CommonSpot™ Content Server

White Paper

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Introduction

Web technologies are defining new ways in which we can share business critical information with customers, employees, and business partners. Keeping pace with the Web's importance as a strategic business tool is often difficult, surpassing many organizations' ability to manage and support it effectively.

Until now, most business units or content owners have been forced to rely on overburdened Webmasters and IT resources to re-author, update and manually convert content for their Web applications. Web content ends up being managed by technical staff, instead of by the business stakeholders who own the content. The high demand and the never-ending queue for typical IT support often block the flow of business critical information. Expensive IT resources are continually taxed to stay abreast of the demand for what most commonly amounts to simple editorial changes. Web sites become unmanageable, out of date and too cumbersome to support.

For most organizations, their Internet, intranet and extranet applications are strategic business ventures enabled by advancing information technologies. Such endeavors, even those dominated by technology, must be driven and managed by the business, and not by the IT organization.

Business stakeholders need simple and easy-to-use tools to keep Web sites current and relevant.

The need for efficient content management is greater than ever, in order to both improve Web site quality and lower maintenance expenses.

Giga Information Group estimates that companies who implement an off-the-shelf content management system," *will reduce the maintenance and enhancement costs required to implement the new functionality by one third over a three year period. Assuming the labor years over a three-year period drops from six to four, the savings will be $240,000. If the implementation is larger and 10 labor years are cut, the savings would be $2.4 million over 3 years."*

When an effective content management tool is implemented, gains are realized throughout the organization. Redundant data collection, editing and updating are eliminated, and the Webmaster is removed from the publishing process. Additional benefits of a consistently applied and enforced look and feel and fresh, accurate content ensure that the company's strategic objectives are achieved. **But what does all this cost, and how does one evaluate the many offerings available?**

The options available for content management are diverse, ranging from extremely powerful and flexible high-end solutions costing several hundreds of thousands of dollars or more, to very minimal offerings costing less than $10,000. Given the potentially significant costs associated with implementing content management systems, many high-end projects are being delayed, and as the Gartner Group mentions in a recent article," *clients are looking for Web content management solutions that are moderately priced."*

> *"Companies with growing Web sites expose their businesses to error and breakdown as site content mushrooms along with the number of people supplying and consuming it. Bringing order and control where it's needed in this process without flexibility is the purpose of a content management system."*
>
> Source: Forrester Research, Inc.

Selecting a Content Management System

So how do you know which content management system is right for you? A few of the questions to consider in developing evaluation criteria are indicated below. Once you have established your evaluation criteria and the critical features required, you can most effectively create a 'short list' of potential solutions.

Questions to Consider

- Will the system support the way you want to work?

- Who will be using the system?

- What is your budget?

- How easy is the system to use? What kind of training is required to get users up and running?

- How complex is the implementation – will it take weeks or months?

- What are the technical requirements of the system? Do you have the staff to support the technology internally, or will you outsource this?

- How easy will it be for you to convert your existing site? Will the look and feel of your site be restricted in any way?

- Does the system create static HTML pages, or generate pages dynamically?

- Do you need all of the bells and whistles of a high priced system, or are you looking for the core CM features?

- How effectively can the system manage different and changing versions of your site? Is a separate staging server required?

- Do you have special requirements, such as needing to support multiple languages? Does the system provide that functionality?

For organizations seeking an affordable, flexible and easy-to-use content management application, CommonSpot™ Content Server is an ideal solution. CommonSpot 4.6 provides everything you need to create, publish, personalize and manage Web content in a distributed, collaborative environment.

As a full-featured, completely browser-based, out-of-the box, Web publishing and dynamic content management solution, CommonSpot allows content producers within an organization to easily participate in the efficient creation, management and delivery of Web content, without the help of a Webmaster and without having to know HTML.

And for a fraction of what larger systems cost to implement, you'll be up and running in no time. CommonSpot can be implemented in weeks, not months – improving your time to Web, while reducing overall development costs. It's easy to learn, and easy to use, with intuitive, user-friendly wizards.

CommonSpot's flexible template and data-driven architecture, along with granular access controls and a multi-level approval workflow process, gives content managers control over the integrity and structure of the site, while greatly simplifying overall content management.

Developers recognize the benefits of CommonSpot's open and extensible architecture, enabling fast and seamless integration with existing ColdFusion applications and custom modules.

To learn more about CommonSpot's capabilities, a description of CommonSpot's powerful feature set follows.

Features & Benefits At-a-Glance

CommonSpot's unique approach to managing Web content helps organizations transform their Internet, intranet or extranet into a vibrant communications medium and a potent business tool. CommonSpot achieves this by offering a complete and comprehensive distributed Web publishing and content management solution.

Empowered Content Owners

CommonSpot's simple yet powerful tools empower users with varying skills to edit, author, and design content, simply and easily without the help of a Webmaster and without having to learn HTML. CommonSpot's rich text editor allows authors to create richly formatted content or retain the characteristics of content created, copied or re-used from Microsoft Word. There is no need for users to learn how to convert a Word document to HTML and then FTP it up to a Web server. Features like spell check, visual difference, collaborative authoring and email review make authoring and approving content even easier and faster, and context-sensitive help provides users with the necessary knowledge to quickly and efficiently manage content.

Supports Different Levels of Expertise

CommonSpot provides simple authoring tools that support the various skill levels of those contributing to the site. A user's access to functionality is predicated on his/her role – developer, designer, author, editor, approver and administrator. Options that are not applicable are hidden from the user, greatly simplifying use.

Interactive Browser-based Application

All the functionality for creating and publishing content as well as managing user access and security happens within the browser. No client software besides the browser is required, nor is it necessary to navigate to a separate application or URL. Content can be authored using Internet Explorer as well as any Mozilla-based browsers including Mozilla 1.7, FireFox 1.0 and Netscape Navigator 7.2. Full authoring and administrative functionality is available on the Mac, Linux and Windows platforms. CommonSpot is intuitive and easy to use, as all authoring, editing, scheduling, approving and publishing of content happens within the context of the page.

Dynamic Assemblies of Content

CommonSpot is unique in its presentation and management of Web content. Pages in CommonSpot are not created as static HTML pages, but as dynamic assemblies of structure and content, organized, managed and stored separately in a centralized database repository. Content and its structure can be managed separately, while security and personalization can be applied as appropriate. Compared to Web sites comprised of a collection of static HTML pages that require a page to be created, updated and managed in its entirety, CommonSpot's separation of content from presentation greatly simplifies the management of the content, and ensures that the design integrity of the site is maintained.

Simplified Web Page Creation

Web page creation is simplified with ready-to-use and easily customizable templates. Templates provide a variety of layout options and can accommodate everything from text, hypertext links, images and multimedia to the common formats of today's desktop publishing applications – Word, Excel, PowerPoint, PDF, etc. Elements are objects that render content in a specified format and provide a "click here" interface which invoke a series of dialog wizards to guide authors and editors through the process of contributing content, defining layout attributes or changing the format properties.

Consistent "Look and Feel" with Templates and Cascading Style Sheets

CommonSpot's template architecture helps to preserve the design integrity of the site, as well as ensure a consistent "look and feel" across multiple pages. Security applied at the template level ensures that certain design properties cannot be inadvertently changed. Changes in the "look and feel" of a site or in recurring content (a toolbar), can be made once, in a single instance and the change is inherited across all pages derived from it. Additionally, the use of cascading style sheets helps to ensure a consistent look and feel throughout a site. Changes to style, fonts, sizes, etc. can be made in one place and incorporated automatically throughout all pages that utilize the style sheet.

Distributed Administration

CommonSpot allows organizations to distribute the management of Web content and the administration of access and security privileges in a manner that best serves the company. Administrators delegate and grant rights to create templates, pages and elements to those persons directly responsible for development of the site and the content to be published.

Granular Security and Secure Access

CommonSpot's multi-level security system provides granular control at the site, subsite, page, element and template level. Page Inheritance security ensures that pages created from a template inherit certain permissions and thus security administration is automated as the site grows. Permissions may also be restricted to a template, thus prohibiting the editing of the element or layout or font properties at the page level.

Targeted, Personalized and Scheduled Content

A "one size fits all" perspective isn't always effective. CommonSpot provides several tools for personalizing content based on a user's interest and need to know. Alternative views of an entire page can be easily rendered for different targeted audiences. Content owners can be assigned to manage content and its access independently for each of the various target audience views. Personalized or audience-based content elements allow authors to define and display content based on a user's group profile and affiliation with a group. Content may be displayed or hidden by simply assigning or denying 'Read' access. Scheduled content elements are rendered based on time, day of week, page category, site/subsite, browser type or the referring page.

Custom MetaData

CommonSpot allows site managers and template creators to define and collect custom metadata (information about information) associated with certain content. This data can then be leveraged to build simple or complex filters for generating dynamic lists of content, such as a 'What's New' section or a list of articles. Content can be effortlessly repurposed.

