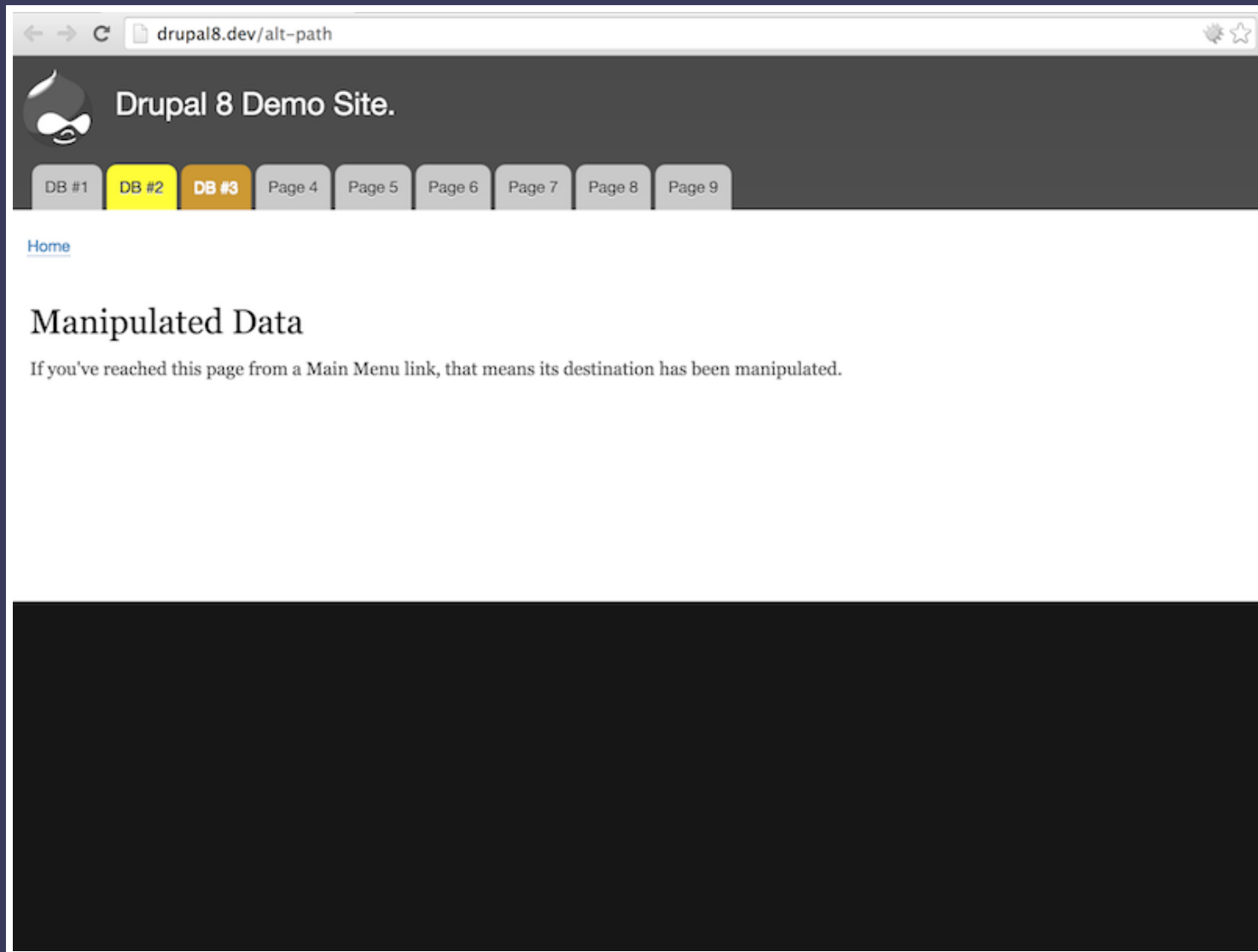
*menu\_tree database table contains Drupal 8 menu link data.*

```
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.*



*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

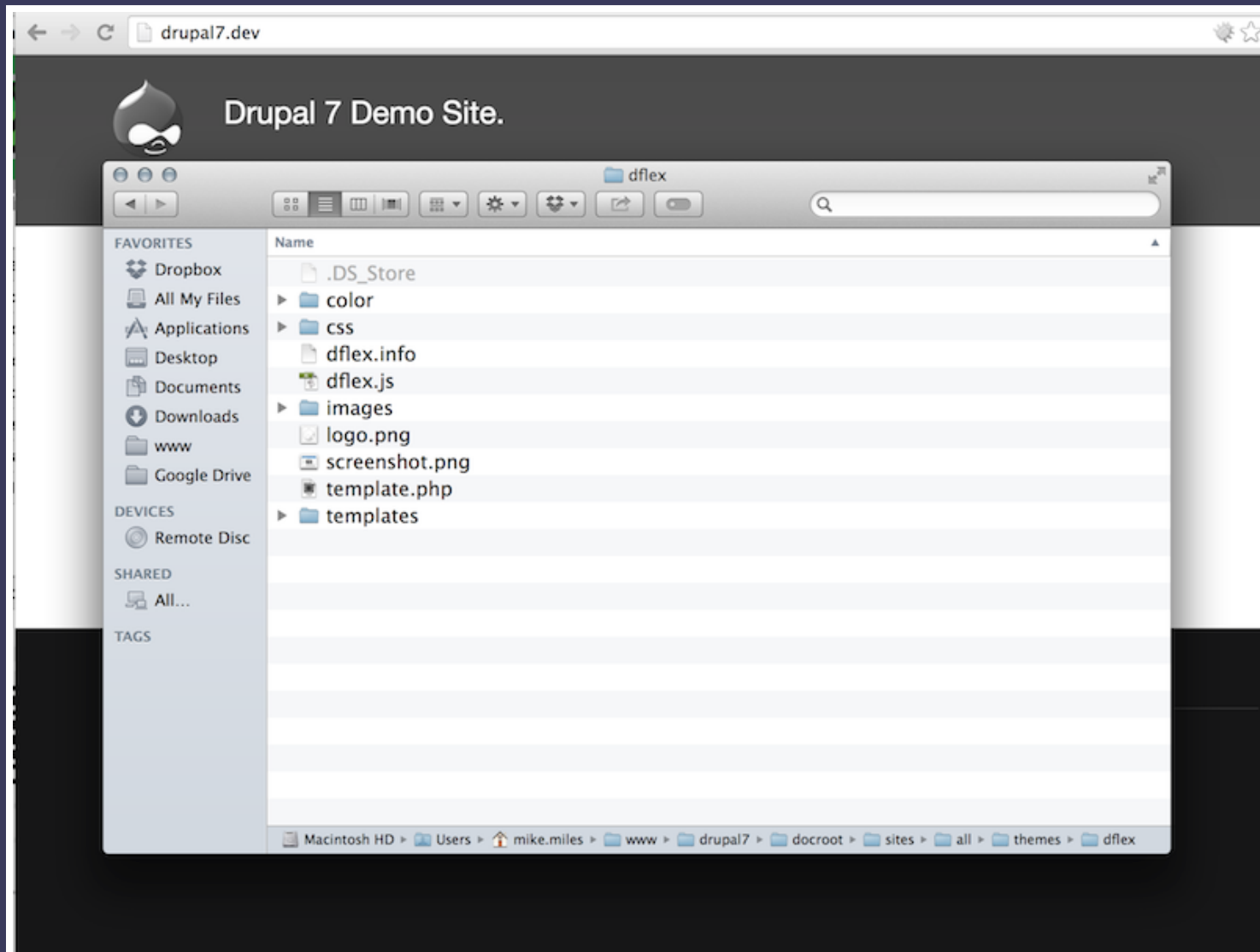
- *Provided by core and modules.*
- *Easiest way to extend core.*
- *Many are available.*

## Cons

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

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



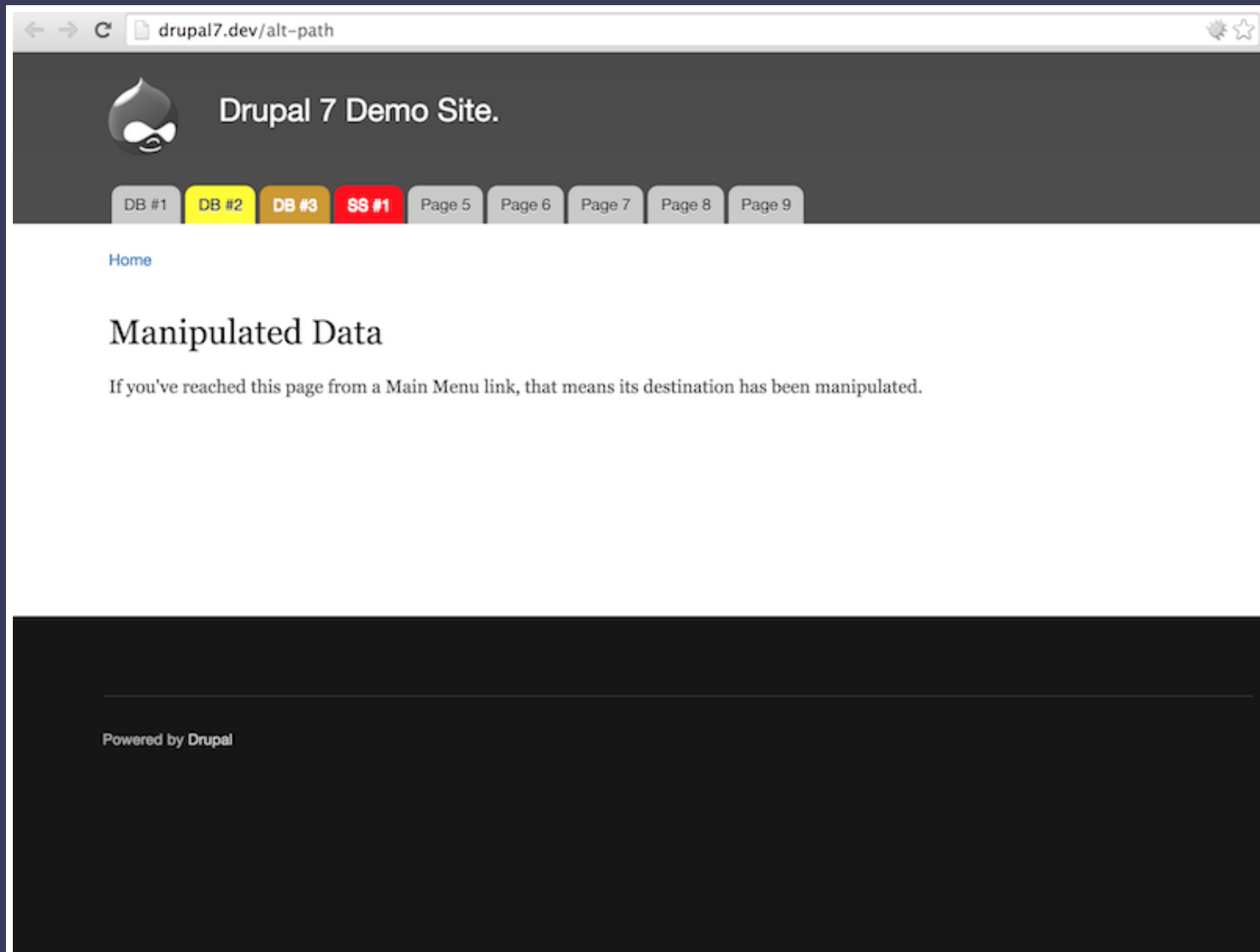


*Custom Drupal 7 theme 'dflex'. Includes template.php for hooks.*

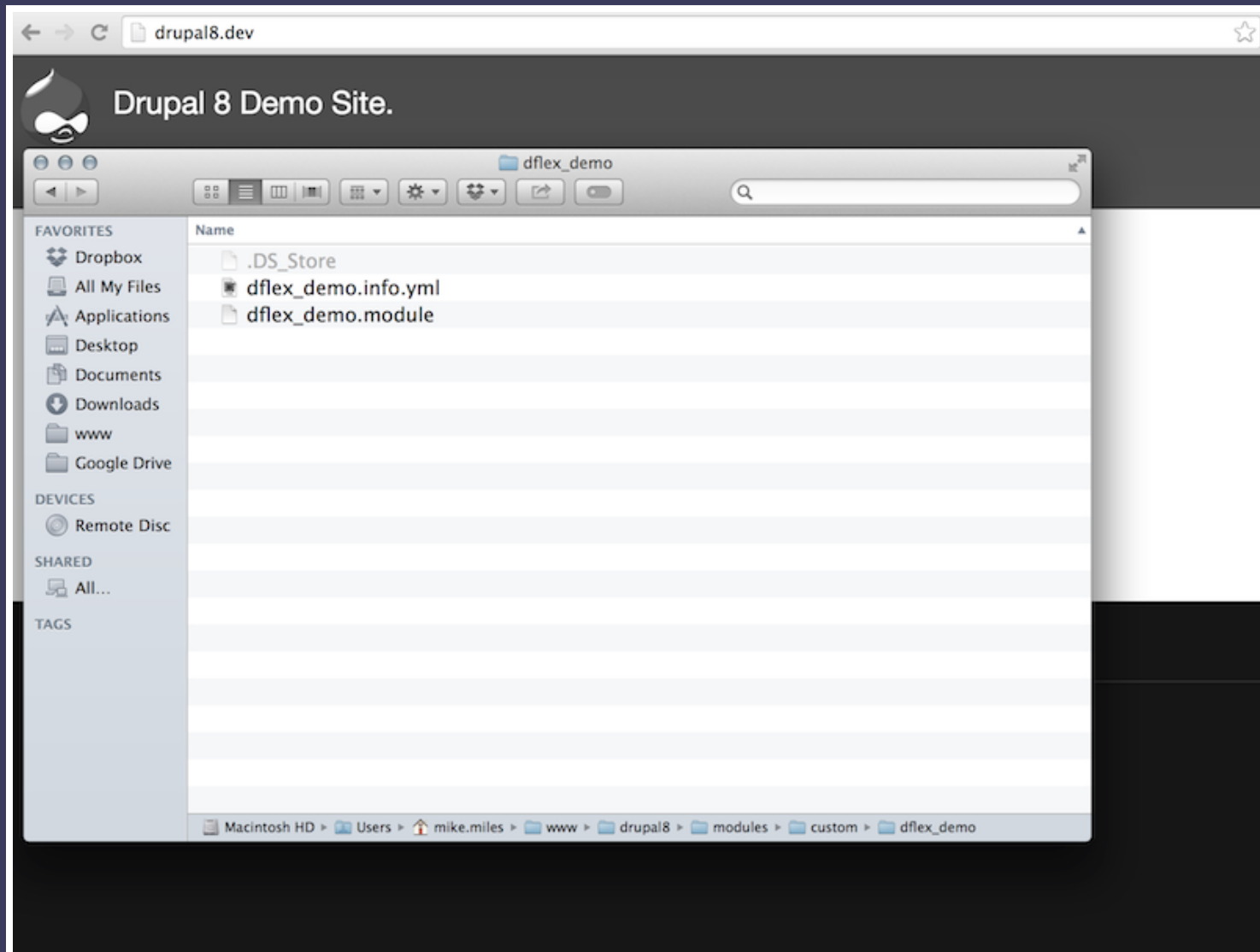
*dflex/template.php*

