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ORG CHART/SITE MAP MASHUP

How to create a List-driven, Graphical Org Chart using jQuery, Web Services and the Google Charting API

INTRODUCTION


- David Petersen
- Twitter: @dipetersen
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BLOG – WHATSTHESHAREPOINT.COM

What's The (Share)Point? [What's The \(Share\)Point? on Twitter](#) | [Entries RSS](#) | [Comments RSS](#)

Another resource for MS SharePoint information.

Search...



Home About Presentation Notes Speaking Engagements

I'm speaking at SharePoint Saturday – Twin Cities on Oct 29, 2011

By **David Petersen**, September 20, 2011 10:59 am [Comments \(0\)](#)

I just found out I'll be presenting my Mashup presentation at **SharePoint Saturday – Twin Cities on October 29!** Come see me and hopefully I'll have some books with to sign!

Uncategorized | [conference](#), [Presentations](#), [sharepoint saturday](#), [Site Map](#) [Edit](#)


Org Chart/ Site Map Mashup: Wrapping it all up!

By **David Petersen**, August 30, 2011 11:57 am [Comments \(0\)](#)

I have received some positive feedback on this article series. Thank you! I thought I'd go ahead and create this post with links to each post in the series to make it easy to read the whole thing in order. I also want to thank [EndUserSharePoint.com](#) for picking up the series, making it available to many more people. As always, if there is a particular subject you would like to know more about, send me an email and I'll try to write something about it.


Here are all of the links!

1. Introduction




Call Me
Click and Google will connect you for free.
by Google

Buy My Book!

