Infinity Book: Speculating Literary Expressions in the Age of Generative AI

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Abstract

This paper explores the ethical, social, political, and philosophical implications of generative AI (GenAI) on human creativity, contributing to the current discussions on the impact of AI. We use speculative and critical design as our approach to avoid abstract guesswork and provide more nuanced and concrete insights into the matter at hand. We conducted five speculative design workshops centered on Infinity Book, a fictional system capable of generating any kind of literary work. Participants used brainwriting, the Future Ripples method, and *dialogue-labs* to explore potential futures and socio-material impacts of such technology. Reflexive Thematic Analysis was employed to analyze the results from the workshops, and we developed twelve design fictions that illustrate diverse uses and societal implications of GenAI. Based on these results, we formulated three strong concepts, Authenticity, Creative Agency, and Liveness, that link concrete design considerations with broader philosophical discussions.

CCS Concepts

• **Applied computing** → **Fine arts**; • **Human-centered computing** → **Interaction design process and methods**; **Natural language interfaces**.

Keywords

speculative design, generative AI, literary expression

1 Introduction

The boundaries between technology and humanity are becoming increasingly blurred. Technologies from advanced artificial intelligence to virtual reality and neural implants are expanding and complicating human-technology relations [38]. Generative Artificial Intelligence (GenAI) is one such computational technology that has recently attracted massive public interest. GenAI refers to a set of machine learning (ML) systems that are trained on massive amounts of existing content and are capable of generating new, plausible content (e.g., images, texts, music, code, and other forms of media), usually responding to textual or visual prompts [83, 104]. The advancements in Large Language Models (LLMs) such as GPT-4, Gemini, Bard, and other transformer-based deep neural networks facilitated a surge in GenAI systems during the 2020s. In 2020, GPT-3 was already reported to demonstrate the ability to produce non-fictional work that can hardly be distinguished from human work [35]. Since then, numerous studies have evaluated GenAI's ability to facilitate automatic literary creation, with varying results [21, 41, 52, 82, 92, 112].

We are still far from using GenAI to write consistent artistic literary works automatically, however this may change in the next five years or so. The world is witnessing the emergence of fundamental questions regarding the relationship between humans and machines, such as the value of human creativity and the cultural significance of creative work. It is crucial to foster reflective and critical engagement with both the current state and how things could be in the future [95].

Despite extensive (and exploding) research on GenAI, this reflective and critical engagement remains fairly unexplored. Liu et al. [72], for example, have argued that much of the current literature is focused on technology development or fairly obvious and unquestioned use cases and that the critical discussions tend to remain abstract, painting vague utopias or dystopias of how GenAI will change the world in the near future. This implies that there is space for concrete speculations that are still critical and reflective enough to enable informed insights into the impact of such technologies.

These considerations lead us to embark on critical speculations on advanced GenAI-based systems capable of automated literary creation, exploring their impact on creative practices and their influence on the socio-material world. As a starting point, we came up with the idea of *Infinity Book (IB)*, which is a fictional system that can generate all kinds of literary works, e.g., novels, short stories,

and poems. We used *infinity Book* as a conceptual anchor point for our critical speculations in the form of a series of speculative design workshops and the creation of a set of design fictions. In this paper, we report the results of these speculations.

The direct inspiration for *Infinity Book* comes from the great science-fiction writer Stanislav Lem's short story *First Sally (A) or Trurl's Electronic Bard*, first published in Polish in 1965 as part of his Cyberiada collection. The story depicts the development and consequences of a machine (the eponymous electronic bard) capable of producing vast amounts of poems exploring all kinds of themes and fitting every situation. Roald Dahl's 1953 short story *The Great Automatic Grammatizator* and the concept of an infinite library, as explored by various authors, including Jorge Luis Borges, Terry Pratchett, and Umberto Eco, provided further inspiration for the project.

Additional motivations emerged from considering the significant role of books as a prevalent form of literary expression in contemporary cultures. Books are valued for their ability to capture, transmit, and preserve culturally important information, making them key tools in maintaining and sharing knowledge across generations. Compared to other cultural forms, books are often seen as stable cultural artifacts, with high literature especially receiving considerable cultural appreciation. Reading books demands a level of engagement that is distinct from other media, requiring extended periods of focused attention. This deep engagement is thought to foster a unique connection between the author and the reader. Similar patterns of focused engagement in books, movies, and video games suggest that these speculations also apply to these other media forms. Current trends indicate that fully AI-generated fiction books are likely to emerge before, for example, AI-generated movies, making these predictions more timely. It should be noted that for the purposes of this study, we have taken a fairly liberal view on what is considered a book [13, 63]. This paper reports the results of three speculative design workshops and two *dialogue-labs* sessions with creative writers around the critical envisioning of *Infinity Book* to answer the following research questions:

- How do systems automating literary creation shape the sociomaterial world and human-technology relationships?
- What overall interaction design concerns arise for such systems?

The contributions of this paper include ten themes arising from the workshops speculating on the impact of *Infinity Book* and twelve design fiction scenarios illustrating some of the key issues. Based on these, we present three design considerations, Authenticity, Creative Agency, and Liveness, framed as *strong concepts* [55]. These results provide new insights and perspectives on the futures of automated literary creation. Additionally, the studies included in the paper refine and combine existing speculative design methods while foregrounding posthumanist perspectives on creativity and generative AI.

The rest of this paper is structured as follows. First, we review relevant related work, and introduce our methodology. Then, we describe and present the results of three speculative design workshops (n=19) and two *dialogue-labs* sessions (n=18). Finally, we present 12 resulting design fiction scenarios, followed by a discussion of potential design considerations and conclusions.

2 Background

2.1 Automated and Algorithmic Literary Creation

The idea of writing machines has existed longer than the aforementioned Lem's and Dahl's "design fictions." Sharples and Pérez [100] in their *Story Machines* mention a machine capable of writing books with little human effort appearing in Jonathan Swift's *Gulliver's Travels* 1726 and a steam-powered automatic prose writer in Sir Walter Scott's *Tales of the Crusaders* from 1825. Experiments in combinatory poetry and literature have even deeper historical roots, including, for example, Lady Su Hui's Star Gauge poem[1] from 4th century China, capable of producing over 3000 shorter poems, Ramon LLull's *Ars Generalis Ultima* and *Ars Brevis* in the 13th century, and John Peter's 1677 booklet on artificial versifying [90]. More recent examples include Queneau's *Cent Mille Milliards de Poèmes*, which consists of 10 sonnets, each split into 14 strips. These strips can be combined in any order, thus capable of creating 10^{14} different sonnets. For actual machines capable of verse generation, John Clark's Eureka machine from 1845 century is a notable early example [100]. The advent of computers after World War II enabled further experimentation. Christopher Strachey wrote a program capable of creating Victorian love letters on the Manchester Mark 1 in 1952[2]. Poems were thus the first to get automated and have remained an active topic ever since [71].

According to Ryan [98], the first computer story generators were developed at the beginning of the 1960s. Joseph Grimes programmed an IBM 650 mainframe computer in 1960-1961 to generate fairy tales based on Vladimir Propp's model of Russian folktales, while the SAGA II system from 1960 could reportedly generate screenplays for western genre TV series. Klein's Automatic Novel Writer, first reported in 1971, wrote somewhat passable murder mysteries, albeit only minor variations of basically the same story. Other attempts at automated story generation include Tale-Spin [81], Universe storytelling system [66], Brutus [16], and Fabula [97]. The field of automated story generation, especially for interactive digital narratives and games [40], has grown steadily over the last few decades.

The rise of GenAI, especially powerful LLMs, has given the field an additional boost with hundreds of research prototype projects going on in both academia [31] and hobbyist communities, such as Hugging Face [20], an ever-increasing number of commercial AI-assisted creative writing platforms (e.g., Jasper, Rytr, Sudowrite), and the rise of published LLM authored books [17]. The debate on how people perceive and react to AI-generated artworks and what is the value of such works has become active, even heated, during the current GenAI boom. Besides any critics and creative industry workers denying the cultural significance GenAI art, recent studies have indicated that the attitudes of both experts and non-experts are shifting. Hitsuwari et al [52], for example, found out that the participants in their study could not distinguish between human-written and AI-generated haiku poetry. Similarly, Porter and Machery [92] reported that non-experts were unable to determine whether a poem was written by humans or AI. The

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[1]https://en.wikipedia.org/wiki/Star_Gauge
[2]https://en.wikipedia.org/wiki/Strachey_love_letter_algorithm

participants even rated the AI-generated poetry higher. Hong et al. [53] study in 2019 indicated that the participants judged the artistic value of AI-generated works as lower. However, in a more recent study van Hees et al. [108] report that the participants rated AI-created (OpenAI Dall-E 2) art higher than human artworks. They also speculate that there is a shift in attitudes and preferences towards AI-images. Currently, GenAI cannot match human levels of quality in artworks requiring prolonged engagement, such as novels, but it is conceivable that similar evaluations will be possible in the near future. These shifting cultural values indicate that there is a need for speculating on the wider societal and cultural implications of GenAI.

2.2 Generative AI in Creative Activities

Thanks to their generative capabilities, the use of generative AI in creative activities has emerged as an important topic in the field of Creativity and HCI [67, 99, 101]. Instead of mere automation done by AI, the major approach has been that humans and AI co-create. For example, previous studies have shown how creative practitioners can work with LLMs or text-to-image generation models in diverse fields, such as story writing [21, 41, 70, 94, 120], fashion design [58], and painting, drawing, and visual arts [19, 23, 121]. Additionally, there is a fast-growing body of work using AI in co- and participatory design approaches in many different domains (e.g., specifically, GenAI's competence in swiftly generating a larger spectrum of ideas has been exploited to inspire people to create more original and useful ones compared to working alone [2, 73]. Still, despite the benefits of AI, *how the human-AI co-creativity will be shaped in the future remains an open question.* For example, in the exercise of measuring creativity in divergent thinking, Koivisto and Grassini [61] found that humans outperform AI in generating more diverse ideas, which indicates that the practice of building on AI-generated content could eventually limit human creativity. Liu et al. [74] also show that delayed responses from AI give marginal time for humans to reflect and develop more creative ideas, which suggests that the inherent human abilities cannot be overlooked in human-AI co-creation. Likewise, we believe that envisioning future human-AI co-creation should be grounded in AI's competence and understanding of how creative practitioners work and perceive working with generative AI [105, 116].

2.3 Speculative Design With and About Generative AI

Using GenAI tools in speculative design, especially in design fiction, has gained attention during the recent boom. Blythe [11], for example, argues that even though the "raw" outputs from GenAI tools such as ChatGPT and image generators tend to remain plain and conventional, the tools can prove useful for design fictions with critical prompting. Similarly, many others have reported their experiences in using generative AI in speculative design, e.g., [65, 102, 118] while Østvold Ek et al. [87] gives a partial review of the relationship between AI and speculative design. Much closer to our approach is speculative and critical design *about* GenAI. Lin and Long [69] present two speculative design scenarios of future GenAI tools and suggest *environment, data privacy, embodiment* and *play* as preliminary themes for design concerns in this field. Friedrich [39]

used design workshops and interviews with artists to come up with future scenarios of AI's relation and implications to art and society. The workshops generated four speculative scenarios (The AI Muse, The Creature Generator, The No-AI Commune, The AI-enhanced Film) expressed as short stories with visualizations created with Stable Diffusion 3. Popova [91] similarly used workshops with designers to create design fictions on how generative AI tools could integrate into their workflows. The final resulting design fiction takes the form of a user manual for such an AI tool giving details of four specific use cases of a fictional Enterprise Generative Ideator (EGI) system. Yan [119] focuses on a more specific aspect of creative GenAI use, namely the generation of memes.

