

Adaptive Mobile Web Design

with a server side flavour

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1st June 2012

51Degrees.mobi

Explain Server Side options

Objective = Efficient use of...

1. your time

2. resources (server, client and data network)

Agenda

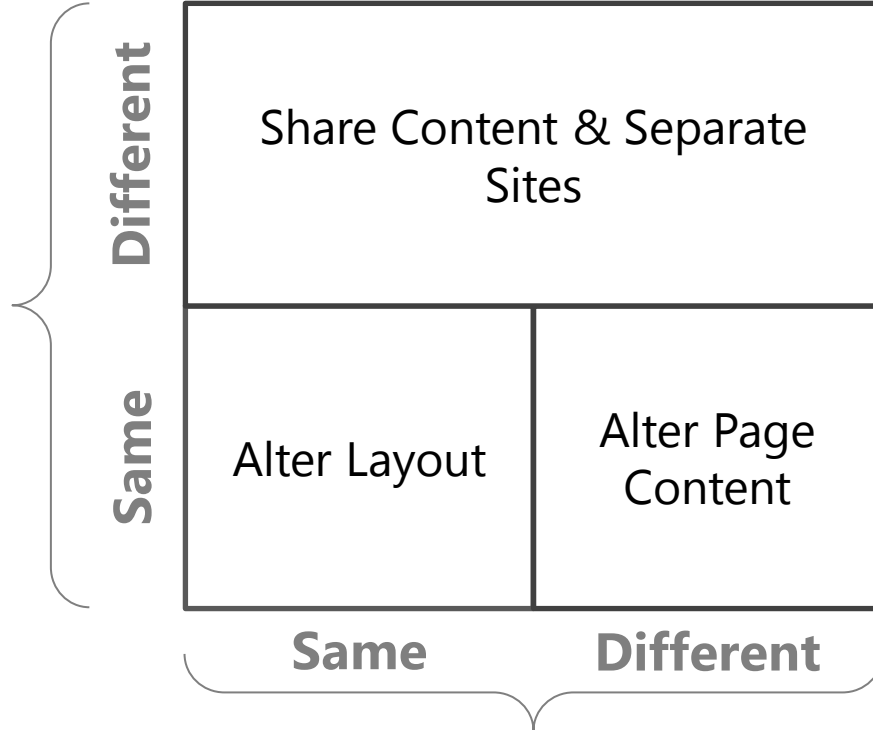
1. Design Concepts
2. Demonstration
 - a) 3 Minute Setup
 - b) X2 Content Management Systems
 - c) Live Code
3. Summary



Happy Users

Considerations - Mobile vs Desktop

Navigation



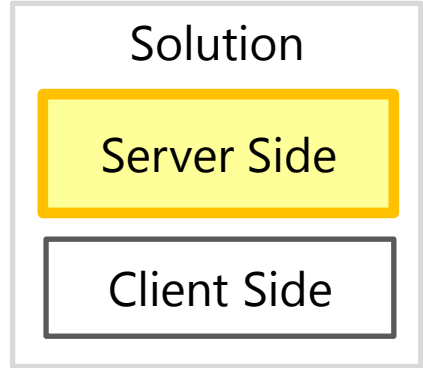
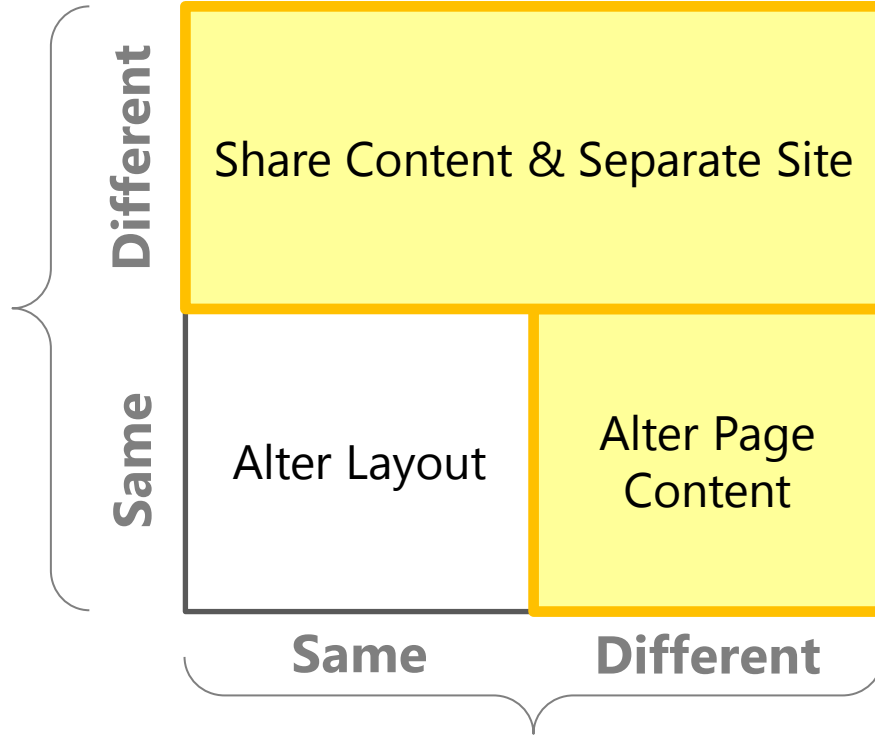
Page Content



