

Sensitizing Scenarios: Sensitizing Designer Teams to Theory

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ABSTRACT

Concepts and theories that emerge within the social sciences tend to be nuanced, dealing with complex social phenomena. While their relevance to design could be high, it is difficult to make sense of them in design projects, especially when participants have a variety of backgrounds. We report on our experiences using role-play scenarios as a way to sensitize heterogeneous designer teams to complex theoretical concepts related to museology as social and cultural phenomena. We discuss design requirements on such scenarios, and the importance of connecting their execution closely to the context of the design and the current stage of the design process.

Author Keywords

Sensitizing Concepts; Sensitizing Designers; Role-Play; Social Science Theory;

CSS CONCEPTS

• **Human-centered computing**—HCI design and evaluation methods

INTRODUCTION

Designer teams need to be sensitized to a complex web of issues and design qualities specific to their design context. Within HCI, a range of methods have been developed to sensitize designers, e.g. to their target user's needs within the fullest relevant context [11,20,30], to bodily experiences [47,48,53], and to the capabilities and constraints of technology [78]. The notion of sensitizing concepts has gained traction for this purpose, the term adopted from Blumer's approach to qualitative theory in the social sciences [4]. The sensitizing concepts and theories that Blumer is referring to are complex and nuanced in a way that does not lend itself easily to

delimitation and definition, but they are also phenomena that manifest in everyday social interaction between people and in culturally conditioned practices. Qualitative social theory is not just theory, but fundamentally grounded in human experience.

We propose role-playing as an approach to sensitize designers to such theory in ways that are relevant for design. While role-play has a long history of being used in design research [11,14, 6,18,26,40,41,61] previous work has primarily been informed by theatre and focused on users and technology usage (current and future). We engaged in a design exploration of live role-playing scenarios, intended to convey complex theories from experiential as well as analytic perspectives, based on a tradition of role-playing scenarios as a form of artistic expression.

The target use for our scenarios is to sensitize heterogeneous designer teams towards concepts and theories from the social sciences; more precisely from sociology, anthropology and museum studies. The goal was to create a sufficiently shared, embodied as well as reflective, experience to work as a shared frame of reference for further discussion and design work. Our domain was projects aiming to develop museum technology, for which design teams tend to have vastly different backgrounds, goals, and knowledge. We report on our design process, during which the scenarios went through multiple iterations and playtests. The process helped identify insights into critical design features for the scenarios. Finally, we present two case studies in which two different scenarios were run in their intended context, as sensitizing exercises with heterogeneous designer teams in the museum domain.

BACKGROUND

Sensitizing Concepts

The notion of sensitizing concepts originates in an epistemic critique of positivist approaches to sociology, articulated by Blumer [8]. Blumer argued that for concepts developed through qualitative research, it makes little sense

to construct formal definitions. They are better seen as sensitizing concepts, Blumer argues, in that they “suggest directions along which to look.” Their role is to articulate and make identifiable phenomena that manifest over and over again, but every time in a unique way. Blumer’s conceptualization has been very influential for qualitative method development in the social sciences [32].

Sensitizing concepts have gained traction also in pragmatic design research. An additional requirement emerges in this context. For design, sensitizing concepts must also be conducive to design, be “developed with the intention of improving the practice of design” [86]. Concepts may either provide direct design guidance [36] or provide analytical lenses through which the context and use of a design can be understood [50]. Such concepts and frameworks must be actionable and limited in scope [36,50,51] and encompass design knowledge towards achieving particular design goals [51]. Examples of such design concepts include ‘pliability’ as a useful experiential feature [50], ‘trajectories’ as a way of analyzing and designing interactive narratives [5], and ‘reflective practicum’ [72] as an analytical framework for design for reflection.

While this work has been very productive, it stands in contrast with how Blumer originally framed “sensitizing concepts” as open-ended tools for analysis and reflection. “A sensitizing concept”, Blumer writes, “lacks such specification of attributes or bench marks and consequently it does not enable the user to move directly to the instance and its relevant content. Instead, it gives the user a general sense of reference and guidance in approaching empirical instances.” [8:7] These kinds of open and complex theories are not easily communicated. This does not mean that they cannot be useful for design; Zimmerman et al [86] argue that more broadly scoped “guiding philosophies, which take the form of sensitizing concepts” can work to help direct designers and researchers in solving design problems. Bardzell et al [3] further argue that “The role of the work of art or RtD [Research through Design] is not to present us with new facts about the world, but rather to enrich our capabilities of perceiving and interpreting the world”.

HCI has yet to develop a rich palette of methods to sensitize designers and design teams to relevant theories in a nuanced way [6]. Some exist; design fiction [17,25,45,46] is perhaps the most developed methodology that incorporates ‘grand’ theory perspectives. More common HCI methods for sensitizing designers to, primarily, user contexts and needs [11,20,30] will typically not aim to address the breadth, depth, and nuance of social science theories. The museum domain is a good example of when such theories become relevant, as museums are deeply rooted in long-standing struggles over who gets to contribute to and define the cultural heritage [4].

