Toolglass and Magic Lenses: The See-Through Interface

Outline

• What is a see-through interface?
• Applications of see-through interfaces
• Advantages
The See-Through Interface

(Bier, 1994)

The Toolglass Sheet

(Bier, 1993)
Multi-Widget Sheet

(Bier, 1993)

Composition of Widgets and Lenses

(Bier, 1993)
Shape and Property Palettes

(Stone, 1994)

(Bier, 1993)
Shape and Property Palettes

<table>
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<th>temporal modes and modes created by holding down a keyboard key with</th>
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<td>regular</td>
<td>italic spatial modes. Because these spatial modes can be changed directly in the application work area, the cursor and the user's attention can remain on the</td>
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(Bier, 1993)

Clipboards

(Bier, 1993)
Clipboards

(Bier, 1993)

Creating Macros

(Bier, 1994)
Previewing Lenses

(Bier, 1993)

Sending Information

(Bier, 1994)
Selection Tools

(Bier, 1993)

Selection Tools

(Bier, 1993)
Undelete Lens

(Stone, 1994)

Grids

(Bier, 1993)
Alignment Circles

(Bier, 1994)

Visualization

Measures Gaussian curvature in the context of a shaded rendering of a 3D model.

(Bier, 1993)
Detail in Context

(Stone, 1994)

Reducing Global Clutter

(Stone, 1994)
Font-size Tool

(a) Fairly large

(b) Smaller

Alternate Views

The mouse has three buttons named **left**, **middle**, and **right** corresponding to their physical layout. Here are the selection commands for each:

- **Left**: The act of selecting or the fact of being selected, choosing, choice.
- **Middle**: That which is selected.

(Stone, 1994)
Inter-application Tool

(Stone, 1994)

Enhancing Dynamic Queries

(Fishkin, 1999)
Enhancing Dynamic Queries

(Fishkin, 1999)

Advantages of See-Through Tools

- Uses less screen real estate than fixed-position control panels.
- Tools can move with the user to stay close at hand.
- Combines multiple task steps into a single step
- Modes are defined spatially rather than temporally.
Advantages of See-Through Tools

- Customized feedback for their operation.
- Customizable widgets.
- Can be combined with dynamic queries.
- Increase user interface consistency.
- Detail in context
- Enhance selection and editing operations.
- Applies to many different problem domains

References


References