

Sketching in HCI: Research Practice & Publication (Advanced)



Figure 1: An example of participant sketch analysis [15]



Figure 2: Visual description of research practice without using words [3]

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Abstract

Sketching in Human Computer Interaction is a valuable tool for subjective practice, but also a tool for engagement with collaborators, stakeholders, and participants. This hands-on practice can be utilised in a variety of contexts. The course enables those already in possession of sketching skills the confidence to take their work to the next level. Drawing from expertise gained by working in both academia and industry, the instructors will lead course attendees on a journey through practical applications of sketching in HCI, from subjective sketching to participant engagement and publishing, using hands on tasks and group activities.

Author Keywords

Sketching; Drawing; Visual Thinking; HCI;

CSS Concepts

• Human-centered computing → Visualization → Visualization techniques.

Introduction

Sketching is an integral part of visual methodology in the arts and social sciences, and, more recently, it has been incorporated into Human Computer Interaction (HCI) as an insightful method, output and wider practice [14]. Sketching (digital or analogue) can be learned at any stage in a career, and has much in

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Course Website:

<https://sketchhci.wordpress.com/advanced-course/>

Duration of Course: Two units. **Course Category:** Method, Hot Topic.

Audience Size: 35-50 people. **Audience:** This course is aimed at those with some experience of sketching who are using (or beginning) sketching in their everyday research and practice within HCI.

Benefits: Participants will leave with the knowledge of practical uses for sketching within their HCI research, and skills to take this forward independently. There will be an opportunity to join the *Sketching in HCI* research group on Slack, an active community offering a supportive environment for networking, collaboration, and ongoing discussions around sketching in practice and research.

Prerequisites: Attendees should have experience with sketching, but prior knowledge regarding its HCI applications is not required.

parallel with the lifelong learning of other skills, potential for research output and analysis, and is becoming more widely coveted, meaning the demand for incorporating sketching into HCI curricula is rising, and we are becoming aware of the wider uses for this practical ability. Sketching is not just a simple diagram or doodle, but a complex, insightful and analytical device. A sketch can be subjective, co-created or gathered as data and analysed (Fig 1), offering insights that words alone cannot convey. This advanced course offers the opportunity for attendees to develop and refine their skills in sketching and sketch-based research, leaving with new approaches and confidence.

Detailed Course Structure

- 1. "Without Words" Warm-Up:** Activity #1 – Participants will be asked to sketch their research area or industry practice (e.g. a recent project) without the use of text or verbalization (example – Fig 2). Sketches will be placed in a 'sketch gallery' (Fig 3), an easy to access wall or large table within the course room. Using mini-post-it notes participants will be asked to identify the field of study and key insights of each sketch, each post-it will be stuck next to each sketch. The purpose of this activity is to get to know course peers and to provide constructive feedback on narrative depiction.
- 2. Introduction to Advanced Sketching in HCI:** Presentation introducing course structure and schedule followed by Activity #2 – Participants will be asked 'What would you like to get from the course?' instructors will note these down on a flipchart, grouping similar motivations. Instructors will ensure each response is answered/addressed during the course.
- 3. Summarising Research: Visual Abstracts:** Activity #3 – For participants who did not they attend introductory course 'So You Think You Can't Draw? A

Hands-on Introductory Course on Sketching in HCI a summary and exemplar of sketching and visual note-taking techniques will be given focusing on storytelling (narrative creation) followed by an introduction to classifications for sketching in HCI [13] and the *Sketching in HCI Manifesto* (under review). Activity #4 – Participants will be provided with carefully selected abstracts from previous CHIs and *CHI 2020* works. Participants will be asked to work in groups to create icons then create a co-produced sketch of the paper, followed by 'Show & Tell'/constructive feedback.

4. Visual Narratives: Storyboards & Comics:

Activity #5 – Exemplar presentation followed by an instructor led group discussion about the use of comics and scenarios in HCI (Fig 4) e.g. data comics [1], storyboards [10] followed by best practice techniques for creating coherent and engaging comics and scenarios. Activity #6 – Visual Economy – Participants will be asked to draw a scenario/sequence in only 3 panels, then 1 panel. The purpose of this is for publications where size/length is at a premium.

