

RSL Systems Content Management System (CMS)

The CMS document below is a technical document in nature and therefore some elements may not be clear for non I.T members. We are happy to discuss in detail each element listed in the CMS in consultation.

The Content Management System will enable the administrators/ website owner to modify all elements of the website and also enable Extranet type login. The Extranet login can allow limited access to publishing facilities for RSL's and Housing Associations who are members of your website if required.

Multiple sessions administrators are permissible through the Active Directory structure and the Document Locking facility built within the CMS, ensure that administrators are not edit the same document in real time.

The extensive and full features available in the CMS are listed below, utilising the advantages of Microsoft.NET and Microsoft SQL Server and its statistic and reporting features. The combination of Microsoft.NET and Microsoft SQL Server additionally allows for certification of the CMS and has been independently verified for compliancy.

Active Directory® & LDAP (4.4.17)

Access Control

Active Directory Integration

The CMS is tightly integrated with Active Directory® for all user authentication and access control. The CMS does not implement a proprietary security mechanism and relies solely on Active Directory to implement security. Active Directory is highly scalable and is a trusted security provider.

The web console uses Active Directory to authenticate all CMS users using a forms-based authentication model. The CMS allows for CMS users to be stored in a separate Organizational Unit (OU) to cleanly separate the CMS users from other users in the Active Directory domain.

Role-based security models are easily implemented using Active Directory group membership.

Access controls on who can read, change, or set permissions on CMS documents is enforced by Active Directory Access Control Lists (ACLs) and Access Control Entries (ACEs). Complex security models can be implemented for each CMS solution using all aspects of the powerful Active Directory inheritance model.

The CMS Web Console includes standardized user, group, and organizational unit editors as well as an ACL (permissions) editor to remotely manage the CMS security with a simple browser.

Advertisements & Banners

This Space For Rent

Whether you use your placement inventories for in-house branding creative or for sale to third party advertisers, you need a capable tool to manage and track your advertisement assets.

The CMS's Interactive Ad Management provides content publishers with detailed hierarchical targeting, real-time reporting and rich media compatibility. One simple interface creates and tracks the advertisement impression and click-through metrics. Placements are easily assigned within content document editors.

All ad formats are supported: graphic, rich text, graphic and text mixes, and rich media (such as Macromedia® Flash® or Windows® Media) embedded or popup. All common file types and files of unrestricted size can be used.

Placement regions are defined as components of CMS page templates. Multiple regions can appear on each webpage, templates can feature different regions and regions can be associated as campaigns. Placements on a webpage, within each region, can be selected on the basis of unique to page, inherit from parent or rotate from all available region media. Click through destinations can be either a CMS managed intra site location or any external of site URL.

Auditing & Logging

Expert Tracking

There are multiple levels of audit trails and log files in the CMS solution. Each CMS document contains its own log trail to identify changes to the document. A system-wide log file also tracks all CMS operations.

Many CMS modules have their own log capabilities that are specific to the application. Because of the tight integration with Active Directory, the Windows® Operating System, and SQL Server, the log and audit capabilities of these infrastructure components are also utilized.

All log entries track details including description, time, and username as a minimum. The web console provides a web interface for the site administrators to inspect the log files. CMS administrators can view each document log using the log tab within the document editor.

Automated Error Reporting

Have confidence that your website is operating efficiently by activating a custom error handler that will send an email notification of any errors experienced on your website. Site visitors that encounter issues see a custom page that looks like it is part of the website. Error emails, automatically sent to your support team, contain the technical details of the error and other important request information to help identify the root of the problem.

Caching and Enhanced Performance

Render On Demand

Content Caching

Dynamic page generation can be processor-intensive, so to maintain top performance, the CMS implements a very powerful caching strategy. There are more than 4 levels of caching that are implemented automatically by the CMS APIs, tightly integrated into the ASP.NET model.

The CMS caching capabilities minimize processor usage while still rendering dynamic interactive pages to the remote browser. The caching mechanism uses both sliding window and fixed expiration models and is tightly integrated into the web console to ensure that information delivered to the remote browser is accurate and timely. The underlying pipeline incorporates numerous reusable elements that have been tuned for maximum performance.

Content Locking (Check-In/Check-Out)

Content locking is an integral component of the CMS workflow capabilities that allows content authors to publish safely in teams. Content can be manually locked so that other authors cannot inadvertently change content that is being worked on by another author. Content locking works like a check-in/check-out

feature to ensure that only one content author can work on a document at a time. It is also tightly integrated into the version history feature of the CMS engine.

The publishing experience has been carefully designed to minimize the efforts required for publishing content to the website. Authors can manually lock and unlock content to ensure that it does not change and to ensure that other content authors do not overwrite changes that they are making. In addition to the manual locking steps, the CMS still allows content publishers to make quick changes to the website content without having to go through extra lock/unlock steps. When content publishers choose to make changes without placing a lock on a page, the CMS automatically detects version conflicts and warns the content author of a conflict and allows them to manually resolve it.

Content Versioning

Each CMS page is stored in a SQL database equipped with full version capabilities. This allows content authors to track content change history, review different content versions, and even reverse content changes by reverting to a previous version. The content versioning mechanism is tightly integrated with the other CMS workflow features.

Custom URLs

CMS websites are template driven, where one or more page templates are used to render dynamic CMS content pages. The default behaviour for the CMS is to render links with a querystring argument that specifies the page identity in the CMS database. The power of these links is that they are automatic and do not need to be managed. The links, however, are not very memorable for end users that visit your site and they do not look great in public search engines.

