Communicating Child's Jacket and Mother's Purse

Inese Parkova, Aleksandrs Vališevskis, Inese Ziemele, Ausma Viļumsone,

inese.parkova@rtu.lv, aleksandrs.valisevskis@rtu.lv, inese.ziemele@rtu.lv, ausma.vilumsone@rtu.lv



The developed prototype set includes a smart child's jacket and a mother's purse, which are communicating using a wireless data exchange protocol. The jacket reacts to microclimate changes with the help of integrated electronics and signals the temperature and the relative humidity inside the jacket. Output interface is represented in two ways:

- 1) with the help of optical fibre fabric integrated into clothing: in case of microclimate data change, the fabric changes blinking frequency (LED is used as a source of light, which then dissipates in the side-glow optical fibre fabric);
- 2) with the help of an LCD screen integrated into the child's mother's purse, which displays wirelessly received information about the temperature and the relative humidity under the jacket, and beeps if limit values of microclimate data are exceeded.

The jacket is intended for children of age 4-6 and it is especially suitable for very active and restless children, who are subject to frequent microclimate changes around their bodies due to physical activities. The mother can control the perspiration and the temperature of her child and when the jacket's or the purse's alarm goes off, she can change the child's clothes if deemed necessary. This can help a child avoid catching a cold.

In addition to its decorative and functional properties, this light-emitting children's garment will protect children on dark roads and will help parents take better care of their children.



Inese Parkova is a doctoral student of Riga Technical University, Institute of Textile Materials Technology and Design and she is elected as a scientific assistant. She also lectures for bachelor students. Current research of her dissertation is electronic systems integration into clothing.

The authors are affiliated with the Institute of Textile Materials Technologies and Design of Riga Technical University.