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Considerations - Mobile vs Desktop

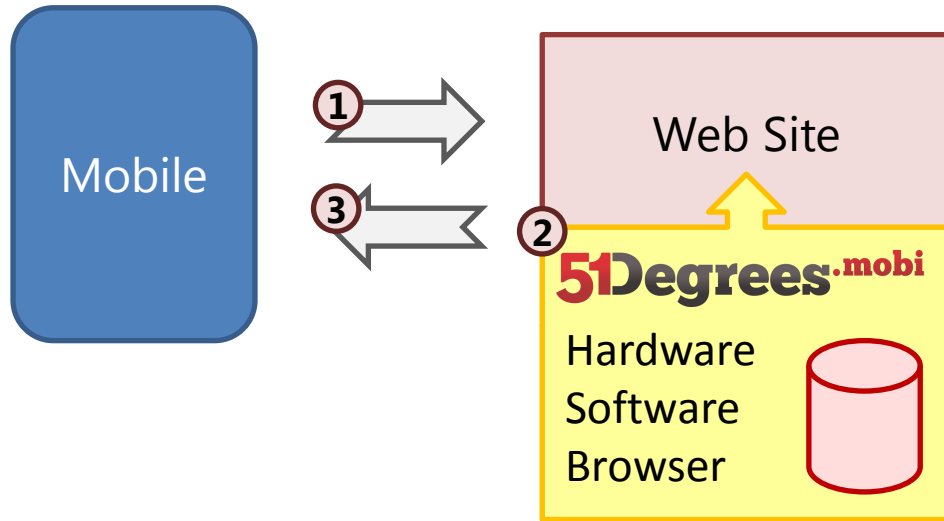
Navigation



Page Content

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What is server side detection?



1. Request received
2. 51Degrees.mobi plug-in detects client capabilities
3. Response adapted for client

How do we create data?

Collect

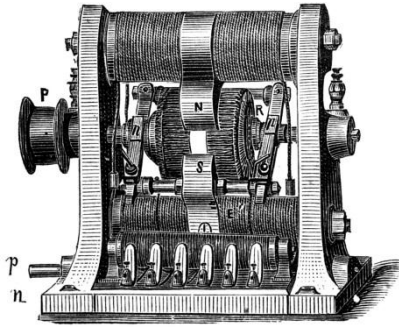
Collate

Distribute

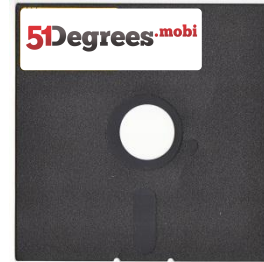
Detect



Usage Data



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Data & APIs



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Feature Detection - Ringmark



Ringmark ~ 30 seconds

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rng.io

Ringmark is a feature detection site - donated to W3C Coremob by Facebook

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99.8% Accuracy

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Go on. Try it now. How did we do?

A close-up photograph of a hand holding a yellow pencil, pointing at a document. The document contains several multiple-choice questions, each with four options labeled A, B, C, and D. The questions are numbered 14, 16, 18, 24, and 25. The background is slightly blurred, focusing attention on the pencil and the text.

Server adapts response

Real devices and browsers

Community component

Not just browser data

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137,581 servers to date

280m devices in April 2012

CMS integration

INGENIUXX



DOTNETNUKE

More soon...

Demonstration

3 Minute Setup - .NET & PHP Install

CMS – Ingeniux

CMS – Dot Net Nuke

PHP Site

Visual Studio

Install Video

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PHP

Install Video

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A Model View Controller CMS

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The screenshot displays the Ingeniux CMS interface. The browser address bar shows the URL `cms8.ingeniux.com/51degrees/client/default`. The CMS header includes a welcome message for 'Admin 1', navigation links for 'Sign Out', 'Language', and 'Help', and a 'Go To' search field. Below the header is a toolbar with various actions like 'Dashboard', 'New', 'Save', 'Check In', 'Rename', 'Assign To', 'Advance in Workflow', 'Spellcheck', 'Refresh', and 'Preview'. The left sidebar shows a site tree for 'Ingeniux CMS' with a sub-site 'EDU Demo Site'. The 'Academics' page is selected and highlighted. The main content area shows a preview of the 'Academics' page, featuring a header image of a woman in a library, a breadcrumb trail 'Home > Academics', and the main heading 'Academics at Central University'. Below the heading is a block of placeholder text: 'Sitem par digum inter locus, pro diamonus centro darius emat et fillibus correndus quam calit prefector. Manilux adcor ante coret, par digum inter locus sitem, pro diamonus centro darius alit prefector. Fratrim ventral excidicious mede darius emat et exat lama ventral excidicious dixebus. Et maxi adcor ante coret. par digum inter locus sitem. pro'.

