



DOTNETNUKE™
CONNECTIONS

▶ **Building Friendly URLs
into DotNetNuke Modules**

Bruce Chapman

DDV03

▶ Agenda

- Background on Friendly Urls
- Typical DotNetNuke Module Urls
- Models for improving Urls in DotNetNuke Modules
- Example module using Friendly Urls
- Not Covering : Friendly Urls for DotNetNuke pages & general DNN Urls

▶ Short History of the Url or 7 Stages of Urls

In the beginning...

- Everything was a filename

`http://example.com/example.htm`

- Frame based Urls

`http://example.com/frameset.htm`

- Active Content via CGI

`http://search.ebay.com/search/search.dll?MfcISAPICommand=GetResult&ht=1&ebaytag1=ebayreg&query=(sanrio,hello+kitty)&category0=&minPrice=&maxPrice=&ebaytag1code=0&SortProperty=MetaEndSort&st=0`

...cont

▶ Short History of the Url *or 7 Stages of Urls*

- ASP - spread of the page & querystring

http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dnwinforms/html/wnf_Task.asp

- ASP.NET - birth of the single page

<http://www.dotnetnuke.com/default.aspx?tabid=795>

- SEO beginning, no querystrings

<http://www.dotnetnetuke.com/tabid/75/default.aspx>

- Friendly Urls that look like filenames

<http://example.com/my-relevant-keywords>

...history repeats itself

▶ Why Friendly Urls?



Friendly Urls are:

- Readable
 - First impression of page
- Postable
 - Easily Post on blogs
- Indexable
 - Search bots read and understand
- Relevant to content
 - Name of page matches information on page

example.com/url-software
example.com/migratory-birds

Why not Unfriendly Urls?



- Navigation is an important part of Url function
- Numeric Id based Urls are an artefact of lazy design / programming
- Exposes the underlying structure of database

▶ Understanding Url Rewriting

- Not : replacing links in Html with new ones
- Not : redirection of Urls
- Url Rewriting :
 - The process of taking a virtual Url, and changing it into a Url that maps to a physical file, on the server only, so that the requesting visitor doesn't know.
 - `example.com/friendly-url/key/value -> example.com/default.aspx?tabid=xx&key=value`

▶ How DotNetNuke Module Urls are made

- Forums Module:

<http://www.dotnetnuke.com/Community/Forums/tabid/795/forumid/77/threadid/381676/scope/posts/Default.aspx>

Rewrites to : ?tabid=795&forumid=77&threadid=381676&scope=posts
Better : /id-38167-DotNetNuke-language-internationalization.aspx

- Blog Module:

<http://www.dotnetnuke.com/Community/Blogs/tabid/825/EntryId/2792/Meet-the-Speakers-Bruce-Chapman.aspx>

Rewrites to : &tabid=825&entryid=2792&meet-the-speakers-bruce-chapman
Better : /Meet-the-Speakers-Bruce-Chapman.aspx

▶ 3 Levels of Improvements to DNN Module Urls

- Bad : Only meaningless database Ids
example.com/birds/tabid/678/entryid/56/default.aspx
- Good : Incorporate contextual keywords into the Url (+ *remove tabid*)
example.com/birds/entryid/56/migratory-birds.aspx

▶ 3 Levels of Improvements to DNN Module Urls

- Better : Reformat the Url for length and increase the keyword ratio

example.com/birds/56-migratory-birds.aspx

- Best : only Keywords in Urls

example.com/birds/migratory-birds

► Strategies for good Urls with Existing modules

- Add in Url-safe keyword rich text into the Url via the 'pageName'
- Call Friendly Url provider directly

Code:

```
DotNetNuke.Common.Globals.FriendlyUrl(tab, path,  
    pageName);
```

Tab = tab object representing the DNN Page the Url is for

Path = **&entryid=56** – the module-specific information for the Url

Pagename = 'migratory-birds.aspx'

- Example : DNN Blog Module

▶ Better Urls with Existing Modules

- New Format for Module Urls
- No module-specific rewriting needed, just rules for parsing Urls
- Consider not using key/value pairs for querystrings
 - Standard Friendly Url Provider requires paired parameters

- Example :