The CMS allows content authors to manage the URLs that are emitted for content pages. These links allow content authors to publish the page as a memorable and readable link. The links will also show in public search engine results and may have a positive effect in your organic search placement.

Discussion Forums (4.4.8)

Impassioned Peer Commentary

Online Discussion Forums are an important means of determining the stakeholder/audience pulse on key issues and ongoing subject categories. Whether editorially moderated or not, discussions such as these can be an effective means of generating buzz among concerned stakeholders.



Discussion Forum: Communities of Interest

As desired by your policy, a simple administrative interface permits a moderator to preview comments or questions before approving for publication, thus helping avoid objectionable language or unsavoury comments. Moderator privileges can be assigned to several editors who can approve, edit, and delete individual messages while managing message and thread hierarchies.

Email a Friend

Talk Among Yourselves

Embedded on administratively selected CMS web pages, Email a Friend forms encourage visitors to inform others of their content discoveries via email resulting in word-of-mouth promotion of your website and its contents.

A simple form requires sender and recipient email addresses and offers the sender an opportunity to include a subject header and personalized message. Once submitted, the website forwards an email to the recipient (CC'd to the sender if desired) which includes all captured information and a referring link to the desired webpage.

Email can be forwarded as formatted text and/or HTML and can incorporate promotional positioning statements about the destination website or organization.

By default, processing of the email happens immediately; email addresses, and supporting message information, are not collected or stored.

Email Subscription Lists & Distribution

Keep Audiences Connected and Informed

As you grow your audience base, routinely scheduled and on-demand email newsletters and notifications can be an effective way to keep them informed and enticed to visit valuable information on your website. Efficient for customer

support and updates, email correspondence can be a respectful, engaging touch point between you and your audiences.

Using Email Subscription & Broadcast, you can create and manage group lists and individual contacts. Subscriber records can easily be imported from third party systems and exported to spreadsheet or other data formats. Subscriber profiles can be mined to determine sub-group categorization by geographic, telecommunications, postal code and other means.

Your Email Address:

*Enter your email address in this format: bob@worldemail.com. * Required*

Subscription Groups:

- NWMO Email Newsletter**
Keep informed, receive our email newsletter.
- NWMO News Releases**
Receive NWMO news releases as they are published.
- NWMO Reports**
Receive NWMO reports as they become available.

*Select one or more groups to which you would like to subscribe or unsubscribe. * One or more required*

Choose Subscribe to add your email address to the chosen distribution list(s) or choose Unsubscribe to remove your email address from the list(s).

Email Subscription & Broadcast: Keep Informed

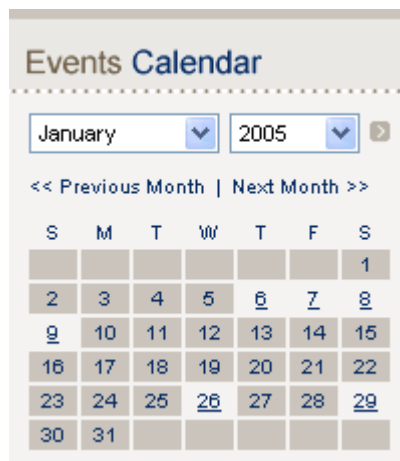
Subscriber self-maintenance features are key to maintaining accurate lists and help ensure compliance with corporate and legislated privacy policies. Full opt-in and opt-out options are included; subscribers login to review and edit their complete profile and topic reception selections.

Easily create, distribute and deliver content-rich messages using predetermined templates or completely customized presentation (from plain text to visually rich HTML). Embed direct links to key website destinations, providing immediate fulfilment for your audience calls for action. Include file attachments in any common file format such as Acrobat PDF. Recipients can receive personalized email deliveries based upon profile contributions.

Events Calendar

Advanced, Intelligent Calendar Functions

A key component to the dynamic appearance of active websites is timely publication and presentation of an organization's events. Linked to supporting content, events listings can be automated to provide timely access to current information.



Sample Calendar Interface

Flexibly schedule, release, search, and organize event content with the CMS Events Calendar.

In addition to time and date, events can be categorized by location, geographic city/state/country, and editorial keyword contribution. This allows website users to sort and review events by any of these criteria.

Based on event date, even basic automated table of contents listings can provide linked access to future, current, or past events with complete editorial control over both the quantity of return listings and the presentation of associated attributes such as location or category. Calendar views provide a month at a glance with obvious linked indication of event availability and highlighting of the current date.

A variety of optional event attributes can be used for enhanced calendar functionalities. If your events occur in multiple cities or states, you can manage these fields to push event listings to known website users. With the inclusion of start and end times, presentation displays can be designed with "daytimer" look and feel. Keywords can be used to provide bias for search return listings.

Title
2005 Arvil Awards Gala

Subject
Ad Rodeo

Category
Advertising Business Creative Awards

Start date Start time All day event
Jan 29, 2005 8:00 PM

End date End time Duration
11:30 PM 3:30

State Release date Expiration date
Approved

Location
Hyatt Regency Hotel, 700 Centre Street South

City State/Province Country
Calgary Alberta Canada

Keywords
ad agency, creative, awards

Event Editor Attributes

Event stories are completed with full complement of content managed story attributes such as body text and image, embedded contacts, related links and associate attachments.

Link Management

Dynamically linked content that is not hard-coded, but point and click managed, is the best way to ensure that content relationships are maintained, even in the light of editorial story moves or revisions.

