

CSE 165: 3D User Interaction

Lecture #11: System Control



Announcements

- Homework Assignment #3
 - Due tomorrow at 2pm
- Zspace 3-6pm today

System Control

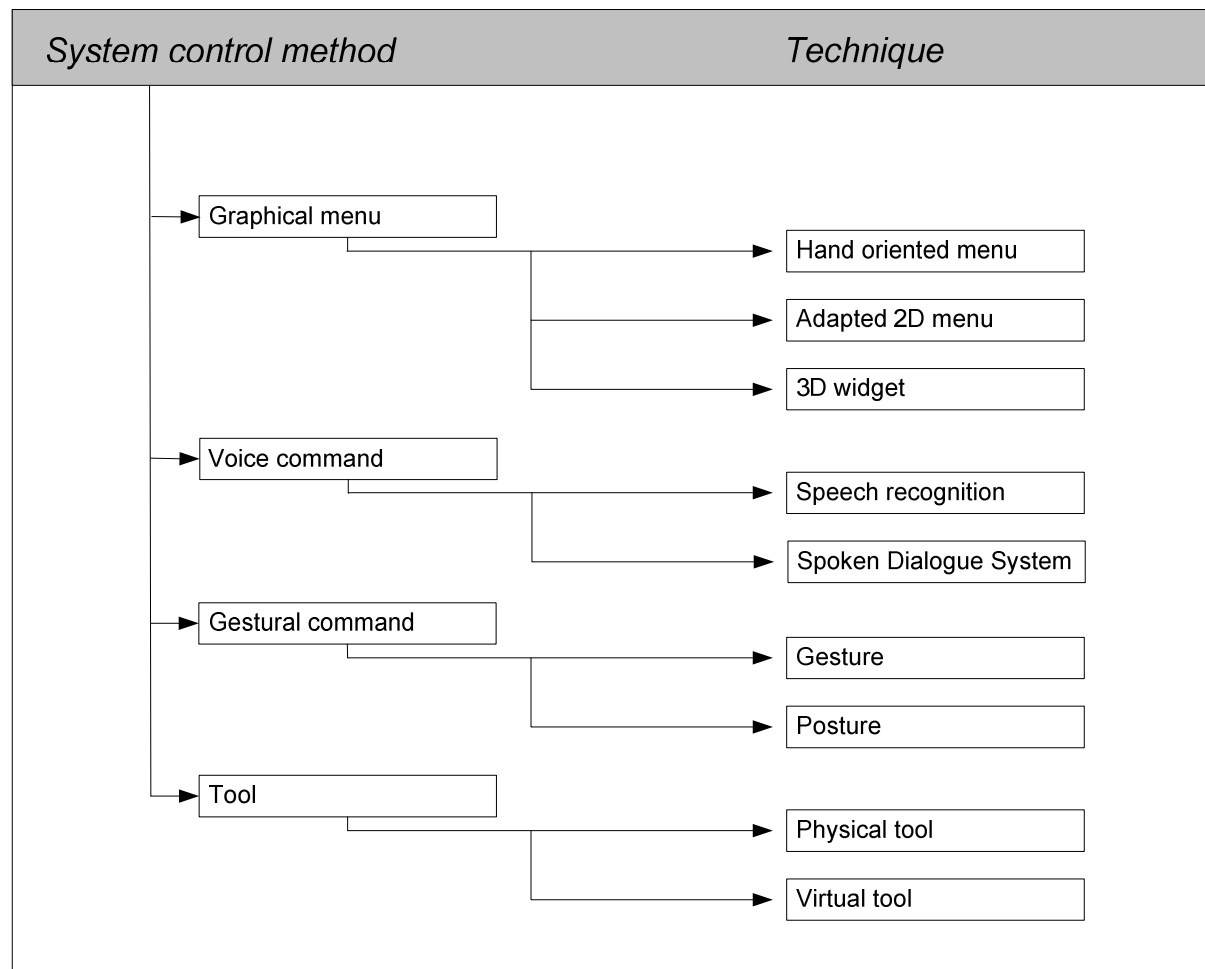
Universal 3D Interaction Tasks

- Selection
- Manipulation
- Navigation
- **System control**
- Symbolic input

System Control

- Often considered glue of 3D UI
- Commands are issued to
 - request system to perform a particular function
 - change interaction mode
 - change system state

