

PROTO-P EXPERIMENTS: ENTERING A COMMUNITY OF CIRCUS PRACTITIONERS

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ABSTRACT

This paper discusses early experiments in an exploration of how interactive technologies can be designed for circus art performances. The experiments were carried out in environments for training and rehearsal of circus skills and technique. The approach was to introduce circus artists in various disciplines to motion sensors and interactive visualizations. The intention was to create impulses and ideas that later can be explored and shaped in a co-creational process with circus performers.

The outcome of these experiments is discussed in relation to the notion of communities of practice, and the concepts of infrastructuring and proto-performance (proto-p). In conclusion, the experiments became a way to enter into a community of circus practitioners. This led to new design openings, which can be developed with sensitivity to circus aesthetics.

INTRODUCTION

This paper is a part of a larger endeavour as a design-researcher to explore how interactive technologies can be designed for circus art performances. This means to experiment with interactive audio-visual systems together with the physicality and movement material of the circus performers. This to imagine and sketch for artistic development in contemporary circus acts. In

contrast to the traditional circus, where the techniques were handed down from generation to generation, contemporary circus has become an interdisciplinary, experimental practice. In a circus act, the aerialist or the acrobat becomes characters in the intersection between choreography and dramaturgy. The circus artist tells a story with a rich physical vocabulary and props. A performance is structured similar to a dance or theater performance, held together in a narrative or abstract theme (Purovaara 2012). This allows for new experimental ways of working with interactive materials in several dimensions of a circus act.

This is my first experiment involving circus artists in my work. Even though contemporary circus art can be described as an open and explorative art form¹, the community of circus artists still seemed closed and far away from me. Recently, I started to practice acroyoga², a combination of couple acrobatics, yoga and Thai massage. My acroyoga teachers Nina&Boris have a diverse background in martial arts, yoga and gymnastics, dance and last but not least; circus. They sometimes create performances and have connections with other circus artists all over the world. After acroyoga practice, sipping on a warm cup of tea in the studio, I got an impulse to show them videos on my smartphone, of applications that can be used with motion sensors. This triggered a long conversation about circus and technology in performing arts.

In this paper, I will start by introducing the following concepts: communities of practice, infrastructuring, proto-performance (proto-P). I will then explain the application and describe two exploratory experiments conducted together with circus artists in various disciplines. Finally, I will discuss the implications of these experiments to interaction design and circus art.

CIRCUS AS COMMUNITIES OF PRACTICE

My focus is the contemporary circus, and this is what I refer to as “circus” in this paper. Circus has reached academic status in Sweden, and professionals train in circus schools at university level. Meanwhile, circus training is becoming a popular movement organized by

enthusiastic circus teachers all over the country (Björfors & Lind, 2009). Therefore, I believe it is relevant to talk about these knowledge networks as communities of practice, generating and sharing knowledge about contemporary circus.

Communities of practice are networks of people sharing interests, passions and concerns about the same topic (Wenger et al 2002:4f). We are all members of multiple communities of practice, relating to diverse domains in our lives, through the activities and identifications we share with others. These networks are typically informal, and the knowledge they harbour is often tacit (ibid). Therefore, it is valuable to interact within the community, on an ongoing basis, to share knowledge, insights and advice. Ways of sharing information are established and personal relationships develop as a community of practice matures (ibid). In my view, there is clearly a community of practice, involving people who train, perform and share knowledge about circus. This is what I call a community of circus practitioners, which is crucial for me to interact with to inform a design process with the intention of designing interactive materials for circus art. *Infrastructuring* (Björgvinsson et al 2010:3) within interaction design, refers to establishing long-term relationships and conditions for co-creation and collaboration. Infrastructuring is broader than a single design project, referring to the process of ongoing interaction between stakeholders. In this perspective, design is a socio-material practice, intertwining practices and materials (Eriksen 2012). This means, I consider my material everything from communication with stakeholders, motion sensors, code to physical vocabulary and circus skills.

INFRASTRUCTURING AND PROTO-P

Circus is an innovative art form in Sweden and Europe today (Muukkonen 2008). Innovations typically occur through collaboration between different stakeholders. This goes for technological and social innovation, and often for artistic development. My first intention with these experiments was to enter a community of circus practitioners, to infrastructure and inform a potentially longer co-design process. My second intention was to explore the potentials of such an application, as an impulse to start designing for circus performance, rather than treating this as a solution. In addition, I wanted to know how I as an interaction designer could meet the circus aesthetic criteria.

