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## Traveling Arts x HCI Sketchbook: Exploring the Intersection Between Artistic Expression and Human-Computer Interaction

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## ABSTRACT

When thinking of arts in HCI, one might be tempted to keep one's eyes focused on prominent realms such as sketching for UX Design and design probes from participants. A closer look shows that practices go beyond this, involving a variety of arts-based expressions by researchers, the researched and third parties, e.g. graphic facilitators. Inspired by Toselli's *Sketchnote Army Travelling Sketchbook*, researchers and artists contributed to a 'Travelling Sketchbook for Arts in HCI', showcasing their arts-based practice in HCI. The resulting sketchbook explores the intersection between HCI and artistic expression, illuminating what it means to use art in HCI. It shows the breadth of Arts in HCI, illustrating the many fruitful possibilities for extending existing research and dissemination methods in HCI. It also calls into question current practices, which often do not recognise the significance of artist attribution, and, in turn, advocates for equal authorship between principal researchers and contributing artists.

## CCS CONCEPTS

• **Human-centered computing** → **Human computer interaction (HCI)**.

## KEYWORDS

sketching; arts; sketchbooks; video; animation; making; drawing; painting; digital art;

## ACM Reference Format:

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To the artists who have opted not to be included in the author list, your contributions are of equal value to those in the author list. Thus, the acknowledgement section has been moved from the customary end of the paper to the beginning; we would like to thank **Joaquín R. Díaz Durán, Francisco de la Mora, Natalia**



**Figure 1:** [Left] Example rough storyboard by Miriam. [Right] Final version during inking (right). This was later developed into a full page comic for ACM Interactions magazine’s new sketch-based feature [17]. Note the visible differences between the first draft and the final, which was signed off by the editors. Miriam Sturdee, 2023.

Pérez, Em Harmsen, and Sue Nichols for contributing to Art in HCI Travelling Sketchbook.

## 2 OPENING COMMENTARY

This AltCHI paper advocates for an equal approach to authorship between principal researchers and contributing artists. The absence of the artists would render the narrative of Arts in HCI incomplete, while the lack of principal researchers (who are also artists) would impede the analysis of artwork. Recognising the significance of artist attribution, this AltCHI paper suggests that the equitable recognition of creative input is crucial for fostering a sense of value, respect, and fairness within the Arts in the HCI community. We identify an issue within the SIGCHI templates: few authors and restricted incorporation of visual elements that are supportive rather than constitutive of the narrative [18]. In response to this limitation, this AltCHI paper ensures each artist’s adequate representation (authorship). Consequently, this AltCHI paper cannot conform to the stipulated 8–12-page length (excluding references) to accommodate our inclusive authorship model. Regrettably, the font size has been reduced to five to adhere to the page length constraints. We hope this compromise demonstrates our commitment to the significance of this research, the ethos of authorship, and the visibility of imagery remains unwavering. Thus, to view this paper you may need to utilize accessibility software such as a screen reader or magnifier.

## 3 INTRODUCTION

Sketchbooks are used by artists (professionals and hobbyists) for art practice, lived experiences, and experimentation, e.g. trying different approaches to drawing hands, observational studies, sketching ideas for potential future artwork and blueprints (mapping out work) before starting the final artwork; they enable the artist to put pen/paint brush/photographs/sketches etc. or even creative notes on paper or digital canvas; it is a tool and practice that encourages habitual creativity [4, 9], e.g. see Figure 1. It is often a solitary and private space to express oneself without a need for perfection. A sketchbook lets the lucky viewer glimpse the artist’s creative process in a personal and inspiring way. However, these creative pages are usually found years after the artist has died, e.g. Leonardo da Vinci’s flying machines. With the rise of technology, especially social media, sketchbook pages and collated artworks have become more readily available as blog/social media posts<sup>1</sup>, books, and papers [11, 12, 19] by the artist. These collections are often themed (e.g. [7, 8, 15]) or artist’s independent publications (e.g. [10] and <sup>2</sup>) These artists offer glimpses into their creative process to “showcase their work, connect with their audience, and expand their reach”. The Art in HCI Travelling Sketchbook explores the intersection between HCI and artistic expression – what does it mean to be an artist in HCI? Which art forms are being used? Are they text-, image- or performance-based or hybrids [2]? Are participants

<sup>1</sup>[www.joseartgallery.com/articles/what-social-media-platform-is-better-for-artists](http://www.joseartgallery.com/articles/what-social-media-platform-is-better-for-artists)

<sup>2</sup>[www.frannerd.cl/work/ugly-sketchbooks](http://www.frannerd.cl/work/ugly-sketchbooks)

actively involved in art-making or is art-making mainly used by the researchers themselves as described for example, in Barone and Eisner [1]? And if the latter, are those trained and actively practicing artists or not, which McNiff [14] discussed as a prerequisite to conduct arts-based research?

