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Look at yourself in our mirror, and you might see a paper fox behind you. Strange hands might open your stomach, or you could find a cat asleep in your bag.

Happy Wear inserts a little magic into an unexpected medium: fashion design.

The installation set-up is nearly invisible; technological references disappear to make the user feel even more surprised by the virtual universe. No tags, no sensors, no wires, only simple cloth and a projected mirror. We designed this universe without technical constraints, imagining how a t-shirt or a bag could come to life. We wanted users to feel that they are part of a video clip, but in real time!

The system automatically superimposes animations on t-shirts and projects the resulting image on a screen. To achieve this effect in real time, the system first registers a deformable 2D mesh with the view of the t-shirt. Then it evaluates illumination to reproduce it on the virtual elements. It also segments possible occlusions, to augment only areas where the t-shirts are really visible. A fast wide-baseline feature-matching algorithm, a non-rigid deformation model, and an expectation-maximization segmentation algorithm provide the state-of-the-art technical basis for this artwork.