```
/**
 * 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.*

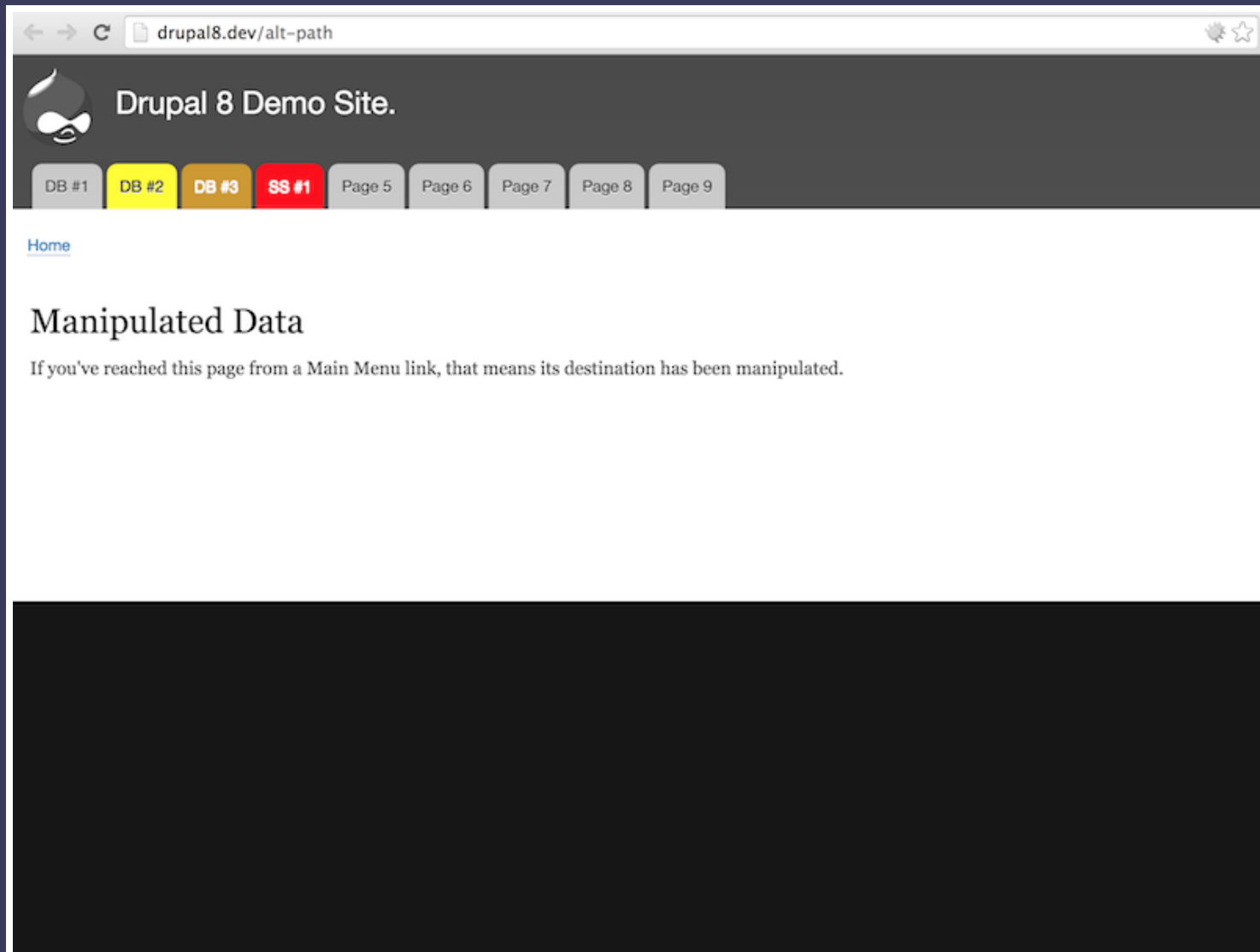


*Custom Drupal 8 module 'dflex\_demo'. Will add another hook to .module file.*

### *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

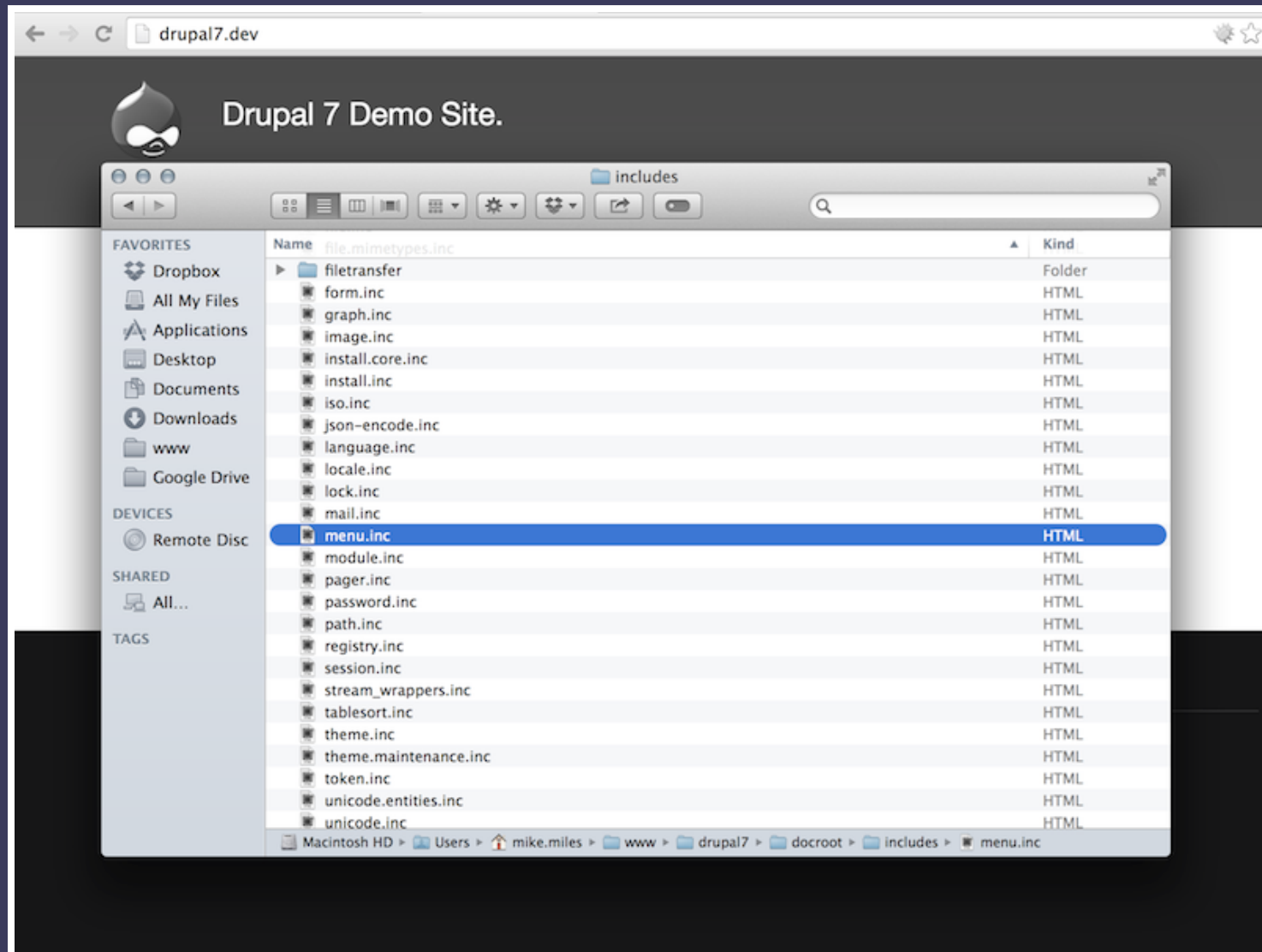
## Pros

- *Absolute control of Drupal.*
- *Change any core functionality.*
- *Extremely 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.*