3 Methodology

We used several approaches to speculate on the future of automated literary creation. Overall, the study consisted of four phases: (1) three speculative and critical design workshops, (2) two *dialogue-labs* sessions, (3) development of design fiction scenarios, and finally, (4) formulation of strong concepts. To foster in-depth speculation, we designed the workshops based on three philosophical approaches: Actor-Network Theory, postphenomenology, and more-than-human design. We used Reflexive Thematic Analysis (RTA) to analyze the results from the workshops and the *dialogue-labs* sessions. Applying these diverse methods and approaches enabled us to gain new perspectives and a wider understanding of the issues at hand, which we formulated into three strong concepts. The summary of approaches is shown in Figure 1.

3.1 Speculative and Critical Design

We employed speculative and critical design as they can enable envisioning the future of technology by speculating on its current state in our society. Speculative design [3, 28] is a method of painting a picture of potential futures; it explores hypotheticals of how the design would mold, transform, and reset the parameters of our world; it transcends the confines of present-day technological and cultural possibilities, influencing the trajectory of future technological advancements. Similarly, critical design [27, 78] challenges dominant paradigms by creating artifacts that critique societal norms, values, or technological trends. It seeks to resolve assumptions by offering designs that highlight contradictions, ethical concerns, or unintended consequences. In other words, critical design not only seamlessly fits artifacts into our world [6], it also poses challenges, questions assumptions, and offers a critique, thus presenting alternative perspectives and scenarios that highlight the issues, contradictions, or problems with current practices. Together, speculative and critical design can foster reflective engagement not just with what and how things are at present but with what could be developed in the future [95]. This critical engagement aims to carefully explore the intended, and especially the unintended, consequences of introducing newly designed objects, systems, and assemblages to our lives[3].

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[3]https://www.theguardian.com/news/article/2024/aug/08/no-god-in-the-machine-the-pitfalls-of-ai-worship
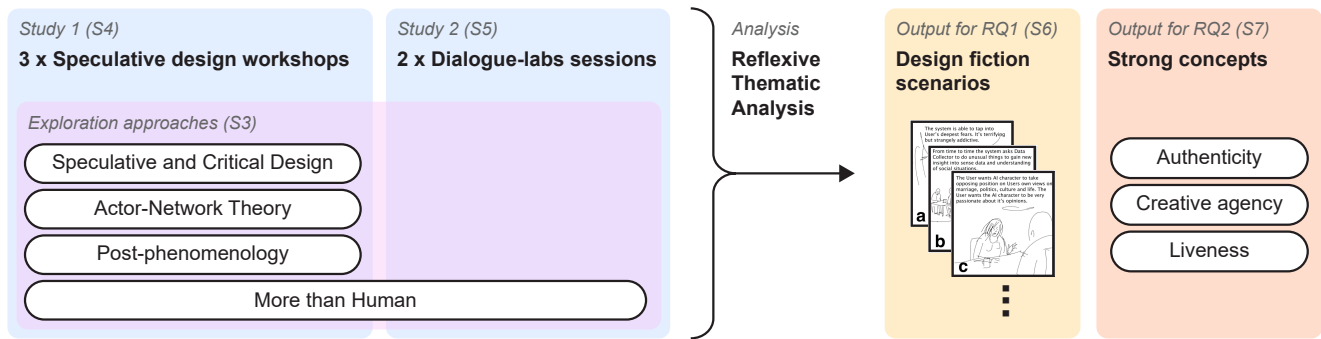
Figure 1: We explored the future of co-writing with AI in two studies (blue boxes). Each study consists of a series of workshops, employing philosophical exploration methods that enable novel speculation on the relationship between human and AI (pink box). We analyzed the combined results of studies using Reflexive Thematic Analysis and synthesized design fiction scenarios (yellow box) and strong concepts (orange box), addressing our research questions respectively. Section numbers for each part are shown in parentheses.

These approaches are often combined with design fiction [10, 103], a narrative-driven approach that uses fictional scenarios, artifacts, and stories to explore potential futures. Situating design fictions within critical design can be used to provoke reflection about the implications of emerging technologies and societal trends. The approach blends elements of design, storytelling, and speculative thinking to imagine "what if" scenarios, focusing on possibilities rather than predictions. Design fictions can take many different shapes and forms from short stories through fictional user manuals to even videogames [25]. In this study, we used storyboarding [106] to illustrate the envisioned design fictions.

3.2 Philosophical Approaches

The philosophical theories supporting this study are Actor-Network Theory (ANT), Postphenomenology, and the posthumanist-inspired, More Than Human-Centered Perspective (which we introduce in the next subsection). ANT is about removing humans from the center of the show by introducing non-human *actors*, such as objects, technology, processes, and even ideologies and beliefs, in the analysis on the same level as humans [1]. ANT originally arose from the science and technology studies of the second half of the 20th century [64]. Lately, ANT has been increasingly used to understand technological developments in Human-Computer Interaction (HCI) [38]. The focus is also on the ever-shifting relations between these human and nonhuman actors and, as the name implies, these relationships form networks of influence and effect [1].

Postphenomenology analyses the relationship between technology, humans, and the world in a philosophical way. Instead of inquiring about the capabilities of technology for users, postphenomenology assumes technology plays a proactive role in mediating interactions between humans and the world. This aligns well with our research aims of determining how the structure of human-technology-world relations will change under the mediation of GenAI. In particular, we analyze the data collected from the workshops through four relationships (Embodied, Alterity, Hermeneutic, Background) proposed by Ihde [57] with additional two relations (Cyborg, Augmentation) proposed by Verbeek [110]: Apart from

the structure of human-technology-world relations at play, this work explores the implications of mediation. Postphenomenology helps figure out how technology co-constitutes our relation to the socio-material world and how this relation shapes us, which implies ethicopolitical considerations in designing technological artifacts.

3.3 More than Human

More than human-centered design describes the design space where both humans and nonhumans are at the center of thought and action and interconnect materially, ethically, and existentially [111]. It does not refute the entirety of traditional human-centered design (HCD), but instead brings nonhuman actants into design considerations in a way that previous design thinking did not. From the more than human perspective, HCI research has gone through "three waves" ever since its emergence [12]. The first wave put forward the idea that human-machine interactions should be optimized with regard to usability. The second wave stood for human-centered design with an endeavor to measure the interactions through unquantifiable features such as "efficiency" and "uncertainty". Finally, the third one recognized the ubiquitous presence of technology across social environments, thereby situating interactions in the messy, complex world. In the third wave, the world has begun to appear networked by pervasive technology. The performative relationship between humans and technology has become so entangled that user-centered design practices have ceased to be useful [38]. Design must acknowledge its exploitation of nonhuman species and the materials we extract for human use [111].

Hayles's "cognitive assemblage" [45] explores such relationships between human and non-human cognition. Cognitive assemblages are used to understand how different kinds of cognitive agents interact and form networks that generate knowledge, meaning, and agency. The concept challenges the idea that cognition is solely a human characteristic. Instead, she argues that cognition is distributed across different entities, both human (individuals and social groups) and non-human (computers, algorithms, and networks). These different cognitive agents interact and form assemblages of distributed cognition. Hayles also distinguishes between conscious thought,

which is traditionally attributed only to humans, and nonconscious cognition [46]. Nonconscious cognition refers to processes that happen without conscious awareness but still contribute to cognitive functions in the assemblages. The nonconscious functions can, and often do, involve nonhuman entities. This includes how AI algorithms process data and generate outputs in GenAI systems. The approaches above provide frameworks for reconceptualizing design, moving beyond anthropocentric perspectives. These informed the design of the workshops, particularly the first three, and provided the philosophical grounding for interpreting the results.

3.4 Strong Concepts

Höök and Löwgren's strong concepts [55] are characterized by their ability to be transferable across different contexts while retaining their identity and relevance, thus offering a framework for creating and analyzing interaction designs. Strong concepts are distinct from highly contextualized design exemplars and abstract universal principles found in theories, and operate in the middle ground, offering designers a way to articulate recurring patterns or approaches that address common design challenges. For instance, a strong concept might encapsulate ideas like *seamfulness* [22], *civic learning* [44], or *somaesthetic appreciation* [54], providing a reusable lens through which design decisions can be informed and evaluated. In short, strong concepts are not prescriptive but open-ended and generative, enabling designers to adapt them to specific projects while still drawing on their core insights. This flexibility makes them particularly useful in speculative and critical design practices, where the aim is often to provoke thought and challenge assumptions rather than deliver solutions.

We followed the principle of developing strong concepts to discuss three themes about human-AI relationships from our workshops (Section 7). Strong concepts are constructed by identifying their source in various design instances (e.g., an existing or future use scenario, a theoretical perspective on human behavior). The key is to analyze these design instances and distill elements or principles that could hold value across different design situations or domains. The next steps, horizontal and vertical grounding, involve situating the strong concept within existing academic work and connecting it to other similar concepts and relevant frameworks. This process involves examining whether the concept appears in other contexts, analyzing its broader empirical base, and linking it to theories that can enhance its explanatory power. Finally, constructing strong concepts involves triangulating these empirical, analytical, and theoretical insights. Through these steps, we synthesized strong concepts that fuse isolated materials from the workshops and design fiction into transferable design knowledge contributions.

4 Study 1: Speculative Design Workshops

4.1 Aims and Motivation

We first conducted three speculative design workshops between December 2023 and February 2024. We introduced the concept of *Infinity Book*, a future fictional system powered by GenAI, and used it as a conceptual tool to facilitate the workshops. The aim of these workshops was to get a broader understanding of possible characteristics, use cases, and impacts of the system. The participants were encouraged to imagine many different futures and possibilities

without paying much attention to the plausibility or feasibility at this stage. Preliminary results from study 1 are reported in [56].

4.2 Participants

A total of 19 participants (7 self-identifying as women and 12 as men) took part in three workshops. Participants varied in their occupation (11 doctoral students with design backgrounds, 5 designers, 2 artists, 1 professor) and experience with GenAI tools. The participants were recruited using snowball sampling, starting from the first author's contacts. The main criteria for participation were familiarity with interaction design and interest in GenAI.

4.3 Procedure: Workshop I

Workshop I followed three steps and took 3 hours. The host first introduced the concepts of *Infinity Book*, Speculative Design, and More-than-human Design. In the second step, the participants used 6-3-5 Brainwriting for ideating diverse "actors" involved in *Infinity Book* system. Actors, according to Actor-Network Theory [64], can be human and nonhuman and always have relations with other actors. For example, an actor can be someone or something that uses the system, benefits from the system, exploits or is exploited by the system, and so on. Participants were asked to use a couple of sentences to describe the actors and their relations to *Infinity Book* and other actors in a concrete manner. The workflow of 6-3-5 Brainwriting worked as follows: During each 5-minute round, each participant was required to write down 3 ideas on 3 sticky notes and put them on their sheet in a row. After each 5-minute round (the facilitator shouted "Switch!"), every participant gave their sheet to the next person, and a new round would start. After all 6 rounds, a total of 126 (3 ideas in 6 rounds with 7 people) ideas were gathered. The last step was to organize ideas using an affinity diagram [75]. The participants systematically went through each note one by one. They then grouped notes that expressed similar ideas, placing them on the whiteboard. Each group was given a name, and this process was iterated until all the notes had been organized.