The CMS Links provide editors with an easy to use tool to create and manage both internal and external links. Multiple links can be created on each page with complete control over presentation style and order.

Link destinations within your website are selected via a hierarchical tree-view familiar to any Windows Explorer user. Once selected, content managers can decide to adopt the destination document's existing title/headline and summary content or revise it to reflect alternative editorial intent.

Internal links can assume one of two behaviours. A selected Redirect link will forward the user to the destination document hierarchy location within the site. A selected Mirror link will render a document that appears to be within the current hierarchy location.

Links to external resources are created easily with URL, title, and summary annotation fields to help contextualize the link destinations. When selected, our convenient open-in-a-window feature pops the destination resource in a new browser window while retaining your website's presence on the users' desktops.

Links are presented in a table of contents view with editorial control over the display of title, URL, and summary annotation.

Membership (4.4.1 & 4.4.2)

Has its Rewards

Managed by using the CMS Users, Groups, and Organizational Units, communities of interest can easily be created and maintained. This allows business users to define groups for website administration, intranet browsing, extranet functionalities, and public groups for discussion forums or email newsletter reception (to name only a few examples).

Tight integration with Microsoft® .NET and Active Directory® ensures secure and flexible user management, without any proprietary authentication mechanisms.

Individual user accounts can contain records as simple as a username and password, or they can be fully comprehensive incorporating full telecom, geographic, biographic, and web channel based information. Users can easily be assigned membership rights to functional and distribution groups, either administratively or automatically, by contribution within associated applications (discussion forums or email subscribe lists, for example). Accounts can be temporarily disabled or removed by administrative privilege.

Users can be assigned membership rights to multiple groups simultaneously. Thus, effectively leveraging a single user, single sign-on procedure. User password management provides functions to trigger password change at next login, to prevent password revision, to prevent password expiration, or to enforce expiration after a determined period of time.

Special user accounts can be created to act as proxies for organization departments (Investor Relations, for example) and then selected for rendering on displayed web pages, for contextual contact access, incorporating generic email addresses or reception phone numbers. When used in this way, and as resource responsibilities change, the proxy account can be revised, refreshing the contact information which appears throughout the website.

Microsoft® .NET Connected (4.4.16)

Independent Quality Validation

The CMS is an ideal framework for building web-based, Microsoft® .NET - connected solutions for ASP.NET 2.0.



CMS is Microsoft® .NET - Connected

Working closely with the Microsoft Application Compatibility Lab, The CMS is produced to a certified .NET-Connected service framework that has passed independent VeriTest Certification Programs for Microsoft Windows Server, SQL Server, Managed Code, Web Services and .NET Framework.

Technical specialists will recognize value on several development and server performance dimensions.

Built from the ground up incorporating the .NET Class Framework, the CMS leverages several native .NET capabilities. These include class inheritance, method overloading (polymorphism), exceptions, event delegates, enumerators and multiple namespaces. Support for these native .NET classes is included: System.Xml, System.Data.OleDb and System Directory Services namespaces.

The CMS is compatible with both SQL 2000 and SQL 2005 and it runs reliably on both 32 and 64-bit Windows Server operating systems. It includes assemblies, XSLT, CSS, JavaScript and SQL and Active Directory object management.

Multi-Channel Output (4.4.1)

Mobilize Your Content

Just as the Content Management empowers website managers to develop and distribute content and applications to users via PC-based web browsers, the framework provides device-specific display rendering and application access for any destination device, be it wireless or mobile devices like cellular telephones and PDAs, or home appliances like interactive television set-top boxes.

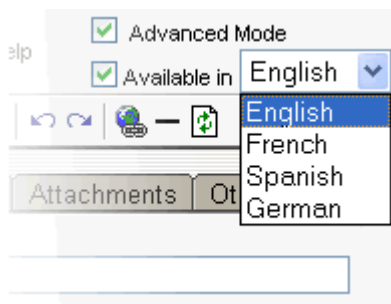
Content entry can be completed once, then be leveraged for presentation within each defined device, respecting and exploiting its specific capabilities. In this way, each user derives the maximum benefit regardless of channel. Content is reformatted automatically using HTML, XML, CSS, RSS, or WML as required.

The CMS is perfect for the distribution of multiple media/content object types including flash, sound, music, and video clips. Simple management of dynamic content helps you create a personalized user experience based on subscriber interests and device capabilities.

Multilingual and Regionalization (4.4.19)

Websites Without Borders

Reaching audiences in multiple regions, while respecting lingual differences, can be a challenge in any distribution channel. But the unique availability of websites, irrespective of geographic jurisdiction, means a world of opportunity for content publishers.



Editor Language Selection

Multilingual website delivery is built into the CMS. All content edit interfaces allow contributors to publish content in multiple languages together within the same object. Editors can switch between languages by using a simple dropdown menu in the document editor. This helps ensure that the multilingual versions reflect content parity. In the case of content exceptions, the CMS allows a document to be available, or unavailable, for any specific language.

Content attributes including documents, attachments, links, polls, ads, surveys, images, and newsletters all support multilingual publishing. When a web visitor is browsing, they can select the presentation language and all content and applications will be rendered reflecting their preference. Visitors can switch their display language on any web page, at any time.

With Regionalization, content can be revealed to visitors based upon their geographic or other predetermined community of interest classifications. Website visitor selection of region can be self-determined by way of menu or map interface, or can be automatically associated using inbound URLs.

Conveniently, website searches and sitemaps are integrated into the multilingual and regionalized publishing model without additional editorial intervention. For example, an English language search will return only English results; searching while in Spanish presentation results in Spanish. As desired administratively, search results spanning multiple languages or regions can also be implemented.

