

Anime SIG: Researching Japanese Animation From Technical, Cultural, and Industrial Perspectives

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ABSTRACT

Japanese animation, or anime for short, has attracted global attention with its immense international growth. Despite its popularity, academic research has been limited to media studies, with grand questions like “what is anime,” i.e., observational and analytical perspectives, and more recently in computer science from the perspective of “how to generate the anime look,” focusing on representing visual characteristics with computer vision and machine learning methods. This Special Interest Group (SIG) aims to deepen this multifaceted cultural phenomenon from multidisciplinary perspectives, including “who” makes anime, “how” creativity support tools can aid the process, and “what” about non-visual aspects like anime voices. Organized by experts from industry and academia, this SIG invites participants to the emerging area of anime research and aims to open up a new alley for human-computer interaction (HCI) research through collective discussion on potential directions and community fostering of anime-interested researchers.

CCS CONCEPTS

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

KEYWORDS

anime, creativity support, interaction design, social science, anthropology, psychology

ACM Reference Format:

Jun Kato, Yuki Koyama, Akinobu Maejima, Ryotaro Mihara, and Katie Seaborn. 2025. Anime SIG: Researching Japanese Animation From Technical, Cultural, and Industrial Perspectives. In *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '25)*, April 26-May 1, 2025, Yokohama, Japan. ACM, New York, NY, USA, 3 pages. <https://doi.org/10.1145/3706599.3716296>

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CHI EA '25, April 26-May 1, 2025, Yokohama, Japan
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ACM ISBN 979-8-4007-1395-8/2025/04.
<https://doi.org/10.1145/3706599.3716296>

1 BACKGROUND

The world is watching more and more Japanese animation (anime for short) [21]. The global popularity of anime has grown immensely [14], with the international market size doubling over the past decade (2011–2021). In 2021, domestic sales reached 2.74 trillion yen and overseas sales surged from 0.27 to 1.31 trillion yen.

Despite this, academic research on anime has been limited in terms of the research disciplines involved—but not necessarily the number of academic publications, which has been steadily increasing. As reported in Hernández-Pérez [5], anime-related topics occupy 32% of publications in the arts and humanities, 34% in the social sciences, 16% in computer science, to name a few. The dominant majority of previous work has also studied anime through somewhat formulaic perspectives and methodologies. In media studies, research questions have often been formulated around “**what is anime**,” aiming to understand anime from an observational, analytical, and critical perspectives. This body of work has sometimes considered anime with respect to its Japanese cultural background, such as by exploring the notion of myriad gods existing in nature. This orientation could be explained as arising from the framing of this work within Japanese studies more broadly [5]. Recently, in computer science, the proliferation of modern computer vision and machine learning (ML) methods has enabled new techniques relevant to anime. A notable trajectory has been the generation of illustrations and animations that resemble the visual characteristics quintessential to the anime aesthetic, where the goal has been to study “**how to generate the anime look**.” This is perhaps best exemplified by a GitHub repository dedicated to “awesome anime research” in signal processing and machine learning [19].

Less explored—virtually unexplored—is a human-computer interaction (HCI) perspective on anime. Our critical perspective on the general state of anime research outside of HCI spaces is also aligned with our long-standing struggles as researchers in the international HCI community. When we tell colleagues that we are from Japan or conducting research within the Japanese context, many people—often those of the generation that grew up with Sailor Moon, Dragon Ball, Spirited Away, Naruto, Attack on Titan, and other anime exports—ask if there are any good references for studying anime from an HCI perspective. We find ourselves unable to respond “properly” to these requests, as we ourselves do not have a clear understanding of anime research from the perspective of HCI. We believe that no one else does; in fact, we argue that

anime studies in HCI is a latent and emerging topic with building interest on the research side and a potentially international, multidisciplinary scope.

In this Special Interest Group (SIG), we aim to address the lack of a synthesized frame of reference on anime research in general and open up a whole new trajectory to conduct anime research in HCI. We, the organizers, have banded together, hailing from a wide variety of academic and non-academic disciplines: from business anthropology to the social sciences to computer graphics to creativity support tools research to human factors engineering to voice user experience (UX). We are experts in our fields and locate ourselves within and across academic, industrial, and even hobbyist boundaries. This SIG meeting is the first opportunity for us to hold a face-to-face meeting. CHI 2025 is the first edition of the conference series to be held physically in Japan. Given its thematic association with Japanese creative culture, this conference is the perfect venue for sparking engagement on anime in HCI. We are excited to invite HCI researchers interested in anime to this SIG meeting and join forces to study anime practices so that we can build its future together¹.

2 RELEVANCE TO THE HCI RESEARCH COMMUNITY

From an HCI perspective, we believe there are several relevant lines of work that transcend the purview of the aforementioned media studies, computer vision, and ML research fields.

Firstly, we can identify **“who”** is involved in anime production. Prior work has studied collective creativity of anime creators and of creators and fan communities [1]. The relationship between anime creators and fans has been a significant subject of studies in anthropology, and it could be an interesting topic to study from social science perspective in HCI. However, this has been criticized as too romanticizing, with calls to study more about the **“businesspeople”** who make the complex anime production process work smoothly and enable its global spread [12]. Indeed, a typical anime production pipeline starts with a pre-production process of around ten people followed by a production process of over a hundred creators, where professionals with diverse roles are involved [22].