The screenshot displays the Ingeniux CMS administration interface in a web browser. The browser's address bar shows the URL `cms8.ingeniux.com/51degrees/client/default`. The page header includes the text "Welcome Admin 1" and navigation links for "Sign Out", "Language", "Help", and a "Go To" search field. A toolbar contains various actions such as "Dashboard", "New", "Save", "Check In", "Rename", "Assign To", "Advance in Workflow", "Spellcheck", "Refresh", and "Preview".

On the left side, a "Site" tree structure is visible, listing various content areas under "Ingeniux CMS" and "EDU Demo Site". The "Academics" item is highlighted. Below the tree are sections for "Assignments", "Apps", "Search", and "Administration".

The main content area features a "Preview" window. At the top of this window, there are controls for "Site: <Default>" and "Device: iPhone", along with a "Show all pages" checkbox. The preview itself shows a mobile device screen with the following content:

- Signal strength indicator (3G) and battery icon.
- A "Back" button with a left-pointing arrow.
- The Central University logo and the text "CENTRAL UNIVERSITY".
- A blue header for the section "Academics at Central University".
- A list item with a right-pointing arrow: "Sitem par digum inter locus, pro diamonus centro darius emat et fillibus correndus quam calit prefector. Manilux adcor ante coret, par digum inter locus sitem, pro diamonus centro".



The screenshot shows a web browser window with the URL `cms8.ingeniux.com/51degrees/client/default`. The browser tabs include "Ingeniux CMS - Manage Publish" and "51 Device Explorer". The page header displays "Ingeniux CMS" and "Welcome Admin 1 | Sign Out | Language | Help | device". A toolbar contains icons for "Dashboard", "New", "Save", "Rename", "Assign To", "Advance in Workflow", "Spellcheck", "Refresh", "Preview", and "Publish Site".

The left sidebar lists navigation options under "Administration":

- Dashboard
- Find and Replace
- Schema Designer
- System Options
- User/Group Manager
- Page Creation Rule Manager
- Workflow Manager
- Publishing System Manager**
- Publish Monitor
- Taxonomy Manager
- Report Manager
- Localization Manager

The main content area is titled "Publishing System Manager" and features four tabs: "Publishing Targets", "Publishing Profiles", "User Agents and Sites", and "Device Manager". The "Device Manager" tab is active, showing the following settings:

- Enable Mobile Devices Emulation
- Generic Mobile Device
 - Screen Width:
 - Screen Height:
- Device list:
 - ▶ iPad
 - ▶ iPhone



The screenshot shows the Ingeniux CMS interface. The browser address bar displays `cms8.ingeniux.com/51degrees/client/default`. The page title is "Ingeniux CMS" and the user is logged in as "Admin 1". The navigation menu includes "Dashboard", "New", "Save", "Rename", "Assign To", "Advance in Workflow", "Spellcheck", "Refresh", "Preview", and "Publish Site".

