Weather, Weather, Everywhere

Adding a Weather Forecast to your pages

By Bradley Roberts

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Awesome Hiking Experience

www.awesomehikingexperience.com

The Challenge

How to encourage readers to go on trail hikes?

One Solution: Report the current weather forecast

Existing Modules for Weather or Create My Own?

Drupal 8

▶ Weather (only 7.x-2.14)

▶ Weather Block (2014)

▶ Wunderground (8.x-1.2)

Custom

▶ Use GeoLocation (lat,lng)

▶ Support multiple places

▶ Support trails

Basic Strategy: Add a Filter

Filter Content for Tag:

[WEATHER: Lat, Lng]

"Drupal 8 is object oriented and Drupal 7 is primarily procedural. This means that a lot of your code will now be in classes rather than simple functions. This is going to be overwhelming for many, but will certainly make module development more flexible and you will upgrade your skills to modern programming practice in the process. "

By Blair Wadman at www.befused.com

Taking the Drupal 8 module approach will make your custom module better in the long run.

Directory Structure

/modules/custom/hiking_weather

Under Hiking Weather:

/images
/src
/src/Controller
/src/Plugin

hiking_weather_info.yml

```yaml
name: Hiking Weather
description: Shows the current weather on the hiking trail
package: Custom

type: module
core: 8.x
```

HikingWeatherController.php

```php
/**
 * FILE:    HikingWeatherController.php
 * GOAL:    To support Awesome Hiking
 * AUTHOR: Bradley Roberts
 * EMAIL:  Bradley@Roberts.net
 * DATE:    8/28/2017
 */

namespace Drupal\hiking_weather\Controller;

// Add Controller Base
use Drupal\Core\Controller\ControllerBase;

/**
 * Class Hiking Weather Controller
 * To process weather requests for specific hiking
locations
 * @package Drupal\HikingWeather\Controller
 */
class HikingWeatherController extends ControllerBase {

}
```

HikingWeatherController.php
Properties:

private $weatherTag = 'WEATHER';
private $weatherRegEx = '/\[(.*:\s)?(-?(?:\d+|\d*\.\d+))?,(-?(?:\d+|\d*\.\d+))?\]/';

Methods:

public function content() {}
public function hiking_weather_node_view_alter() {}
public function parse_weather_tag() {}
public function getForecast() {}

TIP:
Use regex101.com to build your regular expression.

hiking_weather.routing.yml

```yaml
hiking_weather.content:
  path: '/hikingweather'
  defaults:
    _controller: '\Drupal\hiking_weather\Controller\HikingWeatherController::content'
    _title: 'Hiking Weather'

  requirements:
    _permission: 'access content'
```

hiking_weather.links.menu.yml

```yaml
hiking_weather.admin:
  title: 'Hiking Weather Module Settings'
  description: 'Settings for the Hiking Weather Module'
  parent: system.admin_config_development
  route_name: hiking_weather.content
  weight: 100
```

hiking_weather.theme.css

```css
.hiking {
    font-weight: bold;
}

.hiking_forecast {
    background-color: #cdd9fe;
    float: left;
    padding-right: 5px;
    margin-right: 10px;
}
```

hiking_weather.libraries.yml

```yaml
hiking-weather:
  version: 1.x
  css:
    theme:
      hiking_weather.theme.css: {}
```

