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ACM Transactions on The Web

Special Issue on The Temporal Web: Investigating Time and the Temporal Dimension

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The rapidly growing amount of digitally born content and the Internet Archive's endeavor in capturing the World Wide Web for almost three decades, with more than 800 billion Web pages (~ 100PB at Internet Archive - US only) at our disposal, open research opportunities. These archives not only capture the history of born-digital content but also reflect the zeitgeist of different time periods for decades. This is already, and will become even more, a gold mine for researchers, such as sociologists, political scientists, media, and market analysts, as well as experts on industrial property. The temporal dimension of the Web unlocks new directions. For example, one could compare the notions of "online friends" and "social networks" as of today versus five or ten years back. Similar examples about "tablet PC" or "online music" are relevant for a business analyst or a technology journalist. Similarly, the hyperlink structure of archived material can now be systematically exploited. It is possible to see how site and domain structures develop over time, whether they are affected by Web spam or not, and which prevalent structures exist in general within a certain domain.

The special issue aims at investigating infrastructures, scalable methods, and innovative software for aggregating, querying, and analyzing heterogeneous data at Internet scale. Emphasis will be given to temporal data analysis along the time dimension for Web data that has been collected over extended time periods. A major challenge in this regard is the sheer size of the data it exposes and the ability to make sense of it in a useful and meaningful manner for its users. For this, the full spectrum of longitudinal studies using Web data is addressed, ranging from "low-level" network analysis (e.g., Internet traffic) and graph analysis (e.g., in social media) up to "high-level" content and concept analysis ranging from micro-content (e.g., tweets) up to entire Web archives.

Topics

The special issue aims to capture a diverse range of research work, all relating to time in information systems and temporal Web analytics. Topics of interest include, but are not limited to:

- Temporal Web analytics
- Web science
- Web dynamics
- Timeline construction
- Web spam evolution
- Content evolution on the Web
- Systematic exploitation of Web archives
- Time aware Web archiving
- Data aggregation
- Web trends
- Topic mining
- Terminology evolution
- Community detection and evolution

Important Dates

- Submissions deadline: January 10, 2024
- First-round review decisions: March 31, 2024
- Deadline for revision submissions: April 30, 2024
- Notification of final decisions: August 1, 2024
- Tentative publication: Late 2024 / Early 2025

Submission Information

Submitting authors should follow the Style and Author Guidelines for regular TWEB submissions available at https://dl.acm.org/journal/tweb/author-guidelines. Please submit manuscripts via Manuscript Central, https://dl.acm.org/journal/tweb/author-guidelines. Please submit manuscripts via Manuscript Central, https://mc.manuscriptcentral.com/tweb.

Submissions should be accompanied by a cover letter that: (1) confirms that the manuscript is not currently under submission at another journal or conference; (2) confirms that the manuscript is substantially different from any previously published work; (3) confirms that none of the co-authors is a guest editor for this special issue; and (4) discloses any conflicts of interest with the guest editors.

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