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Unit - II

Information architecture (IA)

IA is the art of expressing a model or concept of information used in activities that require explicit details of complex systems. Among these activities are library systems, Content Management Systems, web development, user interactions, database development, programming, technical writing, enterprise architecture, and critical system software design. Information architecture has somewhat different meanings in these different branches of IS or IT architecture. Most definitions have common qualities: a structural design of shared environments, methods of organizing and labelling websites, intranets, and online communities, and ways of bringing the principles of design and architecture to the digital landscape.

Role of information architect

An Information Architect organizes a website so that users have a better online experience. In general, their main responsibilities are to:

- Assign tasks to team members.
- The Information Architect often doubles up as the Project Manager.
- Capture the site's design goals.
- Communicate the business objectives, such as the site's sales targets, audience, and language requirements.
- Create access points to content from different in-coming pages.
- Design the navigation system, menus, sitemaps etc.
- Label and organize data.
- Map content to the appropriate section.
- Protect users from getting lost on the site.
- Before any coding begins, the Information Architect meets the client and defines the project's scope, objectives and target audience.

Documentation of Success Criteria-The meeting minutes are then returned to the client for confirmation. Once confirmed, they're circulated to all members involved in the development process. When the project enters the production stage, the Information Architect works with the web designers to develop the interface, icons and ensure the navigation systems are integrated correctly with the overall site architecture. For very complicated sections, the Information Architect and Software Engineers work together to ensure that each site component make sense so that the user can easily achieve their goal. The Information Architect communicates with the team during all key stages in the development cycle. On small projects the Information Architect may perform Project Management duties as these two areas frequently overlap. It is imperative to record client feedback at all stages and circulate it accordingly.

Communication-Lack of planning at the kick-off phase often results in untold disasters at later stages-often with serious financial repercussions. This may occur when, for example, the person delegated to lead the project lacks sufficient technical understanding to extract relevant information from the client. Finally, the Information Architect also works with the Quality Control team. To ensure that the site is performing correctly and, for example, by analysing the log files, identify areas where users are struggling to locate data or getting lost.

Collaboration and Communication

The information architect must communicate effectively with the web site development team. This is challenging, since information architecture is highly abstract and intangible. Besides communicating the architecture verbally, documents (such as blueprint diagrams) must be created in ways that can be understood by the rest of the team regardless of their own disciplinary backgrounds.

Web collaboration techniques include phone/text chat and remote multiuser conferences/seminars via intranet or phone systems. Web collaboration also facilitates employee communication and interaction within an organization. Web collaboration is a component of unified communications, which facilitate organizational teamwork and workflow. If unified communications is not well developed within an organization, Web collaboration implementation is challenging for management and personnel. However,

most projects will require expertise in marketing, information architecture, graphic design, writing and editing, programming, and project management.

Marketing: The marketing team focuses on the intended purposes and audiences for the web site. They must understand what will bring the right people to the web site and what will bring them back again.

Information Architecture: The information architects focus on the design of organization, indexing, labelling, and navigation systems to support browsing and searching throughout the web site.

Graphic Design: The designers are responsible for the graphic design and page layout that defines the graphic identity or look of the web site. They strive to create and implement a design philosophy that balances form and function.

Editorial: Editors focus on the use of language throughout the web site. Their tasks may involve proof reading and editing copy, massaging content to ensure a common voice for the site, and creating new copy.

Technical: The technical designers and programmers are responsible for server administration and the development or integration of site production tools and web site applications. They advise the other teams regarding technology-related opportunities and limitations.

Project Management: The project manager keeps the project on schedule and within budget. He or she facilitates communication between the other teams and the clients or internal stakeholders. The success of a web site design and production project depends on successful communication and collaboration between these specialized team members. A linear, black-box, throw-it-over-the-wall methodology just will not work. Everyone needs to understand the goals, perspectives, and approaches of the other members of the team. For example, while the marketing specialist may lead the audience analysis process, he or she needs to anticipate the types of questions about the audience that the specialists will have. Otherwise, each will need to start from scratch in learning about that audience, wasting substantial time and resources.

Organizing Information:—Here organize to understand, to explain, and to control. Our classification systems inherently reflect social and political perspectives and objectives. We live in the first world. They live in the third world. She is a freedom fighter. He is a terrorist. The way we organize, label, and relate information influences the way people comprehend that information. As information architects, we organize information so that people can find the right answers to their questions. We strive to support casual browsing and directed searching. Our aim is to apply organization and labelling systems that make sense to users. The Web provides us with a wonderfully flexible environment in which to organize. We can apply multiple organization systems to the same content and escape the physical limitations of the print world. So why are many large web sites so difficult to navigate? Why can't the people who design these sites make it easy to find information? These common questions focus attention on the very real challenge of organizing information.

