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Interaction Design
Science Toys = Science Tools

FIG. 1 »Whua«, Katharina Herzog, BA Final Project, Interaction Design, ZHdK

What kinds of creative and analytic learning processes could be triggered by curious scientific objects? How could we develop sustainable ways of learning and business models for the science center around the idea of Science Toys?

The goal of the project «Science Toys = Science Tools» is to enable a direct exploration of natural phenomena outside the science center. We explore and create objects, processes and contexts through and in which such investigation can take place. Therefore besides the explicit development of the science toys our motivation for the project is based on the following questions: What kinds of creative and analytic learning processes could be triggered by curious scientific objects? How could we develop sustainable ways of learning and business models for the science center around the idea of Science Toys?

Project Idea

Natural phenomena have always been a factor which arouses people's attention and curiosity. The process of observation, description and experimentation could take many forms – being it naive, rational, artistic – and is strongly related to the person's means of expression.

In a multidisciplinary approach from the fields of design, engineering, nature sciences and the Swiss Science Center Technorama, we are aiming for an understanding of natural phenomena beyond demographic restrictions of age, gender or ethnical origin. For this, we argue to develop Science Toys as Science Tools, which allow us to interact with our unique and manifold environments directly.

Method

In this research project we are focusing on all phenomena around »air«. This focus allows us to connect abstract aspects of nature phenomena, like forces, energy and materiality to everyday experiences, such as breathing, weather forecasts and wind energy harvesting. We have started by developing first simple experience prototypes such as styrofoam balls in containers, which show the direction of the wind and inflatable structures, which can make air tangible in shape, movement and structure. The aim is to find the right interconnections between creative research and development. The final Science Toys should represent exactly this balance of playful creative tweaking and scientific awareness. Therefore, the whole approach is not a didactic one, rather constituted on individual self-learning processes.

Future Perspectives

Currently, we are focusing on two objects for the »air« exhibition at the Technorama exhibition. The first one is an inflatable science toy, which, if blown up, can be combined together into a larger kinetic installation. The other object is a small flying object, which will be thrown in the air and with other hundreds flying it visualize the air conditions in near environment. At the end of the research project, we hope to bring our toys and/or processes to the market to lift of new ideas for playful learning.

FIG. 2 The «Science Toys» research group explores the invisible forces and resulting interactions inside the wind channel at Swiss Science Center Technorama, Winterthur.

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