

## Ubicomp technical paper

### Problem authors studied

- inconsistencies in trigger-action programs' behavior interpretation
- errors made in creating programs with trigger-action programs

### Example of Trigger-action rules then

- if sleep duration below 7.5 hours, turn on coffee maker
- if you exit an area, then turn off lights.

### What are mental model ambiguities?

→ specific examples

- program errors could risk home security by unlocking doors at the wrong timing time
- Cause unintended energy waste by not reverting a thermostat setting

	Study 1	Study 2
Purpose	Understanding how users interpret different trigger and action types	To let users synthesize rules Seeing rule creation process ↳ user's mental model of how the program should behave investigate whether program creation mitigates the ambiguities observed in first study
how many people	60 respondents	42 participant
how long		20 minutes
method	Multiple choices 9 quest. open-ended quest demographics	① interface created for creating triggers and actions ② questionnaire → 5 program creation, 5 MC
results	had diff. expectations for when actions should be triggered depending on state / event trigger	most respondents made wrong / incorrect rules varied mental models for state triggers users disagreed on sustained actions & forgot to undo them