Old : id/56/mode/view

Rewrites to: ?tabid=xx&id=56&mode=view

New: /56/migratory-birds

Rewrites to: ?tabid=xx&56=migratory-birds

Find Id by position rather than by key

▶ Best Urls with DotNetNuke Modules

- Stop using Database Ids in Urls
- Write your own Url handling layer
 - Enforces validity
 - Ensures uniqueness
 - Handles Url changes over time
- Use derived or totally custom Url Values to drive content display

▶ DotNetNuke Module

Custom Urls

- Using either key/value pair, or just value
 - example.com/pagename/key/value
 - example.com/pagename/value
- Store Url 'Value' and link to content record
- Keep history of Urls for temporal uniqueness and redirects

▶ Database Driven Unique Urls

- Table to hold Url History
- UrlValue column holds the Url
- Module Setting holds the 'key' - don't bake it into the module
- Use database to enforce uniqueness
- Links to actual content with Numeric ID

Column Name	Datatype
UrlHistoryId	Int (identity, PK)
PortalId	Int (FK to Portals table)
ContentId	Int (FK to table with content)
UrlValue	Nvarchar(255)

Database Driven Unique Urls - Example

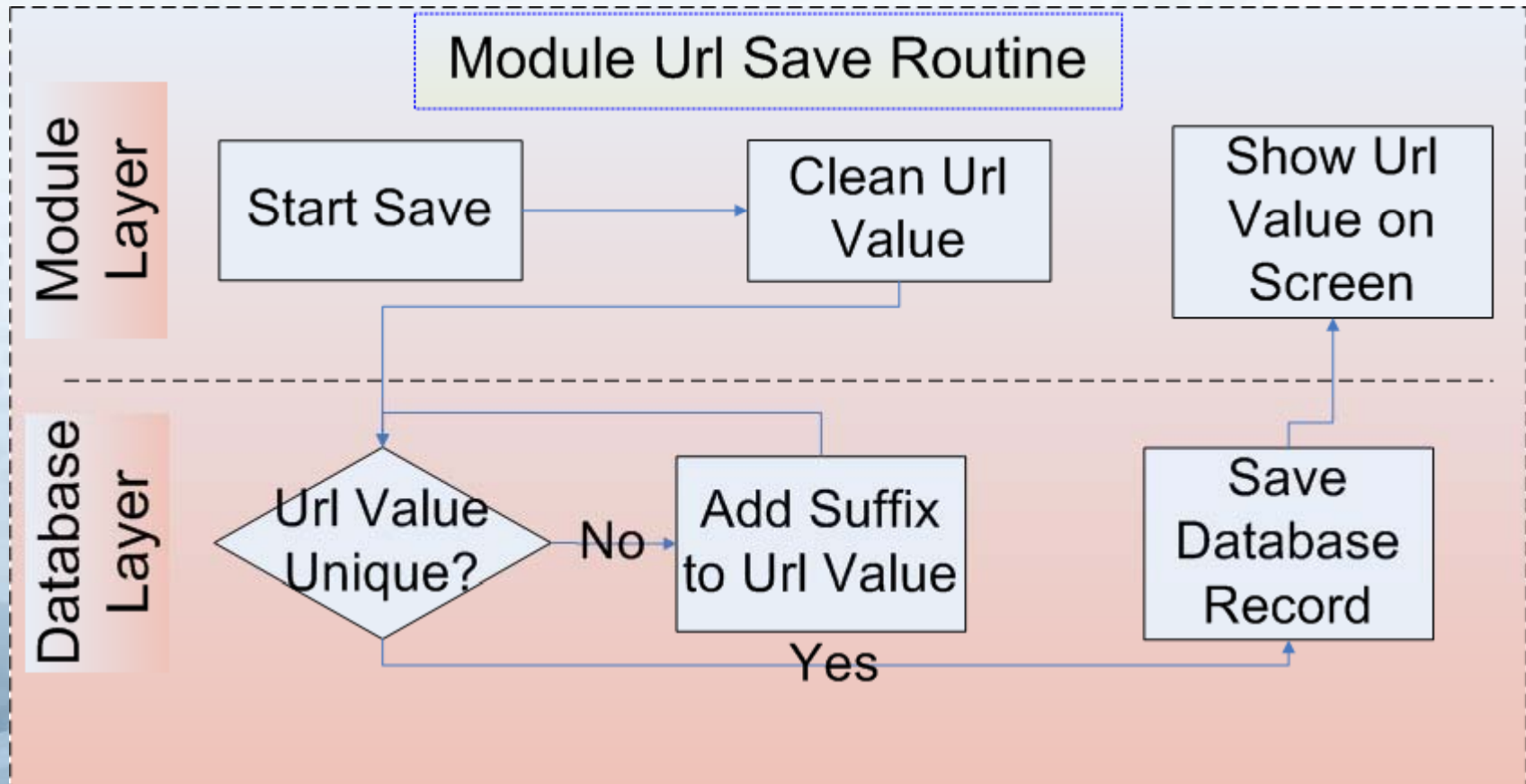
UrlHistoryId	PortalId	ContentItemId	UrlValue
1	0	56	migratory-birds
2	0	57	thylacine
3	1	258	migratory-birds
4	1	275	poisonous-snakes
5	1	275	venomous-snakes

