
The Internet of Kant: Respect as a Lens for IoT Design

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ABSTRACT

The ethical challenges posed by smart home devices are numerous and widely reported in the CHI literature, but these contributions often identify norms and other factors that are highly context specific. In this position paper, I argue for the use of respect as a philosophical lens with which multifarious ethical concerns can be untangled across devices. After briefly defining directive, obstacle, recognition, and care respect in the context of smart devices, I demonstrate how these concepts can be used to navigate two specific problem points in the smart home.

INTRODUCTION

The widespread introduction of smart devices into the home offers users greatly extended functionality, easier access to information, and the convenience of automation. But at the same time, there are very real ethical concerns about the long term effects of these devices on privacy, autonomy, transparency, and social order once they are integrated into everyday life. Previous contributions have successfully tackled these problems on a per-device scale, but lack a more general approach for navigating what constitutes ethically acceptable behaviour for IoT devices in the home.

Turning to the philosophical literature, we see that *respect* is often used as a lens for evaluating behaviour in interpersonal relationships. Respect is a natural and integral part of human relationships, an essential skill in social cognition, and closely tied to other important ways people relate to one another, including trustworthiness, interest, care, and affection. Thinking about how respect is implicated in human relationships can offer us a new perspective on how we can evaluate devices in the home. This position paper briefly sets out four different types of respect that are particularly appropriate to smart devices, and discusses how they can help us navigate two of the ‘wicked problems’ presented by the smart home environment.

PRIOR WORK

Our previous work into respect has explored how the different types and sub-types of respect relate to high technology, focusing on *directive* and *obstacle* respect, the wider framing of *recognition* respect, and finally respect as *care* [6]. My current work takes these concepts and applies them to the smart home, in particular to voice assistants, exploring the forms that a respectful voice assistant could take [7, 8].

The second formulation of the Categorical Imperative

“Act in such a way that you treat humanity, whether in your own person or in the person of any other, never merely as a means to an end, but always at the same time as an end” [5]

RESPECT IN THE CONTEXT OF TECHNOLOGY

Directive Respect

Representing one of the simplest interpretations of what it means to respect something, *directive respect* describes the process of adhering to explicit rules and directives [4]. For technology, this could involve respect as compliance, satisfying safety and regulatory requirements, or following preferences and commands expressed by users during the lifetime of the device.

Obstacle Respect

But what about when devices behave in ways that suggest the user is merely a hinderance to their goals? This is characterised as *obstacle respect* [4], and covers situations that are more antagonistic than for directive respect. Examples include websites that punish users with ad blockers, as well as UI ‘dark patterns’ that take advantage of human psychology in an attempt to trick users into taking actions they would otherwise avoid.

Recognition Respect

Taking a broader view of respect, *recognition respect* covers behaviour that takes some aspect of the person or object being respected into account (e.g. their skill as a painter) [2]. We might think of this as including devices accommodating users’ religious or cultural values, such as helping them avoid using technology on the Sabbath [9], as well as requiring that devices refrain from treating users solely as means to data collection and advertising revenue (similar to one of the formulations of Kant’s categorical imperative, see sidebar).

Care Respect

None of the types of respect described so far capture behaviours that are driven by love or concern for wellbeing. Characterised as *care respect*, this also includes situations where someone or something takes an action that goes against the short term wishes or interests of someone else in order to promote their long term welfare [3]. Examples include providing clear stopping points when users spend large amounts of time using services such as video streaming, or limiting how much money can be spent via microtransactions.

RESPECT IN THE SMART HOME

The ownership of the typical smart home devices differs from conventional electronics in two main ways that are relevant to the topic of respect. Firstly, smart home devices are shared between users in ways that devices such as cameras and smartphones are not—by being integrated into the daily

routine, they often occupy the same shared status as a television or toaster might—and yet the near ubiquitous model is to have a single user account responsible for administering all the functions of a device. Secondly, the software-centric and internet connected nature of smart devices leaves them dependent on first and third party services. If a manufacturer wants to change or discontinue any or all functionality of the device, this can be affected without any interaction with the user, challenging the notion of what it means to ‘own’ a piece of smart technology. Respect offers insights in each case, and can help us to navigate issues that arise from these unconventional ownership models.

Multi-user Environments

When a device is used by multiple people, how should it handle conflicting instructions from different users? While fights over the TV may be trivial to solve, consider a situation where the actions of one user who is out of the house affects another who is at home, or where a device is installed by one user as part of their duty of care to another. A design decision such as having a single user account associated with the device, or allowing all users equal access may impact their ability to show respect to *each other*.

Continuing the theme of devices as conduits for respect, we consider the ability of devices to make space for stories. Ambiguity is an important resource used in resolving social tensions, and is vital in carrying out *face-work*: the measures people take to preserve face for themselves and for others when problematic events occur during interactions [1]. In this way, ambiguity facilitates recognition respect around issues of privacy, and the need for users to account to each other. Removing the option for users’ actions to remain ambiguous through centralised logging and direct/indirect tracking (through accompanying apps) forces users to find other ways to mediate their interactions with each other and account for what they do.

Divided Loyalties

Embedded deep into the business model of the IoT, data collection poses obvious and commonly identified challenges to the respect shown to users and the others who live in spaces where smart devices are installed. The lack of a widely accepted model of consent for these intimate spaces is of great concern, though work in similar areas might offer a foundation for respectful IoT data sharing. One such example is genetics, where there is a long running debate over the how the results of sequencing techniques should be shared: if one family member screens all or part of their genome for hereditary diseases, what responsibilities do they have over disclosure of the results? The stakes in genome sequencing may be much higher than with smart home devices, but they may help us to disentangle the multifarious interests in contention in the connected home.

When we delegate tasks to others, we often under-specify our requirements to allow for the agent completing the task to exercise their own creativity and judgement. Still, we naturally take into

account the other motives that agent may have, specifying requirements differently to close friends, intrusive in-laws, tight-fisted insurance companies, and shoddy builders. When smart devices make decisions on our behalf, similar trade-offs are made between the interests of the user and those of the first and third parties that support the device. When Alexa chooses a product for you, or Nest customer support decides to override the smart lock on your front door, what are these decisions optimised for? Under a framework of respect, user interests are obviously ranked highly, but acceptable solutions could also include notifying the user of the priorities considered when making a decision or letting them choose.

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CONCLUSION

Through the examples discussed in this paper, it is apparent that respect offers a means by which we can describe and reason about many of the complex ethical issues that arise through the use of smart devices in the home. By keeping people and humanity at the centre of the debate, using respect ensures that we do not lose sight of what is important when discussing low level software control or high level policy decisions. Because its multifaceted nature, respect avoids falling into the trap of presenting a false dichotomy—splitting devices into those with and without it—or presenting a simplistic scale or score. Instead, it represents all behaviours in a way that allows for direct comparison with human needs, values, and concerns.

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