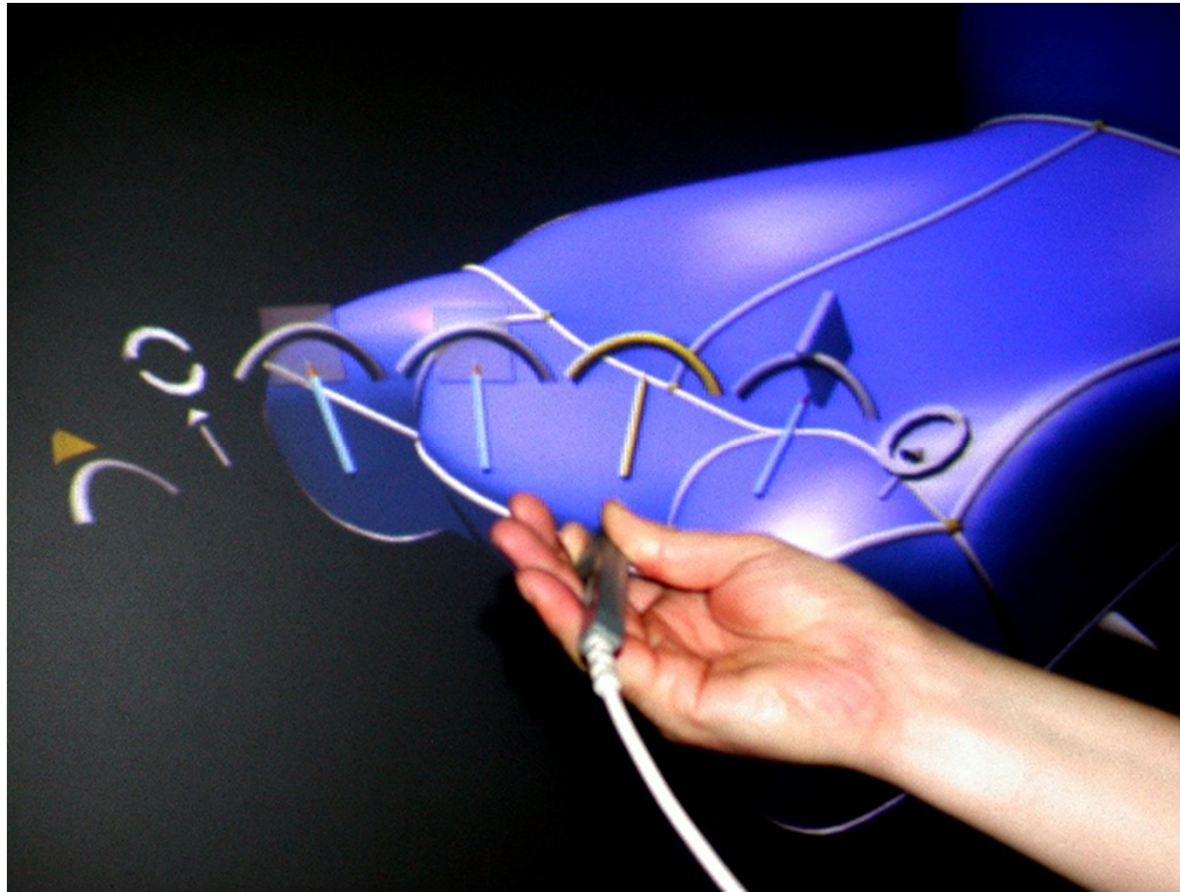
Classification



Graphical Menus – Adapted 2D Menus

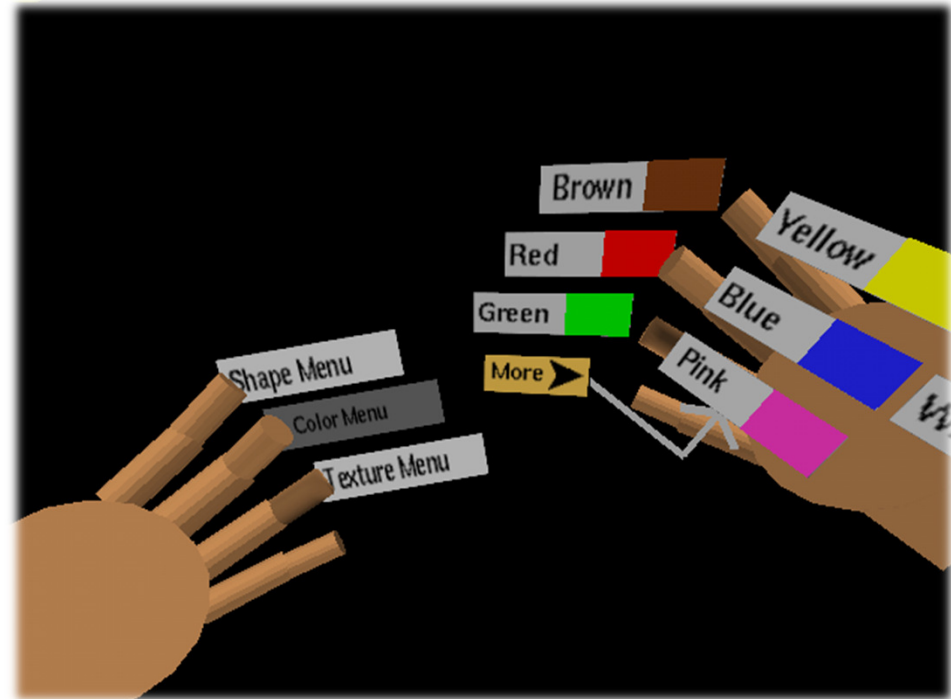


Graphical Menus – 1-DOF Menus



Graphical Menus – TULIP

- Uses pinch gloves
- Limited to 16 menu items
 - 8 per hand
- More than 16 menu items possible with “more” option on pinky finger