API Call

Wunderground provides a Weather API

Free service for development and low usage
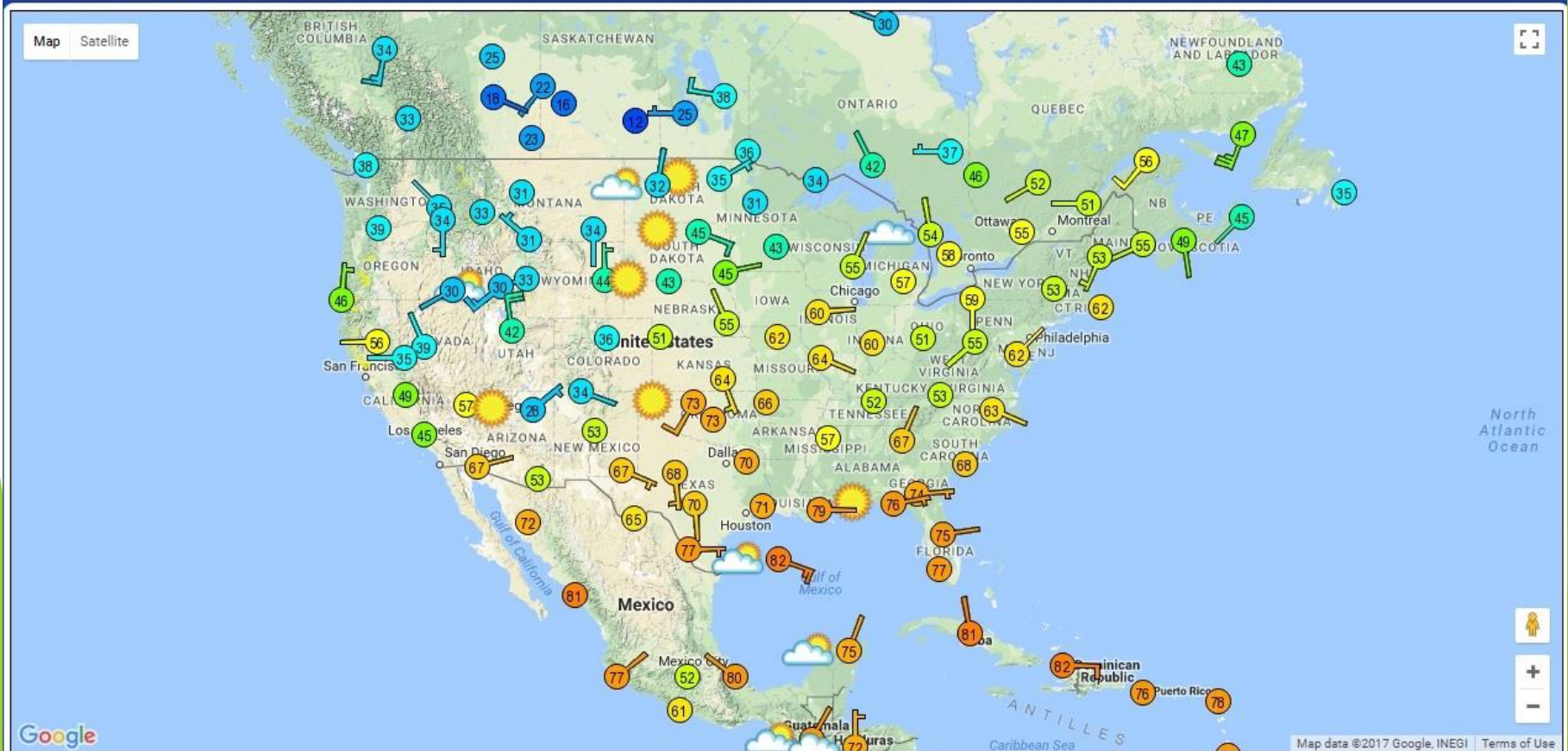

Wunderground.com

Weather Underground Map

Get Forecast API Call

```php
/**
 * Get the Hiking Weather Forecast for a geolocation
 *
 * @param float $lat is the decimal latitude - e.g. 35.89
 * @param float $lng is the decimal longitude - e.g. -83.94
 *
 * If not given, then defaults are used for home
 *
 * @return string rendering a DIV for the Forecast block
 */
public function getForecast($lat = 0.00, $lng = 0.00) {
    $weather_api = 'http://api.wunderground.com/api';
    $api_key     = APIKEY;

    // Get the weather forecast from WonderGround.com
    // EG: http://api.wunderground.com/api/APIKEY/geolookup/forecast/q/35.89583,-83.9411.json
    $json_string = file_get_contents($weather_api . '/' . $api_key .
'/geolookup/forecast/q/' . $lat . ',' . $lng . ".json");
    $parsed_json = json_decode($json_string);
    if ($parsed_json && (json_last_error() == JSON_ERROR_NONE)) {
        $icon_url   = (isset($parsed_json->forecast->simpleforecast->forecastday[0]-
>icon_url) ? $parsed_json->forecast->simpleforecast->forecastday[0]->icon_url :
$default_icon);
        $conditions = (isset($parsed_json->forecast->simpleforecast->forecastday[0]-
>conditions) ? $parsed_json->forecast->simpleforecast->forecastday[0]->conditions :
$default_cond);
```

