First Steps in Role Playing

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Abstract
This paper presents and evaluates examples from our work with role playing in design education. Rationales for role playing in design are: communication within the design process, the increase of technological complexity, the experience and empathy of designers, the tangibility of interaction, and attentiveness to social change. These rationales inform our inclusion of role playing techniques in design education. Our aim is that the students can and do incorporate the techniques into their own design activity. Here, we focus on three questions: 1. whether the techniques help students understand and question interaction, 2. whether the techniques help the students in ideation, and 3. whether the role playing exercises inspire students to use the techniques in their own work. We identify several ways in which the techniques can be effective for the students in their design work.

Keywords
Role playing, interaction design, design education, ideation

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.
**Introduction**

This paper presents and evaluates examples of role playing exercises in interaction design education. We have been using role playing in our practice and teaching since 2003, partly based on earlier efforts under different headings such as interaction relabeling [8], tinkering [10] or acting out. We see and use it as a way of accessing the experience of an interaction by enacting that interaction. Our aim with role playing in design is to ‘prototype’ interactions so that eventual product outcomes have better interactive qualities than they would without it. The idea that role playing has this potential, is based on a number of rationales that we have reviewed previously [2]. They are: communication within the design process [7, 6], the (bodily) experience and empathy of designers [5, 6, 7, 14], and the need to deal with an increase in technological complexity [19, 11]. We added two rationales: a shift towards tangible and embodied interaction, and attentiveness to social change [2]. A review by Macaulay et al [16] results in similar themes and stresses the usefulness of role playing in reacting to the shift towards tangible and embodied interaction. Our fifth rationale, that role playing can promote attentiveness to social change, is inspired by Krippendorff and Butter’s [15] argument that designers should engage with product use as a wealth of situated practices of living. Is a designer’s own life experience the limit in engaging with a wealth of situated practices of living, or can understanding be extended, for example through role playing? This is particularly salient with design students who may not yet have gathered a lot of life experience. The literature on Keith Johnstone’s ‘theatre sport’ [12] and Augusto Boal’s ‘forum theatre’ [1] shows that role playing is a potential tool to promote attentiveness to social change, as discussed previously [2]. The author previously evaluated how our own attempts lived up to the rationales identified [2]. We found that this hinged on the set-up of role playing exercises. They need to be planned with careful attention to the actor-audience relationship, the setting, sufficient preparation for acting, and props [4]. Having more or less grasped the elements of a successful set-up, we now investigate whether the students’ understanding of interaction can be extended through role playing. We focus particularly on three questions: 1. whether the techniques help students understand and question interaction, 2. whether the techniques help the students in ideation, and 3. whether the role playing exercises inspire students to use the techniques in their own work. A point that is not addressed in this paper but has been previously [4], is that the design studio setting can make it hard for students to think themselves ‘into’ the context of use. That is why we are pursuing the third question stated above. We should aim to enable the students to use the techniques themselves, in their context of research. The first two questions posed here will be explored by identifying salient issues emerging from the evaluation of the two workshops. The third question will be explored in a look back at both workshops in the light of the students’ subsequent design work. This is a single-author paper. However, nearly all of the activities described here were carried out in collaboration with various others, indicated by the use of 'we' throughout the paper.

**Examples of role playing techniques applied**

Most of the examples presented in this paper were part of the design project “Exploring Interactions” (E.I.). It is the first major design project for the Design for Interaction master students at the TU Delft. Although most of the students have experience with e.g. usability testing, most of them first engage in-depth with the idea
of interaction at this point. The E.I. project, which the author co-coordinates since 2006, offers students tools to focus and anticipate on interactions and experiences in designing. The project challenges students to design "everyday products (as) personal pathways that allow individuals to find and create their own experiences, (…) instead of operating a device to obtain a 'commodity' or function…". [10]. Each student pursues a self-chosen design goal in the project. The aim of the project is to design for a situation, and to start with interactions, not technology. This requires an in-depth empathic and reflective approach of the students. Outcomes of student work range from software, e.g. an application for a mobile phone, to entirely physical, e.g. a market stall whose design encourages certain interactions. The students develop their own personal approach to designing for interaction. We provide a general course framework, tutoring, and workshops that we think appropriate to their work.