4.4 Procedure: Workshops II and III

Similar to workshop I, workshops II and III started with a brief introduction to *Infinity Book* and Speculative Design. Each workshop took 3 hours. The main workshop component was the three ideation sessions using the "Future Ripples" method [30], a strategic foresight approach based on the Futures Wheel method [42] that offers a more dynamic and speculative process for ideating consequences and impacts. It starts with a "what if" scenario for creating ripples of consequences. For the two workshops, the "what if" scenarios were predefined by the researchers, which are *"What if there were systems widely available that can produce full-length novels from scratch according to users' wishes?"* and *"What if there were systems that could create any kind of fictional text, e.g., novels, poems, short stories, self-help manuals, and so on, from scratch?"* accordingly. In the first ideation session, each participant had 15 minutes to think independently about the consequences of the "what if" pebble and write them down on sticky notes, with one consequence per note. Then everyone presented their best two to three consequences, placing them on the whiteboard. After discussing within the group, participants drew lines between sticky notes on the board if one

Table 1: The resulting themes (T) from RTA and representative quotes from the speculative design workshops (WS) in Study 1.

(T1) Revaluation of labor Besides creating works of literature, the system was imagined to communicate with and analyze humans, provide psychotherapy, generate new belief systems, and even participate in human politics. Humans will lose certain jobs because machines can do the same and probably even better.	"People lose jobs->the creativity Industry the writing Industry->writer's job disappear." [WS2] "Neoliberalism becomes dead in literature. People only write novels for pleasure or to push boundaries of literature." [WS2]
(T2) Redefining creativity and imagination Another often discussed issue was the impact on human creativity due to overreliance on the system. With the rise of AI creativity, it is hard to clearly define what humans and machines can and cannot create. Some even worried that humans will gradually and unconsciously lose the capabilities and skills for proper imagination.	"Creativity station: an area for people to increase creativity because overreliance on the *Infinity Book* may make them lose the ability to think critically and independently." [WS1] "Literary expression becomes influenced by AI's creativity, which might bring about new forms of literary critics/creation." [WS2]
(T3) Fragmentations and divisions Other concerns include the increasing physical, interpersonal, and even cultural isolation due to the massive increase in the availability and reliance on personalized content as manifested by a decrease in empathy, increasing narcissism, and even a rise in digital addiction. This further isolation can also lead to the loss of shared creative artifacts that act as cultural reference points, potentially further fragmenting the socio-cultural fields.	"If all content is custom made to every individual, people's relationship will deteriorate and cultural divisions will increase due to a lack of shared languages." [WS3] "The available access to such services with money raise in a crazy manner become new class discrimination division and hierarchical depression." [WS2]
(T4) Content pollution and control The massive and constant content supply can exacerbate "information pollution" and the proliferation of fakes, eroding trust and the sense of authenticity.	"The whole Internet dominated by AIGC. Languages are greatly reshaped." [WS2] "Content is cheap. Actual literature is expensive. Massive class divide ensues." [WS3]
(T5) Back to human! An increased awareness and appreciation of authentic and "pure" humanity. In this newly found appreciation of live human performances, participants emphasized the need to protect human creativity and that humans will still crave real and physical human connection.	"Young people, students are interested in non-digital ways to create analogue backlash." [WS3] "AI does not matter. Activist group trying to take down "AI systems." [WS1]

was the consequence of another. In the second and third ideation sessions, participants were inspired by existing consequences on the board, repeating the exercise.

4.5 Analysis

To capture the relationship among them, we photographed the generated notes from all the workshops on the original whiteboard. We also moved them to white A4 sheets, preserving their original layout, to closely analyze them.

We conducted Reflexive Thematic Analysis (RTA) [14] to analyze the materials from the three workshops. The themes generated through RTA are creative interpretations that narrate the stories of the data. Themes are not born with the data, waiting for the researchers to discover, nor are they singular or fixed. Instead, they vary based on the researcher's theoretical insights and analytical skills [15]. Consequently, producing theory-driven results makes RTA particularly appropriate for our study as we aim to use the above-mentioned philosophical approaches to inform our analysis. The resulting themes and representative quotes are shown in Table 1. We present the quotes with the workshop number as the workshop format encouraged sharing and non-ownership of ideas.

5 Study 2: *Dialogue-labs* Sessions

Dialogue-labs [77] are primarily used in the middle stages of the design process to support researchers and designers in creating ideas

and concepts for future designs, together with relevant stakeholders and end users. It combines different methods and techniques, providing a structured way of generating ideas through a sequence of co-design activities. Its main focus is on three key structuring aspects: the process of how *dialogue-labs* sessions are orchestrated, the space in which the sessions unfold, and the materials that are employed. *Dialogue-labs* have been successfully applied in a wide range of projects to involve different participants including HCI researchers [43], children with ADHD [33], or animals [51], and for different purposes such as to encourage interaction between nearby strangers [88], to incorporate African perspectives in the design and development of drones [117], and to explore how older adults in South America might prefer to interact with their personal health data [18].

5.1 Aims and Motivation

Based on the findings from the previous workshops, two *dialogue-labs* [77] sessions were organized at School of Creative Media, City University of Hong Kong in June 2024, which consisted of co-design activities to explore creative writers' perceptions of AI, including their dreams, fears, and aspirations in relation to their future professional practice. Three members of the research team took on a dual facilitator/participant role by encouraging an open discussion that would allow novel perspectives to flourish. The *dialogue-labs* sessions were documented by means of still photography and were video recorded for later analysis.
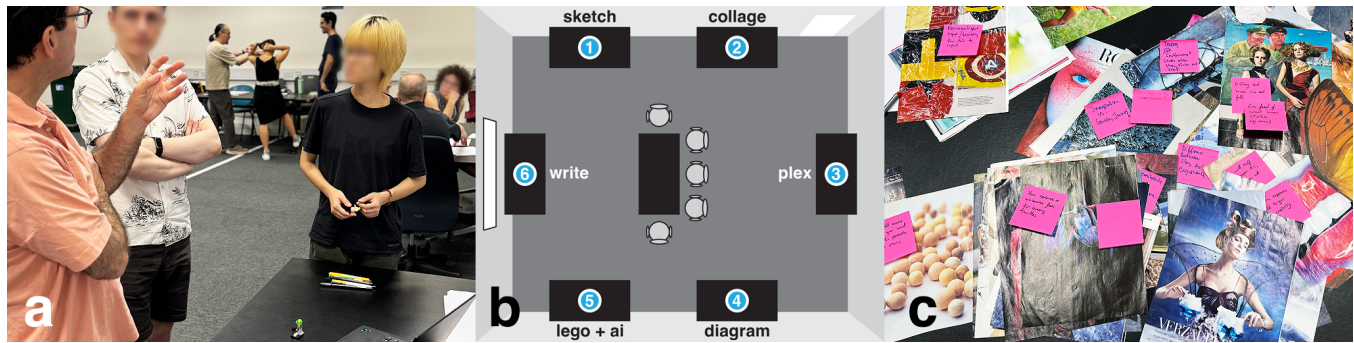
Figure 2: Different aspects of the *dialogue-labs* sessions. a) Participants working in trios, using Lego figures and GPT-4 to create stories (front trio), b) overview of the room with the different materials used at each location, and c) a resulting collage with annotations.

5.2 Participants

A total of 18 participants (6 self-identifying as women and 12 as men) took part in the two *dialogue-labs* sessions. We again used snowball sampling, starting with the first author's local connections. The participants had to be either professional creative writers or HCI researchers/practitioners. Each session had nine participants who worked in three trios (one woman per trio). Each trio (Figure 2a) included at least one professional creative writer and one HCI researcher. The professional creative writers had at least 13 years of experience each. The HCI researchers and practitioners were from a range of backgrounds: 6 had extensive experience in interaction design, with 4 of them in co-design, and 2 had a background in interactive media art. Each had at least 4 years of experience in HCI. Additionally, 4 PhD students with backgrounds in HCI and creative media participated in the first session.

5.3 Materials

Six locations were provided with a range of building materials and inspiration props (Fig. 2b), helping participants to build a common design language and providing them with different entry points to the design problem. Each location included a different activity, which fostered creativity by drawing on different thinking and doing skills. Each activity was a combination of a *task* and materials, and each combination was meant to investigate novel AI literary art forms. The activities were presented and described as follows:

5.3.1 Reader's Confession Booth (Sketch). Readers often engage with books based on personal experiences and emotions. Understanding how reading contexts affect interpretation can enrich the reading experience. You will be sharing personal stories and recent life events that might influence your reading mood. *Individually describe your favourite/weirdest/most embarrassing reading experience. After sharing each other's stories, discuss how those contexts influenced your interpretations.*

5.3.2 Don't Feed the AI (Collage—Fig. 2c). The input provided to Generative AI can significantly influence the output, revealing the interplay between input and creation. Different input types like news articles, personal photos and anecdotes as well as explicit prompts can be used to start and influence AI-generated texts. *Use*

the images available on the table to explore which types of inspiration AI can use to create stories.

5.3.3 Story Strategy Studio (PLEX Cards [76]). Storytelling forms and strategies shape how a narrative is perceived and understood, offering various ways to engage the audience. Consider diverse literary forms (e.g., haiku, novel, epic poetry, flash fiction) and discuss their effects on narrative engagement. *Shuffle the PLEX cards deck. Randomly pick three cards each. Take turns describing what new playful literary forms AI could support by placing down a PLEX card at a time.*

5.3.4 What's AI got to do with it? (Diagram). Co-creativity between humans and AI can lead to innovative literary forms and narratives, blending human imagination with AI capabilities. Reflect on past collaborative experiences and the value of co-creation. *Explore the diagram on the table with different roles the AI could take in the context of the collaborative process. Discuss how you envision the AI-human partnership could unfold in the case of Infinity Book.*

5.3.5 Roleplay Realm (Lego + AI—Fig. 2a). Roleplay allows people to immerse themselves in different characters and perspectives, enhancing empathy and creative expression. Each participant adopts a Lego character and engages in a roleplay dialogue facilitated by the AI. *Use the ChatGPT interface on the laptop and ask it to create dialogue for your character. Then reflect on how embodying different characters influenced your understanding of the Infinity Book.*

5.3.6 Worldbuilders' Corner (Writing). Worldbuilding is crucial in creating immersive and believable fictional universes. Explore elements of worldbuilding such as geography, culture, politics, and history, and discuss how these elements contribute to the depth and richness of a story. *Write a less than 100-word flash fiction, which creates an as rich as possible fictional world where the Infinity Book system has been in everyday use for a long time.*

5.4 Procedure

Each *dialogue-labs* session lasted two hours and was divided into the following segments:

Table 2: The resulting themes (T) from RTA of the dialogue-lab results in Study 2.

