TRAINING DAY5 REPORT:

Topic: Web Evolution, URI, URL, URN, IRI, IETF, RDFA, RDF Serialization, HTTP, HTTPS, W3C, and TURTLE

Overview: Today's training session covered a wide range of topics related to the evolution of the web, identification schemes, standards organizations, RDF serialization formats, and web protocols. This comprehensive overview provided a solid foundation for understanding the infrastructure and standards that underpin the Semantic Web.

Key Learnings:

1. **Web Evolution:**
   - **Web 1.0:** The first stage of the web, characterized by static web pages and limited user interaction.
   - **Web 2.0:** Introduced dynamic content, user-generated content, social media, and enhanced interactivity.
   - **Web 3.0:** Also known as the Semantic Web, focuses on data interchange, interoperability, and the use of machine-readable data to provide a more intelligent web experience.
2. **Identification Schemes:**
   - **URI (Uniform Resource Identifier):** A string of characters used to identify a resource on the internet.
   - **URL (Uniform Resource Locator):** A type of URI that specifies the location of a resource and how to retrieve it.
   - **URN (Uniform Resource Name):** A type of URI that identifies a resource by name in a particular namespace.
   - **IRI (Internationalized Resource Identifier):** An extension of URI that allows the use of non-ASCII characters.

3. **Standards Organizations:**
   - **IETF (Internet Engineering Task Force):** Develops and promotes voluntary internet standards, particularly the standards that comprise the internet protocol suite (TCP/IP).
   - **W3C (World Wide Web Consortium):** An international community that develops open standards to ensure the long-term growth of the web.

By : Abhijot Singh   *CRN : 2215004*   *URN : 2203391*

4. **RDFA (RDF in Attributes):**
   - A W3C recommendation that adds a set of attribute-level extensions to HTML, XHTML, and other XML-based document types for embedding RDF metadata within web documents.
5. **RDF Serialization:**
   - The process of converting RDF data into a format that can be easily stored and transmitted.
   - **TURTLE (Terse RDF Triple Language):** A compact, human-readable format for representing RDF data.
6. **Web Protocols:**
   - **HTTP (Hypertext Transfer Protocol):** The foundational protocol for data communication on the web, allowing the fetching of resources.
   - **HTTPS (Hypertext Transfer Protocol Secure):** An extension of HTTP that provides secure communication over a computer network, commonly used on the internet.

Practical Exercise:

- Explored the differences between URI, URL, and URN with practical examples.
- Practiced using RDFa to embed metadata within HTML documents.
- Serialized RDF data using the TURTLE format.
- Examined the role of HTTP and HTTPS in web communication and security.

Reflections: Today's session provided a detailed understanding of the evolution of the web and the critical role of identification schemes and standards in facilitating interoperability and data exchange. Learning about RDF serialization and web protocols highlighted their importance in ensuring efficient and secure communication on the web.

Next Steps: Tomorrow, we will delve into more advanced Semantic Web technologies and their practical applications, building on the foundational knowledge acquired today.

By : Abhijot Singh   *CRN : 2215004*   *URN : 2203391*