OCULUS INTOUCH

DESIGNING A CONTROLLER FOR COMPELLING VR EXPERIENCES THROUGH TOUCH

Arthur C. Clarke said: "Any sufficiently advanced technology is indistinguishable from magic," and cutting edge Virtual Reality (VR) certainly is quite the illusion. VR opens to us a near infinite set of worlds and possibilities. Comprehensive, compelling VR will close the gap between our digital imaginations and our physical limitations.

Right now, VR doesn't feel real. The Oculus Rift-S and Quest Headsets have breathtaking, high resolution displays, and compelling comprehensive surround-sound, but when we reach out and touch the digital world we're left holding nothing. A new controller is needed. The Oculus inTouch design revolutionizes VR interaction through five key design features:

Redesigned Joystick: The inTouch controller allows users to feel closer to their digital avatar than ever before. The new joystick vibration feedback will enable users to sense every footstep and experience every surface. High-frequency waveforms make users aware of the effort required to maneuver in digital space, tricking the brain into feeling a resistive force where there is none.

Redesigned Trigger: The inTouch controller makes first-person shooters more compelling than ever. Feel the movement of the trigger, and the thump of the recoil in your hand. A unique matte texture and semi-soft coating help keep the finger in place through even the most energetic vibration.

Redesigned Grip Trigger: The inTouch controller makes digital objects more believable. When grabbing objects, the grip fires back. Objects feel more present than ever before. Feel the texture of what you're holding, and feel the deformation as you grip things and squeeze.

Voice Coil Haptic Actuators: The inTouch controller takes advantage of cutting edge haptic motors. Custom designed by Actronika SAS, the triggers, joystick, and button all respond to every click, bump, and action with fidelity. The actuators respond from 8Hz well beyond 15kHz, covering haptic and audio spectrum ranges. With the ability to produce waveforms that fluctuate in frequency and amplitude, these actuators generate a more compelling interaction than ever before.

New Centre of Gravity: With the introduction of inside-out tracking, the Oculus Quest touch had to shift the tracking ring from around the hand to above the controller. The new VCAs and weighting at the base of the controller help bring that orientation back into alignment, improving overall user comfort.

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