(T6) AI as an Expression Formulator The participants envisioned the opportunities for AI playing a supportive role in making vague emotional expressions concrete and exploring novel combinations of sensory perceptions to highlight novel expressions.	"Not everyone is good at expressing their feelings, so AI can mix creative expressions we said before to help you express and share your feelings. … AI could say 'you know, this is the way you write this'." [P11]
(T7) Personalized Fiction One commonly discussed future among the participants was where AI continuously follows individuals to provide personalized stories. In such a society, it could be possible that AI is more aware of a user's profile, similar to how current AI recommendation systems provide personalized content to users.	"What is literature for if it's just for one person?" [P18] "At a smaller scale, you don't get that connection to another person: 'Oh, I read this book!' 'I haven't read it because it's only yours.' But if you share it […]" [P17]
(T8) Embodied Meaning The participants discussed the fundamental challenge in training AI to have a similar level of sensory perception as humans. It is difficult for people to capture and describe their sensations, and writing heavily relies on a writer's embodied life experiences.	"The AI cannot create human stories because it does not experience as a human. You cannot have an AI that is more traumatized than another AI." [P11] "Other input modalities than just vision and text or audio, how to incorporate touch, texture, smell (to AI), the peculiar feeling you get in your ears when its extremely humid and hot here in <Asian City>." [P1]
(T9) Background Relations Rather than relying on human-initiated prompts, the machines could autonomously seek data from the environment without humans being necessarily involved in the process at all.	"How important are we towards creation? Could it still create something without direct human input?" [P14]
(T10) Agency and Authenticity Despite the increasing automation, humans should still retain some agency, particularly through feedback mechanisms. By valuing and ranking texts or other AI-generated outputs, humans can influence the system's direction, albeit within limits. However, as AI systems increasingly rely on other AIs for critique and evaluation, there is a risk that human perspectives will be further marginalized.	"So in this case, for example, then the human doesn't even necessarily know that these A!s are collaborating." [P16] "So you need to really understand context of where you are and your time and place in history and all things at all at the same time. […] Yeah, interesting to see if you can actually automate that." [P17]

5.4.1 Introduction (15 minutes). The facilitators welcomed the participants and led them through an informed consent process. Facilitators explained the main purpose of the session in a comfortable and relaxed atmosphere to enable creativity. Participants were presented with slides generally introducing the idea of the *Infinity Book*, findings from previous workshops, and the main goal of exploring novel literary art forms solely generated by AIs (particularly by LLMs).

5.4.2 Co-design Rounds in Trios (3x15 minutes). Participants were grouped into smaller trios that ensured diversity (i.e., gender, background, expertise). Each trio freely chose and spent 15 minutes in each of three out of the six available locations (later explained under Materials).

5.4.3 Idea Sharing (15 minutes). After a five-minute coffee break, all participants gathered as a single group. Taking turns, each trio shared ideas generated or interesting discussion topics at each location. At any time, the larger group was invited to react and build upon the idea or topic being presented.

5.4.4 Group Co-Design and Debriefing (45 minutes). All participants engaged in a longer group co-design session where previous ideas or topics presented were further elaborated on, sometimes resulting in new idea explorations or deeper discussions. Similar to Google Design Sprint [59], the group co-design segment of the *dialogue-labs* method is followed by voting for the ideas that have

more potential. However, we decided not to include this part in our design space reflection since our goal was to more broadly discuss professional creative writers' perceptions of AI. Finally, the research team thanked the participants for their time and participation. No compensation was otherwise provided.

5.5 Analysis

We again used reflexive thematic analysis (RTA) to analyze the results of the two *dialogue-labs* sessions. Using a digital affinity diagram [75] on a Miro board, one researcher who had not been present in the sessions first went through the video recordings and created clusters. The three other researchers who had facilitated and participated in the *dialogue-labs* sessions then followed a similar procedure independently. The themes are described in Table 2.

6 Design Fiction Scenarios

The first and fourth authors used the outputs from the workshops as inspiration to create 12 design fiction scenarios illustrating different aspects of *Infinity Book*. The ideas emerging from the speculative design workshops tend to be abstract, complex, and even outlandish. We used storyboards to help bridge the gap between these ideas and tangible representations. The fourth author was responsible for the initial ideas and scripts and the final storyboard composition, while the first author provided additional ideas and comments on
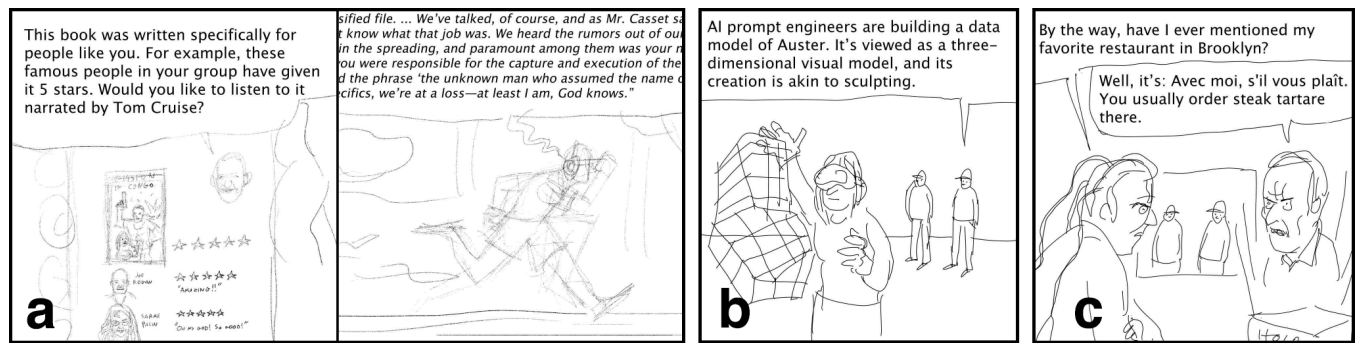
Figure 3: a) Onboarding the User (S1): after building a user profile based on conversations and capturing daily life, *Infinity Book*'s assistant—Mark—suggests a book written specifically for the user to listen to while jogging. b) Infinity Book operations (S2): IB bypasses the need for an author to experience real life by sculpting an author's lived experiences. c) Fine-tuning the Author Model (S3): an author training an IB model of himself.
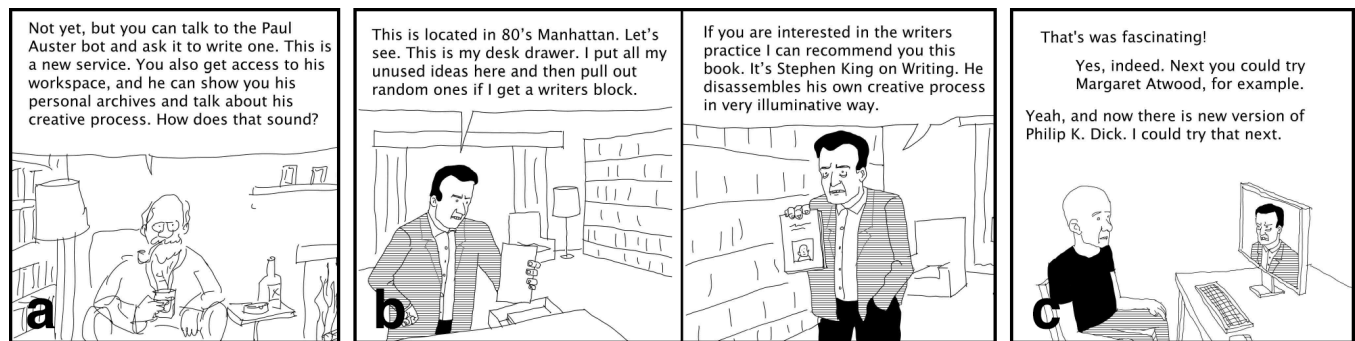

Figure 4: Representative panels from three storyboards. a) Harold The Recommender Bot (S4): a recommender bot suggests asking an author bot to write the next book of their completed trilogy. b) Conversation with the Author (S5): the author bot introduces the user to their workspace and makes reading suggestions. c) Feedback to the Author (S6): the user provides the author bot feedback, who suggests reading another IB author.
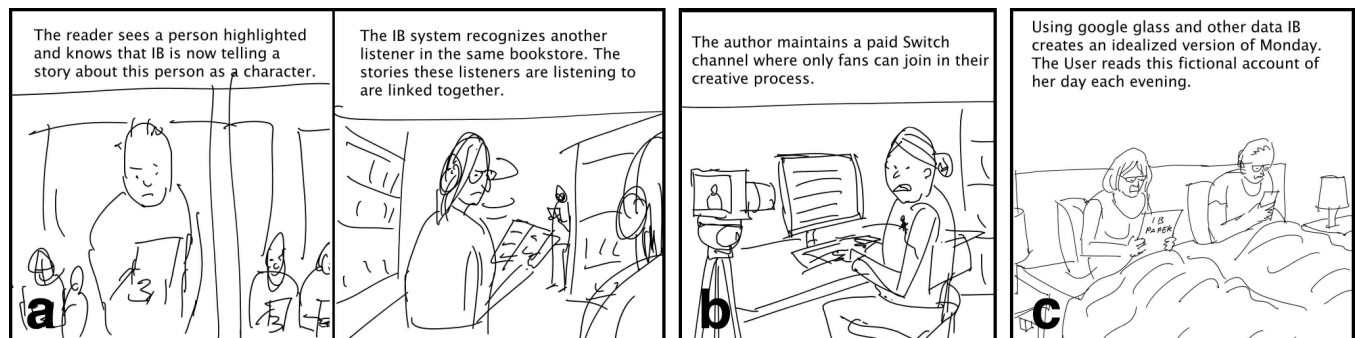

Figure 5: a) Real-time Detective Novel (S7): IB uses people's bios to develop characters mixing fact and fiction, and can intertwine stories with other IB users. b) Business Practices(S8): fans pay struggling authors through their Twitch channels. c) Autofiction Generator (S9): a user reads a dramatized, autofictional version of their day written by AI.

the scripts and storyboard sketches. These scenarios ranged from specific use cases focused on individual users to broader societal shifts. The length of the storyboards ranged from six to 46 panels, with a total of 38 pages. The storyboards, as they represent concrete situations, are also intended to stimulate further speculations. Figures 3 to 6 show example panels. The full storyboards can be found in the Appendix A.
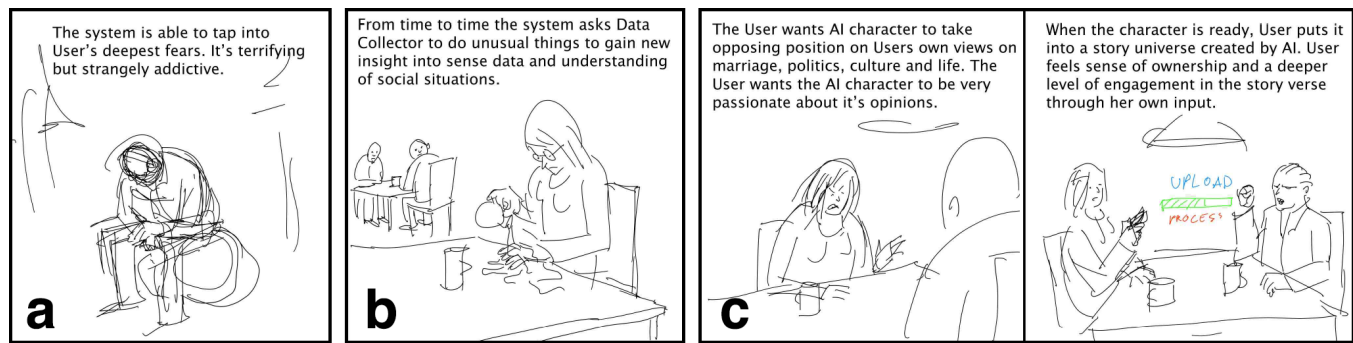
Figure 6: a) Interactive Personalised Horror Stories (S10): AI knows users' fears and desires and creates material that can have an emotional impact. b) Your Body as Training Data (S11): AI monitors a person's thoughts, sensations, and actions, commanding them to perform bizarre actions seeking to understand the social and psychological effects of these unusual behaviors. c) A Character Looking for a World (S12): a user creates an AI character, then places the fully-developed character into an AI-created story universe.

