

Training TR-102 Report - Day 6

Date: 18th June, 2024

Overview

On Day 6 of the TR-102 training, participants delved into the evolution of the web, exploring Web 1.0, Web 2.0, and Web 3.0. The session also covered key web technologies, protocols, and practical tools that enhance web development and browsing efficiency. Topics included RDF serialization, HTTP/HTTPS protocols, Chrome extensions, and search optimization tools.

Evolution of the Web

- **Web 1.0:** Characterized by static content with minimal user interaction.
 - **Web 2.0:** Defined by dynamic, user-generated content and the rise of social media platforms.
 - **Web 3.0:** Focuses on the Semantic Web, decentralized technologies, and AI-driven systems.
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Web Addresses and Identifiers

- **URL (Uniform Resource Locator):** Specifies the location of a web resource.
 - **URI (Uniform Resource Identifier):** A broader term encompassing both URLs and URNs.
 - **URN (Uniform Resource Name):** A unique, persistent identifier that doesn't specify a resource's location.
 - **IRI (Internationalized Resource Identifier):** A URI extension that supports a broader range of characters.
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Identifiers and Standards

- **ITF (Interleaved 2 of 5):** A barcode symbology used for encoding numeric data.
 - **ISBN (International Standard Book Number):** A unique identifier for books.
 - **ISSN (International Standard Serial Number):** A unique identifier for periodicals.
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RDF Serialization Formats

- **Turtle:** A compact, human-readable format for writing RDF data.

- **RDF:** RDF annotations embedded within HTML documents.
- **JSON-LD:** A lightweight format for representing linked data using JSON.
- **N-Quads:** An extension of N-Triples that includes context for RDF graphs.

Participants practiced writing RDF in Turtle format and explored embedding RDFa and JSON-LD in web pages.

Web Protocols

- **HTTP (Hypertext Transfer Protocol):** The foundation of web communication.
 - **HTTPS (HTTP Secure):** An encrypted version of HTTP, using SSL/TLS protocols for secure data transmission.
 - **SSL (Secure Sockets Layer):** A protocol for encrypting web traffic.
 - **TLS (Transport Layer Security):** The successor to SSL, providing more secure data transmission.
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Internet vs. World Wide Web

- **Internet:** A global network of interconnected computers.
 - **World Wide Web (WWW):** A system of interlinked hypertext documents accessed through the internet.
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Access and Censorship

- **Website Blocking:** Certain websites may be restricted in specific regions, with proxies offering a way to bypass these restrictions.
 - Example: TikTok, banned in India, can be accessed using a proxy server.
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Web Tools and Chrome Extensions

- **Google Power Search:** Advanced techniques for finding information more efficiently using Google.
 - **Installed Extensions:**
 - **Adblock Plus:** Blocks ads on websites.
 - **LastPass:** A password manager that securely stores and retrieves login credentials.
 - **ColorZilla:** A color-sampling tool useful for web development tasks.
 - **WhatFont:** Identifies the fonts used on web pages.
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Key Takeaways

- **Web Evolution:** Gained a comprehensive understanding of the shift from Web 1.0 to Web 3.0.
 - **Web Addresses and Identifiers:** Clarified the uses of URL, URI, URN, and IRI.
 - **RDF Serialization:** Practiced different RDF serialization formats and their real-world applications.
 - **Web Protocols:** Learned the importance of HTTP, HTTPS, and encryption protocols like SSL/TLS in ensuring secure web communications.
 - **Internet vs. WWW:** Clarified the differences between the internet and the World Wide Web.
 - **Access and Censorship:** Gained insight into bypassing website restrictions using proxies.
 - **Web Tools:** Enhanced web browsing and development efficiency by utilizing Chrome extensions and advanced Google search techniques.
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Conclusion

Day 6 of the TR-102 training provided participants with a deeper understanding of web evolution, essential web technologies, and security protocols. By exploring RDF serialization, web identifiers, advanced search techniques, and Chrome extensions, attendees are now better equipped to develop secure, efficient, and user-friendly web applications. This session emphasized the importance of continuous learning and adaptability in web development, preparing participants for future challenges and innovations in the digital landscape.