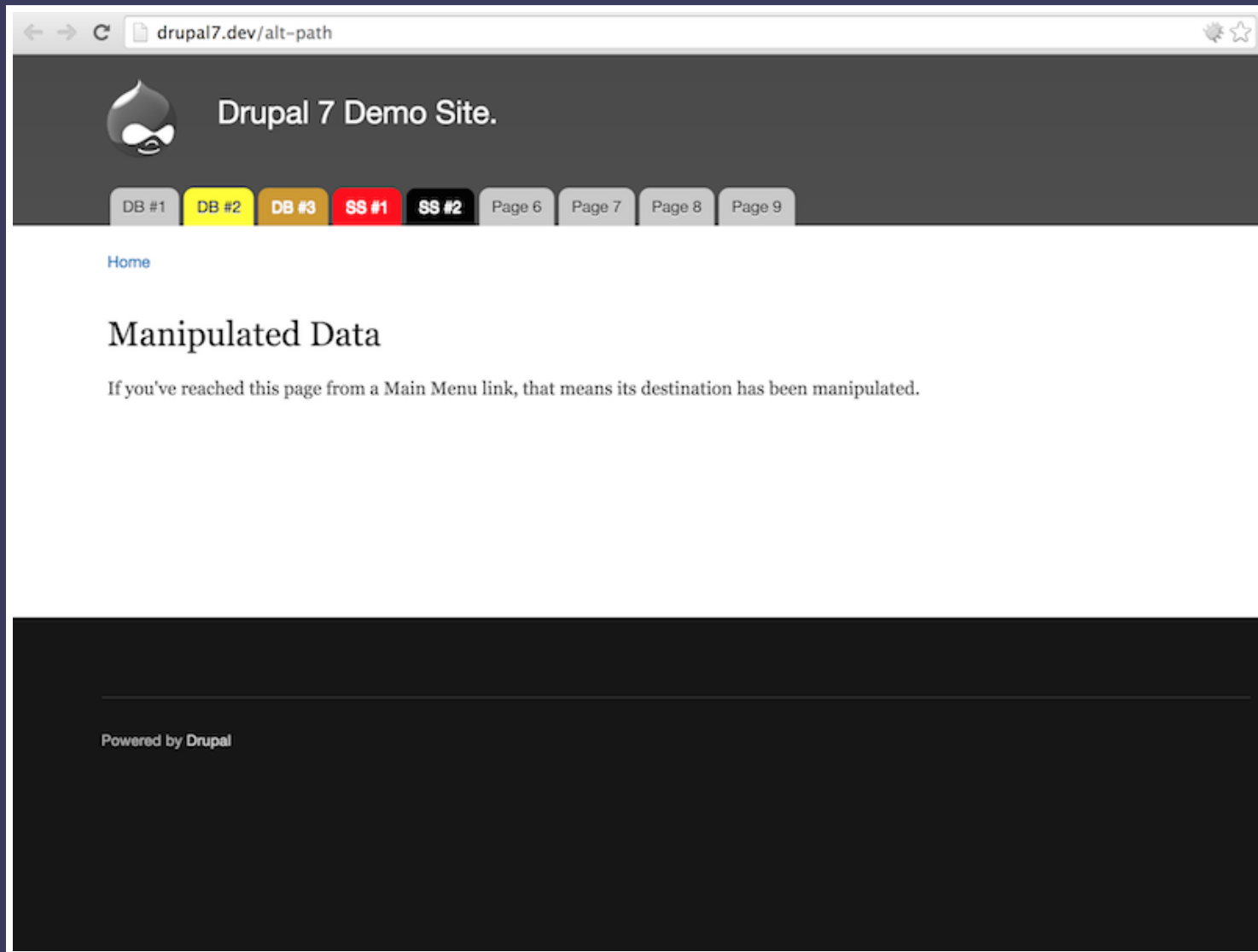


*includes/menu.inc*

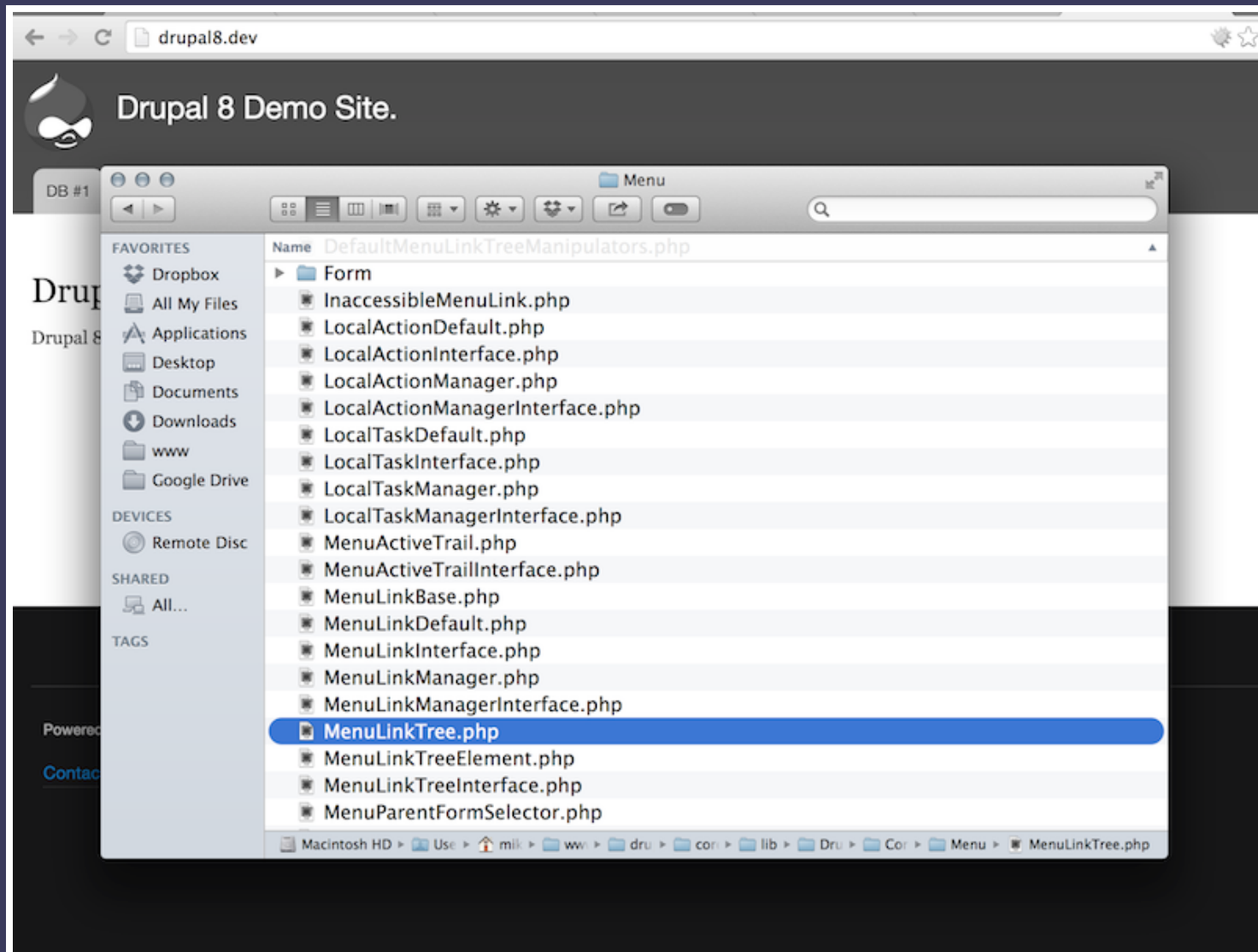
```
/**
 * Returns an array of links for a navigation menu.
 * ...
 */
function menu_navigation_links($menu_name, $level = 0) {
    // ...
    $router_item = menu_get_item();
    $links = array();
    foreach ($tree as $item) {
        if (!$item['link']['hidden']) {

