

ORANGUTAN PLAY ON AND BEYOND A TOUCHSCREEN

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Abstract

Non-humans in captivity require enrichment, which often takes the form of play. Over the course of past decades, various technologies have been introduced in zoos around the world to support captive animals' wellbeing. With a critical design / player ethnography approach, TOUCH project brings computer technologies to orangutans living at the Tasikoki Wildlife Rescue Centre in Indonesia. This paper discusses the role of play in the lives of two young male orangutans, Bento and Is, and explores how play can serve as a basis for cross-species communication between humans and orangutans.

Keywords: ACI, games, enrichment, touch technologies, non-human animals, game design

Introduction

This paper addresses the game design research project TOUCH, specifically its aim to facilitate meaningful interactions between humans and orangutans. Overall, TOUCH strives to 1) provide enrichment for captive orangutans who cannot be reintroduced to their natural environment, 2) raise awareness around environmental and ethical issues related to the wellbeing of orangutans as endangered species, and 3) create new possibilities for cross-species communication through game design. The current primary location for the project is Tasikoki Wildlife Rescue Centre, North Sulawesi, Indonesia. In the project, custom-made,

rugged touch interfaces are played by, and with, captive orangutans as part of their enrichment program, under close human supervision. Various forms of interactive and non-interactive content have been provided, in order to test and understand orangutan preferences in the use of such technologies; these have included games, videos, images, drawing software, music applications and digital cameras.

Due to the limited resources and conditions available for implementing technically and socially demanding research projects in a developing country, the work has so far been conducted in an ad hoc nature. Emerging from this specific condition, the purpose of this paper is to discuss how real personal experiences with orangutans can serve as a basis for the third goal of the project - that is, how firsthand encounters between humans and orangutans can help in the design of their technologically mediated counterparts. Without going into the details of game design or game testing, the paper attempts, through a perspective of critical design practised alongside ethnographic player research, to establish an understanding of this unusual game player prior to any elaborate design decisions or prototyping.

To provide background information for the entire project, this paper considers two Bornean orangutans, Bento and Is, living in captivity at the Tasikoki Wildlife Rescue Centre. They were introduced to me by project collaborators Dr Willie Smits, Tasikoki Program Manager Simon Purser, and Orangutan

Keeper Yan Menda. The two male orangutans of around ten years old, whom I now consider my friends, were rescued from the illegal animal trade and brought to the rescue centre as young orphans. Their life at the rescue centre is possible through donations to the Masarang Foundation, under which Tasikoki belongs, and their care is largely in the hands of volunteers who come to work at the centre from all around the world, for two weeks to two months at a time.

However, this paper is by no means about Bornean orangutans, or captive animals in general; it is an account of two specific individuals, participating in an experimental study that explores the use of digital game technologies with primates. What all animals in captivity share, however, is an abundance of time combined with limited sources of cognitive and physical stimulation.

Digital technologies, especially game-like applications, have been proposed to help enrich the lives of animals in captivity [1], [2]. Recently various studies, exploring digital enrichment for primates in particular, have been published - for example [3], [4], [5], [6]. For those studying digital games, it may come as an illustrative example that when studies of human play were focused on the negative effects of videogame violence in the 1970s, researchers looking at primate play found possibilities for the opposite in digital games. For example, Markowich [7] demonstrated how the introduction of a simple speed game reduced friction and tension among mandrills at Washington Park Zoo.

Continuum of Play

So, this story starts with boredom; and boredom here is a result of being held in captivity, of being deprived of the natural challenges and stimuli of animal life. For orangutans, captivity means freedom from the duties of the forest - from finding food, staying safe, building nests, and socialising with other animals. The meaning of play in their lives also differs significantly between what we call the natural environment and captivity; for in natural settings, animals only play when they are sufficiently fed, safe, and without immediate threat [8]. Play in nature is, therefore, a rare luxury for most, whilst in captivity it is something animals do most of the time, to 'kill time'; we can thus establish combatting boredom (and all kinds of psychological problems that result from it) as the primary motivator behind animal play in captivity.



