

With AI to Art!

Chatting with Helen of Troy and Co. through IBM Watson

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How can artworks from the nineteenth to the twenty-first century be communicated to young people in a compelling way, and how can they be interrogated with respect to their current relevance and debated in light of recent sociopolitical discourse? These were a few of the initial questions for a sophisticated art mediation program within the framework of the special exhibition *FEMME FATALE: Gaze—Power—Gender* (9 December 2022 to 10 April 2023) at the Hamburger Kunsthalle.² The exhibition's spectrum of topics is consequently as broad as the subtitle suggests: it is about exploring a constructed image of women in art, tracing it from its germination during the nineteenth century to processes of appropriation and dissolution in the twentieth century and the present. Closely interwoven with this are questions concerning gaze and power relations between the sexes. Many of the images of women on display are at the centre of popular narratives—Medusa with her hair of snakes, Helen in front of burning Troy.

The following paper presents a participatory project in which young students collaborated in the development of an AI-based chatbot—in order to reverse perspectives and thus explore how these so-called *femmes fatales* might tell their own stories fictitiously. The idea of entering into conversation with such exemplary figures in artworks via chat is embedded in a broader mediation strategy that centres on 'exposing the construct' (Weniger 2023) of the *femme fatale*. The AI-based chatbot was realized with the partner company assono GmbH and uses IBM Watson artificial intelligence, and thus makes the multilayered subject matter interactively accessible via conversations with six artificial figures.

1 The project team consisted of the curators Dr. Markus Bertsch, Selvi Göktepe, Ruth Stamm; the colleagues Tim-Patrick Matthes, Maverick Runkehl, and Isabelle Wieser from assono GmbH; and the art mediators Nanda Bröckling, Melanie Fahden, Dr. Anja Gebauer, Elisa Nessler, Badrieh Wanli and Dr. Andrea Weniger. The chatbot was developed in cooperation with the Wüstenrot Foundation.

2 See <https://www.hamburger-kunsthalle.de/en/exhibitions/femme-fatale> (all URLs here accessed in June 2023).

Chatbots in Museum Art Education

Over the past few years, chatbots have increasingly found their way into museums—often with the idea of coupling art mediation with the daily habits of potential visitors and users of communications via messenger services. ‘With information on works, artists and exhibitions, they offer an attractive approach to visitors, making the information easier and more directly accessible, and at times lowering inhibition thresholds for previous non-visitors’ (Szope 2022, 252). Different classifications of chatbots show various potentials for use, depending for example on inputs and outputs (text or voice) or understanding (which inputs and contexts can be processed) (see Braun/Matthes 2019, 484–89).

In most museum scenarios,³ ‘scripted bots’ (Szope 2022, 325) with predefined question and answer options are deployed. The use of artificial intelligence in museum chatbot applications goes beyond this: ‘As the use of more AI-intensive bots becomes a future consideration, the direction is set to establish broader and more contextual conversations with the museum visitor’ (Giuliano/Boiano/Borda 2019, 325). In realizing AI-based chatbots for museums, the IBM Watson program is used in particular⁴. It can be described as ‘a cognitive system ... [that] can determine whether one text passage (which we call a question) infers another text passage (which we call an answer), with a high level of accuracy under changing circumstances’ (High 2012, 4–5).

In art mediation, the automated assignment of answers to queries offers the possibility of responding to the individual interests of the visitors. Behind the suggesting of possible questions, however, also lies the selection of which questions will be answered. Concealed behind this are power structures and recommendations as to what may be said and asked in the context of art reception, and who stipulates this. In order to reflect on the concomitant sovereignty of interpretation and ‘to shape and not to be shaped’ (Weibel/Szope 2020, 38), the chatbot project for the exhibition *Femme Fatale* was carried out in close collaboration with teenage students. In the following, the procedure, concept, and process are outlined and finally summarized in a conclusion.

3 See Sam by Florence Jung, Museum für Gegenwartskunst Siegen: <https://www.mgksiegen.de/de/ausstellungen/5416/sam> or Perfect Match! Bode Museum, Berlin: <https://www.smb.museum/nachrichten/detail/launch-der-app-perfect-match-bode-museum/>.

