Barn Raising: Building a Museum Web Site Using Custom Wiki Tools

Dina Helal, **Whitney Museum of American Art**; Brad Henslee, **Whitney Museum of American Art; and** Dan Michaelson, **Linked by Air, USA**

http://whitney.org

Abstract

The new whitney.org is a modular wiki that serves as both an authoring system and an interface among Museum staff, curators, artists, and the public. Created in collaboration with the graphic design partnership Linked by Air, developed with the Economy content management system, and built in Ruby on Rails, the site is authored and managed by Whitney staff across departments. Our primary goals for the new Web site were to leverage the Whitney's rich resources and a variety of voices within a cohesive site design that meets visitor expectations for style and quality. Linked by Air developed an easy-to-use, lightweight authoring system to bring the Museum's assets to the forefront and ensure that the Whitney's Web site is a living organism that evolves in visual, functional, and structural ways. The project included a year-long development process that could be described as a Museum-wide barn raising. This approach offered an unusually high degree of organic flexibility to accommodate the Museum's current and future growth.

While Wikipedia is the best-known example, and wikis have been used for different purposes by a handful of museums, there are few, if any instances of a museum using an internal wiki as the core of a public-facing Web site. This paper examines the use of wiki systems, and charts the evolution of the Whitney's site and the parallel agile development of its wiki software, along with the challenges faced and lessons learned. It also explores this wiki's potential as a dynamic platform for future community-building.

Keywords: Web site, wiki, authoring system, collaboration, modular, Ruby on Rails, agile development

Introduction

In this paper, we discuss a decentralized or bottom-up approach to building and managing the Web site for a major art museum. At every level, dedication to this approach tied together decisions about the new Web site's visual design, its technological infrastructure, the social organization of its development process, and attitudes about the new Web site's future evolution and growth.

While Wikipedia is the best-known example, and wikis have been used for different purposes by a handful of museums, there are few, if any instances of a museum using an internal wiki as the core of a public-facing Web site. We examine the use of wiki systems, and chart the evolution of the Whitney's site and the parallel agile development of its wiki software, along with the challenges faced and lessons learned. We also explore this wiki's potential as a dynamic platform for future community-building.

The Challenge

In 2008, a number of museums relaunched their Web sites, among them the Guggenheim, the Hammer Museum, the Museum of Art and Design, the Museum of Modern Art, the National Gallery of Art, and the San Francisco Museum of Modern Art. The Whitney's own Web site had changed little since 2001, and a complete overhaul of its technology and design was long overdue.
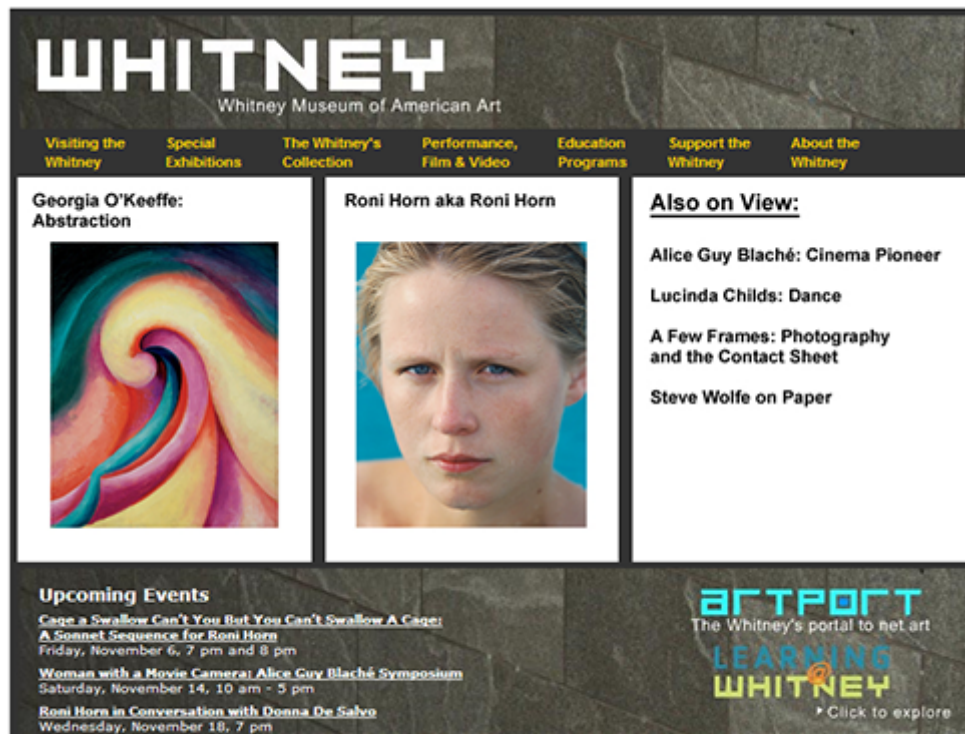
Fig 1: The Home Page of the Whitney Museum of American Art's previous Web site

The original Whitney site featured a Flash homepage and a JSP/MySQL based content management system, with a data driven event calendar, press image center, and on-line ticket sales. By 2007, with changes in staff, security requirements, and Web technology, the original CMS had become too difficult to support, and was unplugged to re-enable the direct editing of static HTML pages while the Museum planned a new site. The JSP ticketing system was also replaced by switching to an affordable third-party ticketing site (http://ovationtix.com).

After many years of technical limitations, the scope of the new site project was less to re-launch the Whitney's Web presence than to start from scratch, including a new design, editing workflow, information architecture, and greatly expanded content in addition to replacing the underlying technology. The site needed to reflect the Whitney's particular ethos and attitudes about American art, its location in New York, and its users, placing art at the forefront and highlighting the richness and diversity of the Museum's collection, exhibitions, and public programming. An important goal was to bring the Whitney's assets to the broadest public possible, and to communicate the full scope of the Museum's offerings in distinctive, compelling ways. The Web site needed to balance the Whitney as, on the one hand, an authoritative institution with a rich permanent collection, and on the other, as a site for temporary exhibitions and events. It would be the embodiment of all the Whitney is and does, including programming, visitor services and general information, membership, and other fundraising initiatives; and it should play an important role in enhancing those efforts. The content would be valuable to researchers, students, and the general public alike. In order to provide an uncomplicated approach to accessing and viewing art on-line, we intentionally decided to avoid a "bells and whistles" design, so the design highlights the content and is distinguished primarily by effectively providing access to that content, rather than overwhelming it.

Figure 2

Fig 2: Whitney sticker post, East 74th Street, New York City

Outdoor surfaces around the Whitney are often plastered with used admission stickers. They are evidently intended for sneaking free admission to the Museum, but they are also unmistakable local indexes and crowd-built markers of pride in the Museum – natural symbols of user enthusiasm and sense of ownership that is central to the Whitney's mission and brand. Visitor accessibility, and a sense of engagement and ownership, needed to be at the core of the Web site just as it is with the Museum itself. We took this philosophy to heart at many levels of the project.

The target audience for the new whitney.org would mirror the general Whitney visitor, a highly educated demographic that tends to be engaged in contemporary culture and open to new ideas, and includes international visitors, art professionals, artists, teachers, and students. About 45% are from the New York metropolitan area, 30% are from other U.S. locales, and 25% are international.

Like many other museums, the Whitney does not have a dedicated digital media department. In a time of limited resources, how would the Museum create and support a world-class, vibrant Web site that could be continuously updated with new

information and opportunities for user engagement?

Barn raising, or why we chose to treat the new Web site as a wiki

Our approach was old. The term "barn raising" relates to the construction of barns in eighteenth- and nineteenth- century rural America. A barn raising is an event that occurs when a community actively decides to assemble for a specific purpose: to construct a barn for one or more of its constituents. (http://en.wikipedia.org/wiki/Barn_raising). The construction of whitney.org was seen as a similarly collective, multifaceted, and time-based endeavor. It was also a project which consciously, and sometimes controversially, relied on the hard work of its own constituents, rather than primarily on an outside contractor or a single internal department.

Applying a barn raising approach to the generation of Web content is a relatively old idea too, and is famously championed by the seminal on-line community MeatballWiki (http://meatballwiki.org). Indeed, MeatballWiki's commitment to "exchanging help when needed, mostly by teaching each other" echoes a collaborative spirit common to wiki Web sites since their invention.

