MELT – Loren & Isabel

Title: Bug Report: Binary Logic

Abstract:
A bug report is a document detailing what is observable about a piece of software that is not performing a dedicated task. In 1946, programmer Grace Hopper invented the term when operators found a moth in the Mark II computer. We are using the bug report here as a trans*feminist practice of affirmative critique that extends from finding conceptual, political or material problems within an existing system.

Our bug report details the ways in which computation has been understood as based on binary logic, an assumption that doesn't always hold true in light of electromagnetic functions. Bits, or Zeros and Ones, are often described as the immaterial basis of computation (Plant: 1997). Electrical voltages are measured and then mapped to fit a scale from 0 to 1. But: Most of these numbers don’t actually hit the Zero or One mark, but exist in between. To ignore such ‚noise‘, a threshold is put in place to fit these different pulses into a binary logic. Interruptions to the binary of bits happen in all sort of queer ways in the universe. Cosmic rays cause trouble with electronics: As high energy protons and atomic nuclei, they move through space at the speed of light. Computers experience about one cosmic-ray-induced error per 256 megabytes of RAM per month. From this, we conclude that the universe is NOT OK with binary logic.

In our material experiments, we have etched a series of PCBs. These printed circuit boards direct electricity through etched copper plates in regulated paths. Instead of a techno fix, which is usually invented in the face of a bug report, we are using chemical solutions that hold difference.

Bio:
As MELT, Loren Britton and Isabel Paehr are arts-design researchers who work with games, tech and radical pedagogy. Investigating the political & material conditions of tech infrastructures, they re-distribute agency in socio-technological systems with the methods of queer play, unlearning and leaking. Their work crumbles structures, unbounds materials, dissolves technology and makes collectivities. Meltionary is an artistic research project that unlocks metaphors of melting in times of climate change and explores unstable states of matter. Colliding theories and practices from chemistry, trans*feminism and computation, our dictionary-like work is invested in moments of material transformation.