Improving UX for Digital Multimedia File Navigation

As ‚Information Overload' is a growing issue in many areas, especially in research and education, it is the purpose of this thesis to implement a potential software solution in the form of a browser extension, to improve the user experience of navigating large-scale multimedia information spaces, such as the internet.

Goals

Through explorative user research, the following issues have been identified as common among various users:

– Search within ambiguous or unclear goal
– Maintaining focus on search goal
– Collecting search results of various media formats, across platforms
– Refining search for more accurate results

Implementation

Providing a potential solution to these issues, the development of a sidebar-based browser extension „BetterBrowsing" for the Firefox web browser stands at the core of this thesis. This browser extension entails different features, aiding users in various aspects of their search and browsing experience:

Intention Capture & Recommended Queries

To make their browsing goal explicit, users can answer questions about their intention in natural language. Based on this intention, query recommendations are generated in the background (via a locally running LLM-server).
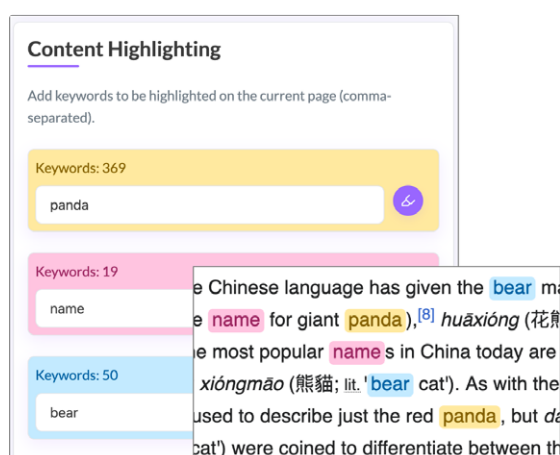

Figure 1: Content Highlighting in Use

Saved Queries

Users can pick recommended or add custom queries to their „Saved Queries". In this context, each query can be evaluated with a simple thumb-up/thumb-down system. This provides users with an active reminder of used queries and their effectiveness.

Results & Unwanted Item Collections

Once promising results have been found, they can be added to the results collection via a Drag-n-Drop functionality in the sidebar, to be revisited later. In the same way, unwanted items can be saved, to provide negative examples. This can be done with any draggable web-content, regardless of format.

Content Highlighting

For the context of text-based search, the content highlighting feature provides multi-colored text highlighting in up to 7 colors, on the current webpage (see Figure 1).

Refinement

Upon regenerating query recommendations, feedback data is collected from the user's query evaluations, as well as from collected results and unwanted items. Based on this data, recommendations are gradually refined over time, to represent the user's browsing intention more accurately.

User Testing & Results

With the same users, providing insight on their browsing issues, user testing sessions (in-person) have been held to evaluate the proposed software solution against real-life use-cases. These testing sessions showed that the software prototype does in fact already provide an improvement to the overall user experience of browsing and search activities.

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