Taxonomy Management

CommonSpot provides extensive, out-of-the-box capabilities for building and managing flexible taxonomies. Taxonomies can be easily imported or created directly within CommonSpot, and used in conjunction with custom metadata, can provide sophisticated content classification for searching and content display.

Future Publication and Automatic Expiration

Authors can easily configure a future publication date, and set the automatic expiration of content. The author can also dictate what action will occur upon expiration of the content, ensuring that only timely, relevant and valued content continues to be presented. A pop-up calendar makes it easy to select the expiration date.

Workflow and Approval

Robust, yet flexible revision and approval procedures allow a workflow and approval process to be established in line with your business requirements, ensuring that consistent and high quality content is maintained throughout the site. CommonSpot supports the option of having authored content approved before it is published, at either the page or element level. Multiple levels of approval are supported, to enable appropriate signoff and workflow management.

Enhanced Search Capabilities

CommonSpot's use of author-defined keywords enhances Verity's search engine's ability to customize the full text search and improve the accuracy and relevancy of the results. Keywords are stored as meta-information tags and are automatically inserted into the HTML document. CommonSpot's Dynamic Keyword Views provide context-sensitive search capabilities. Based on an author or user-defined keyword, a dynamic view of associated Web pages, embedded, and uploaded files are displayed with hypertext links. CommonSpot also provides a powerful 'Query by Example' element, which allows users to more easily locate content on a site using metadata. This feature makes it easy for users to find important content on your site quickly.

Simple Form and Datasheet Elements

The Simple Form element provides the non-technical end user with the ability to create simple forms within a page and have the results stored in the database repository and/or emailed to the form creator. Non-technical users can also use this feature to create simple or multi-page surveys, or multi-page forms, and format the layout of the forms using CommonSpot's rich text editor. The Datasheet element allows technical and non-technical users to create tabular views of information. The tabular views allow reporting of pages and associated metadata, custom form results and dynamic customer SQL query results. Data can also be exported to Excel spreadsheets.

Link Management

CommonSpot provides facilities to easily validate, repair and redirect links when creating deleting, moving or renaming a page, as well as the ability to validate all links on the site on a pre-determined interval (nightly, for example) and notify you of broken links to be repaired. Also, content authors can view a list of referring pages and templates that contain links to the current page.

High Performance Caching

CommonSpot's intelligent caching system automatically and transparently caches static versions of dynamically created pages as appropriate. This enables rich, adaptive assembly of pages without having to compromise performance typically associated with purely dynamic approaches. This approach offers the performance equal to that of a static site, while providing the functionality of a fully dynamic application.

Staged Version and Release

With CommonSpot's unique ability to manage content, versioning and the various states of content in the workflow process, there is no need for a separate staging server for managing continuous revisions to a site. Changes can be made, reviewed, approved, and published all within one interface, on one server, in one site, without sacrificing important controls.

Replication

For organizations that prefer to author on one server and publish to many servers, CommonSpot provides the capability to replicate content. Extensive administrative controls allow for the establishment of replication schedules that meet your specific business requirements.

Static Content Generation

The Static Site Generation module is designed to further extend CommonSpot's scalability, performance and total cost of ownership. By separating the process for handling dynamic and static content, a more scalable, reliable and higher performance site can be realized. This feature provides support for alternate file extensions, as well as support for ASP, JSP, CGI, PERL, PHP and other server-side modules.

Integration with ColdFusion

CommonSpot's open architecture allows developers to leverage the power of ColdFusion, and their existing ColdFusion talent to extend and customize CommonSpot. Several simple interfaces are provided that allow developers to "drop in" their own custom code (draw data from external databases), or easily integrate existing systems. CommonSpot even allows developers to override the rendering of CommonSpot elements, by registering their own Custom Render Handlers.

Multi-Language Support

CommonSpot's UTF-8 support provides the ability to create and publish content in any language, including multi-byte UNICODE languages. Although we do not provide any "magical" translation

engine, we do provide mechanisms to easily and effectively associate and manage content that is created in multiple languages.   You can also define different language lexicons and dictionaries at a subsite level in order to support multi-language sites.   CommonSpot also supports the use of international date formats, which can be set at the subsite level. This feature allows you to define the date display format for sites in different languages.

Section 508 Rehabilitation Act Compliance

CommonSpot includes functionality supporting compliance of the Section 508 accessibility guidelines. Administrators can enable options to require certain Section 508 specified features such as the required use of ALT tags, table summaries, etc.

XHTML 1.0 Transitional Support

CommonSpot allows you to render XHTML 1.0 Transitional Compliant code from any CommonSpot page.

Web Services-Based Content Import

Web Services based API calls in CommonSpot allow for the programmatic creation, updating and deletion of pages, content objects, images, uploaded documents and external URLs. This functionality makes it possible to either import content to initially populate a new site, or to consume syndicated content on a regular basis whenever it is updated.

Transaction Logging

CommonSpot's configurable transaction log allows for the tracking of all contributor actions and events for auditing and compliance purposes. Transaction log data can be easily exported to Excel/Access for further analysis.

Leveraging Collective Knowledge

Without cluttering the Web page with citations or hypertext links, CommonSpot's Knowledge Maps provide a consistent and seamless mechanism for capturing, organizing and presenting valuable information such as contacts, see-also references, shared comments, keywords, search, document formats and more. Knowledge Maps are accessible for all content, regardless of its format.

What's New

Keeping track of what's changed on a site can be an arduous process. CommonSpot's What's New tracks all of the significant content changes made to a site and lists them in a single view. The What's New View displays all new Web pages that have recently been added to the site, as well as a list of updated or modified pages, and new uploaded files or documents. Users can simply navigate to the new content by clicking on the corresponding link.

Integration of Discussion Forums

CommonSpot provides tight integration with FuseTalk, Inc.'s FuseTalk™ discussion forums, allowing contributors to easily embed and link to discussion forums and page comments.

Context-Sensitive Help

CommonSpot offers a comprehensive, easy to use, on-line help system that allows technical administrators and non-technical content authors to instantly access relevant documentation and recorded Webinars from within any CommonSpot dialog. This help authoring feature empowers both non-technical users and developers to quickly and easily build and manage Web sites, increasing productivity.

Presentation Management

CommonSpot's unique presentation management features help to ensure a consistent "look and feel" across the site, while providing users with the tools they need to communicate their ideas and knowledge, in a manner that best suites the information.

At the heart of CommonSpot's Web publishing system are the **template** and the **element**. Each contributes to the simplification of managing Web content. Instead of storing Web pages as static HTML code, CommonSpot separates the actual content from its presentation, and stores the template, the structuring element's format and layout properties and content in a centralized database repository.

Template Driven Web Pages

A template is an assemblage of design, layout and formatting attributes along with recurrent content that serves as a framework from which Web pages are constructed. By outfitting every Web page with a structural framework independent of the page's content, the template and the actual content can be stored separately in a database repository, so each can be managed more effectively. The Web site is no longer a static collection of pages, but a dynamic system of versatile components that can be reused without limitation to create other pages.

The separation of presentation from content simplifies the Web publishing and content management process.

Designers can concentrate on presentation, site design and navigation. Administrators can 'lock down' the look and feel of the site and assign user-specific access and authoring permissions, limiting the ability of a content contributor to edit anything other than the content he or she is authorized to modify. Authors simply click where directed and a series of wizards and pop-up menus guide them through the submission of content. In real-time, the author's content is integrated into the predefined structure of the template.

The first and most common template is a base-level template, of which there can be many. A base template is the starting point from which all templates and pages are derived. It may contain a standard navigational bar, a hierarchical menu, company logo, stock ticker and/or any other recurring object. The base template is a ColdFusion module, and thus it can be created or customized using CFM tags, HTML, DTML, JavaScript or any other standard Web technology.

CommonSpot provides numerous ready-made templates that offer various formatting and layout options, and can easily incorporate the 'look and feel" of your Web site. Unlike most template oriented tools that require a Webmaster to build templates using a scripting language, CommonSpot allows any user with template creation rights the freedom to modify existing templates or create new templates to achieve a desired layout. Should you wish to push the
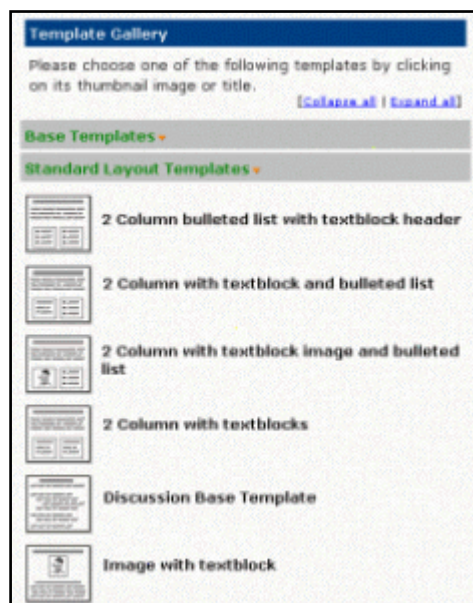
development of templates to non-technical users, CommonSpot facilitates the easy creation of new templates by business users. Eventually, an extensive gallery of customized and specific templates will accumulate to serve every purpose within the organization. CommonSpot's templates can render pages of text, video clips, HTML, hypertext links, PowerPoint presentations or images with equal efficiency.

