Sharing Domesticity: An Internet of Cohousing Things

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Abstract
Cohousing provides a domain for domestic research into the Internet of Things that broadens designer and researcher understandings of what "home" might be. This workshop paper describes cohousing and offers two artifacts that might become a part of "Cohousing IoT."

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Domesticity, Internet of Things, cohousing, research though design

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

Introduction
This submission describes portions of a research through design project that considers emerging domestic technologies and their relationship to alternative living arrangements, particularly cohousing communities. Cohousing is a form of semi-communal living where private homes lie around shared space. Each residence is self-sufficient, but together the community offers social support and communal amenities that homes would not have on their own. Communities like these typically feature a large, shared common house, which may include an industrial kitchen and large dining area for common meals, large-scale laundry facilities, recreational spaces, or even a woodshop [3,4,8].

Figure 1. IoT-enabled home with connected devices and appliances working invisibly for consumers.

Figure 1: This "IoT-enabled home" from Texas Instruments represents many of the assumptions around smart homes and technologies.

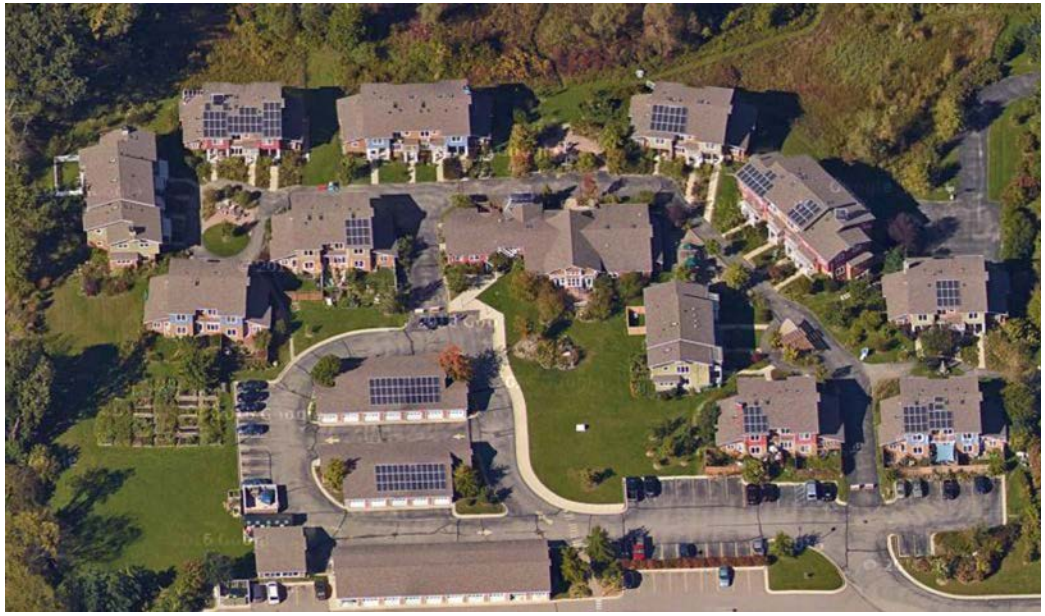

Figure 2: As a contrast, this cohousing community in Ann Arbor, Michigan demonstrates the interconnectedness of residents that share both buildings and common spaces.

This arrangement of things inside of the domestic sphere makes it clear that traditional assumptions around the "smart home" fall flat. What would an Internet of Things look like when spread across multiple houses but only one home? In this project, cohousing communities offer both a vantage point to critique existing IoT practices as well as a site for producing design work that generates site-specific alternatives.

