

CALEIDOMORPH

/// DESCRIPTION

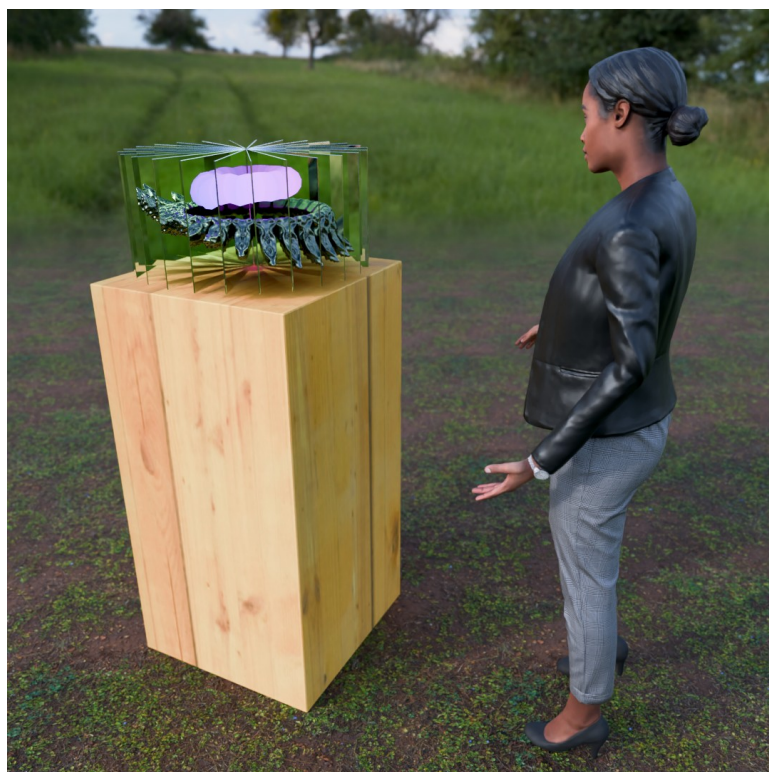
The name *CALEIDOMORPH* is a mixtue of the words *caleidoscope*, the mirror-toy which generates complex images through a mirror arrangement and *metamorphosis*, which stands for the in-between-states, the continuum of a process of evolution or deformation. These are the two central elements of the installation:

It consists of an array of mirrors that are arranged cylindrically around a vertical rotation axis. This mirror arrangement creates an object of special optical properties: through the duplication of objects around the central axis it seems like they get stretched out and rotational symmetry is promoted. Between each pair of these mirrors will be placed some objects or lights. They differ from one mirror gap to the other by little amounts. When the whole mirror arrangement rotates, these different object groups come into view a bit like frames of an animation and thus one can observe a sort of metamorphosis during a rotation of the system. In this metamorphosis, the objects can morph into each other, change their position in the installation, change color and other material properties. Additionally, I would like to include light sources, such that the installation gets an interesting and different look at night.

My aim is to create a place of calm distraction, where the visitor can get a short break from the festival and take a look at the ever ongoing interplay of color and form.

/// TECHNICAL

The exact dimensions of the installation are not fixed yet. One possible dimension is given by a mirror size of 30 cm x 30 cm, which is a size that would be cheaply available at IKEA. It is illustrated in the figure below and compared to the size of a human of average height. Its dimensions are approx. 60 cm x 60 cm x 150 cm. Of course it is also possible to make larger installations, but that can quickly get a bit more expensive since relatively many mirrors are needed. Furthermore, in the case of the smaller mirrors it would easily be possible to make multiple instances with different contents (or sizes). The rotating part is one rigid body and will be continuously rotated by a motor, presumably a mirror ball motor or similar. Of course the rotating body will be driven via a belt such that the rotation force on the mirrors is very small and there is no danger in blocking the installation from rotation. For the motor and the lighting, a standard 230 V power line will be needed.



