專 題 演 講

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演講題目：TUi x NTUi: Natural and Tangible User-interactions by NTU interaction team

演講摘要：

In this talk, I will focus on introducing the recent projects related to the natural and tangible user-interactions which can also be used to support interactive visualization, including PUB (ACM UIST 2011), NailDisplay (ACM CHI 2013 Best Paper Award), FingerPad (ACM UIST 2013), GaussSense (ACM UIST 2012), GaussBits (ACM CHI 2013), GaussBricks (ACM CHI 2014), and GaussStones (ACM UIST 2014). PUB (Point Upon Body) is a project to explore eyes-free interaction in a personal space by allowing users tapping on their own arms to be provided with haptic feedback from their skin. To achieve this, an UltraSonic device is developed to be attached on the users' wrists to detect their tapped positions. NailDisplay is a novel and always-available nail mounted display, which augments the use of a finger by allowing for always-available visual feedback owing to its fast accessibility and binding user controls with the display. Instead, FingerPad is a nail-mounted device that turns the tip of the index finger into a touchpad, allowing private and subtle interaction while on the move. This is achieved by using GaussSense, which is a back-of-device sensing technique for enabling input on an arbitrary surface by exploiting magnetism. Attaching the sensor behind an arbitrary thin surface enables the stylus input to be recognized by analyzing the distribution of the applied magnetic field. Besides, it can also support GaussBits, GaussBricks, and GaussStones, which is a system of the passive magnetic tangible designs that enables 3D tangible interactions in the near-surface space of portable displays.