Navigation

Way finding. No Compass Required.

Let's face it. Your website will grow and your time shouldn't be spent remembering to create and maintain all of the linkages that your users will need to get from A to B.

The CMS Navigation features automate and simplify the task of creating useful link mechanisms while updating them seamlessly, without editorial intervention, as content directories and destinations evolve. Website visitors will benefit with enhanced usability as a result of standardized menu styles used across site templates.

Standard the CMS templates incorporate several hierarchy driven devices. Primary, secondary, and tertiary menu functions and styles are defined within your branded templates.

Primary navigation menus reflect the core organization of your website content and are available for destination selection on every webpage, often represented graphically in page headers and as text in page footers. Secondary navigation menus are context sensitive, reflecting the content available within a destination selection. The position and presentation of secondary navigators is standardized within your page templates.

Dynamically generated, multi-level (primary, secondary, and beyond) flyout menus are another popular choice providing immediate one-click access to the majority of your site destinations.

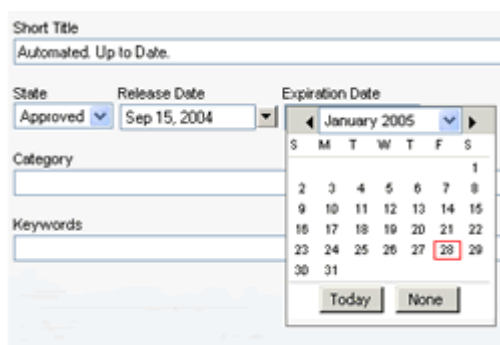
Tertiary navigation opportunities are numerous. Inline table of contents provide at-a-glance annotated menu listings of hierarchical and related destinations and attachments. Drop-down menus can be used in conjunction with short title attributes. Navigation paths (or a trail of bread crumbs) reveal and link the entire path from the currently viewed webpage back to the home page.

Site-wide navigation helpers include integrated Search and Site Map features which are automatically updated whenever content is added, deleted, or moved.

Newsroom

Automated. Up to Date.

Keep your website users informed with scheduled or instant delivery of news and story releases. Push time sensitive stories to home and selected web pages with automated updating. Keep your news directories current and organized.



Short Title
Automated, Up to Date.

State: Approved | Release Date: Sep 15, 2004 | Expiration Date: January 2005

Category: | Keywords: |

Calendar: January 2005 (28th selected)

Setting Story Dates

With the CMS Newsroom, stories are tagged with release dates and times, right down to the minute, if desired. Stories with limited time availability can be scheduled for expiration.

Automated display functions, such as headline sort order, can be triggered by release date in chronological or reverse chronological order. Custom icons can be attached to the newest (user-defined) stories.

Home or content clusters can draw recent news headlines, release dates, and summary annotations from any identified content directory, immediately reflecting current content status as it changes.

When a new story is released, it is automatically added to search indexes and sitemaps.

As your news directories grow, stories can be automatically archived into subdirectories based upon release date or story categorizations.

Page Preview

Content authors frequently use the web console to manage the content hierarchy, but that is not the only way to navigate through the site and edit content. Content authors can right-click on any content page in the web console and click "Preview" which launches the site into preview mode for that page. The content author now can see the web page using the same templates that are used for public viewing, ensuring that the edited content fits the page layout.

Content visibility rules are relaxed in preview mode so that authorized content authors can preview pages before they are published "live" on the site. Since the preview mode uses the same page templates as the website, content authors can navigate around the website while remaining in preview mode. While in preview mode, they have an additional administration panel that can be used to publish

content "in-context". This feature allows users to easily locate and find content pages and edit them without having to switch between browser windows for the website and web console.

Page Templates

CMS websites are template driven to ensure that brand consistency is applied throughout the site. This allows content authors to publish the content for each page without having to worry about the complex markup standards and navigation components required for each page. The CMS allows developers to leverage all the standard ASP.NET 2.0 page features to build CMS page templates.

Web developers build CMS page templates using standard ASP.NET web pages. The common structure of each page (for example the headers, navigation, and footers) are typically encoded into a master page that is shared across multiple page templates. Common components that are also placed on multiple page templates are encased in user controls and placed in appropriate positions in each page template. Standard fonts and styles are defined in CSS files that are referenced by all page templates. Leveraging all of these features together allows a developer to quickly and easily build very complex CMS solutions with minimal effort.

Paste from Word

Users can author content in Microsoft Word or other publishing tools and use a simple paste-as-text toolbar to paste the text directly into an HTML content area. This removes all of the proprietary and custom formatting tags while still maintaining paragraph structures. This feature allows content authors to use the desktop tools of their choice to write their content while still ensuring that content that they paste into the website will still be rendered using the site's standardized styles that are defined in CSS files.

Personalization, Membership, & Protected Content

Secret and Secure

The CMS employs a powerful personalization and membership model that allows for the delivery of complex and personalized websites.

This personalization model supports both authenticated and unauthenticated users and allows for persistent and session-based storage of personalized data. The membership model is integrated into Active Directory® and can be adapted for custom SQL membership systems. Content is protected with Active Directory ACLs and the CMS API will invoke the membership system to ensure that users are logged in and have permissions to read a given document.

Membership features include sign-up and password management of all Active Directory user account attributes such as password expired, account locked out, and other restrictions, are all respected.

Survey & Polls (4.4.12)

Gather Viewpoints Quickly

Give your audience a quick and easy way to voice their opinion on concise topics and see immediate feedback from their vote - automatically.