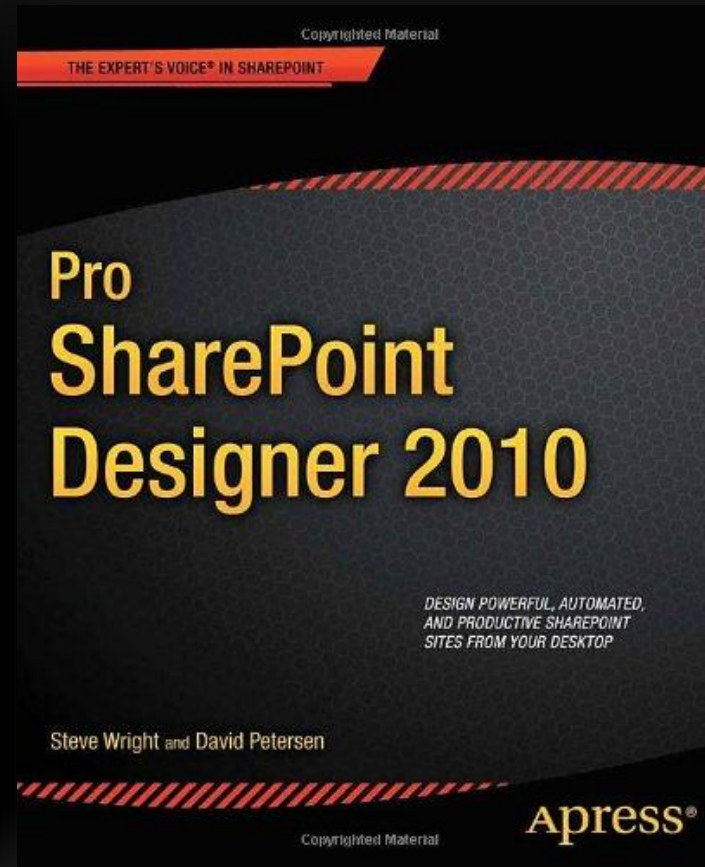


Contact Me



David Petersen, MCSD, MCTS

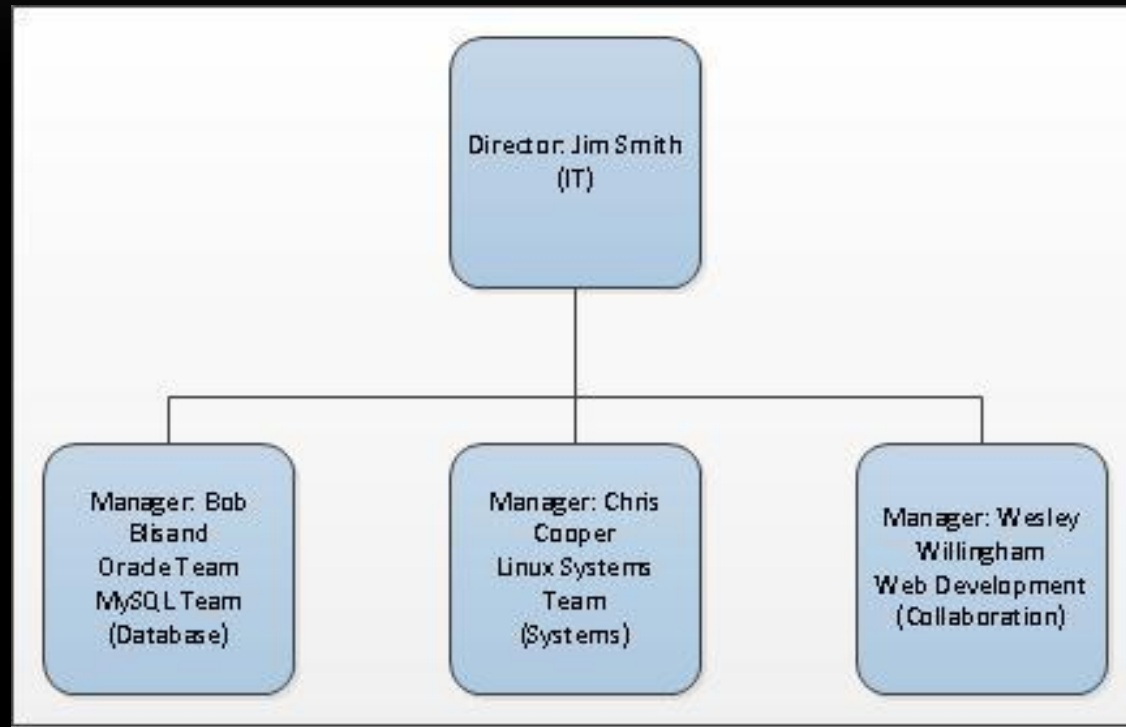
PRO SHAREPOINT DESIGNER 2010



THE PROBLEM

- Business user created an Org Chart as a JPG
 - Web programmer sliced it up and created HTML to display it on a SharePoint page
 - Lost the original graphic
 - Needed to make a change, asked for my help
 - Another JPG was not a good solution
 - Business user always had to have a programmer help update
-

ORIGINAL



THE SOLUTION

- SharePoint list-driven solution
 - Content Editor Web Part
 - Use jQuery to query the SP Web Services
 - SPServices jQuery library for SharePoint Web Services – Marc Anderson
 - <http://spservices.codeplex.com/>
 - Use Google OrgChart Visualization API
 - <http://code.google.com/apis/chart/interactive/docs/gallery/orgchart.html>
-

SHARE POINT LISTS

- **Site Map**
 - Fields
 - Title – The name of each box.
 - Parent – Defines the parent-child relationship.
 - Provides the structure of the org chart.
 - **Site Map Content**
 - Fields
 - Content – of the box.
 - Url – Provided so that we can link to somewhere on the site.
 - Position – Defines what position in the box.
 - SiteMapNode – Lookup to the Title field in the Site Map list. (Relationship to first list)
-

SITE MAP LIST

Field Name	Type	Notes
Title	Single Line of Text	
Parent	Lookup	This lookup field references the Title field in the same list.

