

# SkinTrack: the next step in wearable technology

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Researchers at Carnegie Mellon University are working on a new technology that uses the body as a touchpad surface. This advancement in wearable technology is in its early phases but is showing promise.

Aptly dubbed SkinTrack, the device uses skintrack technology to continuously track touch on the lower arm and hand. According to assistant professor, Chris Harrison, SkinTrack makes it possible to move interactions from the screen onto the arm, providing a much larger interface. The SkinTrack screen is part of a small watch that works in conjunction with a ring. The watchstrap contains electrodes that detect varying electromagnetic waves from the ring. The waves change depending on the length and width, down or across the arm, the finger makes contact with.

Unlike other similar technologies, SkinTrack doesn't use any additional interactive materials or projections. Instead, it makes use of a simple low-energy emitting ring that sends a high-frequency signal through the skin. Yang Zhang, a Ph.D. student on the team says, "The great thing about SkinTrack is that it's not obtrusive; watches and rings are items that people already wear every day."

Gierad Laput a fellow Ph.D. student working with Zhang explains how their design compares to other designs on the market.

“Not only is the interaction area small, but your finger actually blocks much of the screen when you’re using it. Input tends to be pretty basic, confined to a few buttons or some directional swipes.”

Given that the innovation is still quite new, it does face a few limitations such as keeping the ring charged, and having to deal with body movements and sweat. But, the technology is safe for humans to use, since the radio frequencies have not been proven to be harmful.

SkinTrack has shown successful and promising results, with 99% accuracy when testing how often it picked up touch and a mean error of 7.6 millimetres for precise touch location.

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