

Exploratory Search in the Adaptive Social Semantic Web

Michal TVAROŽEK*

*Slovak University of Technology
Faculty of Informatics and Information Technologies
Ilkovičova 3, 842 16 Bratislava, Slovakia
tvarozek@fiit.stuba.sk*

The evolution of the Web as a dynamic global virtual socioeconomic space resulted in many issues that affect both individual users and the entire human society. We need not only to address information overload and the navigation problem but also accommodate for novel trends in web use such as the push towards exploratory search [2], more interactivity, involvement, personalization. To achieve these objectives, we need to take advantage of principles and approaches outlined in present web initiatives – the Adaptive Web, the Semantic Web and the Social Web.

In our work, we combine and extend several existing approaches in order to create an advanced exploratory search browser for both the semantic and legacy web taking advantage of personalization, social wisdom and semantics. Ultimately, our goal is to provide users with a seamless exploration experience within a common seamlessly integrated Adaptive Social Semantic Web environment.

We build upon existing approaches to faceted browsers and advanced visualization such as VisGets [1], and propose an enhanced faceted browser extended with support for semantic information spaces to facilitate:

- exploratory search in terms of investigative and learning tasks,
- automated user interface generation to accommodate for web dynamics,
- user modeling and personalization to address information overload,
- collaborative content/meta-data creation to harness the power of social wisdom.

To evaluate our approach we developed Factic – a personalized faceted browser based on the aforementioned principles (see Figure 1). Factic is also integrated with additional support approaches for exploration such as history tracking and tree visualization, graph visualization and incremental navigation in the information space, and custom content rendering tools to facilitate content exploration [3].

We evaluate our approach both via synthetic experiments and user studies in several application domains – digital images, scientific publications, job offers. Our

* Supervisor: Mária Bielíková, Institute of Informatics and Software Engineering

initial findings have shown promising results with respect to individual approaches, while a comprehensive evaluation of the whole integrated browser is still under way.

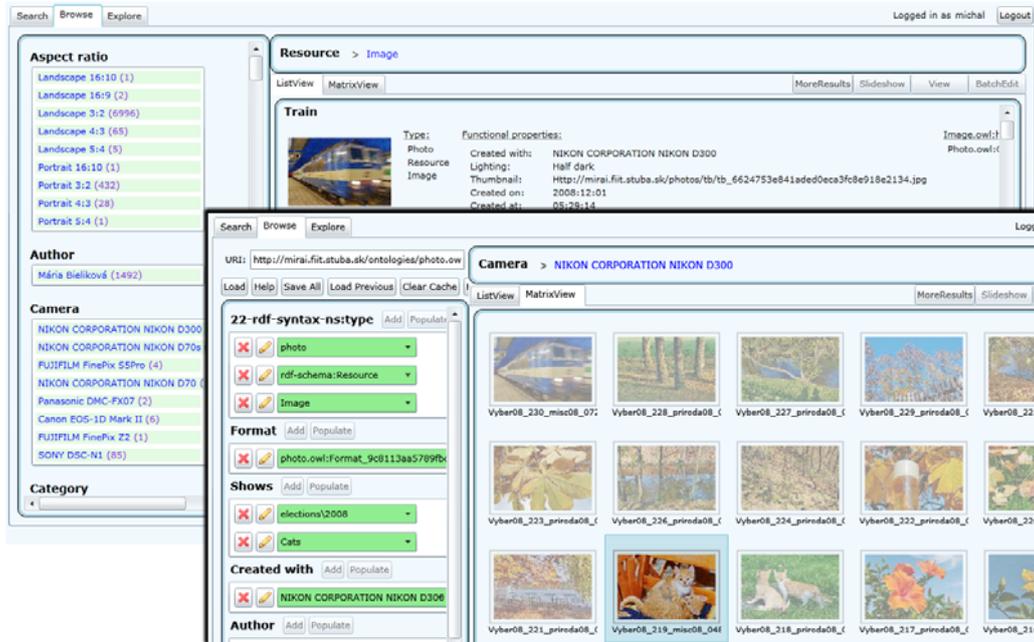


Figure 1. (A) Generated facets in Factic with a list-based result overview showing all result properties (top left). (B) A matrix result overview with image thumbnails and the correspondingly generated annotation pane for collaborative content creation (bottom right).

Since exact analytical validation of user-centered approaches is difficult if at all possible, our current evaluation goals focus on user studies and proof of concept validation of our interface generation approach and next on quantitative evaluation of the usefulness and/or contribution of individual approaches towards the ultimate goal of seamless end-user exploration of adaptive semantic social information spaces.

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References

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