Written Response 1

I would describe knitting machine as “precise”, “ordered”, and “looped”.

Unlike design software such as Illustrator, where drawing a perfect circle can be as simple as a click, a knitting machine requires the user to translate visual content into “commands” manually encoded onto a punch card. Similar to how a printer duplicates a source image repetitively, a knitting machine reads the punch card in loops, multiplying what is on it. The punch card functions much like a stencil in printing—a pre-made template for reproducing an image, which would be difficult and time-consuming to modify once created. Because of this nature, variations are limited.

Could this process be more dynamic?

I wanted to interrupt these loops and turn the punch card into a flexible interface that enables more freedom for change and improvisation.

The machine reads the punched holes as patterns—the foreground.
In my experiment, I will reverse this relationship between foreground and background. By punching all the holes on a punch card, it will become a blank canvas that allows me to edit directly by simple adding or removing shapes. These adjustments can also be made quickly, even while the knitting is in progress.

In this way, the knitting machine becomes a device that “scans” constantly changing gestures and “prints” these live record in real time.

Written Response 2

Domestic knitting machine have gradually disappeared from the mainstream. Most models used to be popular in households are no longer manufactured, and the only remains in the market now are those from the last century. They are born in and belong to a mechanical past; the technology of their era is disconnected from our digital present. As technology advanced, everything became digitized, knitting machine also have modern digitized versions that produce highly complex work with ease. Using a domestic manual knitting machine today indeed feels like working in a primitive way, because everything about it seems to degrade rather than boost working efficiency, which is the very reason it was created in the first place.

However, as a precursor to modern digital technology, knitting machines have an inseparable relationship to the digital culture today. The encoding, storage, and processing of data, the core function of transforming a coded set of instructions into tangible output, is what laid the groundwork to modern technologies. While the two processes are distanced from each other, their fundamental principles share the same root. Therefore, I see knitting machine as a lens through which we will discover our relationship with technology, reflecting on its history, evolution, and impact on us.

Digital world is often perceived as boundless, as represented by the clean, smooth lines of vector graphics, which can be endlessly scaled without loss of quality. Yet when subjected to the limitations of an analog tool, those boundaries become apparent. The high resolution and smooth curves are degraded into rough and fuzzy representations on fabric. This sharp contrast could perhaps evidence the constrains of digital formats that Dennis Tenen discussed In ***Literature Down to a Pixel***. In his argument, electronic formats like Adobe PDF preserve information in a reproducible and seemingly flexible form, promising accessibility, portability, and infinite replication, while simultaneously enforcing new limitations and hierarchies. Not only do they

restrict the adaptability of content by locking it into a fixed ratio that are compatible only with specific viewing devices, they also “push us toward privatized knowledge economies” through controls such as protecting the reading rights and monitoring our reading habits.

This paradox of the digital echoes American Artist’s examination of the hidden nature of modern technology in ***Black Gooey Universe***. As technology advances, the computer interface and operations become increasingly simplified. While we benefit from instant feedback, high precision, and user-friendly experiences, we are left unaware of the full scope of the device’s technological framework—its intricate code and mechanical work underlying the screen, as well as the increasingly entrenched racial and capitalist logics that shape contemporary technology. Their smooth visuals and the “what you see is what you get” mode of interaction have masked what are behind the screen.

The progress of technology, in the eyes of both writers, is concealing, or you could say, deceptive. The old knitting machine in front of me, exposing every step to its user, seems to be more honest. Is it really the case? If, the seamless digital properties are fed into the old machine, will that hidden process be revealed? What will be lost, or gained during this transmitting process, and how can it reshape the ways we engage with digital culture today?

To further my enquiries, I will use my tool to investigate how the seemingly limited mechanical processes can in fact, expand our understanding of technology. Hopefully the fuzzy images it produces can open up new interpretive spaces that have been flatten in the seamless digital world.

Knitting machine have gradually disappeared from the mainstream. Most models are no longer manufactured, and the only remains in the market now are those from the last century.

Knitting machine has an intricate structure and interface. It always response with a delay. It has limited data storage. The lines it draws out, even the "smooth curves on a circle", are edgy and boxy. It works in a linear process that moves straightly forward—in its mechanism, there is no such a concept of "going back"—it doesn't allow you to undo a row or even a single stitch. Such an irreversible nature mirrors that of techno history.

Machines at the present days appear more flexible, fluid, and powerful—not only can they move forward, but also shift backward, dance, and spin, as long as being instructed. Their rules are simpler to learn, they give you instant feedback. They exist in a dimension that seem to have no true edges and boundaries, where no matter how "rough" a shape is, its contour is always smooth and infinitely scalable.

The contrast of this roughness and smoothness, seems to be what separate past and now—one side being manual, mechanical, slow, fuzzy, full of holes and glitches, the other side being automatic, digital, fast, seamless, embodying a perfect ideal of a technological utopia. If, as American Artist questioned in Black Gooey Universe, the replacement of black screen by white screen "is an apt metaphor for the theft and erasure of blackness", then what was erased when roughness was smoothed out?

Today we tend to equate "digital" with electronic products and computerized technology and see smoothness as its property, whereas Dennis Tenen raised his concern that these forms of digitality might be a trope. In Literature Down to a Pixel, he argues, the state of being "digital" is more about the "affordances" of a format than its material conditions. He offers us a reflection through the example of a PDF file—which is unquestionably an electronic format, but which is no more digital than a paper book when it enforces a locked structure that prevent unimpeded copying and preservation, being "detrimental to communication". Could we then say no single process can be defined as purely digital or analog, and therefore, they could be both? This prompted my enquiry to the intersection between the two seemingly distant ends of technology.

Mathematical calculations and algorithms generate the flawless, continuous curves and offer them unquestionably trustable appearances, dissolving any uncertainty accompanying the new technological processes. Such progress of technology, in the eyes of both writers, is concealing, or you could say, deceptive. The old knitting machine in front of me, exposing every step to its user, seems to be more honest. Is it really the case? If, the seamless digital properties belong to the new machine are fed into the old machine, will that hidden process be revealed? What will be lost, or gained during this transmitting process, and how can it reshape the ways we engage with digital culture today?

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New machines seem to encapsulate every possible outcome, but as the two authors have pinpointed, they become defining, and thus detrimental when establishing orders and boundaries. On the contrary, though limited in many ways, the uncertainty in old machinery implies more openness in expanding the narrative of technology.

What are ephemerals and flicking in new machines are still tactile and concrete in old machines. This might be why we are nostalgic for the past—it stores an ideal and imagination for the future, the moments both exist in and beyond our current reality.