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(54) **METHODS AND SYSTEMS FOR PROVIDING HAPTIC CONTROL**

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(57) **ABSTRACT**

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Haptic systems are disclosed which may provide increased resolution in tactile feedback. A tiered haptic system may be formed by stacking of haptic elements. One or more arrays of shape change elements such as, for example, piezoelectric elements may be used to actuate a screen surface. Arrays may also be used to sense tactile interactions and stimuli on a screen surface. An embedded haptic system may be formed by inserting haptic elements into a contoured elastic sheet. The embedded haptic system may provide tactile interactions to a user. In some embodiments, both tiered and embedded haptic arrangements may be used.

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