Security permissions defining who can design, author, edit, and approve templates can be assigned at the template level. It may be appropriate to restrict design privileges, and constrain a template to a certain format and specific fonts.

Pages created from templates may also inherit certain security properties as well. 'Default' permissions may be changed or deleted by the administrator of the pages inherited from the template. 'Enforce' permissions are inherited regardless and cannot be changed in pages inherited from the template.

Templates remain dynamically linked to all pages created from them. This functionality is very powerful in that it allows a site designer to build a series of templates with common components to be shared across multiple pages, and manage them all in one place. In a typical HTML Web-authoring environment, a change to a copyright notice appearing across multiple pages requires that every page affected be re-authored. In CommonSpot, such elements can be specified in a template and thus all pages derived from that template are automatically updated when the template is modified. By simply modifying a few templates, a large-scale design change can be implemented easily and effectively without changing the underlying content. Changes in the foundation template automatically propagate to any inherited template or page.

Templates also allow similar content or components to be consistently organized and presented across multiple pages, which enhances a user's ability to quickly find the information needed. Typical templates might include a Press Release, Newsletter, Product Guide, Sales & Financial Report, Policy & Procedure, Product Description and so forth. Templates may be organized by category, and access to particular templates may be restricted based on a user's rights.

Cascading Style Sheets

To more efficiently manage the look and feel of a site and best maintain consistent design characteristics, CommonSpot supports the use of Cascading Style Sheets (CSS). When Cascading Style Sheets are implemented, changes to style, fonts, sizes, etc. can be made in one place and incorporated automatically throughout all pages that utilize the style sheet. CommonSpot also supports the use of CSS positioning (CSS-P) to improve content layout. Designers can build templates that use CSS-P to place content blocks within a page.

Template Render Options

Added flexibility to a page's layout is provided through Template Render Options. Template Render Options allow for different presentation formats to be implemented within a template.

Depending on the render option(s) selected, the page will render with the chosen look and feel. For example, a Web site design may include a left side navigation bar, but for certain pages rich with content found deep at the bottom of the navigation hierarchy, it might be desirable to not show the left side menu. In this case the template designer may create a "Full Page Width Content" render option, that when selected, will conditionally not render the left side menu.

Elements – Content at a Component Level

A key component of CommonSpot's Web publishing system is the element. Elements embody the logic that defines how the content will render or the shape it will take on the page. By structuring content in various predetermined formats, creating and managing content is greatly simplified.

Out of the box, CommonSpot provides over fifty versatile structuring elements geared to every conceivable way of presenting information on a Web page, from straight text and images to hypertext links, menu bars, images, PDF, custom scripts, multimedia, and more.

CommonSpot also supports a wide variety of content formats created using today's common desktop applications – Word, PowerPoint, PDF, and Excel. End users can easily rename, modify or save an individual or collection of common layout/content sections and their properties as new elements. A programmatic interface allows developers to create more complex elements using ColdFusion that may draw from external data or require data that cannot be inherited from existing elements.
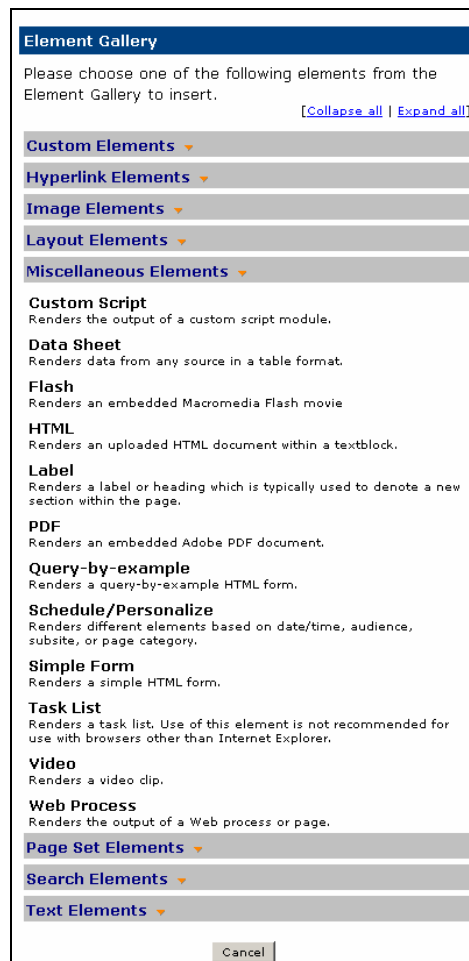
Authors with page creation rights can build Web pages by simply inserting the appropriate elements on a page. A 'click here' interface and dialog wizard guide the user through the process of contributing content. Each element has a context-sensitive wizard that presents various options for laying out the content (right, center, or left aligned, header, spacing between items).
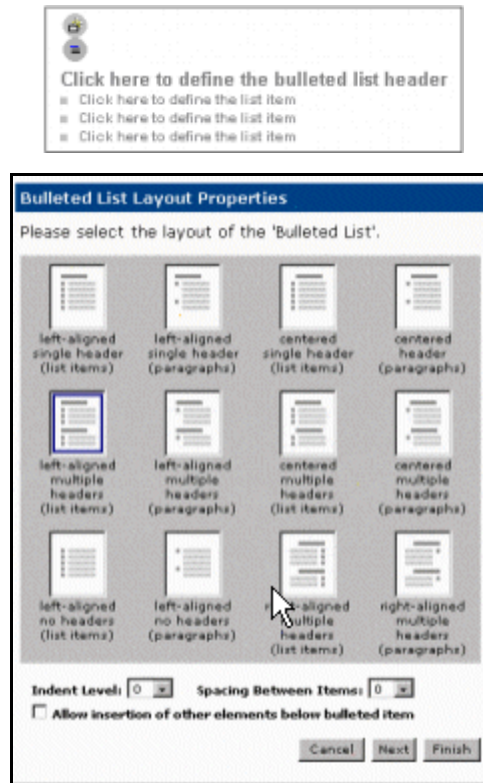
Font and Color attributes are managed through a separate interface.   CommonSpot allows for the creation of custom color palettes, to ensure consistent use of your own color scheme throughout your site.
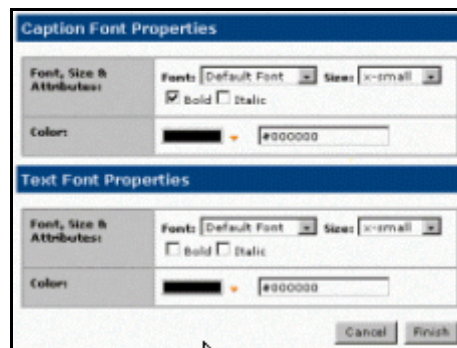
Elements can be added, modified or deleted on a page without affecting the page itself. Authors can easily re-use elements, in a myriad of combinations, to create Web pages.

In order to maximize performance, each time a page is approved for publishing, the page is assembled and a static copy is generated and then cached. When a user navigates to a page, the cached version is presented. Dynamic content elements are processed at the time of request, just as with a typical Web page. Through various security and template management features, CommonSpot exposes methods for managing elements, its content and layout properties.

The right to read, author, edit, design, and approve content may be specified at the element or page level. For example, in the screen shot below, the 'Edit' mode indicators are displayed only for those elements that the author has editing rights. The author or editor can modify the content by simply clicking on the indicator to launch the edit menu, or clicking on the text to open the rich text editor dialog.

The 'Edit' mode indicator allows users to update or revise the element's contents. The Element Properties indicator gives users with 'design' permissions access to the element's layout, font and color properties.

Content Reuse – Custom Elements

CommonSpot also provides the ability for a content contributor to enter content as an object once, and have that content syndicated to different locations or sub-sites within a site, without having to re-enter the content. As a single more tightly coupled object, content can be more easily accessed and shared across pages and subsites. For example, you might want to display information such as a press release, a product specification, details of an event, or other content in multiple locations across your site, but perhaps using different presentation styles or masks. Custom elements offer the flexibility to store the content object and the presentation separately, for convenient reuse across pages and subsites.

Dynamic Wizards and Interactive Dialogs

Whenever possible, CommonSpot presents dynamic wizards intelligently set up with default parameters. These dynamic wizards and interactive dialogs present users with a variety of formatting and layout options relative to the element. The user simply chooses the appropriate option and the wizard does the rest. No knowledge of HTML tags or attributes is needed to achieve a desired look.