WikiWikiWeb (http://c2.com/cgi/wiki), the still-active predecessor and "sister site" of MeatballWiki, was the first Web site with wiki style editing. It was launched in 1995 by its creator Ward Cunningham to produce collaborative discussion of computer programming issues. Originally considering the name QuickWeb, he decided instead on the more interesting Hawaiian word "wiki," thinking of Honolulu's Airport's Wiki Wiki Shuttle bus service. "Wiki wiki" means "quick quick" in Hawaiian – a goal of Cunningham's new content production process. Today, virtual bus tours operate in the form of "TourBus" links among several large wikis.

The success of Wikipedia, launched in 2001, popularized the concept of quick, page-based editing among businesses and other communities outside the software development world. Today, alongside Wikipedia, wikis are perhaps most commonly used for knowledge management and collaboration inside corporate intranets, and to facilitate project management and open-source development among independent workers and contractors.

A wiki is traditionally a relatively unstructured set of pages organized flat, with little hierarchy among them, and considered as heterogeneous hypertext documents rather than congruent database records. This helps make their structures easy to understand and extend for authors. For a system meant to expand organically over time, a flat structure ensures reasonable accessibility to readers as the system grows. A large number of authors are empowered to contribute their own expertise and resources to a coherent collective project, one which is engineered to grow over time – the social structure of a barn raising adapted for twenty-first century information-based communities.

The qualities that comprise "wiki-ness" (or the "WikiWay," in the medium's own lingo), can usefully be separated into two sets: First are qualities of wikis' visible, two-dimensional form: primarily textual, built using a markup language. Second are qualities of wikis' social and organizational form, or network form: easy to edit and expand, highly collaborative, versioned, and growing organically. The Whitney focused on this second set of qualities.

Like any other large-scale built project, an enduring Web site for a social institution of any value ought to be built upon a powerful social, organizational, and network model – one that will ensure the Web site's suitability as the organization grows over time, and its sustained compatibility with the evolving needs of the institution, the institution's users, and the relationships between the two. A wiki, conceived as a social and network structure rather than as a text-based Web site, may provide a useful approach for an organization that sees itself as particularly fluid, multifaceted, or protean, or that wants to be seen that way. It also provides a solution to the practical question of how to generate and manage content for a Web site, with no dedicated department to do so, especially on an ongoing basis: empower and encourage all departments to participate.

Having discussed several aspects of "wiki-ness," it is also important to note that being editable by everyone in the world is not an essential component of wikis; rather, this is only a feature of some wikis. They are commonly editable only by a particular community, in this case, the community of Whitney Museum staff in many departments. Therefore, a precondition to this approach was the Whitney's conception of its own staff as a community, or to cite MeatballWiki, a "community of practice." (http://meatballwiki.org/wiki/MeatballMission)
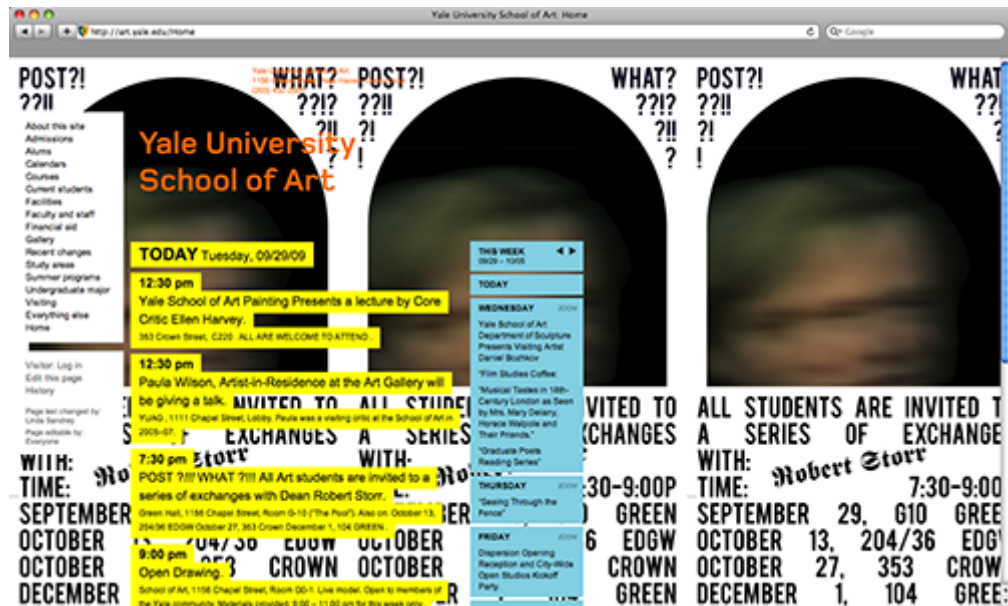
Economy

Fig 3: The Home Page of Yale University School of Art http://art.yale.edu/Home

Economy, the Whitney's new content management system, was developed by Linked by Air. It began in 2005 as a wiki for the Yale University School of Art, where it enabled all students, staff, faculty members, and alumni to contribute to the construction and modification of the school's public-facing Web site. There, its goal was to leverage the art school as a place of creative production, to launch and sustain a dynamic Web site in the absence of dedicated staff to manage it. A secondary goal was to expose the approaches and tactics of current students and faculty to prospective students without mediation. The Web site has largely succeeded at this for the past five years. Though it isn't always popular with everyone (and this depends on what is on the Web site at any given time), the same may be said of the school's work. And for many, the Web site represents the kind of success and deep entwinement with an institution's culture that few other Web sites can claim.

In 2008, the Whitney, seeking to build a major new Web site using limited resources, as well as to expose users to the Museum's manifold aspects and to visually and experientially reflect the sensibility of twentieth-century and contemporary American art, asked whether a similar approach could benefit a museum.

Fig 4: Economy's page editing interface

Economy's central innovation was to replace the text-based mechanics of traditional wikis with a modular structure in which authors could add various kinds of building blocks to a page, rather than adding paragraphs of markup text. These building blocks, called "magic modules" in Economy, are analogous to macros or plugins in traditional wikis such as MediaWiki or pmWiki; Economy is a wiki built entirely of macros. For example, on the art school's site, there is a calendar magic module, a slideshow magic module, a headline magic module, etc. These may be assembled by page authors in any order on any page, and reorganized and edited at will. Each module has its own visual design, and often its own intelligence and interactivity (for example, the calendar module draws from a calendar database based on the current date).

