

I-BALL: INTERACTIVE INFORMATION
DISPLAY LIKE A CRYSTAL BALL
Juried Exhibit

This object-oriented spatial display, i-ball (interactive/information ball), is spherical and transparent, so it looks like a crystal ball and is very attractive and expressive. The system is designed to capture and process images of observers' behavior, which enables not only interactive displays, but also image communication through the transparent ball.

CHARACTERISTICS

- The images displayed within the transparent ball are slightly distorted by the optical system. This distortion provides the illusion of depth sensation, though it is essentially a 2D display system.
- By capturing viewer behavior, the system can display images interactively.
- When users rotate the ball, the system can display objects for any point of view.

INTERACTIVE APPLICATION

As the observer's hand moves, a 3D animation is rendered, and the ball is rotated appropriately. For example:

- If you wave your hand to a robot in the ball, he waves back to you.
- If you suddenly stretch your hand toward the ball as if you are punching it, the robot break into pieces.
- If you cover the ball with your hands, the robot objects and shakes his head, and the ball rotates right and left.
- If your hand moves from right to left, the ball rotates and the robot jumps to the surface of the ball.

VIDEO CONFERENCING APPLICATION

Since i-ball is capable of displaying real images as well as CG, various interactions can be designed for this system. For example, i-ball can be utilized as a video conferencing application. The mirror in the ball does double duty as a reflector for both displaying objects and capturing viewer's behavior, so the optical system can easily recognize gaze awareness. Furthermore, distant participants can control the direction of the ball, so it appears as if they are turning their heads during the communication.

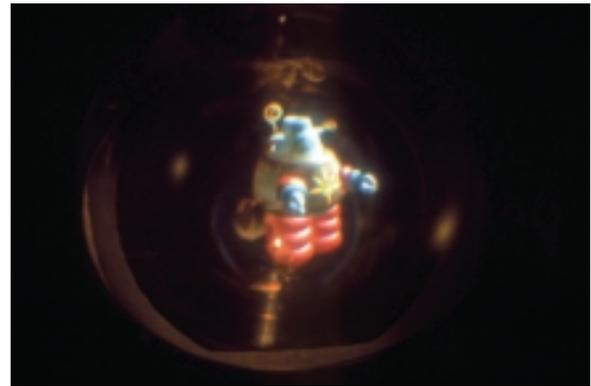
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Let's interact with the robot inside the transparent ball.



The i-ball system.