

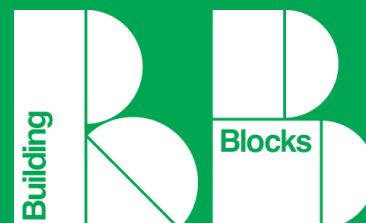
PerkinElmer

Corporate Site – Phase 1
Build Document

Chris Eccles

16th June 2014

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Related Documents

Document Name	Version
Corporate Site_Components_Functional Spec	1
Social Media Integration	1
Interactive Contact-Map Requirements	1

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1. Introduction

This document serves as the Technical solution design for the PerkinElmer Corporate site project. The new website content managed and delivered from an SDL Tridion 2011 SP1 platform. The following sections document in detail the architecture and technical design of the solution, based on the existing requirements documentation.

This is the technical build document for the phase 1 of the project. This only details the implementation of the phase 1 requirements. A separate phase 2 build document will be produced for phase 2.

2. Technical Solution Architecture

This section of the document provides high level overview of the solution architecture and implementation.

2.1. Functional Overview

The solution will use Tridion as the CMS to enable content managers to manage the content on the site.

The solution will be implemented using DD4T which allows the content and design of the page to be disconnected. This allows the content to be managed in the CMS and the design and templating to be handled through application deployments.

There will be a number of static and dynamic templates created to enable the creation of the corporate site based on the designs and wireframes provided to Building Blocks by Zero Degrees.

The majority of the site will comprise of flexible static content that is content managed on each page. There will also be dynamic sections of the site that render out components based on filters and the latest content. For phase one only the dynamic news components will be created the later phases will deal with the products, contacts and events.

The site will also display responsively on a mobile and tablet devices using Responsive Design techniques.

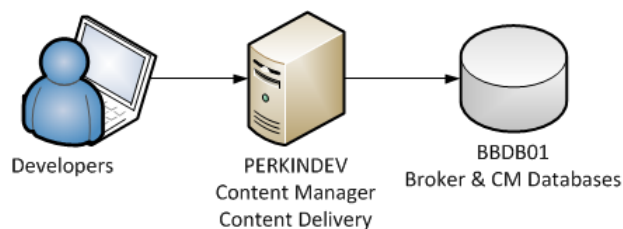
Please see the Corporate Site_Components_Functional Spec for a breakdown of the components and their functionality.

2.2. Infrastructure Architecture

2.2.1. Development

The development server will be hosted at Building Blocks and will consist of a single server. Developers will be able to run the web application locally due to DD4T.

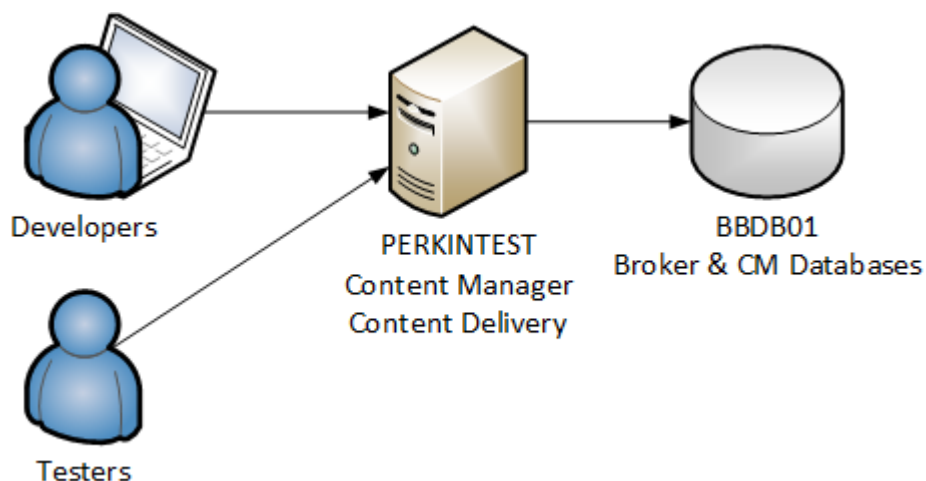
The Tridion instance will be called **perkindev**



2.2.2. Test

The Test server is hosted at Building Blocks and will consist of a single server containing both Content Manager and Content Delivery.

The Tridion instance will be called **perkintest**



2.2.3. Author

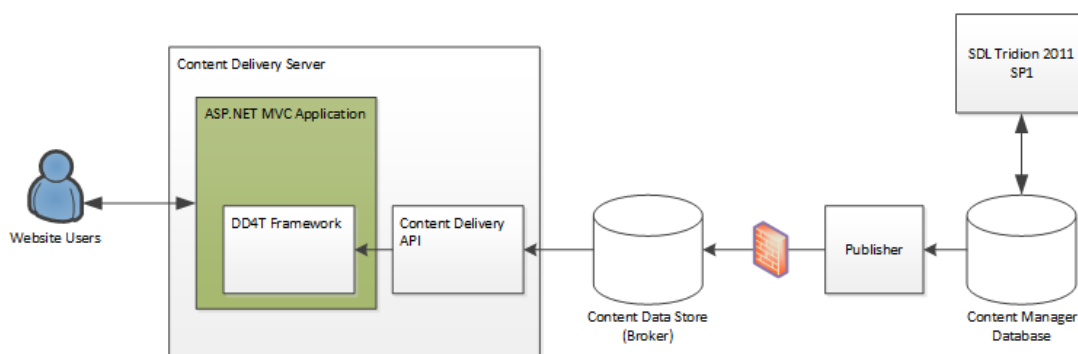
[To be provided by PKI] [TBC]

2.2.4. Production

[To be provided by PKI] [TBC]

2.3. Logical Architecture

The logical architecture of the solution is shown below and details the interaction between all of the main aspects of the PerkinElmer Corporate site solution.



2.4. Publishing Method

On the Production environment the publishing of Tridion held content will continue to be done through FTP. We will use Windows Services running on the Deployment server handling the unpacking, storing and reporting of the transport packages.

2.5. Deployment

Major deployments between the four environments (Development, Test, QA and Production) will be done using one of two mechanisms:

1. Using Content Porter for the deployment of items held within Tridion.
2. The copying of individual files/folders held outside of Tridion (e.g. 3rd party DLL files, etc.). Within Building Blocks internal environments, Team City will be used to deploy these items. We will also use Team City to deploy to some PKI environments where possible.
3. Use of WebDav to deploy Template Designs and User Controls

2.6. Logging / Error Handling

Logging and error handling throughout the application will follow the Building Blocks guidelines as outlined in the [Development Principles](#) section of this document.

3. Technologies

The following technologies form the basis on which the new PerkinElmer Corporate site will be built. Please see the websites of the individual technologies for further details.

3.1. Dynamic Delivery for Tridion 1.31 (DD4T)

Website: <https://code.google.com/p/dynamic-delivery-4-tridion/>

Dynamic Delivery for Tridion is an open source project which allows ASP.NET MVC to be used as the delivery mechanism for a Tridion website.

Content is published as XML into the Content Data Store database and retrieved by a set of providers.

3.2. ASP.NET MVC 5.1

Website: <http://www.asp.net/mvc/mvc5>

ASP.NET MVC 5.1 is a Model View Controller Framework on the ASP.NET engine.

It enables separation of concerns and provides a smooth web friendly development experience.

3.3. SDL Tridion 2011 SP1

Website: <http://www.sdl.com/en/wcm/products/sdltridion/>

SDL Tridion 2011 SP1 will be used as the platform for this project.

We will detail here the Tridion modules and features that will be utilised by the Tridion Implementation project.

3.3.1. Dynamic Linking

Dynamic Linking is a standard piece of SDL Tridion functionality that prevents dead links from appearing on web pages when linked

content is removed (unpublished). Tridion manages metadata about all published content on the web servers, and dynamically creates content links when a page is requested. If content is no longer available (i.e., it has been unpublished) the link is either not rendered at all, or rendered as text only.

Link information will be stored in the Content Broker database.

3.3.2. Dynamic Content Delivery

Using Dynamic Content Delivery, individual pieces of content are stored separately in the Content Data Store on the Presentation Server. They are then retrieved dynamically from the Content Data Store by the Content Broker at request time, based on script code on the Web page.

Component custom metadata will be used to create filters to provide a way to dynamically select a subset of Component Presentations by querying Component metadata.

3.4. SQL Server

Website: <http://www.microsoft.com/sqlserver>

Microsoft SQL Server 2008 R2 will be used as the database technology to support the project. Further details about the databases being used can be found in the [Databases](#) section below.

3.5. jQuery

Website: <http://jquery.com/>

jQuery is the industry standard JavaScript library. It is cross-browser compatible and is easily extensible through its plug-in framework.

3.6. jQuery AJAX

Website: <http://api.jquery.com/category/ajax/>

AJAX requests will be made through a WCF web service using the jQuery AJAX plug-in.

3.7. Git

Website: <http://git-scm.com/>

Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.

3.8. TeamCity

Website: <http://www.jetbrains.com/teamcity/>

TeamCity is a continuous integration server that Building Blocks will use collate, build, test and deploy website code (to the Building blocks environments) during the website development. It works closely with code managed in Git to ensure the quality of builds and releases.

3.9. Unity

Website: <http://unity.codeplex.com>

Unity is an Inversion of Control library and Dependency Injection framework which integrates well with the Entity Framework 6 ORM framework. This library will be used for all IOC required for the Corporate project

3.10. NUnit

Website: <http://www.nuget.org/packages/nunit>

NUnit is a well-regarded and well-documented unit testing framework for .NET.

