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# Take a Closer Look at the User

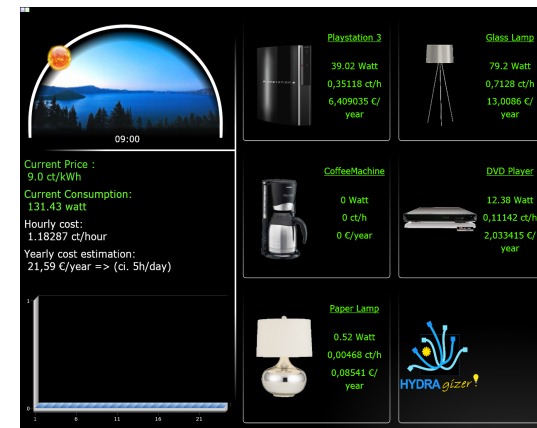
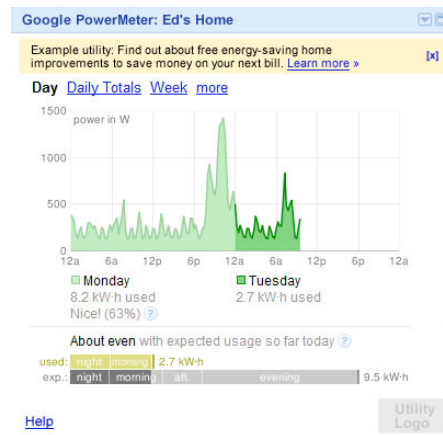
Tracking User Events in an Ubiquitous Environment

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# Common Approach

- Feedback = Awareness = Sustained behavioral changes?



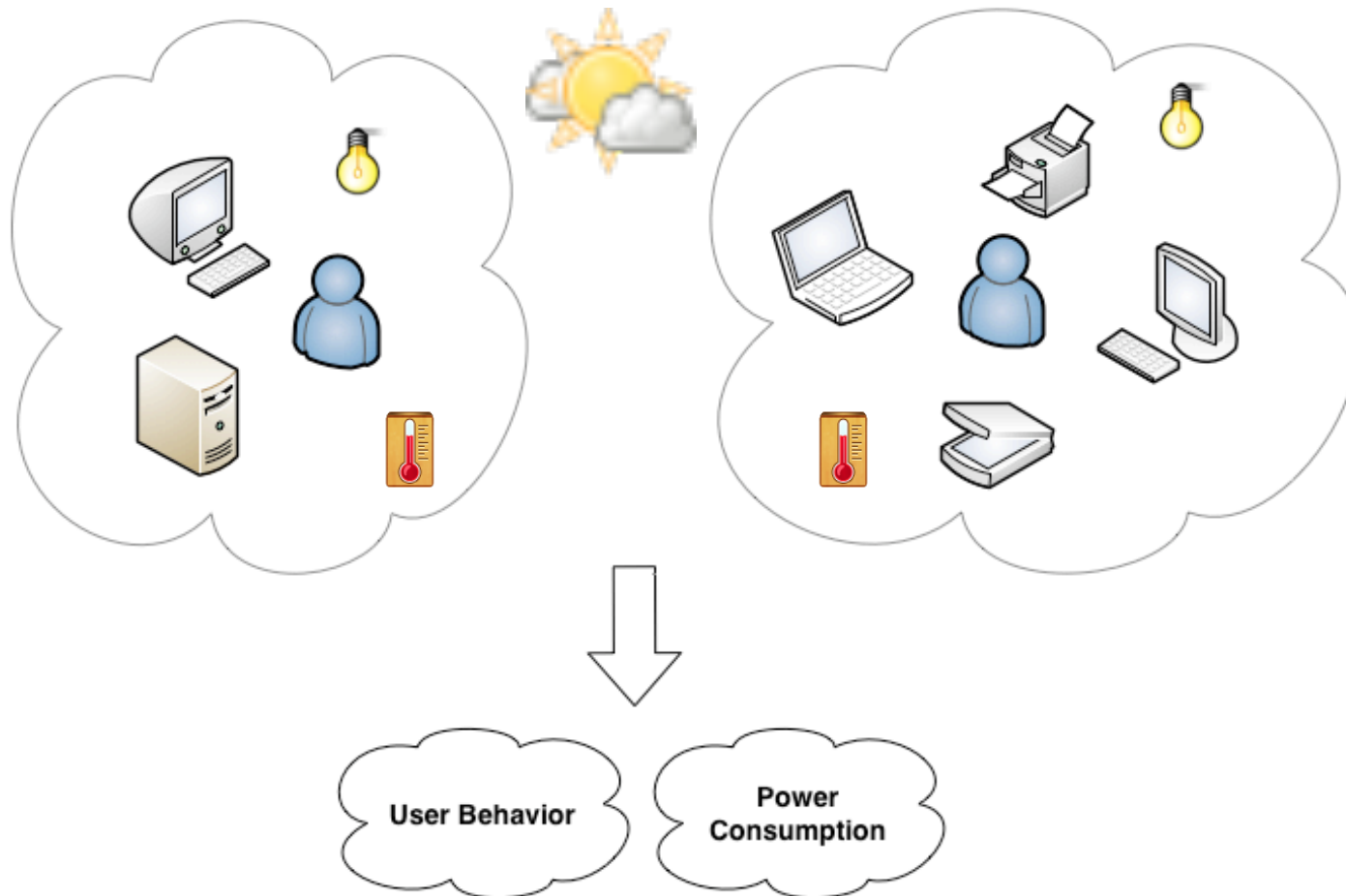
- Other interventions: Goal setting, information, comparison, competition etc.