Because these modules are conceived from scratch for each institution that runs it, Economy may be thought of as a design language whose grammar is unique to each organization. It combines the flexible, distributed editing approach of wikis with a more visual design language and interactivity.
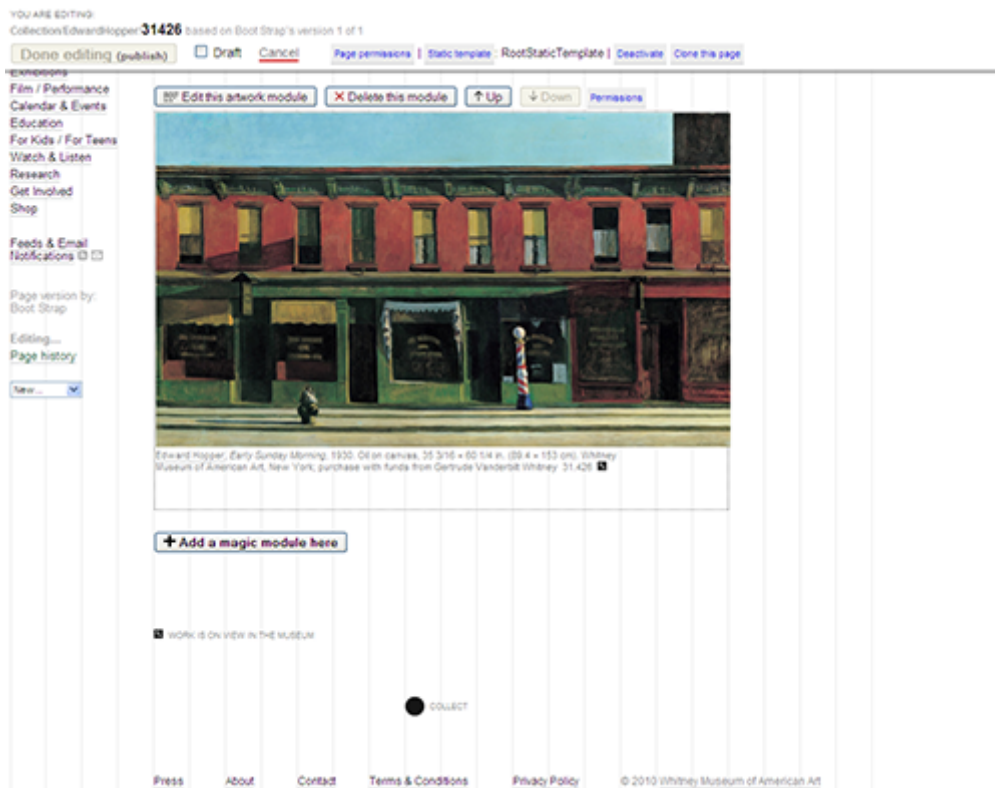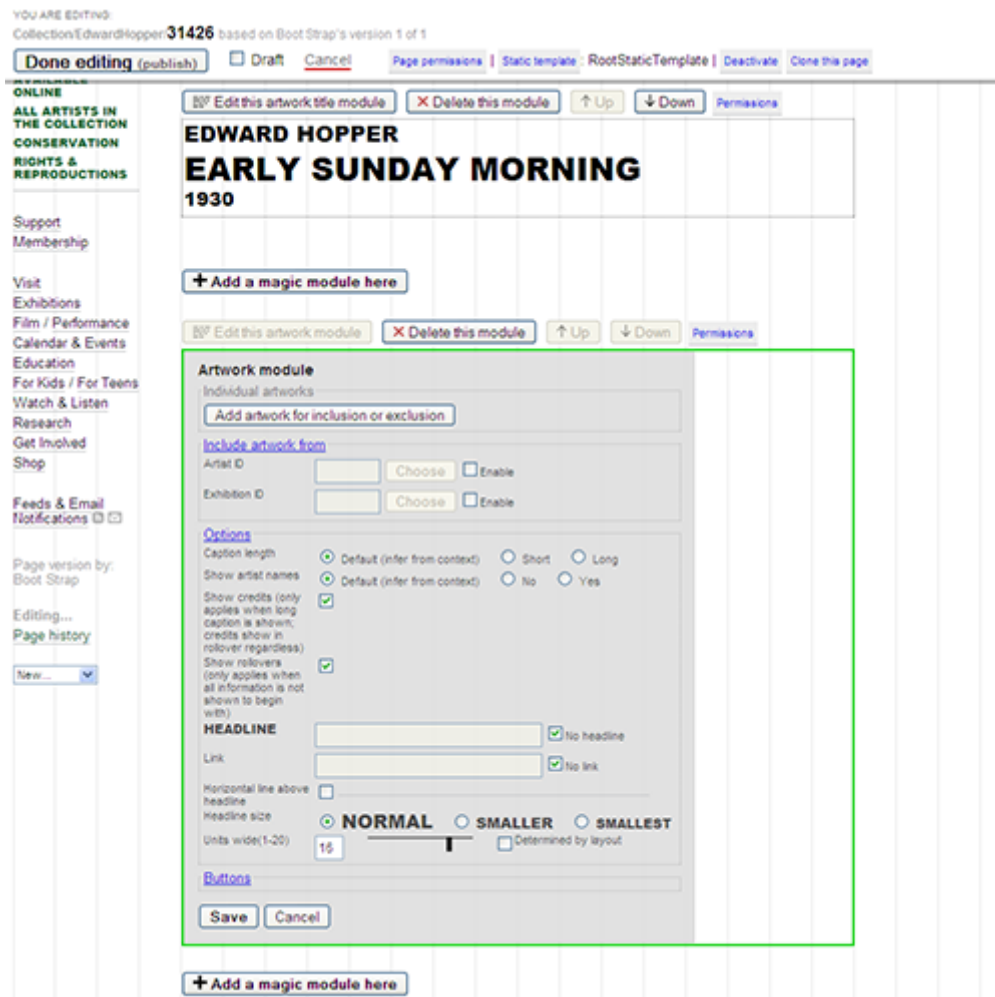
Fig 5: A "magic module" in Economy

Fig 6: Editing a "magic module"

Process

Discovery

The process of developing the Whitney's new Web site began in July 2008, and the redesigned site was launched in November 2009. A critical goal for this process and the new site was to foster and maintain collaboration among Museum departments. Linked by Air approached the Whitney not as one client, but many, with each stakeholder in the organization a keen advocate for its own priorities. Both the development process and the final Web site (considered as both a back-end CMS and a user-facing product) needed to act as a shared membrane for each stakeholder to communicate directly with one another and to the Museum's audiences, in a way that was organized around constituents' needs and those of the Museum as a whole.

The project began with a series of meetings between Linked by Air and nearly every department and working group at the Whitney, accompanied by the Whitney's in-house Web developer. The goal was to catalogue all the Museum's operations and its various outlooks and approaches, as well as each stakeholder's opinions about what the Web site should do. This process consisted of about fifty meetings over the course of one month. An additional goal was to introduce each group to the project, pique their separate interests in it, and begin their respective involvements.

Web steering committee

The project was managed from the top down as well as from the bottom up, and led by the Whitney's Marketing Department. Initially, the Web site redesign was managed by a small group of staff from the Whitney's Marketing, Graphic Design, Information Technology, and Education departments with the goal of a sleeker decision-making process. However, as the project progressed, it became necessary to expand this group to include the Curatorial and Development departments – whose involvement had been encouraged from the start – to better represent other institutional viewpoints and as a testament to the ownership staff now felt over the new site's evolution. Beginning in January 2009, this Web Steering Committee and Linked by Air met weekly to discuss the plans and implementation of the site.

Defining a shared vision and achieving consensus around priorities was the single most challenging, time-consuming, interesting, and valuable aspect of the project. Over its course, attitudes evolved, knowledge was gained, and stakeholders developed new strategies for its management and implementation.
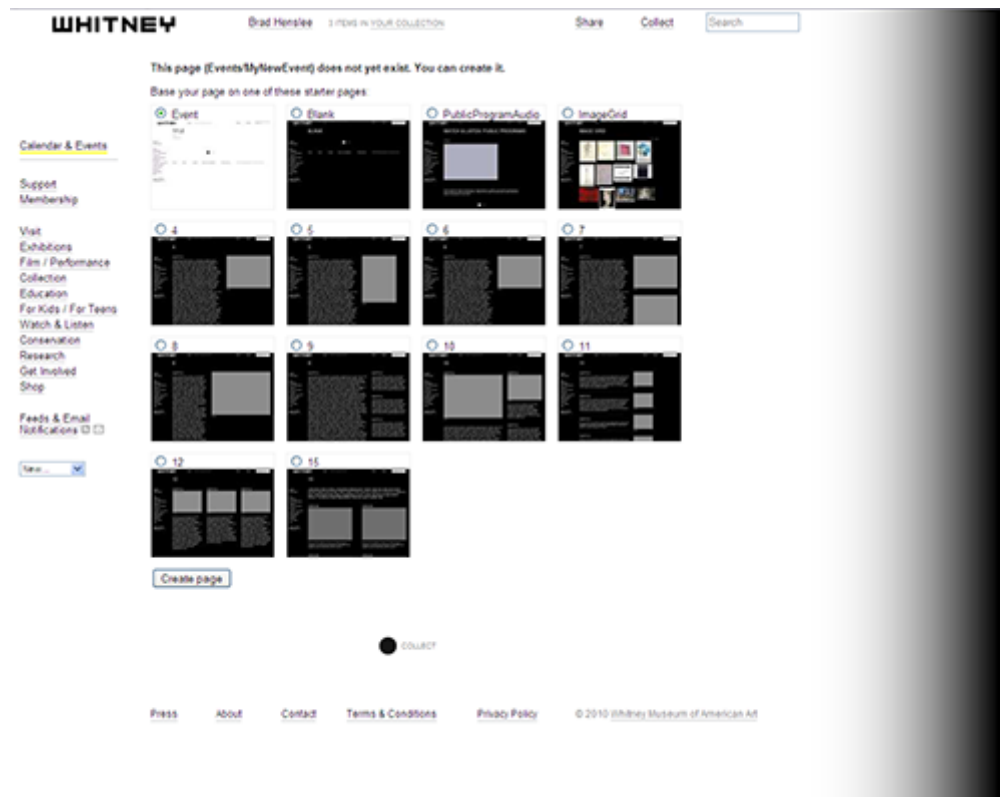
Authoring

Fig 7: Page starter layouts in Economy

To begin the process of entering content, Linked by Air created twelve "starter pages" that could be used as page layouts, including a blank page that is fully open to customization by the author. A unique feature of this system is that all layouts on any Web page can be modified by the page author. Museum staff members from multiple departments were trained to use Economy and enter information. After content had been entered, Linked by Air and the Whitney's Graphic Design department finessed the Web page design in collaboration with the stakeholders to achieve a balance between the overall

design and each department's specific needs. As content entry occurred, Linked by Air created new modules that staff could then use to augment their Web pages.

