

Web Design: The Need For Process

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With today's ever expanding options for communication on the Web, developers must focus not only on issues such as syntax, secure data transactions, and page design, but also ensure the site's purpose is conveyed and the content is appropriate for the targeted audience. In other words, there's plenty of opportunity for things to go astray. In order to minimize the risk of a Web project failing, the need for a process is imperative. Sites constructed using intuitive rather than procedural processes have unpredictable end results—sometimes they develop into incredible masterpieces, but more often into expensive nightmares.

There are a handful of sites that offer procedures for incorporating WWW technology standards:

- <http://www.sustainablewebdesign.com/>
- <http://www.alistapart.com/>
- <http://www.usability.gov>

But not a single one of them addresses the importance of best practices in Web design, better yet a method for Web design.

“An ideal process model for the Web would help the developer address the complexity of the site, minimize the risk of project failure, deal with the near certainty of change during the project, and deliver the site quickly with adequate feedback form anagement during the process.” (Powell, 2002)

The Need for Process

Presently, Web development is in a situation similar to the software crisis of the late 1960s. This has occurred because Web developers continue to rely on ad hoc methods rather than adopting a vigorous site-building methodology. Building and maintaining complex, modern Web sites cannot be achieved using today's widely accepted process of implement and release.

Many of today's sites were created without formal processes, lack technical documentation, and contain convoluted programming logic making maintenance difficult and expensive. Careful planning using a process or methodology is required to develop complex Web sites that can be easily and efficiently maintained. In this way any developer that is familiar with the methodology can jump in and out of the various processes as needed.

Ad Hoc: A Traditional Web Process

In the ad hoc Web process, planning is simply a few meetings, a small collection of potential content, and sometimes a hastily thrown together site map. It's no shock that many sites are developed in this manner—visual web design tools advocate this design-on-the-fly approach. More importantly, however, the copious number of “under construction” or “coming soon” pages suggests that countless Web sites are poorly planned using this method.

Why Traditional Methodologies Don't Fit

Traditional Methodologies do not take into consideration the unique dynamics of Web development. For example, Web development time frames are often shorter than software development, employee experience in the numerous Web technologies and programming languages vary dramatically, clients are unclear of what's possible, and the user interface is limited to the functionality and capabilities of a Web browser.

An Information Development Methodology for the Web

By adapting design and development processes similar to those used by many technical writers, a practical Web methodology can be created. This methodology is based on Web characteristics and the unique experiences of Web users.

Information Elements

The methodology is comprised of six sets of information elements. These elements are:

- **Audience**
- **Purpose**
- **Objectives**
- **Domain Information**
- **Site Specifications**
- **Presentation**

Processes of Web Development

Web developers cultivate the six sets of information elements while engaging in six processes. These processes include:

- **Planning**
- **Analysis**
- **Design**
- **Implementation**
- **Promotion**
- **Maintenance and Innovation**

Information elements and Web processes are intertwined, and critical decisions are based on these interconnections. This creates a redundancy in the methodology. A weak information element or Web process can be compensated by a stronger information element or Web process. For example, a good objective statement can make up for a poor purpose statement.

Although this model contains elements analogous to traditional information development processes, Web developers should work on these processes continuously—there's no “final state” for content.

Elements of Web Development

In developing a site, information will be created in order to satisfy the Web development processes. In order to be successful, Web developers must ensure they have the best available information about each individual element. For example, a Web developer needs to know whether the objective is to sell cell phones or to educate people about cell phones when designing specific content pieces.

Audience Information

First, collect information detailing the target and secondary audiences for the Web site. Create visitor profiles for all target groups. Learn about the audience. This is also known as an Audience Analysis to technical communicators.

Purpose Statement

The purpose statement articulates the reason and scope of the site's existence. This statement is dynamic and may change over time as the organization evolves.

Objectives List

The objectives list resonates from the purpose statement and defines the specific goals the site should accomplish.

Domain Information

Basically, a collection of information about the subject domain the site covers; contains information provided to the users of the site and information the Web developers will need. It is important that you establish methods for triangulating information to ensure reliability. (Johnson-Sheehan, 2005) Gathering domain information is, in itself, a process of discovery. Spend as much time as possible understanding the company or subject. Ask questions. Request materials: brochures, sample products, collateral, etc. Thoroughly understand the company or subject inside out.