The screen shot below illustrates one of the presentation panels in the 'text wrapped around an image' element wizard. The user simply selects the desired layout and presses the finish button to change the layout of the text relative to the image.
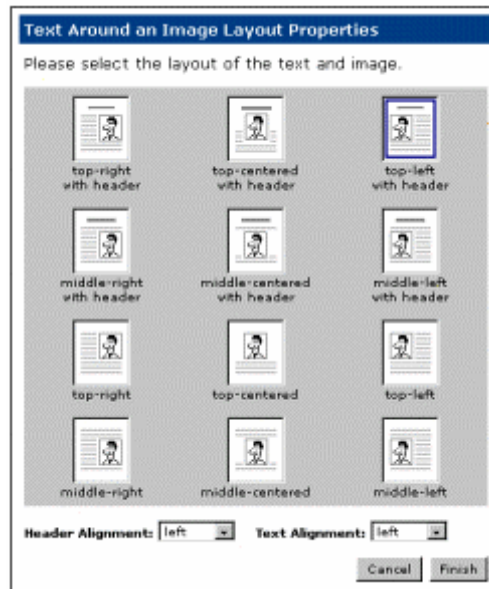
Rich Text Editing

CommonSpot allows authors to add richly formatted content using CommonSpot's authoring window, directly within the context of the page. The authoring window provides rich text editing, as well as word processing–style controls for font, style, alignment, indentation, and other formats. An author can also copy and paste content directly from existing Microsoft Word and Excel documents with formatting retained and automatically converted to HTML equivalents. Any text can be made into a hypertext link, which can then be linked to an existing page on the site, an external URL, a native file or to an email address. Immediately authors can begin creating richly formatted content without having to learn HTML.

CommonSpot provides a wide range of sophisticated editing contols within the Rich Text Editor to enable non-technical contributors to easily manipulate and format content and images.   Spell checking is available in the rich text editor and throughout CommonSpot dialogs, ensuring content accuracy.
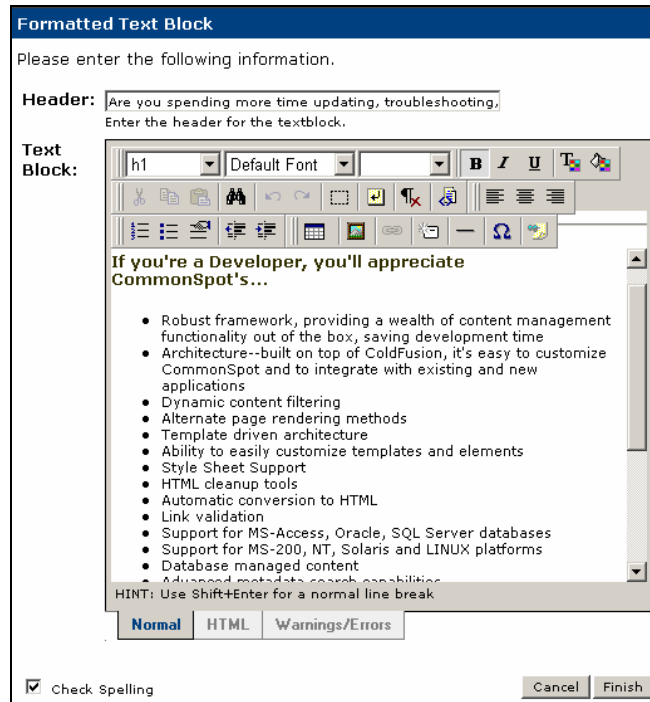
Empowered Authoring and Publishing

All of CommonSpot's content is created and edited within the context of the Web page. Users can author and publish content without having to understand the intricacies of the underlying database structure. Content is created directly in the browser; there is no need to FTP content to the Web server. CommonSpot automates numerous processes, such as uploading and categorizing all desktop-created content (Word, Excel, PowerPoint, PDF and multimedia files) to the database repository.

Intuitive and Dynamic User Interface Components

CommonSpot's authoring and publishing tools are accessible within the context of the page, each presented within a series of intuitive and dynamic user interface components and menus.
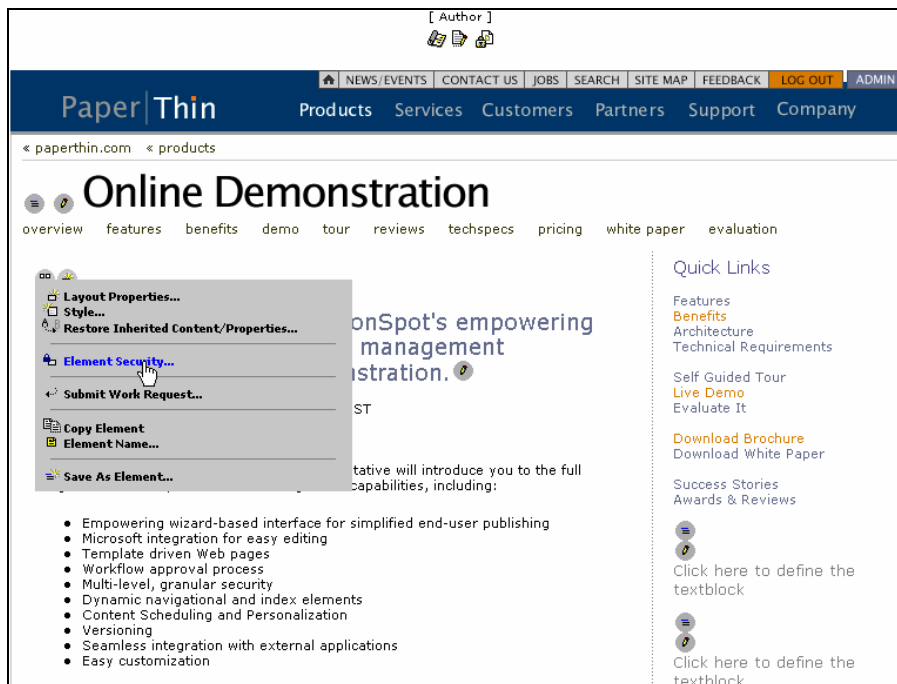
CommonSpot displays the appropriate UI components based on the user's role, access privileges, the current View mode (read, author, or approve) and the appropriate content attributes of the element or page. There are no separate applications, production or work centers that users must navigate to before they can participate in the development of the site or begin managing content. All interactions with CommonSpot are facilitated through the browser.

Roles, Permissions and Role-Based Views

The development and maintenance of a Web site generally involves many people, each responsible for contributing to the site in a different manner, with different skills. CommonSpot provides the appropriate tools for a participant to be effective in his/her role. A uniquely empowering team approach to Web publishing is enabled by an interlocking system of roles, permissions, and role-based views. Many people may be given the right to add, modify, edit or delete content, or even design new pages. Members of a team may work concurrently; CommonSpot coordinates and tracks each person's input.

Roles

Roles represent the various functions that individuals fulfill in the course of producing and presenting Web content, such as authoring, editing and approving content, designing the "look and feel" of the Web page, and administering the security requirements of pages and sections of pages. CommonSpot supports the role of technical site administrator, site designer, author, editor, reader, approver, and administrator. Each of these roles interacts with existing Web pages and their component elements. A single user can play many different roles from one page to the next.

Permissions

Permissions allow users the right to alter not just the content and layout of Web pages but their form as well and to create new templates, elements, and pages. For instance, a user with page-creation rights may act in the role of author, editor, designer, approver, and administrator for any page he or she creates. Privileges may be departmental or organization-wide, but they do not vary from page to page.

Role-based Views

CommonSpot personalizes its user interface components, such as menus and icons, page-by-page, element-by-element, based on the user's roles, permissions or privileges, and the security restrictions that may be applied for a given page. The View mode menu allows users to toggle among different views, each presenting its own set of user interface components that guide the user through various options of authoring, editing content, creating pages and templates, approving content, assigning security rights, and administering/managing the site.

The default view is 'Read'. 'Read' mode allows the user to view the published content and to navigate through the site and all its contents as an anonymous or authenticated user.

Anyone authorized to contribute or edit content, or to design or administer the site must toggle on **'Author'** mode to expose the dynamic user interface component to enable CommonSpot's functionality. While in 'Author' mode, users can do almost everything – create new templates and pages, add, modify or edit content, design the site and define font and layout properties, and administer users and security.

Content that is 'Work in Progress' for one author can be reviewed and edited by another author by toggling to **'Edit' mode**. 'Edit Mode' allows users with 'Edit' rights to view all changes on a page - even if the changes have been implemented by another user. In this mode, the user must take ownership of the content before any editing can occur. Once a transfer of ownership has taken place, the current user is able to view content in the 'Author' mode.

The User Interface components displayed are based on a user's role and the permissions granted at the page or element level. The content displayed in 'Author' mode is that which is currently approved, plus all 'Work in Progress' for that user.

