Some Basic Aspects For Creation of Website

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Abstract

This article gives in brief the various aspects involved in creation of website. It highlights the importance of prior planning which is the basic step. Other important aspects for creating a website as web editors, URLS/lnternet address, graphics software, web authoring, and search engines are also introduced. It gives the process of registration of domain name for website along with the various option and technologies involved in the hosting and uploading of a website.

1. INTRODUCTION

The computer age has brought in the facility of fast access to information. Dissemination of knowledge to any part of the world has become easy through Internet. Books or documents remain the essential tools for preserving and diffusing the world's store house of knowledge. To keep in touch with increasing knowledge, changing thoughts, and culture, it is essential that good books/documents are published. The innovation in new technologies have changed the ways and means of publication. The entrance of electronic media like Internet, fax, telex, e-mail, scanners, etc. has brought a significant change rh publishing, marketing and distribution of books/documents. Basically, web designing is publishing a book or document on Internet with multiple options of browsing/searching the document electronically. Publishing on Internet leads to a number of advantages:

- **A very large user base**
- **It has had a phenomenal rate of growth to-date**
- **It is an open global network**
- **The Internet is very easy to use and** */ or* **operate**

The following are some of the major steps to be followed while creating one's own website or document on Internet:

2.CREATING WEBSITE BUSINESS PLAN

In our experience, adopting a new technology within an, organisational environment usually grows out of a need within the organisation. The impetus for establishing a website for an organisation has any number of progenitors:

- The technology is available
- Competitors are doing it
- Business is already connected to the Internet, so the technology needed to launch a website is already available
- You and your co-workers are drowning in paper
- It just seems so cool

But like everything else involved in running an organisation, one needs to determine if the benefits outweigh

the costs. One should seek answer to three questions:

1. How does an organisation currently create or deliver information on a regular basis?

2. What does the organisation generate and what information everyone needs all the time?

3. How much is it costing?

By answering these three questions one will be able to better define the contents of mission statement and determine the benefits of a website for the organisation.

The format and specification of a cost-benefit analysis and the period within which one needs to show a return on investment will vary according to organisation's budgetary policies, financial conditions, type of business, growth expectations, and so on. The first step in developing a website is to prepare a mission statement that addresses the business drivers and the specific objective of the organisation.

3. **PLANNING FOR WEBSITE**

For designing, good planning is the basic step to be considered. One should have an idea of how he wants to design the page. An outline has to be created which helps in organising and structuring the page. It is important to know that designing a web document is different from the one for a printed document because of the fact that the printed pages in a book follow a linear progression when it is read in a particular order, while in a web document the navigator can jump, hop and navigate from one page to another. It is these characteristics, which makes structuring of web sites tricky and one needs to take utmost care in making provision for jumping from one page to another without creeping in any element of confusion and leading navigator in a state of bewilderness.

For actually understanding, let us consider the following example to create a web page of an institution/organisation/agency. The points given in Table one are to be analysed.

Table1.   Contents of home of an Organisation

S.no	HomePage	Give all the links to other Pages
1.	Historical Background	Brief history of the organisation
2.	Areas of Work	
3.	Technologies Developed	For various applications
4.	Conferences/Seminars	Conducted during the last five years
5.	Director's Profile	
6.	Facilities Available	Major facilities available in the organisation
7.	Achievements	Major achievements of the organisation
8.	Awards/Recognitions	During the last five years
9.	Training Programmes Conducted	During the last five years

This sketch or outline is an important starting point. It forces one to grapple with matters of organisation at a time when it is easy to change the structure of the web page. As one adds and deletes ideas on the page and shifts points from main to secondary topics, one thinks of satisfying the user's needs. It speeds up the review process when the page must be approved by higher

authorities. It becomes much easier to make changes at this stage than later when one has invested time in the draft.