Role-play as Art, Community-Building and Learning

Henriksen [33] defines role-play as “...a medium where a person, through immersion into a role and the world of this role, is given the opportunity to participate in, and interact with the contents of this world, and its participants.” In a role-played scene, participants are instructed to improvise the actions and reactions of a character in a particular situation. Players can play themselves in fictional situations, or they can take on fictional characters. One of the reasons for using characters is that they present an *alibi* for participants to engage in non-normative behaviors [22]; taking on roles makes it possible to freely express emotions via the character while lessening the risk of affecting real-life relations with other participants [35], such as co-workers on a design team.

Role-play has long been used for education [12,13,57] and therapy [59,66] as well as for leisure and entertainment. The tradition of improvisational drama [7] has long worked to develop ways to use role-play for community-building, learning and reflection among the participants. What sets this genre of drama apart from theatre is that it is typically not performed for a separate audience, but for the benefit of the participants. Role-play has been argued to broaden the perspective of the participants [24] and give opportunity to both formulate one’s own opinions and to meet and argue with the opinions of others [70]. Blatner [7] proposes six possible uses of improvisational drama: for community-building, in education, in psychotherapy, for empowerment of marginalized groups, and finally as life expansion and entertainment. Augusto Boal [9,10] developed a range of methods for involving audiences in improvisational drama and developed the concept of the spect-actor, who sometimes spectates and sometimes acts or instructs.

In this article, we draw in particular on the emergence of *the role-play scenario* as an art form. With its roots in Live Action Role-Playing (larp) [81], ‘Nordic larp’ [76] and freeform role-playing [81], role-playing scenarios are pre-designed role-play experiences that can be playable in very short time, stageable with few or no props, and well documented to be re-stageable with little effort.

We were particularly inspired by #Feminism [75], a collection of role-playing scenarios that illuminate a range of concepts from feminist theory through role-play. Apart from being very powerful experiences, they illustrate well how complex theories from feminist literature such as “emotional labor” [60] can be made accessible through an embodied and affective experience. In addition, the #Feminism scenarios are organized into a clear and uniform format, making them easy to stage.

When role-play is used for learning purposes, it is important to include an element of recontextualization [34], bridging the experiential learning process in the fictional setting of the scenario to problems situated outside the learning situation. While every participant may need to recontextualize the experience somewhat differently, the

process can be facilitated through a staged debrief. This is largely missing from artistic role-play scenarios, which is why we wanted to explore this as a critical design element of our designs.

Role-Playing in Design

Within HCI, we find a rich tradition of using role-playing for design. It originates in the approach of using “scenarios”, brief scenes describing user and/or usage situations, to charter the domain and usage for new products [11,18]. In role-play these are taken one step further through enactment. (Note that in HCI, “scenarios” typically refer to very short scenes. The Nordic larp role-play scenarios discussed previously are full role-playing sessions including preparations and debrief.)

Role-play is particularly well represented in the Scandinavian tradition of participatory design. Early work includes Ehn and Sjögren [26], who developed a range of games that are best described as table-top role-playing games that allow users to play out future usage situations while designers act as facilitators. Brandt and Grunnet [14] took inspiration directly from theatre to introduce bodily enactments. Inspired by Stanislavski’s principles of method acting [73], they experimented with role-playing future users as a way of sensitizing designers to their context and needs. Buchenau et al [16] used a very similar method to envision a future train journey. A radical scenario-based design approach was developed by Iaccuci and Kutti [40], in which the designers would shadow their future users *at home*, in their everyday life, using an evocative object to inspire role-played scenarios of future use.

Boal’s Forum Theatre [9] has been adopted for this purpose. These have actors acting out scenarios for an audience, who can suggest changes and replays. Brandt and Grunnet used the form to enact future uses in front of representatives of the target user group, to let them reflect on the scenes, give feedback and change the designs. Newell et al [61] used professional actors to record scenario videos that were played to the future users, with opportunities to pause and discuss.

As these seminal examples indicate, HCI primarily uses role-play as a way to ideate new designs, with or without the involvement of end users. For this purpose, authors argue that enactment should interweave with design [16,38,41] in a tight loop. We can also note a striving towards making scenarios as authentic as possible. Iaccuci et al let “participants play roles or act as themselves in given situations” [41:196]. Bødker emphasizes the careful way scenarios must be constructed from ethnographic data [11], and Brandt et al. [14] let future users provide feedback on how the staged scenarios can be made more correct. This contrasts with our approach, which explores the power of make-believe and the alibi created by role-playing. Only a few researchers have engaged with the power of suspension of disbelief, such as Brodersen and

Dindler [15,23] who used fictional settings and games to trigger imaginative design explorations.

