SharePoint's New Swiss Army Knife

The Content Search Web Part (CSWP)

Sean P. McDonough
National Office 365 Solution Manager
Cardinal Solutions Group, Inc.

My background

My employer
Thanks to our Sponsors!

- **Platinum:**
  - 5th Method Consulting
  - All Lines Technology

- **Gold:**
  - K2
  - Metalogix

- **Silver:**
  - CEI
  - Vibrant Fusion

- **Raffle:**
  - Virto Software
More Fun Stuff

- **Raffle**: Please join us in the Atrium at 5:15 PM for the raffle. We are raffling some exciting prizes including **Fitbits, HP tablets**, and who knows, maybe a **Surface 3** (need to be present to win)!!!

- **SharePint** will be held at **Mad Mex** (370 Atwood St, Pittsburgh, PA 15213). While it starts at 5:30 PM, there’s no end time!!!! 😊😊😊

- **Pittsburgh Area SharePoint User Group**
  - Meets at the Microsoft office on the North Shore
  - More Info: [https://www.linkedin.com/groups/Pittsburgh-Area-SharePoint-User-Group-3769745/about](https://www.linkedin.com/groups/Pittsburgh-Area-SharePoint-User-Group-3769745/about)
We do Request that...

- You fill out the Session Evals. These will also be your Raffle tickets. Print your name clearly if you intend to participate in the Raffle and drop the forms at the registration desk after the last session.

- You visit the sponsors. The event is possible due to their generous support and we request that you visit them and inquire about their products & services.

- Cell phones be kept on silent as a courtesy to other attendees and speakers.
Sean P. McDonough
National Office 365 Solution Manager
Cardinal Solutions Group, Inc.

My background

- Developing software since mid '90s
- Working with SharePoint since 2004
- Many roles: developer, administrator, product manager, evangelist, and more
- Community focus: free solutions, writing, speaking, and mentoring

My employer

About Cardinal

- Founded in 1996
- Cincinnati, Ohio
- 360+ FTEs
- $50M+ Revenue
- Columbus
- Charlotte
- Raleigh
- Tampa
- Mobile
- Portals & Collab
- UX
- Application Dev
- WEM
- BI
- Agile Coaching
- Business Analyst
- Project Management
About Cardinal

Founded in 1996
Cincinnati Ohio

350+ FTEs
$50M+ Revenue

Cincinnati
Columbus
Charlotte
Raleigh
Tampa

Mobile
Portals & Collab
UXD
Application Dev
WEM
BI

Agile Coaching
Business Analysis
Project Management
This Session

- Introduce the Content Search Web Part (CSWP)
- Discuss how it works and what you need to use it
- Demonstrate common and not-so-common uses
- Investigate configuration and display options
- Identify strengths and weaknesses

* Demos with Q&A throughout! *
• the CSWP is extremely versatile
• usable by novices and experts alike
• largely future-proof and cloud-ready
• a viable replacement for custom development in a number of scenarios

Why I'm Talking
About
the CSWP

- Introduction
- Discussion
Display basic search results
Perform context rollups
Expose content dynamically and interactively
• the CSWP is extremely versatile
• usable by novices and experts alike
• largely future-proof and cloud-ready
• a viable replacement for custom development in a number of scenarios

Why I'm Talking About the CSWP
On-premises SharePoint 2013 Enterprise and
On-premises SharePoint 2013 Enterprise

and

Office 365 Enterprise E3 & E4 Plans
Office 365 Education A3 & A4 Plans
Office 365 Government G3 & G4 Plans
SharePoint Online Plan 2
• the CSWP is extremely versatile
• usable by novices and experts alike
• largely future-proof and cloud-ready
• a viable replacement for custom development in a number of scenarios

Why I'm Talking About the CSWP

- Introduction
- Discussion
I'm mentioning development, but I'm not assuming you are a developer.

This presentation is largely introductory ...
... with occasional dives into specific areas of interest to a variety of groups:

- designers
- developers
- end users
- power users
so, without further ado ...
Let's get our feet wet with some basics

- The CSWP is a web part ... obviously?
SharePoint's New Swiss Army Knife

The Content Search Web Part

Demos

Display Template Styling
Demonstrates some of the options for styling display templates.

