

Creating Mobile Sites in Drupal Using Multisites

This article provides a quick way to make your Drupal site accessible to mobile devices through two options:

1. Have a one site serve multiple devices using one code base
2. Use multisites to render content accordingly using one code base

By doing this your site should be simultaneously available to both mobile and desktop browsers. Source: <http://dev.mobi/article/creating-mobile-sites-drupal-using-multisites>.

Table of Contents

1. Overview

This article provides a quick way to make your site accessible to mobile devices through two options

1. Have a one site serve multiple devices using one code base
2. Use multisites to render content accordingly using one code base

The basis of the scripts include could be used stand-alone. The template engine used in this article is `phptemplate`.

2. Function of this script

The scripts included in this article checks to see if the device is a handheld browser using `$_SERVER["HTTP_USER_AGENT"]`, and works out the best type of data to send to it using `$_SERVER["HTTP_ACCEPT"]` values.

3. Skill Level

Intermediate PHP and Drupal knowledge level is required. Developer must have prior knowledge of setting up multisites.

4. Requirements

The script uses PHP. This has been tested in [PHP v4x](#) and above, but it should work in any PHP environment. The script is an adaptation used on Drupal 4.5 / 6. It is untested in 4.7 and may require a few tweaks.

5. Files Included

A list of the files included in this module. Please ensure that files are uploaded to the correct location.

settings.php

Modifications only to this file ^{5.1}

themes [directory] ^{5.2}

- **mhtml** - directory containing `page.tpl.php` for mobile devices
- **imode** - directory containing `page.tpl.php` for imode web browsers
- **wml** - directory containing `page.tpl.php` wap compatible template

detect [directory]

- `browser.php` - device detection script
- `browser.inc` - text file containing list of all known mobile devices
- `fix_code.php` - includes functions for tidying up final output

^{5.1} Directories within `sites` dependant on site set up

^{5.2} Screenshots, CSS, icons and additional templates can be added as required

6. Usage

Upload the detect directory to chosen location, then edit paths in `settings.php` accordingly. To use multisites, please see [configuration](#) for more details.

7. Code

The actual code in more detail.

Changes to `settings.php` set some header parameters that must be set before any content is sent to the browser. Drupal has a couple of built in headers that need to be overridden. Changes are therefore required to a couple of lines in `common.inc`.

```
<?php
```

```
// common.inc line 60
function drupal_get_html_head() {
  global $base_url;

  $output = "<meta http-equiv=\"Content-Type\" content=\"text/html; charset=utf-8\" />\n";
  $output .= "<base href=\"$base_url\" />\n";
  $output .= theme('stylesheet_import', 'misc/drupal.css');

  return $output . drupal_set_html_head();
}

// common.inc line 1875
drupal_set_header('Content-Type: text/html; charset=utf-8');
```

Change to the following. This overrides the default Content-Type. Note that if roll-back is required, `common.inc` must be reverted also.

```
<?php
// common.inc line 60
function drupal_get_html_head() {
  global $output;
  return $output . drupal_set_html_head();
}

// common.inc line 1875
#drupal_set_header('Content-Type: text/html; charset=utf-8');
```

7.1 settings.php

Towards the bottom of `settings.php` include the main file `browser.php`. Call the function and make some changes accordingly.

```
<?php
function html_fix($buffer) {
  return (preg_replace("!\\s*/>!", ">", $buffer));
}

$accept = array(
  "xhtml" => "application/xhtml+xml",
  "html" => "text/html",
  "wml" => "text/vnd.wap.wml",
  "mhtml" => "application/vnd.wap.xhtml+xml",
);
```

```

$mobi = array("chtml", "wml", "mhtml");

DEFINE ('DETECT_PATH', '/path/to/detect_directory/'); // change to suit

include_once DETECT_PATH.'browser.php';
$browserfile = DETECT_PATH.'browser.inc';
$fixfile = DETECT_PATH.'fix_code.php';

$or = FALSE; // Options: FALSE or keys from $accept
$detect = media_type($accept, $browserfile, $or);

if ( (defined('MOBI') AND MOBI == true) OR in_array($detect, $mobi) ) {
    $is_mobi = true;
} else {
    $is_mobi = false;
}

