Typewriter Poetics: Creating Collaborative Memory Maps

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Introduction

In a world shifting toward an existence that remains increasingly lodged within the human-machine threshold, we combine visual art, poetry, software engineering, and electrical engineering to examine the ethics of human-machine interactions and to interrogate what it means to be human. In response to the explosion in usage of large language models (LLMs), such as OpenAI's ChatGPT and Anthropic's Claude, particularly in the way they flatten and output data from artists without proper accreditation, we created a collaborative and generative system that treats the viewer as an artist and that gives them full agency over how their work is represented. The system currently does not employ LLMs—our focus is to create our own ethical human-machine interactions instead of an interdisciplinary project that uses LLMs. Rather than asking the industry- and capital-motivated questions of how we can optimize our lives and how we can predict what the user wants, we instead ask: how do we live, how can we continue to live, despite the invisible and visible forces of power that surround and exploit us?

Design

With a Brother Ax-25 electronic typewriter, we created an automated read and write system by rewiring the typewriter's keyboard connections to two multiplexers controlled by an Arduino Mega (read) and a Raspberry Pi 4 Model B (write) (Fig. 1, Fig. 2). We chose a typewriter for its physicality—each thought must be felt multiple times as the viewer presses the keys. There is greater intentionality than there is with typing on a laptop keyboard. There is no way for the viewer to passively give the machine data, and there is no way for the machine to use the data in a way that the viewer does not know about or consent to. We modeled the electronics of the system after an open-source serial typewriter project from Artillect [1]. The main difference between our systems is that Artillect's interfaces via a terminal, while our input and output are sent and processed via scripts.

Our script controls the typewriter to automatically prompt the viewer with generative questions, pausing while the viewer responds. During this process, the Arduino reads the key presses and organizes the responses onto a document. The Arduino is connected to a printer—the document is automatically printed upon completion of the writing prompts. The viewer may keep the printed page and fold it into a zine (Fig. 3). The original typewriter copy is saved and assembled as part of a larger, growing body of art. The entire system is enclosed in a standalone unit made of wood, acrylic, and mirrors.
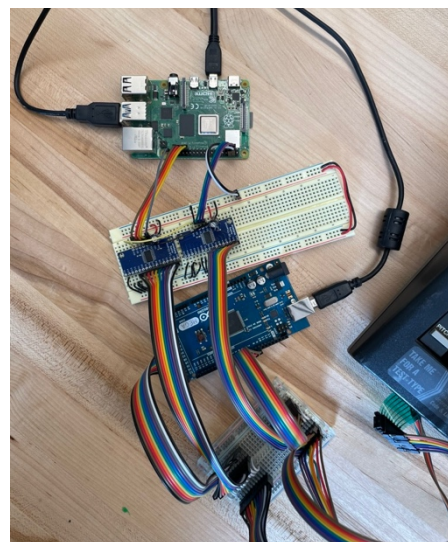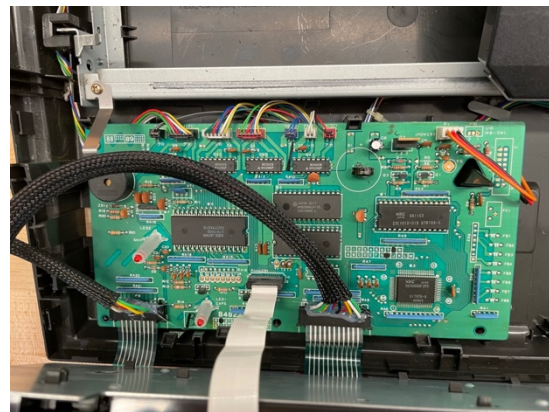

Figure 1: (top) The typewriter's PCB. The keyboard matrix is modified to allow for external control. (bottom) Multiplexers connected to the Arduino Mega and Raspberry Pi 4.
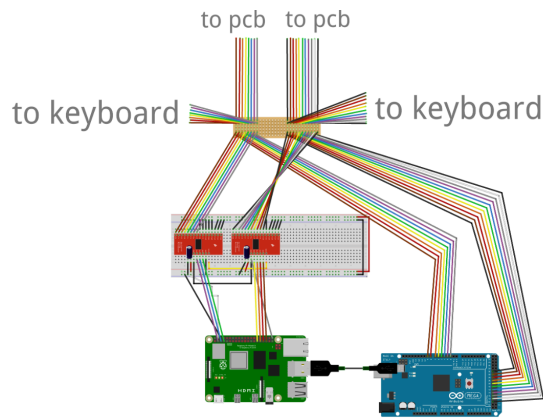
Figure 2: The wiring setup for the multiplexers, the Arduino Mega, and the Raspberry Pi 4.

References

[1] artillect, "serial-typewriter," GitHub repository, https://github.com/artillect/serial-typewriter/tree/main.

The writing prompts are centered around the viewer's imaginations for what a collective and technologically ethical future might look like. Toward the end, there is the opportunity for participants to contribute prompts to future viewers. Thus, each time someone visits the artwork, their experience will be different. In this way, we also hope to resist the instant gratification demanded by consumerist timelines. The artwork will always be ongoing and will retain the memory of those who have passed through it. The viewer simultaneously serves as a writer and artist, contributing to an ever-evolving art piece and conversing with an ever-growing community of past and future visitors.
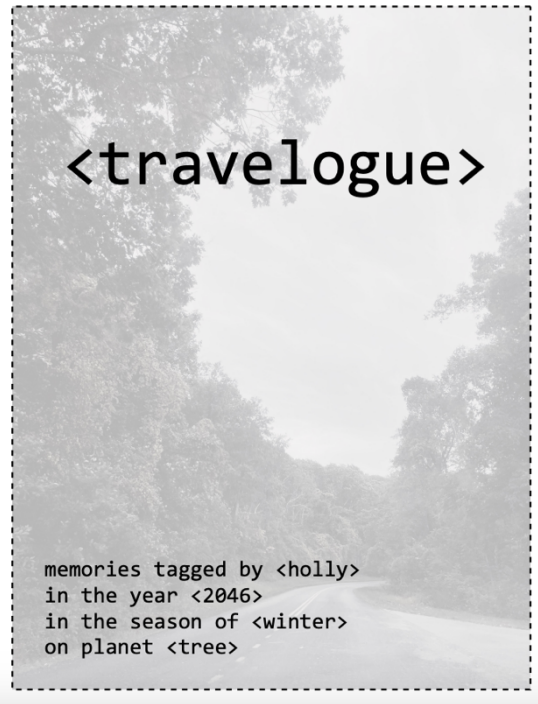

Figure 3: An example cover page for the foldable zine output. At the start of the typewriter interaction, the viewer writes their desired name and imagines a setting (year, season, and planet).