SENSITIZING SCENARIOS

Domain: Hybrid Museum Experiences

The work reported was carried out within GIFT¹, a project that targets the development of hybrid digital-physical museum experiences. In discussions with museum professionals and project teams we saw how teams tended to be heterogeneous and work in a distributed manner, giving little opportunity for developing a joint vision or even common terminology. We also noticed how teams tended to give low priority to the visitor experience, and how the social context of a visitor group influences the museum experience, this despite the documentation of its importance in literature (see e.g. [29,39,63,82]).

Design Goal and Approach

Based on the improvisational drama tradition of using role-play for community-building, learning and reflection, we set out to explore a way to use role-playing as a way to sensitize a heterogeneous design team towards complex concepts from sociology or museology.

Our goal was to allow for an embodied learning experience related to nuanced concepts, that could further the aims of the project team as a collective. We wanted to create experiences that were sufficiently shared within the team to work as ‘boundary objects’ [74], representing theories of social practices, in a similar way to how props can function as ambiguous design representations [14]. Hence, we did not aim for (and did not test for) participants ending up having the exact same understanding of the theories underlying the scenarios.

The way in which role-playing tends to foster group cohesion [13] can be seen as a tool to this purpose. Furthermore, McEvan et al [56] argue that role-play gives opportunity for ethical experiences, to use communicative strategies in a new way, and gives exposure to the opinions of others. These are all properties that may help to build group cohesion in a meaningful way, centered on the topic at hand.

The format of (artistic) role-playing scenarios was adopted, since the form is fairly time- and resource-efficient. (The word ‘scenario’ here thus refers to the whole exercise, and should not be read as a user scenario as in most HCI literature.) Examples from the art scene illustrate their capability to foster embodied and emotional engagement with difficult topics. Two of the participating researchers had previous experience with designing in this format, and one had previous experience with educational role-play scenarios.

We deviated from artistic scenarios in the framing of the role-play activity. Our scenarios are scripted to begin with a

¹ www.gifting.digital

preparatory workshop which explains the goals of the scenario, move on to the actual role-play, and conclude with a debrief and discussion, during which the embodied experience is contextualized intellectually within the theories in focus for the scenario. This follows a common way of structuring pedagogical role-play activities [35] and helps promote reflection [42]. While artistic role-playing scenarios will include the first two, they tend to place less focus on the debrief, and the introduction is more focused on preparing players for the role-play session than on making the purpose of the scenario explicit.

Method

The overarching methodological approach to this project is research through design [85]. Compared to technology development, designing a role-play scenario is a simple process requiring very few resources and often done in very small teams. Hence, it was possible to play-test many scenarios, allowing us to explore a wide design space. For each phase of the design exploration, we could – and did – develop and test *new* scenarios rather than iterate the existing ones.

To preserve the participant’s integrity (and in line with the principle for improvisational drama as not performed for an audience), we avoided recording role-play sessions. These were documented primarily through note-taking and a few photographs. Some (but not all) of the debrief sessions were recorded. The researcher notes and recording transcriptions have been thematically analyzed. During the first two phases, analysis was focused on design insights for the next design cycle, and done rather informally. The analysis of the two final field trials was more extensive and focused on the design goals for the scenario design. Note-taking from observations focused on meaningful group interactions related to the topic at hand before, during and after running the scenario. Interviews were not coded, but mined for comments that indicated increased insights, or lack of the same, and of heightened ability to engage in dialogue.

DESIGN PROCESS

The design process proceeded in three iterations. Within each phase, some play-tests were done for polishing purposes. The major trials were done to evaluate the scenarios with experts, and towards the end of the project, were run in authentic design projects in the museum domain. A table with details on the playtests and participants is included in the supplementary material for this article.

First Iteration: Establishing a Suitable Format

Our first step was to sketch four scenarios that varied wildly in their structure and setup (see Table 1). While all of them had at least a vaguely defined sensitizing goal, we were at this point of the process less concerned with accurately reflecting a theoretical body of knowledge. Focus was placed on developing a format that would make the scenarios playable as well as provide room for

reflection. In particular, we wished to explore what kind of role-taking would be suitable.

Scenario	Theoretical Grounding
Life on Display - Characters - Futuristic museum setting	Critical perspectives from New Museology: History use [58]
Holiday at Grandma’s - Characters - Non-museum setting	Curatorship and meaning of objects [31,37,83]
A Multi-layered Story - No characters - Museum setting	Narrative, perspectives from New Museology [31,37,84]
Constrained Communications - Game - No characters	Medialization [44,64]

Table 1. Scenarios developed during the first iteration.