- Can use 'unique constraint' but across PortalId, ContentItemId and UrlValue
- Allows for same Url in different portals, different Urls for same content (history)

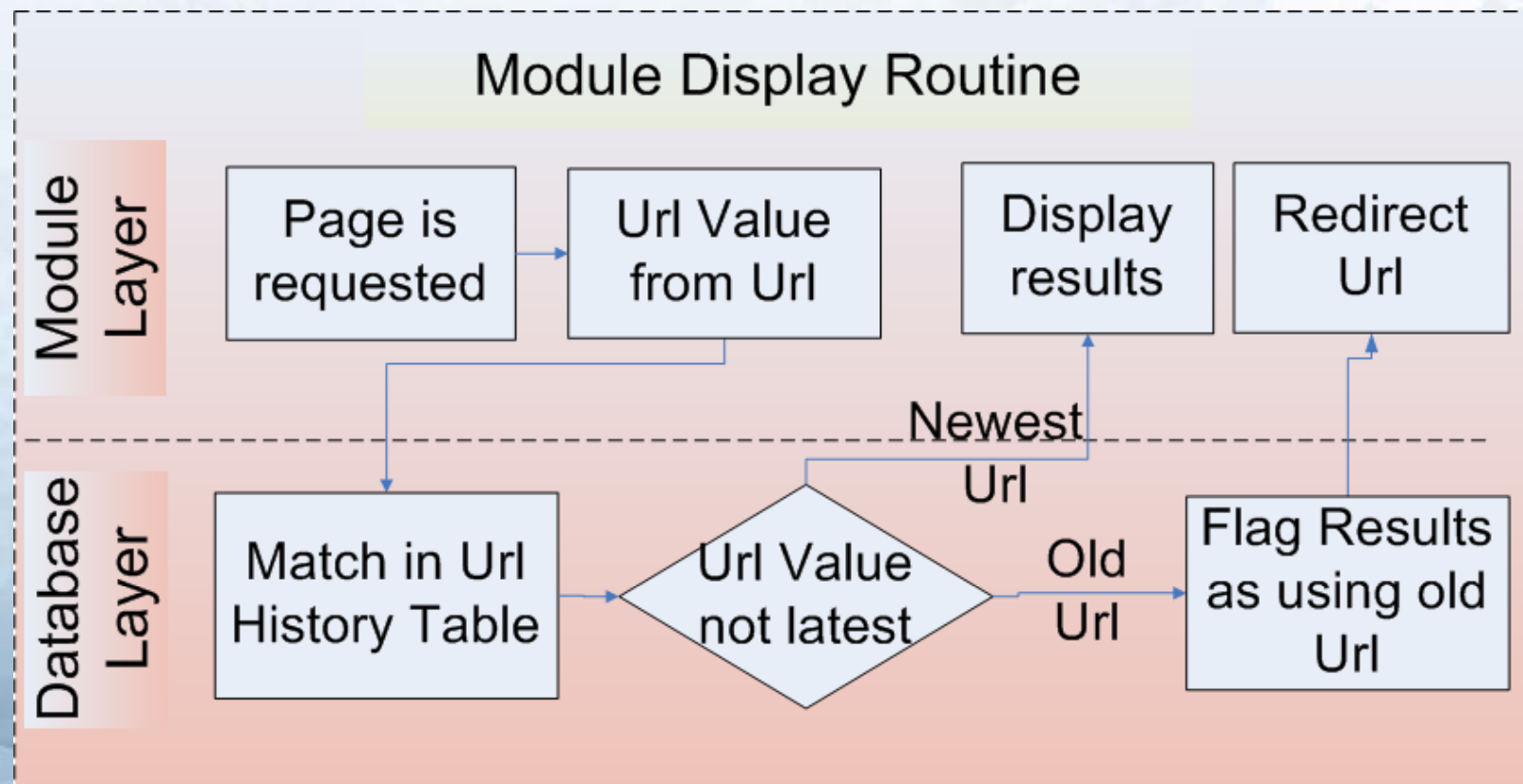
▶ Database Driven Unique Urls - Expanding