Over several months during site development and content entry, Economy became a surface for experimentation: 65,000 page versions were created by more than 50 Whitney staff. Authors are able to use layouts in different ways, show them to each other, and eventually make them public. The versioning system allows authors to experiment freely. All changes are logged and attributed, and any author can see previous versions. This authorship process (before and after the launch) has allowed the Whitney to respond flexibly to new opportunities and needs.

Workflow and procedures

The workflow itself is a work in progress, developing in tandem with the unique challenges presented by a non-templated Web site. The staff are constantly conceiving and negotiating new ways to accomplish different kinds of projects. The Web site is managed by Whitney staff across the Museum, allowing them to enter and manipulate text, images, audio, and video; vet content; and customize workflows to ensure accuracy and scholarship. Publishing (as opposed to working on draft versions) is limited to a smaller number of people. Each department has an editor and multiple authors who enter content in draft format. Each department editor can then access, edit, and publish content within their department's section of the Web site. Together with regular interdepartmental and editorial meetings, a style guide, and the built-in design language and structure of the system itself, this procedure ensures that new content meets the standards developed by the Museum. Information, including the style guide, image specs, workflow, and procedures, is maintained on the wiki in an in-house sandbox.
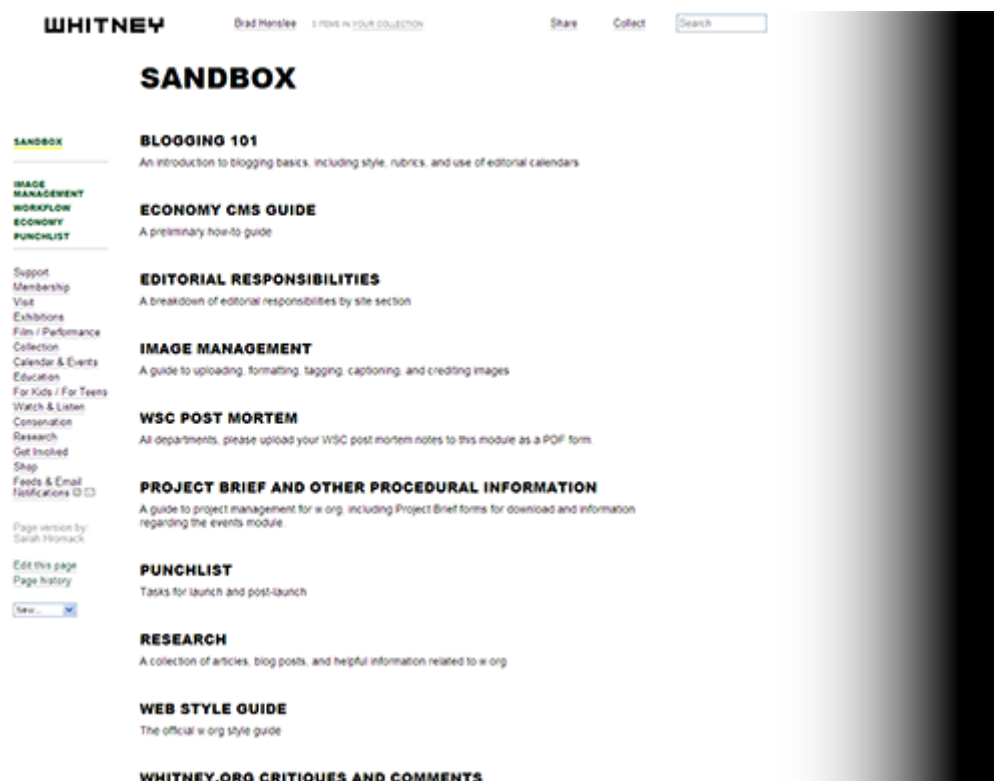

Fig 8: Sandbox landing page in Economy

Procedures have also been established for each type of update: adding new information to existing Web pages; cloning and adding new Web pages to existing areas of the site; and creating entirely new sections of the site that require new navigation and Web pages in consultation with department staff, Web developers, and designers across departments. Many staff have described using Economy as fun. Another staff person has likened the ongoing process of developing collaborative workflows and solutions within the Web site to "living design."

This highly collaborative approach to site development and ongoing management is unique for a major cultural institution. Thanks to dedicated work by many staff and to interdepartmental collaboration, this process has resulted in a dramatically changed understanding of public outreach and has allowed for distinct connections between Museum staff and the public. Linked by Air continues to develop new modules for the Whitney as additional areas of the site are created.

Design

Designing for a bottom-up Web site

The Whitney is both a New York museum and an American art museum. The global flows, migrations, and exchanges that define and constitute American art and the Whitney's New York location can be seen as a metaphor for the site's design and process. The site design needs to be inviting and engaging with clearly structured information, easy-to-use navigation, and

a focused home page narrative. Art needs a central presence on the homepage and throughout the site, and art images need to be displayed generously. Finally, design choices on the Web site should communicate a contemporary aesthetic and facilitate the site's organic growth and change over time.

Navigation

Fig 9: Main site navigation on whitney.org http://whitney.org/

An often-discussed goal of the project was to redistribute silos of content and raise it to the surface, drawing site visitors' attention to content that might otherwise be hidden or buried within an unfamiliar organizational structure. By reorganizing content to follow user needs rather than the history of its production, the Whitney's development team sought to provide a more effective and inclusive experience. From prior research and statistical information, we expected that visitors use the Web site in many different ways, and the navigation should be designed to support this multiplicity. Linked by Air developed a site-wide system of navigation that was intended to be both efficient and intuitive for site visitors. The relative flatness of the main navigation is an example of a structure that facilitates a user-centered view of the Whitney's departments in the most straightforward way possible, but is also easily malleable as new priorities and relationships are negotiated among the Whitney's departments.

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Fig 10: An example of sub-navigation on whitney.org http://whitney.org/Collection

At "eye level," the navigation system presents the available options at each junction, and does not reduce the choices to a few arbitrary terms. The navigation is organized vertically so that importance, not space, is the constraint on the number of items that are visible at all times. This allows us to add, remove, or reorder items as our understanding of user needs changes and as new opportunities are presented. Rather than categories of information, the navigation items are a selection of links that are important to many users. At the same time as the navigation list expands and flattens, we seek to reduce repetition, so that all items convey new, actionable information.
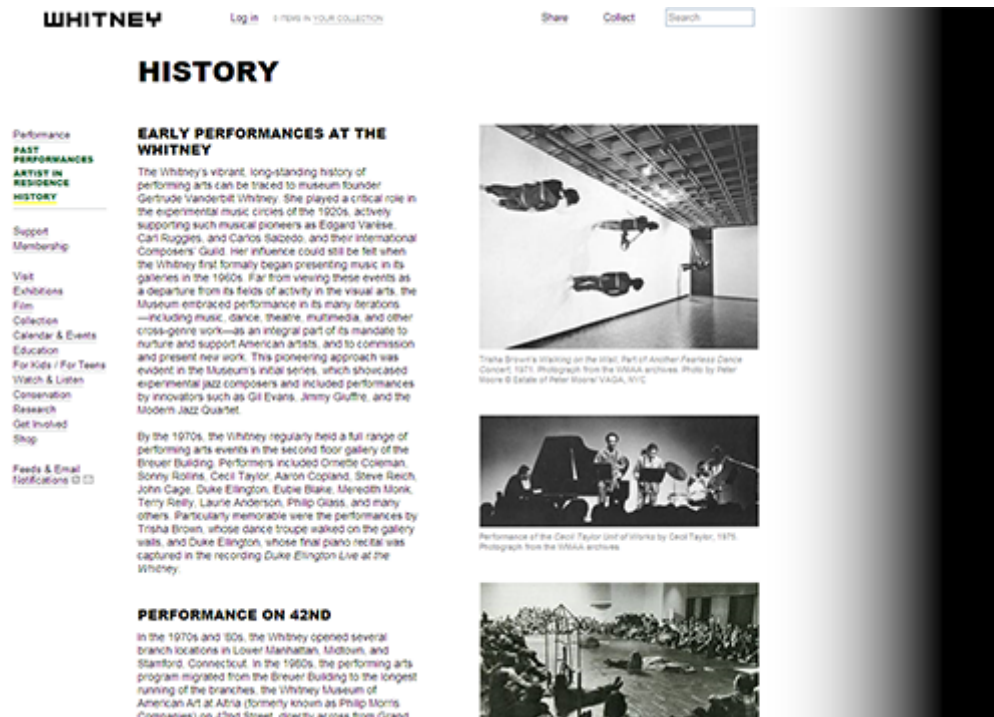
Accessibility

Fig 11: An example of page design for whitney.org http://whitney.org/Performances/History

The site is designed to provide equal functionality and information to all users through unobtrusive technologies and choices. As a general rule of thumb, it is programmed mainly in simple, text-based HTML, with no decorative graphic except the Museum's logo, a dot at the bottom of each page, and a background fill. Flash is used only for streaming video. The saved bandwidth is used for larger, higher quality art images.