            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.*



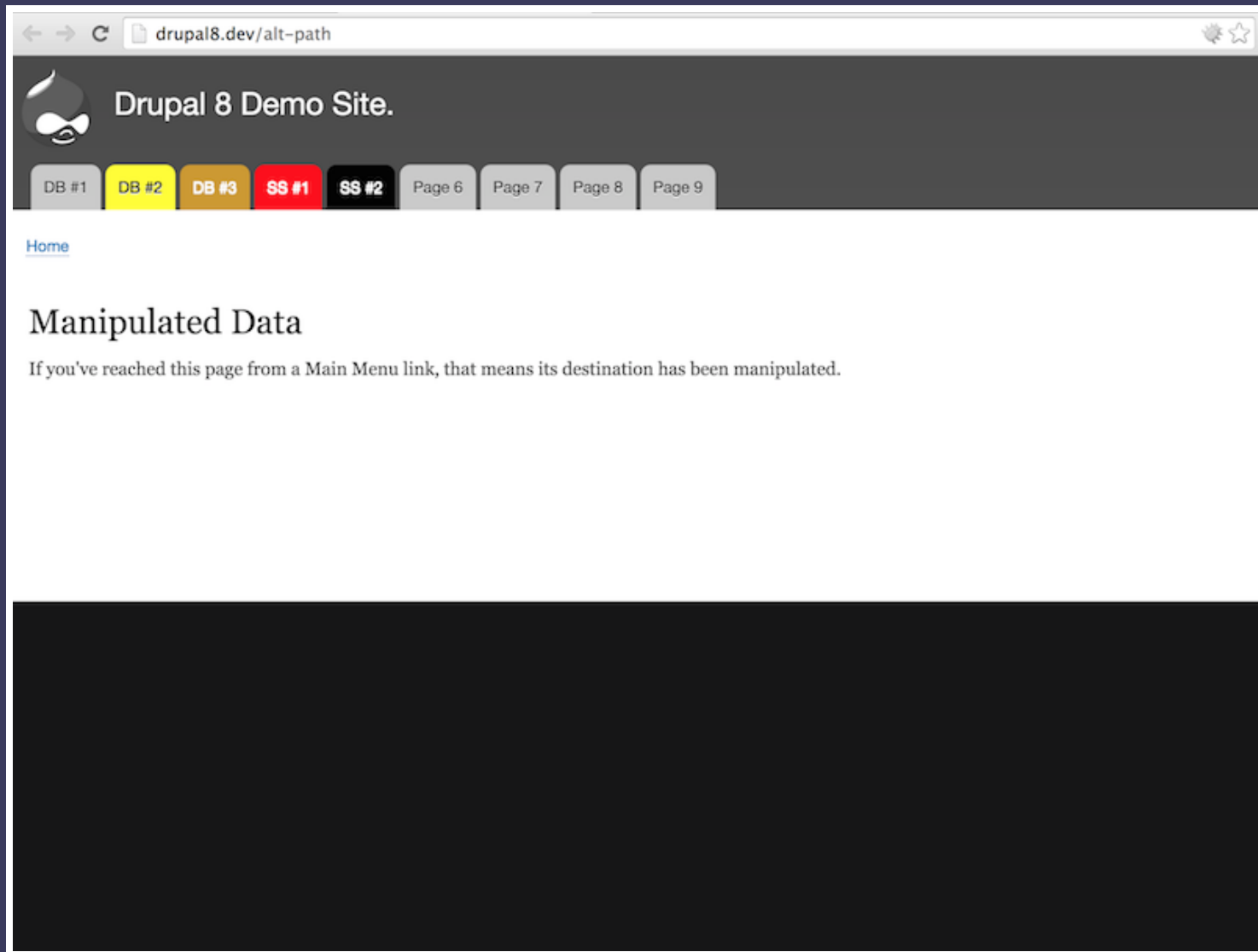
*Drupal 8 core class MenuLinkTree.php controls menu functionality.*

*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?)*



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

# #6. Services

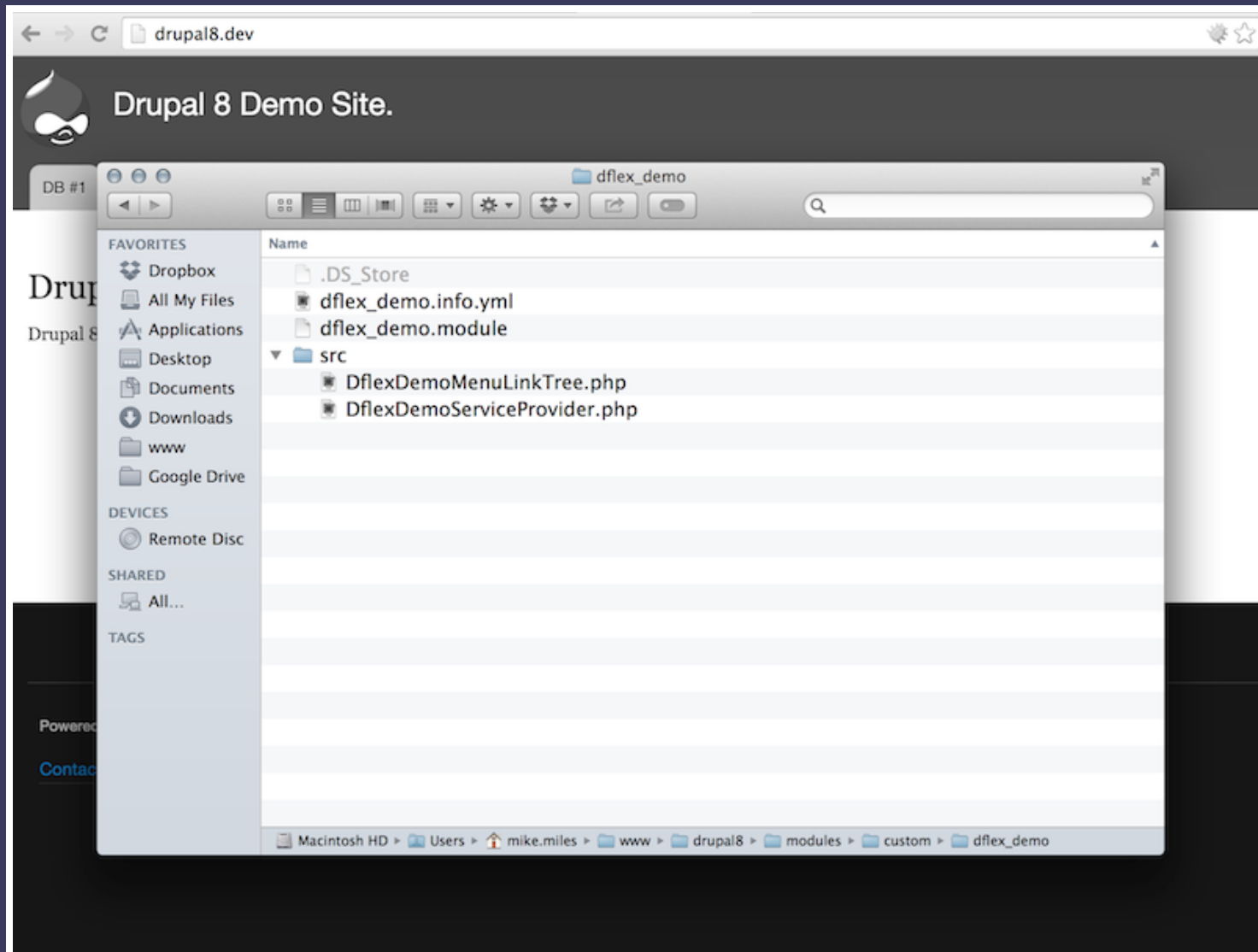
## Pros

- *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');
    }
}
```

