SUSTAINABLE INTERACTION DESIGN

People, design and practices in the “smart” grid

Cecilia Katzeff
Transformation into sustainable social practices
ENERGY USE IS GROUNDED IN EVERYDAY ACTIVITIES

- Live somewhere
- Eat, sleep, keep clean
- Socializing, leisure, entertainment
- Transportation
Grounding of ICT-design in everyday practices
Teenagers as target group
Engaging games

2005: Power House
Intervjastudie: 10 ungdomar från en ort

2006-2007: Power Agent
Fältstudie: 6 ungdomar från två orter

2007-2009: Power Explorer
Fältstudie: 18 ungdomar från en ort

2009-2010: A.A.P.W
Fältstudie: 127 ungdomar från en ort
2008-2009: EnergyCoach
Participatory design
Field study: 18 households

User participation
2008-2011: BeAware
Field study: 16 households in 3 countries

Tekniken som möjliggörare
Making time and space for reflection
“... nominated the STATIC Flower Lamp as a candidate for TIME magazine annual issue dedicated to the best and "coolest" inventions of the year.”
The Energy AWARE Clock – household contexts
Watt-Lite – workplace environments
Is there a conflict between welfare society and sustainable practices?
ENERGY USE IN RENOVATED RENTAL APARTMENTS FROM THE 70’S

Benefit from people’s experience with electricity as a scarce resource

Majority of population are immigrants from non-European countries
Relation to energi
Relation to energi
People and the smart grid: From computers to technical systems
SMART ENERGY TECHNOLOGIES IN EVERYDAY LIFE

Smart Utopia?

YOLANDE STRENGERS
“The goal isn’t to move utilities into our living room – rather, it’s to allow consumers to take advantage of some of the same technologies utilities are finding useful in smart metering and monitoring/managing the distribution grid”

Vad är smarta elnät?

Smarta elnät är ett mycket brett begrepp som omfattar hela fältet från kraftelektronik och ny teknik i transmissionsnätet till nya produkter och tjänster baserade på informationsteknik, kunskap om energiflöden och styrmöjligheter ute hos slutanvändarna. Samarbetsorganisationen mellan EU:s tillsynsmyndigheter för energimarknaderna ERGEG har definierat smarta elnät som:
How is the role of the human being, the user and the energy consumer reflected?
SOME ISSUES RELATING TO HOUSEHOLDS IN SWEDISH SMART GRID DIRECTIVE

• How may the position of electricity consumers be strengthened through creating conditions for them to become more active and in this way influence their own electricity costs?
• How are consumers affected by new types of pricing models?
• How may consumers obtain relevant, easily accessible and comprehensible information about their electricity consumption and costs, which they may act upon?
SMART ENERGY TECHNOLOGIES IN EVERYDAY LIFE

Smart Utopia?

YOLANDE STRENGERS
REMOVING FOCUS FROM BEHAVIOUR OF INDIVIDUAL USERS

• Social practice perspective provides a unit of analyses on a more general level
• Enables an analytical focus on organization and reorganization of shared activities
• Human actions are part of an ecology rather than isolated phenomena
• Reformulation of the question: “How may we (who?) change people’s behaviour” to formulations in terms of relations and interdependencies in a system
ICT4S – A value driven research field?
Participation

User-centred design

Democracy

Usability
SUSTAINABLE INTERACTION DESIGN

• “SID considers not only the material aspects of a system’s design, but also the interaction throughout the life cycle of the system, taking into account how a system might be designed to encourage longer use, transfer of ownership, and responsible disposal at the end of life.”
The scientific field of sustainable interaction design

• ...is an emerging interdisciplinary field in the intersection between sustainability, design, social science, and computer science.

• ...applies knowledge from these areas to shape digital environments for people and everyday practices.

• ... includes research supporting a sustainable development of society

• Research methods combine empirical methodology from behavioural science with methodology from design research and future studies. Qualitative research methods are combined with quantitative.

• A major question for sustainable interaction design is: How may design play a role for supporting behaviour, practices and lifestyles in the transitions to a sustainable society?
Thank you!