

The Most Interesting Machines Say “No”

Andy Jenkinson

The Promise of Frictionless Tools

Creative technology now measures its success by how little resistance it offers. Intuitive user interfaces, optimised human-computer interaction, and seamless workflows promise less time spent mastering tools and more time spent on the work that matters: writing the book, making the music, drawing the picture.

Adobe, Apple, Unity, and the rest sell ease-of-use as a virtue. Presets and pre-built assets let you begin immediately, producing something recognisable within minutes. Basic tools handle everyday tasks, while increasingly complex features cater to the ‘power user’. Many now even offer AI suggestions for what you might want to do and how best to do it.

These experiences are often framed in terms of “cognitive ergonomics.” Reduce mental load. Remove obstacles. Enter a state of flow where the tool disappears entirely and the work pours out, effortlessly reflecting your intent.

Bollocks.

Friction is not a flaw. Friction is not a problem. To paraphrase Marshall McLuhan, friction is the medium. Art emerges at the point we push against the constraints of the medium - or where it pushes back against us.

Machines That Say No

I contend with this in my artistic practice when writing new compositions for the 1982 ZX Spectrum, where every musical note exists only because a loop of instructions flips a tiny speaker on and off thousands of times a second. This machine offers no shortcuts - no sound chip, no timing circuitry - the pitch of notes is determined by the length of time the actual computing instructions take to operate.

Often I find myself attempting to achieve something within this system that breaks something else. Adding a routine to check for keypresses might change the timing or pitch of a note. It becomes an exploration of what is possible versus what I can ‘get away’ with.

As I wrestle with this, I notice subtleties in the system’s flaws, such as the poor frequency response of the ZX Spectrum’s speaker. I tweak my music to exploit these, hiding complexities in the places where the limitations of the computer can ‘do less damage’. The clock speed of the computer and the efficiency of my code

limit the range of notes I can produce. Internal registers being only 8-bit compromise the accuracy of tuning loops on high-pitched notes. Solutions present themselves: I move to 16-bit register-pairs, but the extra computation time limits the maximum pitch. These micro-frictions shape the choices I make in the composition itself.

My frustration at the computer’s lack of compliance is palpable. My creative process is not a flow-state of music emerging unhindered from my soul - it is about overcoming barriers, negotiating, and making compromises over and over again.

The computer does its best to sabotage my artistic vision, and I adapt my work in response.

Working Against the Machine

My practice often involves working with technologies that are awkward, limited, and often deeply unhelpful: the aforementioned ZX Spectrum computer, Teletext graphics systems, and GameBoy music software. These machines do not behave like modern creative tools. They refuse convenience. They impose strict limits and strange rules. They require workarounds, hacks, and invention.

Creating Teletext art isn’t simply a matter of placing pixels on its 80x72 grid, as it may outwardly appear. Foreground and background colours can’t be changed simultaneously, and each change imposes a compromise: a 2x3 pixel gap of background colour, or a forced repetition of the previous 2x3 pixels to the left. The technical barrier to make a piece is low - placing the pixels is easy. But fighting the restrictions is where the art emerges.

The constraints shape creations: refusing left-right symmetry, suggesting new framings, perspectives, and approaches to a piece. The Teletext art ‘scene’ may be small, but I can recognise other practitioners’ work through the way they have navigated the systemic limitations - the stylistic scars left from their battles with the arcane conventions of the medium.

Negotiation, Not Control

Human-computer interaction is normally framed as a problem of usability. Systems are made faster, smoother, and more intuitive. That assumes ease is the goal.

I actively choose to work with systems where usability is not at the forefront - not out of nostalgia or masochism - but because my interaction becomes something different entirely. It becomes collaboration.

Collaboration isn’t obedience. Resistance is an integral part of any bilateral process; Artist vs. Machine, with both pushing each other to improve. It is a combination of stubbornness, alternative approaches, and repeated failure, with both contributing ideas that inform the finished work.

The Problem With Helpful Machines

Given no constraints, art atrophies. The option of every paint colour, every instrument, and an infinite supply of Lego bricks leads to paralysis. Work is never completed. Art could always be “improved.”

“The only limits are your imagination.” This is a preposterous lie.

Art should challenge. And artists should be challenged. Every upgrade to a piece of creative software gives new tools and new conveniences - a new toy that an artist can fight with, and possibly create something ‘negotiated’ within that first flush of exploration. But it soon becomes a trivial way of achieving something that might previously have been an arduous process - an arduous process that added to the art. Because of the machine’s artefacts.

Seek Difficult Machines

It is not enough to reject the latest update after having sampled its slicker workflow. This poisons the previously beautiful collaboration with the uncooperative machine. It reframes it as a failing, and the user starts resenting the process as a means to a goal. This is not art.

It is not enough to simply not explore the tools available to you. This is to wallow in ignorance, and it becomes a pastiche of naivety. This is not art.

It is imperative that the Artist and the Machine make demands of one another. This is only possible by rejecting ease.

Choose difficult machines, systems, and tools. Embrace their limitations and constraints as part of the artistic process, and as your collaborator in the work.

Choose machines that say ‘no’.