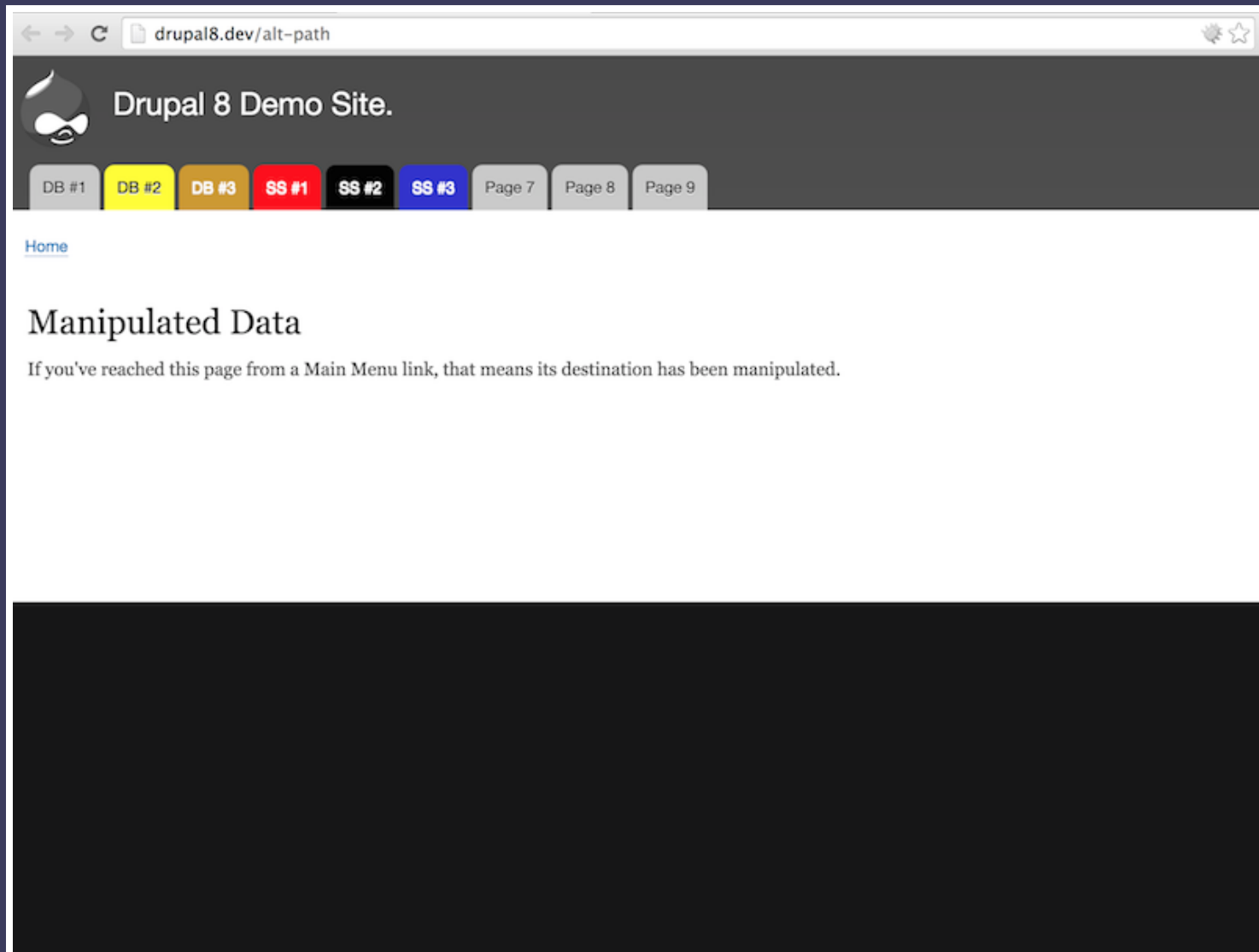
*Extend ServiceProviderBase and override alter function.  
Retrieve correct dependency injection container and tell Drupal what class to use as the service.*

