

44. Send your loved one a gentle caress via a tactile sleeve

We do not only use our sense of touch to explore the world around us, but also in social interaction. Social touch can help to reduce stress, communicate feelings and emotions, and is vitally important for the bonding between people. Unfortunately, our everyday digital communication via smart phones and computers completely lacks the sense of touch.



To overcome this disadvantage, we have developed a wearable, smart-textile sleeve, called TaSST (Tactile Sleeve for Social Touch). You can wear TaSST on your forearm and communicate through touch at a distance. The sleeve can register a gentle caress or a strong squeeze, and reproduce these touches as a vibrotactile pattern on a smart sleeve worn by somebody else. Our tactile sleeve helps to support physical closeness between people separated by distance.

ICT science question

How can we use wearable haptic technology to communicate the important sense of touch?

Application

We have designed our tactile sleeve as a research tool to study the communication of social touch. People separated by distance, such as family members working abroad, patients isolated in hospital wards, and people living in elderly homes can use the sleeve as an additional communication channel with loved ones. Deaf-blind people can benefit from it by allowing them to more easily communicate with their care-givers, and opening up their world to new experiences.

Alternative Application

Tactile is one of the six human cognitive sensors.



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Alternatively, our tactile sleeve can be employed in the entertainment industry. For example, it can be an additional method of communication in online multi-player games. And while watching a movie with a distant friend, the smart sleeve can be used as a playful way to enhance the movie experience.

Nice to know

Do Androids Dream of Electric Sheep? - Early versions of the TaSST used conductive wool (sheep's wool with metal fibres) to detect touches.

Quote

"Pak de onderarm van je buurman eens vast. Pets er drie keer stevig op. Vraag dan: welke emotie probeer ik over te brengen? Wedden dat je buurman zegt: eeeuh, woede?" - NRC Next, 21-07-2012

"[...] de TaSST, een apparaat dat menselijke aanraking simuleert en deze over kan brengen naar een ander, waar dan ook ter wereld." - Scientias, 29-12-2012

"Nu communicatie via tekst, geluid en beeld goed op dreef is, is het tijd voor een extra zintuig: tast." - Voorpagina artikel, NRC Next, 22-03-2013



The TaSST uses custom designed fabric sensors, that can be reshaped and embedded in a host of different garments.



Health benefits of social touch are numerous, and mediated social touch could bring some of these benefits to people who may lack social touch in their treatment.



Mediated social touch is an understudied phenomenon and the TaSST offers researchers an open platform to study effects of mediated social touch.



Mediated social touch can play an important part in helping people live independent lives, with intimate connections to their loved ones, for longer.