The two experiments was conducted at an acroyoga party and at circus practice at Karavan, Malmö's own circus space. Richard Schechner defines the first phases in a process leading up to a performance as *proto-performance* (proto-P) (Schechner 2006:226). A performance can have many starting points and impulses that lead up to the "final" performance. Proto-P is hidden from the audience, and it can be a group of people planning a performance, improvising interesting movements, or scribbling down ideas as written notes

(ibid). With a broader perspective on design, I view my experiments more of a proto-p than a prototype. There has been significant work done in contemporary dance together with motion sensors and interactive visualizations. In performances such as *Body Navigation* and *Horizontal Vertigo* by Recoll Performance Group, *Surfacing* by Troika Ranch and the research project *DanceDraw*, real-time motion capturing software is combined with interactive visualization. Inspired by this work I chose to bring an application for Kinect, originally written by a developer named Amnon Owed³. It detects the body displays it as a two dimensional silhouette, a polygon blob. Shapes are falling from the top of the screen, which you can catch in polygon world. This made me associate with the juggler's balls and props. I brought this particular application because I thought it was poetic. Most of the time I projected the screen on a wall. I did so to get an idea about how it would look configured with a live performing circus artist.

PROTO-P: BODYWORK AND DESSERT

Acroyoga is as much social and community building practice as physical practice. Practitioners have to communicate and trust each other when practicing together. To cultivate this, Nina and Boris invited the class to bodywork and dessert in their home for Halloween. Halloween, a holiday that in itself is highly performative, with costumes and rituals. At their home, we had space to eat and talk, and practice acroyoga on and thick rubber mats over the floor.



Figure 1: Boris lies on floor and holds Nina on his feet. Nina catches the shapes in the space between her legs and arms.

I installed the projector in one of their rooms, on top of a bunk bed, taped to a stack of banana boxes. Projecting on the opposite wall, there was space to play and do acrobatics in front of the motion sensor. It was running for four hours and people could walk in and out of the room and play with it as much as they desired.

In couple acrobatics and acroyoga alike, you work together as the base and the flyer. The base lies on its back or stands up, and lifts the flyer from the ground with its feet and hands. The flyer can spin, hover and do handstands in the balance of the base's hands. Nina and Boris did some acrobatics in front of the sensor. We immediately saw that the area the Kinect was detecting was not big enough for two people, and with the space we had, we could only see either the base or the flyer.

Working with the conditions we had, we found a few interesting movements that might be interesting for future performance. One of them when Boris was lying on the floor and Nina sat on his feet, catching the shapes as they fell down in the space between her legs and arms. The roughness of the silhouette made it into more than a reflection of her body and she became this blob-like figure, which made her create a connection between herself and the objects falling down as there was gravity (Figure 2).

I asked them explicitly what they thought from an acrobat's perspective I got comments and ideas on how the application could be developed. Couple acrobats communicate a story with the help of music, props, scenography and costumes. The potential they saw in working with Kinect and artistically with gestural interfaces, is to create interactive environments and props. This could for example be an animated flower the acrobat can pick, to create a motivation for its movements. Boris also got suggestions around how to modify and customize the graphics.

Can the shapes bounce, so they can be juggled with?

Can they come from the side, like a wind?

Could there be a bigger scope where both acrobats are detected?

Could it be an animated object, something that you can "hold"?

Can you get special colours to illustrate moods and emotions?

There was one concern that was clear however. Couple acrobats spend a long time perfecting their technique and I also got the impression from Boris, that it is important for him to keep the focus on the technique and the possibilities to enhance or accentuate it. The projection made us focus more on the application itself rather than on the performers. The way it was configured, the performers would need to look at it themselves to interact with the visuals. If this was for a stage, the placement of the projection and the sensor would need to be reconfigured, in relation to the performer.

As I hoped, the application created a proto-p moment, to share some knowledge and contacts. Nina gave me contacts to Karavan and thought this would be intriguing to test with an aerialist. This led me to my second experiment at the local circus space in the city.