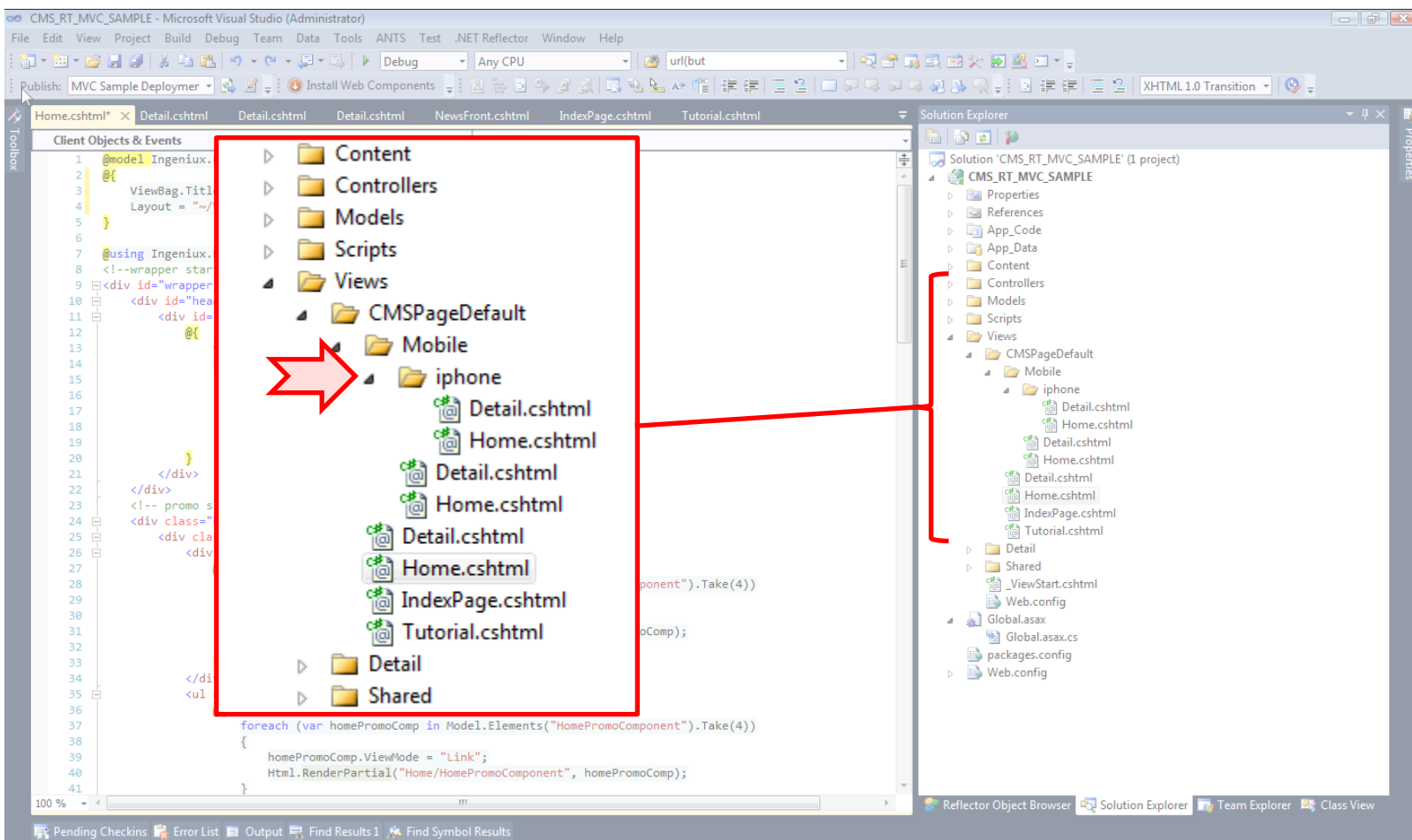
The main content area is titled "Publishing System Manager" and contains several tabs: "Publishing Targets", "Publishing Profiles", "User Agents and Sites", and "Device Manager". The "Device Manager" tab is active, showing a list of devices with columns for "Name", "Screen Width", and "Screen Height".

The "Generic Mobile Device" section is expanded, showing a list of devices: "iPad", "iPhone", and "Lumia 800". The "Lumia 800" device is selected, and its configuration is displayed below:

- Name:** Lumia 800 (with an "Add Devices" button)
- Nokia - Lumia 800 (Windows Phone 7.0) - Windows Phone**
- Screen Resolution:** 480x800
- User Agent:** Mozilla/4.0 (compatible; MSIE 7.0; Windows Phone OS 7.0; Trident/3.1; IEMobile/7.0; NOKIA; Lumia 800; SFR)

The interface also includes a sidebar menu with options like "Administration", "Dashboard", "Find and Replace", "Schema Designer", "System Options", "User/Group Manager", "Page Creation Rule Manager", "Workflow Manager", "Publishing System Manager", "Publish Monitor", "Taxonomy Manager", "Report Manager", and "Localization Manager".

The screenshot displays the Ingeniux CMS administration interface. The browser address bar shows the URL `cms8.ingeniux.com/51degrees/client/default`. The page header includes "Welcome Admin 1", "Sign Out", "Language", "Help", and a "device" dropdown menu. A toolbar contains various actions: Dashboard, New, Save, Check Out, Rename, Assign To, Advance in Workflow, Spellcheck, Refresh, and Preview. A left sidebar shows a site tree for "Ingeniux CMS" with a sub-tree for "EDU Demo Site" containing pages like Home, News, About, Academics, Admissions, and Calendar. Below the tree are sections for Assignments, Apps, Search, and Administration. The main content area features a mobile site preview for "CENTRAL UNIVERSITY" on a Lumia 800 device. The mobile site has a dark header with the university logo, a navigation bar with "Menu", "Search", and "Login" buttons, and a main content area with three large icons labeled "Social", "Admissions", and "Calendar".



