Climate-onator 2000^{tm}

The Climate-onator 2000^{tm} (CO2000) is a physical input device created to control a computer simulation of a species evolving to match the surrounding temperature. During the simulation the screen is populated with circles of different sizes which represent creatures. Each creature has a certain amount of energy that it slowly loses as it tries to keep its body temperature stable. Large creatures lose less heat, which is an advantage in a cold and a disadvantage in a warm environment. This is why, just as in nature, larger creatures prefer colder areas, while smaller creatures dominate the hottest regions. Changing the temperature causes natural selection, as their children inherit size, with a small mutation, from their parent, effectively evolving.

Changing the temperature using the dial on the CO2000 creates a difference in environment which causes different individuals in the population to prevail and procreate more. However, sudden dramatic changes to the temperature can cause a wipeout, since not enough individuals can adapt in time to the sudden change, causing most offspring to die off before they get a chance to procreate.

The temperature is visualized along a blue-green-red gradient, with a background indicating a certain type of biome; from arctic ice and sunflower fields to red-hot desert. The population can be reset at a flick of a switch.

Goal: Raise Awareness

Using this simulation, and handing control over to for example visitors in a museum, or kids in their first year of highschool I hope to raise awareness of the beauty of the self adapting mechanisms in nature as well as the catastrophe that might ensue when a rapid change in climate occurs. The act of wiping out a population of circles hopefully makes the user conscious of the precious balance that is our environment and why we need to act before it is too late.

Form Motivation

Since my object contains two parts, my motivation should be twofold as well. I decided to use a computer simulation of evolution since this allows me to fast forward the otherwise painfully slow process of evolution. A computer simulation was the only medium that allowed quick feedback and interactivity at the same time whilst at the same time retaining all the complexity of an evolving population.

The physical input was chosen for a couple of reasons. Firstly, a simple physical control setup would be easier and more conventional to implement in one of its intended use-cases; a museum. Secondly, the physical input buttons paired with the exterior look and feel of the CO2000 just feels more fun and invites the user to interact more than a traditional keyboard/mouse interface which leads to my final and third reason: The limited and labeled inputs on the CO2000 make controlling the simulation far more intuitive and easy/fast to pick up. This is important for all intended audiences; from highschool kids to museum crowds.