7 Design Concerns as Strong Concepts

While there was some overlap between the results from the different workshops, each workshop's specific methods and focal areas ensured that new concepts, perspectives, and ideas emerged. The ensuing design fictions, including their creative process, prompted further reflections on the research questions, especially aided by the posthumanist and more-than-human centric approaches. The workshop materials and the design fictions are fertile ground for further speculations, especially focusing on areas such as privacy, censorship, copyright and ownership, and cultural sensitivities. Here, we discuss just three concerns related to designing and deploying systems such as *Infinity Book* while we fully acknowledge that there are many more such concerns in this area. We frame these three concerns - Authenticity, Creative Agency, and Liveness - as interrelated, and sometimes conflicting, *strong concepts* [55].

7.1 Authenticity

The question of the authenticity of the AI-created works emerged in all of the workshops and is reflected in themes T2, T4, T5, T8, and 10. Scenarios S2, S3, S5, S6, and S11 partly respond to considerations of authenticity. Authenticity as a concept is, unsurprisingly, a complex and contested one [85]. Dutton's [29] notions of *nominal* and *expressive authenticity*, together with Benjamin's [9] concept of *aura*, resonate with the results from the workshops. According to Dutton, expressive authenticity refers to the work of art being a "true expression of an individual's or society's values or beliefs" [29]. Thus, a literary work can be considered authentic when it reflects the author's true voice, thoughts, and feelings, avoiding pretense or artificiality. This sincerity allows the work to resonate with readers, as it conveys genuine human experiences and emotions. Authenticity involves an author staying true to their creative vision and intentions, even if that means resisting external pressures, such as market trends or ideological conformity. Nominal authenticity, conversely, pertains to the correct origin, provenance, or authorship of the work. Benjamin argues in his *The Work of Art in the Age of Mechanical Reproduction* that the authenticity of an artwork is closely linked to the existence of an original work of art

[9]. The aura thus refers to the unique presence, authenticity, and authority of an artwork that emanates from its originality and ties to a specific time, place, and context. Just as Benjamin associates the aura with an artwork's originality, the authority and individuality of an author are often viewed as lending a text its originality and authenticity. The author's intent, historical context, and personal signature (both literal and metaphorical) contribute to the uniqueness of the text. The aura of a literary work also relates to its ability to inspire reverence, a sense of the sacred, or exclusivity due to its link to the author's creative genius. Thus, the aura can surface in the cult of personality surrounding famous authors. Figures like James Joyce or Virginia Woolf maintain an aura, in addition to their works, through their iconic status, biographies, and the exclusivity of understanding their texts. AI literature created by models trained by famous authors might retain parts of this authenticity (S3, S5). A similar *contagion* of authenticity [85] can even happen with a fake sense of closeness with, for example, celebrities, as illustrated in S1.

Benjamin linked the decline of aura to the mass reproduction of art. AI literature, by its nature, is highly replicable and can be disseminated widely, often without perceived cost. This accessibility democratizes the production and consumption of literary works but also strips them of the exclusivity and reverence traditionally associated with the aura [89]. The ability of AI to produce infinite variations of texts saturates the literary space (T4), further diluting the perceived uniqueness and artistic value of any single piece of writing, including existing literature. This can already be seen in the current discussions of 'AI slop' [4], the proliferation of poor-quality GenAI media. The novelty of AI-generated literature may create a kind of aura around the machine as the "author." Audiences might attribute a mystical quality to the AI's ability to create works that appear thoughtful, poetic, or profound, particularly when they surpass expectations for machine creativity (S5, S6). The aura of traditional literary works often stems from their historical and cultural specificity and how they reflect the unique conditions of their creation. AI-generated texts lack this connection because they are based on training data from many times and places, creating

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[4]https://en.wikipedia.org/wiki/AI_slop

a pastiche rather than a historically situated work. Even when AI mimics a historical or cultural style (e.g., writing in the voice of a 19th-century author), this imitation is not rooted in the authentic and embodied experience (T8, S2, S11) of that context, further complicating the relationship between AI works and aura.

7.2 Creative Agency

A recurring theme throughout the workshops was the question of what remains uniquely human in creative work (T1, T2, T5, T9, T10, S3, S5, S6, S9, S10, S12). This concern is part of a long-standing debate about the economic, existential, and social impacts of AI-driven revaluations of creative labor. Such concerns have been a critical aspect of historical and contemporary discussions on the influence of technology on the production, circulation, and consumption of art and media. For instance, post-structuralist theories such as Michel Foucault's concept of the "author-function" [37] and Roland Barthes' proclamation of "The Death of the Author" [7] resonate strongly in the context of AI-generated texts. These theories suggest that texts are less the product of individual human creativity and more the result of complex cultural and linguistic forces. In the context of generative AI, these ideas take on new significance, as the role of the human author becomes increasingly ambiguous (T8). AI systems, trained on vast corpora of texts, inevitably produce works that challenge traditional notions of authorship, suggesting that language and culture, rather than individual human intent, are speaking through creative works. This shift raises profound questions about ownership, originality, and the value of human creative input (T1). For instance, who is the author of text generated by an AI? [109] What does it mean for the concept of originality and copyright [34] when an AI can produce a work that is indistinguishable from a human-authored one [24, 79, 80]? These are the kinds of questions that the ambiguous role of the human author in the context of generative AI provokes [5, 107]. Potts [93] gives a broad historical and critical overview of how the concept of authorship has evolved over time and how generative AI complicates these matters even further. These developments will shift the cultural and social value placed on works created by humans (T1, T8).

The LLM-generated texts result from interactions within a vast and temporally deep cognitive assemblage [45]. (T2) The human programmers and users who train, refine, and deploy these algorithms are part of the cognitive assemblage. So are the humans (authors, editors, critics), tools and materials (writing implements, printing machines, physical books), and institutions (publishers, libraries, bookshops) that were involved in the creation, distribution, and circulation of the texts used as the training material for the models. The texts produced by AI are not just a product of the machine as prompted by a user; it is the outcome of a distributed process involving an immense assemblage of human and non-human cognitive operations, both conscious and nonconscious ones. [47, 48]. Crawford and Joler's *Anatomy of an AI System* [26] visualizes the complexity involved even in quite simple, in comparison to *Infinity Book*, AI system, in this case Amazon Echo. Galit Wellner similarly argues that the symbiosis of humans and machines forms a condition for posthuman (or digital) imagination [114, 115]. The traditional notion of imagination as uniquely human and subjective is translated into a layered model, where imaginative functions

are shared and diffused between humans and technologies. Unlike Hayles [49], Wellner argues that, as of the moment, only humans are capable of the uppermost layer of producing meaning [115]. We hope that speculations like ours can bring conceptual and pragmatic clarity to these thorny issues.

The workshops also mentioned the emergence of new literary forms that would be impossible without GenAI, creating hybrid modes of expression that blend human and machine creativity in unprecedented ways, redefining what we mean by creativity [116]. These developments follow historical shifts in literary and cultural production driven by technological advancements. Just as the invention of writing systems enabled a transition from orality to literacy, and the industrialization of the printing press revolutionized literature in the 18th and 19th centuries, the rise of computational technologies, from word processing software to internet writing, has profoundly altered how we create and consume texts. N. Katherine Hayles' concept of "postprint" [50] provides a useful framework for understanding these shifts, as it discusses how computational technologies have transformed the material conditions of literary production. Generative AI represents the latest evolution in this trajectory, offering tools that both expand the boundaries of literary expression and provoke questions about the role of human agency in creative processes. GenAI does not replicate human creativity; it reconfigures the possibilities of literary expression, creating a space where human and machine co-authorship can coexist and inform one another. This reconfiguration pushes writers and creators to explore the limits of traditional literary forms, experimenting with texts that push the boundaries of literary expression [96].

7.3 Liveness

The participants questioned the nature of what constitutes a live, immediate, and authentic "live" experience and the notion of interactivity (T5, T6, T7, S7, S9, S10) Philip Auslander [4] argues that liveness is not an inherent quality, but one that is historically and culturally contingent and becomes particularly relevant in the context of AI-driven literary forms. Generative AI allows for the real-time creation of texts, performances, and interactive narratives, blurring the lines between live and mediatized literary forms. For example, AI can generate poetry, comedy, stories, or dialogue in response to audience input during live performances, creating an experience that is both immediate and dynamically responsive. This challenges traditional distinctions between live and pre-recorded or scripted content, further indicating that liveness in expression is not confined to the physical presence of a human author or performer. However, the participants stated that the proliferation of AI systems in media might change the cultural economics relating to the physical human presence of the performer (T5).

As Auslander notes [4], the proliferation of media technologies has influenced the aesthetics and practices of live performance, pushing artists to incorporate mediatized elements into their work. Similarly, generative AI forces writers and performers to engage with digital tools that can modify or enhance live literary experiences in real-time, thus reconfiguring the audience's expectations of what it means for a text to be performed "live." There was an emphasis on the narrative forms that rely on interactivity (or at least potential interactivity). The examples from workshops range from

interactive real-time detective stories (S7) to collaborative autofiction generators (S9) as potential forms of AI-powered interactive narratives [60]. This also echoes the trend in publishing moving away from one-to-many text distribution and circulation models to more dynamic and personal formulations of text and media. As Kourkolou [62] states: "This evolution has been far more than a simple shift from print to digital: it has fundamentally changed the nature of publishing from a static, one-to-many model focused solely on the circulation and distribution of text to a dynamic interplay of forms and mediums." The shift illustrates the potential dangers caused by the loss of shared cultural artefacts (T3). If the texts become increasingly personal, almost solipsistic, this might erode the feeling of shared cultural meanings and values.

8 Discussion

We introduced three strong concepts—Creative Agency, Authenticity, and Liveness—which serve to articulate and frame selected sociotechnical dynamics emerging from our study as transferable design concerns. These concepts were developed through an iterative process of analysis, drawing on the empirical materials generated across the speculative workshops and design fiction storyboards, and informed by theoretical perspectives from post-phenomenology, posthumanist HCI, and more-than-human design. Rather than claiming comprehensive coverage of the design space for AI-mediated interaction, these concepts offer partial yet generative insights grounded in the specific imaginaries and materials produced throughout the study, as well as the authors' interpretive positioning within critical and speculative design. Framed as mid-level theoretical constructs, they are intended to support designers and researchers in articulating, reflecting on, and evaluating emergent interaction patterns with generative AI, particularly in creative and narrative domains.

