

Autobiographical Design for Ethnography: A Story of Tinkering with AI for DIY Fieldwork Tools

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Abstract

This position story tells the first author's experience of tinkering with DIY fieldwork tools at a Tokyo playpark and at a design lab. Through episodes of noticing a recording tool's fit in the park and learning the role of coding in qualitative analysis, both through DIY-ing the tools, we develop the concept of "focus shift"—a form of co-shaping in which the lesson that reflects back from implementation does not correspond to the original design motivation. We also observe that rewriting the story loosened analytical stylistic constraints and made visible aspects of planning, suggesting that this practice with generative AI is tinkering at the macro level yet planning at the micro level.

1 Story

1.1 Jotting Style Shifts in a Playpark

I¹ was wondering how to automatically attach timestamps to my jottings. I came up with the idea of placing a Quick Note button on my iPhone's lock screen. I went straight to the bathroom—a space slightly removed from the children who kept urging me to join their games of tag at a playpark in Tokyo²—and configured the button on my lock screen. Once I added the button, I could quickly jot down fleeting moments even in the chaotic environment where over twenty children were each absorbed in their own play. The older children, by upper elementary school age, had begun carrying smartphones of their own, and the caregivers accompanying them also used their smartphones frequently within the park. Caregivers were photographing their children making lovely crafts in the woodworking room or playing joyfully. Here, the smartphone was used routinely by the people on site as a tool for recording. In a Tokyo park in 2024, pulling out a smartphone and operating it was a natural means of recording that blended into the surrounding scene. When I, too, began using my smartphone for recording, I came to see that it was indeed a natural means of recording. Looking back, this was the first time I experienced the bidirectional relationship

¹Yuchi. This story is written in Yuchi's first person view, and the discussion is written as a collective examination by all authors.

²An ethnography about the playpark is published in [1]

in which a tool is shaped by the relationship between the field and the research, and in which remaking a tool brings the conditions of the field into awareness.

Open jottings not only may strain relations with those who notice the writing, but, as noted previously, jottings can also distract the ethnographer from paying close attention to talk and activities occurring in the setting. [...] Fieldworkers have reported retreating to private places such as a bathroom (Cahill 1985), deserted lunchroom, stairwell, or supply closet to record such covert jottings. [4, p. 39]

The reason I had fled to the bathroom behind the park office, escaping the chaos of the playground, was that I had read this passage by Emerson et al. At the time, only about a month into formally studying ethnography, I was trying to faithfully follow the teachings of senior fieldworkers I had heard in university classes. To me, openly jotting in the playpark seemed obviously inappropriate. I could not imagine any child jotting about their own play while playing.

I began to sense problems with using the notebook as well. The clearest problem was the absence of timestamps. In my practice, the field notes are produced by organizing jottings written on-site and transcribing them in chronological order. Without timestamps, it is hard to reconstruct what order things had happened in. Before going into the field, I had probably assumed that simply flipping through the notebook page by page would prevent this problem—but just flipping through a pocket-sized notebook to find a blank page was already a struggle. Moreover, without timestamps, it was hard to reconstruct the temporality of events when writing up the field notes—which periods were dense with activity and which were quiet. Even when something would be quite laborious for a human to do, if technology can effortlessly and automatically leave a record without the person even having to think about it, I want to make active use of that. Recording the time by hand, for instance, means consciously reminding yourself to note the time, looking at your watch, and writing it into the notebook—extra steps inserted into

on my equipment shelf caught my eye, and I declared: *“I intuitively feel potential in this, so I’m bringing it along,”* and packed it into my luggage. Chujo-san agreed: *“That’s exactly what we need!”* With this, “coding on paper” was to be realized using a receipt printer.

Now, how should I communicate the print layout to the receipt printer? By using CSS print layout definitions, even a web app can handle typesetting for the unusual medium of receipt paper. Having once DIY-typeset a travel booklet using web technologies, I settled on this for the output side. What about the input side—reading the transcript data? Data processing programs are troublesome; if they have bugs, the data gets distorted. Writing a new one from scratch right now would be a hassle. But wait—the simple-vtt-viewer I had built back in August already had code for reading VTT files. In that moment, simple-vtt-viewer became for me a “sozai” (素材; material)—a “VTT parser.” I wrote a brief specification and sent the opening prompt to Claude Code.

After several rounds of back-and-forth adjusting the print layout, what took shape was the printer screen shown in Figure 2. Strips of transcript came rolling out of the receipt printer as in Figure 3. The VTT parser portion was also revised, but all I did was tell Claude Code what information to extract from the VTT files—the AI coding agent carried out every modification.



Figure 2: Print layout screen in simple-vtt-viewer.



Figure 3: The receipt printer printing out the transcript.

1.4 It’s Funny that I Started Physically Scrolling

The receipt printing utility drove the printer, and the floor steadily filled with receipts. First, I printed out the entire contents of the transcript. The fresh experience of seeing data on receipt paper brought

a realization: the tempo of the conversation could be physically felt. On the other hand, there were simply too many receipts—just laying them out on the floor was a struggle in itself. What is more, I was surprised by my own behavior in the face of so many receipts:

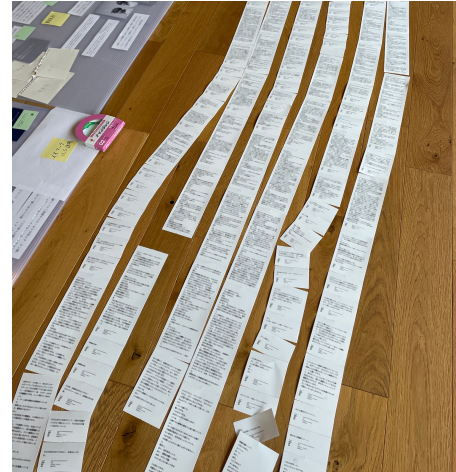


Figure 4: Transcript of a single workshop session (approx. 1.5 hours), printed and laid out on the floor.