Organizational Challenges—In recent years, increasing attention has been focused on the challenge of organizing information. Yet, this challenge is not new. People have struggled with the difficulties of information organization for centuries. The field of librarianship has been largely devoted to the task of organizing and providing access to information.. This quiet yet powerful revolution is driven by the decentralizing force of the global Internet. Not long ago, the responsibility for labelling, organizing, and providing access to information fell squarely in the laps of librarians. As the Internet provides us all with the freedom to publish information, it quietly burdens us with the responsibility to organize that information. As we struggle to meet that challenge, we unknowingly adopt the language of librarians.

Heterogeneity: Heterogeneity in web engineering is usually referring to the composition of a software system. A heterogeneous system is one that is made up of software that could be written in different languages, running on different operating systems, perhaps use different standards for communication. Simply, there is variation between the components that are used to run the software. The opposite of a heterogeneous system is a homogeneous system, where all of the components are the same and there is no variation. It is a challenge of developing techniques for building dependable software that is flexible enough to cope with the changing customer's requirements in the future.

Internal Politic: Politics exist in every organization. Individuals and departments constantly position for power or respect. Because of the inherent power of information organization in forming understanding and opinion, the process of designing information architectures for websites and intranets can involve a strong undercurrent of politics. The choice of organization and labelling systems can have a big impact on how users of the site perceive the company, its departments, and its products.

Organizing Web sites and Intranets- The organization of information in web sites and intranets is a major factor in determining success, and yet many web development teams lack the understanding necessary to do the job well. Our goal in this chapter is to provide a foundation for tackling even the most challenging information organization projects. Organization systems are composed of organization schemes and organization structures. An organization scheme defines the shared characteristics of content items and influences the logical grouping of those items. An organization structure defines the types of relationships between content items and groups. Before diving in, it's important to understand information organization in the context of web site development. Organization is closely related to navigation, labelling, and indexing. The hierarchical organization structures of web sites often play the part of primary navigation system. The labels of categories play a significant role in defining the contents of those categories. Manual indexing is ultimately a tool for organizing content items into groups at a very detailed level. Despite these closely knit relationships, it is both possible and useful to isolate the design of organization systems, which will form the foundation for navigation and labelling systems. By focusing solely on the logical grouping of information, you avoid the distractions of implementation details and design a better web site.

Web design and development phases

There are numerous steps in the web site design and development process. From gathering initial information, to the creation of your web site, and finally to maintenance to keep your web site up to date and current. The exact process will vary slightly from designer to designer, but the basics are generally the same.

- Information Gathering
- Planning
- Design
- Development
- Testing and Delivery
- Maintenance



1. Information Gathering: The first step in designing a successful web site is to gather information. This first step is actually the most important one, as it involves a solid understanding of the company. It involves a good understanding of you – what your business goals and dreams are, and how the web can utilize to help, you achieve those goals. It is important that your web designer start by asking many questions to help them understand your business and your needs in a web site. Certain things to consider are:

- **Purpose:** What is the purpose of the site?
- **Goals:** What do you hope to accomplish by building this web site?
- **Target Audience:** Is there a specific group of people that will help you reach your goals.
- **Content:** What kind of information will the target audience be looking for on your site? Are they looking for specific information, a particular product or service, online ordering?

2. Planning: Using the information gathered from phase one, it is time to put together a plan for your web site. This is the point where a site map is developed. The site map is a list of all main topic areas of the site, as well as sub-topics, if applicable. This serves as a guide as to what content will be on the site, and is essential to developing a consistent, easy to understand navigational system. A good user interface creates an easy to navigate web site, and is the basis for this. During the planning phase, your web designer will also help you decide what technologies should implement. Elements such as interactive forms, ecommerce, flash, etc. discussed when planning your web site.

3. Design: Drawing from the information gather up to this point, it is time to determine the look and feel of your site. Target audience is one of the key factors taken into consideration. As part of the design phase, it is also important to incorporate elements such as the company logo or colors to help strengthen the identity of your company on the web site. Your web designer will create one or more prototype designs for

your web site. Your designer should allow you to view your project throughout the design and development stages. The most important reason for this is that it gives you the opportunity to express your likes and dislikes on the site design. In this phase, communication between both you and your designer is crucial to ensure that the final web site will match your needs and taste. It is important that you work closely with your designer, exchanging ideas, until you arrive at the final design for your web site.

4. Development: The developmental stage is the point where the web site itself is creating. At this time, your web designer will take all of the individual graphic elements from the prototype and use them to create the actual, functional site. This is done by first developing the home page. The shell serves as a template for the content pages of your site, as it contains the main navigational structure for the web site. Once the shell has been creating, your designer will take your content and distribute it throughout the site, in the appropriate areas. Elements such as interactive contact forms, flash animations or ecommerce shopping carts are implement and made functional during this phase. This entire time, your designer should continue to make your in-progress web site available to you for viewing, so that you can suggest any additional changes or corrections you would like to have done.

