

The ZOIL Visual User Interface Paradigm

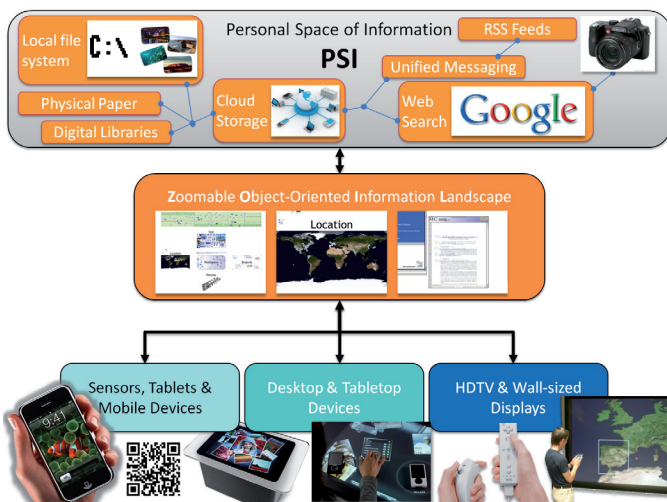
Zoomable Object-Oriented Information Landscape



Post-WIMP interaction (interaction without Windows Icons Menus Pointer) has turned into reality.

Multi-touch tables, touch walls, gestural input or digital paper & pens have become widely available and give us first insights into the coming era of ubiquitous, tangible and social computing. The ZOIL (**Z**oomable **O**bject-Oriented **I**nformation **L**andscape) will answer three key questions in this context:

- 1.) How to **naturally access, search, and make sense** of your information using different kinds of interactive surfaces?
- 2.) How to **collaboratively manage, share, and manipulate** your distributed and heterogeneous personal space of information at your desktop, in meeting rooms, or labs?
- 3.) How to **break down the barriers** between applications, storage locations, and devices to make your information travel with you, no matter where you are?



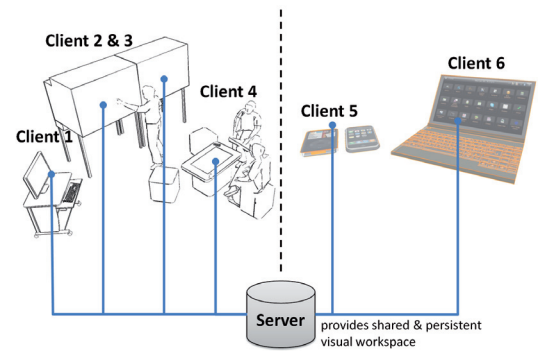
Research Goals

The ZOIL Design Principles and Patterns

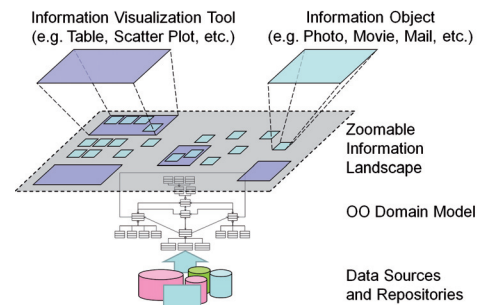
- object-oriented & domain-driven design of post-WIMP UIs
- zoomable information landscape as shared visual workspace
- semantic zooming and information visualization tools
- multi-user, multi-display, and multi-device support

The ZOIL Application Framework

- based on C#, .NET, Windows Presentation Foundation (WPF), Microsoft Surface SDK and object database db4o
- supports zoomable user interfaces with semantic zooming
- supports real-time synchronization of clients using db4o

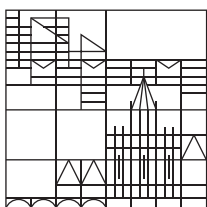


The ZOIL user interface paradigm unifies zoomable user interfaces (ZUIs) with information visualization and tangible direct-manipulation techniques to replace traditional menu-, window and hypertext with fluid interaction. Unlike the application-oriented desktop metaphor, ZOIL will integrate a wide range of different services and content into a unified visual workspace without application and device boundaries: the "information landscape".



Thereby the information landscape can be understood as a virtual whiteboard of infinite size and resolution which visually unifies today's fragmented world of personal and ubiquitous computing (Web vs. local applications, multi-touch vs. WIMP interaction styles, remote vs. local file storage, proprietary file formats vs. open personal information repositories).

By using ZUI concepts for visualization and navigation, a ZOIL-based user interface scales to different display sizes and can be operated with different input modalities (e.g. pen, gestural or multi-touch input). Thereby access to the information landscape is provided by a visual client application based on the ZOIL application framework. It connects to a ZOIL server and thereby enables nomadic and collaborative work on all kinds of networked devices and displays.



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