

Acquia™

**Tap Into Smartphone Demand:
'Mobile-izing' Enterprise Websites by
Using Flexible, Open Source Platforms**

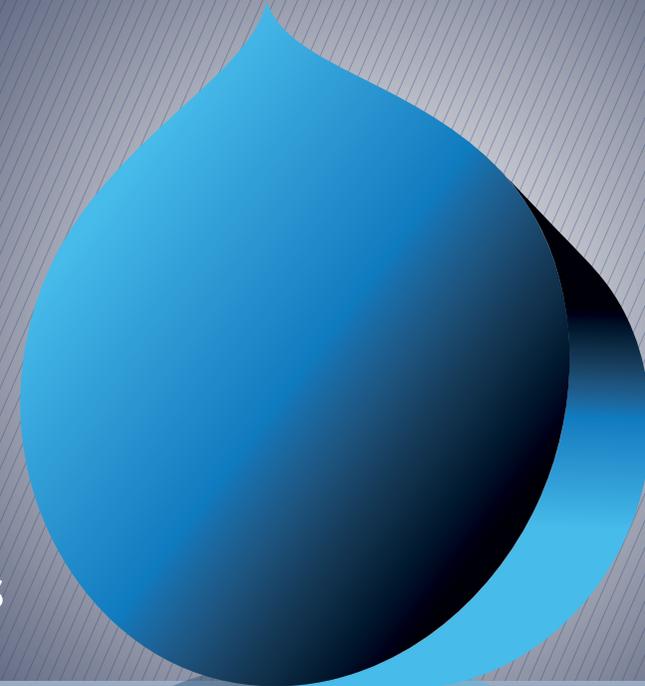


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Introduction

Today's consumers are adopting the use of mobile devices at a rapid rate: A recent Pew Internet Project report found that 35 percent of American adults own smartphones, and a quarter of them use their mobile devices as their primary means of browsing the Internet.¹ According to In-Stat's research, smartphones will account for 45 percent of all phone shipments by 2015.²

It's becoming ever more essential for enterprise organizations to develop high-quality mobile browsing experiences for their customers. Many businesses, though, are struggling to build mobile-optimized sites because of the difficulties and expenses involved in integrating their existing sites with mobile platforms.

The open source content management system Drupal provides an integrated platform that can power all types of content, from corporate sites to product microsites to mobile sites. This E-Book will explore how enterprise organizations can simplify the process of adapting their sites to mobile browsers — from architecture to implementation to testing — using Drupal tools.

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Drupal's Mobile Toolbox

Drupal's open source platform provides a flexible content model and template engine, which can be used to target multiple operating systems including Windows, Apple OS 10, iPhone, Android, and others. Because Drupal is an open source platform, developers are able to gain immediate access to more than 40 existing mobile-focused modules. Mobile adoption within the Drupal community is rising at a steady rate, and the number of mobile development tools available for Drupal continues to grow.

Currently, tools available for mobile development on Drupal include:

- **Mobile Tools** - a Drupal module that provides developers with tools to help build a mobile version of a site
- **Wireless Universal Resource File (WURFL)** - a group of proprietary APIs and an XML configuration that help developers identify mobile devices
- **Fusion Mobile** - a Fusion Core Drupal subtheme that allows developers to create custom themes for mobile devices
- **Context 3.x** - a Context module that allows developers to choose conditions to trigger a certain context
- **Other services** - turnkey services such as NorthPoint and Acquia that can provide high-level support for Drupal mobile site developers

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¹<http://pewresearch.org/pubs/2054/smartphone-ownership-demographics-iphone-blackberry-android>

²<http://www.zdnet.com/blog/btl/as-smartphone-adoption-accelerates-mobile-app-revenue-keeps-pace/53279>

Building a mobile site

While the initial stages of planning a website — strategy, product development, and information architecture/design — have few significant differences when developing for a mobile browser instead of a desktop browser, there are special concerns when developing a mobile site in the architecting, implementation, and testing stages. Drupal's platform and associated tools and services can be used to simplify these complex processes.

1) Architecting a mobile site

With its flexible platform, Drupal permits developers to build both mobile apps and responsive websites that can automatically optimize for a visitor's mobile browser.

- **Building mobile apps**

When building mobile applications, developers can make use of a combination of Drupal's core and contributing modules, as well as related services, to produce powerful applications that can easily be modified for different mobile platforms, including the iPhone and Android. If an enterprise's developers are not familiar with the mobile app-building process, they may consider hiring an outside application development agency for assistance with app programming.

