Beyond the Universal Tasks

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Universal tasks

- Navigation (travel, wayfinding)
- Selection
- Manipulation
- System Control
- Symbolic Input
Interaction techniques for the universal tasks

- Claim: There are still research opportunities here (see class projects!), but existing techniques cover a large part of the design space.
- Does this mean that, for the most part, we are “done” with the design of basic 3D interaction techniques?
- No, it implies two research directions:
  1. Enhancements to basic techniques for universal tasks
  2. Exploration of techniques for less-common or more specialized tasks
Specialized task: modeling
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- Actually a composite task including:
  - Object/shape creation
  - Placement
  - Scaling
  - Deformation / shape editing
  - Grouping / ungrouping
  - Property setting (color, texture, etc.)
  - …
Modeling with existing techniques for universal tasks

- Object/shape creation - menu
- Placement - selection/manipulation
- Scaling - selection/manipulation of widgets
- Deformation / shape editing - selection/manipulation of widgets
- Grouping / ungrouping - selection + menu
- Property setting (color, texture, etc.) - selection + menu
New techniques for modeling

- Object/shape creation - gestures, example, space filling
- Scaling - PORT
- Deformation / shape editing - cutting tools, boolean operations, gestures
- Property setting (color, texture, etc.) - specialized color picker
Brainstorming on Thursday

- Techniques for 3D modeling tasks
- Other tasks for which we need to explore new 3D interaction techniques
- Possible techniques for these tasks
- The pros/cons of designing special-purpose techniques

- Come prepared!