5. Testing and Delivery: At this point, web designer will attend to the final details and test your web site. They will test things such as the complete functionality of forms or other scripts, as well last testing for last minute compatibility issues (viewing differences between different web browsers), ensuring that your web site is optimized to be viewed properly in the most recent browser versions. The basic technologies currently used are XHTML and CSS (Cascading Style Sheets). As part of testing, designer should check to be sure that all of the code written for web site validates. Valid code means that your site meets the current web development standards – this is helpful when checking for issues such as cross-browser compatibility as mentioned above. Once you give your web designer final approval, it is time to deliver the site. An FTP (File Transfer Protocol) program is use to upload the web site files to your server. Most web designers offer domain name registration and web hosting services as well. Once these accounts have been setup, and your web site uploaded to the server, the site should put through one last run-through. This is just precautionary, to confirm that all files have been upload correctly, and that the site continues to be fully functional. This marks the official launch of your site, as it is now viewable to the public.

6. Maintenance: The development of your web site is not necessarily over, though. One way to bring repeat visitors to your site is to offer new content or products on a regular basis. Update your own content, there is something called a CMS (Content Management System) that can implemented to the web site. This is something that would decide upon during the Planning stage. With a CMS, your designer will utilize online software to develop a database driven site for you. A web site driven by a CMS gives you the ability to edit the content areas of the web site yourself.

Design issues- Here are a few common issues that designers have to face during web design and development.

Website accessibility: The Web is basically designed to work for all people, irrespective of the culture, language, location, or physical or mental ability. However, one of the major challenges a web designer faces is to enhance the accessibility of websites. A good designer should ensure that the website is not only accessible across the world but also its various features are fully functional as well.

Compatibility with browsers: With the introduction of different browsers, designers are constantly facing the challenge of building a website which is compatible with almost all the major browsers. After designing a website, it should be tested on all browsers to ensure that the website is completely functional.

Navigational structure: Navigational structure is one of the vital aspects of any website, as the usability of the website is based on an excellent navigational structure. Hence, in order to avoid any such issues, designers have to ensure that they provide a proper navigational structure to the users.

Positioning of content: Another aspect of a website that the users should find it readable. While designing the structure of the website, the designer should place the content in such a manner that it enhances easy reading. In addition, use suitable colours when it comes to font.

Conceptual Design-Conceptual Design is an early phase of the design process, in which the broad outlines of function and form of something are articulated. It includes the design of interactions, experiences, processes and strategies. It involves an understanding of people's needs - and how to meet them with products, services, & processes. Common artefacts of conceptual design are concept sketches and models.

High-Level Design-High-level design (HLD) explains the architecture that would be used for developing a software product. The architecture diagram provides an overview of an entire system, identifying the main components that would be developed for the product and their interfaces. The HLD uses possibly nontechnical to mildly technical terms that should be understandable to the administrators of the system. In contrast, low-level design further exposes the logical detailed design of each of these elements for programmers.

Indexing the Right Stuff- Search engines are frequently used to index an entire site without regard for the content and how it might vary. Every word of every page, whether it contains real content or help information, advertisement, navigation, menus and so on. However, searching barks much better when the information space is defined narrowly and contains homogeneous contents. By doing so, the site's architects are ignoring two very important things: that the information in their site is not all the same. In addition, that it makes good sense to respect the lines already drawn between different types of content. For example, it has cleared that German and English content are vastly different and that audience's overlap very little (if at all) so why not create separately searchable indices along those divisions?

Grouping Content- A content designer designs content for media and publishing content for media or software. The term is mainly used in design fields like Graphic Design, Visual Design and Sound Design (Music Industry). Content design can be used in print work. However, the term generally refers to content on the internet or in the Sound Industry (Music Production). Content designers work in many industries and are responsible for the organization and layout of web content. Moreover, the term can be stretched to include producers of anything that a user will interact.

Architectural Page Mock-ups- Architectural page mockups are useful tools during conceptual design for complementing the blueprint view of the site. Mockups are quick and dirty textual documents that show the content and links of major pages on the web site. They enable you to clearly (yet inexpensively) communicate the implications of the architecture at the page level. They are also extremely useful when used in conjunction with scenarios. They help people to see the site in action before any code is written. Finally, they can be employed in some basic usability tests to see if users actually follow the scenarios as you expect. Keep in mind that you only need to mockup major pages of the web site. These mockups and the designs that derive from them can serve as templates for the design of subsidiary pages.

