**Acceptance and Expectations for Cyberclothes by the General Public in France**

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This study investigated the potential acceptance of cyberclothes by the general public. It provides a global evaluation, identifies centers of interest, expectations, and elements of apprehension for use in everyday life. 206 people (including 157 French) answered questionnaires about seven related topics. Results suggest a positive a priori for such garments. It shows an interest of French people for equipment and services that improve comfort, safety, and communication in particular contexts. It highlights worries about emotion sharing and control of the system.

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**Understanding the results**

We based our analysis on the 5-point scale provided to respondents: 1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, and 5-strongly agree. We considered that means below 2.5 indicated a significant trend for rejection while means above 3.5 indicated a significant trend for acceptance.

**Cyberclothes: Nature & Prototype**

Cyberclothes are garments possessing special features letting them be used as social markers or tools, and possessing some autonomy [SH05]. Cyberclothes are first of all clothes, not just computers concealed in fabrics. Their primary concern is to extend the normal functions of clothes, which are either practical or social. The practical aspect includes comfort and safety (cold, rain, sunburn) and provision of containers (pockets). The social aspect includes belonging to specific groups (businessmen, sportsmen), and self-expression (beliefs, personality).

Applications include garments able to change their temperature depending on environments, or monitor wearers' physical condition to inform a doctor. Social applications include clothes that provide dynamic self-expression, change their shapes with motors, moldable graphics on embedded screens, or even produce sounds and smells.

Cyberclothes are reactive but their functions do not necessarily rely on electronics. Reactivity is also possible using materials that change their properties depending on temperature, humidity, pollution, or light. However, to avoid embarrassing behaviors of the system, provide a comfortable use, and improve safety, the garments should be active, intelligent, and able to learn. Therefore most services will require electronic components.

To carry out experiments [SH04], we developed a prototype that can communicate with a network, render sounds, and display graphics on two separate screens. It uses Linux and is well fitted for self-expression (figure 1).

![Figure 1: Prototype for experiments on facilitation of face-to-face first contacts, and dynamic self-expression.](image)

Communication-related applications seem attractive for situations in which communication is disrupted. During trips, there is a potential for going beyond linguistic and cultural barriers. With disabled persons, information can be transferred from one perceptual channel to another. Finally in case of danger, garments can provide information to bystanders (by visual, aural or radio-wave means) even if the wearer is shocked or unconscious.

**Acceptance of physiological monitoring**

Acceptance is great to transmit information to emergency services, evaluate sports performances and adapt environments to users’ needs. However there is an opposite trend for emotion sharing. Respondents might become more interested after trying prototypes, and helping improve them.

**Interest in selected usages**

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**Wishes for the autonomy of the garments**

Full control of functions by an artificial intelligence is rejected. Comments indicate that users are afraid that a mistake of the system might be embarrassing or even harmful. The extent of this rejection indicates that the importance of this aspect should not be underestimated.

**References**