4 See IRIS+, Museu do Amanhã: <https://www.aam-us.org/2018/06/12/iris-part-one-designing-coding-a-museum-ai/>, or Voice of Art. Pinacoteca do Estado de São Paulo: <https://travelblonde.medium.com/giving-art-a-voice-with-watson-1c1a235cb63a>.

Medusa Memes and More—Project Development in Cooperation with a City District School

For the project, the Hamburger Kunsthalle collaborated with an art course for the tenth class at the Stadtteilschule am Hafen in St. Pauli, led by the teacher Melanie Nethe. Since the chatbot was intended primarily for teenagers, the young students—as part of the target group—were included in the development by means of a participatory process (see Simon 2010).

The timeframe for this project was just under four months. In a first intensive phase, the students were familiarized with the contents of the exhibition and the work of art mediation: What are stereotypes and at what point do they limit our opportunities for personal development? What is sexism, and how and when do we encounter it in our everyday lives? Can we think of gender identities outside the binary system of woman and man? As the characters from the artworks were to be given a kind of fictional life via chat, it was important not to adhere to a reproductive level of content, but rather to take up current sociopolitical discourses and negotiate them with the students (see Mörsch 2012, 159–65). The focus was put on exposing a constructed image of women that—according to one thesis of the exhibition—was supposed to secure the dominant position of men during the first wave of the women's rights movement. The aspiration was thus to investigate patriarchal structures in collaboration with the students and to transform them, as well as to offer a present-day perspective via chatbot (see *ibid.*).

In addition to content-related aspects, the students also had to be familiarized with the goal of the project and with artificial intelligence itself: How does AI work and how can it be utilized to simulate a highly natural chat conversation? How does the AI-chatbot from assono GmbH function? What aspects do the students want to see included so that the chat experience created is appealing for them? The further course of the project was determined by a collection of criteria developed by the students. Of importance to the students, for instance, was entertainment value while chatting, which is achieved through humour and variety. In the chat, the characters selected were supposed to appear as individual personalities and distinguish themselves from each other primarily by means of different languages, the use of emojis, memes, and GIFs, as well as the length of sentences and the number of text boxes.

Later on in the project, the students selected six artworks⁵ and, in small groups, developed a framework for six different personalities based on expert interviews—with the curatorial team, among others. Questions were compiled by means

5 The following six works of art were selected (chronologically based on the exhibition narrative): Dante Gabriel Rossetti, *Helen of Troy*, 1863; Evelyn de Morgan, *Medea*, 1889; Edvard Munch, *Madonna*, 1893–95; Sylvia Sleigh, *Lilith*, 1967, and Birgit Jürgenssen, *Untitled (Olga)*, 1979.

of associative methods (see fig. 1) in order to deduce precise queries (thematically relevant answers) from a broad spectrum of questions. The result was an extensive small-talk repertoire, artwork-specific questions, queries regarding the Hamburger Kunsthalle in particular, concerns about terminology in need of explanation, as well as—and this is exceptional—questions about transgressive dialogues aiming at insults or sexual advances. The chatbot characters were not supposed to respond inappropriately in discriminatory situations or in customer-oriented ways like a service-bot, but instead to react defensively while simultaneously facilitating further dialogue. The textual finalization of the requests was in parts realized by the students, but mostly by art mediators informed by the students' guidelines.

Figure 1: A teenager asks questions of Helen of Troy—about the weather and the torch on her necklace.



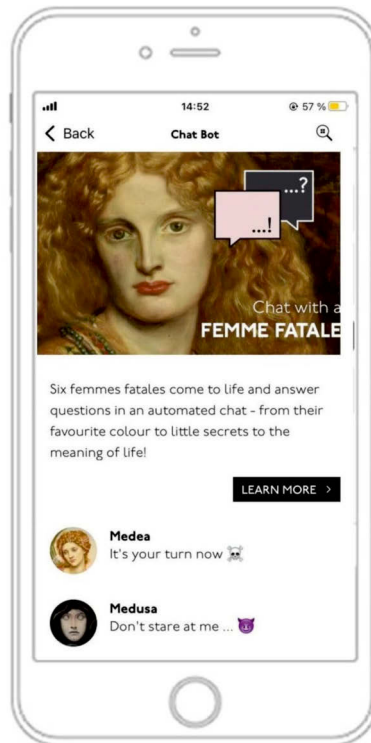
Chat with Six Femmes Fatales—Insights into the Results