'Approve' View displays for designated approvers the page with all content submitted for approval. An Approval Indicator ⊗ displayed next to each element or its sub items designates which content requires approval. Approvers can choose to approve, reject or refer back the submitted changes.
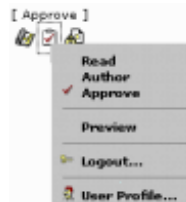
While authoring or approving content, the user may preview the page to see exactly how his/her changes will appear once published (indicators are removed from page). This unique role-based viewing mechanism within CommonSpot makes content design, creation and approval simple. The user never loses site of where changes are made, since all functionality is provided directly within the context of the page.

'Email Review' enables a user to send a preview of a page via email to someone who is not involved in the authoring and publishing process. This page preview, sent as an HTML attachment, can show content from either the 'Read' mode, 'Author' mode or 'Edit' mode views.

Authors and approvers can also easily compare differences between previously published content and work in progress, using the Visual Difference feature, accessible through the publishing icons. New text additions are highlighted in yellow, and text deletions are denoted in red strikethrough text for easier comparison. A side-by-side comparison is also available.

Personalization

By virtue of CommonSpot's architecture and the manner in which content and security are managed, several techniques are available for personalizing content either based on the interests of a particular audience, scheduled time and date, and other criteria.

Hide or Show Content

CommonSpot allows individuals with page creation rights to administer the page and to assign rights to a page or various elements on the page. One such right is 'Read'. Users assigned 'Read' rights will be presented with the content. Content can easily be restricted or hidden from unauthorized users by denying 'Read' access to an element. If a user navigates to a page where Read access is denied for a certain element, then the user will not be able to view that element. All other content except that element is displayed.

Targeted Audience

CommonSpot allows authors to create different versions or customized views of the same page (URL), each tailored to the distinct interests of different target audiences. When an authenticated user navigates to the URL of a targeted audience page, CommonSpot dynamically serves the right version of the page for the specific audience, without redirection. This ability is very powerful in that it can allow for consistent site navigation for all users, yet the content is tailored and personalized based on the audience. Through the Administrative Module, targeted audiences are defined and the members, either individual or group are assigned programmatically or administratively to the appropriate audience.
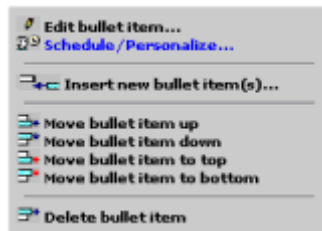
CommonSpot creates a cached virtual page for each targeted audience at page creation time, when an audience category is specified. This allows the creation, management and security of each of the virtual pages to be assigned to multiple contributors. This is evident when toggling on 'Author' mode, which displays a link to each of the Targeted Audience created pages.

It is assumed that each version of the page is different in its layout and content. If many of the elements and its content are consistent from one page to the next, then a better solution for personalizing content may be the use of Scheduled and Audience Based Content.

Scheduled and Audience Based Content

Scheduled and Audience Based Content allows content and its presentation to be adapted and displayed based on a number of flexible criteria, including date/time, audience, page category, subsite, and more. The Scheduled Element essentially acts as a container or placeholder. Elements placed within are scheduled to dynamically display or hide their contents, based on a period of time and/or the authenticated user's membership.

For those elements in particular that render multiple items as part of the element – bulleted list, drop down list of links, link bar, multi-section text block – each individual sub item may be scheduled according to time, day of week, render options, subsite level, browser type, or personalized based on the user's group memberships. The picture below shows the Schedule/Personalize option within the bulleted list item menu.

Custom Element Render Handlers

CommonSpot also provides the ability to register 'Custom Render Handlers' for various supported elements. The 'Custom Render Handlers' are simple ColdFusion modules that provide customized rendering for a particular element.

A 'Custom Render Handlers' section in the Administrator module allows for the registration of custom handlers. Each supported element provides a menu option off of its 'Properties" icon allowing the content author to specify either the standard output or one of the registered 'Custom Handlers'. Custom render handlers provide an additional level of flexibility in the way that content is presented on a site.

The example above shows how Custom Element Render Handlers can be implemented. This list includes several Custom Element Render Handlers that we have registered for the PaperThin site. There are unlimited possibilities for how you might implement this feature.

Extensive Metadata Support

CommonSpot provides the ability to add custom metadata (information about information), to help you search for and organize content. You can set up any number of categories and criteria to be associated with pages in your site(s). Custom metadata fields can be created easily and without coding and be bound to specific templates, subsites, page categories, document types and/or render handlers.

This valuable 'information about information' can be leveraged by non-technical content owners as a filter to construct dynamic list of links.

Create and keep up-to-date lists of the "Latest News." Keep hierarchical menus in sync with automatic updates each time a page is created and published. The possibilities and the benefits are endless.

Taxonomy Module

Taxonomies offer a number of significant benefits to organizations managing large amounts of data on a site. The taxonomy module provides a way to classify and order data in such a way that shows the relationships or associations between items or terms. With these associations in place, it is then possible to search, navigate, and filter pages based on this criteria. Classifying content to the terms in a taxonomy significantly increase the value of content and improve the user experience.

For each taxonomy created in CommonSpot, a number of options are available including the ability to edit taxonomy properties, browse a taxonomy, edit terms, import a taxonomy, download a taxonomy, delete a taxonomy, publish a taxonomy, discard a taxonomy, and manage removed terms.

Facet-Based Navigation
CommonSpot's facet-based navigation capabilities dramatically enhance the user experience and facilitate a faster information discovery process. Users can intuitively navigate through a defined taxonomy and easily browse and discover information within topic areas based on one or more selected facets.

Distributed Administration & Security

CommonSpot allows organizations to distribute the management and administration of access and security rights. Department managers, workgroups, strategic business partners, and others can fully participate in building the site, without having to sacrifice security or control.

CommonSpot security provides for single sign-in user authentication in which role-based security permissions can be assigned in a distributed manner. CommonSpot's model of distributed, team-based authoring succeeds because of a unique three-tiered security system.

- At the highest level, **site administrators** can assign responsibilities and grant privileges according to the overall goals of the site. This role could involve delegating administrative privileges to sub-site administrators, such as department managers, who act as administrators for their section of the Web site.

- **Departmental administrators** can delegate and grant rights to create templates, pages, and elements to the people most directly responsible for the development of the site and the content to be published. Rights may be granted at the site, page or the element level.

- **Creators of pages, templates and elements** can assign access security rights to the items they create.

  CommonSpot offers considerable flexibility in the assignment and control of security rights. Access to content published on an Internet, intranet or extranet is based on two different types of users–anonymous and authenticated. **Authenticated users** are those users who have logged in to CommonSpot and been successfully authenticated. Login is not required by default to view Web pages. An **anonymous visitor** may view any Web page created by CommonSpot. Authentication is only required when it is necessary to secure access to information.

  Privileges can be assigned to specific individuals, groups or to all anonymous and authenticated users. Different users can be assigned to multiple groups, which can be given roles and read privileges based on the dynamics and requirements of the group.

  CommonSpot supports the assignment of permissions at the Site, Template, Page and Element levels.

Site Security

Site level security determines default security privileges for the entire site or sub-site. Additionally special site level security settings include whether certain users or groups are allowed to create pages, templates or elements, whether they have site administration rights, or are able to see the CommonSpot authoring indicators.


Template Security

At the template level, security can be established to allow only certain individuals to be able to design, author, edit, or approve content for the template.

Pages created from certain templates may also inherit certain security properties as well. CommonSpot allows the administrator for the template to set permissions either by 'Default' or 'Enforce.' 'Default' permissions may be changed or deleted by the administrator of the pages inherited from the template. 'Enforce' permissions are inherited regardless and cannot be changed in the inherited pages. 'Enforced' permissions can only be granted in the template where originally defined. It may be appropriate to establish that for all pages created from a specific template, that a designated individual (e.g. Sally Sue) is always the approver.

Certain privileges may also be restricted to a template such as design and administration. If a privilege is not restricted, the owner of the inherited page may make changes to the design and content of the template or permit others to do so.