### 3.1 Inspiration

In 2016, Mauro Toselli (author) launched the Sketchnote Army Travelling Sketchbook, a 112-page handmade notebook; its purpose was to gather 1-page contributions from sketchnote artists worldwide, “I love the idea of the community sharing something real, something we can touch and create in some ways a contact closer than those we use to have through the Internet”. The contributions were gathered between 15/09/2016 till 24/09/2023 (Days: 2565); The physical sketchbook traveled a distance of 90385 km, which involved 39 stops (locations: 37, countries: 21 and continents: 4); 106 contributions (94 unique sketchnoters). Contributors and the public watched the book fill up via social media #SABookjourney and via a world map (see Figure 2). The result was a beautiful collection of sketchnotes depicting how the creative approach is used and the mediums used. It gives awareness of the influential practice of Sketchnoting. It has also fostered a rich and active community of sketchers with respect, love, and creativity at its heart. Makayla and Miriam (authors) were contributors (see Figure 2) who were greatly inspired by the concept; they wondered what is happening in the HCI x Arts space: what medium is the community using, what are they using art for, and, of course, we want us (and now you) to get a unique glimpse of a page of their HCI sketchbook. During one of the meetings of their local SIGCHI chapter ‘Arts in HCI’, they discussed this with other chapter members, including Denise (author), and the three of them decided to follow up on this idea with a digital traveling ‘Arts in HCI’ sketchbook, inviting people to share their explorations of and in the realm of arts-based methods, their research and practices employing the use of arts in HCI, from arts appreciation to arts participation, from tech design ‘in the now’ to speculative, futuristic design fictions, from text- to image- and performance-based approaches to anything in between and/or any delicious compote mixing them.

## 4 METHOD

The co-authors (HCI researchers, students, and artists) were invited to contribute various art forms, ranging from sketches and illustrations to performances, music, comics, videos, collages, etc. Invitations to contribute were sent via mailing lists, social media, and research interests. The contributions were optional. The artwork was collected using an online collaborative whiteboard Miro; the inclusive approach facilitated global engagement. Contributors were asked to respond to a prompt, ‘What does art in HCI mean/look like to you?’. Stock photos from Pexels that depicted a wide range of art practices were included; their purpose was to show that any art form could be submitted (see Figure 3 left). Each contribution was accompanied by essential metadata: author name, email, author institution, artwork caption, artwork name, and artwork alternative text (see Figure 3, middle). The Miro board remained open for two months, allowing participants ample time to contribute their artistic creations. This extended timeframe aimed

to accommodate diverse schedules and time zones, thus cultivating a comprehensive and representative collection of artwork.

### 4.1 Analysis

A comprehensive analysis of the thirty-nine submissions revealed diverse artistic expressions within the HCI community. The Traveling Arts in HCI Sketchbook traveled 116337 Km (Figure 3, right). There were fifteen sketches/illustrations, two performances, one music composition, six comics, three videos, one collage, three design processes, six photographs, one analogue-made object, four technologically aided, and seven computer-generated or supported artworks. Many of the submissions were hybrid (integrating multiple artistic elements), for example, the music contribution was accompanied by photographs and a video performance. The amalgamation complements the fluidity and interconnectedness of various creative forms that HCI researchers, students, and artists practice. Figures 5 to 10 show the contributions; they can also be viewed on Miro ([www.miro.com/app/board/uXjVMpkw7Ns=?share\\_link\\_id=361870028909](http://www.miro.com/app/board/uXjVMpkw7Ns=?share_link_id=361870028909)). The contributions were anonymised (metadata removed) by Author 1 and added to a blank Miro board. Authors 2 and 3 assessed each contribution, adding reactions under ten words; contributions could have more than one reaction. Reactions were the materials used and what the authors saw and felt when looking at the artwork. This collaborative, real-time discussion used an affinity diagramming approach [6, 13], whereby codes (n=28) and 4 themes were identified: *Creation & Creativity*, *Being & Belonging*, *Making Sense of the World*, and, *Toward the Future* (see Figure 10). Upon completion, author 1 took part in a trustworthiness test; its purpose was to ‘sense check’ the reactions, codes, and themes whereby disagreements were discussed and adjusted accordingly.

## 5 REFLECTIONS

### 5.1 Creation & Creativity

We noticed that the materiality of submitted artworks, as well as the artefacts they show, showed great variety, ranging from fully hand-made to fully digitally made approaches as well as many of the possible hybrids along the continuum between the two. Meanings were expressed in direct, written or drawn or performed, form but also communicated through other forms of expression, e.g. through the advised use of colours and textures as well as other forms, including icons and symbols, patterns and lines. We also noticed a plethora of arts-based approaches, from text-based ones like descriptions and annotations as well as calligraphy, to image-based ones like painting, photography, sketching and drawing, to performance-based ones like dance, music, theatre and roleplay, to hybrids like calligraphy, games/play and comics; the latter two heavily featuring in the submission. Also, aspects of storytelling stood out in many if not all art-based artefacts, such as (elements representing) narration and perspective, e.g. through the depiction/provision of story paths. Upon closer inspection, we also noticed that the artefacts presented as well as the ‘Arts in HCI’ represented in them were created by researchers as well as participants (with both groups containing artists and non-artists) and third parties (e.g. illustrators, dancers, storytellers or musicians), showing that art-making in HCI actively employs a wide range methodological approaches,