Sample Architectural Page Mockup

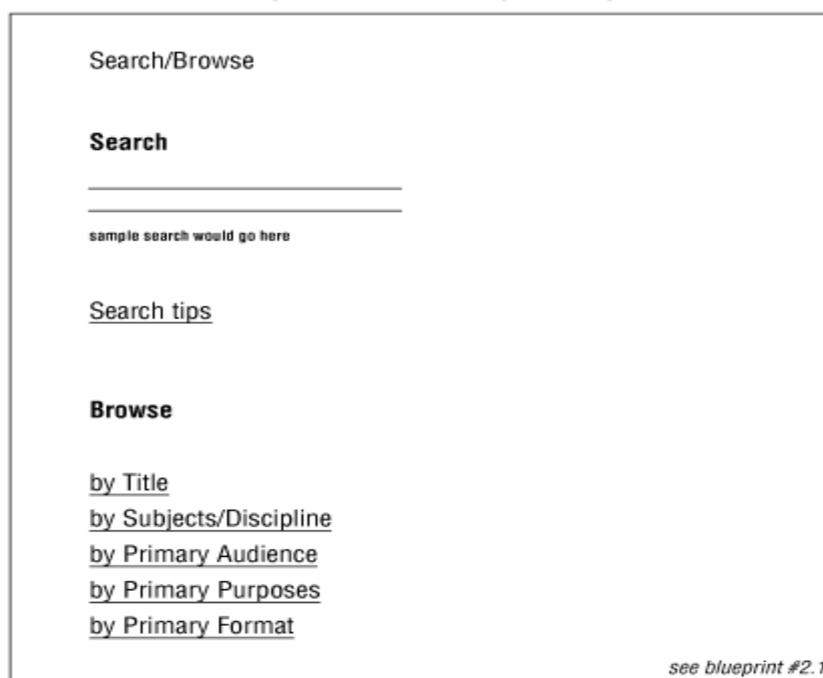


Fig-2.1

Design Sketches

Once you have developed high-level blueprints and architectural page mock-ups, you are ready to collaborate with your graphic designer to create design sketches on paper of major pages in the web site.

In the research phase, the design team has begun to develop a sense of the desired graphic identity or look and feel. The technical team has assessed the information technology infrastructure of the organization and the platform limitations of the intended audiences. They understand what is possible with respect to features such as dynamic content management and interactivity. In addition, of course, the architect has designed the high-level information structure for the site. Design sketches are a great way to pool the collective knowledge of these three teams in a first attempt at interface design for the top-level pages of the site. This is a wonderful opportunity for interdisciplinary user interface design. Using the architectural mock-ups as a guide, the designer begins sketching pages of the site on sheets of paper. As the designer sketches each page, questions arise that must be discussed. Here is a sample sketching session dialog:

1. Programmer: I like what you are doing with the layout of the main page, but I would like to do something more interesting with the navigation system.

2. Designer: Can we implement the navigation system using pull-down menus? Does that make sense architecturally?

3. Architect: That might work, but it would be difficult to show context in the hierarchy. We have had good reactions to that type of approach from users in the past.

4. Programmer: We can certainly go with that approach from a purely technical perspective. How would a tear-away table of contents look? Can you sketch it for us? I'd like to do a quick-and-dirty prototype.

As you can see, the design of these sketches requires the involvement of people from all three teams. It is much cheaper and easier for the group to work with the designer on these rough sketches than to begin with actual HTML page layouts and graphics.

Designing Navigation Systems-Navigation systems can be designed to support associative learning by featuring resources that are related to the content currently being displayed. For example, a page that describes a product may include see also links to related products and services (this type of navigation can also support a company's marketing goals). As users move through a well-designed navigation system, they learn about products, services, or topics associated to the specific content they set out to find. Any page on a web site may have numerous opportunities for interesting see also connections to other areas of the site. The constant challenge in navigation system design is to balance this flexibility of movement with the danger of overwhelming the user with too many options. Navigation systems are composed of a variety of elements. Some, such as graphical navigation bars and pop-up menus, are implemented on the content-bearing pages themselves. Others, such as tables of contents and site maps, provide remote access to content within the organization structure. While these elements may be implemented on each page, together they make up a navigation system that has important site-wide implications. A well-designed navigation system is a critical factor in determining the success of your web site.

Browser Navigation Features: When designing a navigation system, it is important to consider the environment the system will exist in. On the Web, people use web browsers such as Netscape Navigator and Microsoft Internet Explorer to move around and view web sites.

These browsers sport many built-in navigation features.

- Open URL allows direct access to any page on a web site.
- Back and forward, provide a bidirectional backtracking capability.
- History menu allows random access to pages visited during the current session, and Bookmark enables users to save the location of specific pages for future reference. If the hypertext link leads to another web site on another server, prospective view provides the user with basic information about this offsite destination.

