Abstract
Website design can often be complicated if one does not have the right approach and/or technique. In order to have a successful website the following components need to mesh well: Content, Information Design, Performance, Compatibility, Visual Design and Interaction Design. This paper describes work to redesign a website by both satisfying the requirements of the customer and providing a clear flow of content, design and performance. The redesigned website is located at www.treehuggersalmanac.com.

1. Introduction
Website redesign consists of aligning the content, design and layout of a website’s content. The need to rebuild a website usually stems from the need to grow and expand, poor rank amongst search engines, growing expectations of users, etc. A successful website is now considered one that is easy to use and is as interesting as it is informative.

A range of relevant work has been undertaken in this area in recent years and three redesign projects will be briefly described.

The CSUSM Website Redesign Project poses a great example of a website redesign process. It consisted of the Instructional & Information Technology Services and the Office of Communications joining together to redesign the campus web presence. The ultimate goal was to create an engaging and user-friendly site that all potential visitors would find useful and informative by using an approach which consisted of 3 phases. The phases consisted of the following approach [1]:

- Creating a common header and footer which provided a common navigation menu and improved search feature,
- Ease of maintenance provided by the Cascade Content Management Standard Flexible design templates which offered the benefits of uniformity,
- the design templates also offer flexible design
- And formatting options that allow campus content contributors to customize their sites to their unique needs.

The University of Texas at Austin ITS Web Site Redesign Project had a goal to create a site that is both user-centered and user-friendly, providing accessible, easy-to-find information on ITS products, services and technical support. The approach considered here was phased, including: Research and Design, and an Implementation phase. Among the redesign were Global Navigation, changes to the Look and Feel of the website, and changes to the page layout. The new site following the redesign consists of, every page of content being controlled by a single template in Dreamweaver. Tabbed navigation makes information organization more visible and frees up screen real estate. When multiple pages "live" in a particular section, that tab stays highlighted for all the pages in the section [2].

The University of Massachusetts Boston began working on a redesign and rebuild of the university website. The project aimed at creating an entirely new site that will present an enhanced internet presence for the university, provide greater efficiencies and controls for keeping it updated and relevant, create a more interactive and engaging user and visitor experience, and, ultimately, bolster the university’s efforts to engage the many audiences who come to the site[3].

2. Relevance in the Context of Other Work
As technology expands, websites need continuous improvement. Our current era of technology allows us to market your company and its information with literally one click of a mouse whether it be via Twitter, Facebook, MySpace, Wordpress and other blogs, RSS feeds or other sources such as text and email alerts.
Visitors see a website as a reflection of the organization/brand. If the site is helpful, user friendly, and professional they will see you just as that. Of course if the site looks very plain and out of date that would have a negative effect on the visitor as well. Keeping content up to date is also a heavy task but with more companies introducing content management systems the ease of updating information is simplified. Fresh web content will keep visitors coming back for more information, and can eventually lead to spreading the word to potential visitors.

If someone has never heard of an organization or brand they will not know where to find information and definitely not be on your website. Building a website that performs is the key to success. Having a detailed site map and great navigation menu will cut down on the number of clicks required to move from one page to another when seeking information [4]. Visitors search for information so it is important to structure a website in a manner in which visitors are able to locate information quickly. The main concepts need to stand out and not get hidden halfway down the page [5]. Consistent navigation throughout a website will also allow for ease of use.

Today new technologies and business models have resulted in more innovative designs, but they also present greater challenges for building customer-centered websites. Although some sites may not have direct competitors it will benefit from being customer centered (simple, clean, and well-designed).

As there are many different types of website structures, the mixed structure seems best as advantages from both hierarchical and linear designs were appealing to the sites concept. A hierarchical structure allows the user to view a list of the sites contents and click on links to specific areas of the site. Once arriving at a specific section, more links will be found, allowing the user to navigate to specific areas of the selected topic. Although the advantage here is speed of navigation, the disadvantage becomes the ease of being lost within the site. Furthermore, a user could feel that they are bouncing from one topic to another [5].

A linear structure, reminds the user of a book as they are essentially flipping through each page, one at a time to move forward or backwards. The advantage of this type of structure is that it is very organized and data flows in sequence. Unfortunately for the user, navigating several pages backwards or forward can be a very inconvenient experience. Thus, making the user less interested in navigating further within the site.