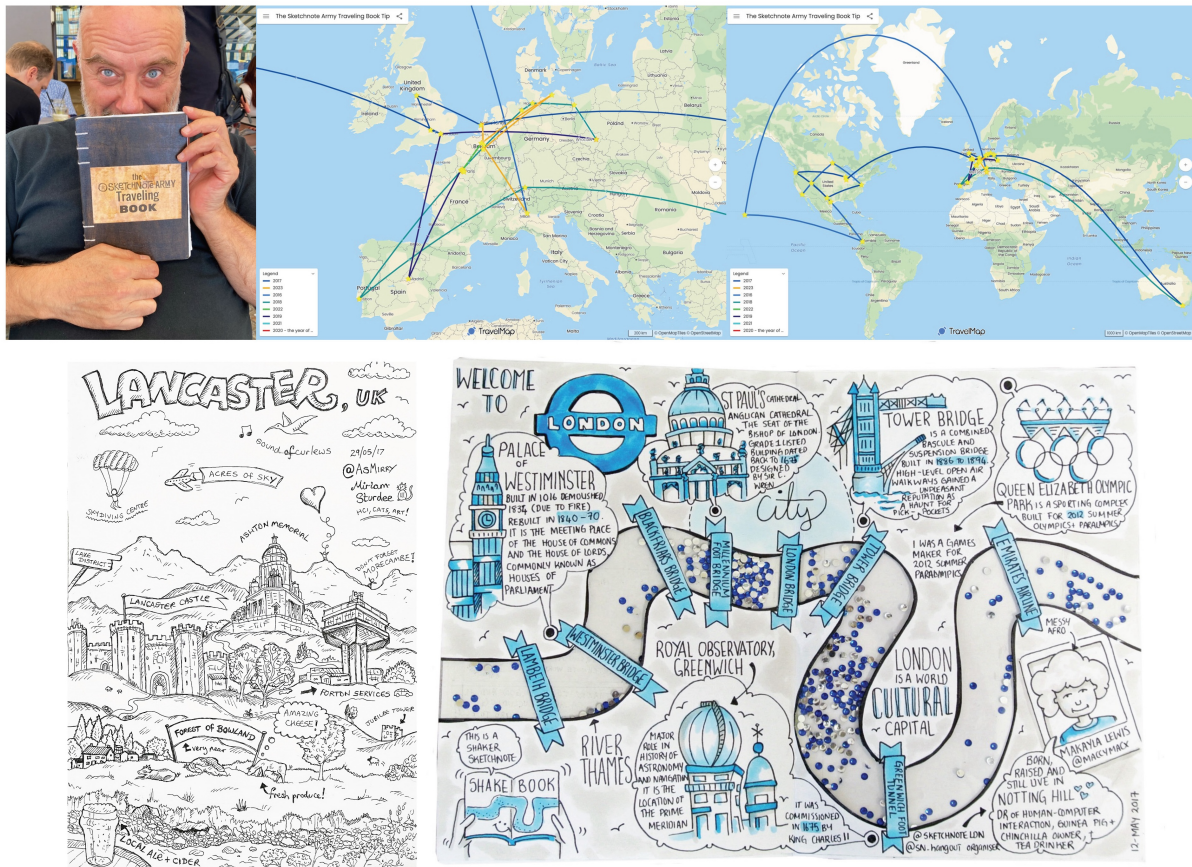


Figure 2: [Left to Right, Top to Bottom] Sketchnote Army Travelling Sketchnote Book creator holding the completed book, Mauro Toselli, 2023; Maps of the route of Sketchnote Army Travelling Sketchnote Book, Mauro Tosseli, 2023; ‘Lancaster’ entry to Sketchnote Army Travelling Sketchnote Book, Miriam Sturdee, 2017; ‘London’ entry to Sketchnote Army Travelling Sketchnote Book, Makayla Lewis, 2017.

such as participatory and autoethnographic ones as well as graphic facilitation.

### 5.2 Being & Belonging

Within the context of HCI we still centre the human, our wellbeing, and the world around us. This theme also touches upon the ‘more than human’ in that we acknowledge both our own existential tensions, but those of the natural world around us. The human is a complex being, with emotional needs as well as practical ones, and many of our sub-themes consider inclusivity and accessibility. The analyses surfaced both essential needs (food, water) but also outlined the complexities of being, the negative emotions that seep into everyday existence (frustration, loneliness). It also speaks of the importance of cultural connection, between nationalities, and between demographic groups and generations. Timelines and change feature heavily in the analysis, showing transitions, metamorphoses, sometimes between species (animals acting as humans) or connecting devices and technology with living beings as if cyborg. This theme suggests that Human Computer Interaction is a means to help us navigate the world around us, a tool, rather than

the focus of our research. At the same time we are drawn to the sense of entropy that being human engenders.

### 5.3 Making Sense of the World

Artworks were focused on and provoked reflections on the world through the process and products of art-making. In addition to visual/image-based approaches, this was also embodied, utilising gesture, touch and movement, as well through textual approaches such as calligraphy and written/typed annotations. We also observed reflections on the process of creating artefacts described via composition and doing words, such as overlaying and connecting elements, leaving traces and following schemata. And we observed reflections on the methodological aspects underlying and/or supporting art-making, noticing especially the diversity of arts-based and other approaches and methods employed, including image-, text- and performance-based approaches as well as mixtures thereof such as in comics and cartoons. In addition, we registered many passionate responses in the form of calls for action, calls for reflection, the expression of surprise and frustration or conflict as well as metaphorical musings, including exclamations such as “technology