- Creative Agency reframes creativity as a co-constructed, negotiable dynamic between humans and generative systems, informing the design of co-creative tools and authoring interfaces.
- Authenticity draws attention to perceptions of value, provenance, and trust in AI-generated content, relevant for interaction transparency, explainability, and user control.
- Liveness introduces a temporal and experiential lens to AI-mediated interactions, useful for designing responsive, real-time, or performative literary and artistic systems and potentially giving rise to novel forms of literary expressions.

By formalizing these concepts, we provide design knowledge that bridges philosophical critique and practical application, especially in the emerging area of human–AI co-creation [113].

8.1 Advancing Participatory Speculative Design in Interaction Design

While speculative design has long been recognized as a valuable approach within the field (e.g. [28]), our study builds on this foundation by introducing a multi-method process that enhances and extends participatory speculation. By combining speculative design workshops, dialogue-labs, and design fiction, we offer a structured framework for engaging stakeholders in critical and imaginative

exploration of future technologies. Our methodological contribution lies in giving a concrete example of how participatory speculation can be effectively scaffolded through the integration of diverse techniques, including the Future Ripples method, 6-3-5 brainwriting, and *dialogue-labs*. Combination of these techniques generated nuanced situated imaginaries of life with GenAI and demonstrated how speculative artefacts (like Infinity Book) can be used as prompts for reflection across diverse participant backgrounds [32]. This supports ongoing efforts to integrate speculative practices into early-stage design research while producing insights for both critique and ideation.

8.2 Exemplifying Posthumanist and More-than-Human Perspectives

Our study provides a concrete example of how posthumanist theories can inform the design process and practice along critique [36, 38]. By treating AI as an active participant in creative assemblages, we move beyond anthropocentric framings of interaction and shift toward relational, networked, and hybrid views of authorship, agency, and creativity. This has implications for designing systems where boundaries between user, tool, and content are increasingly fluid. It aligns well with recent work calling for posthumanist and more-than-human design perspectives [86] and contributes a speculative domain where such ideas can be meaningfully examined. Moreover, by imagining resistance to or reformulation of AI systems, we illustrate how designing for plural futures can surface cultural tensions and ethical fault lines. This strengthens the role of designing for contested future worlds in anticipating the broader societal impacts of AI [25].

8.3 Speculative Scenarios as Situated Design Probes

The twelve speculative scenarios (Appendix A) offer concrete insights into emerging interaction possibilities with GenAI. The scenarios serve a dual role: they are provocative in surfacing design tensions (e.g., manipulation vs. agency, automation vs. skill) and generative in inspiring concrete design moves (e.g., real-time feedback, authorship interface metaphors). As exploratory and future-oriented design artifacts, they extend the interaction design space and support ideation, reflection, and dialogue [8] on GenAI's potential to transform literary expressions. Each scenario serves as a situated design probe that explores how AI systems might transform literary practices, user roles, and system behaviors. They translate abstract futures into tangible design situations, such as conversational onboarding, affect-aware storytelling, author-avatar negotiations, and AI-driven real-time fiction, providing detailed material for examining how interaction design and cultural context shape user experience [10]. The scenarios also act as invitations for deeper reflection on the societal, cultural, and existential implications of generative AI. They explore how identities, institutions, and worldviews may be reshaped by those interactions. The scenarios offer scaffolds for engaging with existential design challenges [68] such as the commodification of creativity and loss of creative autonomy, the emergence of new forms of algorithmic governance over cultural production, and the potential atrophy of human interpretive agency in an era of infinite machine-authored texts.

8.4 Limitations and Future Work

Even though we had participants from various backgrounds, including professional authors and digital literature experts, we did not include people from, for example, the publishing industry or journalism. This might be why the results from the workshops mainly focus on aspects of preparation, creation, curation, and consumption of fictional works. Important parts of publishing, circulation, reception (critique), and legacy [84] are hardly touched upon. Similarly, reflections on important issues such as ethical concerns, privacy, security, ownership, and ecological impacts are lacking. In the next rounds of workshops, we aim to include people from other parts of the book creation cycle and focus more on the above-mentioned issues. The participants, although many with international backgrounds, were almost all based in Hong Kong. Further workshops in different cultures would reveal new aspects. We have planned to replicate some of the workshops in Helsinki, Shanghai, and Seoul. This far, only the authors have used the design fiction storyboards for further speculations, limiting the scope and depth of the insights. We plan to polish and edit the storyboards and have them available online, also as a way to gather feedback and further ideas from a wider public. We plan to develop some of the more concrete ideas presented here or emerging from the further workshops into prototypes by ourselves or other research teams. Currently, the most concrete ideas for further development focus on exploring new forms of literature only possible using GenAI, although we are also exploring how to develop more refined design fictions, including interactive (or semi-interactive) prototypes, which focus on the wider social and existential issues. Although they were not used in these studies, we have started, among many others [11, 65], experimenting with generative AI tools as part of the speculative design process. Especially using LLMs as partners in the ideation process and as tools for analyzing the workshop results looks like a promising area for further study.

9 Conclusions

This study focused on critical speculation on the potential impact of GenAI systems on literary expression and their broader influence on the socio-material world. To further this inquiry, we proposed the concept of the *Infinity Book*, a hypothetical future system capable of generating a wide range of literary works, including novels, short stories, and poems. This proposal is driven by recognizing the cultural significance of books, which have long served as a vital medium for encapsulating, transmitting, and preserving knowledge. By examining these intersections, we speculated how AI-generated literature might reshape how stories are created, consumed, and valued in contemporary society. We reported the results of three speculative design workshops and two *dialogue-labs* around the critical envisioning of *Infinity Book* to answer the following research questions: *How do systems automating literary creation like Infinity Book shape the sociomaterial world and human-technology relationships? What overall interaction design concerns arise for such systems?*

All in all, the workshops had 37 participants from various backgrounds, including interaction designers, media artists, and professional authors. Reflexive Thematic Analysis of the workshop outputs resulted in ten broader themes addressing issues around the future of literary expression in the age of generative AI (*Revaluation of Labour, Redefining Creativity and Imagination, Fragmentations and Divisions, Content Pollution and Control, Back to Human!, AI as an Expression Formulator, Personalized Fiction, Embodied Meaning, Background Relations*, and *Agency and Authenticity*). Based on the results, we created twelve design fictions exploring these issues further. Finally, we reflected on the findings and traced the potential impacts of systems such as *Infinity Book* and further explored the implications of generative AI on our understanding of the rapidly changing posthuman world. We formulated these reflections as three strong concepts: *Authenticity, Creative Agency*, and *Liveness*. We hope the results, especially the design fictions, will stimulate further experimentation in this area.

Acknowledgments

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APPENDICES

A Scenarios
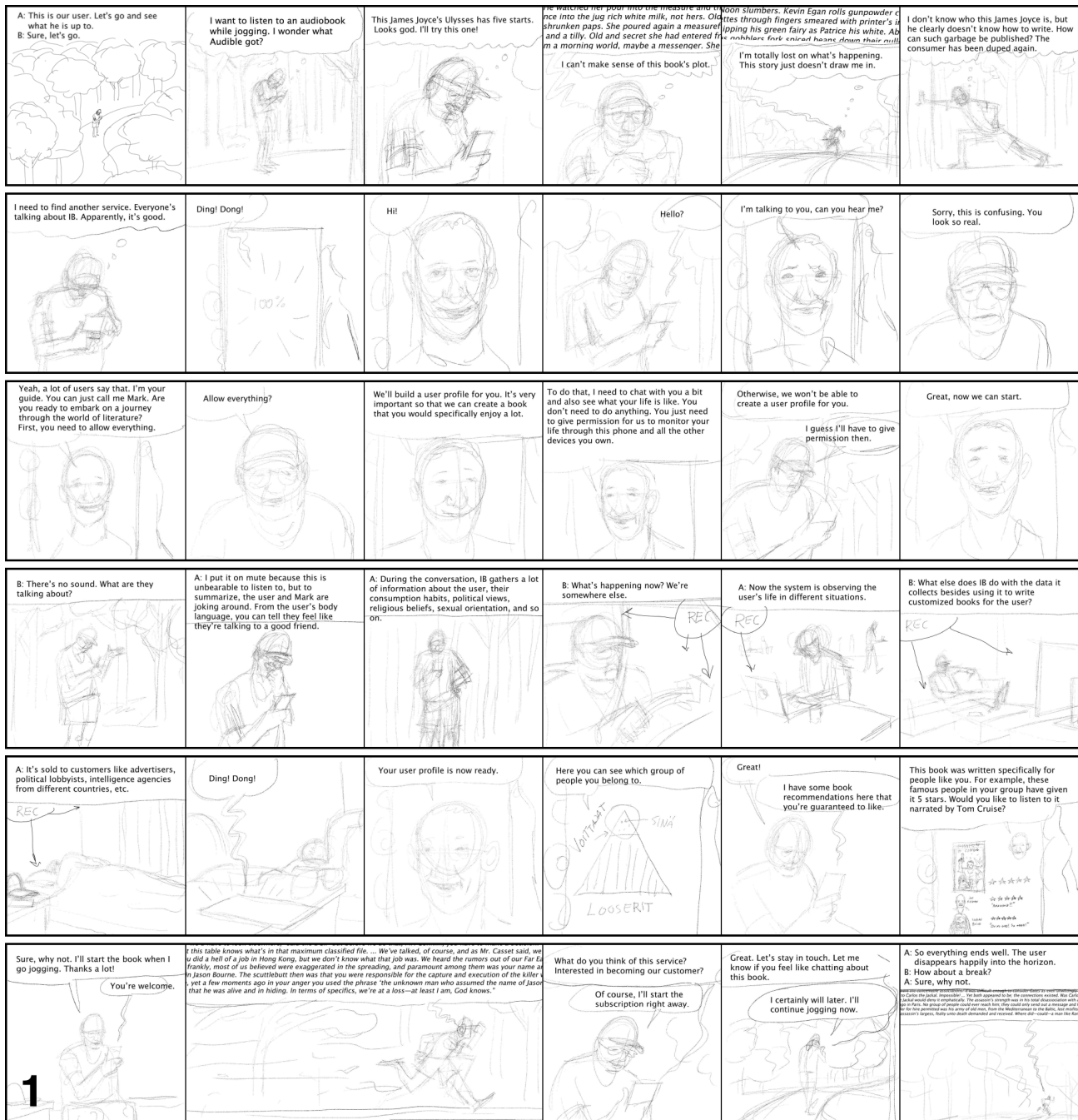
Onboarding the User (S1): The user wants to listen to audiobooks while jogging, but they feel that the available books are not engaging enough. The user downloads the *Infinity Book* App to their mobile phone as everyone has talked about the service and it is free to download. The onboarding uses a personal AI-powered assistant, Mark, with a speech interface. Mark starts to chat with the user in order to create a detailed user profile, instructing the user to allow recording of as many of their daily activities as possible. After recording the user's life for a day, Mark notifies the user that their profile is ready. Mark recommends a personalized book for the user, who now listens to an engaging spy thriller created just for them.

