

# Improvising Design with a Haptic Instrument

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## ABSTRACT

As the need to deploy informative, expressive haptic phenomena in consumer devices gains momentum, the inadequacy of current design tools is becoming more critically obstructive. Current tools do not support collaboration or serendipitous exploration. Collaboration is critical, but direct means of sharing haptic sensations are limited, and the absence of unifying conceptual models for working with haptic sensations further restricts communication between designers and stakeholders. This is especially troublesome for pleasurable, affectively targeted interactions that rely on subjective user experience. In this paper, we introduce an alternative design approach inspired by musical instruments – a new tool for real-time, collaborative manipulation of haptic sensations; and describe a first example, mHIVE, a mobile Haptic Instrument for Vibrotactile Exploration. Our qualitative study shows that mHIVE supports exploration and communication but requires additional visualization and