It will not help in identifying the linkages between the pages and how they are going to interact with each other. For this purpose" the web site developers draw jump maps when creating a new home page. This jump map really facilitates in linking of various pages so as to make provision for logical and meaningful navigation. A jump map can be of great help to organise the site. The jump map or site map can be explained by Figure 1.
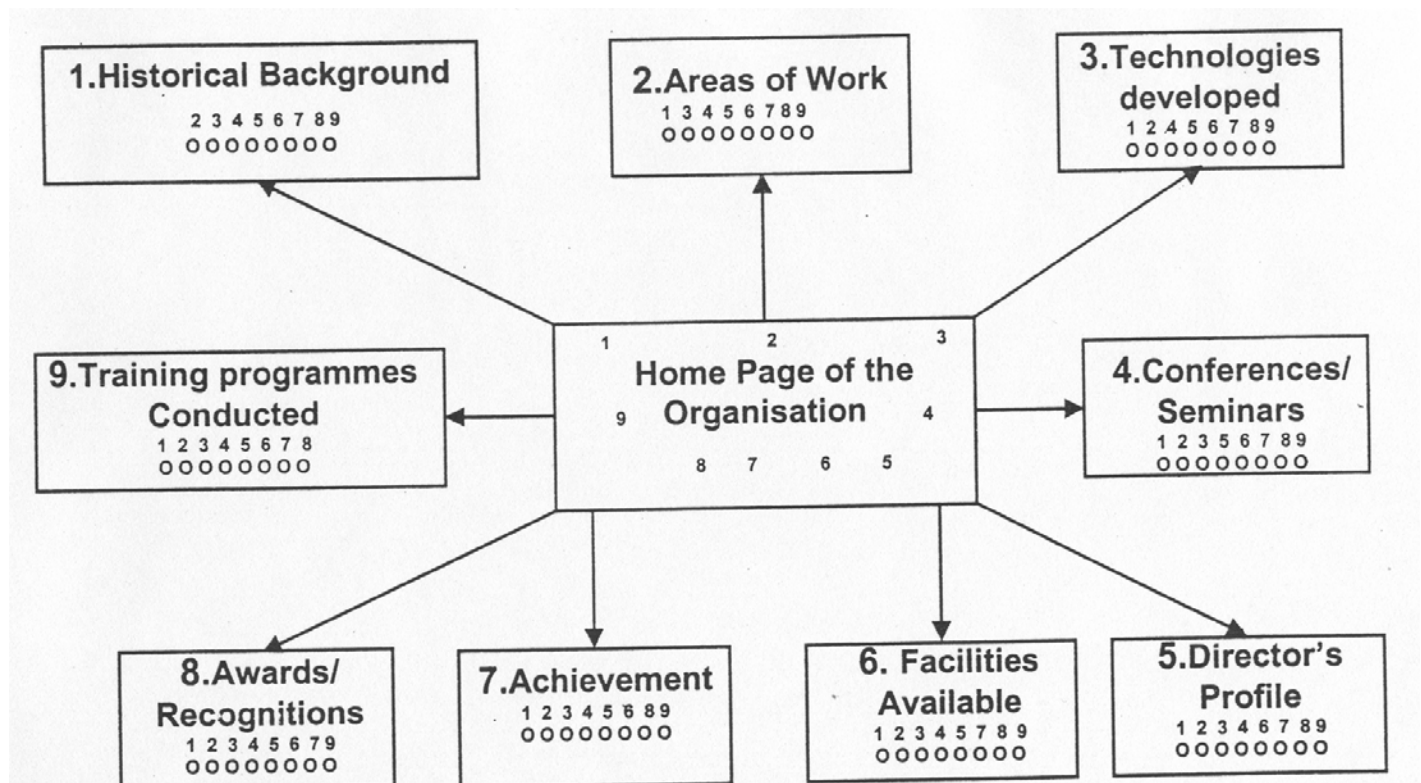
3.1 .Home Page

Some of the important points to be considered while designing a home page are as**:**

1. Objectives

- Home page is content page and should provide links to all the necessary pages

- Should provide links to all the principal or higher level home pages.

2. Responsibility

- Responsible person has to look into the contents that goes in WWW collection

- Right decision should be taken regarding the documents which may go in public
- Care should be taken while transferring the information. An error at this point could produce problems at the final stage
- Electronic version should get released before the published version.

3. Accuracy and timeliness of the information (Editors job)

- Ensure accuracy regarding the information for public use
- Contents in the web page should not have a missing link
- Text formatting should be proper
- Spelling and syntax should be proper
- Links should be verified
- Consistency in the style to be followed on all the pages.

4. Retrieval/navigation

- Links to be provided to all the necessary search points
- Watchout for dead links.

5. Standard icons

- Standard icons should be used on all the pages
- GIF and jPEG are generally accepted formats for graphics, portable network graphics (PNG)
- Portable Document Format (PDF)
- Images no wider than 480 pixels.