/// FINANCIAL

A rough estimate for the material costs would be 2000 EUR. This depends highly on the mirror dimensions and whether multiple instances will be made. Having in mind 3 instances of the 30 cm x 30 cm version I come to approx. 1000 EUR for the mirrors and structural parts (for the stands – however probably you will have materials such as wood already there and we could build part of the installation on place which would make this a little cheaper). Then I have estimated another 1000 EUR for motors, lights, some basic electronics, the material for the objects in the mirrors etc. Of course I will, whenever I can, make use of stuff that was already used once or take care of the materials such that they can be reused later (for example the mirrors).

Since I am based in Switzerland and the material could take a substantial amount of space, I will need to come over with a sufficiently large car. For gas and a compensation of the car owner I estimate another 1000 EUR.

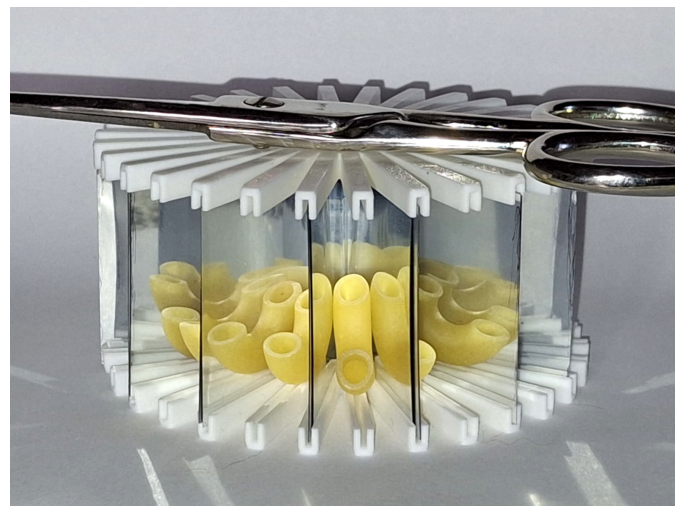
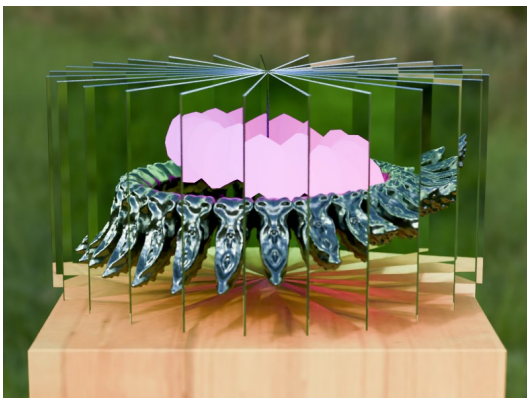
This creates a total of expenses of about 3000 EUR. These costs could be quite lower in a low-cost-version, but I wanted to give a rather conservative estimate.

/// ABOUT ME

I am sometimes a physicist, sometimes an artist and sometimes anything else or in between. Since my pre-study year at the [HSLU](#) (Hochschule Luzern for design and art) I always had some art/design projects going besides my physics studies. Right after finishing my degree, I participated at the [Design Biennale Zürich](#) together with a friend, where we created an interactive mixed-reality installation (project *Datenkultur*). From this larger project I've learned a lot about managing and realizing such a project and also about making things that include a lot of electronics weather proof :). Some of the other stuff I make can be found on my [instagram account](#) and my [website](#). Besides me, I will need the help of 1 to 2 people for the construction and maybe also for the creative process, but they will be found in case that the project becomes real.

/// VIEWS

I made a few renderings of the mirror arrangement in order to get an impression on how it will work and for already playing a bit around with the technique. I used physically based rendering such that the reflections are accurately computed. I've also already built a small physical prototype which shows that the principle works despite the poor quality of the plastic mirror film that I used. Since the animation-effect is pretty important for this installation, I've made some videos, which are available on [whole.thomasrenggli.ch](#) (please let me know if you have trouble watching them).



I send you my best kisses and hopefully see you soon!