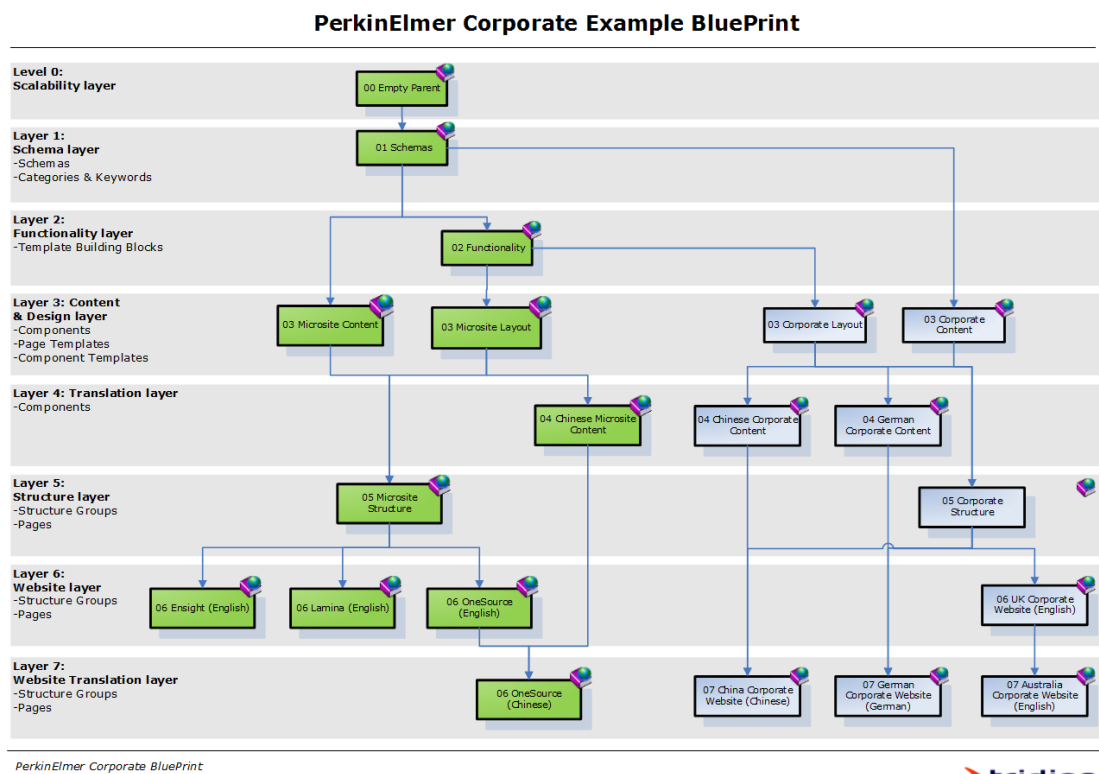
4. Tridion Implementation

4.1. BluePrint Model

The new PerkinElmer Corporate site Tridion BluePrint is shown in the diagram below.

The Blueprint will use the existing blueprint for the Microsites up to the 02 Layer. The new corporate site will share the schemas and Functional TBBs with the Microsites but the templates and content will be specific.

This is shown in the Blueprint model. :



The green publications already exist in the microsites blueprint tree.

There will be translated content publications created for each of the different languages that are to be supported. Only two examples are

shown the diagram. For launch the plan is to have the following translation publications:

- Chinese
- Polish
- German
- Austrian
- French
- Italian
- Spanish

These translation publications will then feed in to the language specific sites.

All publications will inherit a content publication and the 05 Corporate Structure publication. The structure publication is where the pages and structure groups are created. This will act as the master site where all other sites are based from.

4.2. Templating Model

DD4T will be used for all Page and Component Templates that render mark up or are used as dynamic items. The views will be written in razor syntax and be deployed to the server as separate .cshtml files.

Modular Templating will be used in the implementation of system templates such as XML files for settings.

Modular Template logic will be developed in C# Templates, compiled into a DLL in Visual Studio and uploaded into an SDL Tridion folder. This will be in the 02 Functionality Publication. The source code will be stored in Source Control under /src/tridion/.

The SDL Tridion Template Builder tool will then be utilized to combine the Modular Template Building Blocks to create the functioning Page and Component Templates which are used to publish the pages to the website.

DD4T requires some TBBs to be installed in to Tridion but this task has already been carried out in the microsites project.

4.3. Schemas

The schemas and their definitions may change during development. Below is a list of the schemas currently required to support the creation of the corporate site. The names defined in square braces are the XML name that is stored in Tridion.

We have only included the schemas that are new or have been updated for the corporate site phase 1. This is because we are sharing the O1 Schemas publication which contains existing schemas from the microsite project.

Common abbreviations used in schema definitions:

- MV – Multivalued
- MM – Multimedia
- RTF – Rich Text Field
- Non-italic text – Field description
- Italic text – Field xml name

4.3.1. Content Schemas

The corporate site will inherit the schemas from the microsite project. Below are detailed the new and changed schemas that are to be created or altered for this phase of the corporate site. This is not a complete list of all the schemas used for the corporate site.

The additions to existing schemas are in **bold**.

Article

Schema	Article
Rationale	Provides a way for editors to create general article content (not of a specific type) on the website.
Fields	<ul style="list-style-type: none">• Title [title], (Text, Mandatory)• Sub Title [sub_title], (Text)• Summary [summary], (Text, RTF)• Full Text [full], (Text, RTF)• Thumbnail [thumbnail], (MM Link to Image)• Banner Image [banner], (MM Link to Image)• Related Links [related_links], (Comp Link to Internal/External Link & MM).• Related Content [related_content], (Comp Link to Article)
Metadata	<ul style="list-style-type: none">• Icon [icon], (Text – From Icons Category)• News Category [news_category] , (Text - From News Category)

Quote

Schema	Quote
Rationale	This allows quotes to be linked to from an article component.
Fields	<ul style="list-style-type: none">• Quote [quote] (Text)• Name [name] (text)

Hero Banner

Schema	Hero Banner
Rationale	Banner with video option but no text

Fields	<ul style="list-style-type: none"> • Banner Image [banner], (MM Link to Image) • Banner Video [banner_video] , (MM Link to Video)
---------------	---

News

Schema	News
Rationale	Schema to hold news items
Fields	<ul style="list-style-type: none"> • Title [title], (Text, Mandatory) • Sub Title [sub_title], (Text) • Summary [summary], (Text, RTF) • Full Text [full], (Text, RTF) • Thumbnail [thumbnail], (MM Link to Image) • Banner Image [banner], (MM Link to Image)
Metadata	<ul style="list-style-type: none"> • Date [date], (Date) • Category [category] , (Text , Multi-value)

4.3.2. Metadata Schemas

Corporate Navigation Item

Schema	Top Navigation Item
Rationale	<p>Schema to hold the additional data for the navigation items.</p> <p>This will link to the Item selector plugin so that a page can be selected for the link field.</p> <p>/Extensions/ItemSelector/ItemSelectorPopup.htm?types=64</p>
Fields	<ul style="list-style-type: none"> • Link [link], (Text, Item selector URL link) • Link Title [title] , (Text) • Icon [icon], (Text , Category “Icons”)

	<ul style="list-style-type: none">• Summary Text [summary], (Text)• Image [image] , (MM Link to Image)
--	---

4.4. Taxonomy

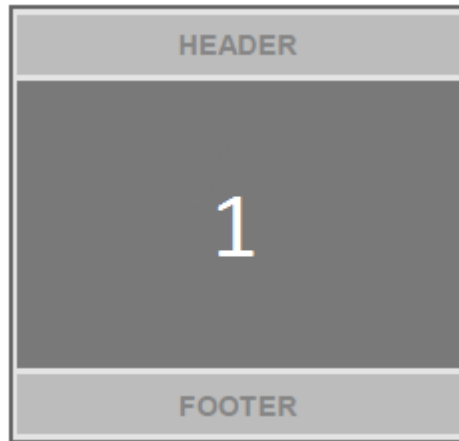
The following is a list of items that are needed in the Tridion taxonomy:

Category	Keywords	Comments
Icons	Icons	For each of the available icons in the style guide https://projects.invisionapp.com/share/FSTNMGX3#/screens/22241333?maintainScrollPosition=false
Language sites	Sites	Each of the sites that can be switched to from the specific site.
Corporate Navigation	Pages	Each item to be shown in the top navigation for the corporate site. Will use the “Corporate Navigation Item” metadata schema
News Category	Categories	List of available news categories. These are used in the news schema to tag the news articles so that they can be displayed dynamically based on the category.

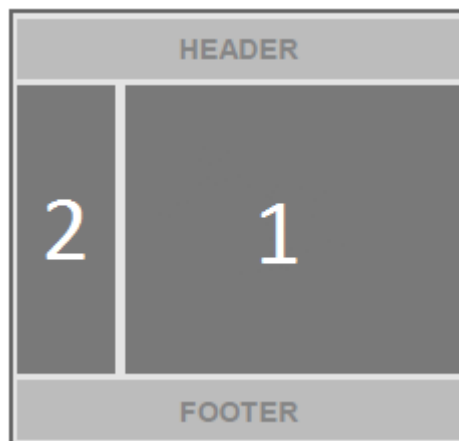
4.5. Page Templates

The following Page Templates have been identified.

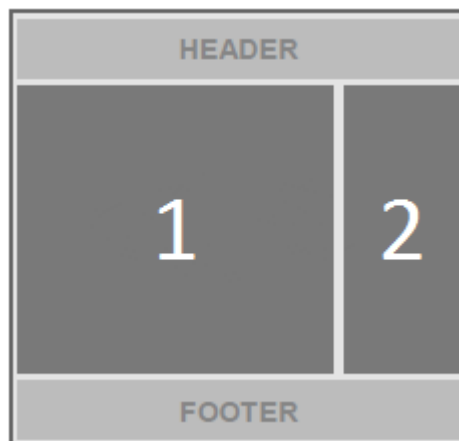
4.5.1. Full Width



4.5.2. 2 Column Left



4.5.3. 2 Column Right



4.6. System Page Templates

The following System Page Templates will be created in the 'Global Layout' Publication:

- z_General_ASAX
- z_General_ASCX
- z_General_ASHX
- z_General_ASPX
- z_General_CONFIG
- z_General_CS
- z_General_CSS
- z_General_DLL
- z_General_HTC
- z_General_JS
- z_General_RSS
- z_General_SITEMAP
- z_General_SVC
- z_General_TXT
- z_General_XML
- z_General_XSL

4.7. Component Templates

The following Component Templates have been identified.

4.7.1. General Content

1 Opportunities

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vestibulum tristique vehicula elit. Integer rhoncus augue eget ipsum. Vivamus ipsum velit, semper eget, eleifend adipiscing, pretium ut, leo. Quisque quis urna. Nullam tellus mauris, ornare in, elementum eu, ullamcorper sed, risus. Suspendisse metus pede, ornare sit amet, nonummy et, ultricies venenatis, est. Ut et turpis ut quam auctor porta. Etiam accumsan.

2 Mauris gravida aliquam felis. Curabitur ut ipsum. Nullam ac tellus lobortis risus lacinia vestibulum. Mauris odio nunc, tristique eget, molestie eget, posuere id, orci.

Nam adipiscing sapien id lacus. Quisque diam urna, commodo semper, commodo nec, imperdiet eget, leo. Sed rutrum elit sed wisi. Mauris vulputate, elit at consectetur consectetur, mi elit faucibus nibh, vel pretium metus ligula non ante. Suspendisse potenti. Nulla suscipit, arcu in lacinia consectetur, odio ipsum ultricies lacus, nec suscipit erat ipsum eu nisl. Fusce velit.