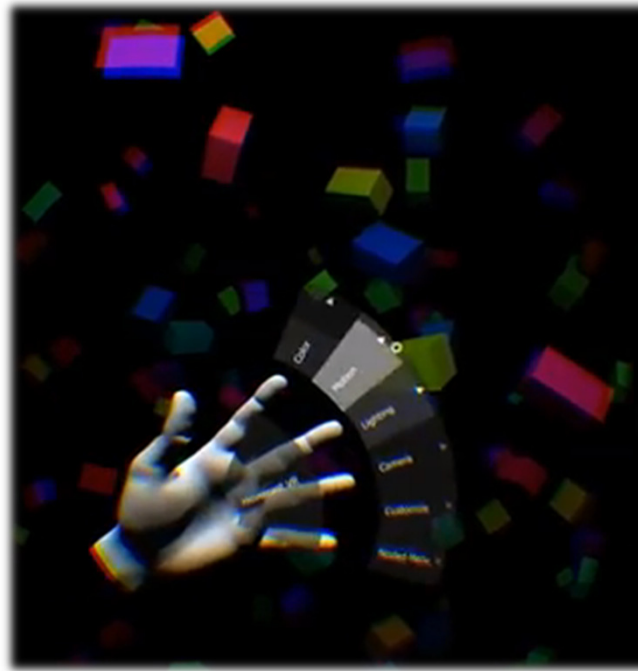
Bowman, Wingrave 2001

Arm Widget for Leap Motion

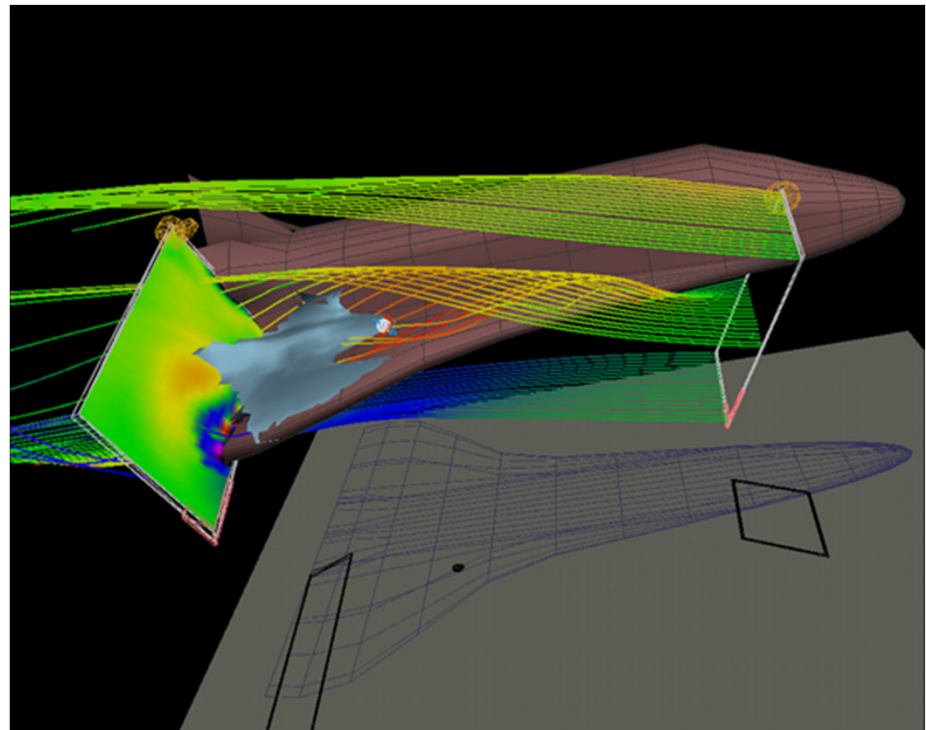
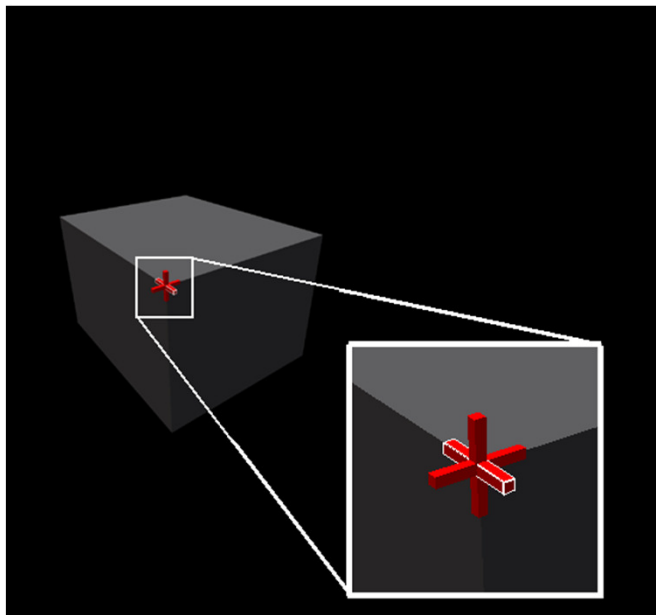


Hovercast VR Menu (2015)