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- **Building mobile-optimized sites**

Web developers at a company can make use of several options for creating a mobile version of a desktop template, depending on their needs and priorities:

a. Create a responsive theme - Developers can make use of media queries, fluid CSS, and Drupal's Build Modes and Context Module to create a mobile template that is activated based on the identification of the user's browser type. This approach is simple to set up, permits reuse of most existing web infrastructure, and involves multi-content distribution. But the desktop-focused default theming behavior may need significant adaptations to fit the mobile context.

b. Create a separate mobile and desktop theme - Developers also have access to core and contributor modules to build separate themes optimized for desktop and mobile platforms. While this system is simple to set up, it does not allow users to take advantage of the full mobile web experience.

c. Use separate configurations for desktop and mobile websites - Developers can create specific native mobile apps and desktop themes that maintain separate configurations. While this approach is more difficult to implement and maintain, it permits companies to create highly optimized mobile experiences for their consumers.

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2) Implementing a mobile site

A number of steps are involved in implementing a mobile site with Drupal, but developers have numerous options available to customize the experience. Drupal's Mobile Tools module provides much of the necessary assistance to create a mobile-optimized site.

- **Mobile template set-up**

When setting up a mobile template on Drupal, a developer can choose to create a unique mobile theme or customize existing free or premium mobile themes from companies, including Fusion Mobile, Nokia Mobile, and jQuery Mobile. Drupal's Mobile Tools can be used to customize the theming configuration and add additional mobile headers.

- **Device detection**

Mobile Tools or other modules, such as WURFL and WURFL Group Webkit, can detect whether the visiting device is a mobile device, and perform advanced features such as identifying the device's screen size and features.

- **Redirection**

Mobile Tools allows developers to configure redirection from a desktop to a mobile URL, and to add override directions for exceptions.

- **Select layout**

Drupal's Blocks configuration page permits developers to customize the layout of the text and graphics appearing in the mobile version of a site. The Context module can be used to determine which types of devices the context applies to, as well as any conditions needed to activate the context.

- **Content adaptation**

Many types of content modification may be necessary for a mobile-optimized site, such as image resizing, video adaptation, text abridgement, and functional adaptations, such as reducing the number of form fields that appear. Drupal's ImageCache module allows developers to customize image configurations for mobile devices, while other modules and custom solution providers can help configure other types of content for mobile devices.

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3) Testing a mobile website

As with desktop-focused websites, developers must test mobile websites for usability and performance prior to deployment; however, the process is somewhat more complex. The steps involved are:

- **Usability testing**

Developers need to test a new mobile site with real-world users to determine whether the design is intuitive enough, and to evaluate whether the desired tasks are completed without difficulty. Based on the feedback received in the testing session, they may need to make modifications to the design to increase the site's ease of use.

- **Testing targeted devices**

Currently, there are a number of popular mobile platforms available, including the iPhone, the Android, and the Blackberry – and developers need to evaluate how a mobile site operates across all of these platforms. Mobile phone emulators can simulate the website's appearance on diverse platforms, which allows developers to find and fix bugs associated with different browsers or platforms.

- **Performance testing**

Because data is often slower to load on mobile devices than on desktop devices, it's essential for developers to ensure that their websites load quickly at a range of speeds (from 20 Kbits per second up to 100 Mbits per second). If the site's performance is lacking, developers may need to tweak the design by reducing or removing media elements to optimize the loading time.

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Conclusion

Developing a powerful and effective enterprise website for mobile devices can be an intensive and complex process for developers who are new to mobile development. In order to reduce staff training time and streamline resources, some enterprise organizations should consider working with a web development services provider to devise their mobile strategies.

NorthPoint is able to provide enterprises with comprehensive mobile content strategy plans for Drupal development, with consulting services based around information architecture, optimization, social media integration, design, and a variety of other services.

For companies that wish to adapt their desktop sites to mobile browsers rather than develop separate mobile-only websites, the Acquia Network provides access to the mobile web development tool Mobify, as well as services including the A/B testing tool Visual Website Optimizer and the Drupal training video library Drupalize.Me for a minimal subscription fee.

No matter what strategy a company chooses to engage when developing a mobile site or optimizing an existing site design for mobile browsers, the work is likely to pay off: Google recently announced that it will prioritize mobile-optimized websites in AdWords search results, which will drive more traffic to smartphone-friendly sites. Companies taking the initiative to create modern, intuitive mobile versions of their desktop sites will likely increase their influence and sales as mobile devices gain ever more traction in the marketing world.

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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 2,000 enterprise customers including Twitter, Al Jazeera, Turner, World Economic Forum, Stanford University, New York Senate and NPR. See who's using Drupal at <http://drupalshowcase.com>. For more information, please visit <http://www.acquia.com> or call 888-9-ACQUIA.