Query Driven Selection
Demonstrate how querystring parameters can drive content selection.

Content Rollup
Demonstrates the CSWP's content rollup capabilities.

Simple Search Results
Demonstrates the use of the CSWP for displaying simple search results.
Let's get our feet wet with some basics

- The CSWP is a web part ... obviously?
- The content that it displays comes from a query that is run against the search index
- There are a multitude of levers and dials to control the content selected for display
- The manner in which content is displayed is highly configurable and styled easily
Actually, it's a family of web parts

It's hard to miss this one

But these are CSWPs, too
It's hard to miss this one
But these are CSWPs, too
Consider the Search-Driven Pictures Web Part ...
Web Part Gallery

Name: CBS_Pictures

Title: $Resources:Microsoft.Office.Server.Search,CBS_Pictures_Title,

Description: $Resources:Microsoft.Office.Server.Search,CBS_Pictures_Description;

Group: Default Web Parts

Recommendation Settings: Specify your own value:

Please specify site template names separated by "#". Your web part will appear in "Recommended Items" category when a user tries to add a web part to any web part pages within sites using site templates mentioned here. Otherwise, for page level recommendations of web parts, you can include a tag in here and then add that same tag to "Recommended" property on the web part adder control on the page in question.

Created at 5/26/2014 11:51 AM by System Account
Last modified at 5/26/2014 11:51 AM by System Account
Default

Please specify site template names separated by ";". Your web part will appear in “Recommended Items” category when a user tries to add a web part to any web part pages within sites using site templates mentioned here. Otherwise, for page level recommendations of web parts, you can include a tag in here and then add that same tag to “Recommended” property on the web part adder control on the page in question.

Created at 5/26/2014 11:51 AM by System Account
Last modified at 5/26/2014 11:51 AM by System Account
<?xml version="1.0" encoding="utf-8"?>
<webParts>
  <webPart xmlns="http://schemas.microsoft.com/WebPart/v3">
    <metaData>
      <importErrorMessage>$Resources:core,ImportErrorMessage</importErrorMessage>
    </metaData>
    <data>
      <properties>
        <property name="Title" type="string">$Resources:Microsoft.Office.Server.Search,CBS_Pictures_Title</property>
        <property name="Description" type="string">$Resources:Microsoft.Office.Server.Search,CBS_Pictures_Description</property>
        <property name="ChromeType" type="bool">None</property>
        <property name="AllowMinimize" type="bool">true</property>
        <property name="AllowClose" type="bool">true</property>
        <property name="Hidden" type="bool">false</property>
        <property name="UseSimplifiedjQueryBuilder" type="bool">true</property>
        <property name="DataProviderJson" type="string">
          [
            "Properties":
            {"TryCache":true,"Scope":{"Site.URL":"","PropertiesJson":{"TryCache":true,"Scope":{"Site.URL":""},"SourceId":"384038c0-3975-41a9-82fe-7172d4156b4"},"SourceId":"384038c0-3975-41a9-82fe-7172d4156b4"},"SourceId":"384038c0-3975-41a9-82fe-7172d4156b4"},"SourceId":"384038c0-3975-41a9-82fe-7172d4156b4"},
            "ItemTemplateId" type="string">sitelocation\_catalogs\_masterpage\Display Templates/Content Web Parts/Item\_LargePicture.js</property>
        <property name="RenderTemplateId" type="string">sitelocation\_catalogs\_masterpage\Display Templates/Content Web Parts/Control\_Slideshow.js</property>
        <property name="NumberOfItems" type="int">10</property>
        <property name="ResultsPerPage" type="int">10</property>
      </properties>
    </data>
  </webPart>
</webParts>
<table>
<thead>
<tr>
<th>Type</th>
<th>Web Part</th>
<th>Edit</th>
<th>Modified</th>
<th>Modified By</th>
<th>Recommendation Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BlogAdmin.dwp ▶ NEW</td>
<td></td>
<td>5/26/2014 11:50 AM</td>
<td>System Account</td>
<td>Search</td>
</tr>
<tr>
<td></td>
<td>BlogArchives.dwp ▶ NEW</td>
<td></td>
<td>5/26/2014 11:50 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>BlogNotifications.webpart ▶ NEW</td>
<td></td>
<td>5/26/2014 11:50 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>CatalogItemReuse.webpart ▶ NEW</td>
<td></td>
<td>5/26/2014 11:51 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>CBS_Articles.webpart ▶ NEW</td>
<td></td>
<td>5/26/2014 11:51 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>CBS_Pictures.webpart ▶ NEW</td>
<td></td>
<td>5/26/2014 11:51 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>CBS_PopularItems.webpart ▶ NEW</td>
<td></td>
<td>5/26/2014 11:51 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>CBS_RecentChanged.webpart ▶ NEW</td>
<td></td>
<td>5/26/2014 11:51 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>CBS_RecommendedItems.webpart ▶ NEW</td>
<td></td>
<td>5/26/2014 11:51 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>CBS_Tag.webpart ▶ NEW</td>
<td></td>
<td>5/26/2014 11:51 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>CBS_Videos.webpart ▶ NEW</td>
<td></td>
<td>5/26/2014 11:51 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>CBS_WebPages.webpart ▶ NEW</td>
<td></td>
<td>5/26/2014 11:51 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>CBS_WikiPages.webpart ▶ NEW</td>
<td></td>
<td>5/26/2014 11:51 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>ContentBySearch.webpart ▶ NEW</td>
<td></td>
<td>5/26/2014 11:51 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>ContentQuery.webpart ▶ NEW</td>
<td></td>
<td>5/26/2014 11:51 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>DocumentSetContents.dwp ▶ NEW</td>
<td></td>
<td>5/26/2014 11:51 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>GettingStarted.webpart ▶ NEW</td>
<td></td>
<td>5/26/2014 11:50 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>Media.webpart ▶ NEW</td>
<td></td>
<td>5/26/2014 11:50 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>MSContentEditor.dwp ▶ NEW</td>
<td></td>
<td>5/26/2014 11:50 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>MSImage.dwp ▶ NEW</td>
<td></td>
<td>5/26/2014 11:50 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
<tr>
<td></td>
<td>MSMembers.dwp ▶ NEW</td>
<td></td>
<td>5/26/2014 11:50 AM</td>
<td>System Account</td>
<td>Default</td>
</tr>
</tbody>
</table>
Let's get our feet wet with some basics