## 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

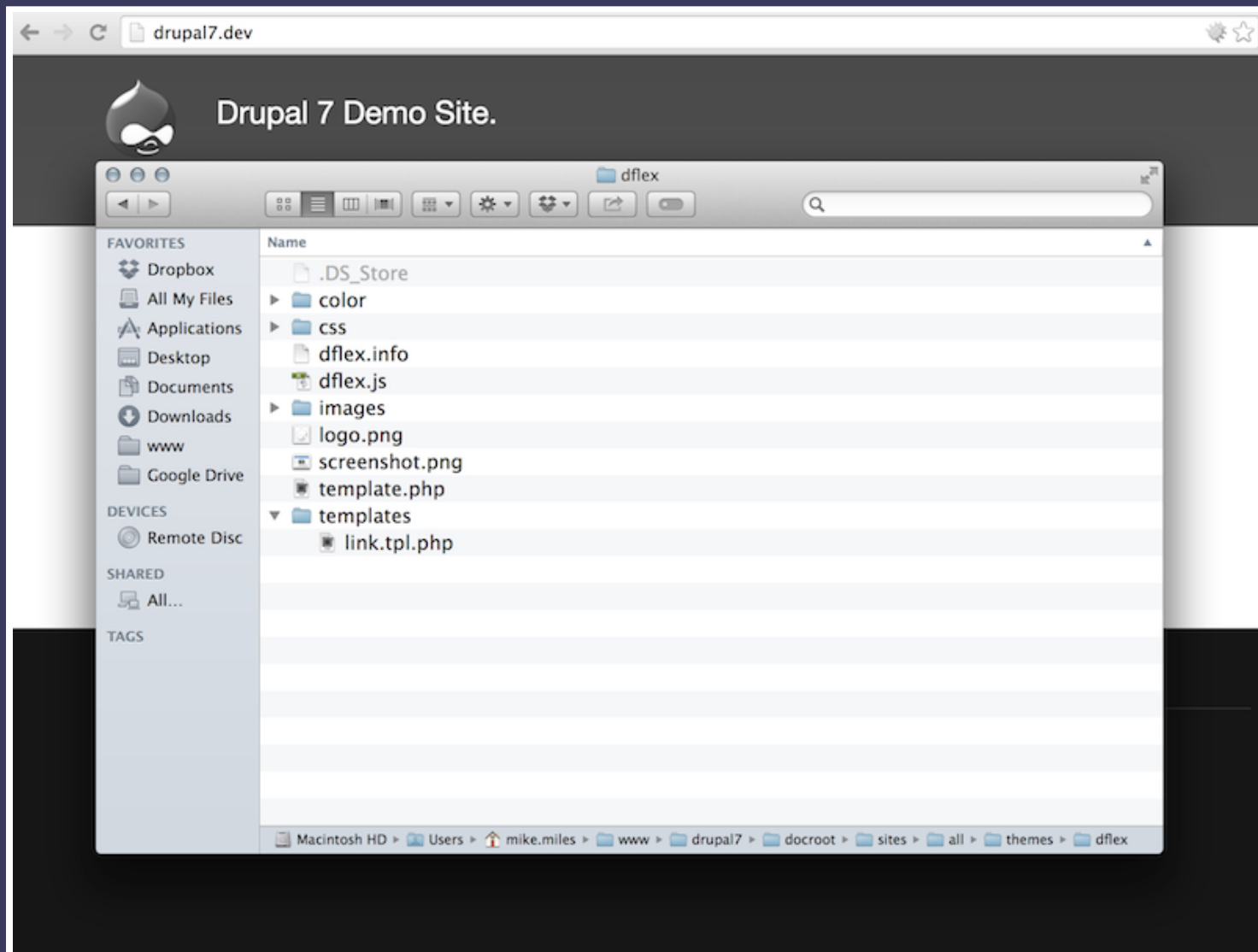
## Pros

- *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.



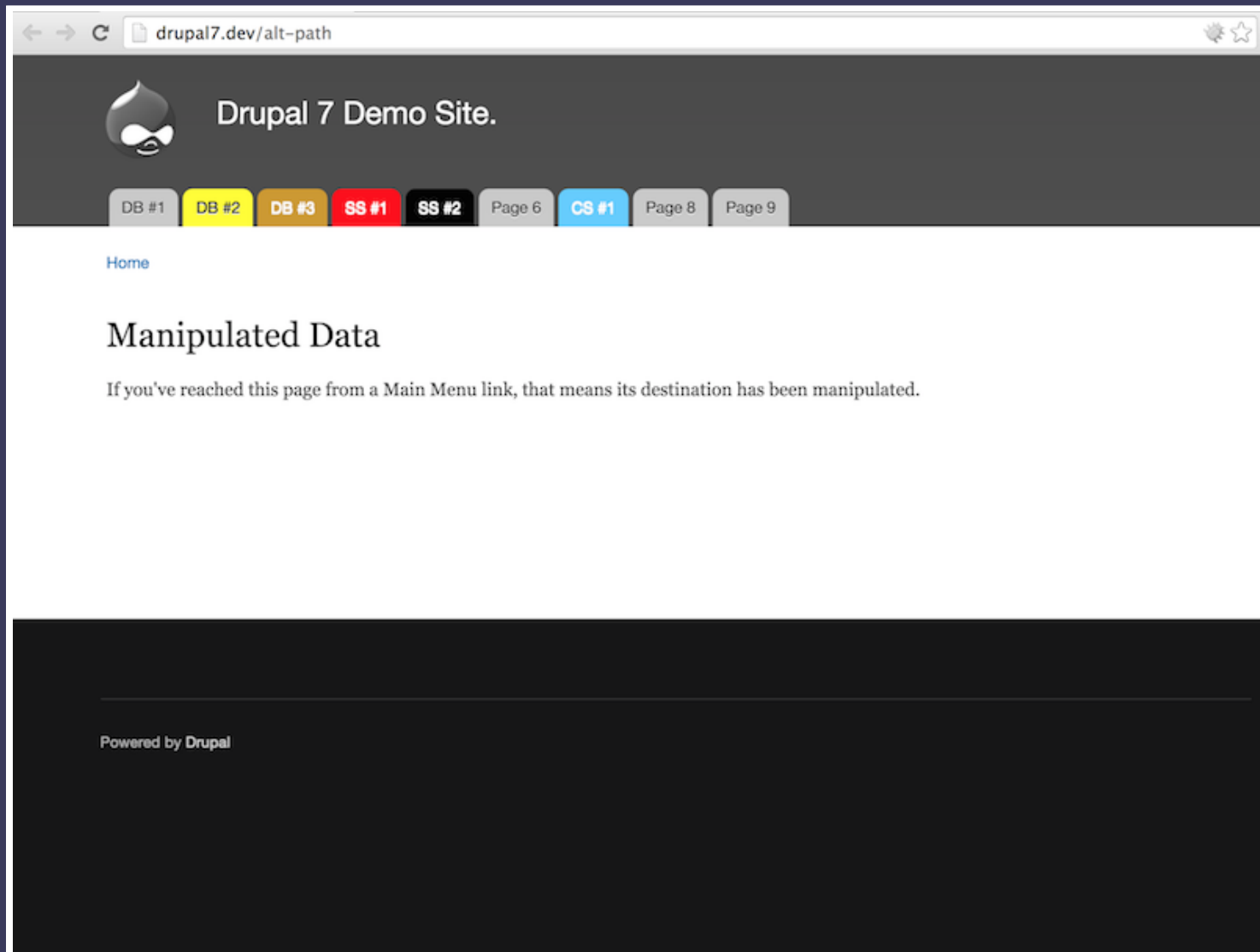
*Drupal 7 custom theme 'dflex', now contains a templates folder.  
Contains a template file for rendering links.*

### *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 overridden template.  
Seventh menu item now has altered title, destination and style.*



# #8. Twig

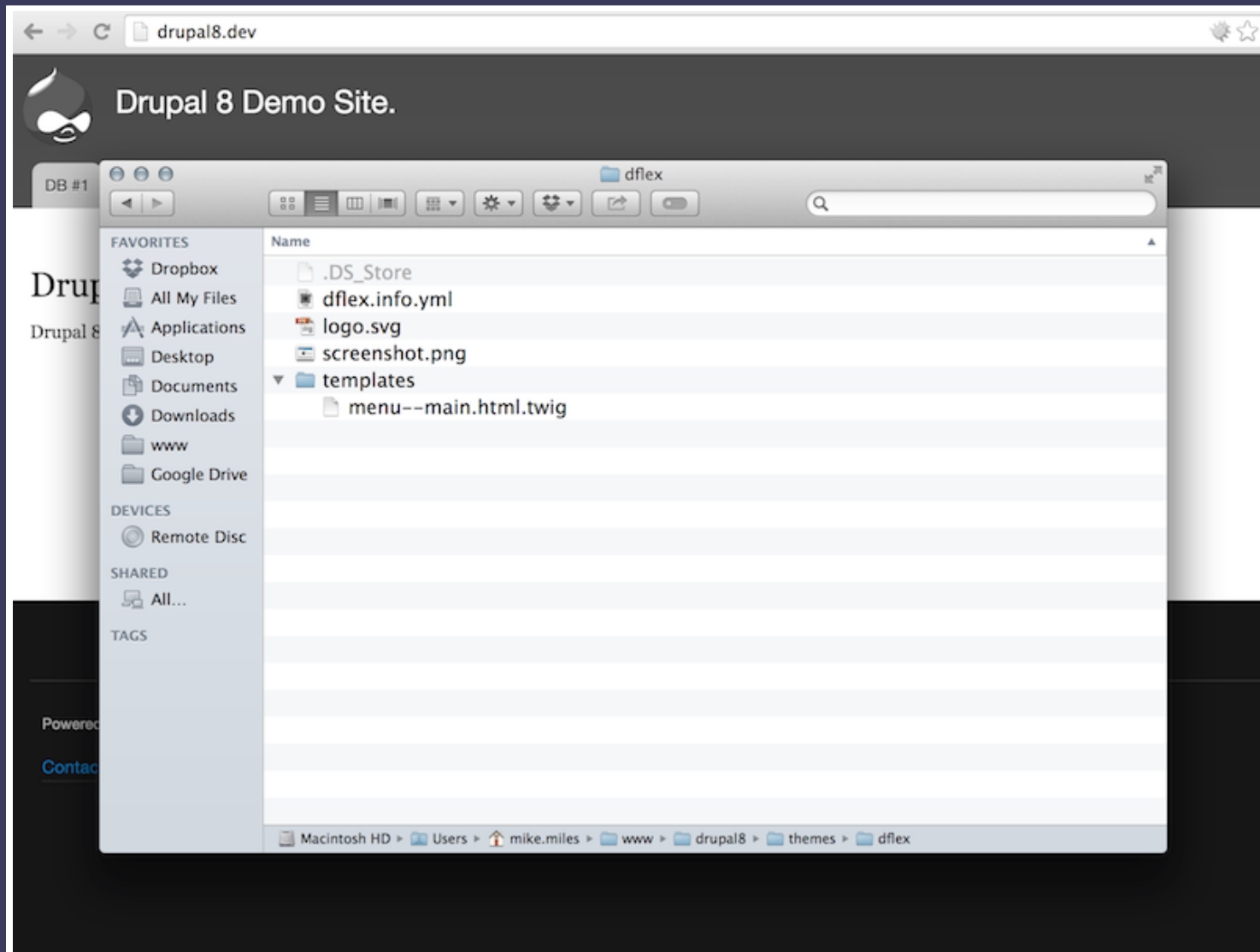
## Pros

- *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.