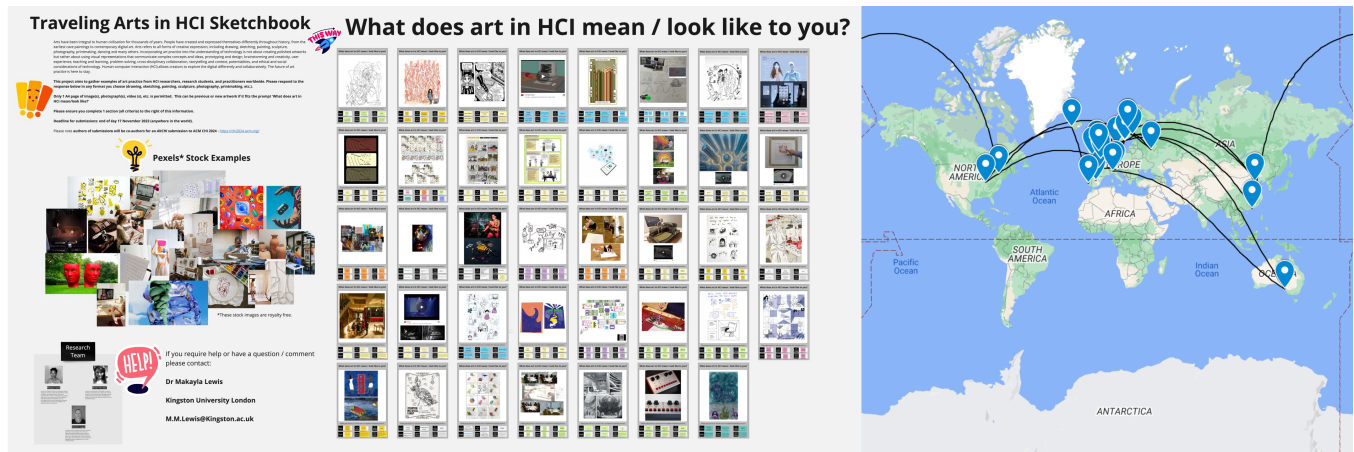


Figure 3: Left: Traveling Arts x HCI Sketchbook on Miro [www.miro.com/app/board/uXjVMpkw7Ns/?share\\_link\\_id=361870028909](https://www.miro.com/app/board/uXjVMpkw7Ns/?share_link_id=361870028909). Right: Extract for journey of the Traveling Arts in HCI sketchbook on Google, starting in the UK then hopping to EU and the rest of the world

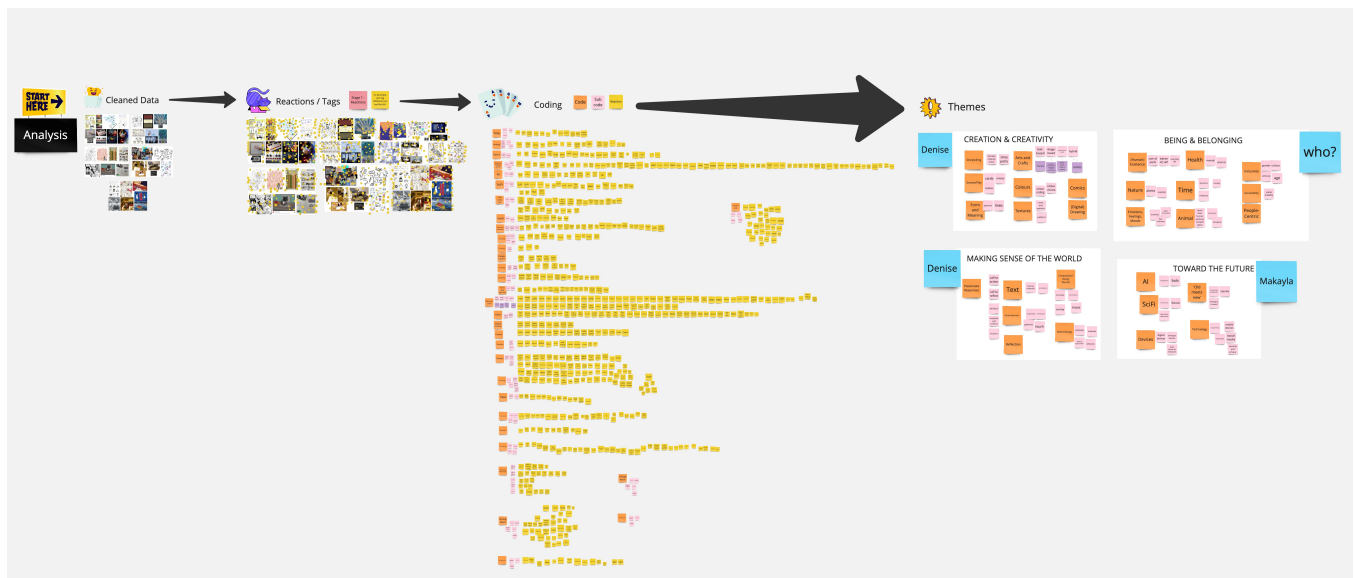


Figure 4: Affinity diagram and discussion notes [www.miro.com/app/board/uXjVNMeQ0-Q/?share\\_link\\_id=568749316191](https://www.miro.com/app/board/uXjVNMeQ0-Q/?share_link_id=568749316191).

is a tool – people matter”, “time to rethink technology?”, “to make is human”, “emptiness where it was full of life before”, “entropy comes for us all”, “the dance of penmanship” and “forming music like clay on a wheel”.

### 5.4 Toward the Future

As artists, we often navigate the realm of the speculative, jumping into uncharted territories of the future through artistic expression. Noteworthy instances include Leonardo da Vinci’s sketches of flying machines, whose futurism unexpectedly resembles early helicopters of the 20th century, or Michelangelo Caravaggio’s 1597-1599 ‘Narcissus’ [https://artsandculture](https://artsandculture.google.com/entity/caravaggio/m020bg?hl=en).

