

Stacey M. Lunden. Creation of 'Storytime: A Database for Storytellers' Website. A Master's Project for the M.S. in L.S. degree. April, 2008. 13 pages. Advisor: Brian Sturm.

This paper describes the process of creating the website 'Storytime: A Database for Storytellers'. It is a personal narrative of the steps taken and decisions made in the design, layout, implementation, and execution of the site.

Headings:

Web sites – Design

Storytelling -- Study and teaching

Digital libraries – Design

Creation of 'Storytime: A Database for Storytellers' Website

by

Stacey M. Lunden

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Approved by

Brian Sturm

Project History

In order to tell a story well, a storyteller must perform background research not only on the history and origins of the story, but also on the best ways to tell it. This analysis requires research on the types of emotions felt by the characters as well as the emotions that the storyteller is trying to impart to the audience. The story must be broken down into its scenes and known thoroughly.

Storytelling students at the University of North Carolina at Chapel Hill's School of Information and Library Science (UNC-SILS) have been completing a research form and presenting it to their instructor in print and email formats. While easy enough to use, the information is not being shared with the community of storytellers. Sharing of information is a large part of the library sciences curriculum. Until now, there has been a wish to share the wealth of information in storytelling held at UNC-SILS but no students willing or capable to make it happen.

Initial Narrative

This project began when I went to Brian Sturm, the storytelling instructor at UNC-SILS, for suggestions of projects I could complete that would a) fulfill the school requirements of a Masters Project, b) combine my interests of technology and children, and c) be of interest to us both. This is the project he suggested, and it is one he has been hoping to complete for some time. Having also taken the storytelling class, I was in an excellent position to understand the requirements of the project.

Since this information would become a digital collection, the first people I talked to were at ibiblio. Ibiblio is well known as a free hosting service for collections that meet

their requirements for sharing new knowledge. They were as excited about the project as I was, and one of my friends that works at ibiblio, Sarah Kahn, asked to share the project with me. As I know there are some deficiencies in my education regarding databases, we agreed (with permission from our advisors) to divide the project and yet still collaborate heavily. I was to be responsible for the design and look of the site, she was to implement and run the content management system, and we were both to work on the planning and definition of the functionality.

System and Software Decisions

Ibiblio was chosen to host the collection for three reasons. First, they offer free hosting to digital collections, and we definitely qualified. Second, their offices are in the SILS building. Third, Sarah works at ibiblio, executing all of our system administration requirements immediately.

We chose to use MySQL as our database platform because it is taught at SILS, and because ibiblio supports it.

Our decision to use a content management system (CMS) was based on a few factors. We wanted the site to be relatively easy for the instructor to change. We wanted a system pre-made that would register user accounts and allow approval or rejection of stories by the instructor. It would have to deal with connecting to and creating tables in a database without user interaction. It would need to have customizable templates, so we would be in control of the look of our own website. The most common CMSs recommended to us were Wordpress, Drupal, and Joomla. While Sarah mostly made the decision for Joomla, it fit our requirements, so I approved.

Functionality

The original functional requirements of the site were many. We have adapted some to fit what we were able to accomplish in the time given as well as the ability of the CMS to perform them.

1. Form: Students must be able to fill in the same fields of the research form they had previously been using. They must have the option to either have their information displayed online or simply be emailed to the instructor. In addition, storytellers anywhere in the world should be given an option to add to the database. Result is three separate forms: Student, Email, Non-Student.
 - a. Many fields are required for the story to be accepted.
 - b. One field, while required for homework, is personal and therefore cannot be displayed online.
 - c. Some fields are different for students and non-students.
 - d. A video of the story can be added by a non-student or by the instructor.
 - e. The instructor must have approval rights to each story before it is displayed online.
 - f. Both instructor and student must have a way to store and print their information.
2. Search: It is hoped that teachers, librarians, and other storytellers could use this information as a resource in their own research of stories. Guests must be able to search any field in the form. While we had initially envisioned a full search form, this functionality was pulled back to simply include a database-wide search box. Since the advent of Google, most people are comfortable and adept at this form of searching.
 - a. Search interface is to be simple enough that users of all ages could use it.
 - b. The story results must be in a format easy to view and print.

3. Kids: It is hoped that children of any age will go to the site to read or watch new stories. We originally had posited ideas for a simpler search for kids to pull up stories they may be interested in. Since we simplified the search feature down to a minimum, it seemed repetitive to have another search interface, so we decided to use a display of stories. This way, children can open the site to read new stories every day, without a need to interact to receive results. Encouraging this use of the site can increase student exposure to folktales and fairy tales from all over the world.
 - a. Simple way for kids to get new stories. No confusing instructions or complicated interface.
 - b. The view is limited to the title, synopsis, and video link to eradicate information that would only be relevant to someone interested in re-telling.

More Narrative

We began work on the project in October of 2007. Our initial meetings concerned design brainstorming, inspiration, and outlining functionality. The forms and requirements for the three scenarios (student, email, and non-student) were laid out, and the database fields were chosen (around 60 to begin with).