Types of Navigation Systems: A complex web site often includes several types of navigation systems. To design a successful site, it is essential to understand the types of systems and how they work together to provide flexibility and context.

1. Hierarchical Navigation Systems: Although we may not typically think of it this way, the information hierarchy is the primary navigation system. From the main page to the destination pages that house the actual content, the main options on each page taken directly from the hierarchy. The hierarchy is extremely important, but also rather limiting.

2. Global Navigation Systems: A global or site-wide navigation system often complements the information hierarchy by enabling greater vertical and lateral movement throughout the entire site. At the heart of

most global navigation, systems are some standard rules that dictate the implementation of the system at each level of the site. The simplest global navigation system might consist of a graphical navigation bar at the bottom of each page on the site. On the main page, the bar might be unnecessary, since it would duplicate the primary options already listed on that page. On second level pages, the bar might include a link back to the home page and a link to the feedback facility

3. Local Navigation Systems: For a more complex web site, it may be necessary to complement the global navigation system with one or more local navigation systems. To understand the need for local navigation systems, it is necessary to understand the concept of a sub-site. For example, a software company may provide an online product catalogue as one area in their web site. This product catalogue constitutes a sub-site within the larger web site of the software company. Within this sub-site area, it makes sense to provide navigation options unique to the product catalogue, such as browsing products by name or format or market.

4. Ad Hoc Navigation: Relationships between content items do not always fit neatly into the categories of hierarchical, global, and local navigation. An additional category of ad hoc links is more editorial than architectural. Typically, an editor or content specialist will determine appropriate places for these types of links once the content has placed into the architectural framework of the web site. In practice, this usually involves representing words or phrases within sentences or paragraphs (i.e., prose) as embedded hypertext links. This approach can be problematic if these ad hoc links are important, since usability testing shows "a strong negative correlation between embedded links (those surrounded by text) and user success in finding information." Apparently, users tend to scan pages so quickly that they often miss these less conspicuous links. You can replace or complement the embedded link approach with external links that are easier for the user to see.

Searching Systems:

- 1) As the amount of information on the website increases it become difficult to find the required information. If the navigation systems are not properly designed and maintained then to find the required information searching systems are required.
- 2) If your site has enough contents and users come to your site to look for information then site need searching systems.
- 3) Search system should be there on your site if it contains highly dynamic contents e.g. web based newspaper.
- 4) A search system could help by automatically indexing the contents of a site once or many times per day. Automating this process ensures that users have quality access to your website's contents.

Good Web Design and bad Web Design-

Good sites have clearly defined conversion paths that guide the user down the intended course and lead them to the content that is most important to them. Looking at your Google Analytics Behavior Flow, you can evaluate if users are following your intended path through the hierarchy of your website. By using meaningful language for headings and calls to action that resonate with the user, and allow them to easily identify what they came to the site for, you can guide them through your site as opposed to letting them struggle to find their way themselves.

Bad sites tend to throw everything at you at once. Instead of focusing more on the user experience, bad websites focus primarily on promoting the companies features and benefits. Throwing a ton of information at the user before knowing what their need is, can overwhelm them and make them work harder to sift through all the information you provided to find what they are looking for. It is much better to provide the most meaningful content along with a conversion to reach out should they have any questions.

In addition, keep these concepts in mind:

Text

- Background does not interrupt the text
- Text is big enough to read, but not too big
- The hierarchy of information is perfectly clear
- Columns of text are narrower than in a book to make reading easier on the screen

Navigation

- Navigation buttons and bars are easy to understand and use
- Navigation is consistent throughout web site
- Navigation buttons and bars provide the visitor with a clue as to where they are, what page of the site they are currently on
- Frames, if used, are not obtrusive
- A large site has an index or site map

Links

- Link colors coordinate with page colors
- Links are underlined so they are instantly clear to the visitor

Graphics

- Buttons are not big and dorky
- Every graphic has an alt label
- Every graphic link has a matching text link
- Graphics and backgrounds use browser-safe colors
- Animated graphics turn off by themselves

General Design

- Pages download quickly
- First page and home page fit into 800 x 600 pixel space
- All of the other pages have the immediate visual impact within 800 x600 pixels
- Good use of graphic elements (photos, subheads, pull quotes) to break up large areas of text
- Every web page in the site looks like it belongs to the same site; there are repetitive elements that carry throughout the pages

Web publishing, or "online publishing," is the process of publishing content on the Internet. It includes creating and uploading websites, updating webpages, and posting blogs online. The published content may include text, images, videos, and other types of media.