[google.com/entity/caravaggio/m020bg?hl=en](https://artsandculture.google.com/entity/caravaggio/m020bg?hl=en), an early exploration of the expressionistic practice, now known as the ‘selfie’. This sentiment was further echoed by Andy Warhol in 1968: “In the future, everyone will be world-famous for 15 minutes” [www.smithsonianmag.com/smart-news/andy-warhol-probably-never-said-his-celebrated-fame-line-180950456/](https://www.smithsonianmag.com/smart-news/andy-warhol-probably-never-said-his-celebrated-fame-line-180950456/). It further materialized in their 1978 ‘Self Portrait with Strangulation’, envisioning a future where the camera lens captures our eyes and our impending mortality, not what we see. The contemporary world in which we now live is marked by the influence of social media, where hundreds of millions engage in the daily ritual of sharing imagery and videos in which they are narrative; they seek elusive and fleeting fame. Artists’ speculation has never been so prevalent;



Figure 5: [Left to Right, Top to Bottom] Trying to find a space for arts in HCI. Makayla Lewis, 2023; HCI is about people, not technology. We need to focus on that rather than computing as a solo field. Miriam Sturdee, 2023. The Virtual World: Major Arcana Card Design from the Deleted World Tarot. Josh Urban Davis, 2022; Individuals' material circumstances often mean they cannot benefit from the proposed benefits of new HCI Systems or technologies ([5] p.641). John Miers, 2022; Sonic Dancer: Designing Through Your Voice and Pens. Swen Gaudl and Silvia Carderelli-Gronau, 2023; "Living with Covid" While Clinically Vulnerable: A Real-Life Story. Story by Natalia Pérez and Ernesto Priego. Art by Francisco de la Mora. Natalia Pérez, Ernesto Priego, and Francisco de la Mora, 2022.

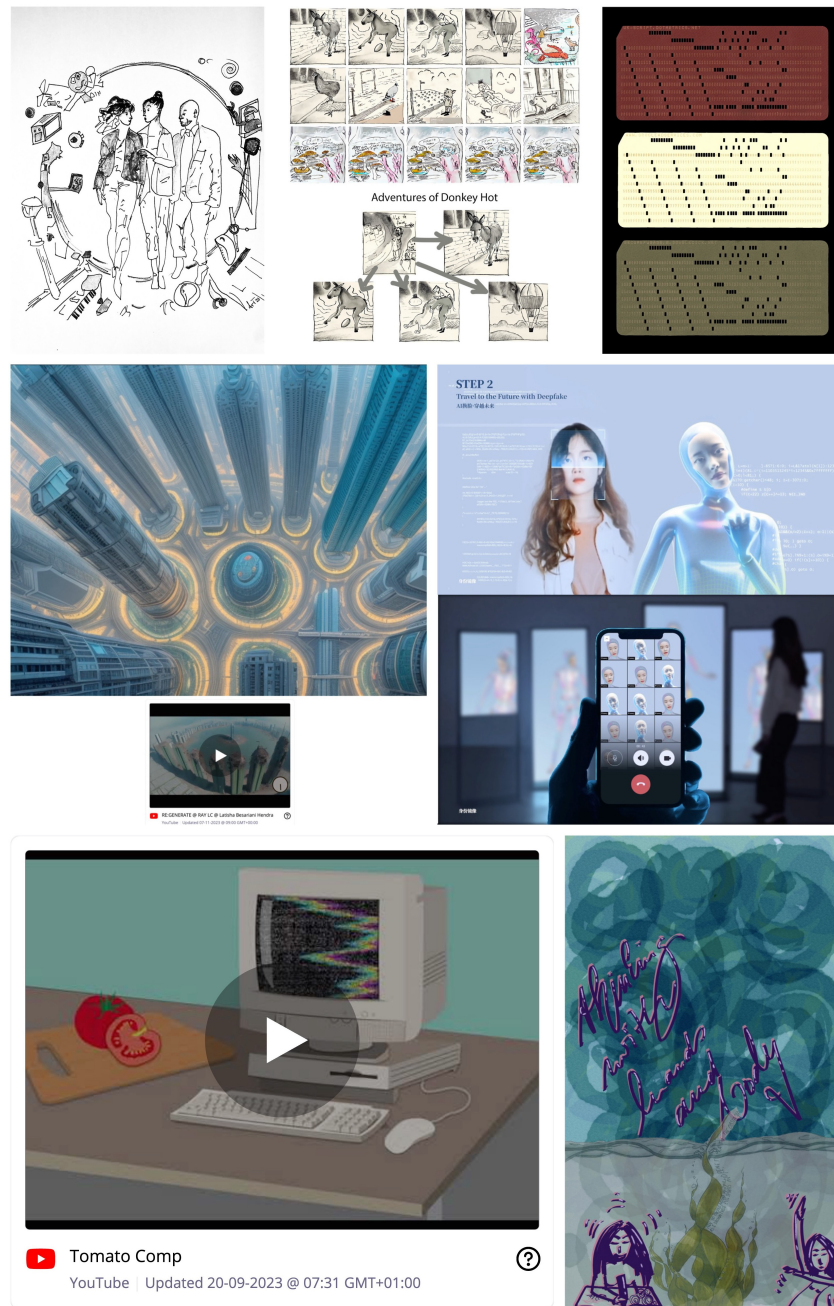


Figure 6: [Left to Right, Top to Bottom] HCI that enhances HHI (Human-Human) interaction. Anna Troisi, 2023; Creating Playful Comics Together with AI. Yana Knight, 2023; “Do Not Fold, Spindle or Mutilate” – this project explored visualising how websites track you by producing punch cards adorned with the names of common ‘cookies’ one might encounter while browsing the web. Using punch cards – an outdated method of data collecting and processing – as a metaphor to make this digital data tangible, it is easier to understand how these data can accumulate quickly over time, their function as processable pieces of information, and present an opportunity for agency over what happens to this data. Gareth McMurchy, 2021; Designing future sustainable interactions using GenAI, RAY LC, 2022; Human: Ethical Reflection on Future Cyberworld Identity. Lanxi Xiao, 2020; Tomato Screen Saviour. Violet Owen, 2023; Breaking the Surface Using Hands and Body to Think and Express. Denise Lengyel, 2023.