Using advantages from both of the above mentioned structures (linear and hierarchical) prove to be a great mix promoting continued navigation throughout the site. The website will continue to utilize a “table of contents” feature by having a consistent navigation menu include the tier 1 main pages, which allows for quick navigation through the site. Upon arriving to the main page, the user will continue by means of linear navigation to progress forward to the subpages. The advantage of using a mixed structure would be ease of navigation to a specific area of the site and to make sure the user stays on track. The disadvantage is that once the user arrives at the subpage, they are forced to navigate slowly and lose the ability to jump around. This will be avoided by providing “return to previous page” or “return to parent page” buttons to allow the user to jump back and not be forced to start all over again [5].

3. Focus of Current Design Task
The existing design consists of mainly content on a homepage with images serving as links. There is also a difference when viewing the website on an Apple machine, compared to a regular pc. Browser inconsistency can pose issues when trying to attract site visitors.

The main focus is to make the website appeal to all types of users. In order to do so, we must redesign and rebuild the website by making it interactive. We've decided that we need great graphics and layout presentation to catch the attention of any user/visitor on the website. The following are the goals of the re-design:

- Require limited technical expertise to update
- Minimize or eliminate the amount of manual HTML coding
- Feature a new, modern interface
- Provide more site traffic
- User friendly navigation
- Be cross-browser capable
- Establish a better user experience

4. Methodology

In order to successfully redesign the website we completed the following: Website Structure Analysis, Website Layout, Review of anticipated user traffic, and Design Analysis. By evaluating the current design of the website we are be able to pinpoint the strengths and weaknesses of the site. A website structure analysis enabled us to determine whether or not the website will be able to grow and support a larger size. Reviewing the anticipated type of visitor traffic will offer us suggestions on what type of users are accessing the site as well as how they are accessing the site.

Recognizing strong points of the website’s current layout and design will help in the redesign process. Keeping important aspects and functionality of the current website will provide familiarity and ease. The webpage’s were designed via Dreamweaver with HTML/CSS coding. All illustration has been completed via Illustrator.

The redesign was divided into five phases:
- Phase 1 – Requirements
- Phase 2 – Concept Development
- Phase 3 – Planning and Design
- Phase 4 – Transition
- Phase 5 – Deployment

By using the agile web development model as a template, we were able to conduct planning, requirement analysis, designing, coding, testing and documentation. Successful interaction with the client led to successful completion of the final product because of customer involvement. As a result, there was never a need to drastically change the product due to changes in requirements. In order to keep the customer interested and increase and/or maintain confidence, the customer must be involved and there should be no delays of the product so not to affect the timeline.

All the tasks are performed at given period, with the minimal amount of documentation needed in order to move forward and be effective. The advantage of using agile web development was the fact that there was regular involvement and feedback of the customer allowing for a more requirement oriented and user friendly product. All the tasks are performed during a given period.[8]

4.1. Requirements

Determining the look and feel of the website took place in the requirements phase by interviewing the customer. We were able to review the user objectives/expectations, and design needs (look and feel) of the website. Once provided with the goal and scope of the website we were able to create the Functional Requirement document which consisted of page listing, sitemap, navigation review and wireframes.

4.2. Concept Development

Recognition of strengths among all web designers and the project manager allowed for the development of a project strategy which includes:

- Functional Specification
- Technical Specification
- Content Plan
- Testing Plan
- Risk Evaluation

Technical specifications and content plan were created in order to determine what resources are needed for a successful redesign as well as the format for content (HTML, PDF, etc) to be included in the site.

4.3. Planning and Design

The strategy of redesigning the website is all based on the requirements: usability, amount of content, content type, etc. The design concept consisted of creating prototypes (mock home page and/or subpages) to be presented to the client for review. Upon approval of the
mockups by the client, the addition of color scheme and general graphic design were implemented and sent for review.

Testing and handover of the redesigned website involves the following:

- Functional testing of technical solutions
- User testing
- Client sign off on site usability

Light load/stress testing will verify that the structure of the website along with the final choice for the hosting facility will be able to handle the projected amount of requests to the site.