Content

Title	Parent
IT	
Database	IT
Systems	IT
Collaboration	IT

SITE MAP CONTENT

Field Name	Type	Notes
Content	Single Line of Text	Rename Title field
Url	Single Line of Text	
Position	Number	Set to Zero decimal places, minimum number 1
SiteMapNode	Lookup	Lookup to the Site Map list and reference Title field

CONTENT FOR SITE MAP CONTENT LIST

Content	Url	Position	SiteMapNode
Director: Jim Smith		1	IT
Manager: Bob Blisand		1	Database
Oracle Team	#	2	Database
MSSQL Team	#	3	Database
MySQL Team	#	4	Database
Manager: Chris Cooper		1	Systems
Microsoft Systems Team	#	2	Systems
Linux Team	#	3	Systems
Manager: Wesley Willingham		1	Collaboration
SharePoint Development	#	2	Collaboration
Web Development	#	3	Collaboration

DEMO

To the code...and beyond...

Columns

A column stores information about each item in the list. The following columns are cu

Column (click to edit)	Type
Title	Single line of text
Parent	Lookup
Created By	Person or Group
Modified By	Person or Group

[Create column](#)

[Add from existing site columns](#)

[Column ordering](#)

[Indexed columns](#)

Columns

A column stores information about each item in the list. The following columns are currently available in

Column (click to edit)	Type	Required
Content	Single line of text	✓
Url	Single line of text	
Position	Number	
SiteMapNode	Lookup	✓
Created By	Person or Group	
Modified By	Person or Group	

[Create column](#)

[Add from existing site columns](#)

[Column ordering](#)

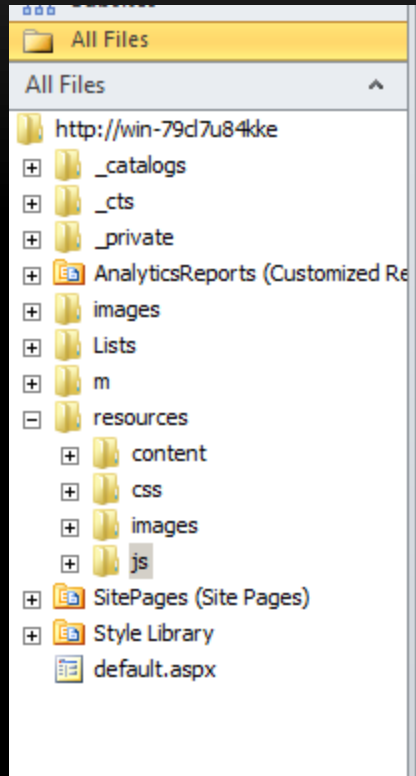
[Indexed columns](#)

Search this site...

<input type="checkbox"/>	@ Title	Parent
	IT	
	Database	IT
	Systems	IT
	Collaboration	IT

 [Add new item](#)

@	Content	Url	Position	SiteMapNode
	Director: Jim Smith		1	IT
	Manager: Bob Blisand		1	Database
	Oracle Team	#	2	Database
	MSSQL Team	#	3	Database
	MySQL Team	#	4	Database
	Manager: Chris Cooper		1	Systems
	Microsoft Systems Team	#	2	Systems
	Linux Team	#	3	Systems
	Manager: Wesley Willingham		1	Collaboration
	SharePoint Development	#	2	Collaboration
	Web Development	#	3	Collaboration



Folder Structure

- resources
 - content
 - sitemap.js
 - css
 - images
 - background-image
 - js
 - jquery
 - spservices

Home - Default Collection - Windows Internet Explorer

http://win-79d7u84kx/default.aspx?P

Home - Central Administration Home - Default Collection

System Account

Site Actions | Browse | Page | Page Tools | Web Part Tools | Options

Stop Editing | Edit Properties | Versions | Permissions | Delete Page | E-mail a Link | Alert Me | Approve | Reject | Workflows | Edit Mobile Page | Make Homepage | Title Bar Properties

Libraries

- Site Pages
- Lists
 - Site Map
 - Site Map Content
- Discussions

Recycle Bin | All Site Content

Left

Right

Add a Web Part

SiteMap

SiteMap

Content Editor

Content Link

To link to a text file, type a URL.

resources/content/SiteMap.js

Test Link

Appearance

Title

SiteMap

Height

Should the Web Part have a fixed height?