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and



7 million downloads

#1 Microsoft based CMS

UK mobile industry podcast

10k listeners and readers a
month

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Key Features

1. Tablets
2. Shared Content
3. Navigation
4. Touchscreen
5. Mobile Adverts

Alter Layout CSS3

```
@media only screen and (max-width: 768px) and (-webkit-min-device-pixel-ratio:0)
{
    /* Centers the Page */
    #center
    {
        /* Change the width below to change the page width, minimum 684px */
        width: 750px;
    }

    #breadcrumb_a
    {
        /* Resizes Breadcrumb Width */
        width: 510px;
    }

    #searchbox .NormalTextBox
    {
        /* Resizes Search Box */
        width: 160px;
    }

    #search_a
    {
        /* Resizes Search Box */
        margin-top: 0px;
        width: 208px;
    }

    #search_b
    {
        /* Resizes Search Box */
        width: 208px;
        top: 0px;
        position: relative;
    }
}
```

thefonecast.com - Tablet

Navigation



Different

Share Content & Separate Sites

Same

Alter Layout

Alter Page Content

Same

Different

Page Content

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Mobile transactions will be worth over £100 billion earlier this week.

The patent allowed mobile phones to send text messages that were longer than a network would normally permit by breaking them up and then reassembling them.

News

Opinion

Search

Categories

Archive

About Us

Podcasts

Share Content & Separate Sites

thefonecast.com - News Blog

thefonecast.com/News.aspx

News

CreditCall and Elavon introduce a mobile payment solution for UK businesses

AUTHOR: THE FONECAST

Payment services business CreditCall, which announced its UK mobile payment plans at the end of 2011, has just launched its service to business owners.

It's been running a trial scheme in partnership with payment processor Elavon since January.

Comments (0) Number of views (72) Article rating: No rating ★★★★★

CATEGORIES: RETAILING, APPLICATIONS, NEWS

TAGS: UK, PAYMENTS, CREDITCALL, ELAVON, ANDROID, BLACKBERRY

Read more

Mobile transactions will be worth over £100 billion this year

Gartner anticipates over 200 million users worldwide

AUTHOR: THE FONECAST

Categories

- Handsets and manufacturers (1117)
- Retailing (270)
- Networks and operators (877)
- Operating systems (537)
- Applications (703)

Tags

4g advertising android apple applications blackberry data europe everything everywhere facebook google internet ios ipad iphone legal location microsoft motorola nfc nokia o2 ofcom opinion orange payments podcast research rim samsung security Smartphone symbian tablet tariff t-mobile

thefonecast.com - Mobile

Navigation



Different

Same

Share Content & Separate Sites

Alter Layout

Alter Page Content

Same

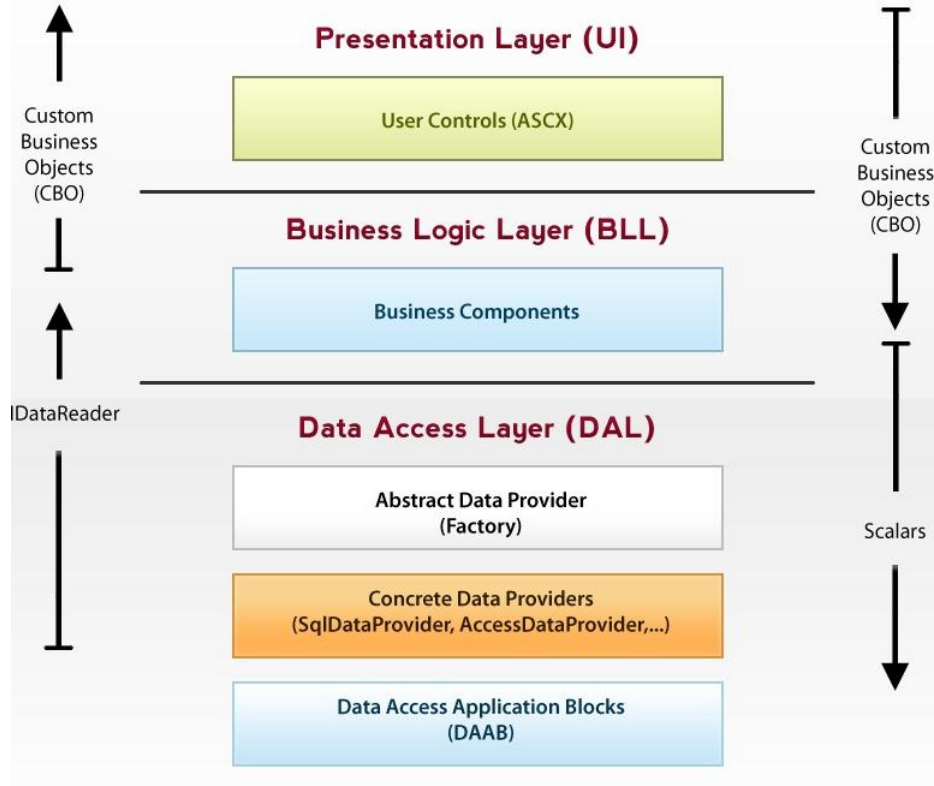
Different

Page Content

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DotNetNuke Architecture



Share content
through BLL
and DAL

Only UI layer
different



- Create a mobile website redirection
- Create a redirection using advanced options

Create

Below is a list of site redirections. To add a new one, click "Create" to start.

