REVEL: Tactile Feedback Technology for Augmented Reality

【Summary】:

REVEL is a new augmented reality (AR) tactile technology. Using a device worn by the user, REVEL changes the tactile feeling of real objects by augmenting them with virtual tactile textures.

【Design】:

Figure 3 presents the design of an AR tactile display based on reverse electrovibration using REVEL. A tactile signal generator (Figure 2) worn by the user communicates with an AR display and a context-sensing system.

【REVEL meets two key requirements】:

First, the surface of the object or object it is in must be conductive and must be covered with a very thin insulator (Figure 1). Second, the conductive surfaces of the object and the haptic signal generator should share a common electrical ground.

Figure 1: *The user feels virtual tactile textures on a real object while observing them on an AR display. Note, that the object is* not *instrumented with any tactile actuation apparatus.*

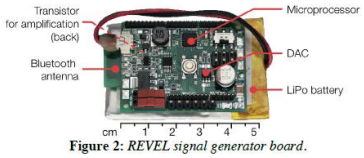

Figure 2: *REVEL signal generator board.*

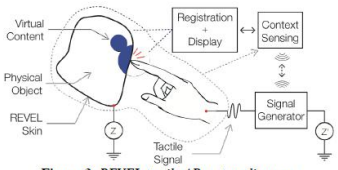

Figure 3: *REVEL tactile AR system diagram.*