4. FORMING WEBSITE DEVELOPMENT TEAM

The website developmern and maintenance team will cross the traditional boundaries in the organisation and may include members from several departments. To make a website dynamic and user-friendly, modifications and updations should be done periodically. It is possible if one has the team of professionals dedicated for this purpose. Keeping this objective in view, it is proposed that a website development group should be constituted which will include the following professionals:

Designer: Designing new pages or change the design of existing pages

Content Provider/Developer: The person should be responsible for developing and providing the contents which will be uploaded on the website

Editor: Editing new contents for the website and the contents received from the content provider

Proof Reader: Checking up the matter put up on the site for any mistakes

Photographer/ Illustrator: To provide the pictures/illustrations of various events, happenings, etc

Co-ordinator: Co-ordinate with various departments/divisions/organisations to keep the contents of the

website updated

Web Administrator: Take care of web and mail administration of the website

Imaging Professional: The person should have expertise in the imaging software like Adobe Photoshop, Flash, Image Composer, GIF animator

HTML Professional: Person expertising in FrontPage/Dreamsweaver to develop static pages

Web Programmer: For developing applications in Java, ASP, and CGI, etc. for interactive web pages

Public Relation Officer: To interact with general users and convey to the technical team the various changes required for the better interaction between the website and the users.

5. PLANNING FOR WEBSITE SECURITY

Once a website has been uploaded to the wider world of the Internet, security issues are to be kept in mind and one must be prepared to devote a great deal of time and attention to protecting website from external intruders. Network security is the aspect of the web administrator's job that has to do with ensuring that onlv authorised persons use the web server to change the contents and that they do so only in the authorised ways. Security here means to make the website data available whenever the authorised users need them. External threats are the most problematic. One never knows when an outsider will attempt to breach website or who the perpetrator may be. Millions of people use the Internet everyday and many of them will try to break into website just to see if they can do so. Once the security policy has been formulated for website, it is time to look at some of the methods one can use to stop malicious intruders from gaining unauthorised access to the site. One can use the packet filtering routers or the screening routers. Firewalls are also used. The firewall sits between local .database machines and the Internet. Reverse proxy servers are also used with some security features incorporated into them for a faster and more secured site access by the Internet users.

6.DEVELOPING CONTENTS

6.1 Use of HyperText Markup Language (HTML)

Web documents are created by using a language called HTML (HyperText Markup Language) that offers short codes (also called tags) to designate graphical elements and links. Clicking on links brings documents located on a server to a browser, irrespective of the server's geographic location. Documents may contain text, images, sounds, movies, or their combination.

HTML is the standard formatting language used for designing web page. One can write HTML pages using any word processor or text editor. To publish pages on the Internet, submit created pages to a server (a networked computer running server software). HTML uses embedded codes (tags) to designate graphical elements and links. These codes can be produced simply from the keyboard using angled brackets and the slash character. For example, the tag presents text in bold letters. An HTML source file containing the expression <B> This stands out. </B> is displayed on screen in bold. Notice that the tag </B> is required to notate the end of the bold expression.

6.2 Creating Dynamic Web Contents

So far we have looked at how to publish mostly static information on the website, but many times we need to create truly interactive applications for the website. One can write- scripts or external programs, using almost any 32-bit programming language, such as Per! or Windows CGI or ASP or Visual Basic or Java. One just has to make sure to use one of the standard server interfaces. CGI (Common Gateway Interface) is the traditional definition of how server and browser interact. CGI is not a programming language, but a definition of how the server and browser communicate. A CGI script is simply a script that conforms to this CGI standard.

Scripts are external programs that the webservers run in response to a request from the browser. When the visitor requests a URL that points to a script, the server executes it, and any output that the script creates is sent back to the browser for display. One can use a script for tasks as varied as creating an interface to a relational database system or creating own search engine, and anything in between; there are really no limits. CGI also allows the server to create new documents on the fly- that is, at the moment the browser requests them. The major benefit of CGI is that any CGI-compliant script will run on any CGI-compliant web server.