Yes Pixels

No. Adjust height to fit zone.

Width

Should the Web Part have a fixed width?

Yes Pixels

No. Adjust width to fit zone.

Chrome State

Minimized

Normal

Chrome Type

None

Layout

Advanced

OK Cancel Apply

100%

SiteMap

Content Editor

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To link to a text file, type a URL.

resources/content/SiteMap.js

[Test Link](#)

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Should the Web Part have a fixed width?

Yes Pixels

No. Adjust width to fit zone.

Chrome State

Minimized

Normal

Chrome Type

None

```
Font Paragraph Preview Editing Proo
content SiteMap.js images All Files
Default Collection > All Files > resources > content > SiteMap.js
1 <!-- Load the jQuery and SPServices libraries.
2     Make sure you verify the path -->
3 <script language="javascript" type="text/javascript" src="resources/js/jquery-1.6.4.min.js"></script>
4 <script language="javascript" type="text/javascript" src="resources/js/jquery.SPServices-0.6.2.min.js"></script>
5
6 <!-- Load the Google Charting visualization library. -->
7 <script type="text/javascript" src="http://www.google.com/jsapi"></script>
8 <script type="text/javascript">google.load('visualization', '1', {packages:['orgchart']});</script>
9
10 <!-- Create a script area for our custom code. -->
11 <script type="text/javascript" language="javascript">
12 String.prototype.wrap = function(pre,post) {
13     return pre + this + post;
14 }
15 var out="";
16 var data;
17 $(document).ready(function(){
18
19     // this is where we will write our code
20
21 });
22
23 </script>
24
25 <!-- This is the container for the site map. -->
26 <div id="sitemap"></div>
```

```
//initialize variables
var curParent='0';
var testParent;
var curTitle='';
var curId='0';
var parentId;
var boxContent='';
// create a new DataTable object that we will pass to the Google API
var data = new google.visualization.DataTable();
// add the following columns to the DataTable to store the chart values.
data.addColumn('string','Name');
data.addColumn('string','Parent');
data.addColumn('string','Tooltip');
```

```
// SPSServices return the response data in the xData object. It contains
// the response in an XML document. We can then use jQuery to find each
// row of data in the XML file and act on it.
$(xData.responseXML).find('[nodeName="z:row"]').each(function(){
    // if this node does not have a parent, then we need to save it to the DataTable
    // differently than the nodes with parents.
    if($(this).attr('ows_Parent')==null)
    {
        curParent = $(this).attr('ows_ID');
        curTitle = $(this).attr('ows_Title');
        boxContent=curTitle;

        // note the first field in the DataTable. the v:curParent and the
        // f:boxContent are in the Name field. The v: represents the Value
        // while the f: represents the display field. It may look like we're
        // saving 4 values to a 3 field table but the first field has a
        // value and display name part to it.


        data.addRow([v:curParent, f:boxContent],curTitle);
    }
    else
    {
```

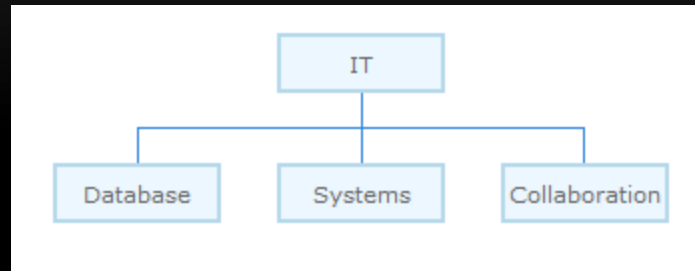
```
else
{
testParent = $(this).attr('ows_Parent');
curTitle = $(this).attr('ows_Title');
parentId = testParent.split(';#')[0];
curId = $(this).attr('ows_ID');
boxContent=curTitle;
if(parentId !=curParent)
    curParent=parentId ;
    data.addRow([v:curId, f:boxContent},curParent,curTitle]);
}
});

// now send it to the Google Visualization API and store the results in 'chart'
var chart = new google.visualization.OrgChart(document.getElementById('sitemap'));
// render the HTML of the chart.
chart.draw(data, {allowHtml:true});
```