The scenarios were play-tested on two different occasions. *Constrained Communications* and *Life on Display* were tested with a group consisting of the researchers, one larp designer and one museum pedagogue. *A Multi-layered Story* and *Holiday at Grandma’s* were tested in a larger workshop with project members from GIFT, including experienced designers and curators from the museum domain. In both sessions, the participants were allowed to select which scenarios they wanted to run – the fact that they chose different ones was a happy coincidence. In the second, we also experimented with letting the players self-organize without an assigned facilitator.

Results

All of the scenarios “worked” from a technical perspective: the participants were able to read them and collectively select which one they wanted to play. However, we noted that one participant would step up to facilitate in the session without assigned facilitator. It was also too much to require the participants to read through five complete scenarios in order to select which one to play.

During the second session, two participants did not feel comfortable playing characters. *A Multi-layered Story* was chosen precisely because it did not include pre-written characters. Two participants, both of whom had theatre training, opted out from participating in *Holiday at Grandma’s*.

The most important feedback related to the relevance of the scenarios to the museum domain. Several of the scenarios were intended to be metaphors or analogies rather than explicitly situated in the museum context, and participants had trouble connecting them to the museum domain. This became clear in debrief sessions, where the participants (including museum experts) had trouble making sense of

the scenarios from a museum perspective. In *A Multi-layered Story*, this was expressed as a lack of authenticity: the storytelling exercise was deemed too different from what museum curators actually do despite the direct relevance of the scenario's underlying theme. The participants considered the scenarios to be slightly too long, and a total running time of no more than one hour was recommended.

During the post-experience discussions, the participants also offered a range of new ideas for scenarios, that influenced subsequent design iterations.

Second Iteration: Museum Relevance and Theoretical Grounding

Based on the experiences from the two first workshops, three new scenarios were designed, of which two were tested (see Table 2). An important design decision was to use *only* scenarios that included pre-scripted characters. The reluctance of some to engage in role-play has also been reported in literature [77]. We speculated that this reluctance may emerge from giving the participants a choice in the matter, since having a choice may strip them of their alibi [22] to act in uncharacteristic ways. Hence, we decided to make role-taking an integral part of the scenario design. In line with feedback from the first iteration, we focused the scenarios on concepts and theories relevant for the museum context, with clear takeaways scripted into the debrief sessions.

New Museology. This scenario told the story of how a museum exhibition comes to be, and the different considerations of its influential stakeholders. It was based on critical perspectives in New Museology, as well as on personal experiences from project members. We worked extensively with this scenario. A museum pedagogue was recruited as co-designer to ensure that it was sufficiently realistic. It featured multiple alternative settings, so that the participants could choose the setting that was most similar

Scenario	Theoretical Grounding
New Museology - Characters - Realistic/authentic cases - Museum setting	Critical perspectives from New Museology: Stakeholders [31,37,52]
The Gift -Characters -Non-museum setting	Anthropological and sociological theories on gifting [19,21,55,68,71]

Table 2. Scenarios developed during the second iteration.

to their own design project. Participants play curators, artists, and audience. In each scene, the three groups worked in different constellations to make changes to the same exhibition.

The Gift staged a reciprocal gifting ceremony within a family. Anthropological theories related to reciprocal gifting [54] constituted an important background for one of

the design approaches developed within the wider context of GIFT, creating a need to communicate those theories to museums that made use of the approach. The reason for staging a ceremonial gift exchange that was not set in the museum was that the literature highlights the importance of such exchanges (see e.g [21,49,54]), and even though gifts may be made, bought or consumed in the museum, the gift exchange seldom takes place there. The scenarios were play-tested with invited participants before run with museum professionals.

The trial of these two scenarios took place during a workshop in a separate action research subproject within GIFT, in which museum professionals from multiple museums came together to discuss their experience with digitalization processes. The scenarios were run in conjunction with, but not as part of, the action research workshop, and only those who opted into testing the scenarios participated in the test run. The time was very limited and unfortunately a full interview could not be done as intended. We were able to gather feedback both during the trial and afterwards, though, through a survey administered by the action research project team.

Results

Based on brief descriptions of the scenarios, the participants first voted for which of the scenarios to play, and based on the results were subsequently split into two groups, one playing *New Museology* and the other *The Gift*. We experienced no reluctance to engage in role-play in this trial, possibly due to the fact that participation was voluntary. The players were also highly engaged and seemed to enjoy the experience. *The Gift* received positive feedback related to the way it provided for emotional engagement with the topic at hand, as well as to how the debrief was able to contextualize these experiences with theories on gifting.

However, in the debrief, criticisms arose. In particular, the request for authenticity was voiced again, this time even more vocally. *New Museology* was criticized for giving too little time to construct an exhibition and causing people to disengage when playing as museum curators or artists. This negative feedback must be seen as a setback, in particular since we had gone through some length to make *New Museology* as authentic as possible. For *The Gift*, the participants found it hard to understand how the takeaways could be made relevant in the museum setting (apart for designing the museum shop). This we saw as a lesser problem as the scenario was expected to be relevant only to design projects that included gifts or gifting.