Individuals who are blind, partially sighted, deaf, or hard of hearing can navigate through the site relying on sound and text alternatives such as transcripts, captions, optimal color contrasting, and explicit labeling for screen readers. Consultation and review of the site in accordance with national accessibility guidelines was provided by The Carl and Ruth Shapiro Family National Center for Accessible Media, WGBH Educational Foundation. The site design is explicitly intended to work well on smart phones, such as the iPhone, and as a result of its basic design and approach to universal accessibility, it even displays legibly on some low-end cell phones.
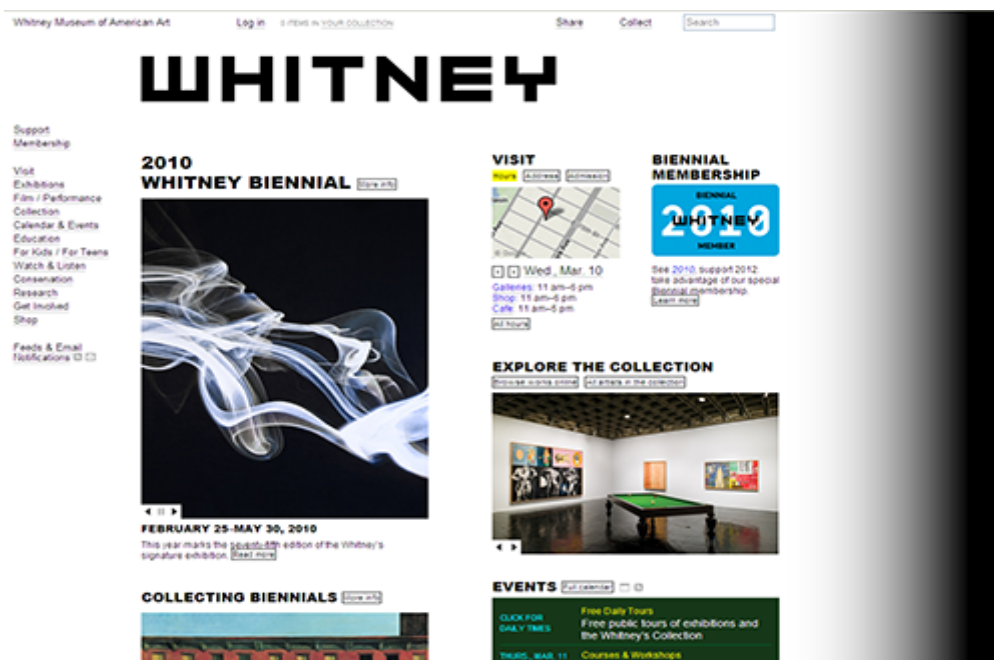
Home page

Fig 12: The Home Page of whitney.org http://whitney.org/

Through a combination of scale and placement, the home page of whitney.org tells a story: 'visit current exhibitions, explore the Whitney's collection, get involved with the Museum, come to public events, check out audio and video

resources…' The home page story fluctuates from day to day as other content is mixed in, and a thread about becoming a member or supporting the Museum in other ways is woven through the site. By altering the order, scale, content, and quantity of the modules on the home page, the Whitney can change its story or priorities at any time. This narrative, along with the content that it leads to, defines the Whitney as a specific institution – and can evolve as the Whitney does. The expectation of this evolution was an assumption of the project, and inspiration for its design and technology.
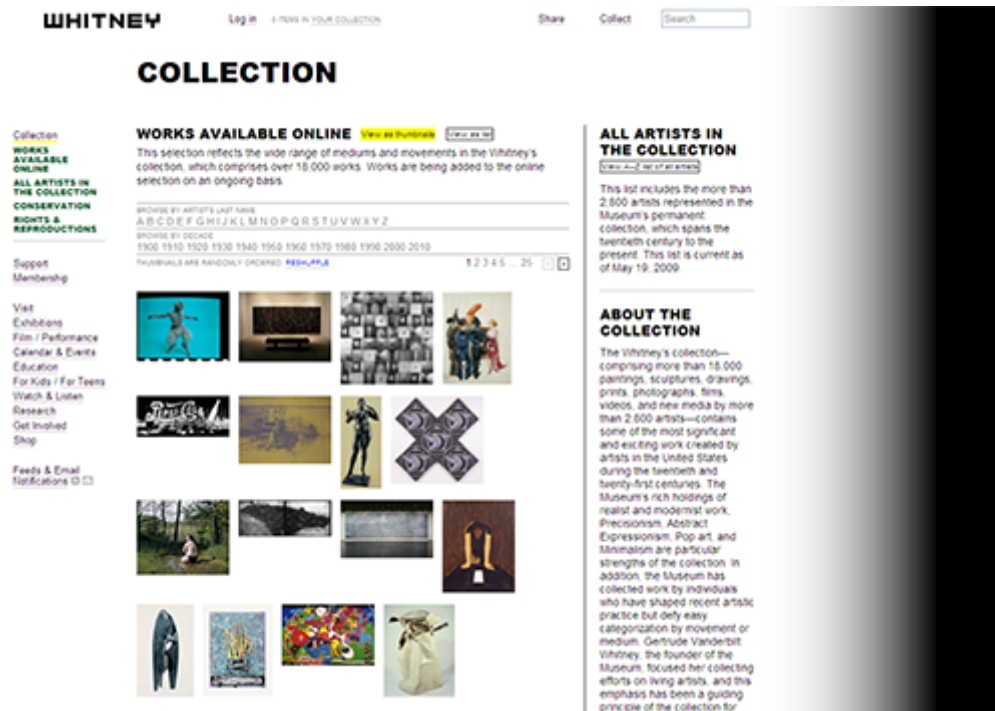
Art

Fig 13: The Landing Page for the Whitney's collection of twentieth- and twenty-first-century American Art
http://whitney.org/Collection