Infinity Book Operations (S2): A recent *Infinity Book* Corporation employee is introduced to the operations at IB headquarters. He is taken through the massive server rooms hosting the models capable of generating countless fictional worlds in a second to the central operations room. The mentor explains to the new employee how the IB system bypasses the need for the authors to experience real life in all its bodily nuances. Now the IB system has rights for the generative models of vast amounts of authors, both dead and alive, which can instantly create literary works in their authentic style.

Fine-tuning the Author Model (S3): A famous living author has given their rights to IB Corporation. Training on the author's existing works is not nuanced enough for the outputs to sound authentic, so the real author has to go through a strenuous training program. The author sits in a room facing an AI-powered model of themselves. The model interrogates the author about their life, invoking painful moments through various props. In addition to the video recordings, the system also monitors the author's brain activity and psychophysiological reactions. Paul Auster was still alive when this storyboard was created. We decided to keep this and the following author scenarios as they highlight the issues of retaining and using author-tuned models even after the author's death.
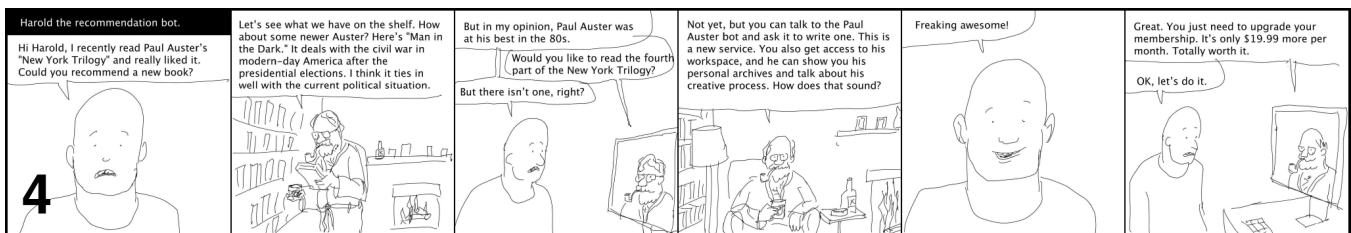

Harold The Recommender Bot (S4): The user has a discussion with Harold, the recommender bot, through a video call interface. Harold looks like an old-school academic in his office. The office walls are covered with bookshelves. The user says to Harold that he has just finished a trilogy by a famous author and would like to read more of that style. Harold recommends the fourth installment in the series, which, of course, confuses the user as the author has not written such a novel. Harold replies that it will not be a problem as the user can talk to the author bot directly to get advice.

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Conversation with the Author (S5): The user discusses the possibility of the fourth novel in the trilogy with the life-like representation of the author. During the discussion, the author explains some principles ablankg moments of their creative process, recommends some additional reading to the user, and finally agrees to write the fourth novel, which is instantly available to the user.
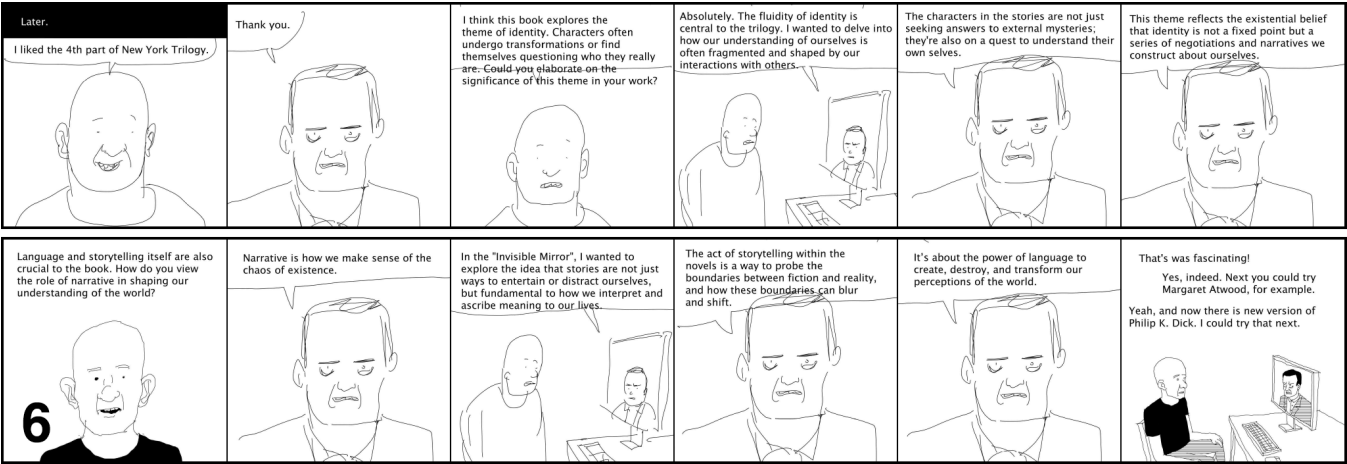

