بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Web Technologies

Search Engine Optimization (SEO)

Summary of Previous Lecture

- **Web Services - Introduction**
- **History of Web Services**
- **Web services serves as a component**
- **Web Services Advantages**
- **How Does a Web Service Work?**
- **Web Services architecture**
- **Service provider**
- **Service registry**
- **Service requestor**

Summary of Previous Lecture

- **Components of Web Services**
  - **XML – eXtensible Markup Language**
  - **SOAP – Simple Object Access Protocol**
  - **UDDI – Universal Description, Discovery and Integration specification**
  - **WSDL – Web Services Description Language**
- **Introduction to Web Hosting**
  - **Types of Web Hosting**
    - **Self-hosting**
    - **Shared hosting**
    - **Dedicated hosting**
    - **Grid Hosting**
    - **Collocated hosting**
- **Web Hosting Companies**
- **Selecting a Host**

Outline

1. **What is SEO?**
   - **What are Organic Results?**
   - **Why SEO?**
   - **How does a Search Engine works?**
   - **Conceptual Categories**
   - **SEO Tactics and Methods**
2. **Mobile SEO**
   - **What is Mobile SEO**
   - **Techniques of Mobile SEO**
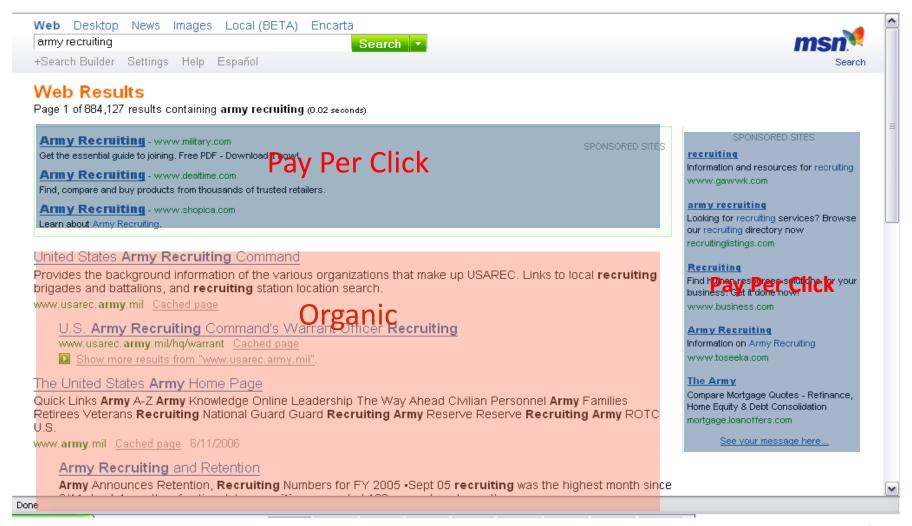   - **Tools for Mobile SEO**

1. What is SEO?

- **Search Engine Optimization (SEO) is the activity of optimizing web pages or whole sites in order to make them search engine friendly, thus getting higher positions in search results.**

1. What is SEO?

- SEO stands for **S**earch **E**ngine **O**ptimization.
- SEO is all about optimizing a website for growing visibility in organic (non-paid, natural) search engine results.

1.1 What are Organic Results?

1.2 Why SEO?

- **To rank a website well in search engine results.**

- **To improve the volume and quality of traffic of a website from search engines.**

- **To market by understanding how search algorithms work, and what human visitors might search.**

1.3 How does a Search Engine Work?

For better learning of SEO, it is essential that you understand how search engines works.

These are the activities a search engine perform to build result

- **Crawling**
- **Indexing**
- **Processing**
- **Calculating Relevancy**
- **Retrieving Results**

1.3 How does a Search Engine Work?...

- **Crawling**
  - Process of fetching all the web pages linked to a website. This task is performed by a software called a **crawler** or a **spider** (or Googlebot, in case of Google).

1.3 How does a Search Engine Work?...

- **Indexing**
    - Process of creating index for all the fetched web pages and keeping them into a giant database from where it can later be retrieved.
    - Essentially, the process of indexing is identifying the words and expressions that best describe the page and assigning the page to particular keywords.

1.3 How does a Search Engine Work?...

- **Processing**
    - This is the process which compares the search string in the search request with the indexed pages in the database.

1.3 How does a Search Engine Work?...

- **Calculating Relevancy**
  - It is likely that more than one page contains the search string, so the search engine starts calculating the relevancy of each of the pages in its index to the search string.

1.3 How does a Search Engine Work?...

- **Retrieving Results**
  - The last step in search engine activities is retrieving the best matched results. Basically, it is nothing more than simply displaying them in the browser.

1.4 Conceptual categories

Conceptually, there are two ways of optimization:

- **On-Page SEO:**

    – It includes providing good content, good keywords selection, putting keywords on correct places, giving appropriate title to every page, etc.

- **Off-Page SEO:**

    – It includes link building, increasing link popularity by submitting open directories, search engines, link exchange, etc.

1.5 SEO TACTICS AND METHODS

SEO techniques are classified into two broad categories:

- **White Hat SEO:**
  - Techniques that search engines recommend as part of a good design.