The importance of art for this site is paramount. We wanted to place art at the forefront and highlight the Whitney's collection and exhibitions in easy to use, highly visual ways. Linked by Air took two simple approaches. First, art is not all the same, so it should not be displayed the same (no uniform, same-size thumbnail images); second, on a Web site, art should be seen – as large as possible, so that the object's visual information is exposed to the viewer. This approach extends beyond artist and artwork pages. Art is also generously displayed on the home page, in search results, and throughout the site.
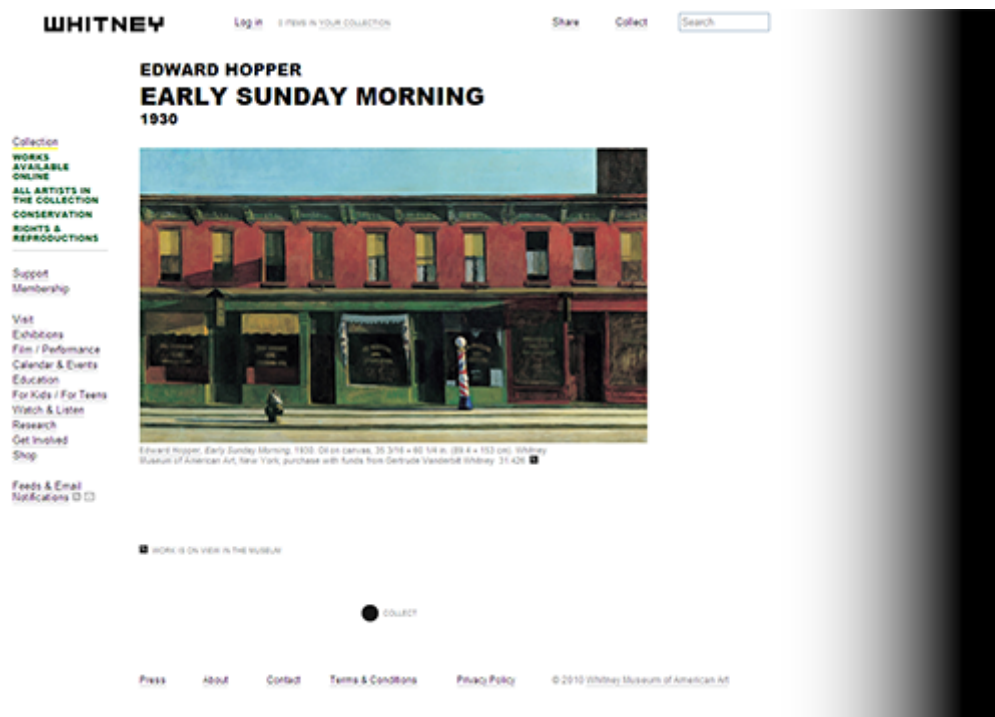
For the first time in the Whitney's Web history, on-line visitors can explore a selection of nearly 400 works from the Whitney's collection and an index of the more than 2,800 artists in the collection, indicating the number of works by each. Images can be viewed at full-screen or larger, and selected artists are represented by multiple works. A range of navigation tools allows users to explore the on-line collection alphabetically by artists' names, chronologically by decade, or via an image-rich search feature, and works are flagged if they are currently on view in the Museum. Additional works and interpretive material will be added to the on-line collection on an ongoing basis. Technically, the pages for individual artists and works of art are wiki pages, like all of the pages on the Web site. In other words, they are not rigidly templated. Museum staff can add any type of content to the artist or art pages, in any combination.
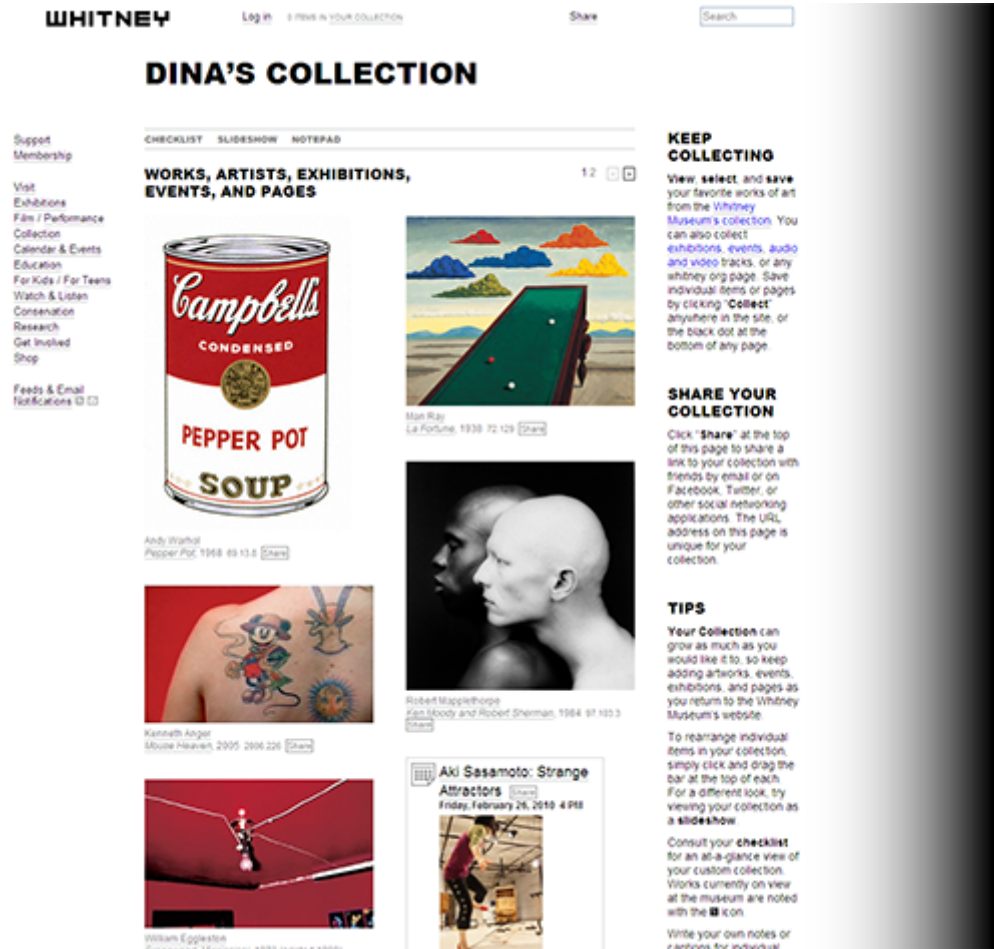

Fig 15: An example of a site visitor's collection of Web pages http://whitney.org/UserCollection?collection=9ugxojwko8

Visitors to the site can register for personal accounts allowing them to create a collection of their favorite works of art, exhibitions, or pages on the site. Users can add captions, rearrange page elements via a drag-and-drop feature, create their own slideshows, and share links to their collection. In phase two development over the coming months, visitors will have the ability to share their collections with each other, and selected collections will be displayed on the Web site itself with the author's consent. In addition, a future goal for custom collections is that they may serve as hubs for managing communication from the Museum, such as e-mail notifications of upcoming events or exhibitions related to artists that a user has collected.

Time and place
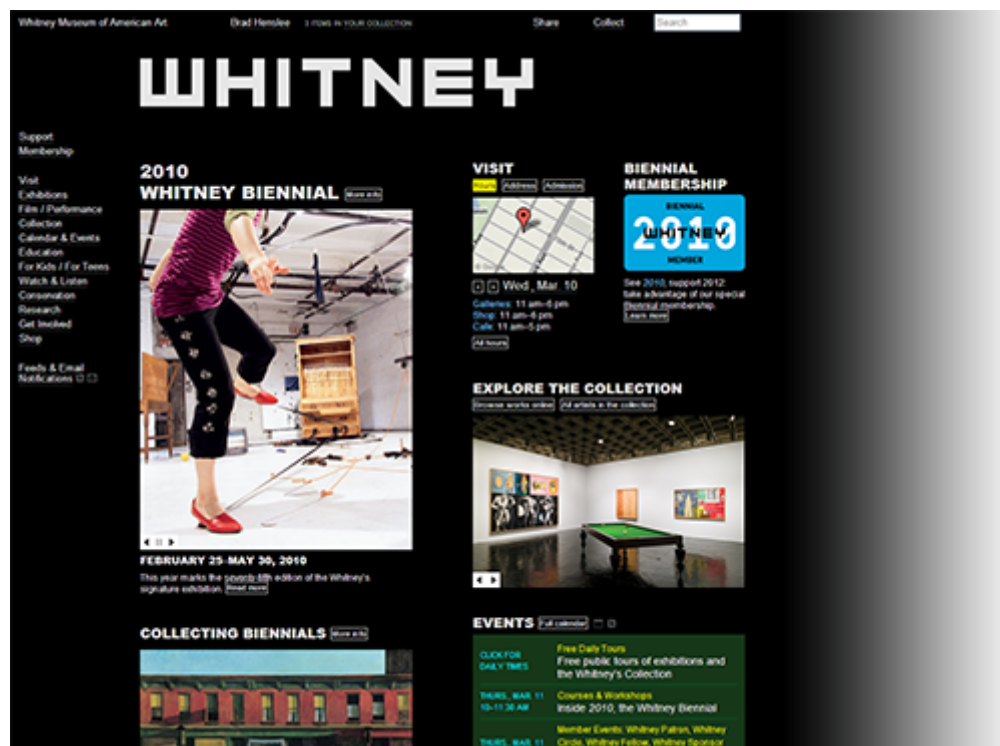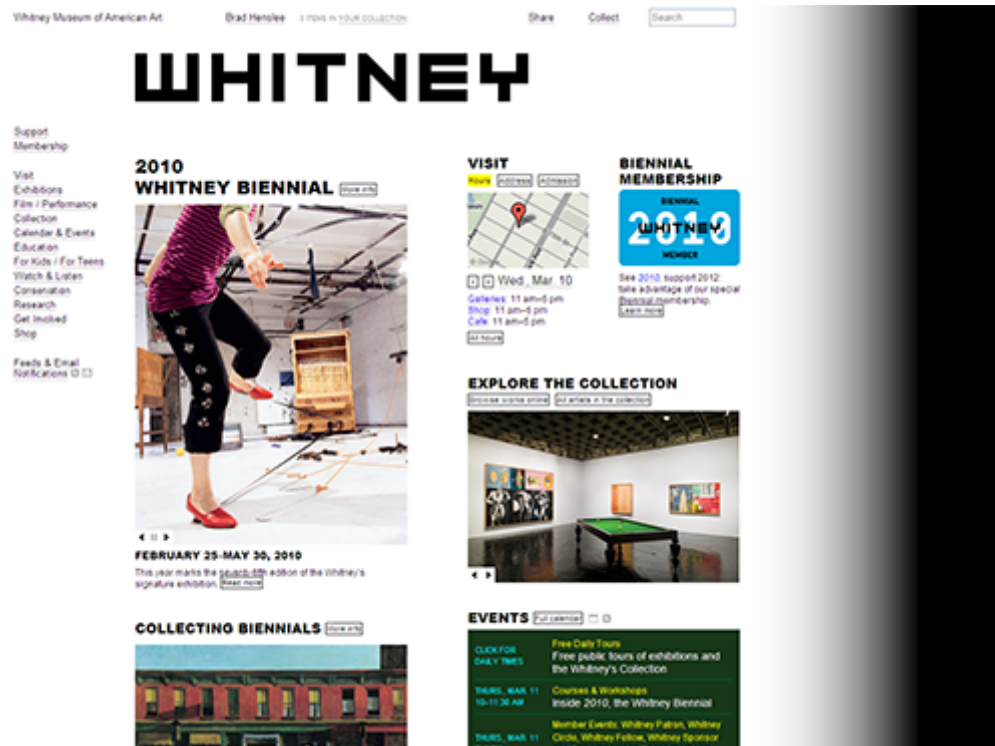
Figs 16 & 17: Day and night views of whitney.org http://whitney.org/