4.4. Transition

As this can be one of the most important phases all documentation should be prepared prior to reaching this point. All site documentation including the User Manual should be handed over to the customer for reference. A User Manual for the Front End, as well as a User Manual for the Backend (HTML/CSS Code) is appropriate in this case. As there is no implementation of a CMS (Content Management System) proper development documentation will be provided in a User Manual format. Training will take place during the phase on the backend of the site as well as the front end to show the relation between the two. Ideally having either a content management system or visual editing tool would create ease for the client in uploading and updating web content.

4.5. Deployment

Selecting a hosting site that is both affordable and technologically feasible will prove to be beneficial. As HTML, CSS, and PHP have all been used throughout the creation of the website, the hosting site should be able to support all types of coding. Images and bandwidth play a crucial part in the main content and existence of the site. Hence, the hosting site must not have any restrictions in regards to bandwidth and storage.

This phase consists of deploying the finalized site to the final hosting server, and ensuring the client has a complete copy of the site in various formats (hardcopy, CD, USB/External Hard Drive).

As this should be treated like any other type of deployment, release notes should be provided in Technical Documentation so that any updates, changes or hosting moves in the future will be completed without any confusion.

5. Results

The website redesign allowed for a more modern page layout promoting user interaction. Contact and Information Forms, as well as a discussion forum were created to allow the user to interact with the website to both contribute as well as acquire knowledge of what could be found in their neighboring as well as other communities. Allowing users to exchange information and ideas will promote the urge to revisit the website often.
Figure 4, shows the first half of the Homepage design

The lower portion of the Homepage provides the user easy access to several different pages that are rich with information. Creating this quick menu will allow those users seeking quick information to have it right at their fingertips by simply scrolling to the bottom of the homepage.

Figure 5, displays the Lower section of the Homepage

Each Main Section was designed to have a different color scheme to create a visual experience transitioning from one to the other.

Figure 6, shows the Outdoor Activity page

The vivid colors within this page promote a refreshing feeling for the user, compelling them to click through the links on the page.

Figure 7, shows The Green earth page

By clicking on the “Sustainable Energy” link a user can describe a project they’ve worked on regarding a sustainable and non-polluting energy source:

Figure 8, represents part of the Sustainable Energy Contributors Form

All subsections of the main sections follow the same look and feel as its parent in relation to either its design or the color scheme (Main Section).
Figure 9, shows the Main Section: Plant Kingdom

Figure 10, shows “The Trees” page

Figure 11, is a sub section of “The Trees” page titled “Chapter 1: The Birches”

Figure 12, provides teaser text from the Main Section: Novice’s Guide to Plant Kingdom

Figure 13, displays the full text from the “Novice’s Guide to the Plant Kingdom”

Figure 14, shows the TreeHuggers Almanac blog
5.1. Difficulties

The template design process was longer than expected. Redesign and modification created less time to add content and link all pages together. Conclusively, by focusing on the design more than the content we spent more time before the transition phase finalizing and updating new content.

6. Conclusions

Website Redesign can be scary to some that are intimidated by new technology, approach and standards. Gathering requirements as early as possible and conducting a survey with the client as well as the user will help the redesign succeed. The most important phase is planning as everything falls into place with some changes as the final phases approach. The goal of a website is to provide more information to visitors and to gain exposure to your brand/organization. Make modifications for what helps a user find information quickly, with ease of navigation. A design may not be your first choice because it may not be pretty enough, cool enough or vibrant enough but if you provide the right amount of content that’s what really counts.

Redesigning the Tree Hugger’s Almanac website was not only a challenge, but an adventure. The most important and time consuming part of the redesign was choosing a design that fit the organization, while making sure the design would prove successful with the target market. The original website consisted of a basic design, lacking life and excitement. By creating a consistent navigation menu and introducing vibrant colors, we were able to bring both the ideas and the concept of the website to life. When transitioning from one page to the next, the visitor is taken on a visual journey. This approach was chosen to promote the visitors excitement, and also make them yearn for more information just as you’d yearn to see more of nature’s visual beauty. By limiting the amount of text, and pinpointing its placement along with pictures in areas of the page that were eye catching, we could provide information while remaining subtle in an effort to guarantee the visitor would not be overwhelmed.

7. References.


