DepthTouch is an exploratory interactive system that combines the benefits of multi-touch-sensitive surface with the ability to interact in the hover space in front of the surface.

**Perspective 3D View**

Depth cues: head-position-based perspective 3D view, motion parallax, and shadows.

**Hover Space Interactions**

- By touching the surface, the user can select an object and drag it in plane.
- While the object is held with the first hand, it can be rotated in place by moving the second hand in plane above the surface.
- The object can also be pushed closer or further away by moving the second hand closer or further away from the body.

**Tracking by Segmentation**

Tracked body parts: head, hands, torso

**Hardware**

- 3DV ZSense depth camera
- Pulsed infrared lasers
- IR camera + GaAs solid state shutter
- RGB camera

**Transparent screen (DNP HoloScreen)**

- Short throw projector (NEC WT610)

**Hardware Hover Space Interactions**

- Tracking by Segmentation
- Depth image
- Segmented body
- Segmented hands image

**Translation (X-Y)**

- Segmented hands image

**Rotation (Yaw-Pitch)**

- Translation (X-Y)

**Depth (Z)**

- Depth image

A view from the left. A view from the middle.