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Tap, Swipe, Move: Motion Gesture Interaction in a Mo- bile and Wearable World

**By: Edward Lank
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Hand motion -- pointing, gesturing, grasping, shaking, tapping -- is a rich channel of communication. We point and gesture while we talk; we grasp tools to extend our capabilities; we grasp, rotate, and shake items to explore them. Yet, the rich repertoire of hand motion is largely ignored in interfaces to mobile computation. The user of a modern smartphone generally holds the device stationary while tapping or swiping its surface; the user of a smartwatch interacts in a similar way, perhaps with the minor addition of shake detection to activate the screen. In this talk, I will explore our on-going work in the design and implementation of accelerometer-based gestures to control modern smartphones and smartwatches. I will present past results on the design of gesture sets, on techniques to enhance reliable recognition of gesture sets, and on techniques for training users to perform gesture sets, all for smartphone devices. I will also describe our new work on accelerometer-based gestural input on smartwatches.

Edward Lank is an Associate Professor in the Cheriton School of Computer Science at the University of Waterloo. His research is in the area of human-computer interaction with a focus on low-level models of movement, intelligent user interfaces, and mobile device and large display interaction. Prior to joining Waterloo, he was an Assistant Professor at San Francisco State University (until 2006). He obtained his Ph.D. in 2001 from Queen's University, and holds a Bachelor's Degree (Honours Physics) from the University of Prince Edward Island.

**Tuesday, November 17th @ 3:30 PM
Information Technology Centre ITC 317**