Get Forecast API Call

```php
        // Map icon file to image on this system, since Drupal rejects Cross
Site Images
        if (file_exists($images_dir . basename($icon_url))) {
            $icon_img = $images_dir . basename($icon_url);
        }
        else {
            $icon_img = $default_icon;
        }

        if (!$conditions || (strlen($conditions) == 0)) {
            $conditions = $default_cond;
        }
    }
 // Render DIV for the weather block with class hiking_forecast
        return '<div><p class="hiking_forecast"><img src="' . $icon_img . '"
title="Weather Icon">' . $conditions . '</p><img src="' . $wuicon . '"
width="90px" title="Weather forecast courtesy of www.wunderground.com"></div>' .
PHP_EOL;
    }
```

```php
/**
 * FILE:    FilterArticle.php
 * GOAL:    To support Awesome Hiking by filtering articles
 * AUTHOR: Bradley Roberts
 * EMAIL:   Bradley@Roberts.net
 * DATE:    09/01/2017
 */

namespace Drupal\hiking_weather\Plugin\Filter;

use Drupal\filter\FilterProcessResult;
use Drupal\filter\Plugin\FilterBase;
use Drupal\Core\Form\FormStateInterface;

/**
 * Class FilterArticle
 * Looks for WEATHER tags to replace with a forecast object
 *
 * @package Drupal\hiking_weather\Plugin\Filter
 *
 * EG:
 * @Filter(
 *     id = "filter_hiking_weather",
 *     title = @Translation("Hiking Weather Filter"),
 *     description = @Translation("Help potential hikers by providing forecast"),
 *     type = Drupal\filter\Plugin\FilterInterface::TYPE_MARKUP_LANGUAGE,
 *     )
 */
class FilterArticle extends FilterBase {
 /**
     * Process the Filter Request
     * @param string $text
     * @param string $langcode
     * @return \Drupal\filter\FilterProcessResult
```

modules/custom/hiking_weather/src/Plugin/Filter/FilterArticle.php

```php
public function process($text, $langcode) {
    // Instantiate the controller instance
    $weathering = new \Drupal\hiking_weather\Controller\HikingWeatherController();

    // Identify the tag, latitude and longitude
    $geoTagged = $weathering->parse_weather_tag($text);

    // Use API Call to retrieve the current forecast nearest this location
    $forecast = $weathering->getForecast($geoTagged['lat'], $geoTagged['lng']);

    // Embed the rendered HTML into the markup
    $new_text = str_replace($geoTagged['tag'], $forecast, $text);

    // Instantiate a filter process
    $result = new FilterProcessResult($new_text);

    $result->setAttachments(array(
        'library' => array('hiking_weather/hiking-weather'),
    ));

    return $result;
}
```

Rainbow Falls

Rainbow Falls Currently

HTML

<p>Current Weather on the Trail:</p>
<div>
<p class="hiking_forecast">

Clear
</p>

</div>

CAVEATS

- Weather is always changing, so you want to provide updates
- Caching should be limited to 1 hour to ensure up-to-date data
- Copy the Weather Icons to your server to customize them
- Wunderground limits the free, basic API to 10 calls/min

Weather Icon Sets:
https://www.wunderground.com/weather/api/d/docs?d=resources/icon-sets

CAVEATS

wunderground API usage alert

From   wunderground <noreply@wunderground.com>
To   Bradley@Roberts.net
Date   2017-09-05 08:40

Hello,

Your wunderground API key (****************) exceeded its allotted usage today by making 24 calls within a minute but the limit is 10.

We used one of your raindrops instead of disabling the key for the remainder of the day. You now have 2 remaining raindrops.

We check usage for 24-hour periods based on U.S. Eastern Time.

The plan you are registered for is Stratus - Developer, granting you 500 calls per day with 10 calls per minute limit.
To upgrade your plan go to: http://www.wunderground.com/weather/api/d/-----------------/edit.html

Details: exceededrate: maxrate: 24 (of 10)
Time: Tue, Sep 05, 2017 12:30 UTC

Thank you,
wunderground.com API Team

This is an automatically generated email; it cannot be replied to. For Documentation review read through:
http://www.wunderground.com/weather/api/d/documentation.html
For Developer questions and forms post in our Community here:
http://www.wunderground.com/weather/api/d/community.html
For Technical Support submit a ticket here:
http://wuhelp.wunderground.com/index.php?_m=tickets&_a=submit&step=1&departmentid=32

--
wunderground.com | 300 Interstate North Parkway, Atlanta, GA 30339

DEMO

QUESTIONS & ANSWERS

In Conclusion

www.awesomehikingexperience.com

Select a hike

Check the weather forecast for today!

Go hiking – you'll love it

For more info about the Great Smoky Mountains:

www.nps.gov/grsm

Learning More About Drupal 8

www.drupal.org/docs/8/creating-custom-modules
Lots of great information on all aspects of creating a module.

www.befused.com/drupal/first-drupal8-module
Step by step instructions for creating a D8 module.

https://youtu.be/EPjJQ7j3GaM
Drupal Camp Atlanta 2016 module on building a site for CancerQuest.org

https://www.wunderground.com
Weather Underground Web Service. See about/data for details on their data sources.

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