Fig. 1. Is, a Bornean orangutan, examines a Panasonic tablet computer while in a quarantine cage (image © Hanna Wirman)

Play, moreover, has been adopted as a glue that has the potential to bring humans and non-humans closer together. As Aarseth asserts, “you can’t tell your dog a story, but the two of you can play together” [9]; play is seen as an equalising plane that can help cross-species communication and bring us together [10], [11]. It existed before culture and language [12], [13], and is arguably shared between thousands of species.

Given that technology, then, separates human from non-human play, practical implementation of technologically-enhanced gameplay for and/or with other species does not fit with the perceived easiness of playing with another species. Elsewhere I have discussed how orangutans play ‘wrong’ in relation to the assumptions that a human designer typically bases on earlier practice with fellow humans [14]. Games with simple puzzle-type tasks (touching items to make them disappear and move, playing sounds, drawing, and selection based on memory), and digitally created colour representations of everyday objects, such as fruits and toys, have been approached with great curiosity, but incoherence as regards interaction, by orangutan players. Their primary focus, to the extent I can understand, has so far been on the physical features of touch technologies, on the supporting technologies, and on the human supervisors and play-enablers.

Earlier I have introduced surprising uses of touchscreens, and proposed that what appears unusual in the apes’ behaviour with the screens can aid designers’ understanding of their implicit design decisions. Design for a very different user – for the genuine ‘Other’ – can therefore be seen as useful in designers’ self-reflection and professional development in general; using the screen with the tongue, exploring supporting technologies, scattered gameplay sessions, and interest in hardware over software applications are all examples of such. These alternative approaches may then guide future interface and game design, for instance, and drive innovation for both humans and non-humans.

Furthermore, when designing for human play, it is relatively easy to tell a participant when they are supposed to ‘play’ and ‘have fun’; human players can then try to adopt a specific attitude, and in general adjust their expectations and behaviour accordingly. However, this is certainly not the case with orangutans; this very meta-communicative aspect of play poses a challenge for cross-species communication and play.

Animals have play-initiating signals which are species-specific, and which are not straightforward to adopt. A computer does not automatically signify play, or suggest that there is play about to happen, for an orangutan. In short, the kind of focussed and systematic one-finger touchscreen play that we are used to seeing in humans is not likely to take place in orangutans.

Digital game play for Is and Bento is, furthermore, on a continuum of various technologically enhanced, as well as non-digital, play practices. Play on/with the screen blends seamlessly into play with another orangutan, with the cage gates, with insects, water, food, or with other available items and structures [15], [16]. Among these forms of play appears



Fig. 2. Bento invites play with an Ethernet cable he has managed to ‘steal’ (image © Hanna Wirman)

a set of practices that involve nearby humans.

It is on this play with humans that I will focus for the remainder of this paper. In this project, moments that mark the transition of an ape’s interest from technology to human have served as a basis for approaching the potential for cross-species communication. While games designed to be played on the touchscreen have so far apparently failed to establish shortcuts to cross-species interaction (although it is possible that further testing and development could still lead to such shortcuts), some forms of human-orangutan interaction have evolved in the shadows of my primary focus, and only recently caught my attention as proto-forms of cross-species communication. While these practices demonstrate straightforward interaction between species, they have the power to

suggest such play in terms of negotiation over rules that are based on different capacities and competencies.

Playing with the ‘Other’

Without the benefit of inserting video material here, a short introduction must suffice. The mentioned cross-species practices are evident in my, and my project collaborators’, physical interactions with the orangutans between sessions of touchscreen play. These include means developed to retrieve supporting technologies, such as Ethernet cables, from the apes; attempts to open and close cage doors; and play with hands.

Typically various forms of physical engagement, sometimes struggle, take place as the humans attempt to facilitate

the smooth operation of touchscreens.

For instance, the installation of IP cameras turned into a multi-hour performance consisting of play with cables, poking sticks, pulling clothes, and spitting.