Page Security

CommonSpot allows an administrator to assign at the page level, roles and permissions for various groups or individual users.
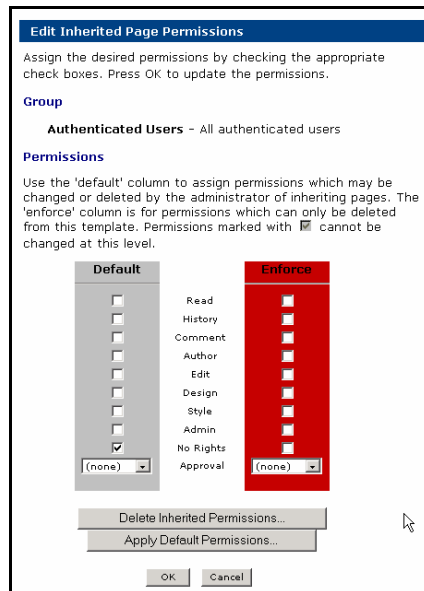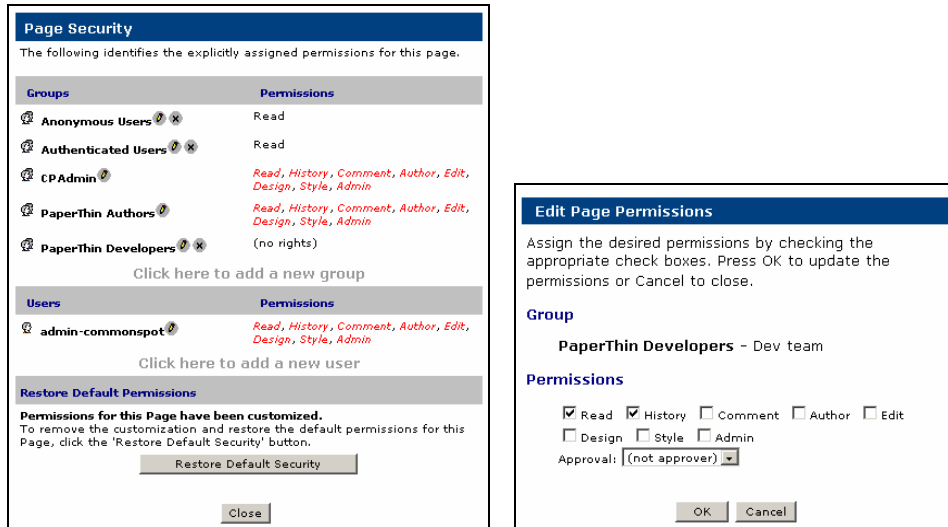
Element Security

CommonSpot allows for the assignment of roles and permissions at the element level as well. For example, it is possible to deny read access to an anonymous group of users, or to restrict certain users from editing certain portions of the page. **Administration, Approval, Author, Comment, Design, Edit, Read, or Style privileges may be given to a specified group or any number of individual users**. Content can be displayed, authored or approved securely and dynamically based on the content and the needs of the viewer.

CommonSpot provides it own mechanism for managing users and their permissions or it can be tightly integrated with either NT domain security or any directory service based on the Lightweight Directory Access Protocol (**LDAP**).

CommonSpot provides various security tools within the CommonSpot Administrator aimed at tightening security. For example, CommonSpot allows user passwords to be aged periodically and for accounts to expire on predefined dates. Additionally, CommonSpot can enforce IP address restrictions for specified users.

CommonSpot's security setting can be further complimented by the security features of your HTTP server and firewall, such as the use of SSL. CommonSpot can be configured to use or share different data sources between various sites, which adds flexibility when multiple sites are used for different organizations or user communities.

CommonSpot also supports integration with **NT Domain Security**. If your authentication needs are not met by CommonSpot's own user database authentication or its integration with NT Domain Authentication, then our 'Custom-Authentication' callback hook provides a means to roll your own authentication integration. CommonSpot can integrate with other authentication vehicles though this callback module.

Content Management

CommonSpot makes managing content easy. Some of the key CommonSpot features that facilitate the process of managing and publishing content include Content Approval, Pending Actions, My Pages, Work Requests, Content Expiration, Content Freshness Reminders, Version History, Usage Statistics, and Link Management.

Content Approval

CommonSpot maximizes organizational participation in publishing web content.   However, when many contributors are enabled to update content, quality control is an important consideration. CommonSpot's revision and approval process sets up a system of checks and balances to ensure the quality and reliability of all information on the Web site. Robust, yet flexible approval procedures allow a workflow and approval process to be established in line with your requirements.

CommonSpot supports the option of having authored content approved before it can be published, either at the page or element level. When a content author finishes editing content, the work is submitted for approval. At this point the user's Work In Progress content moves to the Pending Approval state.
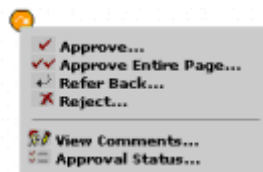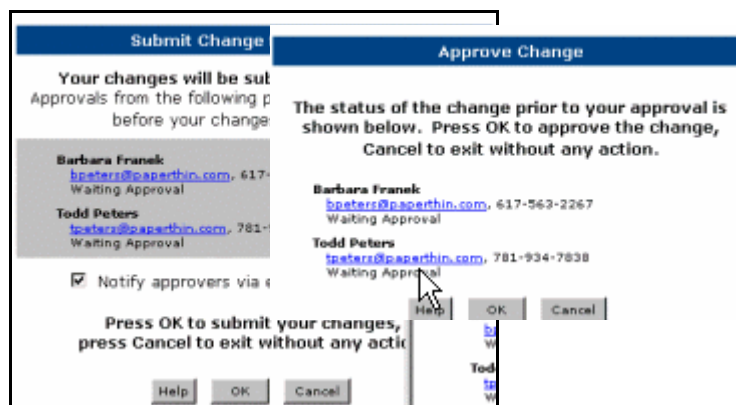
Approvers are notified via e-mail that content, either new or modified, is awaiting their approval. Pending content can be viewed by the approver by simply navigating to the appropriate page and toggling on the Approval view, which displays unique indicators next to the content that has been added or changed.

To approve, reject or refer the changes back to the content author, the user simply clicks the 'Approval' icon and selects the appropriate menu option.

When the delegated approvers approve the content, CommonSpot automatically replaces the old version with the new. If approval is not required, the content is instantly published.

Content in either the 'Work In Progress' or 'Pending Approval' state is never displayed as published content. Only after the last approver has signed off on the content is it published. If a visitor were to navigate to a page that is being edited or is awaiting approval, only the latest version of the published content is displayed. The content and states associated with the approval and publishing workflow are managed within the database repository. Therefore, unlike traditional static HTML based Web sites, there is no need for a staging and production server. CommonSpot handles the staging of content internally.

Task Element

The Task Element provides hierarchical task management functionality. Top-level task categories can be defined under which tasks and notes are tracked. Tasks can have sub-tasks and associated notes. Tasks can be assigned or hidden from specific individuals or groups, email notifications can be sent to alert individuals of new tasks, and completion status and dates can be tracked. The Task Element is an effective way to manage content workflow processes.

Pending Actions

Pending Actions is a user's to-do list. It conveniently provides, through a single consistent dialog, a list of work that is outstanding and is pending an individual user's action. Pending Actions tracks, lists, and hypertext links to content and pages that are Work In Progress, require approval, or have been referred back for change. Subscription notification, content freshness reminders, assigned, and outstanding work requests for the individual are all presented through Pending Actions. E-mail notification services are available as well through a SMTP gateway.

Work Requests

CommonSpot provides a facility for submitting a work request to various designated resources. Resources and Work Types are managed in the CommonSpot Administrator, while users can assign work requests for work through the 'Submit Work Request' menu. An author simply chooses the work resource needed, assigns due dates, enters notes regarding the project or request and establishes access to the page if the user does not already have the appropriate permissions.

Content Expiration

Often content published on a site is relevant only for a specific period of time. It may be a special promotion, an announcement, seasonal, or holiday related content that has relevance only until a certain time. CommonSpot allows users to configure the automatic expiration of content.

Upon expiration of the content, several actions can be taken. Users may receive a warning message indicating the page's content has expired, may be redirected to another URL or page, or may be denied access altogether to the page.

Content Freshness Reminders

One of the biggest hassles of Web publishing is keeping the site and its content current. With all of the demands of today's business, remembering to update content is half the battle.   CommonSpot enables content owners to set reminders to check the freshness of content. Authors are notified through their Pending Actions dialog to check the freshness of the content via e-mail. Up-to-date, relevant content keeps users interested in the site.

Version History

CommonSpot provides access to version history data for each page based on a specified time frame. Since CommonSpot manages content at an element level, it detects when content changes, and tracks the page's history and evolution. The interface provides a complete listing of all links to archived versions and the comments that were recorded when the content was approved. A user with the right permissions may at any time access the version history for a given page and roll back to the previous version of an element or sub item.

Page Set Support

CommonSpot allows for the management of related pages as a Page Set. Pages within the Page Set are organized in a logical sequence, and can be reordered at any time. New pages can be added or deleted to the set, with the navigation amongst the pages kept up to date, automatically. CommonSpot also provides the Page Set Table of Contents Element, the Page Set Navigation Element (to enable Next/Previous and direct navigation within page links) and Page Set Index Element, that renders a list of related Page Sets.
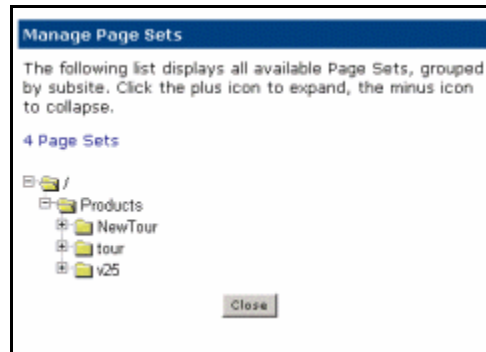
Knowledge Sharing & Discovery Tools

While Internet technologies have dramatically expanded and simplified information access, users' efficiencies have not necessarily improved. Often, it is not the lack of available information that constrains a user, but the excess. Users are forced to drink unproductively from the information fire hose. Users spend more time looking for information and less time on those activities that support the goals of the organization. CommonSpot's Knowledge Sharing & Discovery Tools redefine how people work, improving information access and knowledge sharing.