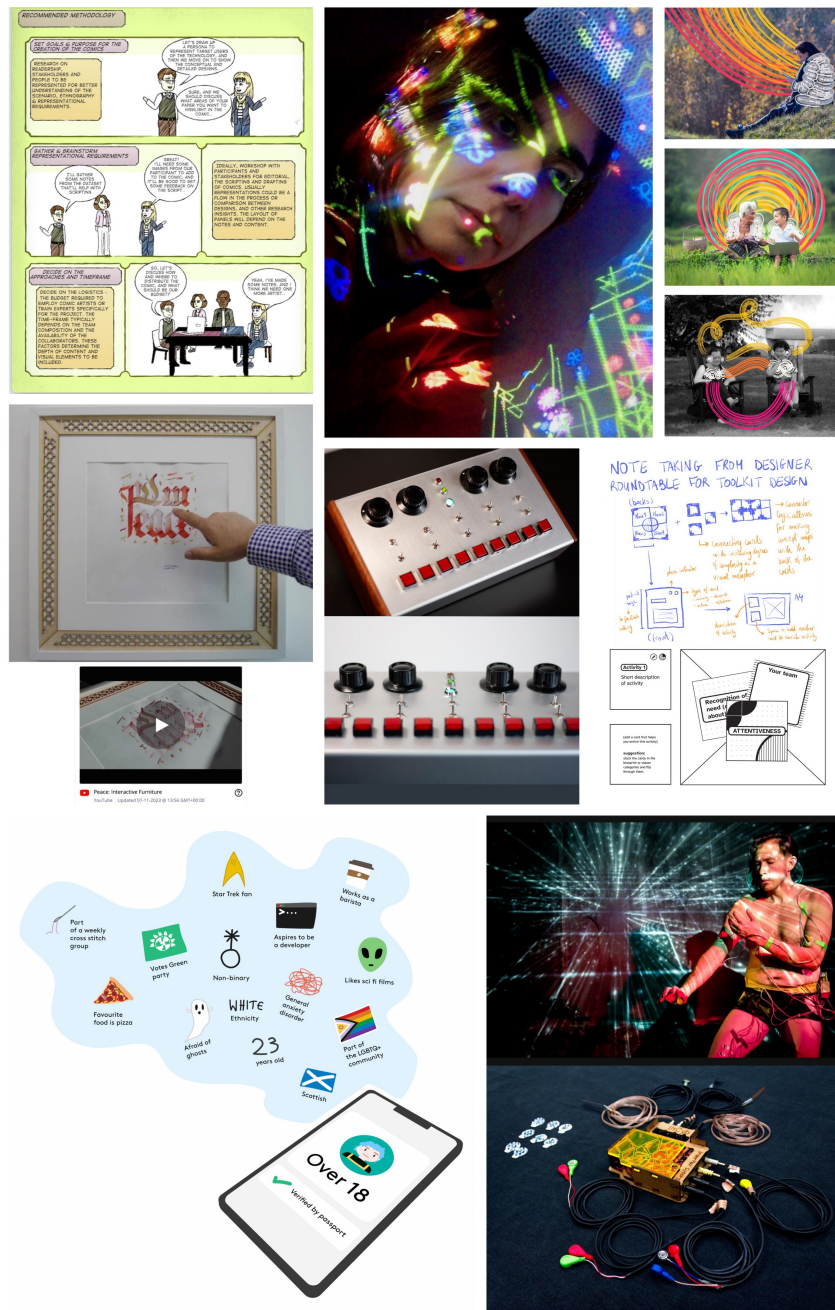


Figure 7: [Left to Right, Top to Bottom] Methodology for creating Comic to present Interaction Design. Raksanda Mehnaz Huq, 2023; Meditative Flora. This speaks of the ephemeral rewards in practice-based research. By Claudia Núñez-Pacheco (2012); Fabulations of future social wearables. Laia Turmo Vidal, 2023; Designing Interactive Furniture and Wallart with Dual-Identity. Sara Nabil, 2020; The Conspiracy Capitaliser: A retro-speculative interface for AI which allows the user to produce novel conspiracies embedded in advertisements. An artefact for exploring problematic ethics in AI through interaction. Robert Collins, 2023; Going from scribbles to final artwork. Ana Henriques, 2023; Exploring digital identity futures. Kim Snooks, 2023; Conducting User-Centered Design/ideation session with contemporary dancers. Rivière Jean-Philippe, 2018-2019. Joakinator, Interactive Interface for reflecting through the body. Joaquín Roberto Díaz Durán, 2020 to 2023.



