Contextual Archiving of Web Page Advertisements Using Persona-Based Tools

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Abstract
The continuous advancement of digital advertising has produced a dynamic online landscape characterized by content tailored to various user demographics through the utilization of personalization technologies or simulated user profiles featuring distinct demographic and behavioral attributes. However, conventional web archiving methodologies face significant hurdles in capturing these personalized experiences with fidelity. They typically involve the recording of a singular, static snapshot of a web page, disregarding diverse user experiences shaped by personal data and browsing behavior.

This project introduces an approach to the archival process of web advertisements, emphasizing the preservation of the contextual framework in which ads are presented, particularly the diverse user perspectives facilitated by personalization algorithms. To operationalize this methodology, we design, select, and employ a suite of tools tailored for persona-based web archiving. These tools encompass customized versions of Chrome and Mozilla web browsers engineered to simulate human interaction, thereby eliciting personalized content delivery through the emulation of login sessions and subsequent user interactions such as page scrolling and element selection in an effort to emulate human browsing patterns to activate and capture dynamic and interactive advertisements.

We suggest that the utility of the persona based framework will extend to archivists developing interactive interfaces for a diverse user base, modeling key characteristics of the information seeker.

About the authors:
Christopher Rauch is a former attorney now in his fourth year at Drexel University, pursuing a Ph.D. in Information Science under the guidance of Dr. Rosina Weber and Dr. Mat Kelly. In addition to web archival, Christopher is also engaged in DARPA's In the Moment Program, which focuses on the development of technologies constrained by operational frameworks that guide ethical decision-making.