Designing for Multi-species Participation at the Domestic Boundary

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Abstract

In this position paper, I present work in progress on developing design tactics to explore technologically mediated relations between humans and non-humans. The 'window project' engages the domestic window as a site for design to explore mundane human and non-human monitoring practices. It aims to offer an alternative to technocentric perspectives on making relations at the boundary between private and public, home and city street, towards a more reciprocal and equitable relationality.

Author Keywords

Authors' choice; of terms; separated; by semicolons; include commas, within terms only; required.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous;

Introduction

Over recent years several cities in the Netherlands have begun engaging processes of 'permissionless innovation' towards building smart cities [4]. In so called 'living labs' municipalities collaborate with industry to equip public streets with surveillance devices, including Wi-Fi trackers, cameras and microphones, that alert authorities of suspicious

behaviours without the consent or awareness of those being monitored. The rationale is that by making policing more efficient and less visible cities will become safer, and ultimately more liveable. A similar line of reasoning underpins the design of smart home products where networked sensing and software is deployed to monitor human and non-human domestic activities, including those of infants, pets, and visitors, so as to make home life more efficient, comfortable or safer, when present or at a distance.

The routine monitoring and profiling of everyday activities has raised concerns about the privacy and agency of citizens. However, it also implicates more vulnerable 'agents' typically considered to be outside the scope of legal consent, such as children or animals. At the same time, the success of AI has raised more fundamental questions about whether intelligent systems should be given the status of legal personhood [2] while humans have revealed themselves to be geological agents [1]. Posthumanist perspectives offer a useful lens for rendering visible the notion that we are not separate from either technology or nature but mutually constituted, and that the boundaries between what is human and non-human are hardly clear cut but better understood as an interdependent mesh of relations [5].

In this light, the technocentric approach to saving or protecting 'the environment' is only a subset of possible configurations of a much broader set of existing human/non-human safe keeping practices. Taking monitoring as an example, it is routinely embedded in domestic and urban life, such as when residents keep their 'eyes on the street' [3] or strollers engage in 'people watching'. Neither is it limited to humans, but

practiced among urban and domestic animals alike (looking for prey, staying safe, entertained, etc.). As designers, engaging with shared multi-species practices we may shift our focus from the 'whos' of participation towards the 'hows', i.e. the practical accomplishment of 'taking part' with a view to reconfiguring the ways in which some ways of doing things may marginalize others.

In the following, I present an early sketch of a design space towards developing design tactics that may foster more equitable arrangements of human and non-human participation. Rather than putting technology to work as a human assistant in the safeguarding of 'the environment', I explore how humans, technology and animals may collaborate in making space 'safe'.

Making and Unmaking Boundaries

In this project, I take everyday monitoring practices at the boundary of domestic and urban space as a starting point. Using the *domestic window* as a site for design the project explores mundane notions of seeing and being seen to interrogate possibilities for reciprocity in technologically mediated relations among humans and nonhumans. Specifically, the aim is to develop a series of design tactics that enable more equitable participation across urban and domestic space towards fostering liminal spaces of cohabitation.

The Domestic Window
The domestic window, i.e. windows integrated in the façade of residential housing, comes in many shapes, sizes and orientations, some facing a street, backspace side alley, or the sky. The domestic window is not simply a sheet of glass in a frame, but commonly hosts a number of technologies that dynamically contribute to

Figure 1: Cat monitoring multi-species activities at the threshold of her home: (a) watching a neighbourhood cat in the back garden, (b) cat and pigeon watching each other through the window, and (c) encounter with a neighbourhood cat entering through an open front door.

making and unmaking the boundary between inside and outside, home and street, private and public. These may include coverings, such as curtains or blinds, thermometers, decorations, air vents, burglar alarms, etc. Both humans and animals draw on and are affected by these technologies in different ways.

The Cat
A domestic cat inhabits the space of a home and its periphery, moving between the ecology of the home and the ecology of the street. Neither fully domesticated nor wild, a cat is seen as a companion animal by some species and a predator by others.

Sitting in the window, a cat is able to maintain an awareness of the spaces inside and outside the house that she cohabits with humans, fellow cats and other species of interest (birds, plants, insects, cars, etc.). In addition to monitoring the space, she relies on a range of humans and non-humans to help her navigate this space safely: humans open and close doors for her, parking cars offer hiding places, pavements pick up her scent, etc.

Conversely, a cat in the street may monitor windows to look for opportunities to be fed, may trigger burglar alarms, or enter homes through the cat flap.

The Human
Humans may share an interest in watching the street if possibly guided by a different set of priorities and motivations. Humans may also have configured inside and outside space to accommodate both the cat's and their own monitoring practices, such as placing a plant

next to the front door, keeping a sofa by the window or leaving a gap in the curtains for the cat to slip through.

Designing Multi-species Participation

Within the context of the Anthropocene cats certainly don't constitute an endangered species. However, they belong to a 'marginalized social group' [5] of urban dwellers that lack spaces that are safe for them to roam and inhabit.

Where sensing and tracking technologies have been deployed to 'protect' citizens or consumers, technology may be reconceived as a participant or mediator in the safekeeping practices of humans and animals. The challenge will be to develop design tactics that are sensitive to and augment not only a cat's existing repertoire of safekeeping tactics, but also explore how they may benefit marginalized human and non human urban dwellers more broadly.

Author Bio

Annika Hupfeld is an assistant professor in Industrial Design at Eindhoven University of Technology. Her research interest is in critically exploring the role of design in making human/non-human relations and the sociomaterial practices of cohabitation across urban and domestic space. Her background is in product/environment design and human-computer interaction.

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