The Knowledge Sharing & Discovery Tools are accessible from the **Knowledge Map Menu**, which may be exposed or hidden depending on the application – Internet, intranet or extranet site. Access to certain functionality such as Search or What's New can be achieved without having to display the full menu, and menu items can be shown or hidden within the Knowledge Sharing & Discovery menu based on a user's individual or group permissions. This allows for the tailored access to different knowledge tools.

Enhanced Search Capabilities

CommonSpot integrates with Verity's search engine to provide full text search capabilities. Each time that content is approved for publication, the page or uploaded document (Word, PDF, and HTML) is indexed using Verity's full text engine. Optionally, CommonSpot integrates with Verity's K2 search engine as well.

As powerful as search engines have become, they often miss the target. The results returned often fall short of expectations for accuracy and relevancy. Users become frustrated spending time unproductively filtering through the many irrelevant and inappropriate query results.

CommonSpot enhances the search engines' ability to return more relevant full text search results.

Each key word assigned by an author is stored as a meta-information tag, which is automatically inserted into the HTML document. When a user submits the search form with his/her specified target words or phrase, CommonSpot intercepts the request and adds other key words that appropriately customize the search and improve the accuracy and relevancy of the results.

Page Finder

The Page Finder feature makes it easy to quickly locate documents with common characteristics. Page Finder provides several filter options that can be used to generate a list of matching pages. From the list users can jump directly to the page, by clicking on the hyper-linked page title. This enormously useful tool allows the user to skip right to the selected content and view all the changes and updates to the site through one easy interface, enabling more efficient content management.

Dynamic Keyword Views

Another tool for efficiently locating and managing content on a site is the Keyword Views feature. Keyword Views allow users to classify, search and retrieve, organize and navigate to information simply and easily.

Any keyword attribute can be used to organize, categorize, sort, and view Internet, intranet or extranet-based information.

CommonSpot's Keyword Views give users tremendous flexibility and speed to navigate to the information they need, in a manner that supports how they work and think. This predictable categorization gives users rapid access to known resources. Compared to search, information in such categorical collections can be retrieved much faster.

What's New

CommonSpot's What's New View allows users to preview all of the content changes that have been made to the site. The view displays new pages that have recently been added to the site, as well as a list of updated pages (content modified) and new files or documents.
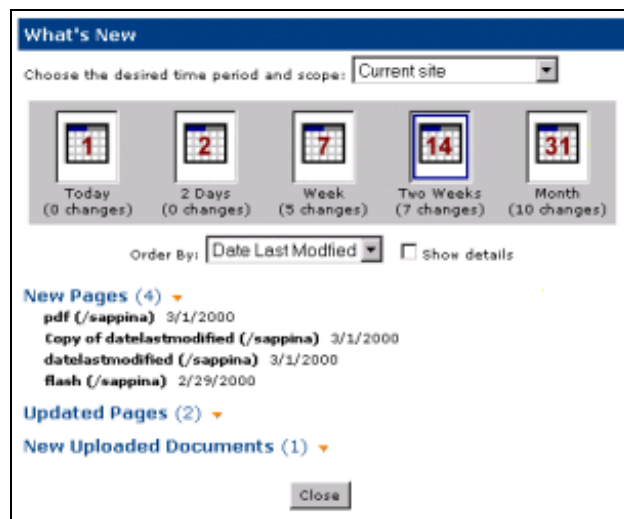
Subscription Notification

Keeping abreast of changes to content on a site can become increasingly difficult as a site expands over time. CommonSpot allows users to keep up with the pace of change through its Subscription Notification service. Users are notified through e-mail or the Pending Actions dialog that changes have been made to specific designated pages or documents. Authors can push notification to particular individuals or groups when the content they author has changed. For example, a product manager has recently updated a technical specifications document that notes new techniques for installing a particular widget. The author may elect to selectively notify all t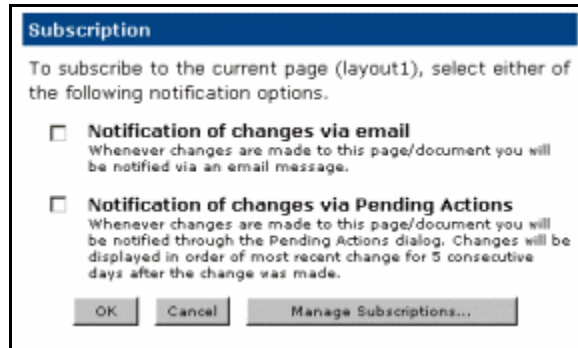echnical field support personnel of a new Web page that highlights the change in procedures, as well as the changes made to the original document.

Document Information

The Document Information dialog displays useful background information about the content on the page: document title, author, other contributors, date of creation, and a description.

Often an author is in the process of updating a page that may take several hours or days to complete. Until the work is finished, an author may wish to lock the page, preventing others with author, edit, or designer privileges from making changes to that page. Content owners view usage statistics for a page through its appropriate Document Info dialog.

Usage Statistics

CommonSpot's Usage Statistics help content owners assess whether the content they publish is valuable to users. Usage statistics show on a page-by-page basis what anonymous and authenticated users have viewed the page during a specified timeframe. Content owners may be surprised to find out that their content is valuable to a different audience than it was intended to serve.

CommonSpot's usage statistics information is not meant to replace the common Web server usage statistics packages, but to allow content owners to gauge the value of their content. Statistics can also be viewed for a particular sub-site as well as for the entire site.
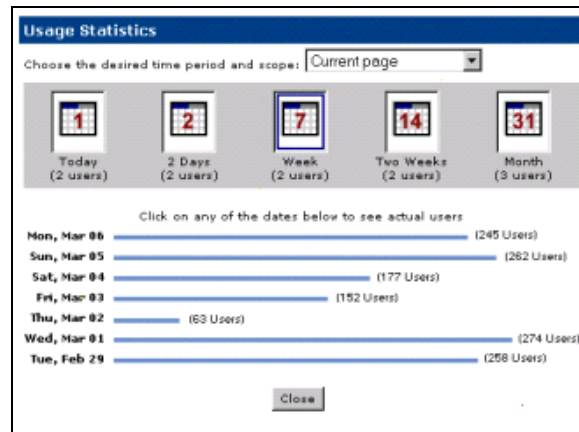

Knowledge Maps

Documents or Web pages are created for a specific purpose. Often there is knowledge, explicit or tacit, that is relevant, but is not included within the context of the page. This missing information may be as important to the user as the document itself. Information such as related reference documents, relevant subject matter experts, last modified and expiration dates, past versions, and more are extremely valuable to the user because it helps put the content into context - distinguishing the content's relevancy and improving the user's ability to work productively.

Until now, authors or content owners have had limited means of capturing and sharing this valuable ancillary information (**metadata**) except within the document or page itself. However, authoring this information within the page directly may not be appropriate. Many times the medium, format, layout or audience requirements restrict its inclusion within the page. Too much information can clutter a page, diminishing its readability and usefulness. All of these issues can make managing the ancillary information within the context of the Web page a tedious, resource intensive and costly process.

CommonSpot allows authors and others to leverage the collective knowledge of an organization and to value-add to the content they publish. Out of the box, CommonSpot supports common details such as content creation and expiration dates, document format, list of contacts or subject matter experts and see-also references. This metadata is presented through a series of structured pop-up views called Knowledge Maps, which are accessible for all content, regardless of its format. This information is typically captured at publish time, however CommonSpot facilitates changes or

additions to the repository at any time. CommonSpot also supports, through its Knowledge Map capability, access to discussion threads and personal notes.