- May need to expand to allow same Url for different modules (ModuleId) or different pages (TabId)
- Allow for long Urls. At least 250 characters long.
- Can include 'Entity Type' in columns for when module displays different content - eg Products, Categories, Accessories.

Database Logic for Unique Urls - Save



Database logic for Unique Urls - Retrieve



▶ Best Urls with DotNetNuke Modules

- Use combination of end-user supplied Url Value and uniqueness logic
- Build once, use throughout module
 - Imagine it's
`System.Web.Url.GetMeAGoodUrl()`
- Use AJAX calls to give instant Url lookup or show message advising Url changes when not unique

▶ Url Value source Data

- Derive from entity data where applicable
 - Blog title
 - Forum Subject
 - Product Name
- Allow power-user override for SEO tweaking and experimenting

Cleaning Url Values

- User Supplied data will be messy
- Avoid Url Encoding by cleaning value

- *example.com/great local cafés & restaurants*

Will turn into:

- example.com/great%20local%20caf%E9s%20%26%20restaurants

Cleaned Version

- example.com/great-local-cafes-restaurants

- Convert Diacritic Characters to ASCII

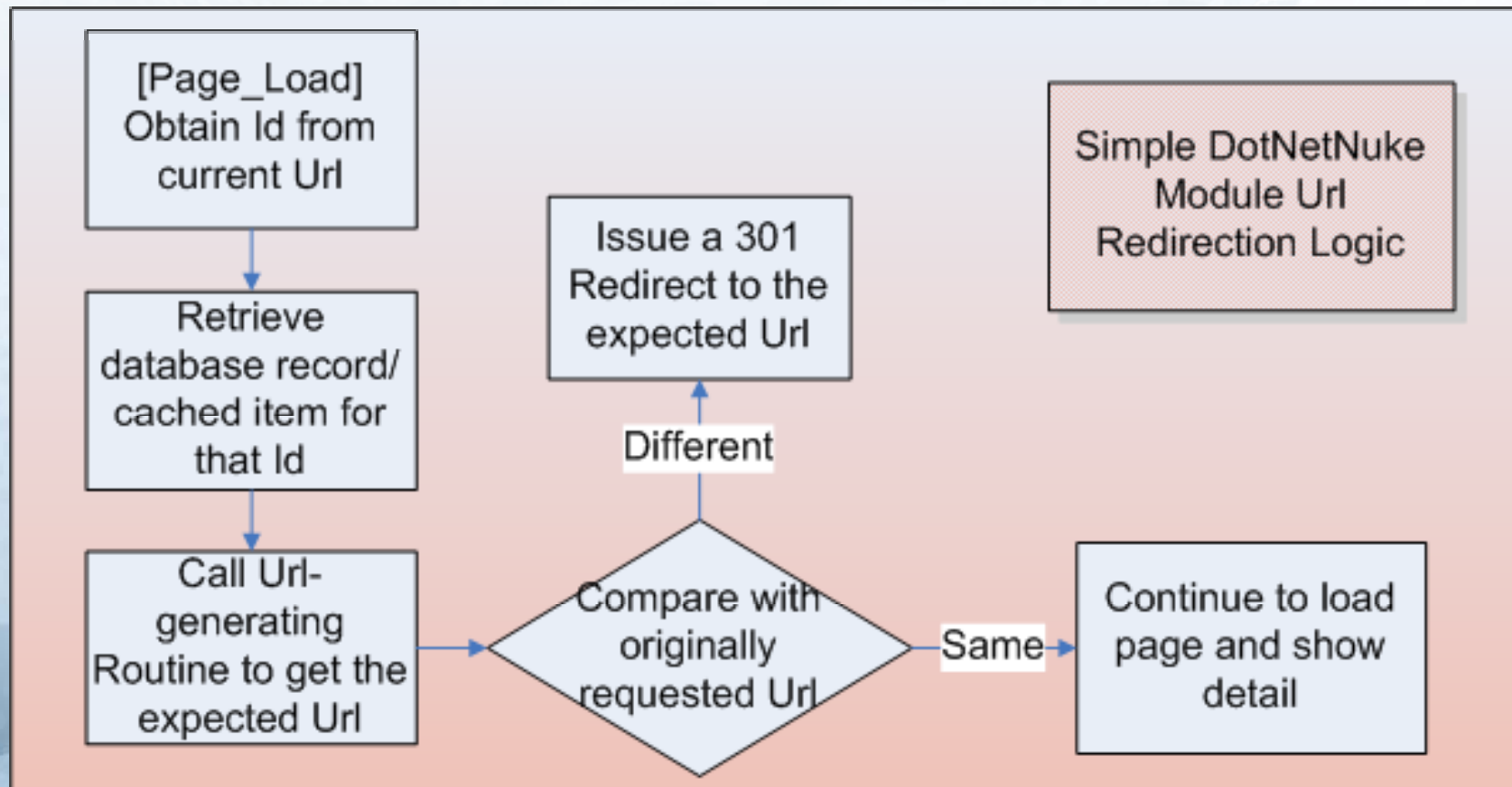
```
string.Normalize(System.Text.NormalizationForm.FormD);
```

