

Tree Dress and the Internet of Living Things

Authors : Vibeke Sorensen, Nagaraju Thummanapalli, J. Stephen Lansing

Abstract : Inspired by the indigenous people of Borneo, Indonesia and their traditional bark cloth, artist and professor Vibeke Sorensen executed a “digital unwrapping” of several trees in Southeast Asia using a digital panorama camera and digitally “stitched” them together for printing onto sustainable silk and fashioning into the “Tree Dress”. This dress is a symbolic “unwrapping” and “re-wrapping” of the tree’s bark onto a person as a second skin. The “digital bark” is directly responsive to the real tree through embedded and networked electronics that connect in real-time to sensors at the physical site of the living tree. LEDs and circuits inserted into the dress display the continuous measurement of the O₂ / CO₂, temperature, humidity, and light conditions at the tree. It is an “Internet of Living Things” (IOLT) textile that can be worn to track and interact with it. The computer system connecting the dress and the tree converts the gas emission data at the site of the real tree into sound and music as sonification. This communicates not only the scientific data but also translates it into a poetic representation. The wearer of the garment can symbolically identify with the tree, or “become one” with it by adorning its “skin.” In this way, the wearer also becomes a human agent for the tree, bringing its actual condition to direct perception of the wearer and others who may engage it. This project is an attempt to bring greater awareness to issues of deforestation by providing a direct access to living things separated by physical distance, and hopefully, to increase empathy for them by providing a way to sense individual trees and their daily existential condition through remote monitoring of data. Further extensions to this project and related issues of sustainability include the use of recycled and alternative plant materials such as bamboo and air plants, among others.

Keywords : IOLT, sonification, sustainability, tree, wearable technology

Conference Title : ICWTFE 2020 : International Conference on Wearable Technologies and Fashion Electronics

Conference Location : Bali, Indonesia

Conference Dates : October 22-23, 2020