
Ferro Tale: Electromagnetic Animation Interface

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Abstract

In this video we demonstrate the idea and the prototype of an electromagnetic animation interface, ferro tale.

Ferromagnetic particles, such as iron filings, have very fascinating material characteristics. Therefore they are widely used in art, education and as toys. In addition to the material's potential to enable visual and tactile feedback and to be used as a medium for high resolution tangible input, people's natural desire to engage and explore the behavior of ferromagnetic particles makes them interesting for HCI.

Inspired by the expressiveness of sand drawing, we want to explore ways to use an electromagnetic array, camera feedback, computer vision, and ferromagnetic particles to produce animations. Our current magnetic actuation device consists of a 3 by 3 coil array. Even with such a small number of actuators, we are able demonstrate several animation examples.

Author Keywords

Electromagnetic interface; actuated display; animation tool; haptic display

ACM Classification Keywords

B.4.2 [Input/Output Devices]: Image display;