Yuchi Yahagi 2025年11月6日 14:35
 I have to say, it’s funny that I started physically scrolling. I was surprised to find that humans process transcripts through scrolling regardless of the medium.
 Without transforming into codes that can be arranged two-dimensionally, something handy, a different way of engaging with it won’t emerge.
 Actually, whether it’s paper or screen didn’t matter much. Once it gets to selected pieces like those at the back, it becomes mapping, and it’s nice that they’re papers and in a wide space where I can see everything at a glance.



Figure 5: Notes on analysis work using receipts, recorded in Slack. Translated from Japanese.

I sat still, sliding the receipts across the floor and reading them one by one. I selected pieces that seemed important, highlighted them with a marker, and discarded the rest. Even though I had gone to the trouble of printing them on paper, throwing them away after a single reading felt “mottainai” (もったいない; wasteful). In the end, only a small number of receipts remained—no more than what can be seen in Figure 5. The potential I had felt in coding on paper hardly materialized in practice.

Drawing on the insights the receipts had given me, I reflected on qualitative analysis. I came to recognize that uncoded segments, even when printed on paper, are not “handy” (manipulable)—that is, it is difficult to compare them with other segments, rearrange them, or group them for analysis. Through turning the transcript into receipts, I recognized one significance of the operation called coding. That is, I came to understand experientially that one role of coding is to make raw data “handy.” Beyond the view of codes as merely intermediate products in the process of converging toward consolidated analytical themes, I came to see that coding data to make it handy is important for shifting from a mode of analysis that reads data sequentially to one that compares and contrasts.

2 Reflection

2.1 Co-shaping in Autobiographical Design

The title “Autobiographical Design for Ethnography” came to mind immediately upon seeing this workshop’s website. Then, as a context for inquiry, co-shaping in autobiographical design, a concept called reflexivity in the context of ethnography [2], came to mind. This research, with its nested structure of “research on research,” and its reliance on autobiographical design and ethnography—methods not widely embraced in HCI community in Japan, had continued to struggle to be understood. Finding a workshop devoted to story, I felt a ray of hope. And I wanted to experiment with how reflexivity can be practiced from the perspective of tool DIY.

Desjardins and Ball [2] positioned co-shaping as one of the tensions in autobiographical design. In autobiographical design, as the practice progresses, the researcher and their settings, as well as the dual role of researcher and everyday person, mutually influence and change each other, making the motivations behind design decisions difficult to discern [2].

The co-shaping observed here was a twisted one, which can be called as “focus shift.” There is not necessarily a consistent correspondence between a design decision guided by motivation and the lesson that reflects back from its implementation. Yuchi began jotting on the iPhone at the playpark because Yuchi wanted timestamps to be automatically appended. The lesson, by contrast, was that the iPhone felt natural as recording equipment at the playpark. The focus had shifted away from the problem-solving perspective of whether timestamps were convenient. In the story of simple-vtt-viewer and qualitative analysis, the motivation was to collaborate. Yet the lesson concerned the significance of coding. In this story, the focus had shifted from the difference in media—paper versus screen—to the perspective of how “handy” the data is. These stories could be told precisely because this autobiographical design was “for ethnography,” and thus rich records had been kept.

“Focus shift” adds a dimension concerning “seeing” to the discussion of co-shaping. Desjardins and Wakkary illustrate how the needs of maker/users change over time through the example of needs for a campervan’s power supply fading as they live with a provisional small-scale power source [3]. Ball’s case, meanwhile, depicts a tension between the researcher’s research interests and the family’s ideas [2]. We interpreted these episodes as stories that convey how needs changed, or that there is a plurality of needs and motivations. By contrast, “focus shift” is a concept about how the perspective underlying needs is shaped. This resonates with

the observation that engineers’ “vision” is constituted by arrangements of artifacts, tools, settings, and past experiences [5]. When a researcher crafts tools in response to situations that arise in the field, “vision” is dynamically shaped.

2.2 Rewriting of Story

Actually, this story was written by rewriting part of a rejected journal article. Through this work, to be honest, a doubt arose within us: “Is this really a story of tinkering?” Despite having titled the story “Tinkering with AI,” this serious question had surfaced unbidden. The reason was that both when Yuchi first built simple-vtt-viewer and when he adapted it for the receipt printer, he had written a “specification” and handed it to the AI coding agent. What is more, he instructed the AI to develop a plan before writing code. Is this not the style of hard approach—the opposite of tinkering [6]?

Originally, these aspects of planning had been suppressed. Yuchi had been writing in a more analytical style. The rules of paragraph writing drilled into him at university had become ingrained. Under the force of that habit, the effort to construct “excerpt-commentary units” [4] produced a style of writing that asserted meaning at the outset. These stylistic conventions may have intensified the focus on tinkering. When we loosened the stylistic constraints during the rewrite and reduced the analytical text, aspects of planning crept in. When we wrote honoring the continuity of his lived experience, they surfaced as events that needed to be included.

Writing as a story brought the above findings to this research. Moving away from a laser focus on the tinkering aspects of autobiographical design, it made visible the nuance of a practice in which tinkering and planning are entangled. The findings suggest a perspective in which the practice is tinkering at the macro level, yet planning is embedded at the micro level. That is, the motivations and designs for making arise from situations, and the practice is tinkering in the sense of creating variants of one’s own artifacts, yet the implementation is locally planned. Tinkering is usually understood and analyzed as a micro-level process, but in tinkering with generative AI, such an inversion may occur.

Acknowledgments

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