**Figure 8: [[Left to Right, Top to Bottom] Multimodal attention. This collaborative work was created as a printed collage, the content of the collage was created based on generative AI prompts. The artwork was first conceptualized, then generative images and texts were selected, human editing and 2D design were also used. Andrey V. Vlasov, 2022–2023; Illustrating Research Practice, a collection of iPad scribbles for and from field studies. Patricia Piedade, 2022 – 2023; Multilingual teenagers’ images of digital devices. Sue Nichols, 2023; Conducting User-Centered Design / ideation session with contemporary dancers. Rivière Jean-Philippe, 2018–2019; (Re)envisioning telepresence robotics from [16]. ISOTTA - Intelligent System for Organic Tweeting and Thoughtful Artistry. Michele Cremaschi, 2023 [3]**

the rise of technology such as AI, machine learning, XR, and VR occupies a prominent space in the minds and practices of today’s artists. Many artworks shared a thematic emphasis on Sci-Fi (ranging from dystopia to utopian visions) that were often entangled

in pop culture. The artistic expressions in this AltCHI paper often featured representations of technology, interactions with devices and social media, and speculations of the potential future internally and externally. Including technology from the past is a nod to

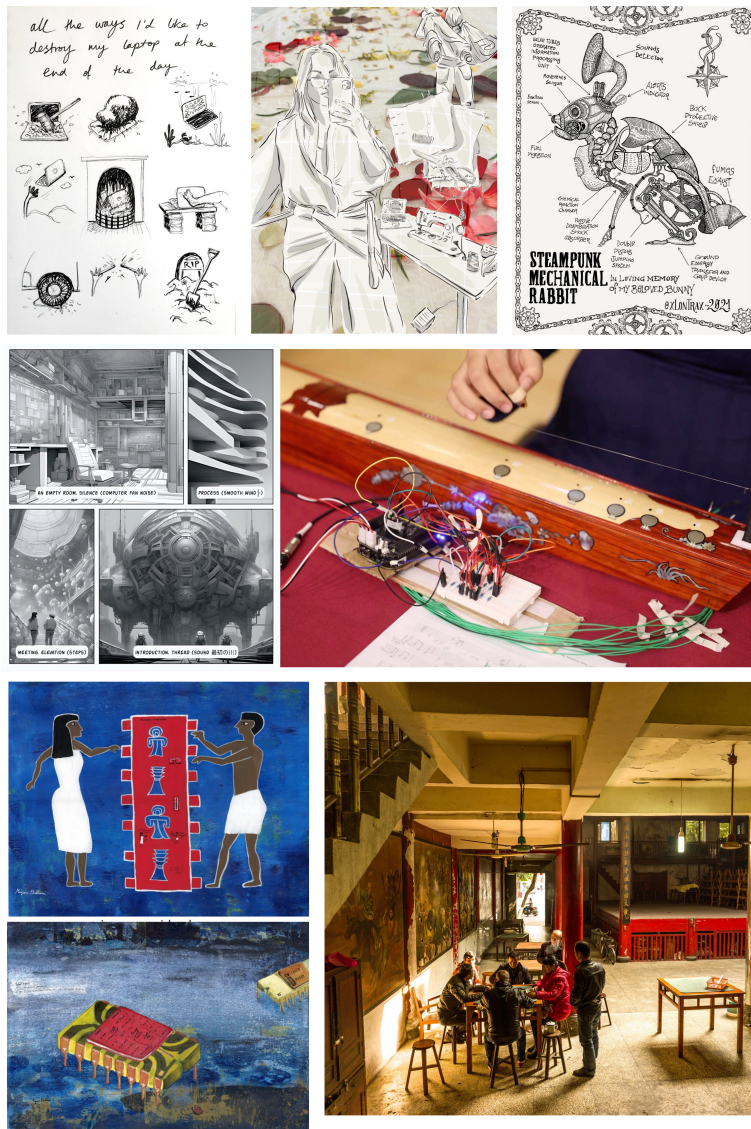
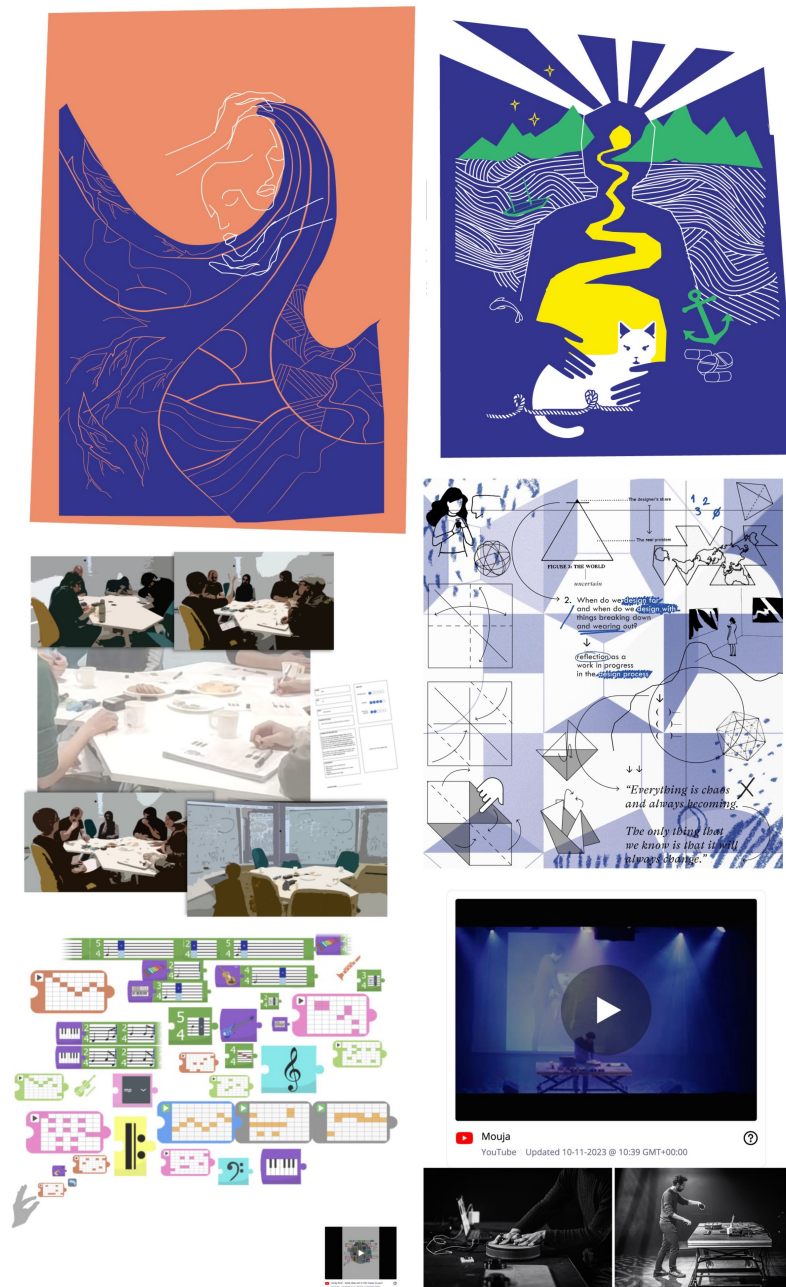


