Aims of Visiting Artist's Studio: Research with Yo-Yo Machines – exploring context, form, and function

Yo–Yo Machines were designed by Interaction Research Studio, Northumbria University. They are playful communication devices designed to help people feel more connected during the Covid-19 pandemic. The machines work in pairs by sending simple signals (lights, sounds, or movements) to each other. The original work proposes [Yo-Yo Machines](#) (please, use the link to see some examples of each machine) as a design-led research into two topics: peripheral and expressive communication and self-build devices as a methodology.

This studio course will offer the opportunity to learn about research through design. Yo-yo machines will be used to explore different sets of opportunities that they might offer for both design and research. One possible direction for research would be to consider using sustainable and decomposable materials like wool, wood, paper, cork, casein or others while striving to achieve high *aesthetic qualities* (avoiding DIY look) and then broadening the thinking towards opportunities to start niche design of small digital objects and opportunities for art and design interventions into small manufacturing processes. In addition, different *contexts of use* might be considered, including the ones that entirely change the purpose of these machines made for peripheral communication to something else. Finally, the machines might be extended (by combining with other Yo-Yo machines or compatible digital devices) to *explore a range of concepts*. For example, one might explore similarities and differences between playful usefulness and useful playfulness. Additional but related areas of opportunity might be to consider historical changes in the aesthetics of electronic products. When radio and later TV´s were introduced to the home, their aesthetics referenced pieces of furniture. Much later digital products evolved to the aesthetic we are familiar with today of hard, reflective, metallic surfaces. What if aesthetics were more considerate of context and location? What might digital products created for travel, for work, for leisure look like? What if digital objects referenced clothing? Food? Nature? Pets?

The course is open to all who want to engage in research through hands-on practice, creative exploration, and concepts and studies that might inspire them. The idea is to better understand the space for sustainable design created by digital objects like Yo-Yo machines – DIY and open source, thus broadly accessible.

The course can make use of connections to students at University of Oslo to digitally collaborate, test or explore concepts if appropriate.

Structure

- Theoretical: there will be several lectures on Research through Design within interaction design and some basic curriculum to read (see under). With the exception of the introductory lecture, which will be face to face, lectures are planned to be online.
- Reflection gatherings: we will reflect together both on theoretical concepts and also through design crits on students' practical work. We aim for three of these to take place in person (start, mid-session, and towards the end of the course), else online.
- Practice: working with Yo-Yo Machines unfolds in teams. Before engagement with machines, there will be some individual exercises.

Curriculum

1. Gaver, William, Andy Boucher, Dean Brown, David Chatting, Naho Matsuda, Liliana Ovalle, Andy Sheen, and Michail Vanis. "Yo–Yo Machines: Self-Build Devices That Support Social Connections During the Pandemic." In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*, 1–17. CHI '22. New York, NY, USA: Association for Computing Machinery, 2022. https://doi.org/10.1145/3491102.3517547.
2. Gaver, W., Krogh, P.G., Boucher, A., Chatting, D., 2022. Emergence as a Feature of Practice-based Design Research, in: Designing Interactive Systems Conference, DIS '22. Association for Computing Machinery, New York, NY, USA, pp. 517–526. https://doi.org/10.1145/3532106.3533524
3. Gaver, W., 2012. What Should We Expect from Research Through Design?, in: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, CHI '12. ACM, New York, NY, USA, pp. 937–946. https://doi.org/10.1145/2207676.2208538
4. Zimmerman, J., Forlizzi, J., 2014. Research Through Design in HCI, in: Olson, J.S., Kellogg, W.A. (Eds.), Ways of Knowing in HCI. Springer New York, pp. 167–189.

5. Fallman, D., 2008. The Interaction Design Research Triangle of Design Practice, Design Studies, and Design Exploration. Design Issues 24, 4–18. https://doi.org/10.1162/desi.2008.24.3.4

Schedule: (13 4-hour meetings. Note: some schedule adjustments might come after the course start)

Week 1 / Introduction (February 15th and 16th)
Introduction to each other, the course, and research through design. We will also discuss the approach to the hands-on research and design practice – guided by sustainability principles – for the weeks that follow.

Week 2 (February 22)
Yo-Yo machines, examples, ideas and starting to engage in hands-on research

Week 3 (March 1)
Looking beyond Yo-Yo machines and into manufacturing processes – is there such a thing as appropriate aesthetics for machines and what if it should be sustainable?

Week 4 (March 8)
Discussing emergence and relating it to the experiences with the Yo-Yo machines so far.

Week 5 (March 14, Attn: Tuesday)
Connecting with peers in Oslo who also work on similar tasks. Experience exchange.

Week 6 (March 22)
How to communicate about Research through Design? Combining narrative and the design research triangle. Reflection on the read material. Connect to your work and tell about it. Continue the practice.

Week 7 (March 29)
Making machines and finding appropriate research concepts. Reflection through design crits.

Week 8 (April 5)
Practice and studies tension: what should we expect from Research through Design? Reflection on the reading material. Continue practical work.

Week 10 (April 19)
How to articulate your research? Continued explorations.

Week 11 (April 26)
Can we say something new about sustainability of machines and their finishing and contextualizations that is more abstract and potentially useful for other design researchers?

Week 12 (May 2nd and 3rd, Attn: Tuesday and Wednesday)
On May 2nd, the presentations of your work connecting again to peers in Oslo. Discussion of theoretical concepts and reflection on the explorations. May 3rd, the final presentations and exhibition of the work.