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# TactileVR: Integrating Physical Toys into Learn and Play Virtual Reality Experiences

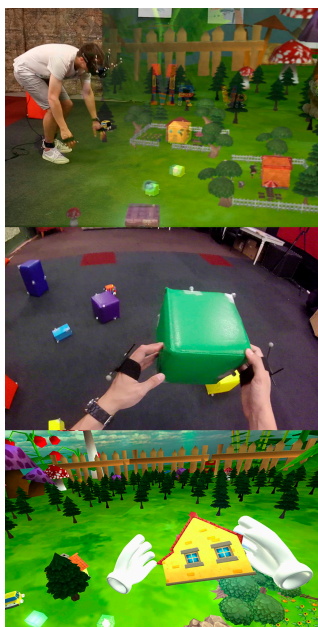


Figure 1: Tactile VR system. Hand, feet, head and toys are track and represented as a proxy in the virtual world.

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**Abstract**

We present TactileVR, an immersive presence and tactile feedback into virtual reality. Our system allows users free to move around and interact with physical objects and toys, which co-exist in the virtual world. By integrating tracking information from the space as well as head, hands and feet of the user, we represent this information as virtual proxies in the 3D environment. Each object has a unique appearance and behavior e.g. in an electric circuits lab toy blocks serve as switches, batteries and light bulbs. By tracking and integrating toys and other everyday objects into VR, we are able to create educational and recreational experiences for children, an environment in which they can play and learn more autonomously.

**Author Keywords**

Virtual Reality; Child Education; Haptic Feedback; Gesture Recognition; Interactive; Play.

**ACM Classification Keywords**

H.5.1. Multimedia Information Systems: Artificial, augmented and virtual realities; H.5.2. User Interfaces: Interaction Style; H.5.2. User Interfaces: Haptic I/O; I.3.7 3-D Graphics: Virtual Reality.