▶ Redirect in case of unfriendly Url

- Existing modules create old urls
- Identify old Urls and redirect to new
- Important Points
 - Use case insensitive comparisons
 - Always have option to switch off
 - Add a response header (x-redirect-reason)
 - Compare with original Url, not Request.Url

```
Context.Items["UrlRewrite:OriginalUrl"];
```

Unfriendly Url Redirect Logic



Examples

For Sale | Western Australia Real Estate | House or Land For Sale | Developments | Land Estate - Windows Internet Explorer - [1]

InPrivate <http://www.firstonerealty.com.au/RealEstate/tabid/68/Property/126-Caspian-Drive-MANDURAH-3002564/Default.aspx>

HOME | ABOUT US | FOR SALE | BALI PROPERTY | WANT TO SELL? | HINTS & TIPS | THE TEAM | CONTACT US

FIRST (08) 9386 6000

<http://www.firstonerealty.com.au/RealEstate/tabid/68/Property/126-Caspian-Drive-MANDURAH-3002564/Default.aspx>

PROPERTY SEARCH

BALDIVIS
 BALI
 BYFORD
 DAWESVILLE
 GREENFIELDS
 MANDURAH

Property Type
Minimum Price
Maximum Price
Bedrooms
Bathrooms
Suburb

SEARCH

LATEST LISTINGS

PROPERTY ALERT
Register to receive new listings

LAND AVAILABLE

FOR SALE
CLICK FOR MORE INFO

1/26 Caspian Drive MANDURAH

Ocean and Estuary Views

Price From \$825,000

Port Bouvards
views of the w
one of the high

- Real Estate site, using Xml feed for content, hence ID needed
- Using standard DNN Friendly Url Provider

Examples

Derivatives Research - Strategic Finance Group Publications - Windows Internet Explorer - [InPrivate]

http://www.sfgconsulting.com.au/Publications/List/Derivatives_Research.htm

STRATEGIC FINANCE GROUP CONSULTING

HOME CAPABILITIES PUBLICATIONS PERSONNEL BEST PRACTICE CONTACT US

SFG provides innovative solutions to corporate finance & valuation issues by combining academic rigor with practical implementation.

SFG Consulting
Level 1, South Bank House
Stanley Street Plaza
South Bank, QLD
Australia

Phone:
+61 (07) 3844 0684

Fax:
+61 (07) 3844 0521

PO BOX 29
Stanley Street Plaza
South Bank, QLD 4101

Read the SFG Consulting Capabilities Statement

Publications

Publications available from SFG.

Consultancy

Derivatives Research

Interest Rates & Foreign Exchange

Market Efficiency Research

Energy Pricing

Miscellaneous

Derivatives Research

A collection of research on Options, Real Options, etc.