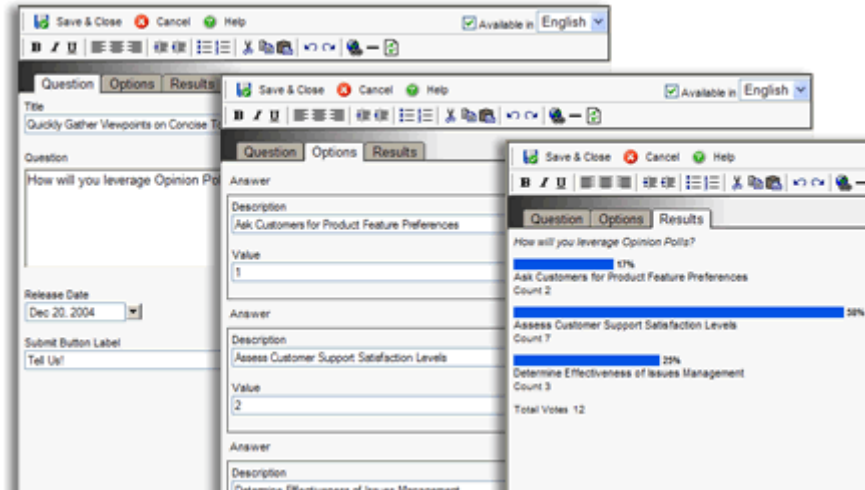
The CMS Opinion Polls are an ideal way to use single topic questions to gather data over time. You can use them as simple market research tools and if you refresh or rotate polls dynamically, you'll keep your website looking current and topical.



Opinion Polls: Asked and Answered

The CMS Opinion Polls incorporate these standard functions:

- Polls can be date and time scheduled for automated release and expiry
- Expired polls can be viewed within poll archives, sorted by question or date
- Cookie tracking helps prevent duplicate voting (one vote per poll, per visitor)
- Reveal or hide the number of respondents
- Immediate aggregate results can be displayed to by bar graph and/or percentage to administrators
- Options to hide or aggregate reveal results to end-users
- Unlimited polls can run throughout your website simultaneously
- Standard radio button presentation. Users select one response from an editor-determined number of answers
- Download response data in Microsoft Excel XLS or CSV format for further offline analysis, as desired



Opinion Poll Editor Screens

Print View

Fit to Page. Style Included.

You've heard about the paperless society but sometimes you need a hard copy - to fax, to carry to a meeting, or to get your point across.

With print view templates in the CMS, you don't have to compromise your brand presentation to get a fit-to-page print. You decide how many, or how few, of your webpage attributes are to be included in your print view template. Because of our attribute based content entry system, your words and images will survive the transition from screen to paper in fine style - as defined by you.



Sample Web and Print Views

Your website visitors can choose to "Print this Page" anywhere within your site (including applications and forms) and they can expect legible, non-bulky, print-ready results without missing an ounce of your branded content.

Rich Media & Attachments

Publish Flash®, Windows® Media, QuickTime®, PDF, and more.

Today's online branding encompasses more than just words and static images. Content managers require tools to present their sound, video, animation, and high resolution document assets easily, allowing for dynamic revision while maintaining complete control over plug-in options and presentation characteristics.

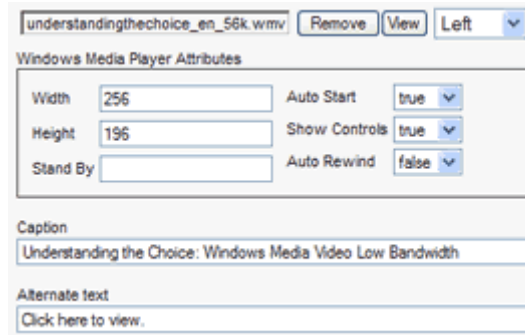
With the CMS Rich Media & Attachments, multimedia files can be inserted into web pages with context relevant parameters tagged, without need for any specific technical knowledge. Simply browse to the media file on your local computer or network, and the CMS will upload the asset, recognize and identify it's media type, then present you with the publishing and presentation characteristics appropriate for inclusion. Content managers can also publish related captions and alternate text tags.

As an alternate to webpage-specific rich media inclusions, editors can leverage the CMS Asset Management, a central repository for uploading and managing content objects. This CMS application facilitates the reuse of commonly referenced media assets throughout the website property.



Rich Media Presentation: Icons, Titles, Attributes

Website visitors benefit with automatic browser plug-in helpers, including hyperlinks to appropriate plug-in vendors. Rich media listed as attachments for download are automatically identified by associated application icons and text description. Actual file names, data dimensions and editorial annotations can be presented.



Rich Media Editor Attributes: Windows Media

Attributes such as display dimensions, player controls, auto play, loop, quality and scale can all be set using menu and button controls.

