



Resource Guide: Developing for Mobile on Drupal

Delivering content today requires broad flexibility, at least if you want to do it well across all possible devices. Drupal offers a terrific platform for managing and delivering content. It does, however, offer some challenges when delivering that content to devices of all sizes and capabilities.

This resource guide directs you toward best practices for ensuring that your Drupal content looks just as good no matter where it ends up. Since there are two distinct areas of mobile development, each substantially different on the back-end, this guide distinguishes between mobile web sites and native apps. Each approach is discussed separately, though each builds on the same Drupal infrastructure.

Finally, we acknowledge that delivering content to mobile environments is a fast-changing topic. We invite you to leave comments here when you create or discover new best practice documents. As a community, we can all learn together.

Three Approaches to Drupal Mobile Development

Drupal offers three solid approaches for building mobile web sites:

- Implementing "responsive design."
- Maintaining a separate site specifically for mobile users.
- Using a third party service to feed select data from your site to mobile users.

Let's take a look at each in order of decreasing cost.

Responsive Design

Promoters of responsive design advocate maintaining a single website for all devices, created in such a way that the web server presents it differently depending on the receiving device's screen resolution. This philosophy applies to both the site itself, and the presentation layer (i.e. theme). While this approach has great maintainability over time, it's usually best for high bandwidth, low latency connections because it sends so much content to the mobile device.

An example of a site built on Drupal using responsive design is Sasquatch.com. Below you can see how the site looks on the iPad and the iPhone, automatically adjusted to best serve each device's form factor.



sasquatch.com on the iPad



Sasquatch.com on Iphone

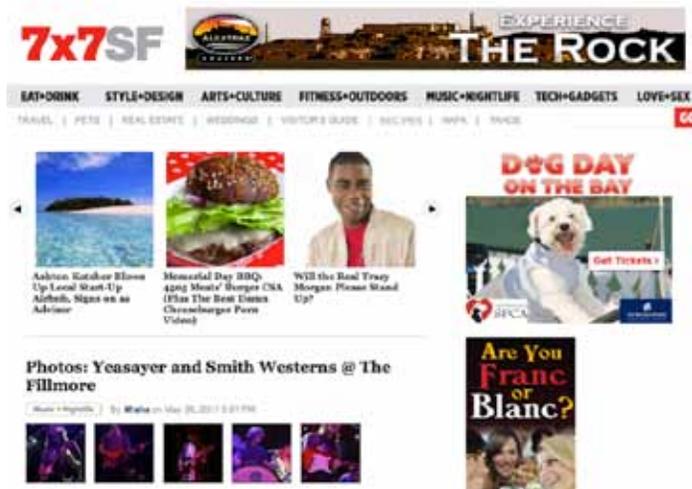
When choosing responsive design, you must undergo careful development and testing to ensure that your site is being delivered as expected. If you choose this methodology, it's helpful to start with one of the following base themes which offers a huge head start:

- Omega: A highly configurable HTML5/960 grid-based theme. Its configurable layouts adapt to the user's device context.
- Zen: Version 7.x-5.x and later includes HTML5 features. Great documentation.
- Terrain: A minimalist, fluid-grid approach.

Dedicated mobile site

Responsive design is easiest to implement on a new site. If you have an existing website that needs mobile capabilities, you might instead opt to launch a sub-site focused on mobile users, such as m.example.com. How separate your mobile site is depends on a variety of factors. You might just add a domain-specific theme on top of your mobile section, or you might create a separate Drupal site that aggregates content from the main site.

An example of this approach is 7x7SF.com. Below, you can see the main site, and then its mobile version (m.7x7.com).