Schema	Article	
Depth	1	
Notes	Links allowed in Rich Text. Title is not a link. Image is not supported Title is H2	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24110486?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	Title [title]	
2	Full Text [full]	

4.7.2. Text with zoom image

1 Integer neque. Etiam bibendum. Sed ipsum.



2

3 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vestibulum tristique vehicula elit. Integer rhoncus augue eget ipsum. Vivamus ipsum velit, semper eget, eleifend adipiscing, pretium ut, leo. Quisque quis urna. Nullam tellus mauris, ornare in, elementum eu, ullamcorper sed, risus. Suspendisse metus pede, ornare sit amet, nonummy et, ultricies venenatis, est. Ut et [in-line link style](#) auctor porta. Etiam accumsan. Mauris gravida aliquam felis. Curabitur ut ipsum. Nullam ac tellus lobortis risus lacinia vestibulum. Mauris odio nunc, tristique eget, molestie eget, posuere id, orciende, ornare sit amet, nonummy et.

4

3m adipiscing sapien id lacus. Quisque diam urna, commodo semper, commodo nec, imperdiet eget, leo. Sed rutrum elit sed wisi. Mauris vulputate, elit at consectetur consectetur, mi elit faucibus nibh, vel pretium metus ligula non ante. Suspendisse potenti. Nulla suscipit, arcu in lacinia consectetur, odio ipsum ultricies lacus, nec suscipit erat ipsum eu nisl.

Fusce velit. Donec suscipit. Mauris viverra elit at leo. Cras viverra nibh at turpis. Suspendisse potenti. Vivamus congue tristique tellus. Cras vitae sapien. Suspendisse potenti. ed rutrum elit sed wisi. Mauris vulputate, elit at consectetur consectetur, mi elit faucibus nibh, vel pretium metus ligula non ia consectetur, odio ipsum ultriciesante. Vivamus congue tristique tellus. Cras vitae sapien.

Schema	Article	
Depth	2	
Notes	On click the image will be zoomed in a light box	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24895739?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	Title [title]	
2	Thumbnail [thumbnail]	
3	Full Text [full]	
4	Summary [summary]	

4.7.3. Image with caption

1



2

Caption goes here hendrerit orci non lacus. Fusce nulla sapien, ullamcorper a, dapibus non, sollicitudin vitae, odio.

Schema	Article	
Depth	2	
Notes	The caption will be shown under the image.	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24895739?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	Banner Image [banner]	
2	Summary [summary]	

4.7.4. Text with quote

1 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vestibulum tristique vehicula elit. Integer rhoncus augue eget ipsum. Vivamus ipsum velit, semper eget, eleifend adipiscing, pretium ut, leo. Quisque quis urna. Nullam tellus mauris, ornare in, elementum eu, ullamcorper sed, risus. Suspendisse metus pede, ornare sit amet, nonummy et, ultricies venenatis, est. Ut et turpis ut quam auctor porta. Etiam accumsan. Mauris gravida aliquam felis. Curabitur ut ipsum. Nullam ac tellus lobortis risus lacinia vestibulum. Mauris odio nunc, tristique eget, molestie eget, posuere id, orci.

2a "If the solution is correct, it's probably simple. If the solution is simple, assume nothing."

2b - Jane Smith

Schema	Article – With related content Quote	
Depth	2	
Notes	The pull quote will be shown on the page as a specific quote element.	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24895739?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	Full Text [full]	
2	Related Content [related_content][o]	First related content that is a Quote component
2a	Quote [quote]	
2b	Name [name]	

4.7.5. Secondary Navigation

All Policies | Privacy Policy | Terms & Conditions | 1a+1b+1c | Application Online Privacy Statement

Schema	Component List – List of Links (Internal Links External Links)
---------------	--

Depth	2	
Notes	This is a list of links and the active page will have a specific CSS class assigned to it.	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24250165?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	List [list] (Internal and External Link schemas)	
1a	Title [title]	
1b	Link [link]	
1c	Target [target]	

4.7.6. Intro Title

1	Capabilities
2	<p> Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aenean euismod bibendum laoreet. Proin gravida dolor sit amet lacus accumsan et viverra justo con</p> <p>consectetur adipiscing elit est a lorem ipsum enean euismod bibendum laoreet.</p>

Schema	Article	
Depth	1	
Notes	<p>Title is H2</p> <p>Image is not supported</p>	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102400?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments

1	Title [title]	
2	Full text [full]	

4.7.7. News Title

1 Short Article With Single Line Headline

2 Customer Stories, Diagnostics

Schema	News	
Depth	1	
Notes	Title is H2	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24895708?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	Title [title]	
2	Category [category]	

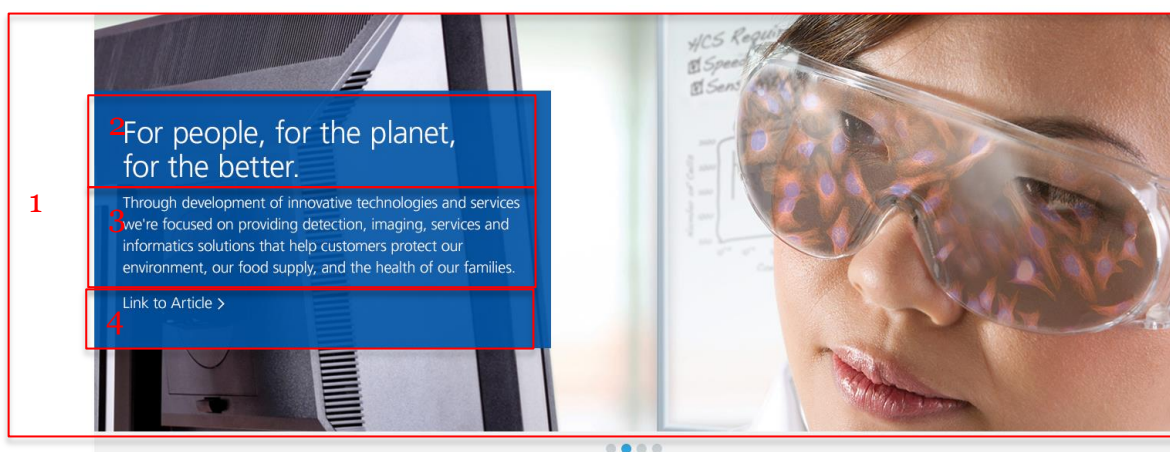
4.7.8. Banner



Schema	Banner
Depth	2

Notes	<p>Medium banner</p> <p>Position of textbox can be controlled by the Metadata field <code>text_alignment</code>.</p> <p>Colour and opacity of background and colour of text can be controlled by the Metadata fields on the Banner schema</p> <p>Not entering title text results in no textbox.</p>	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102494?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1.	Banner [banner]	
2.	Title [title]	Optional
3.	Sub title [sub_title]	Optional
4.	Link [link]	Optional

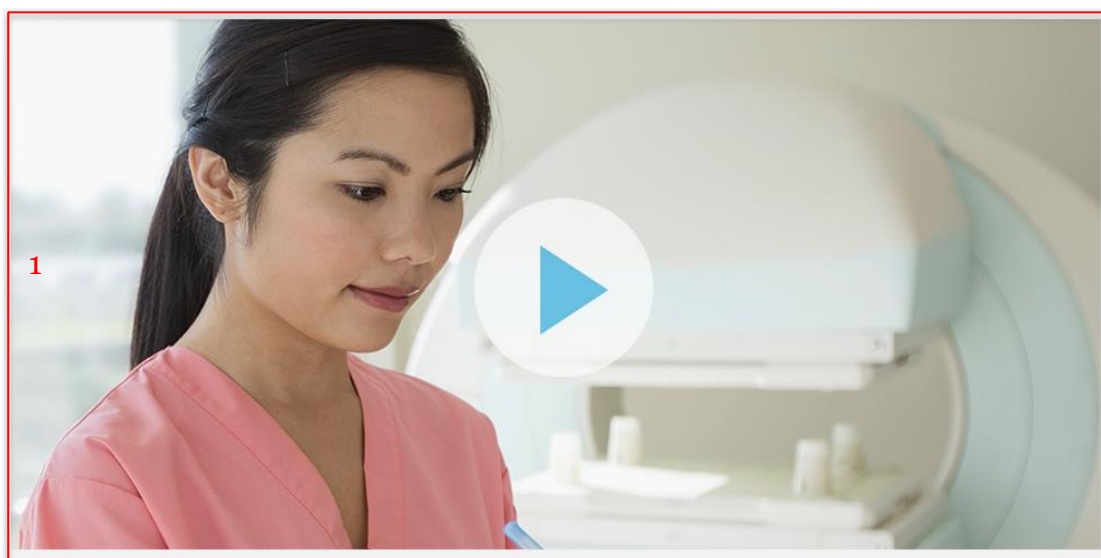
4.7.9. Carousel



Schema	Component list – Banner components
---------------	------------------------------------

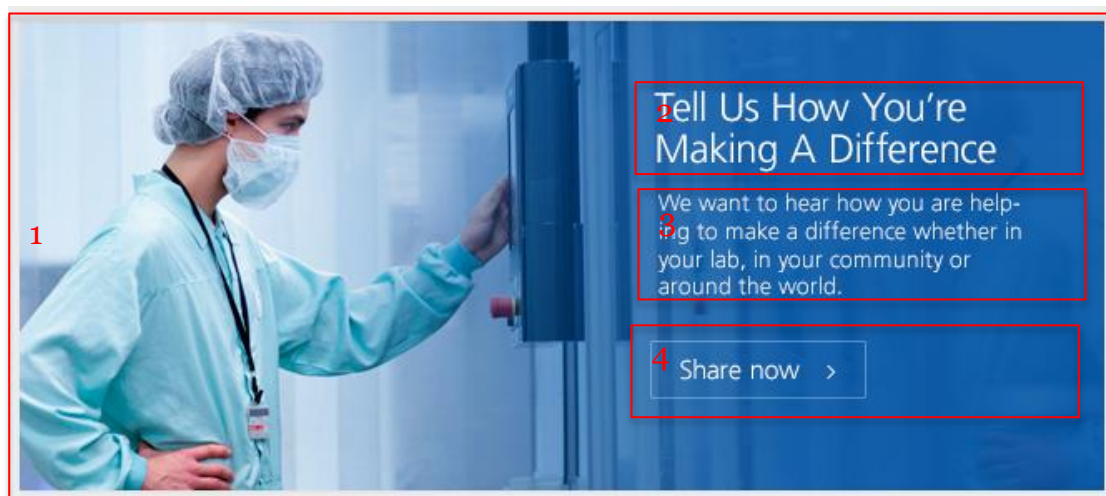
Depth	3	
Notes	<p>A Carousel is a list of banners that can be cycled through.</p> <p>Position of textbox can be controlled by the Metadata field text_alignment.</p> <p>Colour and opacity of background and colour of text can be controlled by the Metadata fields on the Banner schema</p> <p>Not entering title text results in no textbox.</p>	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102202?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1.	Banner [banner]	
2.	Title [title]	Optional
3.	Sub title [sub_title]	Optional
4.	Link [link]	Optional