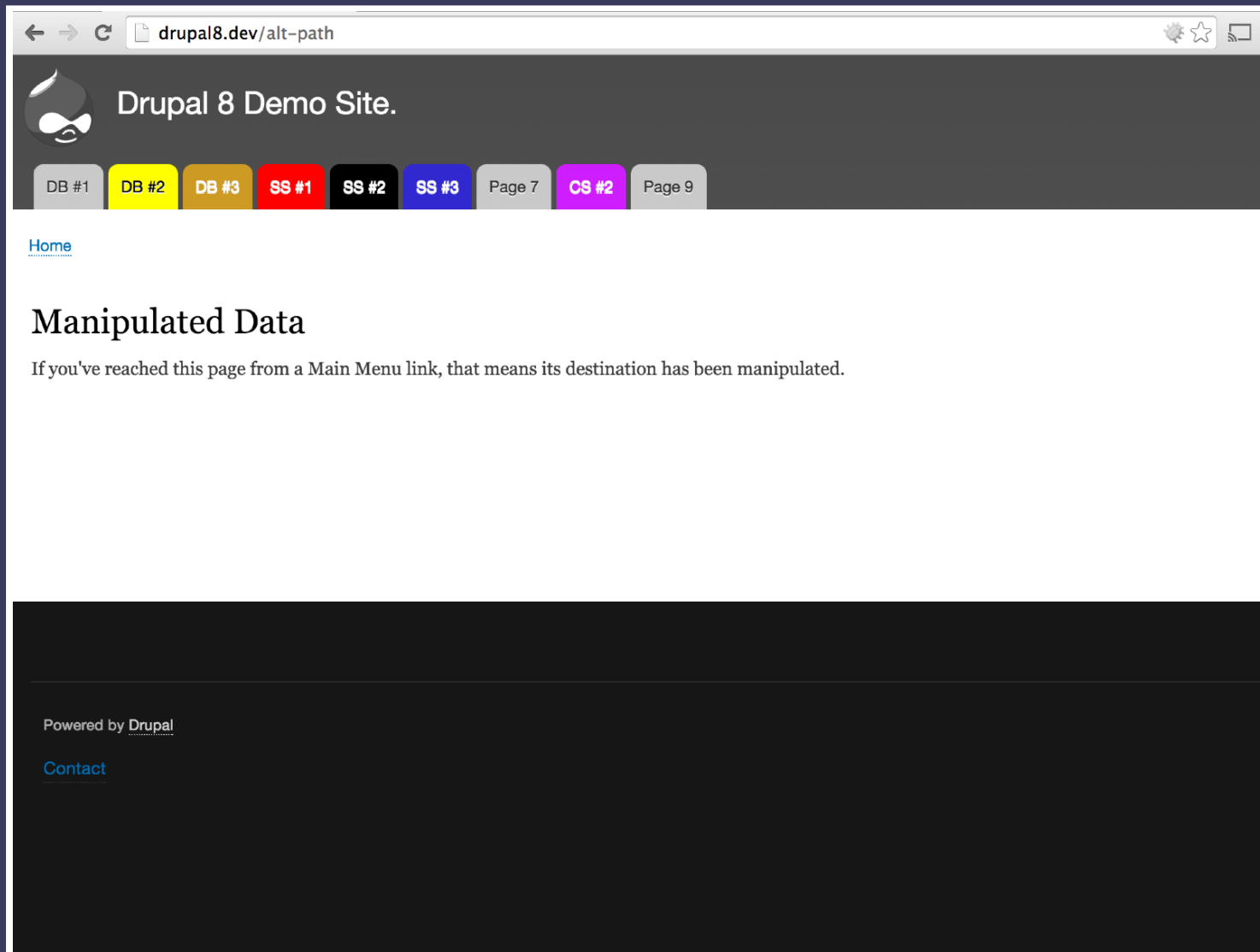


*Custom Drupal 8 theme 'dflex\_demo' contains a templates directory. Along with a twig template suggestion for main menu*

### *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 override twig menu template. Eighth menu item has altered title, destination and style.*