PROTO-P: KARAVAN AND CIRKUS SAGA

Karavan is a collaborative circus space in Malmö. This is a place to workshop, practice and rehearse (Figure 2). I came on a Friday afternoon when circus artists were practicing various skills: juggling, trapeze and acrobatics. I was invited to come and set up the Kinect application in a corner of the rehearsal hall.

This time, I had tweaked the code a little bit, and modified the sizes of the shapes, the number of shapes and the gravity. I was doing that "live" and customizing it to try different variations. I also adjusted parameters to give the shapes a more bouncy feel. This time, the experimentation became more technical, and the challenges of working with fast movements and several bodies became obvious. Like Boris, they wanted the application to support and amplify their movements, technique and props.



Figure 2: Circus practice at Karavan.

Thanks to the fidelity of working with Kinect, I managed to try it out with aerialists working with suspensions and jugglers trying different props. I still had the same intention, to learn more about circus aesthetics and introduce them to something that might be interesting to use as part of their performance.



Figure 3: Amanda working with rope, making a split detected by the application.

Rope is a two hemp ropes with loops in both ends. A group of circus artists practicing rope that day were keen to test the application. (Figure 3). They did large movements and fast spinning. After trying it out they were concerned around how it displayed the body and followed their movements. If you make large movements, making a split suspended from the floor, the application do not support this and the silhouette disappeared from time to time. I thought that was poetic, but I got the impression they wanted their bodies to be seen and have more accurate detection of their movements.

DISCUSSION

To summarize, this paper has introduced two early experiments with introducing Kinect to participants within the circus community in Malmö. These were made with an application in Processing, to start to

explore the possibilities of working in the intersection of interaction design and circus art. With a broad perspective on design practices and materials, Nina&Boris became the entry point to this community of practice. Entering a community of circus practitioners and learning more about the physical vocabulary and aesthetics in circus art could in return both inform the domain of aesthetics of interaction. Aesthetic concerns in interaction design, aside how something feels or looks, is about how well the interaction flows, which allows the interaction design work with to the whole dynamic context (Fällman 2008). The outcome of such an explorative process involving circus artists would potentially construct artifacts and interactive systems that could be used for play, improvisation and performance.

These experiments became a way to infrastructure for a longer design process. This means that the design-researcher becomes a guest and participant, earning her role with the help of the application. I believe that the application became a vehicle to be introduced as an interaction designer into a community of circus practitioners. Locating my work in the domain of circus art, the aesthetic and artistic development as the desired outcome of the process, it made sense to situate early experiments in places and situation that supports impulses and improvisation for performance (proto-p). Places that are established already, outside of the design studio.

There is a risk that bringing a working application might be perceived as the final solution and cannot be negotiated. Nevertheless, treating this a starting point, working in a community of circus practitioners, I wanted to do my experiments in a way that give them the physical experience of having interacted with a motion sensor like Kinect. With the insights from the circus artists, these experiments led to openings to design interactive applications that would accentuate aerialists' movements, augment couple acrobats and jugglers' movements and props. The application became a way for us to imagine and sketch in a way that we would not have been merely on a conceptual level. However, given the large space the performers move within, the Kinect sensor cannot handle two acrobats on each other, or large vertical movements. This application is design for play, and turns the performer looking towards the projection and ultimately, away from a potential audience. Furthermore, considering the amount of work that already has been done in the domain of contemporary dance with interactive visualizations, there might also be other interactive technologies and configurations that would be more interesting to explore artistically, that could expand and resonate with specificities of circus art.

CONCLUSION

These two experiments could be viewed as a proto-performance (proto-p), by bringing the application to environments for training, play and rehearsal. The

application served as a vehicle to be introduced to this community of circus practitioners. The application became a way for us to imagine and sketch in a way that we would not have been merely on a conceptual level. The experiments became a way to generate knowledge about disciplines in contemporary circus. The experiments led to new design openings for interactive technologies which can be developed further with circus performers.

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ENDNOTES

¹ Video – What is Circus, The Space
<http://thespace.org/items/e0000rxs?t=xgxb>

² To learn more about Acroyoga, visit
<http://www.acrobhakti.com/>

³ See tutorial on
www.creativeapplications.net/processing/kinect-physics-tutorial-for-processing/

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