

Innovative research reawakens human memories through intelligent textiles

June 3 2010

As part of the 2010 Congress of the Humanities and Social Sciences, two teams of researchers led by Professor Barbara Layne of Concordia University, Montreal, and Professor Janis Jefferies at Goldsmiths, University of London, U.K., have brought research in intelligent textiles to a new level.

The research teams have developed a highly sophisticated concept of interactive clothing whereby the body's physical and emotional state triggers the transfer of personalized memory back to the wearer.

The project, titled *Wearable Absence*, uses a system of wearable devices never before seen in the expanding field of intelligent textiles.

Combining uniquely engineered adaptors and soft cabling systems with fashionable clothing designs, the prototype garments incorporate wireless technologies and bio-sensing devices to activate a rich database of image and sound, creating a narrative, or string of messages, from an 'absent' person.

Wireless sensors and bio-sensing devices are embedded into garments that record the wearer's temperature, heart rate, galvanic skin response (moisture) and rate of respiration. The data is sent via the Internet to a sophisticated database which in turns sends back messages to the clothing. The messages, which evoke memories of an absent person, may take the form of voice recordings or songs broadcast from speakers sewn into a hood or shoulder seams, or scrolling text on a LED array woven into fabric, or video and photographic imagery.

To give an example, a person might be experiencing a certain [emotional state](#) such as stress, grief or despair. The bio-sensors would prompt the person's clothing to receive a range of messages such as photos, texts and sound recordings to provide comfort.

This unique combination of textile arts, emotional mapping and responsive technologies can enhance human experience, with enormous potential for the fields of health care and well-being.

More information: www.wearableabsence.com/

Provided by Concordia University

Citation: Innovative research reawakens human memories through intelligent textiles (2010, June 3) retrieved 1 May 2024 from <https://phys.org/news/2010-06-reawakens-human-memories-intelligent-textiles.html>

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