In order to publish content on the web, you need three things:

- 1) Web development software,
- 2) An Internet connection, and
- 3) Web server

The software may be a professional web design program like Dreamweaver or a simple web-based interface like WordPress. The Internet connection serves as the medium for uploading the content to the web server. Large sites may use a dedicated web host, but many smaller sites often reside on shared servers, which host multiple websites. Most blogs are publishing on public web servers through a free service like Blogger.

Since web publishing does not require physical materials such as paper and ink, it costs almost nothing to publish content on the web. Therefore, anyone with the three requirements above can be a web publisher. Additionally, the audience is limitless since content posted on the web can viewed by anyone in the world with an Internet connection. These advantages of web publishing have led to a new era of personal publishing that was not possible before.

Web-site enhancement-

Plan you are Web Site:

Determine the audience, purpose and content for your Web site.

Who is the audience?

What are they looking for on your site?

How can you organize your content so the audience can find what they want?

Do you have information that they might not realize they will need?

Do you need to lay out a process, or sequence of steps?

Try to do this from the perspective of your audience, rather than from your own organizational structure, reporting needs, or processes. Think through the organization of your content to present your information in a logical manner, understandable to your anticipated audience. Prepare a schedule for maintaining links and updating content.

Get Approval (new sites or additions to existing sites): Work through your normal reporting channels for approval to produce a Web site for your class, program, department or unit.

Avoid Duplication: Evaluate the information already published Web site to avoid duplication of information or contradictions with prior publications. If you have doubts about whether your content may already exist on the Web site, check with Web Coordinator. Do not post duplicate copies of existing documents; link to them at their original Web address. This helps prevent broken links. Official institutional publications are already on the Web. These include the undergraduate Bulletin, the Graduate Bulletin, and handbooks and so on. You must link to these documents to avoid multiple or conflicting versions of University information. If your site includes information about programs, minors, specializations or course descriptions, you must call them by their official name and link to existing documents.

Submission of website to search engines-

Firstly, you do not need to submit your website to search engines because search engines have evolved beyond the point of needing to directly notify when a new website, or page on a website, is created. There was a time when it was recommended to submit your site to the major search engines, but that time was years ago. Unfortunately, there are still various SEO companies offering to submit websites to Google and Bing in return for a fee. It is in the interest of those companies for them to perpetuate the myth that search engine submissions are still required, but if you pay them to submit your business's site to search engines then you are paying them for nothing. Search engines charge no fee to be included in their search results. They will include in their results any website that does not contravene their guidelines, which are lenient and only take exception to sites that engage in manipulative and unethical practices. The only reason you would need to pay a search engine is to appear in the paid listings sections of the results (pay per click). If your website has been live on the internet – meaning that it can be accessed by typing the domain name directly into the address bar of a web browser – for more than a week then it is highly likely that it can already be found in Google and Bing. This is because these days “submissions” to search engines happen automatically. Where some confusion arises is around the issue of a website not showing up for the keywords that someone wants it to show up for. However, this has nothing to do with search engine submissions. You cannot submit your site to search engines and tell them that you want to be ranked for this keyword and that keyword. If you want your website to show up when people search for specific keywords then you need to do both on-site SEO and off-site SEO. Which keywords your site ultimately is ranked for is dependent on search engine algorithms and their assessment of your site's relevance and authority. To find out if search engines have found your website you need to do a search in Google or Bing for the homepage URL of your website (i.e. www.yourdomain.com). If your site shows up in the results then it has already been found, crawled and indexed by search engines.

Even if you do nothing at all, your site will still eventually be included within Google and Bing. If you want to speed up the process though, or find that even after a week your site still has not been crawled and indexed, you can take a few actions. These are simple, quick and free.

Webmaster Tools

Both Google and Bing recommend that you set-up Webmaster accounts with them. Doing so allows them to communicate to you any problems with, or recommendations for, your website. Whilst you should therefore be setting up these accounts with them at some point, doing it straight after creating your site is equivalent to submitting your website to them. Some of the options and tools within both Webmaster Tools accounts may seem complicated, however, you don't need to concern yourself with those if you don't want to. Simply setting up the accounts and linking them to your website is sufficient for getting instantly included in their search results.

Backlinks

A link on another webpage, especially if that webpage is on an established and regularly updated site, pointing towards your site will ensure that search engines find your site. A single backlink will be sufficient; though creating a few backlinks gives search engines more chances to find your site. The best

way to get such a link is by making a comment on a newly published article on a popular blog, as most blogs allow you to link back to your own site when making a comment.

Google+

The primary reason for creating a Google+ page for your business is that it builds trust and authority with Google, but there is an added benefit too, which is that you can link your business's Google+ page to your own website. As soon as you create that link within your Google+ account your website will be instantly crawled and indexed by Google. Alternatively, if you have a personal Google account, login to your account, access the + section and 'share' your website's URL. Or, if you have integrated social media buttons into your site, you can click the +1 button for instant submission/indexation into Google.