In order to develop a deeper understanding of what could account for the feedback, we organized a workshop with experienced role-play and larp designers at a larp design symposium. The six participants in this workshop all had some experience with designing for educational role-play. The group first got to play *The Gift* and were then allowed to read both scenarios, and work in smaller groups to

develop an understanding of what made them work or not work. The consensus that emerged was that the *New Museology* scenario failed to create emotional investment, primarily due to lack of time in the different scenes but also due to its emphasis on roles as functions (artist, curator, visitor) rather than nuanced characters and their attitudes. As one of the participants eloquently described it, in an educational role-play scenario what you want participants to *do* and *feel* must be connected to the learning goals of the scenario. Feelings can, to some extent, be scripted into characters. This was successfully achieved in *The Gift* but not in *New Museology*, due to its focus on roles as functions.

Third Iteration: Contextual Authenticity

An important realization from running *New Museology* was that authenticity is difficult to script into scenarios. We recognize this issue from HCI literature, in how authenticity has primarily been achieved through incorporating authentic users in the design process [14,61,65,77] and even, as in Iaccuci et al. [40], staging exercises in their homes. We judged that when running scenarios with experts from the museum sector we would not be able to simulate what they would accept as an authentic experience, if for no other reason than constraints on location and time.

In the last phase, we instead explored whether participants could *bring with them their own authenticity*. Could we design scenarios in which participants would tap into their own expertise and experiences? More importantly, could we do so without losing the alibi provided by role-play? To investigate this, two new scenarios were developed (see Table 3).

My Museum highlights how museum visits are interpersonal experiences. The participants play different visitor groups on a guided museum tour, for which the

Scenario	Theories
<p>My Museum</p> <ul style="list-style-type: none"> - Characters - Played in authentic museum 	<p>Interpersonal meaning-making in museum [2,27,28,44,64,80] and results from the GIFT project [1].</p>
<p>The object</p> <ul style="list-style-type: none"> - Characters - Players can play on expertise - Museum setting 	<p>Critical perspectives from New Museology: History use, provenance, and cultural appropriation [2,4,5,7,8,11]</p>

Table 3. Scenarios developed during the third iteration.

facilitator plays the guide. It is intended to be played in an authentic exhibition and can, with small modifications, be used for testing a new museum experience design in a way similar to use-case theatre [67].

The Object is a scenario about provenance and cultural appropriation: the history of the ownership and transmission of a museum object. Concepts such as provenance and history use [79] are central to museum practices, but are not necessarily well understood by developers brought into a museum project. The participants play through a sequence of short scenes telling the story of how a museum object was created, used, collected into the museum and displayed. Participants are encouraged to adopt roles that lie close to their professional or personal experiences. The pre-written characters do not describe functions, but emotions and attitudes (see Table 4).

Both scenarios were first play-tested with invited participants before being staged with museum professionals. Play-testing led to some polishing of details, but did otherwise not present any new insights.

RUNNING THE SCENARIOS WITH DESIGN TEAMS

The two scenarios from the third iteration have been used in their intended context, as part of workshops targeting ongoing design projects in the museum domain. In this section, we report on the way they were staged, what discussions they triggered, and what we know of how running the scenarios affected the projects.

Running The Object at the Museum of Yugoslavia

The first occasion for using the scenarios in an authentic context was in the Museum of Yugoslavia, an institution with which we were in contact through the GIFT project. The project team was developing a mobile app that could complement a museum exhibition through provoking affective and personal engagement and reflection [1]. The design focused on how Tito, former dictator of Yugoslavia, had controlled his media image and invited its players to create propaganda in a similar way. A first technical prototype had been trialed about one year before the

<p>1. The emotional</p> <p><i>You love this quirky object and don't want to get rid of it.</i></p>	<p>6. The rule observer</p> <p><i>You want to follow the guidelines and make the right decision based on them.</i></p>
<p>3. The pragmatic</p> <p><i>If it is no longer of use, get rid of it.</i></p>	<p>7. The crowd pleaser</p> <p><i>All you care about is what is best for the audience and public opinion.</i></p>

Table 4. Example characters for the first scene of *The Object* called *'The End'*, in which the object is culled from the collection.

workshop was run. Since the prototype trial, the museum staff had gone through some turnover and the project had stalled; hence, it was necessary to reconnect and find out how to proceed with the design. Previous feedback from museum staff had been positive but vague, and the app designers were unsure about how to proceed. We, the research team, were in this case invited by the app designers. The participants in the workshop included two

museum curators, one person from the app development company, and two researchers.

