

Wearable Computing Art(ifacts).

Theories, methods and practices

Maria Cuevas

Lecture: 2h

Workshop: 6h

Evening-Session: 2h

In contemporary art, *Wearable Computing Art(ifacts)* represent a form of expression and communication with unlimited development potential. The idea of incorporating technological elements into the design of creative processes has altered our perception of the project. The emerging artistic proposals merge art, science and technology. Artists have transformed their traditional concept of a work of art into the specification of a system capable of managing a complex set of concepts, experiences and know-how that enable them to design, not an independent physical object, but an interactive interface capable of being propositional. They propose the design of devices and systems capable of transmitting emotions, experiences and meaning.

The aim of this proposal is to investigate the situation of artistic practices located in the context of *Wearable Technologies* from the perspective of the creator, of the practitioner, in order to find artistic strategies that can highlight a new viewpoint of the situation.

The path opened up is full of stimulating concepts and creative possibilities. Mobility, portability, smart surroundings, pervasiveness, user-centred design, social media, user communities, wireless connectivity, interactivity, functionality, interfaces,... these are all concepts linked to a kind of contemporary artistic practices originating in the large volume of data available in contemporary computerized societies and in the ability to process these selectively so as to extract significant information and personalized contents from their inter-relationships.

A world saturated with accessible technologies and packaged technological systems. Sometimes marketed as standard solutions and other times designed to perform functionalities suggested by the artists or designers themselves.

Working methodologies that enable us to develop more complex ways of thinking through the discovery of new relationships between concepts, objects, messages, subjects,... that would have gone unnoticed without the use of such technologies. A new world of opportunities in which to be able to define and experience new man-machine interaction models. A working environment in which the design of creative systems focuses on the user and on their relations with their day-to-day setting. A new strategy for us to communicate with reality. A commitment to work with creative processes related to other areas of cognitive work and other professions: electronic engineers, computer analysts, software developers, designers, artists,... A procedural, interdisciplinary, collaborative and interactive work.

Programme

Contents of the course:

The lecture and workshop I suggest aim to introduce participants to the world of wearable technology applied to fabric or any other medium. After an introduction, in which we will see various projects from artists and designers who are working with these techniques, participants will learn to design and develop an interactive fabric piece. We will experiment with flexible conductive materials, basic electronics and some smart materials. We will learn about different types of sensors and actuators. We will study some flexible circuit design techniques and develop a LED controlling device.

Lecture

1. Introduction to wearable technology. Project presentation.
2. Situation / context. Data, information, knowledge.
3. Wearable Computing. New models of man-machine interaction
 - Physical device – Interface
 - Functionality
 - Connectivity
 - Interactivity
4. Wearable Technology Art / Design
 - Mobility
 - Smart surroundings
 - Wireless Technologies
 - User-centred design
 - Social media. User communities
5. CASE STUDIES. AUTHORS. Designers and artists
6. Techniques in a wearable project. Presentation of various techniques.
 - LilyPad
 - Arduino
 - Bare Conductive
 - Crumble / Scratch
 - Electroluminescent Materials. EL Wire, EL Tape, EL Panel

Workshop

1. Develop a prototype.
 - The project can be done individually or in small groups.
 - The goal is to develop art/design research projects based on formulating a personal artistic problem, the conceptualization, development and implementation of which are carried out in the art and technology field.
 - The methodology used must be orientated so that students gain content and practical skills to help them develop their art project and develop an academic discourse, both oral and written, aimed at defending art projects in the university environment.

Method: 2h Lecture, 6h Workshop, 2h Evening-Session

Participans: No necessary technological knowledge.

Data:

Monday, 27th of November from 12:00 to 14:00 h, **Conference-Lecture**. Computer-Room

Tuesday, Wednesday, 28th and 29th November from 10:00 to 13:00h, **Workshop**. Computer-Room

Thursday, 30th of November from 17:00 to 19:00h, **Evening-Session**. Computer-Room

Cost: Free of charge.

Lecturer: Prof. Maria Cuevas, Professor at the Faculty of Fine Arts of the UCM since 2007. Doctor of Fine Arts.

Member of the research group UCM: Chromatic Research: technical, formal and meaning in colour expression through art aspects. She has participated in conferences and has given lectures and seminars related to technology, colour and constructive poetics of space representation. Currently she is working on the design and development of interactive installations and environments and is conducting research on ways to view the complexity and order and development of the Wearable Computing Art (iFacts).