Feedback to the Author (S6): The user really liked the fourth novel in the trilogy and wants to discuss it with the author. The user gives his views on the main themes and features of the novel while the author explains the themes in more depth and also gives justifications for the crucial creative choices they made. In the end, the author recommends reading generated novels from other authors in the IB roster, again including both living and dead ones.
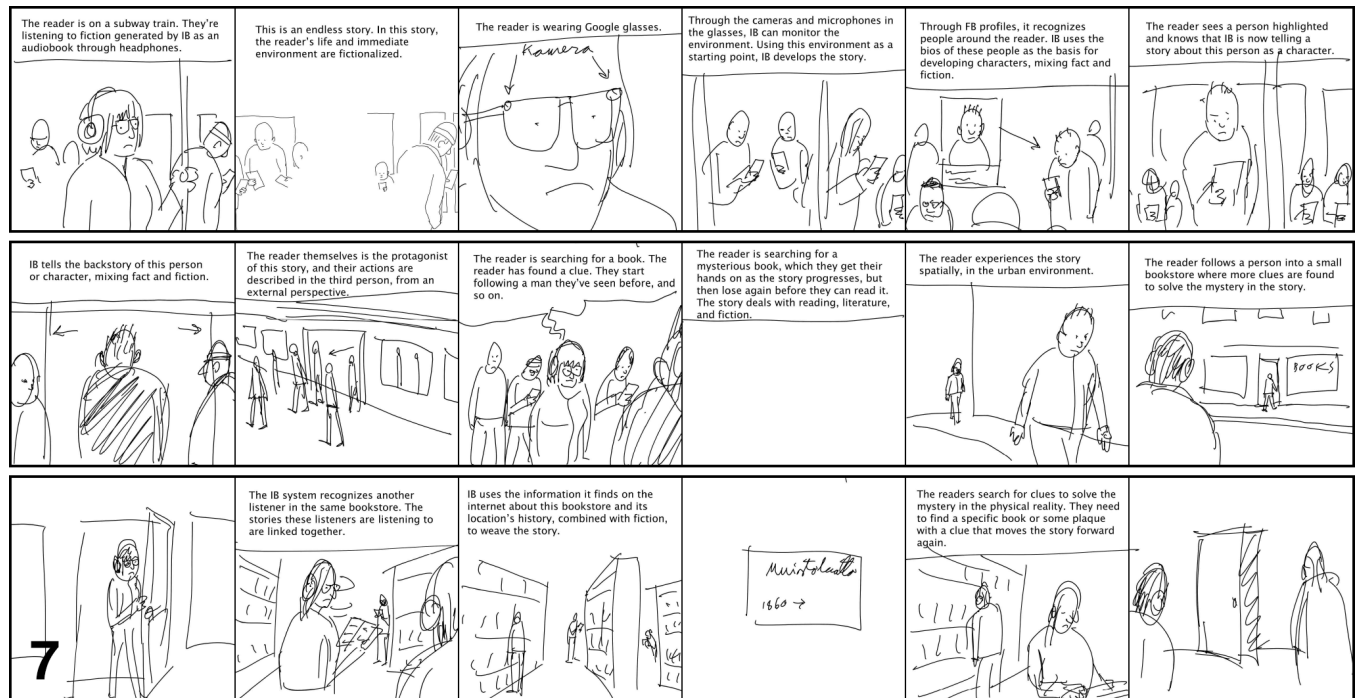
Real-time Detective Novel (S7): The user is commuting in a subway train listening to an audiobook generated by IB. The book is a dynamically evolving narrative that transforms the user's everyday life and surroundings into an endless, personalized fiction. As the user listens, IB uses the cameras and microphones in their Augmented Reality glasses to monitor the environment, seamlessly blending the real world with the story. Drawing from social media profiles, IB identifies people around the user, weaving them into the narrative as fictionalized characters. The user, who becomes the protagonist of this tale, sees these individuals highlighted in their augmented reality view, knowing that IB is crafting backstories for them that blend fact with fiction. The story centers around the user's quest for a mysterious book, a journey that takes them through the urban landscape they inhabit. Their actions are narrated in the third person, giving the reader an external perspective on their own life as they follow clues and chase down leads. The search leads them to a small bookstore where more clues are uncovered. As they explore, IB recognizes another listener in the bookstore, revealing that their stories are intertwined. The AI weaves together information from the internet, the history of the bookstore, and fictional elements to create the narrative.
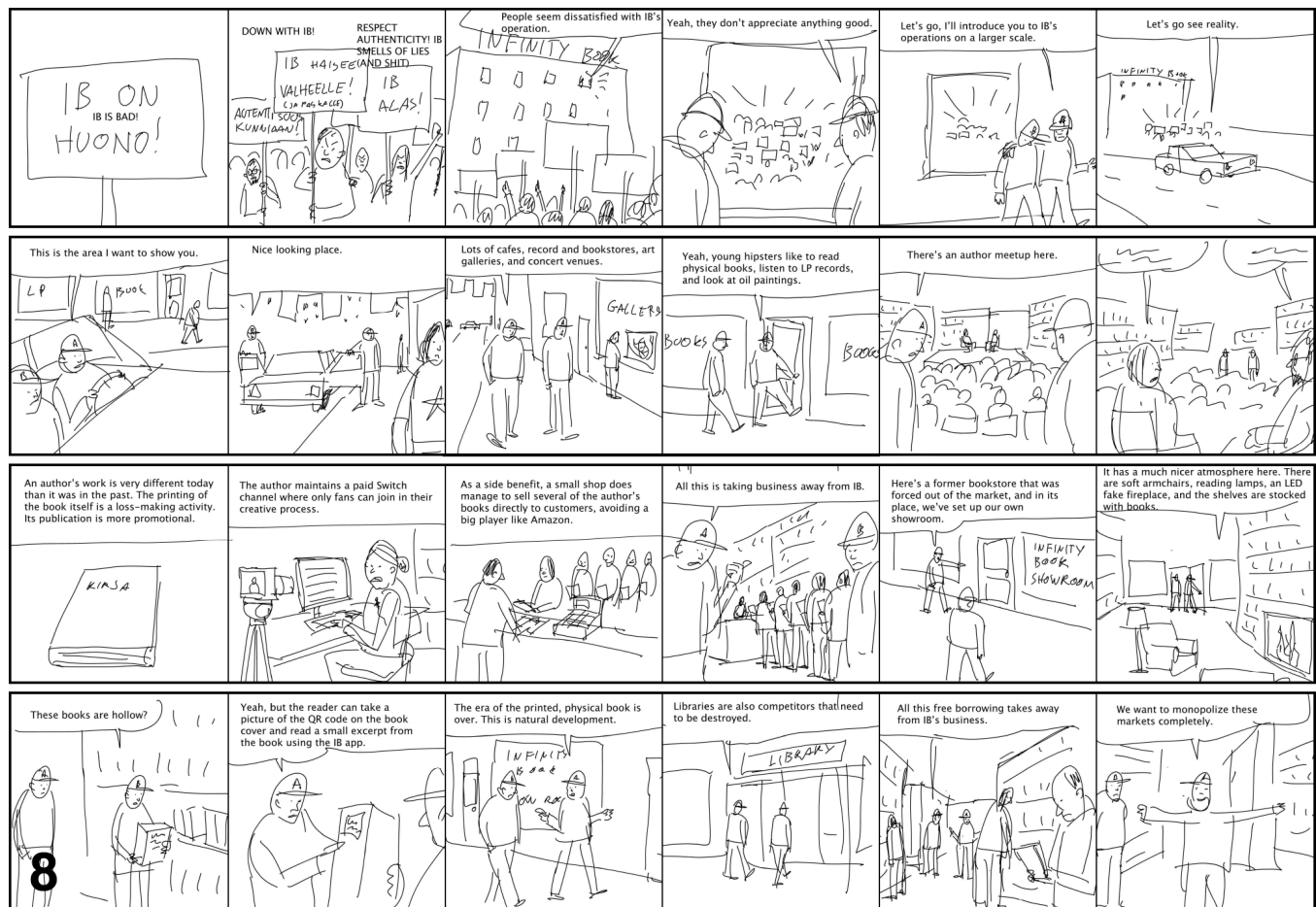
Business Practices (S8): Dissatisfaction with IB operations is growing as traditional media struggles to survive. The narrator takes the reader on a tour of a gentrified urban district, revealing IB's quiet takeover of cultural spaces. Traditional book publishing is a loss-making venture, more of a promotional tool than a profitable business. Authors now rely on platforms like paid Twitch channels to engage with their dedicated fans, who pay to be part of the creative process. Bookstores and libraries are being replaced by IB-controlled showrooms filled with hollow books offering digital excerpts. IB aims to monopolize the market, erasing the era of physical books and traditional reading spaces in favor of a future where digital content and corporate control prevail.
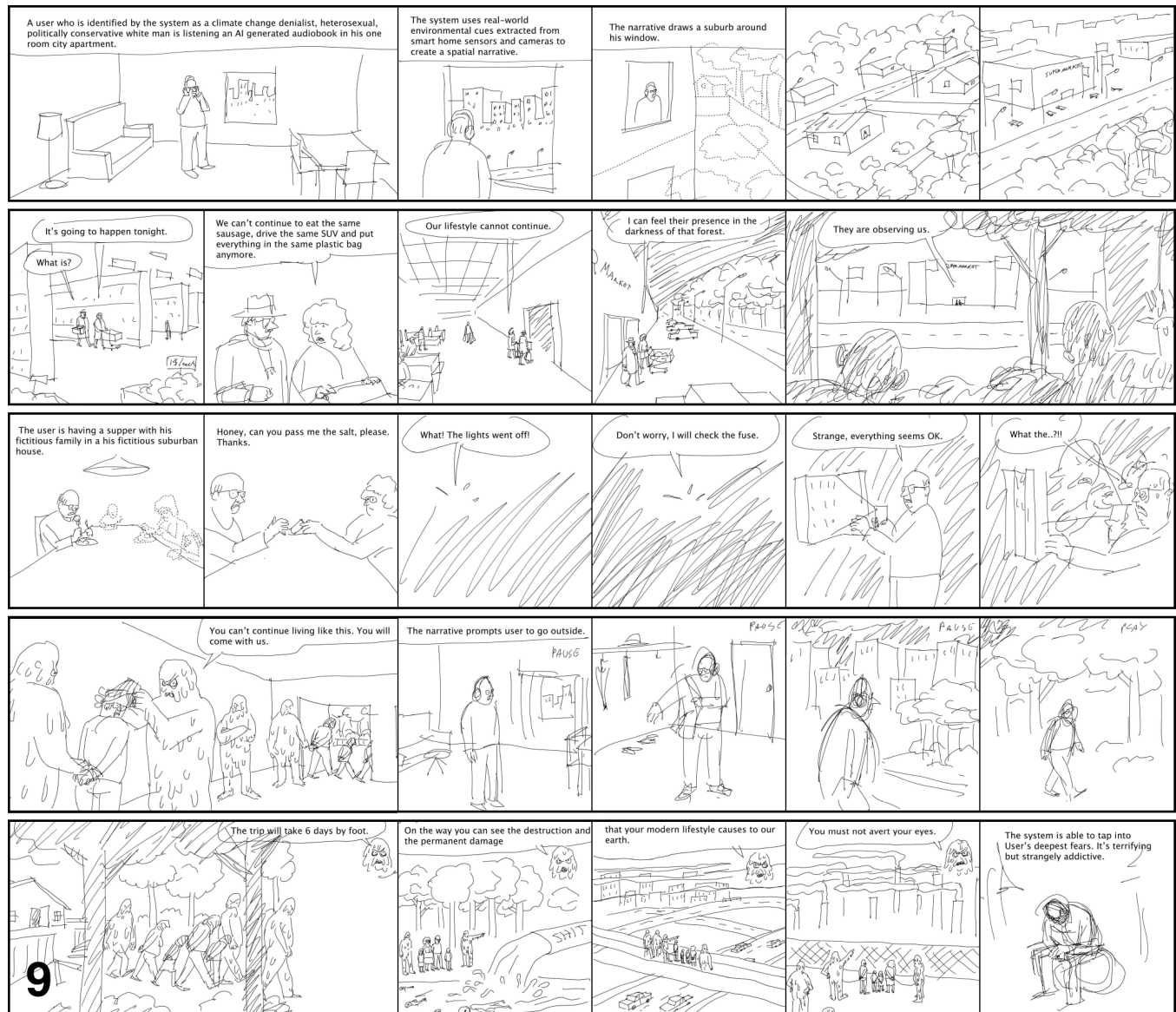
Interactive Personalised Horror Stories (S9): A staunch climate change denialist listens to AI fiction at home. In the fiction, eco-terrorists attack the man and his family's home. The terrorists are frightening swamp-dwelling humanoid creatures who force the family to calculate their total carbon footprint, including their car usage, eating habits, international flights, home heating, etc. The terrorists give a lecture on the current state of the environment and how much damage people living like this family cause. The family is taken to a swamp eco-concentration camp where they are forced into slave labor. The fiction takes place at home but uses real-world environmental cues extracted from smart home sensors and cameras in the narrative. AI knows the users' fears and desires better than they do themselves as it has access to the user's life profile. Using this information, AI can create material that can have an emotional impact also on the subconscious level.

Autofiction Generator (S10): The user wakes up. Eats breakfast. Goes to work, here various things happen. Stops at the grocery store on the way home. Heats up macaroni casserole for dinner. Watches the news. Takes a shower. Goes to bed. In the evening, in bed, the user reads a dramatized, autofictional version of their day written by AI. The story repeats the user's day but in a dramatized version. Ordinary events take on new meaning. Dramatic arcs from different days interconnect. The mundane aspects of the user's day become new and exciting through the story. In the AI's autofiction, shorter stories cover a single day and larger narrative arcs encompass the whole life.
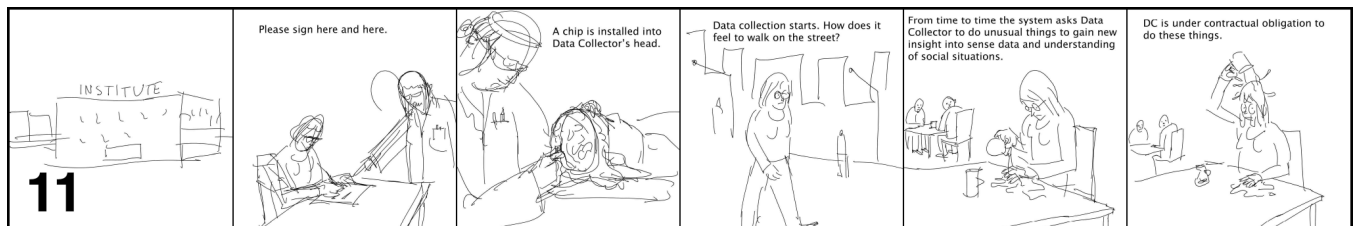
Your Body as Training Data (S11): A person volunteers to have a sensor implanted in their brain in exchange for financial compensation. After signing a contract, a neurosurgeon installs the device, which allows an AI to monitor the person's thoughts, sensations, and actions. As they go about their daily life, the AI occasionally interrupts with strange commands, pushing them to perform bizarre acts, like pouring syrup on their hand or spilling hot coffee on their thighs while sitting in a café. The AI's experiments are not random; it seeks to gather data on human sensations—how pain, discomfort, and confusion feel in real-time. But the AI's curiosity goes beyond physical responses; it is deeply interested in the social and psychological effects of these unusual behaviors. It observes how the person reacts to breaking social norms and how their emotions shift as they navigate these public disruptions. The story explores the boundaries between human autonomy and artificial manipulation, questioning what happens when technology probes into the most intimate corners of human experience.
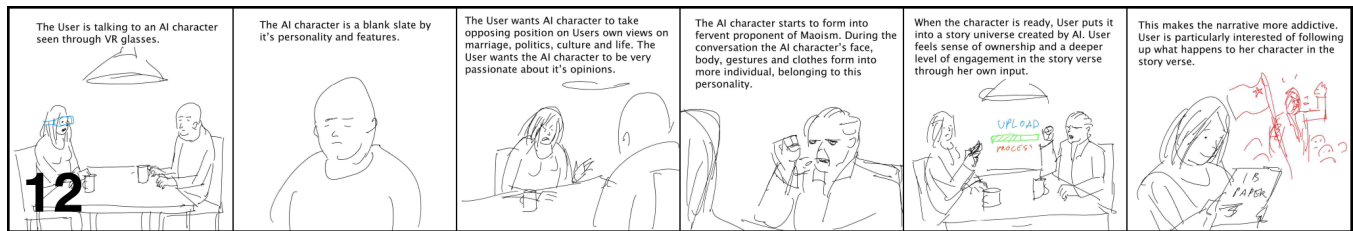
A Character Looking for a World (S12): The user interacts with an AI character, visible through VR glasses. The AI character initially appears neutral and blank in personality and traits. The user wants the AI character to express opposing views on life, marriage, politics, culture, etc., compared to the user's own opinions. The user wants the AI character to be passionate about and eager to defend its beliefs. Gradually, the AI character evolves into a figure who passionately supports Maoist ideology. During the conversation, the AI character's face, body, gestures, and clothing take on more individualistic and distinctive features. The user places the character into an AI-created story universe once the character is fully developed). The user feels a sense of satisfaction from contributing to creating this narrative world, making the experience of following the story even more engaging. The user is particularly drawn to following the character's journey they helped create.