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Wi-Vi allows you to see through walls using Wi-Fi. Moreover, this is a very cheap technology, expensive special tools are not required here. The system can be integrated into a smartphone or tablet, and there are also special devices that perform only this function. Of course, you can't literally see through walls, Wi-Vi tracks the movement and displays the corresponding image on the screen.

You won't be able to see, for example, how a person in the next hotel room is changing clothes - Wi-Vi still displays an image in a very low resolution. However, scientists are working to improve it. Wi-Vi technology works like a radar, sending out Wi-Fi radio waves and receiving reflected signals. Most of the signal will bounce off the wall itself, but some will bounce off people on the other side. Using a special algorithm, it became possible to recognize people and their movements behind the wall. And technically, Wi-Vi requires the same components that are used in conventional smartphones.

What Can Wi-Vi Do?

* Wi-Vi allows us to detect presence of a moving human in a closed room. It can also can determine with high accuracy up to 3 moving objects.
* The technology can also determine the motion of different persons in a closed room. It can answer questions such as: Is the person moving towards the device or away from it? What is the angle of motion of a person inside a closed room relative to the location of WiVi?
* Wi-Vi is both a transmitter and a receiver. A human can communicate with it using simple gestures without carrying or wearing any wireless device.
* Wi-Vi can detect very simple gestures made through a wall, making it the first through-wall gesture-based interface.

What are the Applications of Wi-Vi?

* Law enforcement: Law enforcement personel can use the device to avoid walking into an ambush, and minimize casualities in standoffs and hostage situations.
* Emergency situations: Emergency responders can use it to see through rubble and collapsed structures.
* Personal Security: Common users can use it for intrusion detection, or when stepping into dark alleys and unknown places.
* Smart Sensing: Wi-Vi can be extended to sense motion in different parts of a building and allow automated control of heating/cooling and lighting systems.
* User Interface Design: The technology may also be leveraged in the future to enable controlling household appliances via gestures, and non-invasive monitoring of children and elderly.
* Entertainment: It enables a new dimension for input-output devices in gaming which does not suffer from occlusion and works in non-line-of-sight.