

Day 5: Evolution of the Web, RDF, and Google Power Searching Techniques

Contents Covered:

History of the Web:

- **Web 1.0:**
 - Focused on static pages and linked pages.
 - Limited interaction and primarily read-only content.
 - Examples include early websites with basic HTML pages and hyperlinks.
- **Web 2.0:**
 - Emphasis on user-generated content, social media, and dynamic web applications.
 - Enhanced interactivity and collaboration.
 - Introduction of platforms like Facebook, Twitter, and enhanced indexing on Google.
- **Web 3.0:**
 - Focuses on intelligent data processing, semantics, and advanced tools.
 - Integration of AI technologies such as ChatGPT.
 - Improved data standards and interoperability.

Study of URL, URI, URN, and IRI:

- **URL (Uniform Resource Locator):** Specifies the address of a resource on the web.
- **URI (Uniform Resource Identifier):** A broader concept that includes both URLs and URNs.
- **URN (Uniform Resource Name):** Provides a unique identifier for a resource without specifying its location.
- **IRI (Internationalized Resource Identifier):** An extension of URI that supports characters from the Universal Character Set.

RDF as a Framework:

- RDF (Resource Description Framework) serves as a foundational framework for representing and exchanging data on the web.
- Provides a standardized method for describing relationships between data.

Common Representations of RDF:

- **Turtle:** A compact and readable syntax for writing RDF data.
- **XML:** Used for representing RDF in a structured and hierarchical format.
- **JSON-LD:** A lightweight Linked Data format for serializing RDF data using JSON.

RDF Serialization and Linked Data:

- **RDF Serialization:** The process of converting RDF data into a specific format such as Turtle, XML, or JSON-LD.

- **Linked Data:** A method of publishing structured data so that it can be interlinked and become more useful.

Region-Based WWW:

- Discussion on how the World Wide Web is regionally segmented and how this affects data representation and access.

Google Power Searching Techniques:

- Techniques for enhancing search efficiency on Google.
- Methods include using specific operators to exclude terms, directly find documents on a website, and more.

Tasks:

Task 1: Studying Google Power Searching Techniques

Explored various advanced Google search techniques to refine search results and find specific information more efficiently.

Task 2: Making RDF on a Tool

Utilized tools like Visual Paradigm to create and visualize RDF graphs, gaining hands-on experience in RDF representation and manipulation.

Task 3: Solving and Finding Relationships from Turtle Syntax

Worked on tasks involving Turtle syntax to identify and solve data relationships, reinforcing the understanding of RDF serialization and linked data principles.

Tools Suggested/Used:

Google:

- Used for exploring and applying power searching techniques to improve search efficiency.

Visual Paradigm:

- A tool for creating and visualizing RDF graphs, aiding in the practical understanding of RDF concepts and data relationships.

Summary:

Day 5 provided a comprehensive overview of the evolution of the web, from Web 1.0 to Web 3.0, and the advancements in data processing and standards. Gained a thorough understanding of URL, URI, URN, and IRI, and how RDF serves as a framework for representing data relationships. The session also covered RDF serialization formats and linked data principles. Practical tasks included applying Google power searching techniques, creating RDF graphs using Visual Paradigm, and working with Turtle syntax to understand RDF data relationships. This day equipped essential knowledge and practical skills in web evolution, data representation, and advanced search techniques.