Site Specifications

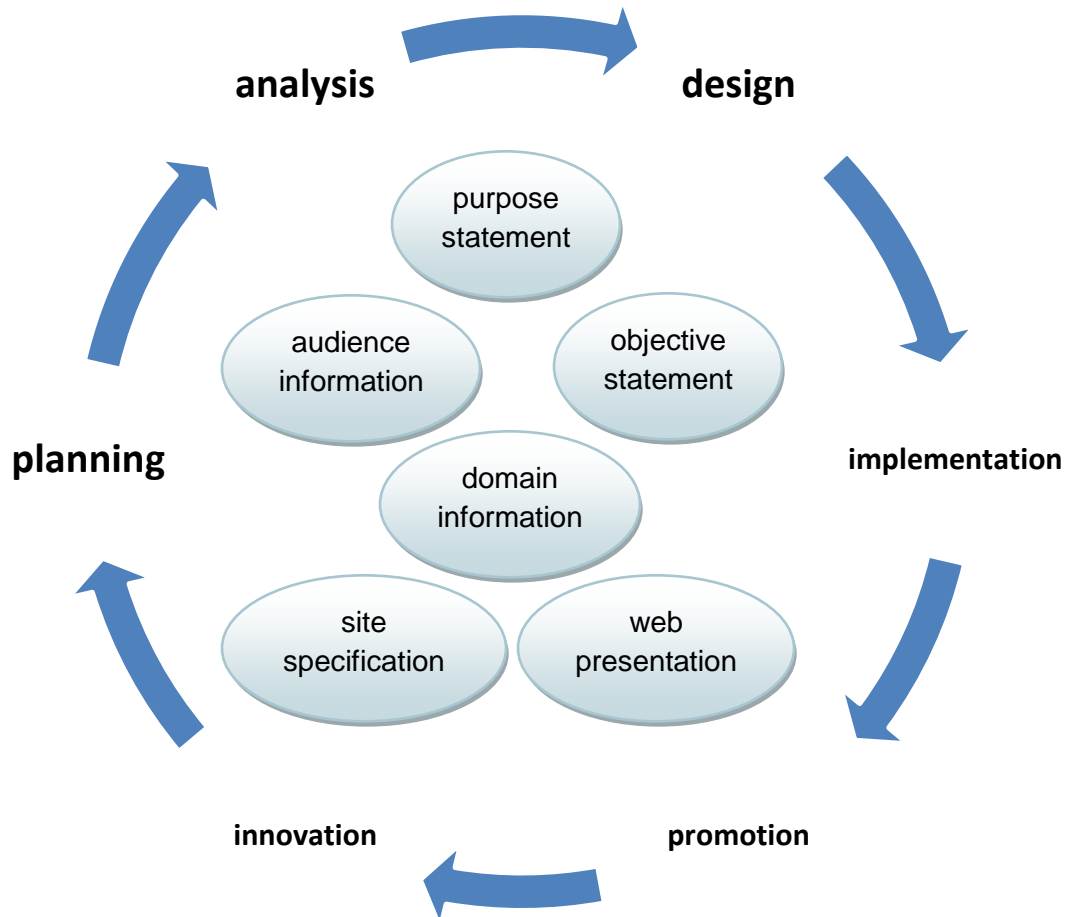
The site specification is a comprehensive description of the elements and constraints that will be included in the Web site's design and implementation. This includes identifying technical constraints based on graphics, page size, and client-side scripting based on the audience's technical capabilities. Remember to consider legal, cultural, and ethical aspects of the information distributed.

Site Presentation

This is the entire Web site—complete with all its contents. More, it is the way the information is delivered to the user—essentially the sum total of all the hypertext files, multimedia files, and other software (JavaScript, CGI, or other) that support the site. The presentation is a result of design and implementation processes that work within the site's specification.

Processes of Web Development

Focusing on user needs is fundamental throughout Web development. Web sites are accomplished by continuously going through six processes. The processes are detailed below.



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Planning

The first step is always the same: set the overall goals, scope, and direction for the project. Coming up with Web site goals isn't difficult; the problem is refining and perfecting it. The best way to narrow a goal is to make sure that the audience is always considered (Powell, 2002). These goals are realized by performing an Audience Analysis, determining a purpose, and deciding objectives for the content. Additionally, protocols for determining, collecting and updating domain information are established. And finally, various skills, such as CGI and database programming, are identified and anticipated to ensure the Web implementers have these skills. Many Web projects

ultimately fail because they lack clear and concise goals—or more simply stated, poor planning.

Analysis

Analysis is the process of gathering and comparing information about the site's usability and operation in order to identify problem areas and improve the site's overall value.

This includes verifying the site works:

- **Rhetorically:** Is the site accomplishing its stated purpose and meeting its objectives for its intended audience?
- **Technically:** Is the site's presentation functional and consistent with its specifications and design?
- **Semantically:** Is the site's domain information content correct, complete, and relevant? Is the user's interface usable?

This is also where developers evaluate the consistency and verify correctness of the information content of the site.

Design

During this process, Web developers make choices among design and presentation techniques (considering aesthetics, information design, and known Web usage patterns) to stay within the site specifications and meet the site's objectives. Performance, aesthetics, and usability are all considered during this process.

Note: the previously mentioned Web sites are excellent resources for this process.

Implementation

This is the process of building the Web according to its design. This is where HTML, CGI programs, JavaScript and other Web technologies are created and implemented. This is also where syntax is validated and the site is tested cross-platform and in various browsers.

Promotion

This is the process of handling all public relations issues of the site. This includes making the site known to online communities through publicity. Promotion may involve using marketing strategies or creating business models.

Maintenance and Innovation

A site is not a static product that can be deployed and then deserted. New information, users with unique needs, and opportunities for additional services are ceaselessly launched. This process is the continuous practice of improving the usability and quality of the site to meet and exceed user expectations. This is also where new technologies that may better address user needs are identified.

Summary

Building modern Web sites can be challenging, so developers should use a proven Web process model. This process model should help guide the development process, as well as reduce risk, manage difficulty, and improve the end result. It is difficult to plan for what is unknown, so identifying goals is paramount. Web elements and processes are interrelated and overlap to create redundancy in the methodology. Further, a weak process or element can be compensated by a stronger process or element.

While the methodology discussed here won't work in all situations, it can serve as a basis for approaching many of the issues of Web development. Although this formal methodology may seem quite encumbering when all the developer has simply set out to write HTML or create a home page, research has shown that a process approach is an emphasis of many quality improvement programs. A well-developed site has greater value than one that is hastily put together.

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