Figure 9: [Left to Right, Top to Bottom] Humans were made for dancing. Jacinta Jardine, 2023; The design & documentation process. Em Harmsen, 2023; The Steampunk Mechanical Bunny: a fantasy contraption that expresses concepts related to Technology by depicting it in a realistic or even conceptual way to trigger emotions in the viewer and convey a message that, very often, transcends the aesthetics and goes beyond the artwork, to be provocative and to create the so-called Experience. Mauro Toselli, 2021; Japan Gawa Meeting 2023. Comic poster. A. Grek, 2023; Polyqin. Nick Bryan-Kinns, 2019; Top: When we build games, we do it together, over borders, and we build on a history older than the first written words. This painting is based on a number of symbols - Egyptian hieroglyphs, blueprints of microchips, and ancient board games. Bottom: This is a painting of a group of i4004s. They are 3 in/on a motherboard that they perceive as a marsh. The microprocessor Intel 4001 (i4004) is a 4-bit central processing unit (CPU). Mirjam Palosaari Eladhari, 2023; This street photograph is a photo-ethnographic account of residents playing mahjong in a physical world community center in Rui An (Zhejiang Province, China). The authenticity of the scene contrasts with virtual world gatherings. The image falls into the category of storytelling and context as a matter of visual communication germane to notions of community. The quality of the photograph as photographic Artwork also matters, wherein the natural light and colours in the scene bridge the physical world and its digital representation to create a surreal effect. Eli Blevis, 2012.



**Figure 10:** [Left to Right, Top to Bottom] Illustrations were created in response to a workshop where participants shared their experiences of living with HIV (individuals' journeys and supported the researcher's sense-making) as part of UKRI-funded INTUIT project. Caro Claisse, 2020; Imagining sustainable futures for older adults through tabletop role-playing. Kirsikka Kaipainen, 2023; Reflection as a work in progress in the design process. Beatriz Severes, 2023; Picking away at the blocks. Corey Ford, 2023; Mouja, or the Magnetic Ouja. Performance with Magnetic Scores and Neural Synthesis. Nicola Privato, 2023.

incorporating the increasingly forgotten analogue machines. The artistic expression of dystopia and utopian worlds suggests combining machines, resulting in different outcomes. Soon, will artists work with machines? Will artists be supported by machines? or

will artists fight the machines to rejuvenate analogue? This AltCHI paper cannot answer, but it identifies a transformative shift that requires further dialogue: should we embrace, reject, or confront the future?

## 6 INVITATION TO REFLECT AND CONTRIBUTE TO THE TRAVELLING ARTS X HCI SKETCHBOOK

We invite you to view and reflect on the Travelling Arts in HCI Sketchbook (see figures 5 to 10); we then ask, if you prefer, to contribute by responding to the question, 'What does art in HCI mean/look like to you? We invite you to use the same template used by the authors (see Figure 11). We, the arts in the HCI community, want to expand on our understanding, further build our community, continue the dialogue, and provide a glimpse of our creative practice for artists and non-artists in the HCI community. Please share your response on the Arts in HCI Travelling Sketchbook Miro Board or using the #ARTxHCI hashtag on social media.

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**What does art in HCI mean / look like to you?**

<b>Name:</b> <input style="width: 90%;" type="text"/>	<b>University and Department:</b> <input style="width: 90%;" type="text"/>	<b>Year artwork created:</b> <input style="width: 90%;" type="text"/>
<b>Email:</b> <input style="width: 90%;" type="text"/>	<b>Artwork Caption:</b> <input style="width: 90%;" type="text"/>	<b>AltText for artwork to ensure accessibility:</b> <input style="width: 90%;" type="text"/>



Please scan this QR code or click the link in the figure caption to add your response to the Traveling Arts in HCI Sketchbook.

**Figure 11: Arts x HCI Contribution response template. Please scan the QR code or follow the link [www.miro.com/app/board/uXjVNMeQ0-Q=/?share\\_link\\_id=976424183640](https://www.miro.com/app/board/uXjVNMeQ0-Q=/?share_link_id=976424183640) to add to your response to the Traveling Arts in HCI Sketchbook.**

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