- **Black Hat SEO:**
  - Techniques that search engines do not approve and attempt to minimize the effect of. These techniques are also known as **spamdexing**.

1.5 SEO TACTICS AND METHODS

- **White Hat SEO?**
- **An SEO tactic is considered as White Hat if it has the following features:**
- It **conforms to the search engine's guidelines**.
- **It does not involve** in any deception.
- It **ensures that the content** a search engine indexes, and subsequently ranks, is the same content a user will see.
- It **ensures that a web page content** should have been created for the users and not just for the search engines.
- It **ensures good quality** of the web pages.
- It **ensures availability of useful content** on the web pages.

1.5 SEO TACTICS AND METHODS...

Note: We will discuss only white Hat techniques.

- **Selecting appropriate Website domain:**

Before you choose a domain name, you should consider the following:

1. **Who would be your target audience?**
2. **What you intend** to sell to them. Is it a tangible item or just text content?
3. **What will make your business idea unique** or different from everything else that is already available in the market?

1.5 SEO TACTICS AND METHODS…

- **Selecting appropriate Website domain:**

  1. **Using keywords in your domain** name gives you a strong competitive advantage.

  2. **Keep two to three words** in your domain name that will be easy to memorize.

  3. **Buy your domain name** that is catchy, memorable, and relevant to your business.

1.5 SEO TACTICS AND METHODS…

- **Using Relevant FILENAMES:**
  - One of the simplest methods to improve your search engine optimization is to look at the way you name your files.
  - Search engines like Google give too much importance to filenames.

1.5 SEO TACTICS AND METHODS...

- **Using Relevant FILENAMES:**
    1. The filename should preferably be **short and descriptive**.
    2. It is always good to use **same keywords in a filename as well as in page title**.
    3. Do **not use generic filenames** such as *service.htm* or *job.htm*.
    4. Do **not use more than 3–4 words** in file names.
    5. Separate the **keywords with hyphens** rather than underscore.
    6. Try to **use 2 keywords** if possible.

1.5 SEO TACTICS AND METHODS…

- **Design and Layout:**
  - The website design and layout gives the first impression about your site.
  - If you make your site too complicated, then the search engine would not be able to parse the content

1.5 SEO TACTICS AND METHODS…

- **Design and Layout:**

Follow the following guideline for better Design and Layout.

1. You should have more text content than HTML elements.

2. No frames as they are the enemies of search engines, and search engines are enemies of frames.

3. No ads if possible because most of the ads use JavaScript which is not advised to be used.

1.5 SEO TACTICS AND METHODS…

- **Design and Layout:**

    4. No internal JavaScript. If you need JavaScript, call it from an external file rather than dumping the code in the HTML file.

    5. Do not put anything in the page topic that does not fit perfectly.

    6. No unnecessary directories. Keep your files as close to the root as possible.

    7. No fancy stuff (Flash, Splash, Animated Gifs, Rollovers, etc.) unless absolutely necessary.

1.5 SEO TACTICS AND METHODS…

- **Optimized Keywords:**
  - A keyword is a term that is used to match with the query a person enters into a search engine to find specific information.
  - Most people enter search phrases that consist of two to five words. Such phrases may be called search phrases, keyword phrases, query phrases, or just keywords. Good keyword phrases are specific and descriptive.

1.5 SEO TACTICS AND METHODS...

- **Optimized Keywords:**

Following are methods for keyword optimization:

1. Repeat your keyword in the document as many times as you can get away with, and up to 3-7 times in your list of metatags.

2. One technique that often works well is to create some smaller pages is by keeping the overall number of words to a minimum, you can increase the "weight" of the keyword you are emphasizing.

1.5 SEO TACTICS AND METHODS…

- **Optimized Keywords:**

  3. Having keywords in the first heading and in the first paragraph (first 20 words or so) on a page are best.

  4. Where your keywords are placed on a page is very important. For example, in most engines, placing the keywords in the Title of the page, or in the Heading tags will give it more relevancy.

1.5 SEO TACTICS AND METHODS...

- **Content is Important:**
  - Content basically includes what you see on the site: the text, graphics, and even links to other websites.
  - Creating, editing, and promoting unique high-quality content is difficult and time consuming. But in the end, the golden rule of SEO is that Content is the King. It is not because of a search engine, but it is for your site visitors.

1.5 SEO TACTICS AND METHODS...

- **Link building:**
  - Link building is the SEO practice of obtaining links from external websites to your own to improve both direct referrals (i.e., people clicking on the links), and search engine ranking. Link building is all about increasing your site link popularity.

1.5 SEO TACTICS AND METHODS…

- **Link building:**

Following are the methods to do link building.

1. Submit your site in popular search engines manually. Do not go for automated submission.

2. Get your site listed in Open Directory Projects like dmog.org, yahoo.com. Getting listed in these directories gives a boost in link popularity and improve search engine ranking in other search engines.

1.5 SEO TACTICS AND METHODS…

- **Link building:**

   3.   Participate in Link Exchange Programs. Find top 20 sites doing the same business and contact them for reciprocal links.

