

Kultur ins Internet

Kombination von Multimedia und Content Management

Bringing culture to the Internet Combining Multimedia and Content Management

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Zusammenfassung:

Kultur- und Bildungseinrichtungen arbeiten gut zusammen, wenn ihr Arbeitsgegenstand sowohl „Information“ als auch „Bildung“ umfasst. Die Zielgruppen dieser Einrichtungen haben typischerweise zwei Ansprüche: Beschaffung spezifischer Informationen zu einer bestimmten Fragestellung und das allgemeine Lernen ohne spezielle Fragestellung. Als einen ersten Schritt können die Einrichtungen ihre Bildungsangebote durch den Einsatz von Multimedia verbessern sowie die Relevanz und Aktualität der Informationen mittels Content Management erhöhen. Gleichzeitig können jedoch die Einrichtungen die Wirkung der Vermittlung informeller sowie kultureller Inhalte maximieren – z.B. durch die Datenpflege mittels innovativer Kombination von datengesteuerten Multimedia- und Content-Management-Lösungen.

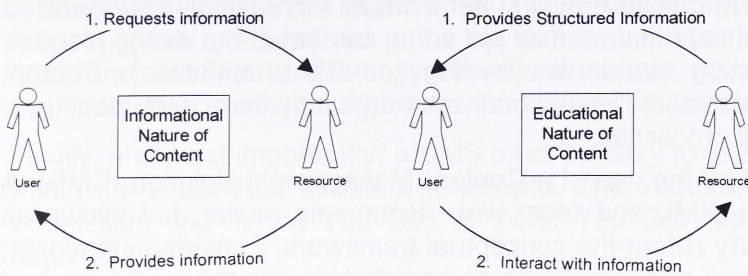
Abstract:

Educational and cultural organizations communicate effectively when their content is both “informational” and “educational.” Such organizations’ audience typically has two distinct needs: acquisition of specific information in response to a query, and general learning where there is no query. As a first step, organizations can improve educational offering with multimedia and enhance relevance and timeliness of informational content with content management. However, organizations can maximize the impact of their communications with content that is informational and educational at the same time – something possible by innovative combination of data-driven multimedia and content management solutions to maintain such multimedia.

The Dual Nature of Content

In order for an online resource to distinguish itself from other resources on the Internet, encouraging users to return and thus strengthening its message, its content needs to be both “informational” and “educational.” Whereas informational content answers site visitors’ questions concerning specific problems or issues, educational content will convey information related to one or more topics, structured to meet the instructional needs of a specific audience (e.g., university students). Informational content is usually delivered through **concise text** and diagrams, while educational content makes use of **interactivity**, **modularity**, and possibly **multimedia** to accomplish learning objectives.

In fact, the two natures are distinguishable from one another by the direction of information flow. The informational nature of content manifests itself as a response to a user’s questions, whereas the educational nature content originates from the resource itself to the intended audience.



Content, in fact, can be simultaneously educational and informational, but the distinction is important in that both natures should be addressed to maximize the effectiveness of organizations' message.

For content to be informational, it should be well-structured, up-to-date, and as extensive as possible. A well-structured customer support web site (an example of a purely informational application) makes content more accessible to a visitor browsing the site with topical navigation and search features, setting it apart as an information resource. An up-to-date support website with extensive content on its products that is updated with each new product version further sets itself apart as a reliable resource worth repeatedly visiting for up-to-date, relevant answers to questions.

For content to be educational, it should be conceived to hold visitors' attention (i.e., it should entertain), reinforce and expand learning with subtle repetition (modularity), and further reinforce learning with interactive features such as tests, simulations, interactive diagrams, and so on. These qualities will encourage users to come back to the resource if they succeed in learning and remain interested in the topics conveyed. It is commonly accepted that "reading" is only partially effective in learning **retention**. For this reason, it is important to appeal to all the senses and present the information visually and aurally, combining interaction, to engage the audience.