7. URL /INTERNET ADDRESS

URL stands for Uniform Resource Locator, which is just a way of talking about an Internet address. Every resource available on the Web-HTML document, image, video clip, software program, etc. has an address that may be encoded by URL. So in the largest sense, the URL can be used to link anything on the web. The following are some examples:

Website homepage	http:/ /www.computer.org
Specific file on web	http:/ /www.stanford.edu/pub/sch edule.html
FTP site	ftp:/ /rtfm.mit.edu
Image	ftp:/ /www.sun.com/logo.gif
Databasequery	http:/ /www.excite.com/search.gw?trace=@search=laser+diode

8. GRAPHICS SOFTWARE

Unless one plans a text-only website, he needs some type of software to either create new graphics, convert existing graphics or photos or both. There is a wide variety of high-quality freeware, shareware and commercial software available for this purpose.

At a minimum, one needs software that can create or modify other image formats into both the GIF and JPEG formats. If one plans to include a lot of images on the site, or if some of them are large or are photographs, then one really wants to look for something more powerful that will let to edit an image's palette or compression ratio to optimize them for the fastest download times.

The actual process of creating graphics or photos is of course software specific. There are hundreds of software programs. Some simple guidelines to be followed to help graphics look good and load fast are:

(a) Keep the images small, i.e., its binary size or 'byte size'. For example, an image of 30K can take 30 to view.

(b) Use WIDTH and HEIGHT tags in an image's HTML tagging, this speeds up the image loading.

9. WEB AUTHORING

Documents, Images & File Types

Documents mean the computerized version of the word page-something that can store text, images and other formatting information and can be read somehow on the computer. This is in contrast to the word image, which specifically means a storage format for a visual image type that can be included within a document. Finally, the term file. type refers to the actual format of a document, image, multimedia element, or other format, including:

- Simple ASCII text documents including HTML
- Complex documents stored in a proprietary format, such as MS Word, Word Perfect, Excel, or Pagemaker, etc.
- Digital images stored in either proprietary formats such as photoshop or illustrator or in one of many standard compression formats as GIF, TIFF, EPS and JPEG
- Digital sound files stored in a variety of formats, such as MIDI, AU and WAV
- Digital movies or animations stored as quick time, AVI, AIFF, Shockwave or a similar forma.t
- Executable files that are part of or complete software programs, including Java applets.

10. SETTING UP FREE WEBSITE

To set up a site, one will need space on a web server to store all HTML documents. There are a lot of sites on the Net that give free web space. Select one that meets the requirements. We can use Geocities for an example.

1. Goto-www.geocities.comandSignin.

2. If you're already a member of Yahoo, type in your username and password, else sign in as a new member

3. Next you'll be asked to fill in a few details, like the description of your page, a topic that best describes your page, like movies, pets, business and finance, etc.

4. After filling in these details, click on the Submit button

5. The next screen displays your Yahoo_ID and a URL for your site: URL stands for Uniform Resource Locator and IS the key to uniquely identify your site.

After creating the contents, you'll need an program to upload your site. FTP stands for File Transfer Protocol and is a way of transferring files to and from computers on the Internet. An FTP client program (FTP client) sends a request to an FTP server program (FTP server) asking to exchange information and transfer files. The server then verifies that the user is authorised to send or receive files and responds to the request accordingly.

Numerous graphical FTP client software packages are available as freeware or shareware. One of the best client software available on the Internet is WS-FTP. You can download it from www.tucows.com or

www.ftppro.com.

On performing the above-mentioned steps, your site becomes up. Type in the URL in your browser and check that every page is showing as you expected it to be. To be doubly sure, check in both Internet Explorer and Netscape Navigator. The page could show differently on the two browsers, or even on different versions of the same one.

11. REGISTERING YOUR DOMAIN NAME

The first thing to do is to get an address for the website in cyberspace. This is called domain name registration, for example, www. yourcompany.com. Domain name registration is done through the InterNIC- an organisation that manages a database of all domain names registered so far and is a collaboration between National Science Foundation of the US, AT& T, and Network Solutions. One can register a domain name with Network Solutions, AT&T manages the database and funding is provided by the National Science Foundation

There are two broad types of domain names-the generic top-level domains of .corn, .org, .net, .mil, and country-specific domain names like .in for India and .sg for Singapore.

One can register domain name as .com if the organisation is a commercial one, .org if it's a non-profit organisation, and .net if it is any business. Net4lndia, an Indian JSP, currently offers domain name registration at Rs 399 per year or Rs 750 for two years. Once a domain name has been assigned, it'll be reserved for the number of years one has registered it for.