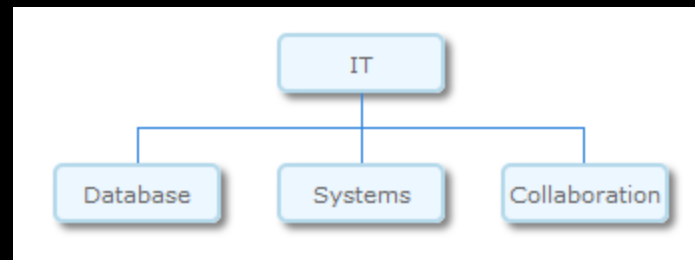


```
CAMLQuery: '<Query><OrderBy><FieldRef Name="
completefunc: function(xData,Status){
}
});
```





IE

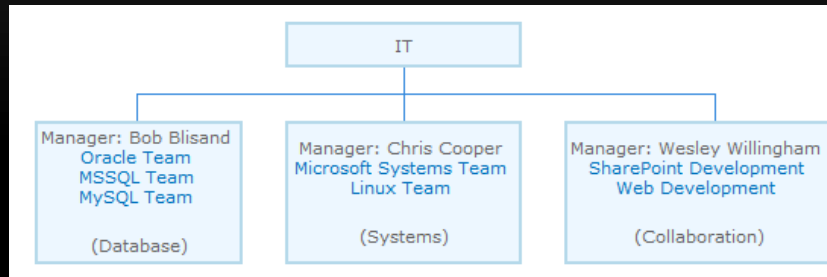


Firefox

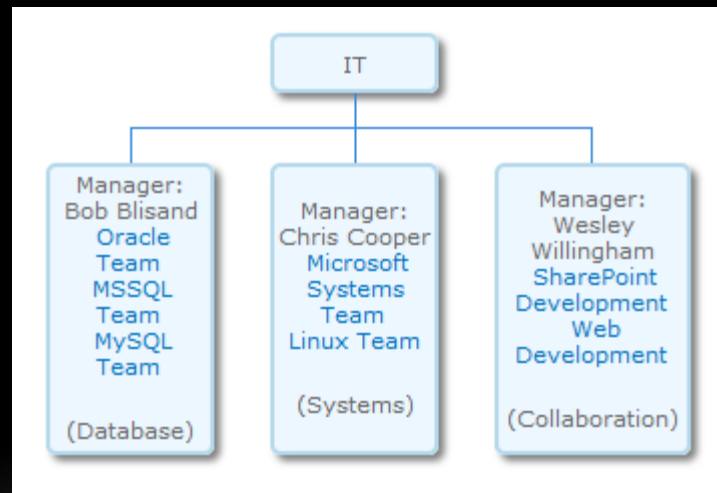
```

function GetContent(LookupValue)
{
    var out='';
    var content, url;
    // use SPServices to query the Site Map Content list for all nodes that match the
    // LookupValue. Grab the Title, Url, Position and SiteMapNode fields.
    $().SPServices({
        operation: 'GetListItems',
        listName: 'Site Map Content',
        async: false,
        CAMLViewFields: '<ViewFields><FieldRef Name="Title" /><FieldRef Name="Url" /><FieldRef Name="Position" /><FieldRef Name="SiteMapNode" /></ViewFields>',
        CAMLQuery: '<Query><OrderBy><FieldRef Name="Position" /></OrderBy><Where><Eq><FieldRef Name="SiteMapNode" /><Value Type="Lookup">'+LookupValue+'</Value></Eq></Where></Query>',
        completefunc: function(xData,Status){
            // When the response is received from the server,
            // create our content string by iterating
            // through each row returned in the response.
            $(xData.responseXML).find('[nodeName="z:row"]').each(function(){
                url='';
                content='';
                // if our string has already been started, add a new row to the response.
                if(out.length>0)
                    out+='\n';
                content=$(this).attr('ows_Title');
                if($(this).attr('ows_Url')!=null)
                    content='<a href="'+ $(this).attr('ows_Url') + '" title="' + content + '">' + content + '</a>';
                // add the content string to the output.
                out += content;
            });
            // one requirement I had was to put the Node name at the bottom of the box.
            // The easiest way to do this is to add an empty paragraph and then the Lookup Value.
            // This is specific to my requirement so you don't have to do this.
            out+='\n<p>&nbsp;</p>';
            out+= LookupValue.wrap('<p>(','</p>');
        }
    });
    return out;
}