Creating Informational Content

As we have seen, informational content needs to be well-structured, up-to-date, and extensive. To accomplish this, site administrators must create a systematic framework for the content structure and process for generating it which involves developing the following documents:

1. site maps
2. interface schematics
3. authoring standards
4. content classification/taxonomy
5. content organization
6. contributors and their roles (e.g., "translators" vs. "editors")
7. content scheduling

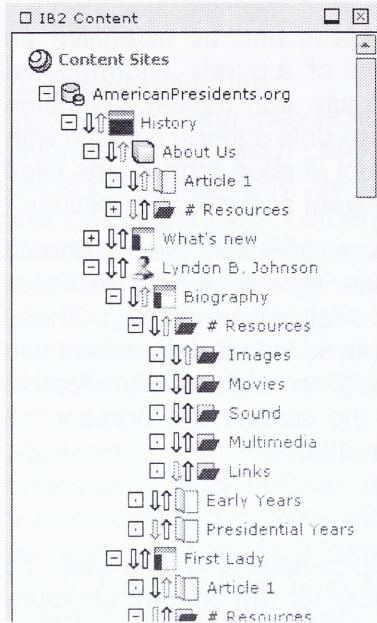
Without this structure, content development leads to chaos. The above documents set in place processes that help determined how content will be reused accross the website, promote consistency in style and substance, as well as clarify challenges of multi-lingual resources. Additionally, when many content contributors work together, organization is critical to avoid errors such as duplication of work or missed deadlines which lead to problems of cost, quality and delivery time.

Obviously creating this system and the documents listed above is quite time consuming, but can also be quite rewarding if the organization is adhered to. Problems do arise of course even with the best systems that can still lead to disorganization, choas and failure to :

1. no enforcement of standards
2. staff departures, especially the administrators and authors of the documents outlining the site's structure (listed above)
3. insufficient training of new staff members
4. failure to update the structure documents (listed above) as the organization's mission and needs change

Without enforcement, over time, the online resource may suffer from an increasingly disorganized structure despite the initial plans. Content contributors may put some content in the wrong place or develop content inconsistent with existing standards (leading to visitor confusion). Content contributors may come and go, taking valuable "institutional memory" with them and leading to breakdowns in the workflow and approval processes.

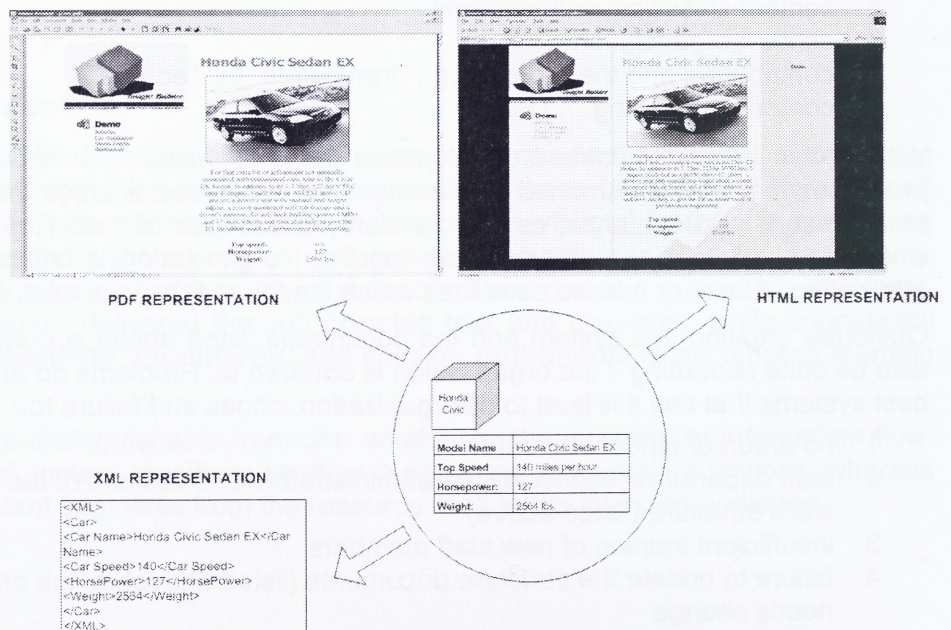
These problems and more are remedied by the use of a Content Management Solution (CMS). A CMS not only makes creation of HTML, XML and other web documents easier, but allows an enterprise or organization to quickly **codify rules**: the conceptual framework, authoring standards; workflow; even prepare everyone for future changes. Content contributors can then write content without worrying about the content's structure, stylistic requirements or workflow. Training time is reduced when new staff are added, or when organizational changes alter the mission and thus conceptual framework initially.