Knowledge Maps are accessed from the Knowledge Map menu icon . Knowledge Maps provide authors with the tools they need to value-add to the content they publish. CommonSpot also provides the ability to show or hide individual menu items contained within the Knowledge Sharing & Discovery menu based on a user's individual or group permissions. This allows for the tailored access to different knowledge tools. The following is a list of the Knowledge Maps that CommonSpot supports.
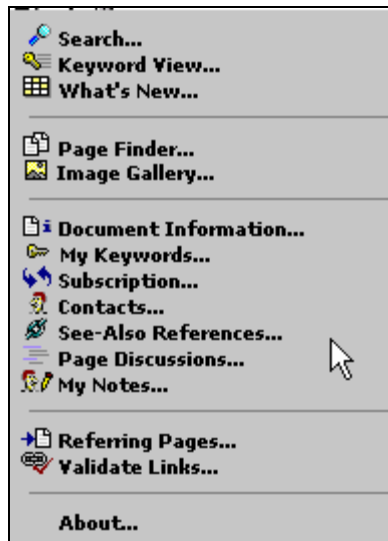
Contacts

This feature displays all the appropriate contacts and their direct e-mail links in one convenient location. Contacts may include many individuals such as the author, product manager, technical support, customer service manager and other relevant subject matter experts. With CommonSpot there is no need to embed and maintain this information on every page. Users have access to important contact information, without the authoring and maintenance headaches.

See-Also References

Many of the knowledge assets for an organization are contained in documents that do not support the inclusion of hypertext links. Maintaining hypertext links on hundreds and thousands of pages can quickly become an arduous and burdensome process, especially in an environment where information is constantly changing. One change can possibly affect tens of pages. Newly published related materials can easily be referenced without having to re-author any corresponding pages, by simply updating the metadata repository.

My Notes

CommonSpot allows users through the Shared Comments Knowledge Map to contribute and review comments about the specific content referenced. Any user that can view the page can contribute to the Shared Comments threaded discussion forum. My Notes allows users to record and view personal notes about any piece of content.

Referring Pages

Referring Pages provides a summary of other pages within the site that refer to the current page.

Link Management

Keeping track of broken links on a site can be an onerous and difficult task. CommonSpot lets you automatically validate links when creating or editing a page, as well as check broken links throughout the site easily each time the user logs in, or on a frequency which can be set by your Site Administrator.

Architectural Overview

The CommonSpot™ Content Server is a robust, thin client application where all components except the client browser reside and operate on the server. As in a typical Web environment, the HTTP Server handles all HTTP requests, passing those requests for pages created and managed by CommonSpot to the CommonSpot Content Server. The CommonSpot Content Server is composed of Cold Fusion pages. These pages are interpreted by the appropriate scripting engine, which provides an interface to the CommonSpot Content & Meta-Information Database Repositories, the server file system and any SMTP/POP Mail servers.
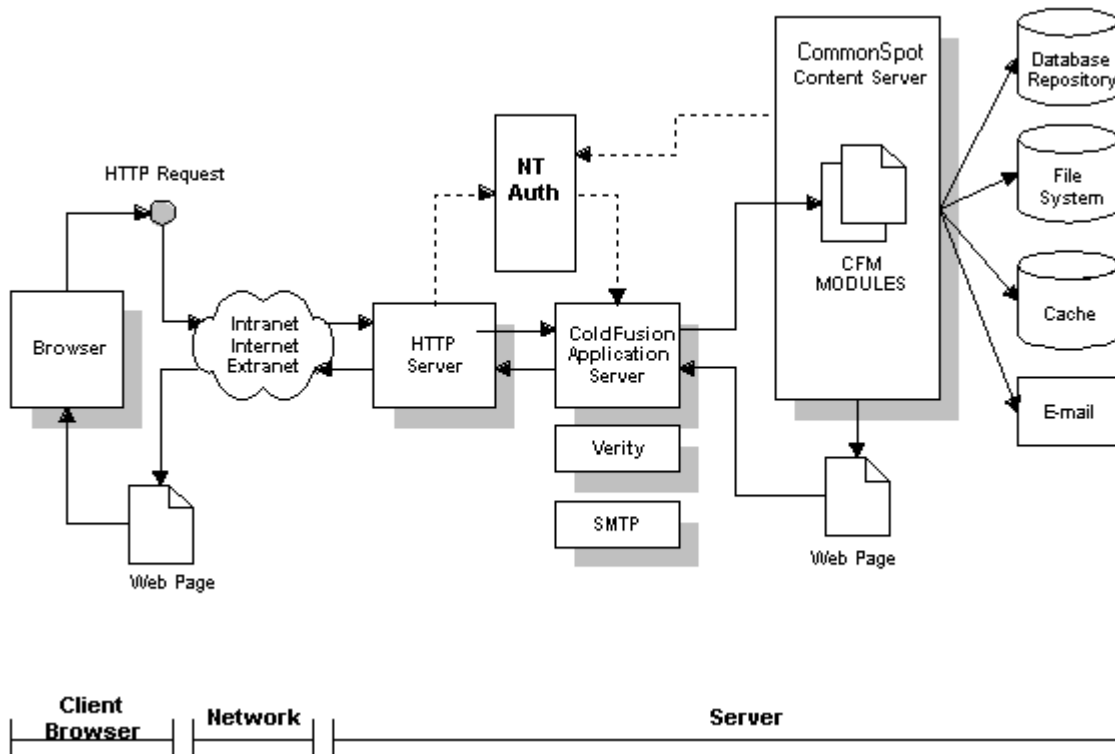
Dynamic Authoring

In response to an HTTP request from the Web Server, CommonSpot dynamically constructs the resulting page based on the user's current role (reader, author, designer, approver) and his/her access privileges. When the user is authoring or approving content within a page intuitive user interface components are dynamically added to the page to guide the user in performing his/her publishing tasks.

Advanced Cache Management

CommonSpot's intelligent caching system automatically and transparently caches static versions of dynamically created pages when appropriate. This enables the rich adaptive assembly of pages without having to compromise performance that is typically associated with purely dynamic approaches. This approach offers the performance equal to that of a static site.

As content is approved for publication, appropriate page level cache files are generated for the specific browser type. The next time a request is made to the page, the page is pulled from the page cache for the specific browser type. If the page contains dynamic content, or when the page is in 'Author' mode, caching is done at the element level. This ability allows only the recently changed or dynamic elements to be rendered from the database. The other elements are pulled from the element cache. While in 'Author' mode, page refreshes are kept to a minimum. If changes are made to content that can be dynamically updated in the page using DHTML, only the new data is sent to the server and the page is not refreshed. Minimizing the number of browser refreshes increases overall performance and provides for smoother editing.

Integration of Structured Data

CommonSpot allows developers to leverage the power of ColdFusion to build dynamic database driven applications and to convert them to Custom ColdFusion Scripting Elements that can be called and rendered within a CommonSpot page. This functionality is extremely powerful. For the first time, structure database content can be managed on the same page as unstructured content.

Integrated Authentication

CommonSpot can be configured to leverage enterprise authentication systems including Windows NT Domain Security. If your authentication needs are not met by CommonSpot's own user database authentication or its integration with NT Domain Authentication, then our 'Custom-Authentication' callback hook provides a means to roll your own authentication integration. CommonSpot can integrate with other authentication vehicles though this callback module.

Database Connectivity

CommonSpot supports Oracle, SQL Server, and Microsoft Access databases, with each configurable to use the native database interface for higher performance.

Enterprise Scalability

CommonSpot's architecture scales to handle the most demanding Internet, intranet or extranet sites. CommonSpot utilizes the high performance and scalability features of ColdFusion. The application server runs as a multi-threaded service. Advanced features such as just-in-time page compilation and database connection caching make CommonSpot an effective platform for delivering mission-critical Web applications. Support for deployment of multi-server clusters with dynamic load balancing and automatic server fail over is provided through CommonSpot Slave Servers.   For customers who wish to replicate content from one to many servers, CommonSpot internally manages the task of replicating all database and file system content to the target server on a real-time, scheduled or on-demand basis. CommonSpot also supports static content generation, designed to enhance the performance of Web sites, without sacrificing the advantages of dynamically generated content, and features like personalization.

Technical Requirements

Client Requirements

100% Browser based – no client software required. Pages are viewable from Netscape Navigator, Microsoft Internet Explorer and Mozilla.   Authoring and approval of content can be done on any of the following browsers:

- Microsoft Internet Explorer 5.5 or greater

- Netscape 7.2 or greater

- Mozilla 1.7 or greater

- FireFox 1.0

Macromedia ColdFusion Application Server

The following versions of ColdFusion are supported:

- Professional or Enterprise Edition v5

- MX Standard or Enterprise Version v6.1 or greater

Operating Systems

The following server operating systems are supported:

- Windows - NT, 2000, 2003, XP

- Linux - Red Hat, Suse, Cobalt Qube

- UNIX - Solaris, HP-UX 11i

Databases

The following database servers are supported:

- MS Access

- Oracle (9i)

- SQL Server (7.0 or 2000)

Web Servers

- Apache, JRun, IIS, Netscape Server, Red Hat, Sun One

- Please refer to our Web site for more detailed technical requirements.

Hosted Support

CommonSpot fully supports licensing under a hosted model. The key architecture supports both server and customer level keys. The keys can also be set to expire at a predetermined interval, and can be restricted to working under certain IP addresses or domains.

CommonSpot™

Content Server

Version 4.5

For Further Information:

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