The chats were made accessible free of charge via the museum's mobile application.⁶ The application, like a messenger service, lists all the characters with their respective profile picture as well as status updates written by the students (see fig. 2). In addition, QR codes were positioned next to the artworks throughout the exhibition,

6 See <https://www.hamburger-kunsthalle.de/en/app>.

and scanning them opened chats directly in a browser. All six fictional characters greeted users with a distinct form of address and submitted different introductory and follow-up questions (How are you? What are you doing? What are your plans for tonight?). Conversation flow and the characters' key topics were important aspects in training the AI. Users could enter free text or click on interactive buttons. The characters responded with wit and repartee, teasing with small hints or sending material made by the students (posters, memes, GIFs). Knowledge transfer and a playful strategy were combined into an edutainment approach that inspires curiosity as well as encourages the desire to obtain more information through conversation. The idea was to start off with small talk and through this enable users to encounter background information from a feminist perspective and be given food for thought.

Figure 2: AI-based chatbot characters in the Hamburger Kunsthalle app.



On the Negotiation of Demands—A Conclusion

Is the construct of the *femme fatale* unmasked when Helen of Troy confidently comments on her beauty? Does how the character of the Madonna proactively flirting with users fit into current feminist discourses? Such questions are conducive to the positioning with respect to the goal of mediation, and should at best be identified during the process and debated against the backdrop of a wide range of social attitudes. The project is meant to be seen in a context in which institutional demands (for example, linguistic), time pressure, and qualitative expectations are confronted with an approach in which young people of 15 to 16 years of age were involved in the development of in a participatory, and thus to some extent unbiased, way. Moreover, new challenges arose during the ongoing operations, for which only limited resources were available; for example, through the input of new questions, or the emergence of new training needs as a result of the use of DeepL for translation into the respective language.

In all of this, a diversity-sensitive and anti-discriminatory standard was applied. It was, however, not supposed to simply be imposed on the students, but instead carefully evaluated in connection with them. 'If unlearning essentially requires a confrontation with power relations, in everyday pedagogical life it nevertheless means that formats and methods are usually geared towards breaking down normative conformity. What often remains inaudible are discourses and forms of action that tell of the emancipatory aspect of wanting to belong' (Sternfeld 2018, 237). Much discussion potential arose through the examination of historical contexts and critical contemporary perspectives on them, but could not be fully exploited in this project due to the tight timeframe and the predefined conclusion. Nevertheless, the participatory approach essentially served to give space and visibility to the perspectives and questions of the young people—instead of taking up the logics of the market: although it was possible to benefit from a partial adoption of prefabricated questionnaires from the field of service bots for websites (What's the weather like? How much does it cost to enter a museum?), the content of these questions had to be adapted specifically to the new museum context and the individual fictional characters.

Overall, the project faced two conflicting demands: On the one hand, the content ought to correspond to the criteria and requirements of teenage students—with little text and writing that flows as naturally as possible. On the other hand, an art-savvy professional audience will also put what is offered to the test, which quickly leads to repetition or even non-recognition of extensive or too precise (for example mythological) questions. The data available nevertheless shows very high numbers of users with predominantly positive feedback overall—for example, only 26 negative evaluations were noted in the chat in the first two months, from the nearly five thousand conversations conducted (period 8 December 22 to 6 February 23).

Outlook: AI-Based Dialogues in Digital Art Mediation

More than ever, the prediction is true: ‘In addition to the individualization of visitor experiences and data processing for museum operators, AI algorithms will also penetrate other areas of museums’ (Fuchs/Lorenz 2019, 140). In future projects, it would be conceivable to use generative AI systems such as ChatGPT to support text production through automation. At the same time, the elaboration of characters and their emotional states, the accentuation of different perspectives as well as the critical questioning of traditional narratives remain a fundamentally human role in the production of AI-based mediation offers. The use of generative AI systems thus challenges museum art mediation even more so in the area of reworking and fact-checking as well as maintaining a discrimination-critical perspective, for ‘... the mere application of new technologies is not enough. We must constantly learn to engage with them in order to be able to critically question them’ (Weibel/Szope 2020, 37). Participatory cooperation with parts of society seems fundamental for an institution committed to democracy—only in this way can it be thoroughly ensured that social injustices are not perpetuated by the use of artificial intelligence.

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