- The CSWP is a web part ... obviously?
- The content that it displays comes from a query that is run against the search index
- There are a multitude of levers and dials to control the content selected for display
- The manner in which content is displayed is highly configurable and styled easily
Some implications

• If Search can reach the content (in or outside the farm), the CWSP can display it!

• Since Search is FAST, your results will come back fast, too (pardon the pun)

• Results are security trimmed for you
In case you were wondering ...

Yes, the CSWP can display "plain old search results"

So what's the difference between the CSWP
Yes, the CSWP can display "plain old search results"

So what's the difference between the CSWP and the Search Results Web Part (SRWP)?

- They are actually very similar in terms of capabilities
Yes, the CSWP can display "plain old search results"

So what's the difference between the CSWP and the Search Results Web Part (SRWP)?

- They are actually very similar in terms of capabilities
- CSWP has a few additional bells and whistles
- Most important: CSWP is end-user configurable
Let's get our feet wet with some basics

- The CSWP is a web part ... obviously?
- The content that it displays comes from a query that is run against the search index
- There are a multitude of levers and dials to control the content selected for display
- The manner in which content is displayed is highly configurable and styled easily
The Query Builder aka, "the greatest thing"
The Query Builder
aka, "the greatest thing since sliced bread"
Let's get our feet wet with some basics

- The CSWP is a web part ... obviously?
- The content that it displays comes from a query that is run against the search index
- There are a multitude of levers and dials to control the content selected for display
- The manner in which content is displayed is highly configurable and styled easily
Display Templates "simplify" the process of modifying look and feel as well as behavior.
Let's get our feet wet with some basics

- The CSWP is a web part ... obviously?
- The content that it displays comes from a query that is run against the search index
- There are a multitude of levers and dials to control the content selected for display
- The manner in which content is displayed is highly configurable and styled easily
Plain old search results were a good start ... but they don't really showcase the CSWP
So, what's a more common use case for the CSWP?

Plain old search results were a good start ... but they don't really showcase the CSWP.

Content rollups
So, what's a more common use case for the CSWP?

Plain old search results were a good start ... but they don't really showcase the CSWP.

