Just Share It!

Designing for Justice in Peer-to-Peer Energy-sharing

Abstract

Peer-to-peer (P2P) energy-sharing systems are emerging as infrastructures that let local communities participate in sustainable energy transitions. By forecasting energy production and consumption, energy community members can share energy with their peers to achieve local environmental, economic, and social benefits.

Despite hopes that energy community projects will promote justice, P2P energy-sharing and related infrastructures may exacerbate injustices related to energy access, community participation, and recognition of rights.

We present Just Share It!, a speculative tablet-based P2P energy-sharing system. This system questions how we might design for energy justice by presenting users with choices for P2P energy-sharing grounded in research on energy community justice. In doing this, we discuss how HCI might design for justice in energy transitions, as well as tensions that may arise.

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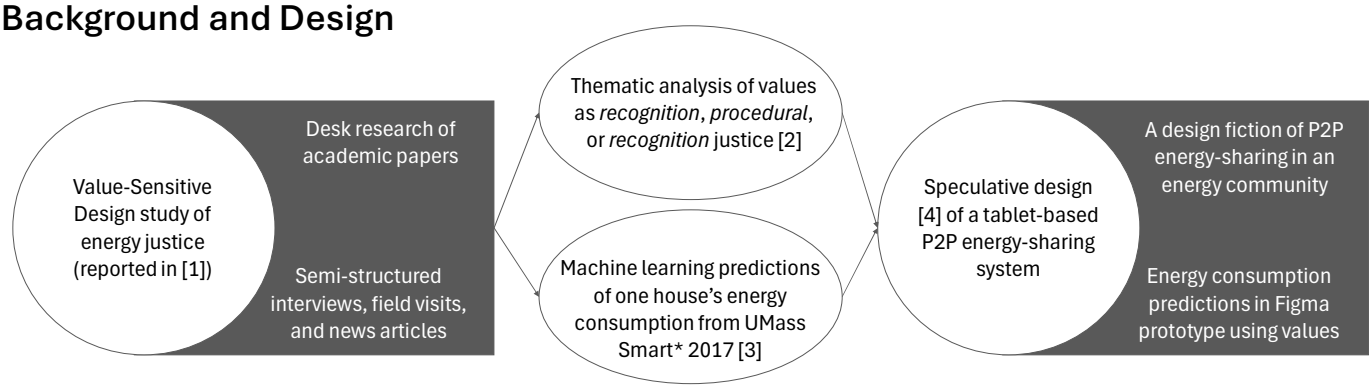
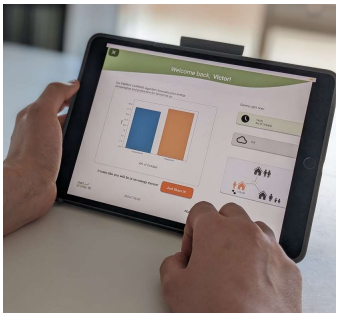
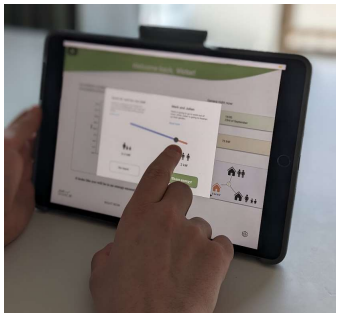
Background and Design



Just Share It!

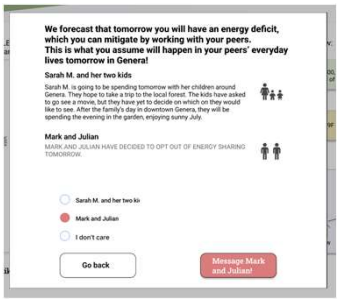


Predicted energy consumption and solar energy production



Distributing energy inside the community in a deliberate manner

Recognizing how others' circumstances affect energy access



Engaging in *procedures* of negotiation for collaborative P2P energy-sharing

Future Work

Conducting user studies to investigate perceptions of energy justice values designed in Just Share It! to understand **how** we can design for energy justice.

Engaging in reflexive discussions using Just Share It! to question **if** we should design for energy justice in the first place.

References

[1] Jensen and Jensen. Exploring Values of Energy Justice: A Case Study of a Burgeoning Energy Community. In CHI EA '23.

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[4] Snow et al. Neighbourhood Wattch: Using Speculative Design to Explore Values Around Curtailment and Consent in Household Energy Interactions. In Proc. CHI '21.

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why design?