



OVERVIEW

Due to time constraints and because the Internet of Everything is in its early phases, actual (primary) user research was not possible. To supplement, I leaned heavily on existing academic/institutional research. By performing a literature review, I was able to grasp the current state of research in the space, and gain insights into product trials, consumer behavior and mentality, and different pain points. I performed a literature review on the following papers to glean information:

- **Making Energy Visible: A Qualitative Field Study**, Hargreaves
- **Smart Homes and their Users**, Hauxwell-Baldwin et. al.
- **Review of Smart Metering and Survey options for Energy**, Johnson

FINDINGS

Hauxwell-Baldwin's paper was a summation of all existing smarthome user research and was critical in revealing that user research in this space is shockingly low. Hargreave's research was most helpful, as it included interviews with fifteen users, providing insights into user attitudes and usage of smartmeters. Johnson's research contains quantitative survey data, also on smartmeters. A crucial and key assumption I made based on this research is:

Assumption: User attitudes to smartmeters for energy will be approximately the same with meters for other home utilities.



I live an eco-friendly life, and saving the environment is my top consideration and motivation for all aspects of my life.

Goals

- Cut emissions / energy
- Find out which appliances / devices in her home use the most energy.

Painpoint

Doesn't understand technical dashboards or other home monitors very well. They look daunting.

Story

Joan is a mother of two, and tries to live an eco-friendly life with her husband and family. She actively attempts to drive or fly less, drives a smaller hybrid car (a Toyota Prius). She even goes as far as encouraging her friends and family to also cut their emissions. Her children are interested in the smarthome, but Joan herself is not very tech savvy as she does not come from a technical background. She wants to cut her emissions and if possible, save money, although financial considerations are not a priority as she lives comfortably with her high salary.

Joan, Eco Friendly

Age: 45
Location: Portland, OR
Marital: Married
Kids: Two Children
Education: College Grad
Occupation: Restaurateur
Salary: \$80,000 / yr



Rising energy prices concern me. I'd like a way to systematically save money while living at home.

Goals

- Wants to save a lot of money
- Wants a way to see how operating cost compares for different products in his home.

Painpoint

Not too familiar with utility metrics. For example, .

Story

Don is a waiter living in the Greater Los Angeles area. While he doesn't live paycheck to paycheck, he is still concerned about costs and actively seeks ways to save costs where he can. He often looks over his monthly expenditures to identify areas where he can cut costs. If possible, he wants to have large savings, and identify products in his home that use the most money to operate.

Don, The Saver

Age: 27
Location: Los Angeles, CA
Marital: Single
Kids: None
Education: 2 yr. College
Occupation: Waiter
Salary: \$50,000 / yr



I want information in my dashboard to be clear, transparent, and flexible in a variety of formats and customizable.

Goals

- Wants a lot of detailed information
- Wants customizability

Painpoint

Often uses multiple applications at once when analyzing his monthly consumption in the home.

Story

Mike works at Microsoft and is well-versed in using technology. For his smarthome, he would like a dashboard that provides detailed information that is transparent, flexible, and presentable. He is already on a journey to collect and monitor information in his home, and takes regular meter readings (energy) to analyze them (usually with Excel) to provide detailed breakdowns of his consumption levels. He is a tinkerer by nature, and endlessly curious about new technology.

Mike, Info Hungry

Age: 55
Location: Seattle, WA
Marital: Married
Kids: Two
Education: Master's
Occupation: Program Mgr
Salary: \$100,000 / yr