Linked by Air used time to communicate the Whitney's geographic location in New York City – an important facet of the Whitney's identity. The Web site's background color changes from white to black each day at sunrise and sunset in New York City. This rhythm also positions the Whitney as a repository of art and culture, even when the building is closed.
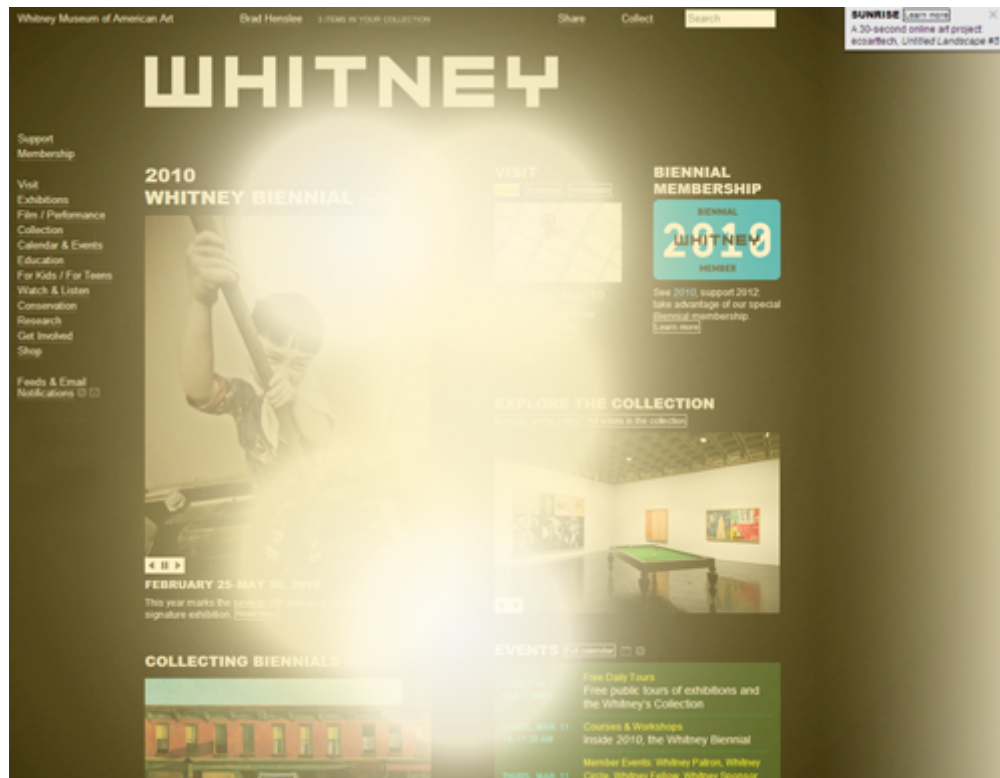
Internet art projects

Fig 18: Untitled Landscape #5, http://whitney.org/Sunset a project by the collaborative ecoarttech, Cary Peppermint and Christine Nadir http://www.ecoarttech.net/

In addition, the Whitney has commissioned a series of Internet art projects for the Web site. Each project will appear on every page of whitney.org for ten to thirty seconds at sunset and sunrise in New York City, for three to four months. Several projects will be commissioned annually. Christiane Paul, the Whitney's adjunct curator of new media, explains:

> What distinguishes these projects is that they use whitney.org as their habitat, disrupting, replacing, or engaging with the Museum Web site as an information environment. This form of engagement captures the core of artistic practice on the Internet, the intervention in existing on-line spaces. (http://whitney.org/Sunset)

These projects also emphasize the Web site as a surface for the experience of art as well as for researching that experience.
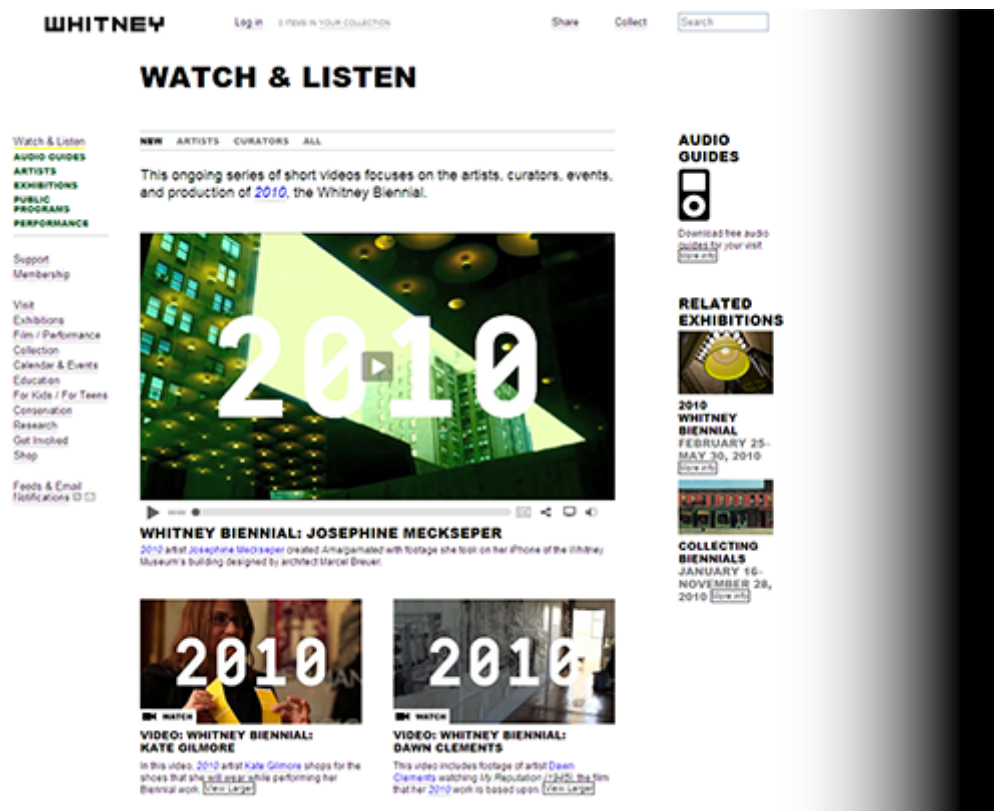
Watch and Listen

Fig 19: Watch and Listen landing page http://whitney.org/WatchAndListen

A broad range of multimedia content is produced by the Whitney to accompany and enhance a physical or virtual visit. This section includes current and past exhibitions, works in the collection, public programs, and performances. Visitors can stream or download interpretative materials – audio guides for the collection and exhibitions, and short videos featuring behind-the-scenes artist and curator commentary, complete with transcripts.

