# Families concerns and spectations

- Effect of ubicomp systems in informal communication within families;
- Effect of ubicomp systems in privacy within families ;
- Effect of ubicomp systems in tradicional roles within families.

# Families concerns and spectations

- All depends on who controls, who has acess and who is aware of which data is being colected.

- Awareness is really important here.

# Families concerns and spectations

- “…if people had to adopt ubicomp systems. Exclusion would occur due to age, ability, disability, socio-economic status.”

- Shift of roles and power within families.

# Families concerns and spectations

- “They fearded that this caring role may be taken from them (parents) and that ubicomp systems might lead individuals to act in a sterele way.”

- What information do ubicomp systems make available and to who?

# Families concerns and spectations

- “Younger members of a family (seldom seen in the ubicomp world) are typically active participants in the weekly shopping task, and are given their own responsibilities or activities.”

- Given that children are a huge publicity target, we probably don’t want them to have a big role on shopping activities…

# Families concerns and spectations

- “Participans also reflect upon their own motivation to use ubicomp, acknowledging that they may come to trust systems if the benefits were tangible or convenient”

- More functionality and benefits -> People trust more?

- They should be willing to give up more, but trust is not required…

# Families concerns and spectations

- “In other words, participants felt that the human capacity for capriciousness should be honoured…”

- How to do this without having to set profiles, permissions…?

# Buildings and domestic ubicomp

- Plumbing -> water

Wiring -> electricity

Chips -> ubicomp

- Taps, showers, plugs and switchs -> signs

- What can we use to sign ubicomp sensing areas?

# At Home with Ubiquitous Computing:
## Seven Challenges

W. Keith Edwards and Rebecca E. Grinter

2001


# The "Accidental" Smart Home

Researchers often build test environments from the bottom up

For the "average Joe," technology adoption is piecemeal

How do we reconcile these two approaches?


# The "Accidental" Smart Home

How will it feel to "debug" your home? (more on this in #3)

Challenge: help homeowners understand their accidentally smart homes


# Impromptu Interoperability

The ability of independent devices to make interconnections "out of the box"

Implicit in much of the ubiquitous computing literature

"Fabric of complimentary functionality" vs. "islands of functionality

# Impromptu Interoperability


# No Systems Administrator

"…if the lack of ability or interest in home 'administration' chores as mundane as **plumbing**, **electrical wiring**, or **appliance repair** is any indication, there will effectively be no systems administrator in the smart home.'


# No Systems Administrator

## Appliance Model vs. Utility Model


# No Systems Administrator

**Appliance Model** vs. Utility Model

- Each device embodies a single function
- Is this scalable?


# No Systems Administrator

Appliance Model vs. **Utility Model**

- The “intelligence” resides within the network and the devices act as an interface
- Example: the telephone network


# No Systems Administrator

Appliance Model vs. Utility Model

Authors: Regardless, configuration is necessarily the responsibility of the owner

Mike: Not necessarily…


# Designing for Domestic Use

New technology can disrupt home life

Two possible consequences:

1. home practices change
2. the device usage changes (appropriation)

The developer must be “in tune” with the subtleties of home life.


# Social Implications of Aware Home Technologies

**Privacy**

(taken for granted)


# Social Implications of Aware Home Technologies

## Labor "Saving"

- While technology seems to save us work at first glance, it is possible that the work is merely being "shifted" somewhere else
- If a product is in demand, what is the designer's role in responding to this possibility?


# Social Implications of Aware Home Technologies

## Good Parenting

- New technologies often spark debate over acceptable parenting practices
- Examples: television watching, cell phone use


# Social Implications of Aware Home Technologies

How should a developer respond to these issues?

“Implications”, “Aspects”, “Consequences”

Are these really challenges?


# Reliability

Four reasons why PCs are not as reliable as appliances:

1. Differences in development culture
2. Differences in technological approaches
3. Differences in expectations of the market
4. Differences in regulation

1. ???


# Reliability

Customizable functionality.


# Inference in the Presence of Ambiguity

"Phenomenological" problems – do sensors reflect reality, or merely the state of the sensors?

(Context awareness, anyone?)


# Inference in the Presence of Ambiguity

Three requirements for predictability:

1. Knowledge of how the system detects or infers a condition.
2. Knowledge of how the system will respond to said condition
3. Ability to override the system's response