Web security: issues:-Web sites are unfortunately prone to security risks. In addition, so are any networks to which web servers are connected. Setting aside risks created by employee use or misuse of network resources, your web server and the site it hosts present you are most serious sources of security risk.

Web servers by design open a window between your network and the world. The care taken with server maintenance, web application updates and your web site coding will define the size of that window, limit the kind of information that can pass through it and thus establish the degree of web security you will have.

Security audit:-WSSA examines your website pages, applications and web servers to find security weaknesses and vulnerabilities that would give hackers an opportunity to do damage. Simply give us your domain and an email address and you will receive a complete report with the recommendations you need to take corrective action. We will quickly identify website security issues and then test your site routinely to keep it secure! There is nothing to install and our tests will not disturb your site or visitors.

Web effort estimation-Project planning in software industry represents one of the most complex tasks, especially when there is a need to estimate the time, cost and effort needed for development of software projects. In the field of development effort estimation for classical software, projects a number of methods have been developed, tested and successfully implemented. Web projects are, by their nature, different from classical software projects.

Productivity Measurement-In analyzing the trade-off between security and productivity, it's generally easy to measure the impact reduced security will have on productivity. It is much harder to assess the risks, and benefits of lowering those risks, at different levels of security.

First, minimize the productivity impact of security by making it as transparent as possible to the end user. Ideally, they will not have to use any extra commands, no pop ups, no extra. The Windows User Access Control slider provides a great example. If you give users the option, they will turn down the security level to avoid having to respond to an extra prompt. In other words, if you are going to give them the authority to do certain actions after a prompt, why trouble them with the extra steps.

For example, data loss, these same controls can also enforce best practice. In addition to controlling actions because of a security risk, we can stop people from doing things that they should not do because of the operational risk presented. In addition, with proper controls we can do better than "Are you really sure you want to" pop-ups that most just click through anyway. There is also great potential in using data on what people are doing to improve productivity.

Evaluating the quality of web development-If you have a website are planning having one created, it is important that you evaluate the quality of web development to make sure that it is up to the task. Below is a checklist of best practices for web development that you can use to assess your website:

Quality- 1.To check Quality of code – look at web standards

2. Design – browser compatibility
3. Design – Mobile device compatibility
4. SEO Quality
5. Accessibility

Usability- Usability refers to the quality of a user's experience when interacting with products or systems, including websites, software, devices, or applications. Usability is about effectiveness, efficiency and the overall satisfaction of the user. It is important to realize that usability is not a single, one-dimensional property of a product, system, or user interface. 'Usability' is a combination of factors including:

Intuitive design: a nearly effortless understanding of the architecture and navigation of the site

Ease of learning: how fast a user who has never seen the user interface before can accomplish basic tasks?

Efficiency of use: How fast an experienced user can accomplish tasks?

Memorability: after visiting the site, if a user can remember enough to use it effectively in future visits

Error frequency and severity: how often users make errors while using the system, how serious the errors are, and how users recover from the errors

Subjective satisfaction: If the user likes using the system

Reliability: Identify the name of the individual, group or institution that created the website. A reliable website should clearly state the name of its creator. Generally, websites created by government institutions (.gov) and educational institutions (.edu) are considered more reliable.

Identify the source of any facts mentioned on the website. A reliable website should reference the published or unpublished source of any facts found on the site.

Identify any contact information supplied by the website. A reliable website should provide a way for users to contact an individual associated with the website. Contact information allows users to ask questions regarding the website and dispute any information found on the site.

Identify the purpose of the website or motivations of its creators. A reliable website should be objective in presenting information. If the purpose of a website is to sell wooden baseball bats, you should be suspicious of the information it presents regarding the problems associated with metal baseball bats.

Identify the date that the website last modified. A reliable website should present up-to-date information. The importance of this may vary depending on the information presented.

REQUIREMENTS ENGINEERING FOR WEB APPLICATIONS-

INTRODUCTION-Requirements engineering is a software engineering process with the goal to identify, analyze, document and validate requirements for the web application to be developed. One of the most important factors of success in the software development is the elicitation, management, and analysis of requirements, which is used to assure the quality of the resulting software. This is especially true in Web engineering due to the heterogeneous audience of the Web, which may lead to websites difficult to comprehend by visitors and complex to maintain by designers. The development of Web systems usually involves more heterogeneous stakeholders than the construction of traditional software. In addition, Web systems have additional requirements for the navigational and multimedia aspects as well as for the usability as no training is possible. Therefore, a thorough requirements analysis is even more relevant. The most useful requirements analysis specifies in detail what the user should be able to accomplish on the site and provides guidance on designing site interactions. Proposed work focuses on various requirements analysis tasks and in each task navigation and customization, phases should be concentrated as they play an important role in web application development. First step is to produce various artifacts that provide different lenses on the system and its uses to elicit more detail requirements, such as actor tables and use cases. Negotiation of priorities is followed by this. Categorizing the structural requirements is followed then which includes the application and program flow. Subsequent strides are documentation, validation and finally managing the requirements.