The role playing exercises discussed here were run in various forms in the past few years. Their set-up was informed by the literature on role playing, and led by the rationales being given above. It was also supported by training the author took in theatre skills and "theatre sport", based on Johnstone [12]. The two types of role playing exercises presented here have different aims. The workshop "What is Interaction" (run 2006 and –7) aims to give students a first feel for the interactions probably going on in a particular context, even before they have done any research. The workshop "Story Walk" (run 2003, -4 and -6) aims to facilitate the students’ step from contextual user research (e.g. observations, interviews and cultural probes) to design ideation (see Figure 1).

The author monitored all the activities described from an action research perspective (as laid out by e.g. Robson [17]). The author was highly involved in planning the activities. They were observed and often recorded on video/foto. As E.I. is a project with six tutors, the other tutors’ assessment was drawn on. We also held evaluative discussions with the students directly after the workshops, and also interviewed some of them at intervals later to hear whether the techniques had further influenced their design process.

**Role play example 1: “What is interaction?”**

This workshop, which has been held three times, once at the TU Delft, once at the HbK Saar in Saarbrücken, and since again at the TU Delft, is intended to give students a first encounter with role playing as a technique to study and understand interaction. It is held right at the beginning of the project, on the first day, and takes one afternoon. The students have not done any contextual research at this point. In this workshop, ca. 20 students are split into a group of actors, a group of scenario writers, a group of things makers and a group of observers. Each of these groups of 4 to 6 students is given a written set of instructions about their task (Table 1), and then given an hour to practice these tasks. The instructions have varied slightly depending on the aims of the project. A basic set is shown in Table 1.
Actors

In a quiet corner; practice with objects, act slowly, exaggerate actions, react to what happens ...

Observers


Scenarists

Create an open-ended scenario. Who, relation, goal, where, what, mood, 3-4 mins. Action

Makers

Three+ things to act with. Clear, simple, robust, lightweight, size tennisball to small suitcase

Table 1. Written instructions to each of the four groups, excerpts from the instructions for one hour of practice

The students are given an hour's time to practice with the instructions, with help from the tutors. After an hour they all come together. The scenario writers instruct the actors about their task, while the things makers provide things to act with. The actors then improvise short scenes for the audience of the other three groups (Fig. 2). After the scenes, the observers lead a discussion on what can be seen.

Evaluation

The workshop has been held with two different objectives. One, fairly narrow: play scenes with various prototypes of mobile pill dispenser. Here, the students followed the role playing up with animated discussion on the effects of the prototypes, and on design changes they would make to them as a result. With this objective, the workshop seemed suited as an initial push towards prototype-led design. The topic focused the students' discussion on concrete design ideas and their effects. For example, the experience of having to search for a pill-box in a handbag in a public place lead to ideas for clip-on boxes or luminosity. They treated the props as prototypes for possible designs. These students didn't use role playing techniques much in the rest of their design projects, however, although they did other usability evaluations later. It seems that they regarded the workshop more as a tutor-led exercise than as a technique they could adopt themselves.

In another edition, the workshop had a more general objective. A general situation was given ("a hat shop", "mountaineering"..., Fig. 2) and a set of unspecifed props to be made for that situation. There was a general topic for the workshop, such as "trade" or "power". The students were to explore how the topic is expressed in interactions with people and things. Following the acting, the students held a discussion in which themes about the first-hand experience of interacting emerged. In the two editions of the workshop that had this objective, the post-workshop discussion tended to revolve around the effects that objects have in interactions. The students did not treat the props as design prototypes, and did not discuss any improvements to be made to them. The workshop with this objective is more suited to exploring the structure of interaction generally. In the role playing, the students immediately see and experience how their prototypes contribute to or detract from interactions.

A practical difference between the two versions of this workshop is that with a more concrete objective, it worked well to let the four groups work separately in the preparatory. In the version with a broader objective, this didn't work out well the first time it was run. The second time, all groups were openly encouraged to confer in their preparatory hour. This gave them more ease of mind in setting up the improvisation scene.

The author found that in both workshops, the students set about the tasks and worked almost self-sufficiently. In the preparatory hour, tutors can take the time for coaching of each group, so that the students come to the playing with some confidence about their role.

It seems that if the objective is broader, students tend to focus more on interaction itself, and seek to understand and question it. If the objective is narrower, they focus more directly on ideation.