As the screen shot of the "AmericanPresidents.org" web site navigation shows, site administrators can import their conceptual framework for the content into the CMS to specify types of content and the relationships between those types. In effect, a good CMS not only allows input of the **rules** of how the content should be processed, but also **enforces** those rules, by forcing content contributors to adhere to that structure. The picture shown here, shows various "content types" illustrated by different icons, as well as their structural relationship.

Because the content is stored in a database, a good CMS also allows organizations to **reuse** the content across the site. The content can be "repackaged" in different file formats such as multimedia formats, XML, PDF, HTML or any other file format. This means that content is separated

from its **visual representation** which allows for maximum flexibility and scalability. The following diagram shows how one piece of content can be deployed into different file formats. Content that follows a meaningful and logical conceptual framework allows organizations to take full advantage of reuse by resulting in modular content that can be reassembled into various layouts, or recombined with other content as it is added.



A successful CMS is one that can be customized to organize the contributors so that a document follows certain predetermined paths up to its completion and publication. Workflow features of a CMS are essential to efficiently coordinate content contributors efficiently, so that no content is ever "forgotten", helping keep content fresh and up-to-date.

Finally, and most importantly, a CMS must be easy to use, so that the task of creating new content within the predefined structure is **simple**. This requires the user interface to offer contributors visual aids and "What You See Is What You Get" editing, minimizing the amount of training required in HTML.

Producing Educational Content

Educational content must effectively "teach" the site visitor. It is commonly accepted that "reading" is only partially effective in learning retention.

Of what we learn we retain approximately:
10% of what we Read once
20% of what we Hear
30% of what we See once
50% of what we Hear And See
70% of what we Say
90% of what we Say As We Do

These often cited figures are subject to debate, but the basic premise that multimedia or interactive education is more effective than textbooks in conveying certain material is well established. Multimedia content entertains and at the same time transmits information through more than one sense. Interactive content reinforces learning.

Multimedia and interactive content, however, do present several important and undeniable challenges. Such content is expensive to produce because of the special skills, authoring tools, and time required. Secondly, multimedia is difficult to update as rapidly as text. The inability to effectively update multimedia has raised the cost of multimedia due to the extensive costs required to make changes to files.

In the past five years, however, overall cost of multimedia has decreased quite significantly. With readily available tools such as **Macromedia Flash** becoming more and more widespread and affordable, as well as Internet bandwidth prices dropping significantly in past five years, **multimedia** as a method of content delivery is not only encouraged but sometimes necessary for an organization to distinguish its content from other organizations'. The **technology** itself has also become easier to use and integrate into existing database and CMS systems. For example, **Macromedia Flash** can interact with XML documents to create **diagrams based on changing data**. This **updateability of multimedia** brings down the cost of multimedia as a file no longer needs to be redeveloped anytime data changes; quite the opposite, as the changing data can automatically modify the multimedia content instead!

The following are several ways that multimedia can be used to present content and corresponding examples on the Internet.

Presentation Style	Example	URL
Visual representations of concepts	Logica Presentation	www.polar design.com/test/logica
Visual representation of concepts with voiceover narrative	Monster 3D Presentation	http://www.monster-3d.com/layout/presentation/
Interactive Training	NYU Online	http://www.polar design.com/test/nyuonline/index1.html

Marrying the two natures of content

As we have seen, the most effective content is both **informational** and **educational**. For this reason, an effective website combines compelling multimedia with well-structured informational content.

The following is an example of a website delivering on this promise and pushing the boundaries of combining education and information on the web.

I. American President.org

URL: www.americanpresident.org

Organization: Miller Center of Public Affairs

Designed by: Polar Design

Content Management: InsightBuilder 2

Before the American President website was implemented, Polar Design and the site owner, the Miller Center of Public Affairs developed a conceptual framework for the site based on two main "pillars": 1) the "Presidency in History" and 2) the "Presidency in Action."

Within each of the two pillars, the structure was further defined, so that each President would have the same set of site sections in the "History" area, so that the "Action" web site would organize information according to "Action Area" (rather than individual Presidencies), and so that certain content would be shared by the sections of both pillars, permitting efficient authoring and reuse of content. In addition, multimedia content was planned, so that presidential timelines, the presidential chooser, and the organizational charts would all be updateable through the content management system, planning an effective marriage of content management and multimedia.