Playing with hands, meanwhile, is a common practice that evolves from the apes’ interest in human skin, particularly hands, usually the only body parts they can reach. I have found such play a relaxing interlude between sometimes overwhelming and chaotic sessions of touchscreen use. More importantly, hand play has proven significant in developing friendship and trust with Bento and Is.

In my reading, such practices are generally labelled as play. In these moments, the new physical and cognitive engagement appears similar to a tug-of-war, with the exception that both parties seem highly mindful of avoiding acting in

ways that would directly and willingly hurt the other. It is, in fact, characteristic of such moments to be about trying out the limits of the Other; they are precisely about establishing the Other in relation to oneself. On both sides, it seems that the individual is not, for instance, trying to pull back the cable as forcefully as possible, but respects the physical capabilities of the other. On average orangutans are several times as strong as humans, yet they have never hurt me in such 'play'. An unexpected form of meta-communication somehow appears, without words or conscious attempts to establish such.

Following Bekoff and Pierce, we could consider whether it may indeed turn out that "play is a unique category of behaviour that tolerates asymmetries more than other categories of social behaviour" [17]. What these cases highlight is the way in which play allows beings of different kinds to come together despite their differences and asymmetry. Not only are the physical strength of the orangutans, or the tools available to the humans, reduced through self-handicapping; an (from the human's point of view) uncomfortably unequal power distribution between the caged animal and the relatively 'free' human is rendered meaningless in the moment of play, thus establishing new boundaries that exclude the power relations inherent in the usual interactions between the two. Both parties can forget themselves in play, which allows not only a physical but also an (albeit only momentary) ethical concession for the individuals involved. From the point of view of human-orangutan communication, this is an enormous step towards cross-species play and its digital forms.

Although, in relation to animal play, meta-communication is usually seen as something that takes place before play can begin, the introduced cross-species play allows us to explore meta-communication as serving to establish the very rules of play, both during and throughout play. It is about learning the limits, knowing the boundaries, and getting to know what is 'accepted' in play. Meta-communication is hence not a one-off initiation, after which rules are set and play can start; it is, rather, a continuous process and an integral part of play itself.

What we may consider as game design for such cross-species communication, then, is a process of facilitating exchange and exploration between species. The

designer may consider that while play does indeed help overcome asymmetries, play itself may take the form of establishing and understanding, in both directions, what those asymmetries are. After all, "for all of its carefree nature, play turns out to have significant implications for being nice and for doing what's right [...] play is one of nature's most effective social lubricants" [18].

Moreover, the game designer's role involves close study of the existing patterns of cross-species interaction and communication, and recognition of the ways in which these can be enhanced through use of technologies, and developed to afford communication over physical distance.

Lastly, a designer must consider the social, cultural, cognitive and physical limitations of cross-species communication in a rescue centre or zoo setting, in order to prepare for ethically sound and sustainable practices.

Conclusions

During the past five years, game studies have come to accept and adopt an approach of 'situated play' that acknowledges a historically, culturally, geographically, physically and socially constructed gameplay context, and its implications with respect to gameplay interests, experiences and importances. This has resulted largely from games research becoming more informed by cultural studies.

In this paper and in earlier presentations, I have demonstrated how orangutan play (and, by extension, all animal, including human, play) is not only situated in a specific context, but should also be considered in relation to other forms (both on- and off-screen) of play that take place before, after and parallel to it. Cross-species interaction between humans and orangutans has emerged throughout the TOUCH project, although not where intended.

This paper has proposed that play has the potential to facilitate communication and meaningful engagement between species, as it helps in overcoming asymmetries and establishing the particularity of the Other in relation to one's own standpoint and being, and in accepting the Other in their difference [19]. I consider it to be my role, as a designer for orangutan-human cross-species play, to pay attention to the subtle moments of physical interaction that mark existing communication between the species, and

to build technologies to further enhance these practices. Cable pulling, playing with hands, biting, poking, and play with water or food will serve as points of departure for my future co-design research.

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