**Role play example 2: the Story Walk**
The Story Walk, first run in 2003, is a workshop of one afternoon that is also part of the E.I. project. It is run for 15-25 students in a design studio, at the point when their work shifts in emphasis from contextual user research to design ideation (2\textsuperscript{nd} to 3\textsuperscript{rd} phase in Fig. 1). The intention is that through role playing, the students can ‘experience prototype’ \[6\] the behaviour, interactions and products that they want to insert into a given setting. The basic set-up of the workshop is that students work in groups of 4-6. They start from a particular situation. They set a scene within that situation, define characters and their relations, improvise with the elements, then settle on a story involving trouble and a happy ending, act it out and visualize it using photoboarding \[18\]. The photoboarding technique involves capturing an interaction with a digital camera, printing these photos vaguely in greyscale using a fast printer and laying them down in a storyboard collage (Fig. 4). Capturing real people and actions this way enables the students to produce rich visualisations very efficiently \[18, 4\].

**Evaluation**

**Situations** In the first two editions, the students were asked to take a situation from their own prior contextual research to improvise with. In the third edition, this was replaced by a generic situation that was set for them. This was because the creation of the story from data was so much work that the students had no space left for improvisation and experiment. The students were mainly focused on dramatizing and presenting their story, rather than on the experience of being in that story, or on experimenting with unexpected interactions arising from the situation. Our conclusion is that the basic situation needs to be very simple. And there probably needs to be more time to improvise than a short afternoon. A mobile pill box dispenser may be sufficiently narrowed down and concrete to explore in a short time, but a broad design goal such as “to stimulate communication and interaction among people interested in volunteering” is not.

Throughout the editions, the instruction on the acting became ever more simplified into an initial scene, characters and a potential for conflict. In the last edition of the workshop, a setting was given to and acted out by each of a team of students, for example: An illegal drugs deal, or The vegetable market. The students were also given clues for creating a happy ending: “[protagonist] was able to ... by/through ...-[protagonist] experienced
... by/through ... - [protagonist] came out of this without
... by/through ...

In the post-workshop discussions, it emerged that some students were able to transfer experiences from the role playing in these generic situations to their own design goal. For example, one student commented that she found a lot of commonalities in the secrecy and negotiation of the drugs deal (Fig. 3) to her own chosen design goal of persuading citizens to engage in volunteer work (Fig. 5). Because the students had already done user research at this point, it was a resource to them in making such transfers.

Like What is Interaction, the Storywalk is useful in focusing on interaction. But the students do not really use it for ideation, as their comments show. We think that this is because there is too much cognitive load in making, playing and evaluating within a short time. This year, we have taken a break from this workshop for reconsideration of its set-up.

**Role playing in the students’ own work**

The students seem to adopt role playing more easily as an evaluation technique than as an ideation technique. Some students, though not all, use role playing for this. For example, in 2006, Eun-Ji Cho who (coincidentally) developed a new kind of market stall, made a full size model of it, tested it with fellow-students in the studio, and later also in a shopping centre with real customers. She put herself in the role of the market seller. Leticia Baiao (also 2006) made many small iterations during her project, making prototypes and role playing their use within the context of everyday life (Fig. 5).

In 2007, the Storywalk workshop was not held. Still, some students who had taken part in What is Interaction took up role playing techniques and used them self-sufficiently outside of the workshop setting. It seems that the What is Interaction workshop is sufficient for an initial transferability of the technique.
A conclusion is that we should aim not to overload the techniques, making them seem complex and highly structured. Rather, we should work towards enabling the students to use elements of the techniques flexibly.

![Image of workshop activities and project designs]

**Conclusions and further work**

Through action research including tutor evaluations and discussions with students, we have arrived at some insights for facilitating students’ first steps with role playing. We have found that role playing techniques can be used to understand and question interaction, and for ideation. But the set-up of the workshops needs to be carefully geared towards each aim. Students need a framework within which to take first steps in role playing. The “What is Interaction” workshops have developed such a framework for them by including preparation and by assigning tasks. This (it seems) already serves as a basis for students to employ role playing in their own work. We want to work more towards offering flexible, ‘small’ techniques, in the hope that this will encourage such transfer even more.

The Storywalk workshop tries to do too much in a very short time. In its present form, it does not contribute a great deal towards understanding or ideation, although it can give useful transfers of insights to the students for their work. The Storywalk workshop needs more refinement. Perhaps simply more time, but perhaps the techniques of Role playing and Photoboarding need to be more clearly distinguished so that one does not cancel out the learning opportunities of the other.

The importance of props and visual materials has often been emphasized previously. In our exercises, we found that props have different roles: from prototypes that can be developed further, to aids in understanding more general issues in a particular interaction situation. It would be interesting to look in a more structured way at the different roles of props in role playing.

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