4.7.10. Hero



Schema	Image / Video	
Depth	2	
Notes	Image or Video rendered out If it is a video rendered out there will be output the rich snippet as specified in the Rich Snippets section.	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24110486?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	Url [title]	

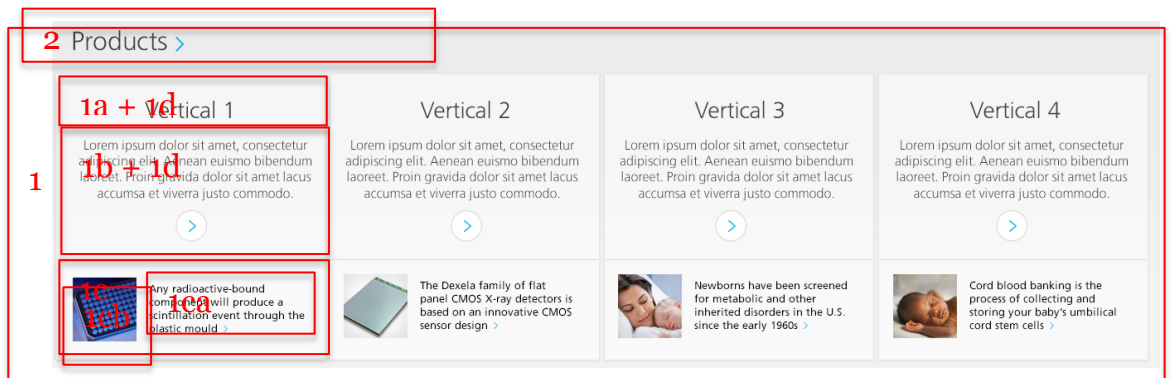
4.7.11. Promo



Schema	Banner	
Depth	2	
Notes	Optional Text and Link for the template	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102202?maintainScrollPosition=false	

Item Number	Description [xml_name]	Comments
1	Banner [banner]	
2	Title [title]	
3	Sub Title [sub_title]	
4	Link [link]	

4.7.12. Product Verticals List





Schema	Component List – Article	
Depth	4	
Notes	<p>The verticals list is contained within a component list.</p> <p>Each article has a related content article component that is shown at the bottom of the vertical pod.</p>	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102202?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	List	
1a	Title [title]	
1b	Summary Text [summary]	


1c	Related Content [related_content]	
1ca	Summary text [summary]	This is the content from the linked article component
1cb	Thumbnail [thumbnail]	
1d	Related Links [related_links]	


4.7.13. Leadership List


2 Directors


Robert F. Friel >
Chairman of the Board and Chief Executive Officer of PerkinElmer


Robert F. Friel >
Chairman of the Board and Chief Executive Officer of PerkinElmer


1 Robert F. Friel >
Chairman of the Board and Chief Executive Officer of PerkinElmer


Robert F. Friel >
Chairman of the Board and Chief Executive Officer of PerkinElmer


Robert F. Friel >
Chairman of the Board and Chief Executive Officer of PerkinElmer


Schema	Component List – Article Components
Depth	3
Notes	List of Article components to be rendered as thumbnail list. This will output the rich snippet as specified in the Rich

	Snippets section. Thumbnail is required Link will be added to the title if present	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102377?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	List [list] (Internal and External Link schemas)	
1a	Thumbnail [thumbnail]	
1b	Title [title]	
1c	Summary Text [summary]	
1b	Related Links [related_links]	
2	Title [title]	

4.7.14. Leadership Detail

2 Robert F. Friel

1



Mr. Friel currently serves as Chairman, Chief Executive Officer and President of PerkinElmer. Prior to being appointed President and Chief Executive Officer in February 2008 and Chairman in April 2009, he had served as President and Chief Operating Officer since August 2007, and as Vice Chairman and President of our Life and Analytical Sciences unit since January 2006. Mr. Friel was our Executive Vice President and Chief Financial Officer, with responsibility for business development and information technology in addition to his oversight of our finance functions, from October 2004 until January 2006. Mr. Friel joined PerkinElmer in February 1999 as our Senior Vice President and Chief Financial Officer. Prior to joining PerkinElmer, he held several senior management positions with AlliedSignal, Inc., now Honeywell International. Mr. Friel received a Bachelor of Arts degree in economics from Lafayette College and a Master of Science degree in taxation from Fairleigh Dickinson University. Mr. Friel is currently a director of CareFusion Corporation and Xylem Inc., and has served as a director of Fairchild Semiconductor Corp. and Millennium Pharmaceuticals, Inc. during the past five years. He also previously served on the national board of trustees for the March of Dimes Foundation.

Mr. Friel has been one of the primary architects of PerkinElmer's transformation into a global technology leader focused on improving the health and safety of people and the environment. Mr. Friel's 14 years of executive experience with PerkinElmer have allowed him to develop a broad knowledge of our operations and activities, and that operational and leadership experience has been essential in formulating appropriate business strategies. His current and past service on the boards of other public companies has provided him with additional insights about service as the Chairman of our board.

Schema	Component List – Article Components	
Depth	3	
Notes	The article component will be displayed as a leadership detail. This will output the rich snippet as specified in the Rich Snippets section.	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102377?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	Thumbnail [thumbnail]	
2	Title [title]	
3	Full Text [full]	

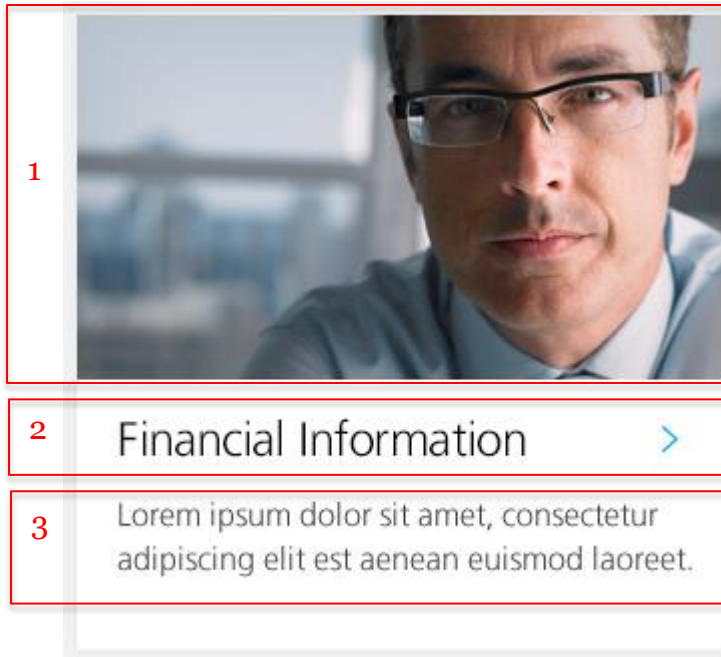
4.7.15. Homepage Feature



Schema	Article	
Depth	2	
Notes	The first related link is added to the title and displayed at the bottom of the link	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102202?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	Banner Image [banner]	
2	Title [title]	
3	Sub title [sub_title]	

4	Related Links [related_links]	
---	----------------------------------	--

4.7.16. Feature




Schema	Article	
Depth	2	
Notes	The first related link is added to the title	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24093676?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	Banner Image [banner]	
2	Title [title]	
3	Sub title [sub_title]	
4	Related Links	


	[related_links]	
--	-----------------	--

4.7.17. Full Feature

1



2 + 4 + 5


Detection
>


3

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aenean euismod bibendum laoreet. Proin gravida dolor sit amet lacus accumsan et viverra justo commodo. Proin sodales pulvinar tempor. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aenean euismod bibendum laoreet. Proin gravida dolor sit amet lacus accumsan et viverra justo commodo.

LOREM IPSUM

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aenean euismod bibendum laoreet. Proin gravida dolor sit amet lacus accumsan et viverra.

6



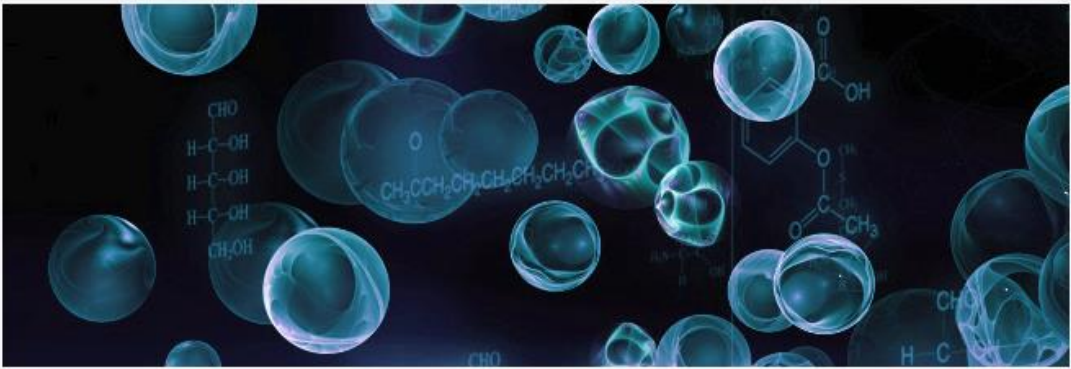
April 22, 2014

How to Create Nanowires Only 3 Atoms Wide with an Electron Beam

Schema	Article
Depth	2
Notes	The related news will be dynamically rendered based on the News category metadata on the article component. The latest news article in the given category will be shown.

URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102400?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	Banner Image [banner]	
2	Title [title]	
3	Summary text [summary]	
4	Related Links [related_links]	Only the first link is used
5	Icon [icon]	The icon metadata will add the class for the css icon.
6	News Category [news_category]	Dynamically retrieved latest news for the specified category.

