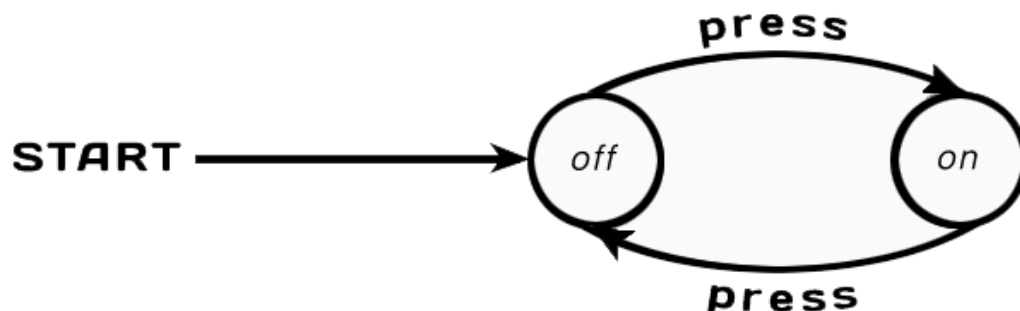# ENDLICHER AUTOMAT
Ursula & Michael Endlicher

An interactive and performative installation for *processing* / GPLcontemporary, Vienna, October/November 2017

When searching for the name Endlicher on the German language Google, one "Endlicher Automat" appears in a rather prominent position. What, and *whose*, automaton is this? How does it look? This re-occurring search result initiated and triggered the first realization of the **ENDLICHER AUTOMAT** by the Endlicher siblings.

The English translation for *Endlicher Automat* as a "finite state machine" defines it as a mathematical model of computation – a system, which can only be in exactly ONE of a finite number of states (endlicher = finite) at any particular moment. External input allows the finite state machine to transition from one state to another. A finite state machine is defined by the number of states, its starting point, and by the conditions for its transitional states.

Many everyday devices are indeed such "state machines"; their actions depend on predetermined sequences: the coffee machine, the lift, the combination lock, or the traffic light fall in this category. Final state machines are no Turing machines, which has a much higher – but nevertheless finite – number of states.

A toggle switch is the simplest finite state machine as illustrated in the state transition diagram below. The two curved arrows demonstrate that when the system receives the input, it switches to the other state, regardless of its previous state.

press

START → off on

press

The work **ENDLICHER AUTOMAT** deals with the performance of this simple, finite rule. The visitor steps through a curtain into a dark booth where a video is playing on a monitor. This can be either the video Michael or the video Ursula. Each of these videos shows a finite number of basic human behaviors (or human states) in an endless loop – each synchronously incorporated by the siblings. Without touching the touchpad, the current state, i.e. the current video, continues to run. If touched, the other state, the other video, will be played. Ursula and Michael are always at the same time also on and off. This simplest loop of a finite state machine becomes the performance of the rule by means of the **ENDLICHER AUTOMAT**.

By allowing visitors to decide whether to "switch on" Ursula or Michael, this finite state machine is finally an "Endlicher Automat" by the Endlicher siblings.