Performance Metrics

Web analytics

Unsurprisingly, statistics for the redesigned whitney.org show a dramatic improvement over the outdated site. During periods of comparable admissions activity in the Museum, average Web visitors per day increased by almost 50%, and page views per day have doubled. Most promisingly, length and depth of visits increased greatly: users remained on the site 34% longer, and viewed an average of one full additional page per visit.

From the site's public launch on November 12, 2009 to January 28, 2010, the site's Google Analytics reports 4,350 visits per day: 339,323 total visits, 241,982 absolute unique visitors, over 1.3 million page views, 3.85 average page views per visitor, and a 38% bounce rate.

Only eight of our most viewed pages received more than 2% of our total page views, perhaps indicating some success in our efforts to cross-promote our new content and avoid "silo" destinations. The top eight pages were Home (22.4%), Collection (11.2%), *Georgia O'Keeffe: Abstraction* (6.7%), Exhibitions (6.2%), Visit (6.0%), Calendar & Events (3.0%), *Roni Horn aka Roni Horn* (2.7%), and *2010: the Whitney Biennial* (2.3%). All of the next 100 most viewed pages received 500 or more unique page views each, and all of our top 550 most viewed pages have received at least one unique page view per day since launch.

On-line ticket sales

Early reports also show an average increase of 364% in the proportion of on-line vs. off-line ticket sales. This is especially encouraging since our third party ticketing system has remained the same from October 2008 to the present – only the pages and navigation pathway have been updated, giving the impression that users are now much more encouraged to purchase a ticket on-line. This increase is most apparent in the Museum's busiest weeks, when Visitor Services staff regularly inform those waiting in long lines that purchasing on-line will allow them to skip ahead. During weeks of more than 4,000 on-site sales of general admission tickets, on-line to off-line sales after launch showed an increase of 404%.

There is a possibility that the audience for the major exhibitions running during the launch (for example, *Georgia O'Keeffe: Abstraction*), are simply more inclined to buy ahead than those attending exhibitions supported by the old site. However, even when limiting the data to cover identical exhibitions on view, the proportion of on-line to off-line purchases still increased by 57% after launch.

On-line Membership revenue and transactions

The new Web site's improved capacity as a destination is also considered a major factor in FY10's 47% boost over the previous year's on-line membership revenue and transaction volume. The rapid and modular page authoring capabilities of the wiki allowed staff in the Graphic Design, Marketing, and Membership departments to work quickly and maximize the effect of a 20% discount campaign that was promoted in a major magazine, Facebook, Twitter, and the Museum's eblasts. The same 20% discount campaign also took place in FY09, but without a strong Web destination to serve as the core of a coordinated, cross-media promotional engine. The new site's clearer presentation of benefit levels and improved checkout pages is also credited with providing an enhanced transaction-conducive experience once visitors arrive.

Where Do We Go From Here?

Wiki as a platform for community building, crowd-sourcing, and social networking

Up to now, the wiki platform and philosophy has been used to engage the Museum in the production of the Web site in the broadest possible way. For sharing and feeds, the Web site's wiki structure also makes it particularly easy for end users to share pages of the site and to subscribe to changes in particular areas of the site via RSS.

The wiki-based authoring system provides opportunities to engage site visitors and other constituents in direct production of public content for the Web site, but these possibilities have not yet been activated. A phase two goal is to enhance social networking opportunities on the Web site, building on the platform we have now created – a platform which is uniquely suited to these possibilities. Tagging, commenting, contributed responses and user-generated art, and other social networking devices are currently being planned and developed for teachers and children, along with specific content for these audiences.

For the *2010 Whitney Biennial* exhibition, the Museum is offering each of the 55 participating artists a personal self-authored Web page on whitney.org, encouraging them all to use the content management system to publish in any media that may elucidate or expand on their work. The project intends to create a direct relationship between the Museum, the artists, and the public. After the exhibition closes, these pages will be archived as part of a larger institutional effort to preserve and present the Whitney's history on-line.

Successes and shortcomings

The new site provides users with accessible and immediate ways to explore the Whitney's exhibitions, programs, and preeminent collection of twentieth- and twenty-first-century art of the United States. But now that the site is launched and we have accomplished our initial goals, the work has just begun. Balancing institutional structure and needs with a clear representation of the organization is a challenging task that is still very much in progress. There is plenty of room for improvement, and the tasks of refining the workflow and sustaining resources still loom large on the agenda. The wiki's sandbox contains an extensive "punchlist" of still-to-be-addressed items which are now being prioritized relative to one another. We had to cast aside some important construction in order to raise the barn – to get the site launched in a reasonable time period, the team sometimes took a tactical rather than strategic approach. Some aspects of the Whitney's rich institutional history, resources, and assets were postponed for phase two.

In January 2010, the Web Steering Committee and Linked by Air convened for a "postmortem" to discuss three main questions: What are the site's major successes? What are the site's biggest shortcomings? What primary areas should we focus on for the next year? Each department represented was asked to present feedback. Some key points were communicated by the majority of the stakeholders.

The site meets several goals established at the beginning of the project: it conveys information without overdesign, and the content floats to the surface. It also serves as a successful clearinghouse of exhibition, program, and visitor information and has become a centralized, "go to" place for visitors and staff to find current Museum offerings. Art is foregrounded, and the on-line collection is a major achievement in terms of navigation, size and clarity of images, and design. However, the collection content needs to be more robust. The Curatorial and Education departments are working to add text and multimedia content to the collection pages in the upcoming months.

In the current site the Museum's identity is inferred, but it can also be expressed in more powerful ways. For example, the site strongly reflects the Whitney in the present, but does not adequately convey its history or map clearly to future plans for the Museum. The prioritization of content on the home page is sufficient for now, but will need to evolve with the Whitney. An entire section of the site related to the Whitney's past and future was tabled before the launch due to lack of time and resources. We hope to introduce this section in 2010.

Overall, the wiki model has been a successful platform and content management system for Museum staff, and distributed authoring is a positive direction for the Whitney's purposes. A significant degree of investment and ownership within sections of the site has been established throughout Museum departments; nevertheless, there are ongoing improvements that can be made from technical and procedural perspectives.

More connectivity

Each area of the site reflects a distinct departmental identity, and together they represent the Museum as a whole. The homepage and the site navigation weave these areas together. Further, there are many connections between areas, and all

share a coherent design. Nevertheless, the project goal to "eradicate content silos" among departments was only imperfectly achieved. Connections among areas need to be creatively strengthened, and some areas of the site should be reorganized again to better follow visitor needs rather than the Museum's organization. Some content is still more deeply buried than we would like, and needs to be drawn to the surface. These were issues that we had hoped would be successfully addressed by the new site, but they need to be revisited. For example, multi-media assets need to be better linked from the "Collection" area to the "Watch and Listen" area; better links can be made between calendar and program pages; educational resources can be better integrated throughout the site. The wiki format and the project's bottom-up approach creates both the opportunity to flatten and connect categories in this way, and also the need for constant vigilance to ensure user-centered organization takes place, and to constantly reorganize and interconnect as needed. To further gauge visitor experience navigating and interacting with the site, we plan to conduct ongoing user testing as the site evolves.

Conclusion

When a single barn is raised, the event ends. People "have a party and they go home" (http://meatballwiki.org/wiki/BarnRaising). But maintaining a Web site is a continuous process. The project team's most basic goal was to create a Web site that had a life in time and would adapt and grow durably and flexibly with the Museum. All decisions, deliverables, and strategies were open-ended, meant to support unpredictable uses by many people over long spans of time. This relatively uncontrolled, but still guided, approach to Web development is highly unusual both for a museum and, even today, for design and Web development strategy in general.

The Web Steering Committee is planning to ensure that the resources and staff are in place for future site development and enhancement. Meanwhile, Whitney staff continues to pitch in, interact with each other, and build the site in the spirit of collaboration. Because the wiki platform is flexible and adaptable, the potential remains for the site to evolve and develop in directions that speak in compelling ways to the Whitney's future.

Decentralizing ownership and the ongoing life of the site was a risky, time-consuming, compromise-filled strategy, but one with great rewards. As a result, the new Web site has become a part of the Whitney – not just about the Whitney. Like any good wiki, since the launch the Web site has rapidly improved as staff have edited and reorganized its pages, and found inventive new ways to improve its content. We see no end to this process.

Acknowledgments

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