Content rollups
So what exactly do we mean by saying “content rollup?”
So what exactly do we mean by saying “content rollup?”

We're talking about content aggregation
Consider a lone document library

We can display content using (custom) views
If we want to combine two or more libraries, views aren't an option.
Within a site collection, we have a couple of options for aggregating and rolling-up content.

If we want to combine two or more libraries, views aren't an option.
Within a site collection, we have a couple of options for aggregating and rolling-up content:

**CQWP**

**CSWP**

Content Query Web Part

Content Search Web Part
CQWP

Content Query Web Part

- Aggregate, filter, and display contents from a list/library, site, or site collection via cross-list and cross-site queries
Content Query Web Part

- Aggregate, filter, and display contents from a list/library, site, or site collection via cross-list and cross-site queries

- Part of SharePoint prior to current (2013) release

- Supports audiences and audience-based filtering
  
  - Styling is difficult (you need to know XSLT)

  - Support for dynamic behavior is very limited

  - Queries can generate load and take time
What happens when we have content in other site collections?
As mentioned, we can roll that content up within the site collection using a CQWP ...

...happens when we have content in other site collections?
But what about rolling-up content across more than one site collection?

Within a site collection, we have a couple of options for aggregating and rolling-up content.

What happens when we have content in other site collections?
I believe in presenting a balanced view

Demo

Cross-Site Collection Rollup
strengths and weaknesses ...

I believe in presenting a balanced view
Like anything else, the CSWP has its strengths and weaknesses ...

I believe in presenting a balanced view...
... and it's fair to say that the CSWP has its own "kryptonite"
its own "kryptonite"

Don't panic, though - these are just constraints to be mindful of as you work with the CSWP
We're using Search!

- Fast
- Works beyond the boundaries of our farm
- Works with result sources and query rules we build
- Security trimmed
- Works on-prem and in the cloud
But it goes both ways ...
We're using Search!

- If it hasn't been crawled, it's not available for display
- Major vs. minor versions*
- Content can be hidden and removed from indexes
- The "freshness" issue*
- Enterprise features required!
• If it hasn't been crawled, it's not available for display

• Major vs. minor versions*

• Content can be hidden and removed from indexes

• The "freshness" issue*

• Enterprise features required!
We've covered the CSWP at a relatively high-level
Let's dig a little deeper in two key areas

1. The Query Builder
2. Display Templates

When working with
in two key areas

1. The Query Builder
2. Display Templates

When working with the CSWP, this is where you'll spend most of your time
The Query Builder

#1
Build Your Query

Select a query
Choose what content you want to search by selecting a result source.

Keyword filter
Query from the search box
Property filter
Select property
Contains
Select value
Add keyword filter
Add property filter

Query text
path:="http://sp2013-dev-18g80/*" (isDocument:"True" OR contentclass:"STS_ListItem")
Build Your Query

Sort results
You can have several levels of sorting for your results based on their managed properties.

Sort by:

Add sort level

Ranking Model
Choose a way of ranking results.

Select model

Add dynamic ordering rule

Dynamic ordering
On top of the ranking model, dynamic ordering allows you to promote or demote items in the search results.

Search Result Preview

RelevantResults (126)

Add sort level

pcgamer201202-dl
sp2013-dev13890PC Gamer 20120202-dl.pdf
pcgamer201203-dl
sp2013-dev13890PC Gamer 20120203-dl.pdf
pcgamer201204-dl
sp2013-dev13890PC Gamer 20120204-dl.pdf
pcgamer201205-dl
sp2013-dev13890PC Gamer 20120205-dl.pdf
pcgamer201206-dl
sp2013-dev13890PC Gamer 20120206-dl.pdf
pcgamer201207-dl
sp2013-dev13890PC Gamer 20120207-dl.pdf
pcgamer201208-dl
sp2013-dev13890PC Gamer 20120208-dl.pdf
pcgamer201209-dl
sp2013-dev13890PC Gamer 20120209-dl.pdf
pcgamer201210-dl
sp2013-dev13890PC Gamer 20120210-dl.pdf
pcgamer201211-dl
sp2013-dev13890PC Gamer 20120211-dl.pdf
pcgamer201212-opt-dl
sp2013-dev13890pcgamer201212_opt-dl.pdf
Build Your Query

BASICS  REFINERS  SETTINGS  TEST

Query Rules
Use query rules from Site Settings for this web part.