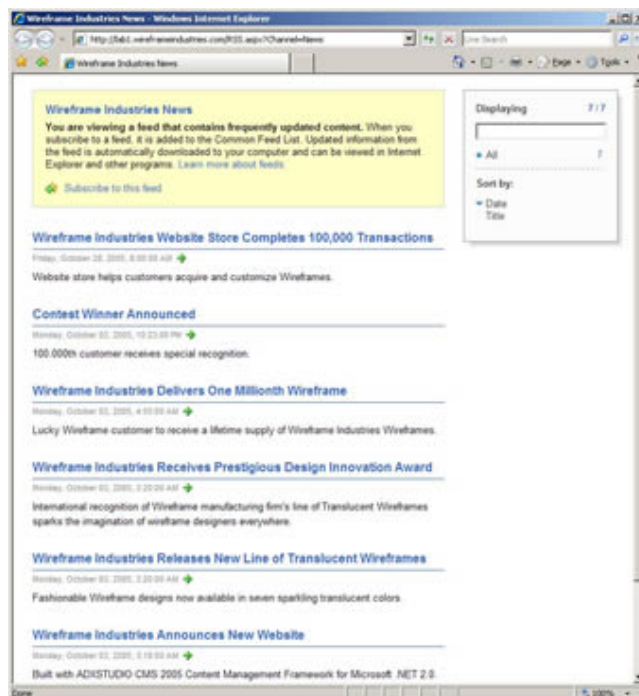
Content providers can even insert code-level parameters for truly customized media inclusions.

Publish and manage these and other media object file types :

- Video : Windows® Media, Apple® QuickTime®, Real Video®, MPEG
- Audio : Windows Media, Apple QuickTime, Real Video, MP3
- Graphic : JPEG, GIF, PNG, TIFF, EPS, PSD
- Animation : Macromedia® Flash®, Shockwave®, GIF
- Presentation : Microsoft® PowerPoint®
- Document : Adobe® Acrobat® PDF, Microsoft® Word, Excel
- Text : TXT, DOC, RTF
- Compressed Archive : ZIP, HQX

RSS Aggregation & Syndication (4.4.9)

Automated Pickup and Delivery



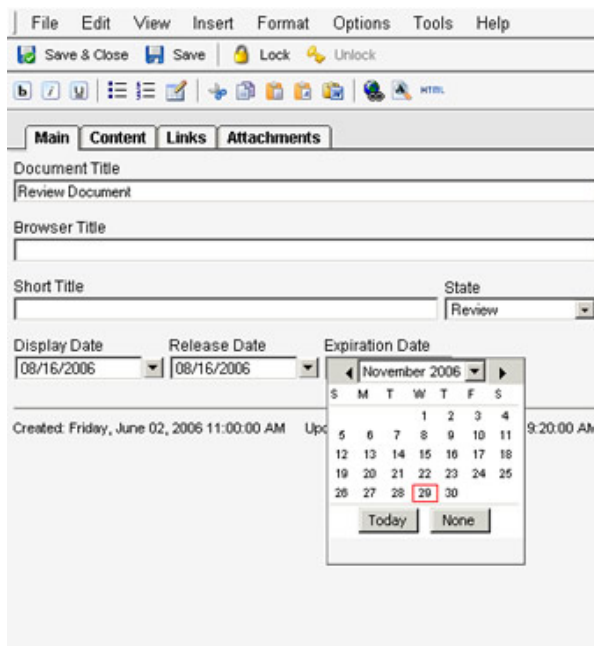
Example RSS feed using Internet Explorer 7

RSS provides a simple syndication mechanism for website editors to gain exposure and distribute content to outside destinations. Additionally, they can draw selected content from trusted sources into their web pages.

The CMS provides content-managed, XML-based mechanisms to accommodate inbound and outgoing RSS content feeds. Technical solutions include XML, SOAP and Web Services, and our developers commonly develop custom solutions to specific client requirements. And, by leveraging the RSS tagging structure, distribution and display of content and feeds is not restricted to browser-based web pages, thus your distribution network can extend to users of alternate devices like Pocket PCs, PDAs and cellular telephones.

Via the CMS, administrators are able to define sections to be RSS outgoing enabled at a click of a button. Clients and users are then presented with the standardised RSS feed icon on sections where outgoing RSS is enabled.

Scheduled Publishing



Example of setting the expiration date for a web page. The page will be visible on the website between the release and expiration dates.

Content visibility is controlled by workflow as well as release and expiration dates that are managed within the CMS. Content authors can pre-approve content that is scheduled to be released at a certain time and that is automatically taken off the site when it expires at that selected time or date.

Release and expiration dates can also be used to switch from one version of a web page (or content tree) to a new version, in a timed fashion. This is accomplished by simply expiring the old page at the same time as a new page is released.

The scheduled publishing feature works automatically without requiring a content author to be present to make publishing changes at the desired times.

Search

Find it. Fast.

Give your website users a fast tool to find what they need, including attachments like Word documents and Adobe PDFs.

The CMS Search provides you with a built-in, automated solution to index your website's content and provide consistent, qualified results to searchers. By default, all webpage foreground text and attachments are included, as well as any META data contributed by content authors.

Website managers can exclude selected web pages, and even entire content trees, from search indexing as per their editorial desire. Scheduled content indexing results in minimal impact to web servers but editor initiated indexing is always available on-demand. Branded messaging can be inserted into found and not found results with complete CMS control over content and formatting.

Visitors can trigger searches from anywhere in your site and by way of a drop-down menu they can limit returns to delineated content hierarchies. Word and phrase searches are standard, as are Boolean operators. Custom implementations incorporating publication dates and other specific webpage attributes can easily be accommodated.

Search return listings are organized in an easy-to-scan, organized format, with specified returns presented on consecutive, easy to navigate, return pages.

Not Just for Visitors

As content information hierarchies grow to contain hundreds or thousands of web pages, website administrators will find the Console's webpage search/locator to be a helpful alternate to the hierarchical tree-view when locating specific content objects.

Documents can be searched by one or more keyword fields, with delineation by object type. Successful results returns are viewed in an informative list format, with a mouse-click selection resulting in the direct launch of that object's Document Editor.