5. Visualisation – Data Sketching: Activity #7 – Exemplar presentation followed by an instructor led group discussion about InfoVis and sketching, e.g. *Dear Data* [8] and *Data-Sketching* [17]. Activity #8 – Participants will be given a sample data set, curated by the instructors, they will then be asked to think visually and creatively about how they can present it for a variety of audiences e.g. colleagues, participants, citizens (public), and stakeholders/decision makers. This will be followed by 'Show and Tell' and group discussion around how sketches could be used for different data-sets (e.g. qualitative, discursive).

6. Sketching with Participants – Generation & Analysis:

Activity #9 – Exemplar presentation followed by instructor led group discussion about gathering and

Course Content & Practical Work:

Feedback from CHI 2019 highlighted a demand for a more focused, advanced course for HCI practitioners and researchers. This new course consists of both more advanced material from the previous years, and additional practical and research-based presentations and activities designed to give attendees new insights and ideas to produce impactful research using sketching as a visual research method. Instructor led group discussions have been identified as an activity as it is believed it will enable participants to learn from instructors own advanced sketching in HCI experience but also one another. The instructors will ensure feedback is given to each participant during the course.

and working with participant-generated sketches.

Activity #10 – Sketch Analysis – Participants will be given sketches from existing published work and taken through the methodologies that can be used to generate meaningful data from these visuals.

7. Design Fiction & Speculative Scenarios: Activity #11 – Exemplar presentation followed by an instructor led group discussion: ‘How can researchers & practitioners use sketching for design fiction subjectively and in co-creation?’ e.g. [10,16] (Fig 5). Activity #12 – Group brainstorming session to explore ‘Applying sketching to your own research/practice?’.

8. Accessibility of Sketches: Presentation about accessibility of sketches in HCI, best practice and examples, e.g. using screen readers and the need for text alternatives (alt text) www.w3.org/WAI/alt/, and how such measures also support search engine optimization, followed by Activity #13 – Participants will be asked to return to their Activity #1 and #8 outputs and add alt text followed by show and tell with a neighbour ensuring constructive critique is given.

9. HCI Improv: The course will end with a group game of ideation & prototyping. Activity #14 – Participants will be asked to suggest a theoretical prototype, use case and user group, then generate diagrams and scenarios exploring the concept, followed by show & tell. Next, Q&A, checking Activity #2 outputs have been answered/addressed, and sharing resources for further practice and development.

Course History

Sketching in HCI courses at CHI 2018 [5] and CHI 2019 [7] and special interest groups *Sketching in HCI* at CHI 2018 [4] and *Sketching in HCI 2.0* CHI 2019 [6] have been previously given by the authors. Similar courses and workshops have been provided by the authors at:

DIS 2017 [3], NordiCHI 2016, and TReSSPASS Summer School 2016. Lewis has provided industry tuition at Design Exchange UK 2019, Agile in the City: London 2019, UX Cambridge 2018, UX in the City: Manchester 2018, UX Oxford 2017, UX Scotland 2017, UX Leeds 2017, UX Bristol 2016, UCD 2015, and TCUK 2014. Sturdee teaches university courses in sketching and visualisation. This CHI 2020 course will provide a practical learning and hands-on session for attendees, containing the more advanced material from the original course alongside new and contemporary exercises based on sketching applications in HCI.

Instructor Biographies

Makayla Lewis is a postdoctoral research fellow at University of the Arts, London, exploring human factors in cybersecurity, smart money, and AI. Makayla is an accomplished visual thinker and sketcher who organizes sketching events and courses, and provides visuals for international companies and conferences such as ACM CHI & ISS. **Miriam Sturdee** is a research fellow at Lancaster University, specialising in creative practice in computing, and investigating how sketching can support the design and development of novel technology. She also has an MFA in Visual Communication from Edinburgh College of Art.

Resources

www.makaylalewis.co.uk contains HCI sketchnotes, sketches and illustrations, links to public engagement events, crib/worksheets, and her Adobe XD feature. Authors co-authored ACM Interactions feature and blogs [11,12]. Other resources include *Sketching User Experiences: The Workbook* [2], *Dear Data* [8], and *Visual Research Methods* [9]. Course notes will be shared prior to the event.



Figure 3: A sketch gallery for reflection and discussion [7]

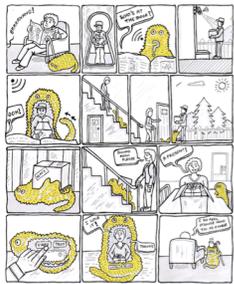


Figure 4: A scenario/storyboard about a robotic pet [17]



Figure 5: Comics as HCI design fiction [11]

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