- Use Query Rules
- Don't use Query Rules

URL Rewriting
If the query is returning items from a catalog, choose whether to use the catalog's URL settings.

- Use URL settings from catalog
- Don't rewrite URLs

Loading Behavior
Choose whether this query is issued on the server while the page is loading, which is better for your main content, or from the browser after the page appears.

- Sync option: Issue query from the server
- Async option: Issue query from the browser

Priority
Choose the importance of this web part's query. We'll run queries according to their relative priorities when the search service is overloaded.

- High
- Regular
- Low

SEARCH RESULT PREVIEW

[Search results preview]

Learn how to build your query

OK  Cancel
Build Your Query

Basics  Refiners  Settings  Test

Query text
Queries may give different results based on dynamic page or user-driven values. See the final query text based on the original query template, query rules, and variable values.

Search Result Preview

Relevant Results (126)

- Simple Search Results
- Content Rollup
- Display Template Styling
- Query Driven Selection
- Tinkering with the CSPW
- Echo
- The Unicorn Song
- Mother Nature
- Closer
OR contentclass="STS_ListItem")

Learn how to build your query
The Query Builder

#1
The Query Builder
#2 Display Templates
Two simple selections that make ALL the difference
Consider this CSWP and the selected display templates
The Control template covers the display of the surrounding region.
An Item template controls each result that appears in the Control.
Looking more closely at the template and Property Mappings assignments:

- Several control and item templates are available OOTB.
- Property Mappings identify "which" Search property goes "where" for display
Consider this CSWP and the selected display templates
Display Templates Can Be Edited ...

But first we need to acknowledge important truths...
Display Templates Can Be Edited ...

But first we need to acknowledge some important differences

to play to stereotypes
These two types of individuals tend to see the world very differently

Display Templates Can Be Edited ...

But first we need to acknowledge some important differences

To play to stereotypes
Display Templates Can Be Edited ...

But first we need to acknowledge some important differences

To play to stereotypes

Devs

Designers

With SharePoint 2013's
Prior to display templates, you didn't stand a chance if you were a designer

You needed to know XSL, but somehow, you didn't...
You needed to know XSL, how to handle ASP.NET tags and markup, and other "non-designer" technical details.
Designers

With SharePoint 2013's new Design Manager, designers have a fighting chance

Design Manager: Welcome

1. Welcome
2. Manage Device Channels
3. Upload Design Files
4. Edit Master Pages
5. Edit Display Templates
6. Edit Page Layouts
7. Publish and Apply Design
8. Create Design Package

The Design Manager helps you create your own site design in SharePoint. Learn how SharePoint sites work.

If you aren't creating your own design, you may instead want to choose from one of the following options:

- Import a complete design package
- Pick a pre-installed look

Otherwise, go ahead to the next step of the Design Manager. Get an overview

The Design Manager crunches HTML input
The Design Manager crunches HTML input

... and spits out a converted layout.
... and spits out a converted Javascript display template that is ready for use
For example
Worth mentioning: display templates and related files can be packaged for deployment.
Sum-Up:

- The CSWP is your friend
- Usable by novices and experts alike
- Uses Search to serve content quickly
- Available on-prem and in the cloud

Yes, this is a real knife. Look up "Wenger 16999 Swiss Army Knife" on Amazon!
Resources

Search Driven Publishing Features Are Now Available in SharePoint Online

Configure Search Web Parts in SharePoint Server 2013

SharePoint Content Query Web Part vs Content Search Web Part in SharePoint On-Premises vs SharePoint Online Environments
http://nikpatel.net/2014/02/28/content-query-web-part-vs-content-by-search-web-part/
Resources

Using the Content Search Web Part (and Understanding SP2013 Search)

SharePoint Online Service Description

SharePoint 2013 Content Search Web Part vs Search Results (video)
http://www.youtube.com/watch?v=RkhCYZm_Ijo

Query variables in SharePoint Server 2013
Sean P. McDonough
SharePoint Gearhead, Developer, and Problem-Solver

Twitter: @spmcodonough
Blog: http://SharePointInterface.com
About: http://about.me/spmcodonough