# #9. Custom JS

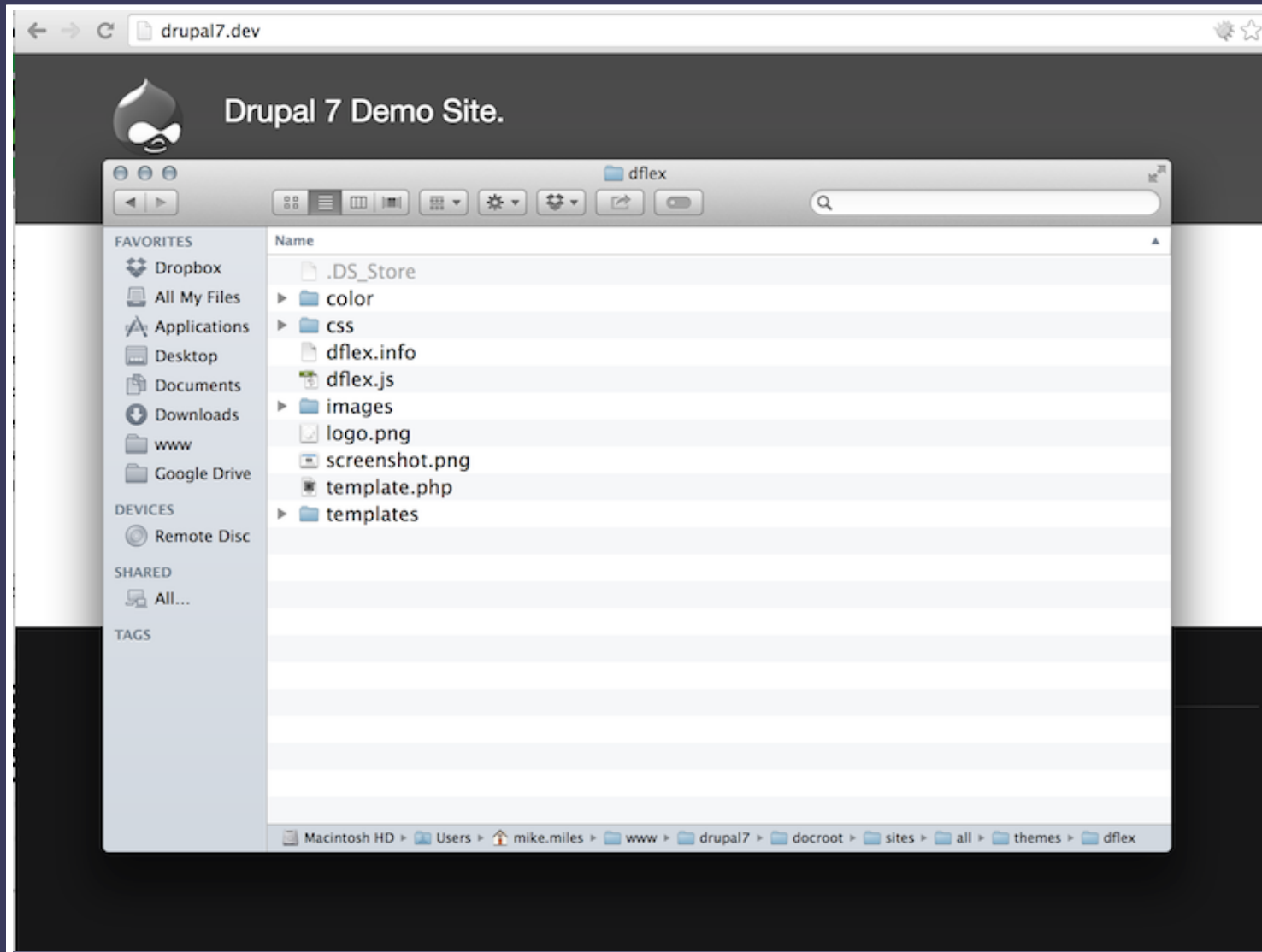
## Pros

- *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*

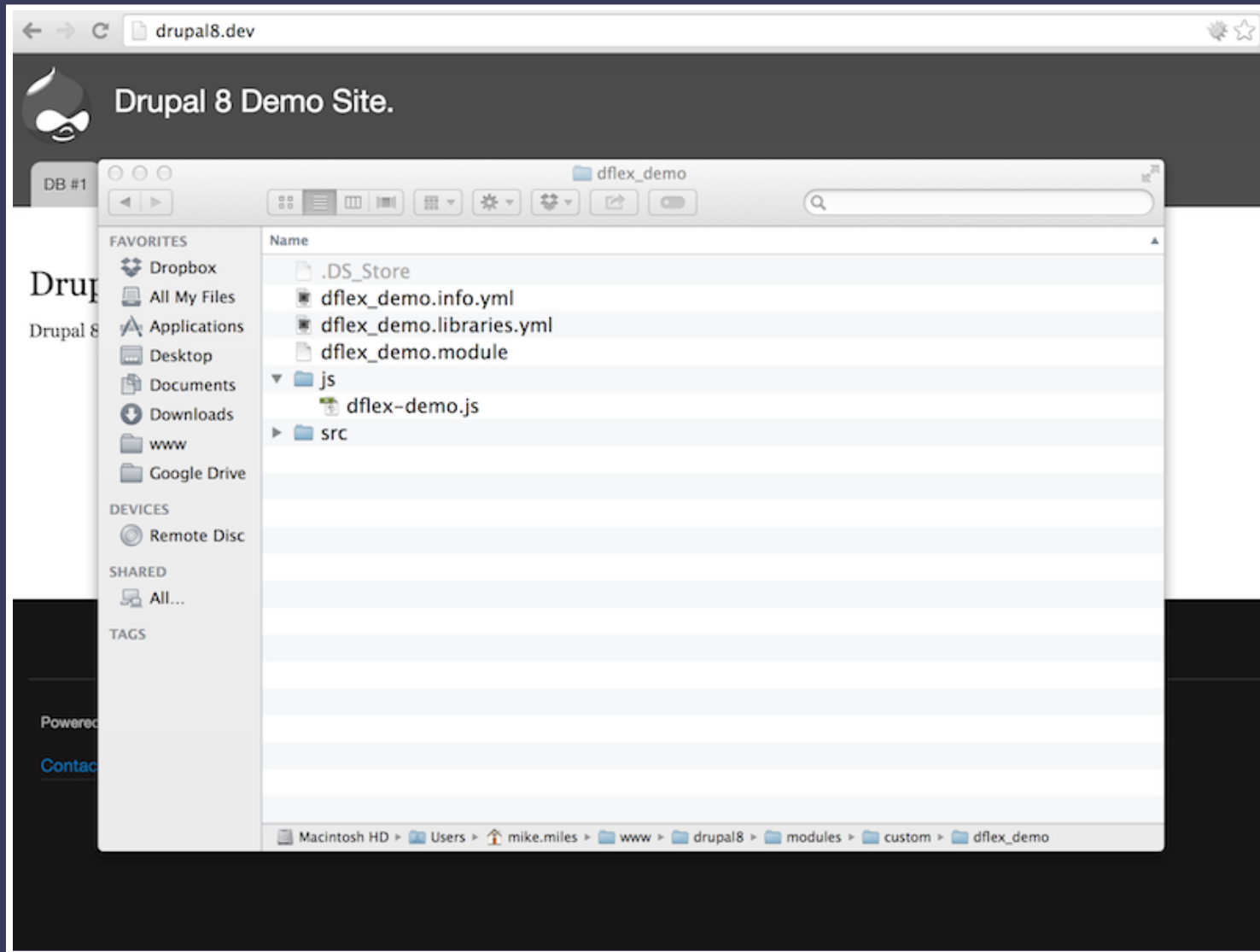
```
(function($){
  Drupal.behaviors.dflex = {
    attach: function (context, settings) {
      $('#main-menu-links li > a').each(function(){
        if ($(this).attr('href') == '/node/9') {
          $(this).attr('style', 'background:#0F0;color:#000;');
          $(this).attr('target', '_blank');
 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

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



The screenshot shows a web browser window with the address bar containing "drupal7.dev/alt-path". The page header features the Drupal logo and the text "Drupal 7 Demo Site.". Below the header is a navigation menu with several items: "DB #1", "DB #2", "DB #3", "SS #1", "SS #2", "Page 6", "CS #1", "Page 8", and "CS #3". The "CS #3" item is highlighted in green. Below the menu, there is a "Home" link. The main content area has a large heading "Manipulated Data" and a paragraph of text: "If you've reached this page from a Main Menu link, that means its destination has been manipulated." At the bottom of the page, there is a dark footer area with the text "Powered by Drupal".

*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*

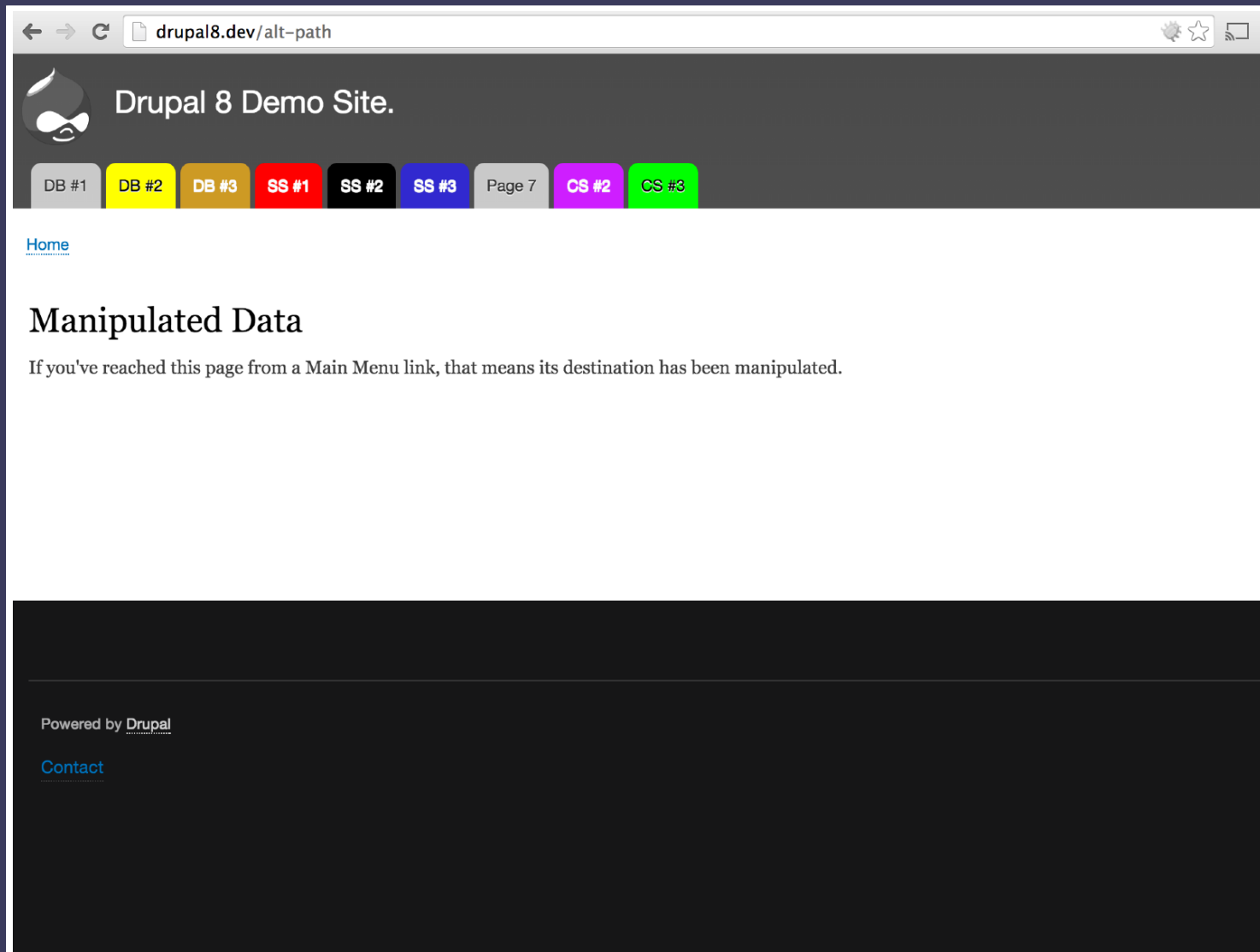
```
(function ($, Drupal) {  
  
  "use strict";  
  
  Drupal.behaviors.dflexDemo = {  
    attach: function (context) {  
      $('nav.menu--main > ul.menu li > a').each(function(){  
        if ($(this).attr('href') == '/node/9') {  
          $(this).attr('style', 'background:#0F0;color:#000;');  
          $(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/NERD15Flex](https://bit.ly/NERD15Flex)
- [bit.ly/NERD15FlexSlides](https://bit.ly/NERD15FlexSlides)



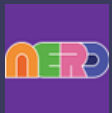
**Feedback**

**@mikemiles86**

**#NERDsummit**

# Thank You!

Questions?



#NERDsummit



@WeAreGenuine

Drupal Flexibility / Michael Miles