

# Improve Image Retrieval by Zoomable User Interfaces

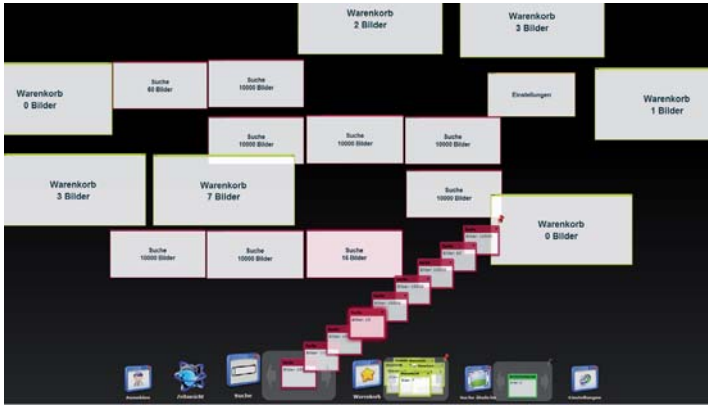
Usable Web Applications for Searching and Browsing with different Filters and Visualisations

Key Aspects: ZUIs - natural way of orientation and navigation, Web 2.0 Applications, Personalisation, Interaction and Filter Techniques

## Motivation: Zoomable User Interfaces (ZUIs)

Huge amounts of images are collected by private persons (e.g. vacation, semi-professional shootings) and companies. Most of today's concepts lag in providing a suitable search and exploration interface to the users. We suggest to take advantage of human cognition and orientation by using ZUIs. The pan and zoom interaction is very intuitive and matches well to the human

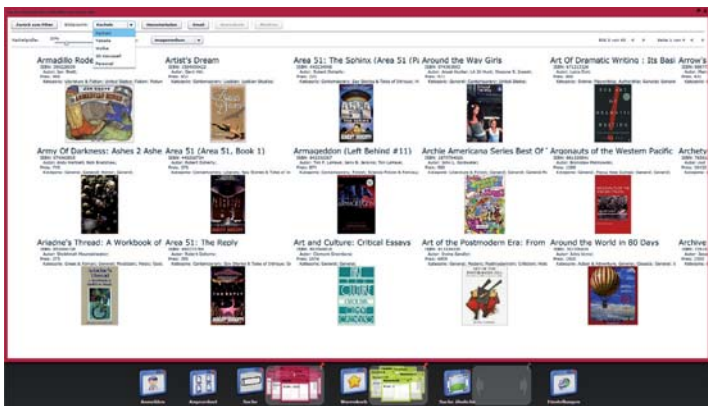
experience in real life. Traditional interfaces like they are used for web clients or company applications are not able to handle the enormous amount of images in an efficient and effective way. We combine a ZUI with a dynamic query metadata search and a CBR similarity search to simplify management, search and exploration of images and thus improve value for the users.



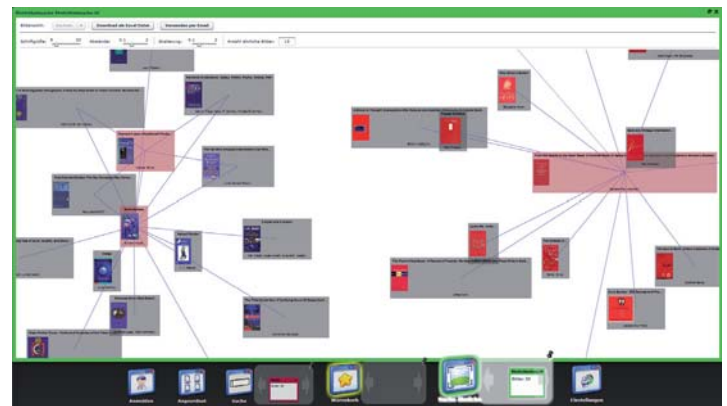
Zoomable user interface to manage multiple searches and baskets (tile scales are mapped to elapsed time).



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Zoomable tile visualization for browsing (here connected to a database with an excerpt of 10.000 amazon books).



Spring graph visualization of 2 different groups of similar images (dark blue and red book covers).

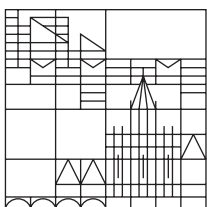
## Research Goals at a Glance

- » Take advantage of human cognition in interface design
- » Design usable interaction techniques for search and exploration
- » Make big datasets manageable

- » Adapt web applications to user tasks and purposes by personalization
- » Develop an interaction pattern language for zoomable user interfaces
- » Use CBR search to improve user queries

### References

1. Gundelsweiler, Fredrik; Memmel, Thomas; Reiterer, Harald: ZUI concepts for navigating and searching complex information spaces. In: Prof. Dr.-Ing. Juergen Ziegler, Oldenbourg Wissenschaftsverlag, i-com, Zeitschrift für interaktive und kooperative Medien, p. 38-48, May 2007.
2. Gundelsweiler, Fredrik; Reiterer, Harald: Zoom-based interaction concepts for Searching and Exploring large, heterogeneous Image Databases. In Proceedings of Mensch & Computer 2008: Viel mehr Interaktion, 8. Konferenz für interaktive und kooperative Medien, Oldenbourg Verlag, in: Herczeg, Kindsmüller, p. 390-400, Sep 2008, Sep 2008.



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Cbir video download at:  
<http://hci.uni-konstanz.de/bildersuche>

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