Technology

The search engine is tightly integrated with Microsoft® Index Server, storing all document contents in XML in a SQL database. Index Server searches all of the physical files applying these processes:

- Custom meta-tag attributes are registered with Index Server to be included in the catalogue.
- The CMS exports content to a specific directory that is not on the web. This process can be automated or invoked manually by the web administrator through the web console.
- Index Server is configured to catalogue this export directory.
- Exported files include all document language versions, and only include raw content and meta-tags, thus excluding presentation code or other HTML.
- CMS Document Attachments (PDF, Word, etc.) are included in the export.
- When the user issues a search, the CMS API queries Index Server and builds search results, respecting language and all CMS attributes. Catalogue links are automatically translated into CMS links.

Capabilities

When the website visitor requests a search (through a quick search, standard search, or advanced search page), the CMS will build and issue an Index Server compatible query. Search results are then made available to the user once they are processed.

Typical user interface capabilities include:

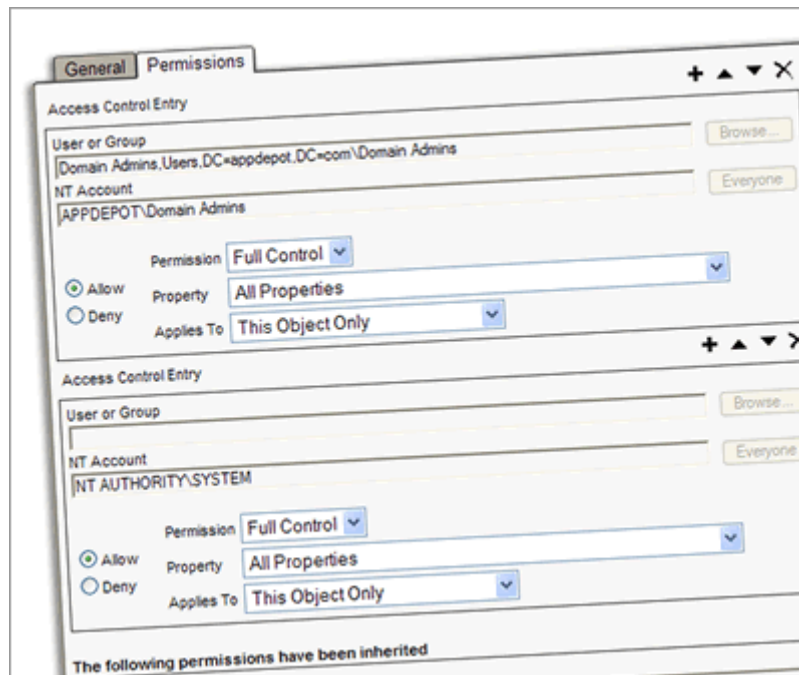
- The site visitor can sort the search results by relevance (default) or apply a number of different user-defined attributes.

- Results support a paging model with the user defining the number of search result entries on a single page (10 – 100). Returns incorporate a detail of the number of hits and pages and allow the user to navigate easily between pages.
- Search interface will include multi-lingual (if applied), CMS-controlled content to instruct users on the use of search interface.
- Sites can include a basic keyword search as well as an advanced search interface that allows the user to have maximum control over the search parameters such as full text and/or meta-data.
- Search forms can include a reset button. Meta data search parameters include pre-populated dropdown lists to facilitate a flexible user experience.
- The CMS validates search criteria against pre-defined rules prior to processing search with Index Server. All results that are returned by Index Server are validated prior to being displayed to the user.
- Search interfaces are tightly integrated into the caching model for maximum performance.
- Search results typically include a title that is clickable through to the destination, release or effective dates, filenames, file sizes, abstracts, and a navigation path to the document. Any CMS captured attribute can be included in the search result listing.

Secure Content (4.4.2)

Security for your content and applications should be an integral component in the design and structure of any web presence. But protecting your business assets shouldn't prevent you from sharing the goods with your trusted partners.

Dependable the CMS Content Security is incorporated into our web-based solutions from the ground up. We help determine your security risks and the framework to develop solutions that will securely manage content and associated membership relationships. Content managers can easily restrict or reveal content hierarchies for authenticated users.



Content Security: Web Permissions

A number of robust mechanisms provide administrators the flexibility to manage and protect content for internal administration, release to public, or release to registered users and groups. Content logs record any editorial or administrative activities related to your documents and are available for audit instantaneously.

Spell Check

Proven Accuracy

Sloppy spelling will never impress your audience, but sometimes you'll need to make immediate content changes without referring to your favourite word processor. With the CMS, you can help to ensure spelling accuracy with integrated spell check features.

Using a familiar Microsoft® Word-style interface, content editors can review all foreground rendered text and META information in a single spell checker popup window and make sequential, unidentified word determinations using Ignore, Replace, and Add to Dictionary actions.

Replace actions are supported by relevant, dictionary-determined, selection options and an alternate text field entry. Editors are notified upon completion and returned to the CMS Document Editor, incorporating all of their replace decisions.

Spell checking is not limited to obvious web document fields like title and body copy. Special instances can check product catalogues, contact forms, and email newsletters - to name a few.

The CMS Spell Check Features include:

- Multiple resource dictionaries available
- Creation of on-the-fly defined custom dictionaries by individual user or workgroup

- Support for multiple simultaneous languages
- Actions occur in a separate popup window leaving the source document editor in view
- Spell corrections that are returned to the source document editor upon close
- Automatic exclusion of HTML formatting tags

Statistics & Reports (4.4.13)

Data Worth Mining

In addition to component embedded reporting (i.e: surveys, polls, and interactive advertisement tracking), the CMS can be integrated with your desired web analytics software, including Google Analytics® (Urchin®) and WebTrends®, to process your traffic logs and provide web-based reports. Reports can be generated on-demand or delivered on a scheduled basis.