			Redirection Rule	Device Type	Enabled
			1. Home Page	MobilePhone	
			2. News Page	MobilePhone	
			3. Opinion Page	MobilePhone	

Redirect rules for all pages

“Tweaked” Menus & x2 Skins

Main menu excludes “Mobile”

```
<div class="mainMenu">  
  <ddr:menu runat="server" id="dnnNAV" menustyle="DNNMenu" ExcludeNodes="Mobile" />  
</div>
```

+ “big screen” skin

Header mobile menu – only x3 options

```
<div id="HeaderMenu">  
  <ddr:menu runat="server" id="dnnNAVHeaderMenu" menustyle="FiftyOneMenu"  
    NodeSelector="RootChildren" IncludeNodes="News, Search, Podcasts" />  
</div>
```

+ “mobile” skin

Footer menu only shows children

```
<div id="MainMenu">  
  <ddr:menu runat="server" id="dnnNAVMainMenu" menustyle="FiftyOneMenu"  
    NodeSelector="RootChildren" ExcludeNodes="Mobile" />  
</div>
```



```

protected override void OnInit(EventArgs e)
{
    HtmlMeta metaViewport = new HtmlMeta();
    metaViewport.Name = "viewport";
    metaViewport.Content = "width=device-width, height=device-height, initial-scale=1.0, " +
        "user-scalable=0, minimum-scale=1.0, maximum-scale=1.0";
    Page.Header.Controls.AddAt(0, metaViewport);

    if (Request.Browser["HasTouchScreen"] as String == "True")
    {
        var linkSize = Request.Browser["SuggestedLinkSizePoints"] as String;
        if (linkSize != null)
        {
            Page.ClientScript.RegisterClientScriptBlock(
                GetType(),
                "51Degrees.mobi",
                String.Format("<style type='text/css'> " +
                    "#MainMenu a, #BreadCrumbs a, #HeaderMenu ul li a, .category_menu ul li div a {{ "+
                    "font-size: {0}pt !important; }} </style>", linkSize));
            Spacer.Visible = true;
        }
    }

    switch (Request.Browser["LayoutEngine"] as String)
    {
        case "Trident":
            HtmlMeta metaIE = new HtmlMeta();
            metaIE.HttpEquiv = "X-UA-Compatible";
            metaIE.Content = "IE=edge";
            Page.Header.Controls.AddAt(0, metaIE);
            break;
    }

    TopAdvert.Visible = Request.Browser.IsMobileDevice;
}

```

Extra Skin Code

"Intelligence"



```
protected override void OnInit(EventArgs e)
{
    HtmlMeta metaViewport = new HtmlMeta();
    metaViewport.Name = "viewport";
    metaViewport.Content = "width=device-width, height=device-height, initial-scale=1.0, " +
        "user-scalable=0, minimum-scale=1.0, maximum-scale=1.0";
    Page.Header.Controls.AddAt(0, metaViewport);
}
```

Set a viewport to limit zoom

```
HtmlMeta metaViewport = new HtmlMeta();
metaViewport.Name = "viewport";
metaViewport.Content = "width=device-width, height=device-height, initial-scale=1.0, " +
    "user-scalable=0, minimum-scale=1.0, maximum-scale=1.0";
Page.Header.Controls.AddAt(0, metaViewport);
```

```
Spacer.Visible = true;
```

```
}

switch (Request.Browser["LayoutEngine"] as String)
{
    case "Trident":
        HtmlMeta metaIE = new HtmlMeta();
        metaIE.HttpEquiv = "X-UA-Compatible";
        metaIE.Content = "IE=edge";
        Page.Header.Controls.AddAt(0, metaIE);
        break;
}
```

```
TopAdvert.Visible = Request.Browser.IsMobileDevice;
```



```
protected override void OnInit(EventArgs e)
{
    HtmlMeta metaViewport = new HtmlMeta();
    metaViewport.Name = "viewport";
    metaViewport.Content = "width=device-width, height=device-height, initial-scale=1.0, " +
        "user-scalable=0, minimum-scale=1.0, maximum-scale=1.0";
    Page.Header.Controls.AddAt(0, metaViewport);
}
```

```
if (Request.Browser["HasTouchScreen"] as String == "True")
{
    var linkSize = Request.Browser["SuggestedLinkSizePoints"] as String;
```