Once the artistic practices in the production pipeline are identified, **“how”** such practices can be supported with the help of interactive systems can be studied from the perspective of creativity support tools research and/or computer graphics research. Novel algorithms, including the aforementioned computer vision and ML methods, do not stand on their own. These shine if and only if integrated into tools for anime creators from an HCI perspective. For instance, the colorization process of the draft line drawings is an essential yet tedious task in anime production, and its automation with Few-Shot Learning (FSL) was proposed and implemented in an anime studio [10]. In another recent example, another anime studio, strong in cel-shaded 3D CG animation that goes well with 2D hand-drawn animation, developed a practical rendering pipeline for archiving stylized 3D animation while balancing quality, artist control, and workload [20]. Furthermore, the collaborative aspects of such a process can be studied from a Computer-Supported Cooperative Work (CSCW) perspective. For example, the **“E-conte,”**

translated as **“storyboard”** in English, serves as a directional document for the production process. By studying its authoring practice and comparing it to Western storyboarding, a creativity support tool called Griffith was built and tested with industry professionals [7]. Future work could support collaboration between creators in the pre-production and production process. To our knowledge, this was the first full CHI paper to report a thorough human-centered design process with anime professionals that yielded insights for general video authoring interfaces. We look forward to more such examples in the future, which this SIG may inspire.

While the anime production process is often attributed to Japanese studios, many of the tools used are developed outside Japan. Notable examples include tools developed in France, such as Tic-TacToon [3] (later acquired and further developed by Toon Boom Animation Inc. in Canada), TVPaint [2], and Odyssey [15], potentially reflecting a shared aesthetic preference for hand-drawn animation in both countries. The Workshop on Creativity Support for Hand-drawn Art Practices (CHAP2025 Paris) [8], organized by the first author and colleagues, served as a unique prelude to this SIG, exploring similarities, differences, and relationships in hand-drawn art production across cultures.

Finally, while its global success is sometimes attributed to its **“de-Japanization”** [9], such as racially ambiguous or **“mukokuseki”** [6, 16] characters and universal story themes, anime still does substantially overlap with Japanese traditions. As such, what kinds of components in anime can gain universal appeal remains an open question. By identifying how such components are articulated as **“universal”** and **“cultural,”** we can deepen our understanding of the cognitive and social human factors involved and thereby apply such knowledge to interaction design. For instance, the anime look is considered **“kawaii”** and has been studied from psychology and cognitive science perspectives [13]. Recent HCI studies have extended this to **“kawaii”** voices, which contribute to voice-based interaction design [4, 11, 17] and the study of video games and player experience [18]. The potential for bridges across CHI main and other communities, such as ACM CUI and CHI PLAY, is nascent.

3 SIG GOALS AND DISCUSSION ORGANIZATION

Given the background and relevance of anime to HCI within and beyond Japan, this SIG aims to provide a space for interested CHI researchers to discuss potential directions for anime research from technical, cultural, and industrial perspectives, and to foster a community of such researchers.

To provide a common ground for the discussion, at the beginning of the SIG meeting, the organizers will provide a brief overview of anime research and its relevance to HCI practice, as explained in the previous sections. Then, we plan to split the participants into three groups, each of which will be loosely coupled with one of the three core perspectives: technical, cultural, and industrial (business). Each group will be accompanied by at least one organizer to facilitate discussion. (If a group exceeds the size of a manageable discussion, we will break up into subgroups, each of which will be accompanied by an organizer or fellow researcher who is knowledgeable about anime production pipelines and relevant anime research.) Group activities will include sharing interests, asking questions to experts

¹CHI 2025 Anime SIG website: <http://chci.pages.dev/chi2025anime>

in anime research, brainstorming ideas for new research projects, and discussing technology-related issues like ethics standards in building and distributing datasets. In the end, each group will report back a summary of the discussion. The organizers will conclude the SIG meeting with comments and plans for follow-up activities.

4 EXPECTED OUTCOMES

Whenever we give presentations to HCI audiences, we are always met with enthusiastic reactions and people seeking ways to do anime research “the right way,” so that interactive systems benefit anime creators in a broad sense. We have struggled to point interested parties towards concrete research topics, because anime and its production process are highly cultural and complex. However, this SIG will serve as a first step in sorting out what HCI can do for anime research, as well as how anime research can enrich HCI as a research field. We aim to craft a long-running, two-way street.

During the SIG, we will aim at creating a unique community for researchers and practitioners with a shared interest in researching and supporting anime production, one where perspectives are contributed and future research directions are discussed. Fostering a productive research community will require more than a one-time meeting. Therefore, we will extend invitations to participants of the SIG to organize or partake in follow-up events in SIGCHI venues in 2026 and beyond.

ACKNOWLEDGMENTS

This work was supported in part by Japan Science and Technology Agency, ACT-X Grant Number JPMJAX22A3, and Japan Society for the Promotion of Science, Grant Number 24K02972, Japan.

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