```

browser.php should return a key from the \$accept array. \$or enables complete override of the detection. This is site wide, so if \$or = 'wml'; the whole site will be in wml. Paths to files should be amended also. The next snippet sets http headers and then detects if the device is a mobile and restricts the number of snippets view on the main node page.

```

<?php
drupal_set_header('Content-Type: '. $accept[$detect] .'; charset=utf-8');
drupal_set_header('Vary: Accept');

if ($is_mobi == true) {
    $conf['default_nodes_main'] = 2;
    $conf['anonymous'] = 'Mobile User';
}

```

The final part of the script sets additional headers and then automatically selects a template dependent of device.

```

<?php
$default_css = 'misc/drupal.css'; // default drupal style
if ($detect == 'wml'){
    drupal_set_header('Content-Type: '. $accept[$detect] .', true');
    include $fixfile; // extra file for stripping out non-wml syntax
    ob_start('fix_code');
    $conf['theme_custom'] = 'wap'; // change to suit
    $conf['theme_default'] = 'wap'; // change to suit
    $output = '';
} elseif ($detect == 'mhtml'){

```

```

$conf['theme_custom'] = 'mobi'; // change to suit
$conf['theme_default'] = 'mobi'; // change to suit
$output = '<meta http-equiv="Content-Type" content="'. $accept[$detect] .'; charset=utf-8" />'. "\n";
$output .= '<base href="'. $base_url .'/>'. "\n";
$output .= theme('stylesheet_import', $default_css);
} elseif ($detect == 'chtml'){
$conf['theme_custom'] = 'imode'; // change to suit
$conf['theme_default'] = 'imode'; // change to suit
ob_start('html_fix');
$output = '<meta http-equiv="Content-Type" content="'. $accept[$detect] .'; charset=utf-8">'. "\n";
$output .= '<base href="'. $base_url .'/>'. "\n";
$output .= theme('stylesheet_import', $default_css);
} elseif ($detect == 'xhtml' AND $is_mobi == true){
$conf['theme_custom'] = 'mobi'; // change to suit
$conf['theme_default'] = 'mobi'; // change to suit
$output = '<meta http-equiv="Content-Type" content="'. $accept[$detect] .'; charset=utf-8" />'. "\n";
$output .= '<base href="'. $base_url .'/>'. "\n";
$output .= theme('stylesheet_import', $default_css);
} elseif ($detect == 'html'){
ob_start('html_fix');
$output = '<meta http-equiv="Content-Type" content="'. $accept[$detect] .'; charset=utf-8">'. "\n";
$output .= '<base href="'. $base_url .'/>'. "\n";
$output .= theme('stylesheet_import', $default_css);
} else {
$output = '<meta http-equiv="Content-Type" content="'. $accept[$detect] .'; charset=utf-8" />'. "\n";
$output .= '<base href="'. $base_url .'/>'. "\n";
$output .= theme('stylesheet_import', $default_css);
}
}

```

7.2 Themes

Themes are made using phptemplate for Drupal. They work as any other template. However, they render content slightly differently using different [DTDs](#) according to device capability. Some examples are listed below.

wml 7.1

```

<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE wml PUBLIC "-//WAPFORUM//DTD WML 1.1//EN" "http://www.wapforum.org/DTD/wml_1.1.xml">
<wml>
<card cardid="content" cardtitle="<?php print $site_name; ?>">
<?php if ($title) { ?><p><big><?php print $title; ?></big></p><?php } ?>
<?php if ($site_slogan) { ?><p><em><?php print $site_slogan; ?></em></p><?php } ?>
<?php print $content; ?>
<p><a href="http://pc.dev.mobi/#menu">Menu</a></p>
</card>
<card cardid="menu" cardtitle="Menu">

```

```

        <?php if (isset($primary_links)) { ?>
        <p><?php print theme('links', $primary_links) ?></p>
        <?php } ?>
</card>
</wml>

