Smart illumative polymeric optical fibre (POF) textiles

July 15 2016

Interactive POF Textile. Credit: PolyU

Smart illuminative POF textiles integrated with sensors and remote controls enable users to constantly change the appearance of the textiles according to the ever-changing needs. These textiles are pliable and offer the familiar tactile quality of conventional textiles, while offering a means to seamlessly integrate technology into everyday products.

In contrast to existing illuminating textiles which only offer flat illumination or obtrusive application of technology, the textiles of this project possesses aesthetic function in terms of patterns, textures and soft structures which had been previously neglected in illuminating textiles. The integrated sensors and remote
control transform conventionally passive textiles into an interactive communication platform.

Special Features and Advantages

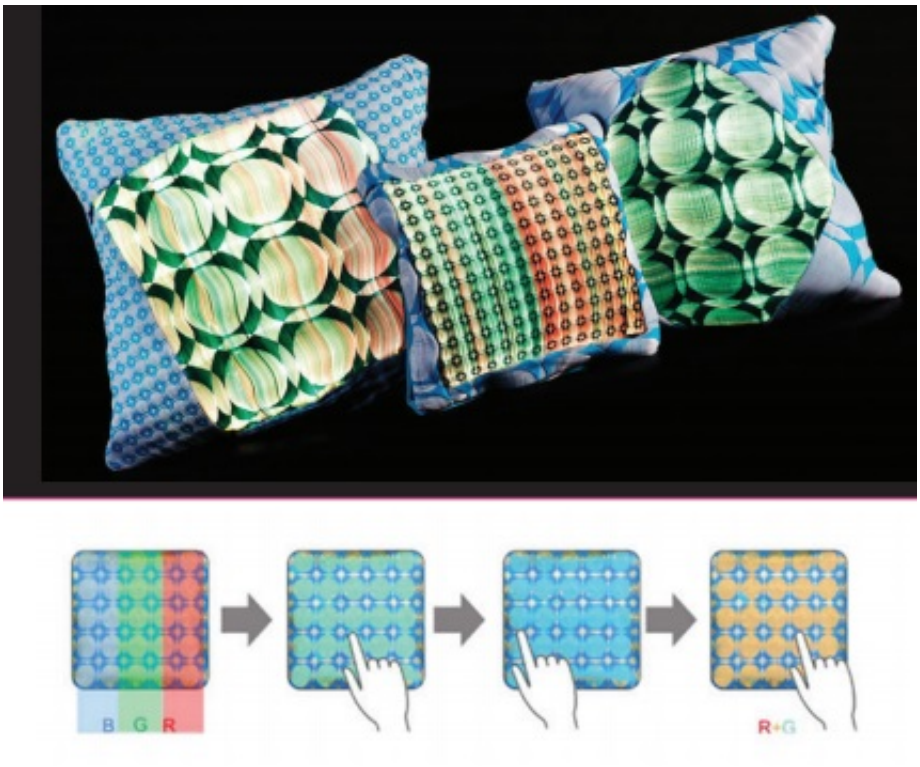
- Unique textures and soft dimensional effects enhance users' sensory pleasure
- Pliability and high tactile quality ensures wearing comfort and fashionability
- The integration of remote controls via bluetooth technology of mobile phones makes them user friendly for a wide spectrum of users
- These textiles' color, illumination rhythm and patterns can evolve according to the needs of the users

Applications

- Fashion and stage costumes with great visual effects
- Interior furnishings with ability to customize the interior

environments
- Safety wear, e.g. uniforms for rescuers, for identification and communication

Interactive POF textile fashion design with integrated touch senso. Credit: PolyU



Interactive POF textile cushion with touch sensor for blended color illuminatio. Credit: PolyU

Provided by Hong Kong Polytechnic University