4.7.18. Large Feature

1


2 + 4
Capabilities >

3
Lorem ipsum dolor sit amet, consectetur adipiscing elit praesent ut tristique

5

5a

Detection

5b + 5d
5c

Lorem ipsum dolor sit amet, consectetur adipiscing elit praesent ut tristique sem mrbi sem risus iaculis ut turpis.

Imaging

Lorem ipsum dolor sit amet, consectetur adipiscing elit praesent ut tristique sem mrbi sem risus iaculis ut turpis.

Software

Lorem ipsum dolor sit amet, consectetur adipiscing elit praesent ut tristique sem mrbi sem risus iaculis ut turpis.

Services

Lorem ipsum dolor sit amet, consectetur adipiscing elit praesent ut tristique sem mrbi sem risus iaculis ut turpis.

Schema	Article
Depth	3
Notes	Optional header image
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102379?maintainScrollPosition=false https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102379?maintainScrollPosition=false

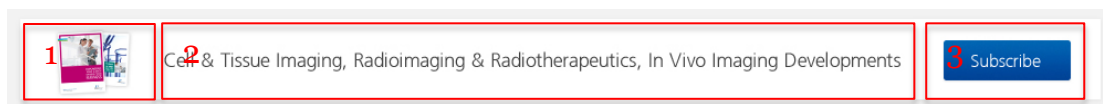
Item Number	Description [xml_name]	Comments
	ens/24102202?maintainScrollPosition=false	
1	Banner Image [banner]	Optional
2	Title [title]	
3	Summary Text [summary]	
4	Related links [related_links]	Only the first link is used
5	Related Content [related_content]	
5a	Icon [icon]	The icon metadata will add the class for the css icon.
5b	Title [title]	
5c	Summary Text [summary]	
5d	Related Links [related_links]	Only the first link is used

4.7.19. Sitemaps

Design required from Zero degrees

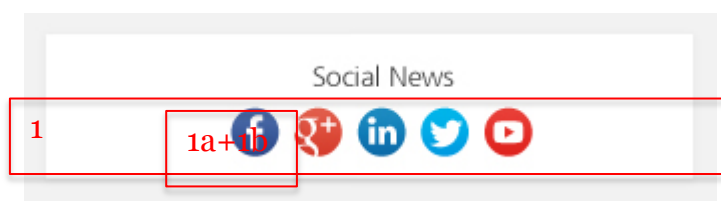
Schema	Code – Empty component
Depth	1
Notes	This template will render out a display from the sitemap XML

4.7.20. Newsletter signup - TBC



Schema	Article	
Depth	2	
Notes	The thumbnail will be used as the image and the link will be the first Related link	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24895708?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	Thumbnail [thumbnail]	
2	Full text [full]	
3	Related Links [related_links]	Only the first link will be used if multiple.

4.7.21. Social News



Schema	Component List – List of Links
Depth	3
Notes	Each link will be displayed with the links image displayed.
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24895708?maintainScrollPosition=false

Item Number	Description [xml_name]	Comments
1	List [list] (Internal and External Link schemas)	
1a	Image [image]	
1b	Link [link]	

4.7.22. Side Content

1



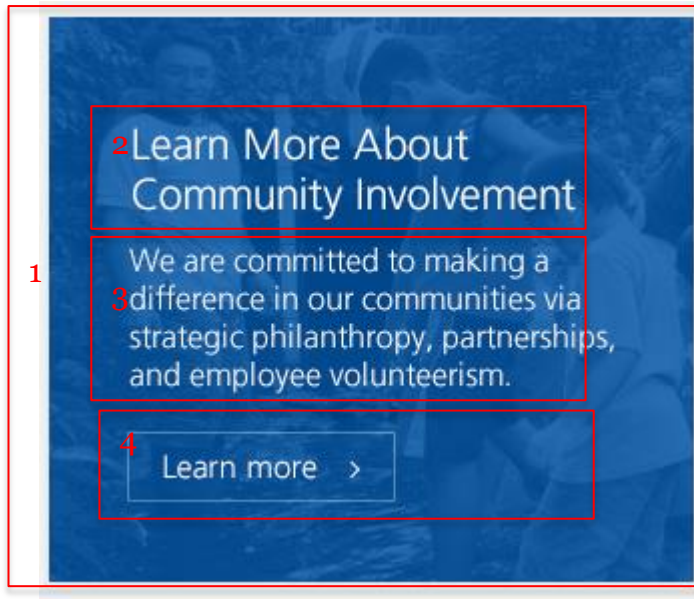
2

Advanced science doesn't have an obvious home in the world of craft whiskey production. But to stand out in the booming small batch spirits market, Woodinville Whiskey Co. knew it needed a truly notable product.

Schema	Article
Depth	2
Notes	The side content will only be displayed on the 2 column layout pages. It will be displayed in the side column
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102458?maintainScrollPosition=false

Item Number	Description [xml_name]	Comments
1	Banner Image [banner]	
2	Summary text [summary]	

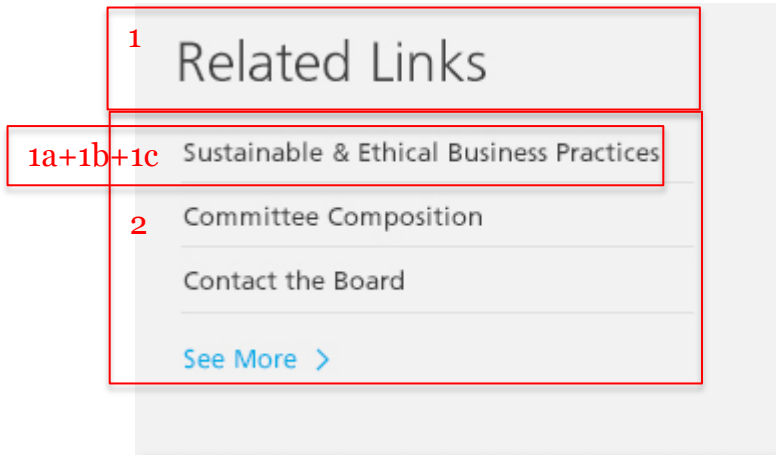
4.7.23. Side Image



Schema	Banner	
Depth	2	
Notes	<p>Colour and opacity of background and colour of text can be controlled by the Metadata fields on the Banner schema</p> <p>The side image will only be displayed on the 2 column layout pages. It will be displayed in the side column</p>	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102377?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1.	Banner [banner]	

2.	Title [title]	Optional
3.	Sub title [sub_title]	Optional
4.	Link [link]	Optional

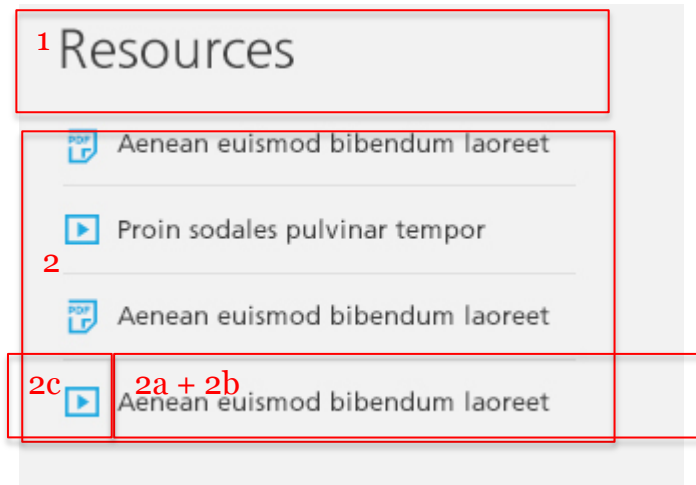
4.7.24. Article links



Schema	Component List – List of Links	
Depth	2	
Notes	The article links will only be displayed on the 2 column layout pages. It will be displayed in the side column	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102377?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	Title [title]	
2	List [list] (Internal and External Link schemas)	
2a	Title [title]	

2b	Link [link]	
2c	Target [target]	

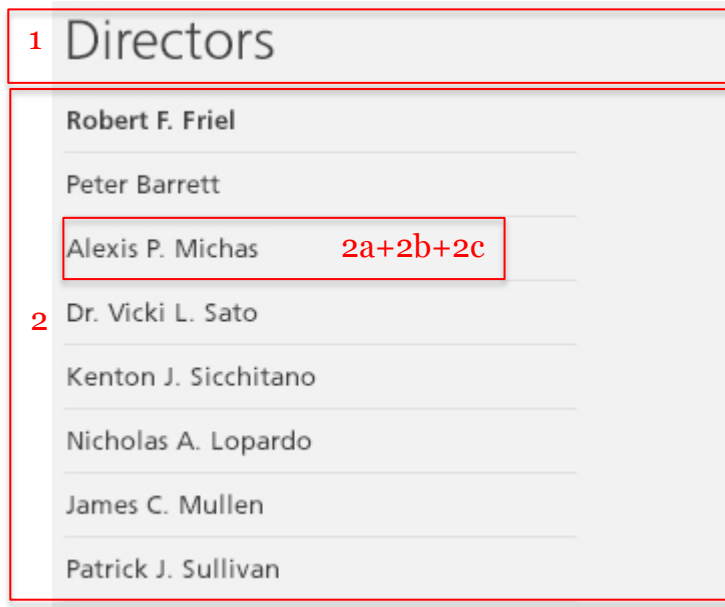
4.7.25. Resource List



Schema	Component List	
Depth	3	
Notes	The resource list will only be displayed on the 2 column layout pages. It will be displayed in the side column	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24895708?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	Title [title]	
2	List [list] (Multimedia schemas)	
2a	Title [title]	
2b	URL , Multimedia link	

2c	Type Icon	Dependant on the multimedia type
----	-----------	----------------------------------

4.7.26. Side Navigation

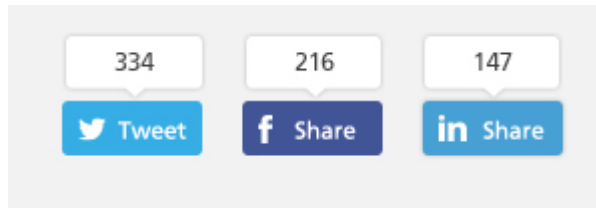


Schema	Component List	
Depth	2	
Notes	The right navigation will only be displayed on the 2 column layout pages. It will be displayed in the side column	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102376?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	Title [title]	
2	List [list] (Internal and External Link schemas)	
2a	Title [title]	

2b	Link [link]	
2c	Target [target]	

4.7.27. Share/Favourite

Currently under discussion with Gauri on position of this and removing the counts from the widgets. Also adding Google + to the supported .