The research team developed and facilitated a full-day workshop where running the scenario was just one part. The workshop started with a timeline exercise, clarifying what had been done in the project so far. Next, the scenario was run, followed by a re-design exercise. The purpose of the timeline workshop was to clarify the process – which we knew from the start had been rather disconnected – so that changes could be suggested without implicitly blaming any of the participants. The re-design exercise was seen as a way of tapping into the experiences from the scenarios while they were still fresh. Since the goal of the scenarios is to encourage affective engagement, we did not want to interleave design with the experience. As a design exercise, we ran a bodystorming [67] session based on the current prototype.

We chose to run *The Object* for this workshop, as much of the previous feedback had concerned the relation between the app and the museum collection. The scenario was tailored so that the chosen object was of a type that was common for the particular museum's collection.

Results

The participants found it easy to engage with the prescribed attitudes, and afterwards commented that the roles were realistic even if stylized in representing a single perspective.

“For me, it felt really realistic” ... “I don't think that anyone is so clear about it, attitude of the perspective. It's always a mixture of a lot of different of perspectives.” (Curator)

During the debrief, participants reflected on how useful it was to adopt an attitude towards the museum and its collection, that was different than their own. They found it both challenging and enlightening to have to argue from a perspective that they would not normally take.

The curators also suggested that the type of discussions reflected in the scenario happened frequently at their museum.

“I think that since we often really have this sort of discussions in the museum, it's good to try to see things from other side and make yourself create arguments for that.”

The museum curators did not feel that they learned much about museum collections from the experience. With *The Object*, this is to be expected, as museum participants take roles that lie close to their professional expertise.

Consequences for Design

The scenario was supposed to be followed by a design exercise, in which the current design was to be extended. However, almost immediately the curators declared that they would *not* install the planned app in their museum.

This came as a surprise to the developers, who had not received this type of feedback before. They emphasized that the thematic focus on Tito was not in line with the way the museum wished to portray itself, and the content produced so far was not sufficiently nuanced. On multiple occasions they also expressed a fear of such a strong theme as propaganda, and the lack of underlying research that they considered necessary to develop such as strong theme.

In the subsequent brainstorming exercise the team still managed to agree on a design concept, where the overarching narrative was omitted. Instead, they selected some of the artefacts on display that had interesting (and already researched) stories of their own, connecting them to the visitor's current life. Below is an excerpt from that discussion, using a flag on display as an example:

“In front of this object ... imagine how it was made, imagine you know where it was used, imagine that you are in that situation, imagine yourself, imagine this, imagine that.” ... “So this is object, this is flag with three eights, this is the story, and [this is] now” (Developer)

“You have your own flag, so what would you fight for today?” (Curator)

This idea shows some inspiration from the scenario and its emphasis on personal stories around objects.

We believe that the scenario was influential in two ways. Firstly, the negative but clear feedback from the curators highlighted differences in the perception of the current design that had not been articulated before. The heightened group cohesion created by engaging with the scenario, and the alibi created through the initial timeline exercise and role-playing likely contributed to this. In a separate debrief, the main app designer reported on seeing the exercise particularly useful as a way to develop group cohesion and as a stepping stone to further design activities. But also, the curators were able to articulate *how* the museum and the developers did not share the same design goals for the app. The following brainstorming was also influenced by the scenario and its focus on history use, in refocusing the design on the content of the museum and why that content was relevant today.

When checking in on this project some weeks later, we learned that the project was progressing according to the design sketched during the workshop. At the time of writing, the app is still in production.

Running My Museum at Jönköping Municipality Museum

Our second chance to use the scenario approach was in the context of a design project in Jönköping Municipality Museum, which had been ongoing for four months. The goal for this project was to develop a new permanent exhibition appealing in particular to a youth audience. It would include ordinary museum exhibits, fixed installations with interactive challenges, and a mobile app

game. The challenge was to make all of these elements connected and dependent on each other in a way that encouraged engagement and opened for reflection. The team was large, consisting of museum curators and pedagogues, exhibition scenographers, and a mobile game developer. When the workshop was run, the mobile app developer had delivered a first suggestion for the app game, which the museum pedagogues considered too screen-centric and detracting from the rest of the experience. This project was a bit more problematic than the first, given that much of the available budget for design had already been spent. The research team was recruited by one of the museum pedagogues with the purpose of creating a shared vision of what the full experience would be.

Again, we planned for a full day workshop and used a timeline exercise to initiate discussions. Since the main issue in this case related to how a museum visit would be experienced, we chose to run *My Museum*. Eight people participated in the workshop, including two researchers. These were two project leaders from the museum, one museum pedagogue, the app programmer, two exhibition scenographers, and one young assistant employed by the museum as “representatives of youth.” The group had already been meeting for one day, and many of the issues had already been negotiated by the time we arrived.

To suit the target audience, the *My Museum* scenario was modified to focus solely on young museum visitors and run in an existing exhibition at the museum that is directed towards children. The participants were split into groups of two and three, representing different types of groups visiting the museum together. The play preparations were somewhat lengthened to let players develop their roles and their relation to the other visitors in the same group a bit more in depth than as scripted. The whole exercise took about one hour and 15 minutes, including debrief.