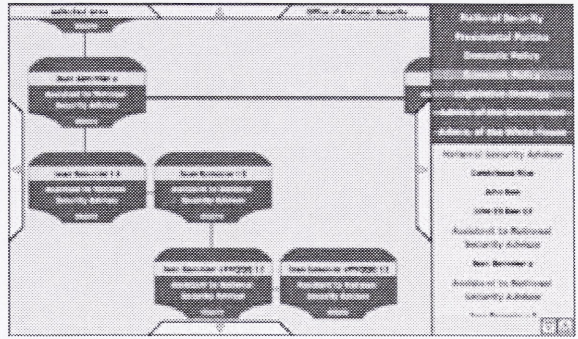


Once the site structure was documented, Polar Design transposed the site structure and the design into InsightBuilder 2, its content management solution (CMS). Polar Design thus **cost effectively built timelines and organizational charts for each of the 43 Presidents**, (over 200 templates in total) reusing the same Flash files and HTML templates to build all of these assets!

Moreover, utilizing InsightBuilder's XML publishing capability, AmericanPresident.org is able build additional organizational charts, articles and Flash event timelines from the basic Flash templates without Polar Design's assistance, leading to dramatically lower cost of site maintenance. Polar Design's attractive multimedia is thus reusable and modifiable, minimizing development time and cost.

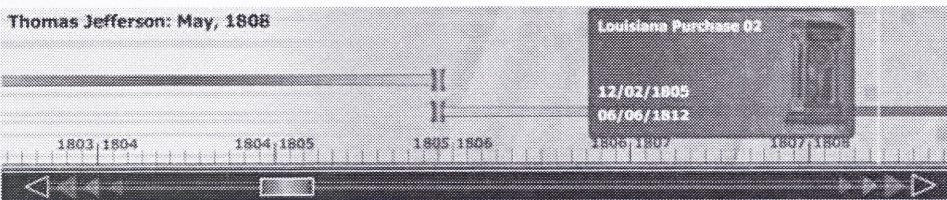
A – Organization Chart

Each U.S. President has relied on a staff and cabinet which must be documented **visually** on the site. To automate and streamline production of organization charts for each President, Polar Design built an interactive organizational chart utilizing Flash that derives staff positions and data from external XML documents. Then, using InsightBuilder™, the client creates new staff positions in the GUI interface and then publishes XML files that determine the positions, look and structure inside the organizational chart.



Despite this technical accomplishment, the template takes full advantage of Flash's interactive abilities, with effects that adjust based on the data. Thus the organization chart scrolls and adjusts depending on the size of the staff allowing the user to browse the entire chart within an 800 X 600 resolution monitor. Additional information on each staff member is also provided by the XML and made available via attractive window appearances within the interface when a user clicks on an officeholder's name or position.

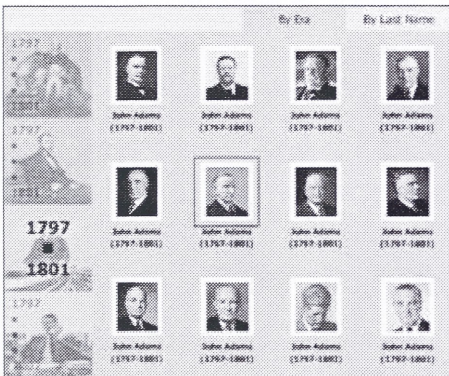
B – Timeline



This flash component is a horizontally scrollable timeline that spans the entire period of a President's term. As with the Organizational Chart

above, the timeline obtains event dates and information from an XML document published by InsightBuilder™ which means that each of the 43 President's timelines are easy updated and published via InsightBuilder's web-accessible interface.

C – President Chooser



This Flash element offers easy access to each President.

1. The user can view presidents by dates
2. The user can click on the "By Last Name" tab and view all presidents by their last name.

The President chooser consists of one flash file and one XML file -- the client can add additional, future Presidents to the timeline, via InsightBuilder™.

Conclusion

Utilizing a flexible content management solution (CMS) like InsightBuilder, as well as a design team experienced in integrating multimedia with a CMS, organizations can develop similar results with their websites, providing usable, informative and educational user experiences.

Of course obtaining a CMS and design team, whether external or in-house, is only part of the challenge. Developing consistent, logical and useful standards for organizing content and the people that author the content is the essential first step, after which multimedia and a good CMS will enable effective execution.