- <https://www.youtube.com/watch?v=Phn3lx-YxPA>

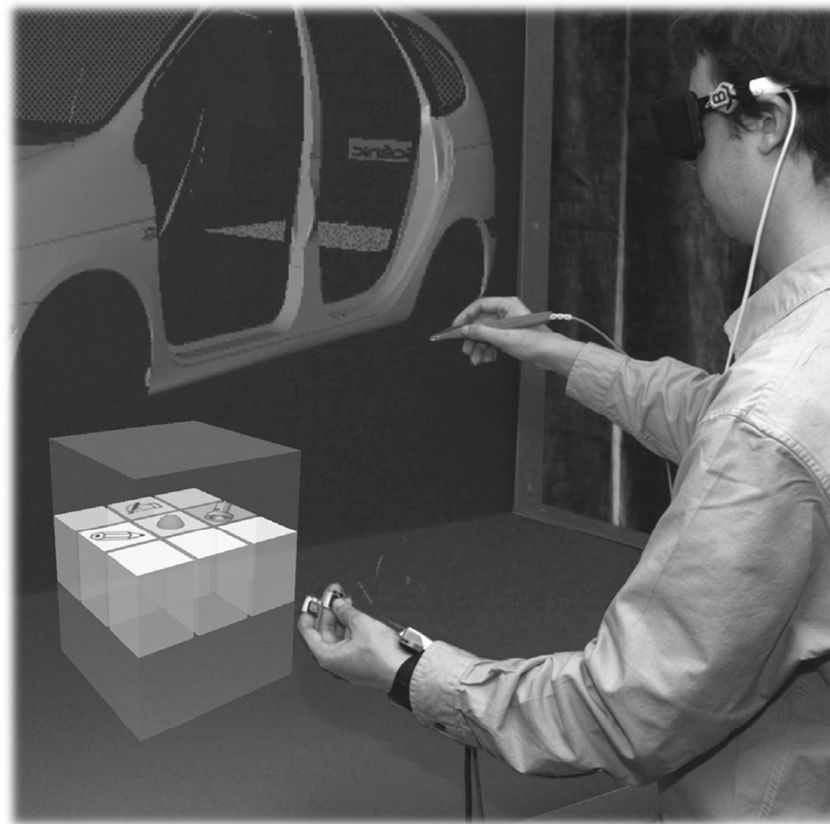


Graphical Menus – 3D Widgets (1)



Graphical Menus – 3D Widgets (2)

Command and Control Cube



Grosjean, Coquillart 2001