Results

This scenario provided clear learning outcomes for the museum personnel, reflecting how museum practitioners tend to underplay the interpersonal aspects of museum visits [37,69]. One of the project leaders commented that

“[We] so seldom get a chance to reflect on how people actually behave in a museum, it made you think.”

The participants also reflected on how little the different groups would interact with each other, something that had been a point of discussion in the project. One participant reflected upon how an exhibition

“can look as though it is full of people, while in reality each group passes through as an isolated island”.

The use of an authentic museum space was beneficial for the experience. Participants reflected in particular on how the museum installations offered ways to support the social relations between visitors in unexpected ways, such as when a stuffed animal was used to play-hit a good friend,

or how a love letter would trigger nervous laughing among a pair of visitors on a first date. One of the scenographers commented on how the experience made him think about how few things a visitor actually directs their attention to, and how an exhibition must have focal points.

Consequences for Design

Due to the advanced state of the design process we decided to stage the final design exercise as a *use case theatre* session [62] (a method that also involves an element of role-play). We instructed the participants to very quickly develop their target designs through a combination of simple prototyping materials such as cardboard boxes, signs, chairs and tables, as well as through enacting interactive prototypes with their own bodies. The participants (including the researchers) took turns playing a pair of visitors, while the others would simulate the functions involved, including interactive installations, room layout, questions and responses in the app, and information on signs. In line with bodystorming [67] principles we strongly encouraged some ‘on the spot’ redesign.

Running the scenario most likely helped in creating a permissive attitude toward this design session. None of the participants had previously done such an exercise. We believe that the shared experience of playing visitors in a less “perfect” way opened the participants up for the potential of also staging the envisioned design in a very much less than perfect manner. We could also see how some of these takeaways from playing the scenario were incorporated, in particular in how the scenographers worked with staging the space to construct focal points and pathways through the exhibition, and in how the participants would enact their visitor groups.

With this project, we did not see much effect on group cohesion. The group was meeting for the second day in a row, they had already worked through their issues and had developed an acceptable compromise design.

Checking in on the project some weeks later, we learned that it was progressing according to plan and that the reflections from the workshop were used in further developments. The exhibition is expected to launch spring 2020.

DISCUSSION

Learning and Meaningful Group Cohesion

We first turn to the key design goal for the scenarios: to allow for an embodied learning experience related to nuanced concepts, that could further the aims of the project team as a collective.

Some, but not all, of our scenarios were perceived as a learning experience. *The Gift* was particularly successful in this respect, as it dealt with theories and concepts that were not known to most of the participants, and managed to convey these both in the embodied role-play phase and during the more analytical debrief session. In a similar vein,

My Museum was experienced by museum professionals as providing meaningful insights into museum visits as interpersonal experiences, but the debrief was not as successful in articulating the underlying analytical theories.

While the analytical takeaways from *The Object* and *My Museum* were less obvious, both still contributed with an emotional and embodied experience that *made the theories come alive*. Both provoked post-experience reflections, in *The Object* about different perspectives and attitudes towards museum artefacts, and in *My Museum* about the interpersonal visitor experience. Even when sensitizing scenarios are not presenting radically new knowledge, they seem to make analytical concepts accessible for reflection and for connecting to personal experiences.

Based on the design exercises run in the two authentic projects, we argue that the scenarios contributed to group cohesion in a way that was conducive of design, through creating a joint experience relevant to the project at hand, in a way that is similar to that boundary objects [74]. The different participants mentioned noticing very different things that influenced their meaning-making process, but the scenario experience was still sufficiently shared for the purposes of reflection, referencing and creating joint narratives, and in our case, design ideas. Meaningful group cohesion was important both in order to surface tensions and resolve them (Museum of Yugoslavia) and overcome prestige and performance anxiety for the subsequent use-case scenario exercise (Jönköping Municipality Museum). In both museums, we also saw that some of the learnings from the scenario carried over to the subsequent design work.

The Quest for Authenticity

Running the scenarios in the context of an authentic design project worked *very* differently from play-testing. Participants indeed brought with them their own authenticity, but in more ways than we had expected. The function of the scenario, to contribute to an ongoing design process, and the fact that the participants were members of a design team, contributed greatly to the participants' ability to re-contextualize the experience and make it meaningful. We saw this through the way participants would reconnect to their ongoing project in unforeseen ways, such as when the Jönköping Municipality Museum team reflected on how little the different visitor groups took notice of each other. In both debriefs, the participants made numerous references to their own museum's exhibitions, work practices and personnel.