Downloadable Files:

Hall, J., & Nicholls techniques. CPA A

Gray, S., & Treep Carlo Approach. A

Gray, P. K., & Gray Markets Institutio

Gray, P. K., & Gray Accounting Resea

Gray, S., & Whaley Example. Australi

Gray, S., & Whaley Reser. Journal of

Gray, S. (1989). P of Management, 1

- Module shows multiple content on DNN page
- Uses Urls created by Administrator for best SEO results
- Using Url Master module, with '.htm' Urls

▶ Example Project Code

- Included with presentation on CD
- Available from <http://ifinity.com.au/Products>
- Install package and source code for 'MultiContent' module
- Uses different Urls to show different 'pages' of Html content in the one module.

MultiContent Module

Content Module Test Page Default Page Title - Windows Internet Explorer

http://www.dotnetnuke.test/content

Content Module Test Page Default Page Title

Mode: View Edit Layout

Admin Host

DOTNETNUKE COMMUNITY

HOME CONTENT BLOG FORUM ANNOUNCEMENTS REPOSITORY ADMIN HOST

You are here: Content SuperUser Account | Logout

Multi Content

Extra data shown while in Edit Mode - not visible by ordinary users

Title :: Default Page Title

Description :: Default Page Description

All Pages of Content for this Module

Default Page Title [Default View] Test Page 2 Create New Page

Default Page Content

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Maecenas et nisi eget turpis commodo porttitor. Sed ac diam nibh, et varius mauris. Pellentesque nec egestas felis. Nullam a lectus sit amet elit rutrum dictum a sit amet lacus. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam diam nisi, rhoncus a semper quis, feugiat eu odio. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Quisque suscipit diam id lacus cursus adipiscing. Quisque placerat vestibulum enim, id consequat ipsum cursus sed. Nullam suscipit vehicula eros, sed viverra nisi venenatis id. Nullam non rhoncus enim. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. In hac habitasse platea dictumst. Donec molestie porta pharetra. Donec sed justo nibh. Donec cursus nunc arcu. Etiam malesuada imperdiet neque, vel venenatis quam elementum vel.

Edit this page of Content Delete this page of Content

Internet | Protected Mode: On 100%

MultiContent Module

Content Module Test Page Test Page 2 - Windows Internet Explorer

http://www.dotnetnuke.test/content/keyword-rich-url-value-for-seo-benefit

Content Module Test Page Test Page 2

Mode: View Edit Layout

Admin Host

DOTNETNUKE
COMMUNITY

HOME **CONTENT** BLOG FORUM ANNOUNCEMENTS REPOSITORY ADMIN HOST

You are here: Content SuperUser Account | Logout

Multi Content

Extra data shown while in Edit Mode - not visible by ordinary visitors

Title :: Test Page 2

Description :: This description is for the META description field

All Pages of Content for this Module

Default Page Title [Default View] **Test Page 2** Create New Page

In neque dolor, adipiscing ac dignissim vitae, tristique at mi. Integer sollicitudin metus id nisi semper eu placerat lorem mattis. Nullam varius dui nec odio tincidunt egestas. Nulla consectetur consectetur dolor, eget tristique tellus vestibulum suscipit. Vivamus at mi et nisi bibendum adipiscing. Integer nunc massa, tincidunt et aliquam sit amet, tristique id massa. Pellentesque porta felis at magna dignissim blandit. Nam eget lectus a tortor vehicula ultricies. Praesent malesuada quam vitae elit egestas tincidunt. Integer suscipit tortor tellus. Aliquam dapibus pellentesque elit, quis sodales magna tincidunt vel. Duis non tortor et justo pulvinar dapibus id ut leo. Vestibulum vehicula gravida tempor. In est tortor, sollicitudin ullamcorper luctus et, varius non tortor. In hac habitasse platea dictumst

[Edit this page of Content](#) [Delete this page of Content](#)

Add Tags

Internet | Protected Mode: On 100%

▶ MultiContent Module

- Fully working module
- Shows complete operation for:
 - Url Cleaning
 - Checking for unique Url value
 - Redirecting when not latest Url Value
- Complete solution for adaptation to other DotNetNuke modules.

▶ Session Review

- The case for Friendly Urls
- Ways to easily improve existing modules
- Strategies for designing Friendly Urls into DotNetNuke Module design and architecture

▶ Questions?



- Question and Answer

Feedback Forms

Session Details

DDV03 : Building
Friendly Urls into
DotNetNuke Modules

Bruce Chapman

Follow on twitter
@brucerchapman