Schema	Code – Empty component
Depth	1
Notes	The front end API for each of the sites will be used to display the counts of the share of the active page. These are not content managed.
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24895708?maintainScrollPosition=false

4.7.28. Summary List

Privacy Policy >

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vestibulum tristique vehicula elit. Integer rhoncus augue eget ipsum. Vivamus ipsum velit, semper eget, eleifend adipiscing, pretium ut, leo. Quisque quis urna. Nullam tellus mauris, ornare in, elementum eu, ullamcorper sed, risus. Suspendisse metus pede, ornare sit amet, nonummy et, ultricies venenatis, est. Ut et turpis ut quam auctor porta. Etiam accumsan. Mauris gravida aliquam felis. Curabitur ut ipsum. Nullam ac tellus lobortis risus lacinia vestibulum.

Updated April 22, 2014

1b
Terms & Conditions >

1a
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vestibulum tristique vehicula elit. Integer rhoncus augue eget ipsum. Vivamus ipsum velit, semper eget, eleifend adipiscing, pretium ut, leo. Quisque quis urna. Nullam tellus mauris, ornare in, elementum eu, ullamcorper sed, risus. Suspendisse metus pede, ornare sit amet, nonummy et, ultricies venenatis, est. Ut et turpis ut quam auctor porta. Etiam accumsan. Mauris gravida aliquam felis. Curabitur ut ipsum. Nullam ac tellus lobortis risus lacinia vestibulum.

Updated April 22, 2014

1
Application Privacy Policy >

1
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vestibulum tristique vehicula elit. Integer rhoncus augue eget ipsum. Vivamus ipsum velit, semper eget, eleifend adipiscing, pretium ut, leo. Quisque quis urna. Nullam tellus mauris, ornare in, elementum eu, ullamcorper sed, risus. Suspendisse metus pede, ornare sit amet, nonummy et, ultricies venenatis, est. Ut et turpis ut quam auctor porta. Etiam accumsan. Mauris gravida aliquam felis. Curabitur ut ipsum. Nullam ac tellus lobortis risus lacinia vestibulum.

Updated April 22, 2014

Application Online Privacy Statement >

1
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vestibulum tristique vehicula elit. Integer rhoncus augue eget ipsum. Vivamus ipsum velit, semper eget, eleifend adipiscing, pretium ut, leo. Quisque quis urna. Nullam tellus mauris, ornare in, elementum eu, ullamcorper sed, risus. Suspendisse metus pede, ornare sit amet, nonummy et, ultricies venenatis, est. Ut et turpis ut quam auctor porta. Etiam accumsan. Mauris gravida aliquam felis. Curabitur ut ipsum. Nullam ac tellus lobortis risus lacinia vestibulum.

Updated April 22, 2014

Schema	Component List – Article	
Depth	3	
Notes	The summary list will display a list of articles with the summary text displayed with the title.	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24250165?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	List [list] (Article)	
1a	Summary [summary]	
1b	Title [title]	This is currently not set to be a link due to the designs but this inconsistent to the blue arrows use else ware on the site.

4.7.29. Logos & Images List

2 Robert F. Friel, Chairman of the Board and Chief Executive Officer



Schema	Component List – Article	
Depth	3	
Notes	The images will be able to be displayed in a lightbox with the banner image shown when you click on the thumbnail.	
URL	http://perkin.zerodegreesinc.com/sprint1/prototype/#p=logos_images http://www.perkinelmer.co.uk/ourcompany/pressroom/logos/default.xhtml	
Item Number	Description [xml_name]	Comments
1	List [list]	
1a	Thumbnail [thumbnail]	
1b	Title [title]	
2	Title [title]	

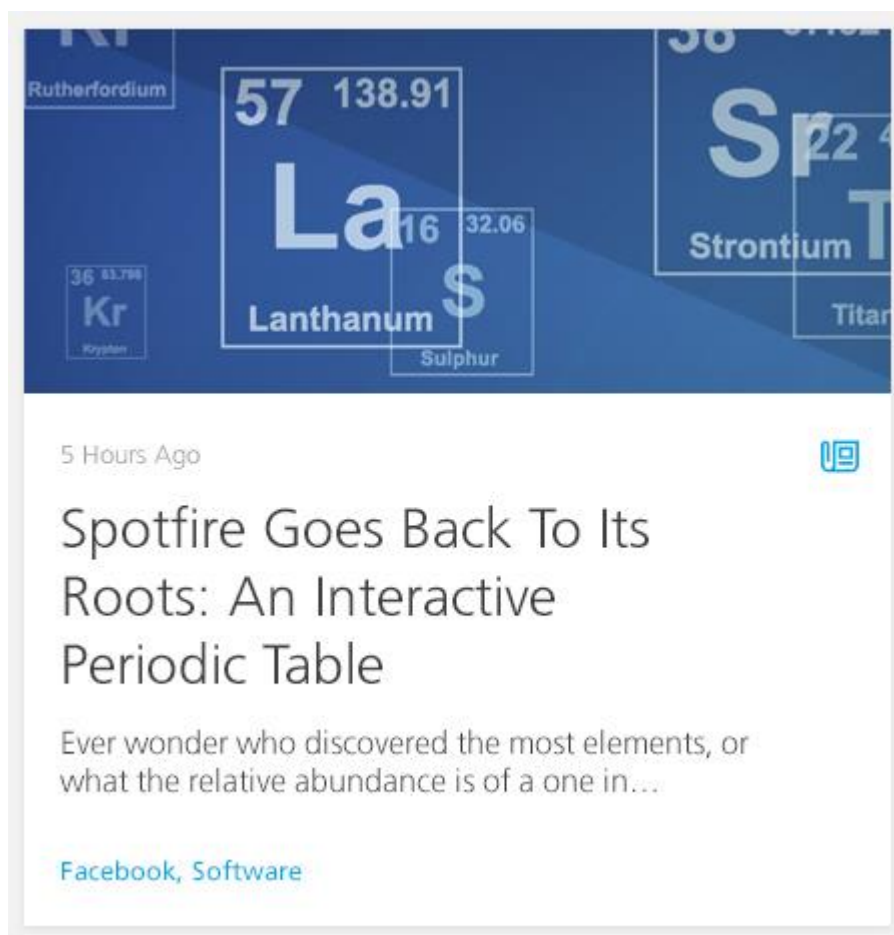
4.7.30. Videos & Podcasts

2+4	How One Craft Distillery Used Gas Chromatography to Produce Better Booze	
3	Advanced science doesn't have an obvious home in the world of craft whiskey production. But to stand out in the booming small batch sprints market, Woodinville Whiskey Co. knew it needed a truly notable product...	

Schema	Article	
Depth	2	
Notes	The video and podcast component template will link off to videos and podcasts on 3 rd party sites.	
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102458?maintainScrollPosition=false	
Item Number	Description [xml_name]	Comments
1	Thumbnail [thumbnail]	
2	Title [title]	
3	Summary text [summary]	
4	Related Link [related_link]	

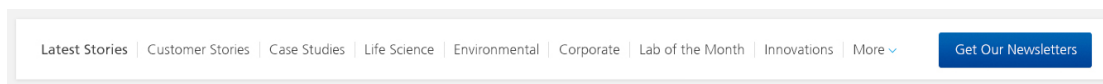
4.8. Dynamic Templates

4.8.1. Feedmagnet widget



Schema	Code – Empty component
Notes	The Feedmagnet JavaScript will be called to populate the promo with content.
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102202?maintainScrollPosition=false

4.8.2. Dynamic News Navigation



Schema	Code – Empty component / Internal or External Link
Notes	<p>The dynamic news navigation will post back to the page it is on with the selected category in the querystring. This is used in relation to the “Dynamic News List”</p> <p>There is the option to have an additional link on the end of the navigation. This will be displayed if the template is added to the page with a link component.</p>
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102204?maintainScrollPosition=false

4.8.3. Dynamic News List

New featured item added to the designs since the functional specification. Need to confirm whether this dynamic or static for each page if content managed.

The screenshot displays a vertical list of four news items. Each item consists of a square image on the left and text on the right. The text for each item includes a date (April 22, 2014), an author (Jane Smith or Boston Globe), a title, and a paragraph of Lorem Ipsum text. A small blue icon is visible in the top right corner of each item's text area. Below the third item, there are four small circles, with the first one filled in blue.

Schema	Code – Empty component
Notes	This lists the news from the broker database. This works with the Dynamic news navigation to allow the news listed to be filtered by category.
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24102204?maintainScrollPosition=false

4.8.4. Related News Dynamic List

More Category Name Articles

April 22, 2014 🔍

How One Craft Distillery Used Gas Chromotography to Produce Better Booze

Advanced science doesn't have an obvious home in the world of craft whiskey production. But to stand out in the booming small batch spirits market, Woodinville Whiskey Co. knew it needed a truly notable product...

April 22, 2014 🔍

How One Craft Distillery Used Gas Chromotography to Produce Better Booze

Advanced science doesn't have an obvious home in the world of craft whiskey production. But to stand out in the booming small batch spirits market, Woodinville Whiskey Co. knew it needed a truly notable product...

April 22, 2014 🔍

How One Craft Distillery Used Gas Chromotography to Produce Better Booze

Advanced science doesn't have an obvious home in the world of craft whiskey production. But to stand out in the booming small batch spirits market, Woodinville Whiskey Co. knew it needed a truly notable product...

Schema	News / Code – Empty component
Notes	<p>This is a short list of dynamic news articles based on the news categories selected in the news component metadata.</p> <p>This can also be used with the empty component where it will list the latest news for all categories.</p>
URL	https://projects.invisionapp.com/share/FSTNMGX3#/screens/24895708?maintainScrollPosition=false

4.9. System Component Templates

The following System Component Templates will be created in the **02 Functionality** Publication:

- Sitemap
 - Will use the Build ASP.NET Sitemap C# TBB which will examine the Structure Groups and include items which are marked to show in Sitemap.
- Corporate Navigation

- This will generate out the top navigation will the additional fields from the metadata added to the top navigation XML.
- Application Settings
 - This will convert the items in the Publication Metadata to XML in order for the application to consume it.
- Labels
 - This will publish a DD4T XML representation of Labels.
- Country switcher XML
 - This will publish a XML representation of the Language sites category to be consumed by the site.

4.9.1. DD4T Templates

To have dynamic components in the broker DB there needs to be a specific template set up for each schema that is set to be dynamically published. Each template will have the DD4T component TBBs added to them.