7x7SF on the desktop



7x7SF on the iPhone

Those who choose this approach to Drupal mobile development may find the following particularly helpful:

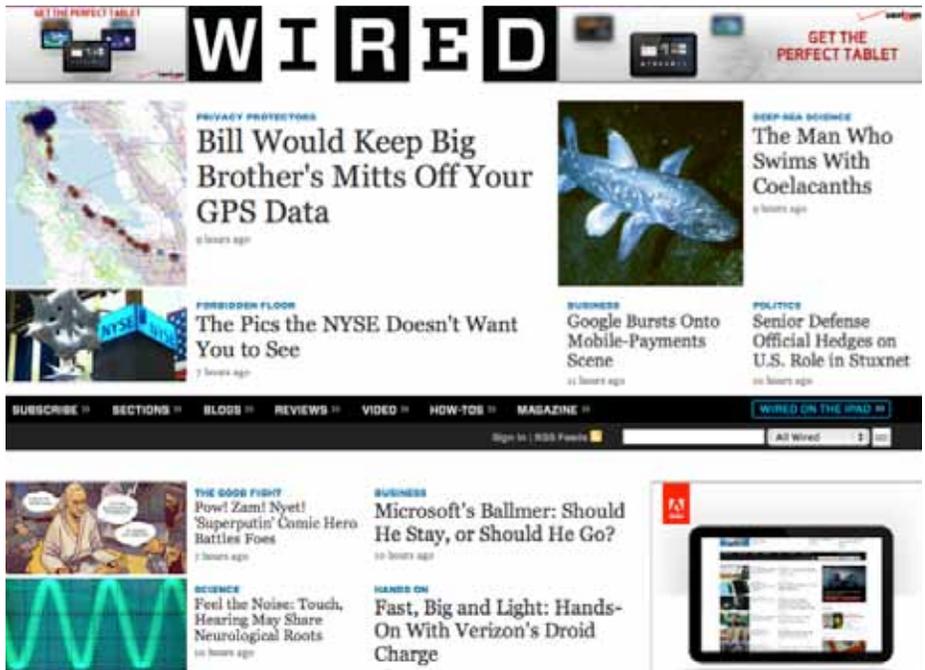
- **Mobile Tools:** This module detects a mobile or desktop device (via WURFL or Browscap backends), and depending on the results:
 - Redirects the user to the mobile site.
 - Switches themes based on the detected device.
 - Informs the user that a mobile site is available when the browsing desktop site.
 - Sets Panels and Ctools contexts so that your content and/or layout can adapt to the device.
- **Mobile jQuery Theme:** This theme and accompanying module help you quickly produce a highly functional, highly device-native mobile website. Building on the jQuery Mobile project, it adapts your Drupal homepage and admin pages to work well on mobile devices. Use it to administer content, comments, blocks, etc. all on your device.

3rd party providers

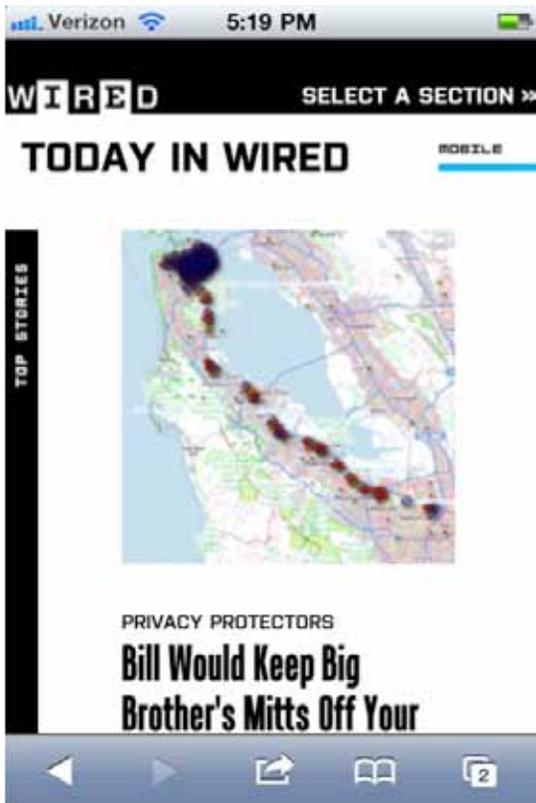
If you don't have the development team or time to take either of the other approaches, you might consider the third option: use a 3rd party service to extract important sections from your main site and assemble an m.example.com mobile site. This choice has the benefit of being low cost, offering a rapid time to market, and requiring minimal engineering resources. You might also choose to use this option to prototype mobile experiences while evaluating the other two approaches.