Web User Interface

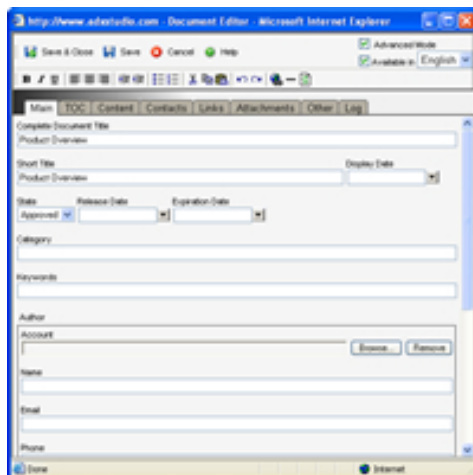
Powerful Publishing Tools

Content contributors, authors, approvers, and reviewers use a web-user interface to manage website content.

The CMS includes a powerful Web Console that implements all content-management capabilities through a standard browser interface. CMS publishers only need to have Internet Explorer (with Microsoft® XML Parser as a plug-in) in order to operate the web console.

The web console implements a very easy to use and powerful GUI that includes advanced features such as Tree views, List views, popup and drop-down menus, tabbed-dialog interfaces, rich-text edit fields, and more.

As content information hierarchies grow to contain hundreds or thousands of web pages, website administrators will find the CMS Console's webpage search/locator to be a helpful alternate to the tree-view when locating specific content objects. Documents can be searched by one or more keyword fields, with delineation by object type. Successful result returns are viewed in an informative list format, with a mouse-click selection resulting in the direct launch of that object's Document Editor.



Document Editor

The CMS Document Editors are equipped with a rich-text editable field that allows publishers to enter custom HTML markup and control the specific presentation of some key fields. The rich-text editable fields require Internet Explorer 6 or higher and provide a formatting toolbar that allows the publisher to easily control text style, formatting, and insert tables.

Each rich-text editable field allows publishers to switch between source and design modes. In source mode, HTML fragments are visible and can be easily modified. In design mode, content is viewed in a presentation style. Publishers can make content changes in either mode. The rich text fields also accept the pasting of raw or HTML text, in either mode, from any Windows® application or HTML editor.

Workflow

Check this Out (and back in)

The CMS possesses a powerful workflow engine that can implement most workflow models. The standard workflow model is based on document states and publishing roles. States, roles, and all workflow rules are completely customizable. Typical roles include contributor, publisher, reviewer, approver, and administrator.

Each CMS solution can be configured with a custom list of document states to implement customized workflow models. A table of workflow permissions that outlines which users or groups (roles) have permissions to move documents from one state to another is used to ensure that documents move through a strict workflow process that is gated according to the workflow requirements. These workflow permissions are implemented in addition to the underlying Active Directory® ACL permissions that are required to change a CMS document. Workflow notification rules are implemented by another table that controls which workflow messages are sent to which user groups based on the document state transitions. The contents, and structure of the email notifications, are completely customizable.

Document Check-in/Check-Out

The CMS is designed upon a multi-version data model that supports document check-in/check-out. Each time a user updates a document, a new version is stored in the database. This allows the CMS to display previous versions of a

document, and CMS authors have the ability to roll back to a previous version. To ensure that only one CMS user can change a document at any time, a check-in/check-out model is implemented. When an author has completed their changes, they check the document back in so that it becomes available to other CMS users for modification. These features work in cooperation with the workflow rules to ensure that a practical and controlled process is followed.

The web console is typically configured with additional views to support the check-in/check-out process. Views include (but are not limited to) the listing of documents that are checked-out by the current user or by other users.

Content Previewing

The CMS has additional features that help authors publish, review, and approve documents. A preview mode is implemented in workflow CMS solutions to allow content contributors and reviewers to preview a document before it goes live. This preview mode is integrated into the site so that web pages are actually previewed within the website and all navigational interfaces are fully active. Preview mode is only available to authorized CMS users and is not accessible on the website to the general public. When an authorized CMS user is previewing the website, it is typical to place a preview notice at the top of the page and additional links that allow the user to edit the document, or change the workflow state of the current document, without having to locate the document in the web console.

The web console also allows publishers to view documents based on workflow state, documents that they have personally authored, and documents that match content review or archival rules. Full CMS capabilities are available on the documents listed in these special views.

WYSIWYG Editor

The CMS leverages the Microsoft HTML Editable control to allow content authors to edit their content using a WYSIWYG interface. Content authors can use standard shortcut keys or toolbar buttons to apply rich formatting to their content sections. Content authors can also switch to HTML source mode if they need to have fine-grained control over the rendered content.

XML and XSLT

Maintaining Standards: XML & XSLT Integration

The CMS was designed with complete integration of XML and XSLT. All CMS documents are marked up in XML format before being stored in the CMS database. XSLT transformations are used to convert the CMS documents and all other data into various output formats.

The CMS APIs also make extensive use of XML and XSLT for all application operation. This tight integration with XML allows for simplified customizations, rapid web development, and easy data reusability.

CMS users are shielded from any of the details of XML as the markup and transformations are performed transparently and automatically by the CMS. The CMS also includes an extensive library of XSLT files that uses includes and