   4.   Get your site listed in Open Directory Projects like dmog.org, yahoo.com. Getting listed in these directories gives a boost in link popularity and improve search engine ranking in other search engines.

1.5 **SEO** TACTICS AND METHODS...

- **Link building:**

  5. Buy a place on high-rank website where you can put your link.

  6. Subscribe for Google's AdWords program to drive traffic towards your site.

1.6 SEO TACTICS AND METHODS…

- **Verifying Web Site**:

- You design and develop a website but how would you know if you have put all the HTML syntax in a correct way. Most browsers do not complain against your wrong syntax, but *wrong is wrong*.

- There are many SEO experts who claim that SEO is not dependent on site HTML/XHTML verification. But still your site should be as per W3C Compliance.

2. Mobile SEO

- Millions of users these days access the web using smartphones running on Android, iOS, or Windows.

- Hence, it has become imperative that websites adapt themselves to this changing environment and make suitable changes in their website design to attract more viewership.

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2.1 What is Mobile SEO?

- Mobile Search Engine Optimization is the process of designing a website to make it suitable for viewing on mobile devices of different screen sizes and load times.

2.1 What is Mobile SEO?...

A website is mobile friendly if it has the following attributes:

- Its contents are easy to read on a mobile device without having to zoom the screen.

- It should be easy to navigate through the site on a small screen.

- Most important of all, it should show up in Google search results.

2.2 Techniques of Mobile SEO?

- If your site is already optimized for search engines, then it should not be too difficult to optimize it for mobile devices. We can categorize the steps into two broad categories:

  - **Select a Mobile Configuration**
  - **Avoid Common Mistakes**

2.2 Techniques of Mobile SEO?...

- **Select a Mobile Configuration**

Mobile Configuration	URL	HTML
Responsive Web Design	Stays the same	Stays the same
Dynamic Serving	Stays the same	Different HTMLs
Separate URLs	Different URLs	Different HTMLs

2.2 Techniques of Mobile SEO?...

- **Avoid Common Mistakes**
  - **Avoid slow Mobile Pages.**
  - **Don't Block CSS, JavaScript, or Image Files.**
  - **Avoid popups.**

2.3 Tools for Mobile SEO?

Here is a list of some useful tools that you can use to find out how mobile friendly your site is:

- **Mobile Emulator**

- **Moz Local**

- **Responsive Web Design Testing Tool**

- **Screaming Frog**

3. SEO - Miscellaneous Techniques

- To-Don't List
- **Don't keep hidden text** on your webpages.
- **Don't create** alternate image spamming by putting wrong keywords.
- **Don't use** meta tags stuffing.
- **Don't use** frames and flash on your site.
- **Don't exchange** your links with black listed sites.
- **Don't try** to fool your site visitors by using misspelled keyword.
- **Don't send** spam emails to thousands of email IDs.
- **Don't use too much** graphics on your site.
- **Don't create** too many doorway pages.

3. SEO - Miscellaneous Techniques

- To-Don't List
- **Don't try** to create duplicate content of pages.
- **Don't submit** your website many times in a single search engine.
- **Don't use** sub-directory depth more than 1-2.
- **Don't create** too many dynamic pages. Try to convert them into static pages.
- **Don't bloat** your pages with code.
- **Don't nest** your pages.

3. SEO - Miscellaneous Techniques

- **To-Do List**

- Create logs of pages and each page should however contain a minimum of about 200 visible words of text to maximize relevance with Google.

- Create a Sitemap, Help, FAQ, About Us, Link to Us, Copyright, Disclaimer, Privacy Policy pages on mandatory basis.

3. SEO - Miscellaneous Techniques

- **To-Do List**
- **Create a homepage link** to each and every webpage and provide easy navigation through all the pages.
- **Pay attention to your dynamic page URLs.** Google can crawl and index dynamic pages as long as you don't have more than 2 parameters in the URL.
- **Check your complete site for broken links.** Broken links will reduce your other pages rank as well.

For Review

- **We have covered almost all major concepts** related to Search Engine Optimization.

- **Now you are familiar** with most frequently used SEO related terminologies as well.

- **Learn keywords and layout** optimization techniques.

- **Learn all the ethical strategies** to enhance your website ranking.

Summary

- **What is SEO?**

- **What are Organic Results?**

- **Why SEO?**

- **How does a Search Engine works?**
  - Crawling
  - Indexing
  - Processing
  - Calculating Relevancy
  - Retrieving Results

- **Conceptual Categories**

- **On-Page SEO:**

- **Off-Page SEO:**

Summary

- **SEO Tactics and Methods**
  - **Black Hat SEO?**
  - **White Hat SEO?**
    - **Selecting appropriate Website domain**
    - **Using Relevant FILENAMES**
    - **Design and Layout**
    - **Optimized Keywords**
    - **Link building:**
    - **Verifying Web Site**

- **Mobile SEO**
  - **What is Mobile SEO**
  - **Techniques of Mobile SEO**
  - **Tools for Mobile SEO**

Summary

- **SEO - Miscellaneous Techniques**

  - **To-Don't List**
  - **To-Do List**

THANK YOU