User Interfaces and Interaction Techniques

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Multi-touch gestures for constrained transformations of 3D objects

[Eurographics 2012]
Axis-based Manipulation
Active Snapping
User study
Lazy Selection
[SIGGRAPH Asia 2012]
Traditional UIs: clicks or lasso

Click selection
Challenge: automatically revealing user’s intention is nontrivial
Applicable to different types of shape elements

- Bitmap images with well-defined regions
- Vector graphics images
- 3D models with segmentation
Selection of 3D Elements
Group-Aware Command-Based Arrangement Tool (GACA)
Align top
Align top
No pushpin
Align top
One pushpin
Align top
Two pushpins
Global Beautification of Layouts with Interactive Ambiguity Resolution [UIST 2014]
input window

preview window
Editing layouts with our interface
Potential interface
Apply beautification after each operation
Difficult to form global patterns
Difficult to resolve **ambiguities**
Comparison with traditional tools
Comparison with traditional tools

Target

Snapping & alignment commands

Our interface
For more details, please refer to papers and videos on our project pages

Acknowledgement: thank my students for their nice conference presentation video clips.