```

mhtml

```

<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE html PUBLIC "-//WAPFORUM//DTD XHTML Mobile 1.0//EN"
"http://www.wapforum.org/DTD/xhtml-mobile10.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" lang="<?php print $language ?>" xml:lang="<?php print $language ?>">
<head>
  <title><?php print $head_title ?></title>
  <link rel="Home" href="/" title="Network Home" />
  <link rel="shortcut icon" href="/favicon.ico" type="image/x-icon" />
  <meta http-equiv="Content-Style-Type" content="text/css" />
  <?php print $head ?>
  <?php print $styles ?>
</head>

<body>

  <div id="home">
    <?php if ($logo) : ?>
      <a accesskey="1" href="<?php print $base_path ?>"
        title="<?php print t('Home') ?>">" border="0" /></a>
    <?php endif; ?>
  </div>

  <?php if ($site_name) : ?>
    <div class="site-name"><a href="<?php print $base_path ?>"
      title="<?php print t('Home') ?>"><?php print($site_name) ?></a></div>
    <?php endif;?>

  <?php if ($site_slogan) : ?>
    <div class="site-slogan"><?php print($site_slogan) ?></div>
    <?php endif;?>

  <?php if (isset($primary_links)) { ?>
  <p><?php print theme('links', $primary_links) ?></p>
  <?php } ?>

  <?php if (isset($secondary_links)) { ?>
  <p><?php print theme('links', $secondary_links) ?></p>
  <?php } ?>

  <?php print $content; ?>

  <?php if ($sidebar_left != ""): ?>

```

```

    <div id="sidebar-left">
      <?php print $sidebar_left ?>
    </div>
    <?php endif; ?>

<?php if ($footer_message) : ?>
<div id="footer-message">
  <p><?php print $footer_message;?></p>
</div>
<?php endif; ?>

</body>
</html>

```

These are stripped down versions of `phptemplate`. Some variables, that are unnecessary for a mobile device, have been removed. `imode`'s template is similar, except it is written in Compact HTML. `xhtml` and `html` are fully-blown templates, written in `xhtml` and `html` respectively, and are targeted for non-handheld devices.

^{7.1} Note that `cardid` and `cardtitle` are deliberately incorrect here. `fix_code.php` corrects these later.

7.3 Detect

The main file is `browser.php`. This returns best suited `$_SERVER["HTTP_ACCEPT"]` and whether it is a hand-held device or not checking against `$_SERVER["HTTP_USER_AGENT"]`. This can be adapted to be a stand-alone script, but it has dependencies.

`$accept`

An array equivalent to the following, containing content-types. `<?php`

```

$accept = array(
  "xhtml" => "application/xhtml+xml",
  "html"  => "text/html",
  "wml"   => "text/vnd.wap.wml",
  "mhtml" => "application/vnd.wap.xhtml+xml"
);

```

The array key is straight forward, the array value is the full `accept_type`. This is used subsequently used in `drupal_set_html_head()` and `drupal_set_header()` respectively.

`$browserlist`

This creates an array using `file()` to open `browser.inc`. Contained in `browser.inc` is a list of the first four characters of the `user_agent` string of known devices. Each device is listed on a new line. Extract below. `alav`

```

alca
armv
au-m

```

Having created the 2 arrays listed above, the script now starts to check the `$_SERVER["HTTP_ACCEPT"]`, including `q` value, so if the device accepts more than one mime type, the script should pick the best one. If there is no `q` value but `$accept` is there then `1` is added.

```
<?php
function media_type(&$accept, $browserfile, $mime = false) {
$sis_mobi = false; // note: this variable only exists within this function
if ( $mime !== false ) {
    return $mime;
} elseif ( strstr($_SERVER["HTTP_USER_AGENT"], "W3C_Validator") ) {
    return $mime = 'xhtml';
} elseif (!isset($_SERVER["HTTP_ACCEPT"])) {
    return $mime = 'html';
} else {
    $mime = 'html';

    $c = array();

foreach ($accept AS $mime_lang => $mime_type) {
    $esc_type = '/'. str_replace( array('/', ':', '+'), array('\', '\.', '\+',), $mime_type).":q=0(\.[1-9]+)/i";
    $c[$mime_lang] = 1;
    if ( strstr($_SERVER["HTTP_ACCEPT"], $mime_type) ) {
        $c[$mime_lang] = $c[$mime_lang] + 1;
        if (preg_match($esc_type, $_SERVER["HTTP_ACCEPT"], $matches)) {
            $c[$mime_lang] = $c[$mime_lang] - (float)$matches[1];
        }
    }
}

$iMode = array('doco', 'j-pho', 'up.b', 'ddip', 'port');

if (in_array(strtolower(substr(trim($_SERVER["HTTP_USER_AGENT"]),0,4)), $iMode)) {
    $mime = 'chtml';
    $sis_mobi = true;
} else {

    arsort ($c, SORT_NUMERIC);

/* The aim is to reduce $c to one element,
the best suited accept_type */

if ( array_sum($c) == count($c) ){
    unset ( $c );
}
```

```

    $c['html'] = 1;
  }

  $max = max($c);
  foreach ($c as $type => $val) {
    if ($val != $max) { unset ( $c[$type] ); }
  }

  $browsers = file($browserfile);
  foreach ($browsers as $dev) { $browserlist [] = trim($dev); }

  if (in_array(strtolower(substr(trim($_SERVER['HTTP_USER_AGENT']),0,4)), $browserlist)) { $is_mobi = 1; }

  if ( array_key_exists('xhtml', $c) ) { unset ( $c ); $c['xhtml'] = 1; }
  if ( array_key_exists('html', $c) ) { unset ( $c ); $c['html'] = 1; }
  if ( array_key_exists('wml', $c) ) { unset ( $c ); $c['wml'] = 1; }
  if ( array_key_exists('mhtml', $c) ) { unset ( $c ); $c['mhtml'] = 1; }

  $mime = key($c);
}

define ('MOBI', $is_mobi);
return $mime;
}