In general, we believe that the request for authenticity must be approached with some care. First, the domain experts will have high expectations on authenticity with respect to their area of expertise, something a non-expert scenario designer cannot provide. Second, a scenario can only be meaningfully situated in a domain where the theories already have a clear connection. If the goal of the design project is to build that connection, the scenario can't

provide it. Third, if sensitizing scenarios are made too authentic and too close to the domain, they become simulations. A simulation is sometimes a useful tool, but it forces participants into their professional capacities, leaving little room for emotional engagement and embodied exploration. Finally, role-playing a character will never give the experience of actually being that person. A too realistic scenario risks conveying the impression that this is possible.

Design Principles for Sensitizing Scenarios

Below, we discuss the most important design takeaways arising from our project.

Using characters as alibi. An important design decision was to use pre-written characters. This helps participants to engage in behaviors atypical for them, and also to alleviate some of the burden of acting in their professional capacity. We believe that in order to establish this alibi it is important to not give participants the opportunity to opt out of role-playing. This belief is partly supported by the observation that once we took this choice out, we did not meet with any reluctance to engage in role-play. This contrasts with previous uses of role-play for design (e.g. [11,14]) which places much stronger emphasis on authenticity.

Relevance. There must be a good fit between the design project and the chosen scenario, so that participants can reconnect the experience to their own design challenge. The fit, and the sense of authenticity, can be heightened by letting participants bring authentic elements into the scenario. It is also useful to design scenarios so that they can be easily adapted to the design project at hand.

The importance of a structured debrief. In order to connect to the underlying concepts and theories, the scenarios should include a highly structured and facilitator-led debrief. While there are several ways to structure a debrief, it should introduce, explain, and contextualize the theory in terms of the scenario. A debrief may for example start with a presentation held by the facilitator, followed by a more open discussion among the participants. We are considering to complement our scenarios with pre-recorded de-brief videos.

While the debrief is an essential part of the process, when run with a design team, we can expect the re-contextualization process to continue long after the debrief. Role-play experiences are at the same time personal and shared. Their meaning grows through reflection and discussion over an extended period after the experience [43]. Hence it is not necessary to close the discussion fully within the debrief – some questions and reflections can be left for later.

Heightened energy fostering group cohesion. The way the scenarios foster meaningful group cohesion and create heightened energy in the group is useful for follow-up exercises. However, we saw a need to act quickly to

capitalize on this, as the effect fades rapidly during the debrief reflection process.

When to use scenarios and when not to. Most likely, a design team will need to gain a shared understanding of many different things, including the available budget and the target technology. But for these, there are other methods that are more efficient and appropriate. Sensitizing scenarios are most useful when there is a need to understand complex and nuanced concepts and theories both intellectually and affectively, so that a shared experience can create a ground for this understanding through discussion and reflection.

CONCLUSION

We have proposed a way to use role-play as a tool for making concepts and theories from the social sciences, which often are both complex and vague, relevant for design. In the context of digital design for museum experiences, we explored the use of role-play scenarios, an emerging art form, as sensitizing tools for designer teams.

We reported on a design exploration of such sensitizing scenarios, and on two concluding runs of scenarios in ongoing design projects. We saw how the scenarios contributed to meaningful group cohesion, through an embodied experience related to concepts and theories that could contribute significantly towards resolving critical issues in the projects. We conclude by identifying key design components that make them work: the use of scripted roles to provide alibis, the relevance of the scenario to the project at hand, the importance of a structured debrief, and heightened energy fostering group cohesion.

The supplementary material to this article includes several of the scenarios discussed in this article. More scenarios can be found at www.gifting.digital.

Future Work

As stated in the method section, our exploration has not focused on successfully transferring any ‘correct’ understanding of the underlying theories. We do not believe that the participants ended up with the exact same understanding of the theories underlying the scenarios. Neither is this a critical goal per se – the critical success factor must be if the design solutions become more reflective of the theories at hand. To investigate this issue, further work is needed in which design projects working with the method are followed long-term and both their work processes and their results are critically examined.

The sensitizing scenario approach that has been sketched out in this paper can be further developed in multiple ways. One open question relates to how closely a scenario must lie to the domain at hand in order to become relevant in the design process. In our trials, the chosen scenarios were designed to draw some authenticity from context, and they were also modified to fit each museum. However, as

discussed above, several other factors also contributed, including the workshop context in which the scenario was run. We intend to explore this further by tapping into the rich resource of pre-existing and well-crafted scenarios from the art world that might be used as sensitizing scenarios.

Another very interesting development would be to develop a design kit for sensitizing scenarios, so that a project leader could design their own bespoke scenario. Creating a scenario can be done quickly with very limited resources. However, this does not mean that it is easy. The design challenge we experienced was to create scenarios that illustrated complex concepts and theories in a way that was, at the same time, focused enough to create a useful debrief discussion and re-connection, while still allowing for affective and bodily engagement while playing. The design team for a scenario must include people who know the theory well, but this is not enough – at least some artistic sensibility is needed in order to achieve the latter.

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