Our process was to work individually during the week, meet every Friday for an hour, take meeting notes (documented at: <http://storytimemastersproject.blogspot.com/>), and assign work for the coming week. This process worked very well for both of us. We stayed on task and on time.

The division of work meant that I would have a heavier workload towards the beginning of the project and Sarah would have a heavier one towards the end. There was enough work for both of us that we kept extremely busy, but still had freedom to

take a break if other duties called. Our schedule turned out more like: steady October through December, heavy for me December and January, heavy for Sarah January and February, and very heavy for both of us in March.

Major Design Layout

The design we ended up using was based on combining fairytale creatures with the four elements. The fairytale creatures would set the theme of the site. They are easily recognizable, child-friendly, and fun. The idea of the four elements came about because there are four major pages. One concept of good design is that a user must always know they are on the same site. We use the logo and layout to keep the pages similar enough that it is obvious that they all belong to one site. We did this so that we could take advantage of a fun and changing design. The four elements not only represent the many ways in which the elements can have an effect on stories, but also made the selection of the creatures and their environments easier.

The unicorn was chosen first, and it is obviously an earth creature, with ties to the forest and green spaces. We wanted to keep the art child-friendly and colorful, so I chose green as the background for the earth element instead of brown, as it is a lively color. I wanted the unicorn to be peaceful and completely beautiful.

Our favorite mythical creature of the water was the mermaid. Her scene would definitely be made of aquas and greens. While I wanted the mermaid to be beautiful, she came out playful and friendly, which I like. Many mermaid folktales portray the mermaid as a negative or dangerous icon, but that is definitely not what we want to convey for the site.

The air element could have been either the cloud dragon or a fairy. The decision for dragon was a bit arbitrary, but we both enjoyed the imagery of the dragon better. The colors for the air page were very light blue and white. Typically, I would want the

dragon to be graceful and powerful, but when we found the inspiration for the mother and baby dragon, we both thought it was wonderful. It came out more caring and nurturing, but I believe it is still somewhat powerful.

The fire page was the most difficult to finish. Our two possibilities for fire were the fire salamander or a phoenix. There are certainly many stories about the phoenix or firebird, making it a better choice, but it was much more difficult to create. The feelings of freedom and joy would have to be inherent in the design, as well as a sense of movement.

As a name, Storytime was created after a short brainstorming session with Sarah while she was creating the framework. We had to pick something to call it on short notice, so we came up with Storytime. It confuses the concept with parents telling stories to their children at night with structured story time readings with the actual concept of a storyteller, which may not be a good confusion. Yet the title was catchy and short, making for a good logo. We eventually amended it with a subtitle to clarify the aim of the site without losing the useful title.

The logo eventually became a globe with night falling inside it. As night begins to fall, the most beautiful colors arise, and it has a calming effect on me. The logo brings to my mind the memories of being excited for bedtime because my father would be telling me a story. My first and most important impressions of storytelling are of my father. Hopefully there are still a few people out there with the same experience who can relate to the experience of a nighttime story as well as the logo.

Each logo color matched the theme of the page. The air page was a bit difficult because I already had a blue logo from the water theme. I originally planned to make it purple, but the purple made the logo too difficult to see, so I defaulted back to a pink I used when creating the original idea for the logo. Because the background of the air theme was so light, I felt free to use more colors in the overall design of the page.

The logos are actually the color of the original element designs. I decided to fade the backgrounds down once they were complete, which turned them into pastel shades of the originals. This is a small effort to keep your attention on the content (a small one because it is somewhat impossible to not look at the drawings. They are distracting, which is bad, but also very pleasing, which increases the user's happiness and satisfaction with the experience).

We decided to also have the links match color with the themes. While difficult to see on the backgrounds, they are vibrant on the whitespace of the page. The only links on the backgrounds are to the page about the creators. Lowering the ability to find that particular page has no importance to the design or use of the site, so is acceptable.

The page link buttons are the last major design element. I wanted them to be large and easy to click, so all ages would be able to use them effectively. I tied the font of the logo into the buttons to help with keeping the look uniform. The colors of the buttons also relate to the colors of the themes they go to.

I had a bit of a hard time placing elements with their respective content. We decided early on that the unicorn was the strongest image and should be displayed first. The mermaid seems helpful, therefore goes with search. While fire has the strongest colors, it also seems to me to be the scariest theme, so we eventually decided that the kids page would be assigned to the air element, and submitting a story would be fire. So I decided that since the page was relatively colorless that I would combine colors on this page, departing from the design of the other pages, but making it more colorful and friendly.

The creatures were placed to the left, and the logo at top. To keep the design elements away from each other, that places the buttons at the bottom, which is a somewhat bad design. If the content gets too long, then the buttons disappear off the bottom of the page. We considered other layouts as well as duplicating the menu in

other forms, but decided against it. The same problem can arise with the common top-of-the-page menus as well.