12. HOSTING WEBSITE

When it comes to hosting, there's a wide range of options available in the form of hosting companies and ISPs. They provide space on their servers for any websjte. To choose one, one needs to iook at various factors, including the price one has to pay, the space provided, and services the provider offers, including the kind of access provided, server-side programming support (cgi-bin access), and e-mail services. The amount of space depends on the content and how exhaustive or interactive the site would to be.

Traditionally, web servers were hosted in the US. But if most of the traffic is coming from India, one can consider co-hosting server with an Indian ISP. This could often work out to be cheaper.

13. SEARCH ENGINES

The Internet provides access to an enormous number of databases distributed around the world and to a variety of scientific facilities, including digital L&IC, unique databases, supercomputers and remote scientific sensing instruments. It collectively offers tremendous potential for collaborating and for sharing resources, such as documents software data and network services. Access:ng different databases available in different laboratories/institutions facilitates research in interested areas.

A search engine is a program that searches through some dataset. In the context of the web, the word search engine is most often used for search forms that search through databases. Search engines are constantly looking for ways in which to increase their user base. The search engine can interrogate a user request and

then provide either updating services or suggestions as to potentially useful sites. Some of the search engines are:

Altavista-www.altavista.com and Infoseek- www.infoseek.com have their own particular approaches in managing the web. They are useful as they give quick answers to reference questions and general research. Some of the services are good for exhaustive trawling but when searches return thousands of sites the effectiveness of the service becomes questionable. Altavista is probably the most powerful web searching facility with an exhaustive database and the capability to search USENET newsgroups as well as websites. The query language is also powerful.

Ask Jeeves is an example of a tool that tries to imitate the experienced librarian. Ask a question and it will respond with several more in an attempt to elicit more accurate details of what one really wants. The interesting feature about Ask Jeeves is that it uses natural language processing to understand and match user's Questions to an extensive knowledge base. The knowledge base consists of housands of researched answer links to web sites compiled by research staff. The publicity material proudly claims supremacy over other search services precisely because the Knowledge base is built by human not by software spiders. Ask Jeeves appears to offer a new role in building the knowledge base for particular domains. As the web browser has become an ubiquitous feature in offices and homes, several traditional online hosts now provide web front ends, a trend which is to be encouraged.

Yahoo! is one of the stable of products produced by the Yahoo Corporation and is an unsurprising development in the world of search engines. It employs editors and librarians to catalogue and organise the sources it references. It allows the user to create their own user profile.

Science Direct Service provides online articles, access to the full text of more than 1000 scientific medical and technical journals by the worlds leading scientific publisher. The service is only through subscription or license.

Actually not everyone on every occasion will feel that it is appropriate to do their searching on Internet. When time is short, the search is complex or the source unfamiliar; they might turn to expert. searches, and there are many situations in which paying an expert is the easiest and wisest.

Search engines are one of the primary ways that Internet users find web sites. That's why any user with a good search engine may see a dramatic increase in traffic. Many websites appear poorly in search engine rankings or may not be listed at all because they fail to consider how search engines work. With the exploding number of sites, search engines are getting more sophisticated, therefore it is important to know the features of the good search engines available on Internet and finally decide which would be best for one's web pages.

14. SUBMISSION OF WEBSITE

What is the point of having a site if the world doesn't know about it? So, after one has designed and uploaded site, it's very necessary to let people know of site's existence.

One of the most important things one could do to increase traffic to site is getting listed in the major search

engines. There are two ways to do it:

Automated submission

There are a few sites on the net that quickly submit one's web page to many search engines at once. This is easy, but usually produces only mediocre results. Here are some sites that do the submitting for any user:

http:/ /uswebsites.com/submit

http:/ /www.netcreations.com/postmaster

http:/ /addme.com

Manual submission screen

One could submit site to each of the major search engines, one by one. The sites on the search engines are arranged in various categories like, education, entertainrnent, etc. To submit the site, first select an appropriate category and then click on the 'Submit your site' or 'Add a URL's button from the end of the category page. Some of the search engines where one can submit site are:

www.lycos.com

www.altavista.com

www.webcrawler.com

www.infoseek.com

www.yahoo.com

www.khoj.com

Search engines have their own rules for indexing sites.

Wish you a happy WEB HOSTING