

Animated Textiles

Title	Animated Textiles
Subtitle	Not provided.
Lead-in / Abstract	Barbara Layne combines electronic and material approaches to the production of animated textiles by weaving programmable LEDs into the structures of fabrics. These changing surfaces suggest a new narrative space in which to examine the fluidity of political and cultural boundaries.
Participants and speakers	Layne, Barbara (US / CA)
Short biography of participants	Barbara Layne is an Associate Professor of Studio Arts at Concordia University in Montreal, Quebec and a founding member of Hexagram: the Institute for Research and Creation in Media Arts and Technologies. She is the Principal Investigator of a major infrastructure grant from the Canadian Foundation for Innovation. Her work has been supported by the Canada Council for the Arts and the Conseil des arts du

Quebec.

Layne's main research interest is the development of intelligent cloth structures for the creation of artistic, performative and functional textiles. These fabrics incorporate microcomputers and sensors to create surfaces that are receptive and responsive to external stimuli. Recent explorations feature an array of Light Emitting Diodes that present changing patterns and texts through the structure of cloth. Wireless transmission systems are also being developed to support real time communication.

Full text

Barbara Layne's project, *Animated Textiles*, combines a creative approach to the textile arts with technological innovations in circuitry and wireless transmissions. The purpose is to explore ubiquitous computing, mobility and interactivity through the introduction of electronic devices into handwoven cloth.

Dynamic textiles are constructed by integrating Light Emitting Diodes (LEDs) and electronic circuitry into the structure of handmade fabrics. The warp and weft produce a natural set of x-y coordinates, forming a substrate for circuitry. The array of LEDs present changing patterns and scrolling texts, as in an electronic message board. Borrowing from traditional weaving patterns and in combination with contemporary images, these textiles exist as a carrier of (shifting, fluid) culture. Issues of identity can be addressed within this transitional, hybrid space. Through the insertion of the narrative, textiles are invigorated into new patterns of discovery. Undergoing many levels of translation, meaning is imparted through both material and electronic languages.

An interdisciplinary team of artist and scientists are collaborating to examine this research from a variety of ideological stances, including aesthetic, technical and cultural perspectives. Three intersecting streams of research are being developed:

- Animated Textiles for visual arts and wearable performance;
- 2-Fold, an investigation of related research with the Digital Studios at Goldsmith's College in London, in collaboration with **Janis Jefferies** and **Robert Zimmer**;
- Wearable Wireless Systems, for artistic and commercial applications. An internal wireless communications system is being developed in **Reza Soleymani's** engineering lab to allow mobility and facilitate remote interactions.

This project is supported by Hexagram, the Institute for Research and Creation in Media Arts and Technologies, in Montreal. Graduate students, In keeping with the goals of the Institute, **Diane Morin** and **Jake Moore**, have been an essential part of the research, experimentation and production. The resulting artworks address the nature of communications through the production of expressive fabrics and the use of smart textiles in environmental installations.

Related internet addresses

<http://www.xslabs.net/>
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