

# Kinect's Israeli partner sees a remoteless world

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(AP) -- Inon Beracha envisions a world where your movements control the gadgets and devices around you. There's no remote control to lose, no buttons to push. The air conditioner senses your presence and changes the temperature to your liking.

Controlling your surroundings with the wave of a hand sounds like magic, but Beracha's company, PrimeSense, is already making headway, thanks to a little help from video games.

PrimeSense's 3-D camera is a key component of Microsoft Corp.'s Kinect motion- and voice-control technology for the [Xbox 360](#) game system. Coming this fall, Kinect will let people play games and watch movies on the Xbox with no wand, controller, mat or remote. It recognizes users' gestures and voices, so you can control on-screen characters in racing, action and sports games simply by speaking or moving your body. If it's a hit, it could pave the way for a remoteless future.

Beracha and his PrimeSense colleagues see their technology as an integral part of the home of the future. PrimeSense already has other collaborations in the works, with TVs and PCs fitted with its device targeted for next year.

"Our vision is to see this technology become ubiquitous, in every consumer device," said Beracha, PrimeSense CEO.

Several companies have developed depth-sensing cameras. Another Israeli company, 3DV Systems, developed one that determined the depth of the picture with a technique similar to radar. Microsoft snapped up that company in 2009, but didn't use its camera for the Kinect.

The camera from 3DV was relatively sophisticated and expensive. PrimeSense's, by contrast, is a fairly standard one that you might find in any [Web camera](#), according to Adi Berenson, the company's vice president of business development.

The setup is able to determine depth because the camera is paired with a projector that emits invisible, infrared light in a complicated speckle pattern. The camera picks up how the pattern is distorted when it hits objects. At a distance of 7 feet, it can distinguish depth differences of less than an inch, Berenson said. That's enough to decipher gestures and hand movements. At a distance of 3 feet, the resolution is finer, and facial expressions can be distinguished.

Kinect also has a microphone that picks up the location of sounds, helping the system understand its surroundings. Microsoft's software ties the components together.

Microsoft is counting on [Kinect](#) to lure people who haven't traditionally been interested in video games. The company will start selling it in the U.S. for \$150 on Nov. 4 and elsewhere at around the same time.

The founders of PrimeSense all hail from Israel, which has evolved from a farming nation into a high-tech powerhouse, known for its many startups and developments in communications, software and military technology.

The company started with Aviad Maizels, who worked in research and design for Israel's military intelligence service. He was looking for a

better way to interact with consumer devices, and games in particular. He teamed up with Alexander Shpunt, now the company's chief technology officer, who came up with the camera system, building on the work of others on speckle patterns for depth-sensing.

The company got started in 2005. Its goal isn't to make the gadgets. Rather the Tel Aviv-based company makes the sensor system and seeks others to embed it in products. [Microsoft](#) was the first to bite, Beracha said.

PrimeSense's technology brings to mind the 2002 movie "Minority Report," where Tom Cruise shifts documents and pictures around on a screen using a special glove. But with a depth-sensing camera, you wouldn't need a glove to do the same thing. PrimeSense has made the hardware from the film - set in 2054 - look obsolete.

As is often the case with new technologies, gaming provides the first foothold. In four or five years, Beracha believes we can see a home furnished by gesture-controlled TVs and other electronics.

He acknowledged that PrimeSense's technology may not be for every device or every consumer. Without an actual remote to tear away, parents may struggle with children refusing to turn off the TV. Some users may have a hard time completely letting go of remotes, he said.

The ultimate goal of the PrimeSense is "for humans and devices to live seamlessly side-by-side, so that we don't have to do anything special for devices to work," said Maizels, PrimeSense's president.

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