Requirements Fundamentals-At its most basic, a software requirement is a property that must be exhibited by something in order to solve some problem in the real world. It may aim to automate part of a task for someone to support the business processes of an organization, to correct shortcomings of existing software, or to control a device—to name just a few of the many problems for which software solutions are possible. By extension, therefore, the requirements on particular software are typically a complex combination from various people at different levels of an organization, and who are in one way or another involved or connected with this feature from the environment in which the software will operate.

Requirement Source-An essential task of the elicitation activity is therefore the systematic identification of relevant requirement sources. Relevant requirement sources include the stakeholders involved in the process, existing documentation, and existing predecessor systems.

Type-

Functional requirements-How the system should react to particular inputs and how the system should behave in particular situations.

Non-functional requirements-Constraints on the services or functions offered by the system such as timing Constraints, constraints on the development process, standards, etc.

Domain requirements-Requirements that come from the application domain of the system that reflect the characteristics of that domain.it may be functional or non-functional

Notation Tools- Requirement Engineering tools are quickly evolving. The demand for flexibility, lean and agile development, worldwide collaboration, and advanced software and systems ecosystems is changing how we manage requirements. For instance, agile teams are less document-centric and more code-oriented—they expect brief requirements directly related to code changes—so their RE tool should be lightweight. On the other hand, distributed development teams need to easily and comprehensively access requirements and specifications with traceability throughout the life cycle. Their RE tool should assure service for generations of software. RE tools are adapting to these demands with changes to their design and architecture. Traditionally, RE tools are proprietary and well maintained by their vendors; they are often oriented toward distinct environments and niche markets (for example, automotive, medical, and defense), development processes (for example, agile development, product management, and prototyping), or utilization settings (for example, local versus global software development). This alone is enough reason to evaluate RE tools and technologies with different use cases

Principles Requirements Engineering Activities-

The key activities that make up requirements engineering are:

Requirements Elicitation: Obtain the requirements from the stakeholders

Requirements Analysis: Ensure that all stakeholders and their needs have identified and that all types of requirements (functional, performance, quality) and design constraints have captured.

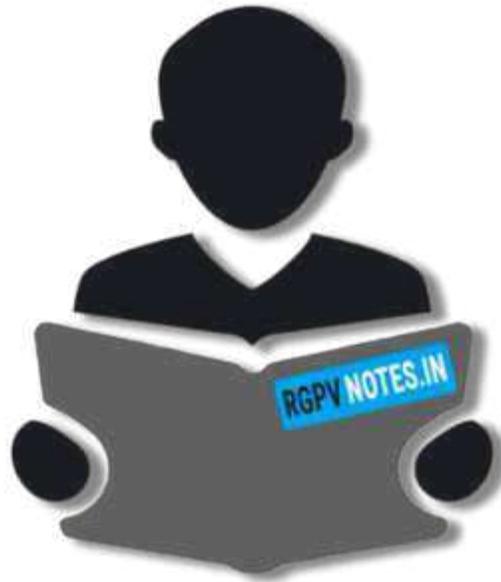
Requirements Specification: Capture the requirements in the appropriate format and obtain commitments from stakeholders

Requirements Validation: Ensure that the requirements, as documented, are cohesive, consistent, atomic, traceable to their source, unambiguous, and verifiable

Requirements Management: Manage changes to the requirements of the system through the design, development, and maintenance activities

Adapting RE Methods to Web Application-For RE Methods to Web Application, follow SWOT is an acronym for Strengths, Weaknesses, Opportunities, and Threats. A SWOT Analysis is a structured planning method used to evaluate strengths, weaknesses, opportunities, and threats involved in a project. It is an analytical technique which is commonly used as part of strategic planning as a foundation for evaluating the internal potential and limitations and the probable/likely opportunities and threats from the external environment. It views all positive and negative factors inside and outside the area/field that affect the growth/scope. It looks at the following scenarios, namely, internal strengths, internal weaknesses, Opportunities in the external environment, Threats in the external environment.

- Deals with principles, methods, and tools for eliciting, Describing, validating, and managing requirements
- Unavailable stakeholders,
- Volatile requirements and constraints,
- Unpredictable operational environments
- Inexperience with Web technologies
- Particular importance of quality aspects such as usability, or performance



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