Improve usability on touch screens by making buttons and links larger

```
if (Request.Browser["HasTouchScreen"] as String == "True")
{
    var linkSize = Request.Browser["SuggestedLinkSizePoints"] as String;
    if (linkSize != null)
    {
        Page.ClientScript.RegisterClientScriptBlock(
            GetType(),
            "51Degrees.mobi",
            String.Format("<style type=\"text/css\"> " +
                "#MainMenu a, #BreadCrumbs a, #HeaderMenu ul li a, .category_menu ul li div a {{ "+
                "font-size: {0}pt !important; }} </style>", linkSize));
        Spacer.Visible = true;
    }
}
}
```

```
TopAdvert.Visible = Request.Browser.IsMobileDevice;
```



Add browser specific meta tags

```
protected override void OnInit(EventArgs e)
{
    HtmlMeta metaViewport = new HtmlMeta();
    metaViewport.Name = "viewport";
    metaViewport.Content = "width=device-width, height=device-height, initial-scale=1.0, " +
        "user-scalable=no";
    Page.Header.Controls.AddAt(0, metaViewport);
}
```

```
if (Request.Browser["LayoutEngine"] as String)
{
    var layoutEngine = Request.Browser["LayoutEngine"];
    if (layoutEngine == "Trident")
    {
        HtmlMeta metaIE = new HtmlMeta();
        metaIE.HttpEquiv = "X-UA-Compatible";
        metaIE.Content = "IE=edge";
        Page.Header.Controls.AddAt(0, metaIE);
        break;
    }
}
```

```
switch (Request.Browser["LayoutEngine"] as String)
{
    case "Trident":
        HtmlMeta metaIE = new HtmlMeta();
        metaIE.HttpEquiv = "X-UA-Compatible";
        metaIE.Content = "IE=edge";
        Page.Header.Controls.AddAt(0, metaIE);
        break;
}
```

```
TopAdvert.Visible = Request.Browser.IsMobileDevice;
```





Example mobile advert

Mobile Google adverts require server side code

```
<asp:Panel id="TopAdvert" runat="server" class="TopAdvert">
  <FiftyOne:GoogleMobileAds runat="server" ID="GoogleMobileAdvertTop" />
</asp:Panel>

<asp:Panel id="Spacer" runat="server" Visible="false" Height="50px" />
```

Advert
Skin
Code





and



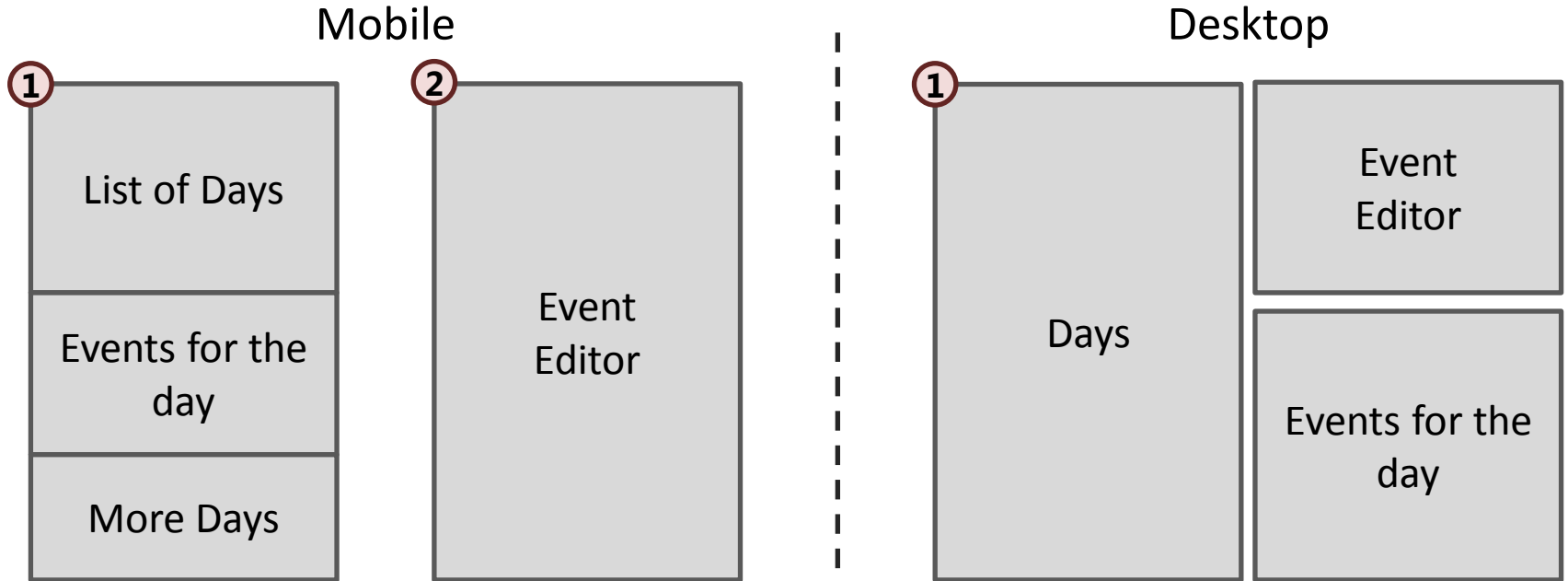
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CSS3 vs Server Side