The broker templates needed for this phase are:

- News Broker Template

5. ASP .Net Controls

This section outlines the .NET code that will be required to deliver key functionality. No server-side code will be deployed to the Global Assembly Cache – only stored within each sites “bin” folder.

5.1. Global Page Elements

5.1.1. Header

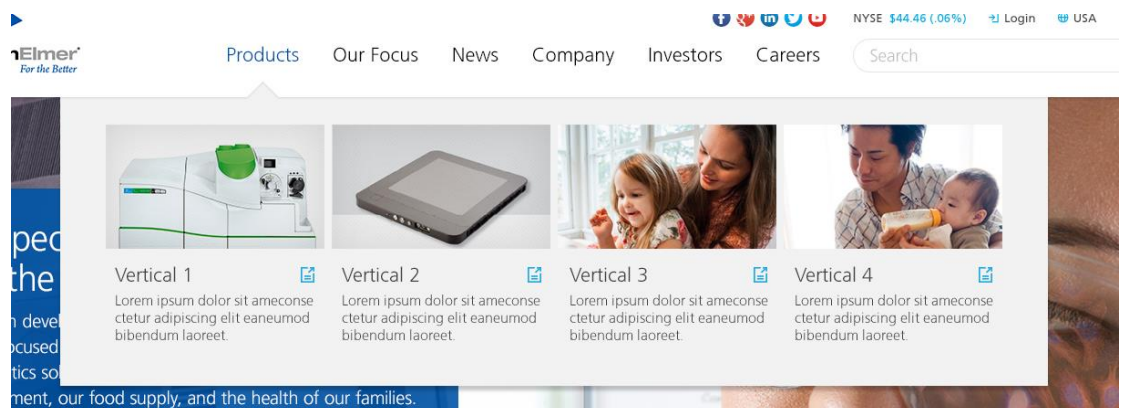


The header will be part of the `_layout` view so that it is included in every page. This will include the logo, main navigation, search, share icons, stock feed, login button, country selector and shopping cart.

The logo and share icons will be managed through the publication metadata that will be published to a XML document to be read in to be displayed.

[TBC] – PerkinElmer will implement the Shopping cart, Login and Stock ticker implementations. PerkinElmer will also be responsible for implementing the search box functionality and search of all pages and content using endeca.

5.1.2. Top Navigation



- Capabilities >
 - Detection
 - Imaging
 - Software
 - Services
- Markets >
 - Diagnostics
 - Life Sciences
 - Environmental

5 Hours Ago
Scientists Hunt Down Origin of Thought Progression Paths In the Brain

April 22, 2014
How to Create Nanowires Only 3 Atoms Wide with an Electron Beam

First Disease-Specific Human Embryonic Stem Cell Line by Nuclear Physicist

First Disease-Specific Human Embryonic Stem Cell Line by Nuclear Physicist

First Disease-Specific Human Embryonic Stem Cell Line by Nuclear Physicist

First Disease-Specific Human Embryonic Stem Cell Line by Nuclear Physicist

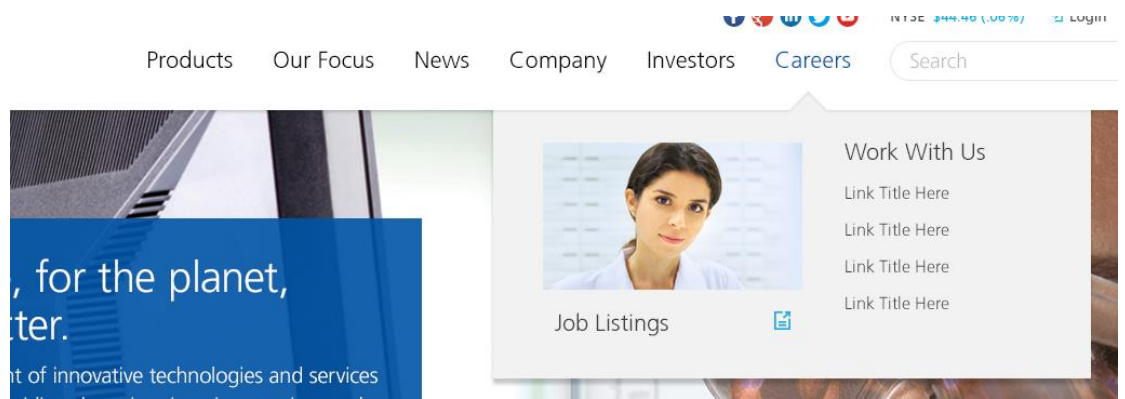
More Headlines >

- Latest News
- Customer Stories
- Case Studies
- Lab of the Month
- Press Releases
- Media Relations

April 22, 2014
Medical Fair India
[Get Details >](#)

- About Us
 - Innovation
 - Leadership
 - Core Values
 - Social Responsibility
 - Our History
 - Corporate Governance
- Press Room
 - Media Coverage
 - Media Alerts
 - Logos & Images
 - Media Contacts
 - Video & Podcast Archive
- Events
 - Online
 - Contact
 - Locations
 - Support

- Financial Information
- Shareholder Presentations
- Stock Information
- Investor Events

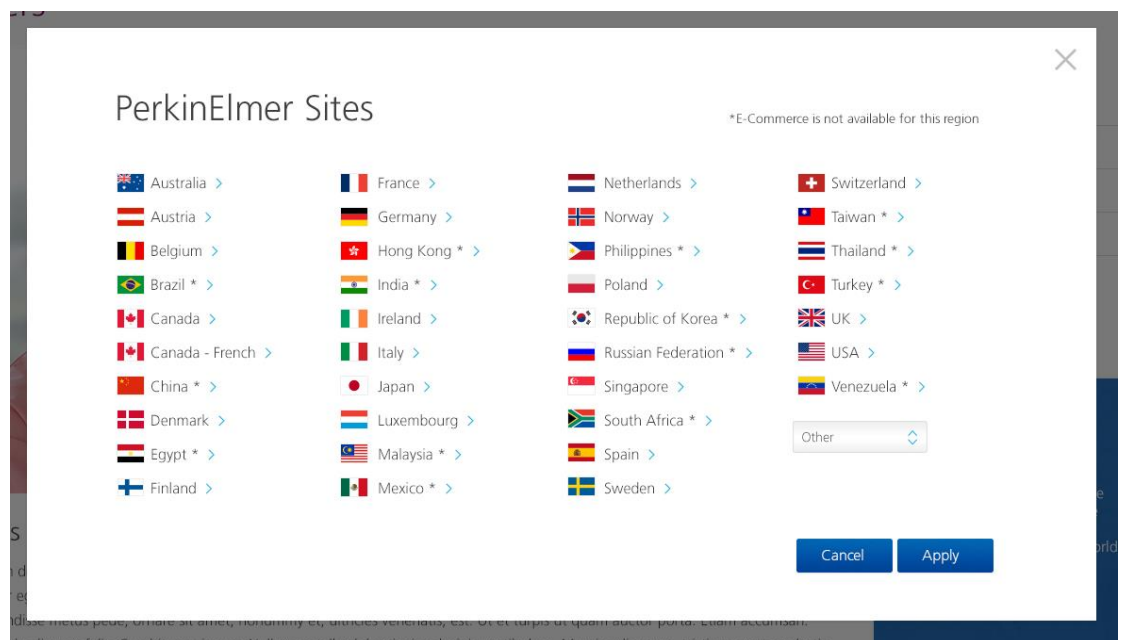


The Top navigation will be managed through a Category called Top Navigation. The keywords in this category will have the metadata schema “Top Navigation Item” assigned to them. This schema allows an image, icon, title, summary and link to be displayed.

The navigation doesn't have a consistent design across the sections. Depending on the order number of the navigation will change the data that is displayed in the navigation from the metadata schema and also the look and feel and position (as per the designs).

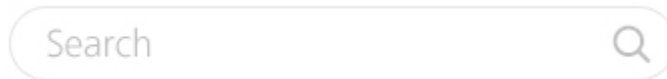
The dynamic news will be loaded form the broker DB to be displayed in the top navigation. There will not be any configuration options for which news items to show.

5.1.3. Language Switcher



The language switcher will be included through the page layout in to the header. This will display all the country sites that are available. This list will be content managed through a category. This category will be published out as a XML file that will then be read in to display the country list.

5.1.4. Search



This is to be implemented by PerkinElmer directly once we handover the code to them.

5.1.5. Footer



The footer will be part of the `_layout` view so that it is included in every page. The share and like social media buttons will be displayed through the JavaScript and will not be content managed. The API codes will be managed in the publication metadata.

The footer links will be added to the publication metadata with a list of internal or external links.

The publication metadata is published out as a XML file that will then be read in to display the footer links.

6. .NET Code

The following section details the solution structure for the Web Application (not Tridion). Any .NET code written will follow Building Blocks' standards and will be unit tested if sufficiently complex.

Please note classes and new projects not listed below may be deemed to be required during development so the below is not final.

6.1. .Net Classes

6.1.1. News Service

There needs to be a news service to retrieve news items from the broker data base. This service will expose the following methods

- LatestNews()
 - Retrieve the latest news from the broker database for all categories
- GetNewsByCategory(string category,)
 - Get the latest news for a given category
- GetNewsByCategory(List<string> category)
 - Get the latest news for a given list of categories.
- GetNewsCategories()
 - Return the list of active news categories

6.2. Solution Architecture

6.2.1. Website Code Architecture

We will create one Visual Studio Project within the new PKI.

Corporate solution:

- PKI.Corporate.Web
 - This will contain the Web Application – Controllers, Views and HTML Helpers, configuration, routing and any project specific items.
- PKI.DD4T.Models
 - This project will contain all ViewModels for DD4T.
- PKI.Corporate.Models
 - This project will contain all domain models for the solution.
- PKI.DD4T.ServiceGateways
 - This project will contain the code to connect to the Tridion broker services and return the dynamic templates.
- PKI.Corporate.BusinessLayer
 - This project will contain all business logic and communicate between the Service Gateways and the Web Application.
- PKI.DD4T.Core
 - This will contain generic DD4T helpers and infrastructure classes which could be reused for any project.
- PKI.Corporate.Tests
 - This project will contain any unit tests for the solution. These will be executed when a build is run

through TeamCity. We may also create AA tests and integration tests here.

6.2.2. C# Template Building Blocks Code

The C# Template Building Blocks Solution will be called PKI.TridionTemplates and contain a single project called PKI.TridionTemplates.

This solution has been created for the Microsites project. These TBBs will be reused through the o2 Functionality Publication in Tridion.