The risk of choosing this option is that you cannot fully customize the user, nor can you vary the response for individual devices. You're leaving the mobile experience entirely in the hands of the 3rd party service.

For an example of this approach, check out Wired.com, as shown below.



Wired.com using a desktop browser.



Wired.com using an iPhone, with the mobile site powered by Mobify.

The following providers offer tools and even GUIs for extracting key content from your main site:

- Mobify (an Acquia Partner)
- Velocitude (by Akamai)

Additional Tools

The following modules and jQuery plugins are also helpful in rounding out mobile Drupal web sites:

- Modernizr: (<http://drupal.org/project/modernizr>) Integrates HTML5 and CSS3 using feature detection, while providing fallback for older browsers.
- Responder: (<http://drupal.org/project/responder>) Alters Drupal core stylesheets to allow a responsive theme to be built more easily.
- Responsive Images: (http://drupal.org/project/responsive_images) Adds a wrapper around the jQuery library by Filament Group. Loads smaller images for smaller screens.
- TinySrc: (<http://drupal.org/project/tinysrc>) Downsizes images embedded in node content via the tinySrc (<http://tinysrc.net/>) service.
- Semantic Views: (<http://drupal.org/project/semanticviews>) Strips down and controls the markup emitted by the Views module (<http://drupal.org/project/views>).
- Mobile Bookmark Bubble: (<http://code.google.com/p/mobile-bookmark-bubble/>) Adds a javascript promo bubble to the bottom of your mobile web application, inviting users to bookmark the app to their device's home screen.
- FitText: (<http://fittextjs.com/>) Adds a jQuery plugin for responsive text headlines.
- Fitvids: (<http://drupal.org/project/fitvids>) Adds a jQuery plugin for responsive video embedding.

Building Native Drupal Apps

The Drupal CMS is usually used for content creation, while management and consumption is typically done by the mobile app via web services. However, Drupal is also well suited as a backend for native applications.

In particular, the Services module adds web service capability to Drupal. This module exposes all user and content information via various protocols and response formats such as XML-RPC, REST, and JSON. Developers can also expose additional content via a plug-in API, requiring authentication for service calls as needed.

The Drupal community even offers tools for building the native applications themselves. Check out the following resources if you're curious:

- iOS Toolkit by Workhabit.
- DrupalCloud for Android by skyred.
- Titanium Dashboard presentation by Sumitk. Discussion group.
- Drupalcon Mobile app by Palantir.
- The user.login service or the services_oauth submodule.



Caption

The Future of Drupal Mobile Development: Drupal 8

One major focus area for Drupal 8 is mobile delivery. The core development team has already started integrating the best mobile solutions from Contrib into core.

If you want to keep informed of what's happening for the future, follow these Drupal 8 initiatives:

- **WSCCI (Web Services & Core Context Initiative):** Among other things, this initiative aims to bring the Services module into Drupal core. Finally, Drupal will have built-in REST based web services. Along the way, it will be refined, slimmed, and deeply integrated. [Learn more.](#)**HTML5 Initiative:** Drupal's default markup is changing to HTML5 for Drupal 8. Note that there are services such as OpenAppMkt which automatically turn your HTML5 web app into a native phone app. [Learn more.](#)
- **Mobile Initiative:** A focus of this initiative is to convert existing themes to use responsive design. Other focuses include parts of mobile tools in core, and add context specific image scaling (i.e. Drupal calls them image styles). [Learn more.](#)

About Acquia

Acquia empowers enterprises with the open-source social publishing system Drupal.

Co-founded by Drupal's creator in 2007, Acquia helps customers manage their growth and scale their online properties with confidence.

Acquia's products, cloud infrastructure, and support enable companies to realize the full power of Drupal while minimizing risk, as it's done for nearly 1,500 enterprise customers including Twitter, Al Jazeera, Turner, World Economic Forum, Stanford University, New York Senate and NPR. See who's using Drupal at showcase.acquia.com, and for more information please visit www.acquia.com or call 855.430.7700

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