This project is rooted in interpreting this domestic space through understanding it as an ecology of objects. This describes how objects inside of spaces like these hold memberships to multiple networks—informational, electronic, legal, cultural, material, and more. An ecological understanding of objects means that objects cannot and should not be treated discretely. Instead, they must be considered as component members of social and material assemblages [1,6,7], each having their own variety of agency [2,5]. In a domestic context, what makes a home is an object ecology comprised of all sorts of things: plates, furniture, heating vents, entertainment devices, family members, rugs and more. Cohousing extends this notion to neighbors, shared responsibilities, and so on. This project provides a theoretical foundation for ecological design to create community-based domestic objects in novel ways and uses this ecological approach to develop speculative Internet of Things devices for cohousing communities.

IoT for Cohousing

Hyperlocal Radio

Building on themes that emerge in the community of connectivity, participation, and collaboration, Cohousing radio is built to connect residents in cohousing in a new, more material way. This system imagines that

Figure 3: Cohousing Radio

Figure 4: Physical RSVP

each home in cohousing has a small speaker device that can be placed anywhere the resident wishes. Residents can use this speaker as a kind of podcasting service to other members of their community while audio. To use the device, cohousing members can send MP3s to a specific email address. This address activates a script that will queue the attached file on a streaming radio server.

This device creates a kind of creative, collaborative "backchannel" for residents to share bits and pieces in a simple way that might not be possible face-to-face. For example, at one cohousing community in Atlanta, GA, residents have a monthly "stick-passing ceremony" that offers ways to discuss issues with the community. Cohousing radio could be a way for residents to share their projects like songs or poetry, or their enthusiasm like old jazz LPs in a casual way that can fit into other domestic activities, such as preparing morning coffee, or doing the dishes.

Physical RSVP

The second prototype builds from ideas around convenience, making social life physical, and the responsibility the community that cohousing requires. Physical RSVP provides residents of cohousing a way to respond to invitations within the community. Clay balls are embedded with NFC chips unique to a resident. By dropping their ball into a bowl, an Arduino-based reader on the underside will register their intent to attend. This prototype is meant to be placed in common areas of the cohousing community, and has led to interesting conversations with residents about accountability and participation. The visibility of the balls in the bowl becomes a way of indicating intention publicly. The physicality of clay balls unambiguously replaces murky and impenetrable email chains.

The relatively simple form of the Physical RSVP, just a bowl and a tray that it sits on, becomes a springboard to reimagining and reconfiguring the device and its role in the community. For example, one cohousing resident immediately extends the idea of a single bowl for e.g. community dinners to a row of them, each with placards that indicate a new tally is being taken. These tallies can take multiple forms and domains. In his vision, these bowls become simultaneously sites for polling for various questions to the community (and through polling community governance), as well as sign-up sheets for cohousing events, and a way to commit to doing certain types of work in the community, as well as simply letting the community know that you'll be at dinner Sunday evening.

Conclusion

From this perspective, the domestic Internet of Things changes from suites of consumer products or objects that exist for people to be used exclusively in their home for their own use into speculative, multi-sited social configurations: they postulate systems to create possible encounters across multiple kinds of agency. These prototypes begin to articulate relationships between people, objects and situations across many locations.

Reading the Internet of Things as a complex web of alliances and political intent casts the work of the designer as being very different at different times. I believe that this is a way to generate provocative designed systems that are both rooted in the plausible while still offering a rich vein of speculation to mine for producing interesting prototypes—a method for generating speculative design without relying on spectacle.

Point of Debate

If as claimed, the Internet of Things is at its core a means of generating speculative social configurations, what role and responsibility does this place on the designer? How can we consider the active role that devices might, do, or could have in the present or future?

Description of Workshop Participation

I will bring the devices described above primarily as a means of scaffolding a conversation around the role that designed objects can have in participating in the social lives of a residential community.

Bio

Tom Jenkins is a PhD candidate in the Digital Media program in the School of Literature, Media, and Communication at the Georgia Institute of Technology. He is interested in how designed objects operate as parts of multiple ecosystems. His dissertation work focuses on the use of research through design methods to produce speculative Internet of Things for domestic settings, particularly cohousing communities.

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