```



IE

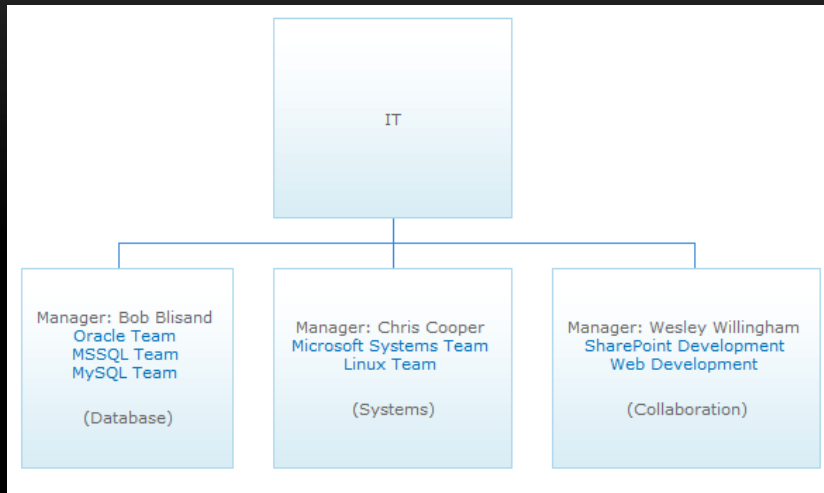


Firefox

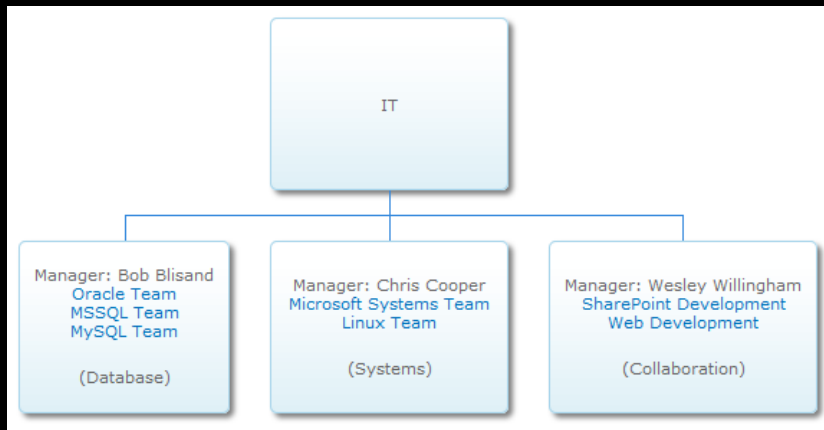


Use background image

```
<style type="text/css">
.google-visualization-orgchart-node
{
  Background-image:url(resources/images/background.gif);
  Background-repeat:repeat-x;
  Background-color:#d2eaf3 ;
  Border:1px solid #a8d5eb ;
  padding: 10px;
  height: 120px;
  white-space: nowrap;
}
</style>
```



IE



Firefox

MORE INFORMATION

- 4 Part Series – Step by Step
 - <http://whatsthesharepoint.com>
 - Download sitemap.js
 - Download background graphic
- CSS3 Reference: <http://www.css3.info>
- Amazon Search for: Pro SharePoint Designer 2010
- Google Chart Tools
 - code.google.com/apis/chart/index.html
- @dipetersen
- <http://www.linkedin.com/in/dpetersen>