```

} The output for Firefox with `application/vnd.wap.xhtml+xml` and `text/vnd.wap.wml` added would be something follows if the code was debugged. Array

```

(
  [xhtml] => 2
  [html] => 1.1
  [wml] => 1.4
  [mhtml] => 2
)

```

For Firefox the final result should be `xhtml` and `MOBI = false`.

8. Configuration

`fix_code.php` is a file containing a similar function to `html_fix()`. It strips out all non-wml syntax using `preg_replace` and `str_replace` and is called when `ob_start` is called. Information about this file has been included here as it *should* be edited further to strip out any additional content that is not required.

Brief details on how to use these files were outlined [here](#), additional information follows.

One site serving multiple devices using one code base

1. Upload all files
2. Log in as an administrator and enable all the uploaded templates
3. Make the required changes to `common.inc`
4. Amend the `settings.php` file in `sites/default` directory as detailed previously

Multisites using one code base

For more information on how to set up multisites with Drupal, please visit: [instructions](#) or [overview](#).

1. Upload all files
2. Log in as an administrator and enable all the uploaded templates
3. Make the required changes to `common.inc`
4. Amend the `settings.php` file in `sites/device_name` directory specifying the `$or` to match the device of choice ^{8.1}

^{8.1} The whole detection script does not need to be included in `settings.php` if the device type is know. Below is an example for WAP / WML site.

```
<?php
DEFINE ('DETECT_PATH', '/path/to/detect_directory/'); // change to suit

$fixfile = DETECT_PATH.'fix_code.php';
drupal_set_header('Content-Type: text/vnd.wap.wml; charset=utf-8');
drupal_set_header('Vary: Accept');

$conf['default_nodes_main'] = 2;
$conf['anonymous'] = 'Mobile User';
drupal_set_header('Content-Type: text/vnd.wap.wml, true');
include $fixfile; // extra file for stripping out non-wml syntax
ob_start('fix_code');
$conf['theme_custom'] = 'wap'; // change to suit
```

```
$conf['theme_default'] = 'wap'; // change to suit
$output = ";
```

9. Summary

This article utilizes a simple device detection script and selects the relevant output. Further changes may be needed to strip out irrelevant content for mobile devices, most of which can be achieved by editing `fix_code.php`.

10. References and additional information

References and additional information.

Status

This document is draft. Development work has progressed to create a module to include this functionality. Files can be downloaded in zip format [here](#).

References and Credits

- [Serving up XHTML with the correct MIME type](#)
- [Sending XHTML as text/html Considered Harmful](#)
- [XHTML Media Types](#)
- [Web Developer Guide](#)
- [W3C Mobile Web Best Practices](#)
- [XHTML Mobile Profile 1.0](#)

Comments

Send comments or queries here

Additional

Working example of this script can be seen at <http://www.227net.com>. Please note that due to limitation in sending XHTML with the correct

content-type XHTML compatible browser still receive content as `text/html`. Multisites have also been enabled. Device dependant sites are listed below:

- <http://mobi.227net.com>
- <http://wap.227net.com>
- <http://imode.227net.com>