6.3. Additional Libraries

On top of the standard Tridion Content Delivery DLLs, the front-end website will also make use of the following .NET libraries:

- Log4net
- BuildingBlocks.Core
- BuildingBlocks.DD4T.MarkupModels
- Unity
- DD4TFramework
- DD4T.Mvc
- DD4T.Providers.Tridion2011Sp1

7. Integrations and Services

This section of the document outlines the web services and third party integrations that will be used by the new website to serve up the desired content.

7.1. Third Party Integrations

Throughout the website there are a number of integrations with third party applications. The details of each of these are given below.

7.1.1. Feedmagnet

Website: <http://www.feedmagnet.com/>

Feedmagnet will be used to display editorially controlled social media content in the Feedamngnet widget.

7.1.2. Facebook

Website: <https://developers.facebook.com/?ref=pf>

The Facebook API will be integrated to show the shares of a page through there site.

7.1.3. Twitter

Website: <https://dev.twitter.com/>

The Twitter API will be integrated to show the shares of a page through there site.

7.1.4. Linked In

Website: <http://developer.linkedin.com/>

The Linked in API will be integrated to show the shares of a page through there site.

Google plus?

8. Tracking

Google Tag Manager will be used to add all Tracking scripts. Standard Google Analytics will be configured with the account stored on Publication Metadata. This section details other types of tracking that may be required and how these will be added.

8.1. Event Tracking

Event tracking will be configured using the automatic method to avoid having to add code for each Microsite and allow PerkinElmer to define their own requirements fluidly in future without the need for deployments.

- <https://support.google.com/tagmanager/answer/3420054?hl=en-GB>

8.2. Adobe Analytics script

Adobe Analytics will be added as detailed here:

<http://coderesponsible.com/how-to-add-omniture-to-google-tag-manager/>

PerkinElmer will provide the Adobe Analytics s_code.js file(s) which will be added to the Layout file directly.

8.3. Rich Snippets

Building Blocks will follow Google's recommendation to use Microdata. This involves adding attributes to existing elements to describe a type of data. For more details see here:

<https://support.google.com/webmasters/answer/176035?hl=en>

The Rich snippets will be implemented on the following templates:

- [Leadership List](#)

- [Leadership Detail](#)
- [Hero](#)

8.3.1. Person

For the leadership templates the rich snippets will be in the “People” format.

<https://support.google.com/webmasters/answer/146646>

The micro data fields that we will output for a person will be:

- Name
- Photo

8.3.2. Video

If the Hero is rendering out a video the rich snippet will be in the schema.org mark-up for videos.

https://support.google.com/webmasters/answer/2413309?hl=en&ref_topic=4603851

The micro data fields that we will output for a video will be:

- Name
- Description
- ThumbnailUrl
- Duration
- ContentUrl
- EmbedUrl
- UploadDate

The breadcrumbs will be marked up with the micro data property to identify that it is the breadcrumb.

<http://schema.org/WebPage>

9. Client Side Technologies

The following details the client-side technologies used for the project. A number of these (grunt, handlebars, assemble) are only used for creating the HTML demo prototypes used for testing the HTML and JavaScript in isolation from Tridion.

9.1. HTML5

HTML5 is the de facto standard for mark up. HTML5 tags will be used to give the page semantic meaning.

9.2. jQuery

Website: <http://www.jquery.com>

jQuery is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers.

9.3. jQuery Unobtrusive Validation

Website:

<https://www.nuget.org/packages/Microsoft.jQuery.Unobtrusive.Validation/3.1.2>

A library for using HTML5 Data Attributes to provide front end validation. Since the ASCX controls for forms will not need server side validation as this is provided by Pardot.

9.4. HandleBars

Website: <http://handlebarsjs.com/>

HandleBars is a front end Templating framework. It is not present in the final website but is used to speed up front end development.

9.5. Grunt.js

Website: <http://gruntjs.com/>

Grunt JS is a JavaScript build system that runs on Node.js

9.6. Assemble

Website: <https://github.com/assemble/assemble>

Assemble is a plugin which can compile Handlebars and other data into flat HTML.

9.7. Fonts

Website: <http://www.fonts.com/font/linotype/frutiger>

The frutiger font used for the site will be embed from fonts.com using the domain fast.fonts.net which has improved caching and font compression techniques.

10. Technical Assumptions

The following list includes all of major technical assumptions that have been made:

1. Navigation will be based on the order of the elements to define the style. If a section is removed or a new section added then the navigation will need to be reworked so that the styling is as designed for that menu.
2. News content will be added through Tridion CMS not through a custom tool.
3. The new corporate site will be set up within IIS as a virtual application under the main PKI.com site.
4. Search will be implemented by PerkinElmer
5. PKI are aware that changes to styles must be made in the HTML/LESS prototype and compiled into CSS which must then be deployed to the DD4T application.
6. PKI are aware that there is no content manager support for changing fonts. All microsites will use the Frutiger font.
7. Unity will be used as the Dependency Injection framework.
8. Caching will be configured in the web.config for items such as Labels and Navigation. PerkinElmer are aware that some items may need to wait for the cache to be visible
9. Google Tag Manager will be used to add all Tracking code.
10. The Countries list will be published from Tridion. PerkinElmer will be responsible for entering these into Tridion.

11. We are testing and delivering a single language English site. But the site can be localised but this will not be tested in this work.
12. Video support - Kaltura and YouTube only
13. There is currently an upgrade to Tridion 2013 SP1 in progress by the PKI team, it is our understanding that this will not affect the build. If there are any issues caused by the upgrade then a CR may need to be raised.
14. It is understood that the following sections of the PKI Corporate site will be hosted within 3rd Party sites/systems. In summary these are:
 - a. Press Room - Press releases, media coverage, media alerts
 - b. Careers/Jobs – All links, search and any sub pages within this section
 - c. Investors Section – All sub pages within this section (financial information, presentations, stock information, investor events)
15. PKI will be responsible for managing the synchronisation of all header/footer/secondary nav links within the 3rd Party systems. These will likely become out of sync when content editors update the links in the PKI corporate site from Tridion.
16. PKI will be responsible for managing the implementation of the header/footer/secondary nav etc within the 3rd Party systems.
17. If Videos are hosted on YouTube (which they may be) the YouTube link will be ranked higher than the PKI page

11. Development Principles

11.1. Error handling

Log4Net will be included in the solution for logging purposes as is standard practice for Building Blocks software.

Log4Net will write to a rolling log file on the web server it resides on. In the case of the live website Log4Net will also send an email to a designated address list for 'FATAL' and 'ERROR' logging statements.

Exceptions will be handled at the highest level in the application stack and an appropriate error message displayed to the user. All business layer code will utilise try, catch and finally blocks to ensure that exceptions are caught and the dispose pattern is adhered to for IDisposable objects.

Errors will be handled by redirecting website users to a helpful .NET Custom Error Page, indicating the cause of the error (in a user friendly manner) and providing them with a link back to their previous page. The custom error page should also contain links to areas of the site that will help the user to get the information that they require – for example, a link to the search page and the FAQ page. The content of the Custom Error Page will be managed through Tridion, and will be managed by the PerkinElmer web team.

It is imperative that the error handling and logging strategy is well known within the team so that errors are handled consistently across all system components. The table below details how and why each type of error is handled.

11.2. Caching

The standard ASP.NET MVC caching techniques will be used where appropriate on the site to improve performance and scalability.

Along with this, it is also recommended that Tridion Output Caching is enabled to ensure the fast delivery of Broker stored content.

11.3. Naming Conventions

Code should be completed in accordance with the Building Blocks coding guidelines. These are outlined in [Appendix A](#).

11.4. Testing

A separate test plan will be produced, outlining the testing that is to be performed in the following areas:

- Functional
- Scalability
- Accessibilit

12. Deployment and Rollback

As described earlier, there are two main facets to the code:

1. The web application source code, and
2. The managed code and content within Tridion.

This section of this document outlines the deployment and rollback procedures in each environment for this project.

12.1. Deployment

For the two Building Blocks environments (Development and Test) the web application source code will be managed within SVN and all deployments of this code will be controlled using TeamCity. Along with the deployment task, TeamCity will also compile, assimilate and run test against of the web application code.

Deployment of the application code from the Building Blocks Test environment to the PerkinElmer QA environment (and from the PerkinElmer QA to Production environment) will be done manually using copy and paste. It is highly recommended that a script is written for this to ensure that nothing is missed from the deployment and that all deployments are correctly versioned and managed.

The deployment of the Tridion system items (Page Templates, Component Templates, Schemas, TBBs, etc.) between environments will be done using SDL Tridion Content Porter. All Content Porter packages, and details of the deployment, should be fully documented and managed using normal release management principles. We will also save the Content Porter Configuration XML file when doing imports so we can identify exactly what has been deployed from within a Content Porter Package. After doing an import using Content Porter we should also take a copy of the

Undo Package from the Content Management server (in the %TRIDION_HOME%\Content Porter\UndoPackages folder) and store this alongside the Content Porter package, configuration XML file and deployment notes.

12.2. Rollback

As can be seen from the BluePrint diagram, the new website's Schema, Design, Content and Website Publications will be created in a separate branch within the Tridion BluePrint.

If any deployed code needs to be rolled back then SVN will contain the tagged versions of all versioned web application code. As mentioned above the Tridion Content Porter Undo packages should be retained and added in to the SVN tag to allow a Content Port rollback.

13. Appendix A - Code Casing Conventions

This section of the document outlines the Building Blocks standards for casing conventions for use within all code, markup and style.

13.1. C#

Following the Microsoft standards, casing should be applied in C# as follows:

Identifier	Case	Example
Class	Pascal	AppDomain
Enum type	Pascal	ErrorLevel
Enum values	Pascal	FatalError
Event	Pascal	ValueChanged
Exception class	Pascal	WebException <i>Note Always ends with the suffix Exception.</i>
Read-only Static field	Uppercase	REDVALUE
Interface	Pascal	IDisposable <i>Note Always begins with the prefix I.</i>
Method	Pascal	ToString
Namespace	Pascal	System.Drawing
Parameter	Camel	typeName
Property	Pascal	BackColor
Protected instance field	Camel	redValue <i>Note Rarely used. A property is preferable to using a protected instance field.</i>
Public instance field	Pascal	RedValue <i>Note Rarely used. A property is preferable to using a public instance</i>

		<i>field.</i>
Private member field	Camel, prefixed underscore	<code>_redValue</code> <i>Note Based on .NET Framework implementation. _ makes it easy to distinguish private members from public properties, although it is not CLR compliant.</i>



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