The actual white content box was sized to fit within the smallest computer screen resolution of 800X600 pixels to ensure limited technology users could still get to our content. While the site is art-heavy, all of the images were compressed and then the entire site was compressed by Joomla's compressor to speed up load times.

Joomla Implementation

Joomla implementation was Sarah's realm, but her process is of note. She installed the most recent version of Joomla, and then searched for plugins to use to create forms and communicate with the database for us. She began using one called Chrono-forms, but we soon noticed its limitations, as well as the limits of the current Joomla install (and it was amazingly slow to load). She eventually found Fabrik to use for forms, and rolled our Joomla install back to 1.0 to support it. We found that there was much better documentation and support for Joomla 1.0, and the creators of Fabrik were extremely supportive.

Modifications and Personalizations

While useful in many applications, we found Joomla a bit difficult to work with. Once the design was created, and the system up and running, Sarah had the hard task of turning my design into a template to use in Joomla. Not many Joomla users bother to customize so far, so her task was quite a bit daunting. She did a great job with it.

Along the way, we decided to add a lot of custom options and tweaks. Because I am worried about page load time and lower screen resolutions, I decided to write a JavaScript to modify the site dependent upon available screen size. The gist of it is that

if the screen resolution is set to less than 1024 pixels wide, then the background images do not load.

Sarah found some Joomla modules for search and random displaying for the kids page, so we spent most of our time working on the submit module. We decided to chunk the data into smaller bits, making the long form seem shorter and more manageable. Most of the form was already laid out in sections, so we just named those sections and made the division more obvious by making the section names bold. We only moved one or two fields from the original design to help create the sections. Those sections were named as Groups in Fabrik and are connected inside the framework.

Another custom script I wrote for the site deals with getting into the submit module. We discussed different ways for visitors to get to the three forms: student, email, and non-student. One option was to give a page with three links, but I did not want users to have the ability to browse the forms. In this case it is better if the user is directed to the form they need. So we decided to use two simple option questions to determine which form a user should go to. The script I wrote in PHP takes the results of the questions, selects the appropriate form, and displays it.

Once the forms began to take shape, I started to customize the way they look and to make sure they validate. We wanted the site to be W3C standards compliant, but Joomla dynamically creates part of our code. While I hacked quite a bit of Joomla's code to make it more compliant, there was a point where I had to stop. I validated as many pages as I could, and then got the rest as close to validating as possible.

Another factor in making the site useable is ensuring it looks the same in all major browsers. We have checked our site in Internet Explorer 6 and 7, Firefox, Opera, and Safari. Different browsers render slightly differently, so it was necessary to modify the code to ensure uniformity.

Once we had the form up and running, we realized that it was impossible to logout or re-start the form once you were logged in. This is a major functionality problem, so I swapped out the Submit button for three smaller buttons on every page that had the fire theme (all of the forms, the login page, etc). The smaller buttons were for the login page, logout, and to start the form over again.

The last major modification is the entire search page. While we have wrestled with Joomla to get exactly the kind of functionality out of it that we wanted, we found out at the last minute that the search module was not working correctly, and that making it work correctly would destroy the back-end process as well as the kids page (everything is connected). There were actually three major things wrong with the search interface, each of which would take quite a chunk of time to fix. I decided that the easiest way to fix the problem was to write the entire page myself. There are some pros and cons for this, but it was getting late in the game, and time was a major factor. The biggest con is that if form fields are changed or added in Joomla, then they will have to be changed in the search page code as well. The same goes for changing the username or password of the database: it will have to be done in two places. The pros are that it will be much easier to modify the search in the future and now has the ability to add in advanced search functions. It is much easier for future students at UNC-SILS to modify a page in PHP, which is taught here, than to work through the complicated web of code inside Joomla.

Future Upgrades

While we are extremely pleased with the results of our project, there are two things that would be great additions to the site functionality. The first I have already mentioned: the option for advanced search features. As the site grows, the need to filter a search will grow with it, creating a need for more options. The second is the ability for

students to save a form in-progress, so they can begin it, save it, and come back to it later once they have done more research. Filling out the form always takes longer than you think, and the ability to save in progress would make lives easier.

Support

We plan to continue improvements through the end of the semester, and be available for technical support after that. We understand that we may have to support this project until someone versed in Joomla becomes available for ownership.

Conclusions

I have only scraped the surface of the work done on this project. I tried to overview the major events and changes, but the details were what took a lot of our time. I feel we have met the goals of the project successfully, and only wish that we could have gotten even more accomplished. Joomla seemed to work against us most of the time, but it was a new technology for both of us and we did the best with what we had. We both learned an amazing amount over the course of this project: on timing, coding, planning, selection, and especially about hacking Joomla's code.

Sarah and I work extremely well together, and our talents complemented each other on this project. It was easy to determine what assignments belonged to whom, and yet we still worked together as a unit to get things done. Once we got going, each of us could easily take the tasks assigned to the other in a pinch, but it was not necessary. We were both fully committed to this project, and were diligent about getting our respective work done.

We both hope that the Storytime database will be an effective and productive collection, helping to share information around the world about a precious art.