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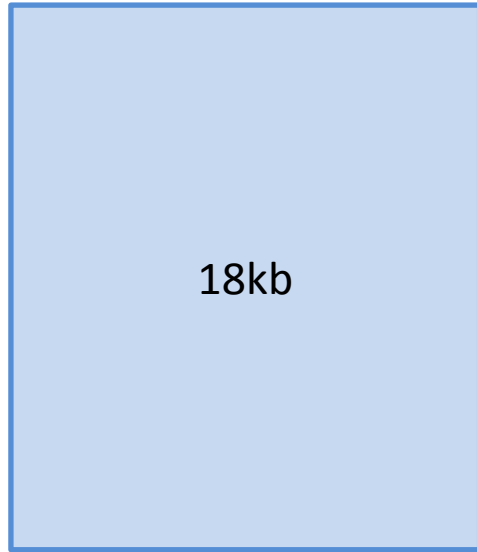
Simple Application



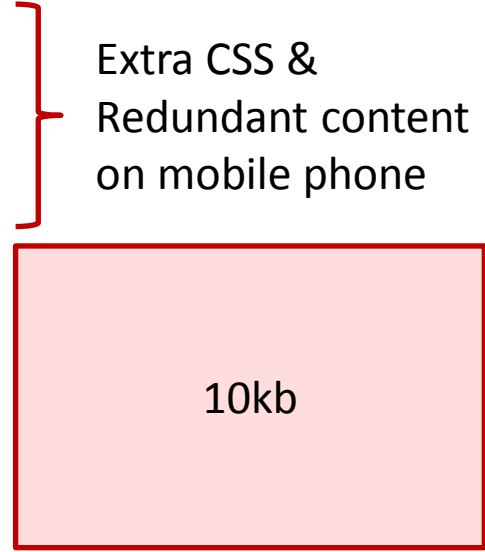
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Data Difference

44%
wasted
data



CSS3 Only



Server Side

Plus no images were used

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Key Points

- display:none – wastes data
- used physical screen size to control layout

```
<?php
```

```
if($_51D['ScreenMMWidth'] == 'Unknown')  
    $IsMobile = $_51D['IsMobile'] == 'True';  
else  
    $IsMobile = IntVal($_51D['ScreenMMWidth']) < 100;
```

```
?>
```

- images really waste data... [demo page](#)

The Device Data

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Differences Lite / Premium Data

	Lite	Premium
# Properties	50	103 (IsTablet, Physical Screen Size, Input Method...)
Update Frequency	Monthly	Weekly – automatic
Age of Data	3 Months	1 Week
Data Licencing	Mozilla Public Licence 2 (MPL2)	Bespoke – allows white label
Cost	Free	From 64p per Day
Platforms / APIs	.NET, PHP, Perl with C, Java coming soon – all code MPL2	

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Cart

[← Continue Shopping](#)[Order Details](#)

Please review your order details

To change the quantity: type in the new quantity and select [UPDATE CART]. To remove an item: check the [Delete] box and then click [UPDATE CART].

Product Name	Quantity	Unit Price	Amount	Delete
x1 Instance - Premium Data - Annual Subscription 	<input type="text" value="1"/>	\$360.00	\$360.00	<input type="checkbox"/>

Subtotal **\$360.00**

Additional charges may be listed on the following pages.

[UPDATE CART](#)Coupon code [Add](#)[FINAL CHECKOUT ▶](#)

Coupon Code Terms & Conditions

Click [here](#) for full promotional coupon terms & conditions.

Redeem your coupon

We've covered



1. Explain server side options

Efficient use of...



2. your time



3. resources (server, client and data network)

Affiliates & Partners Wanted



15% commission for web referrals

Higher for resellers & specific opportunities

<http://51degrees.mobi/MyAccount/AffiliateProgramme.aspx>

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51Degrees.mobi

<http://51degrees.mobi/ota> for presentation, video and code

51Degrees.mobi

.NET: DotNetNuke, Igeniux, Umbraco, WebNodes, SiteCore, nopCommerce;
PHP: Wordpress, Joomla, Drupal, CodeIgniter;
Perl with C & Java and more CMSs coming soon