# What are the Problems?

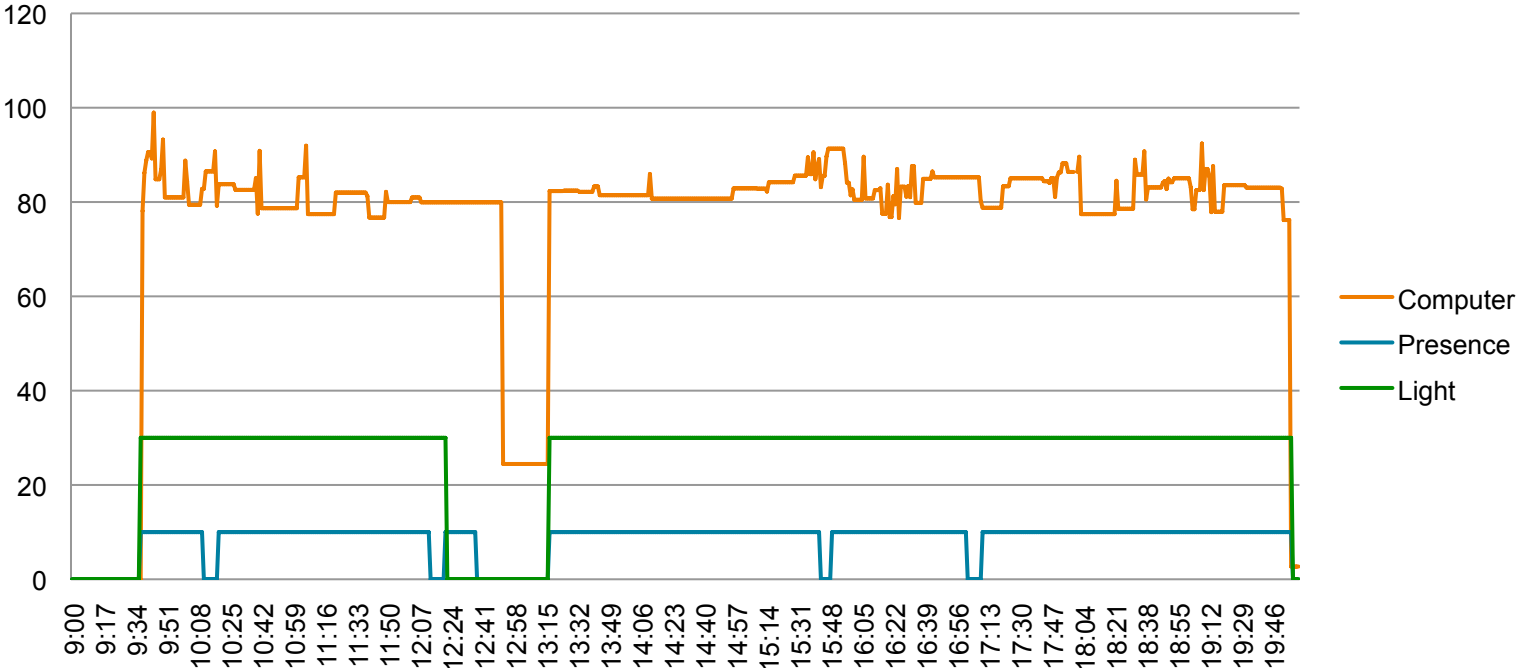
- „One size does not fit all“ (He and Greenberg)
  - No all interventions are suitable for everybody in every situation
- Changing behavior is very complex, influenced by lots of parameters (attitude, knowledge, motivation, environment etc).

# What's our Approach?

- Take a closer look at the user!
  - Track behavior, classify the user, find the most suitable intervention
- Energy Aware UbiComp System based on HYDRA Middleware
  - Collect sensor data in offices (windows, lighting, presence, device level energy consumption) → Currently running and tracking energy consumption and user events
  - Ploggs for device-level energy consumption
  - Arduino sensor platform for lighting, temperature, windows



# First Results



# Next Steps and Future Work

- Data Analysis
  - Relate consumption data to behavioral data
  - Are there differences among the users?
  
- Framework for rapid development of energy aware UbiComp systems
  - Easy adaption for different kinds of domains and settings
  - For various kinds of devices and sensors
  
- Study the effectiveness of different interventions for different users

# Thank You!

# Problems and Open Questions: Discussion

- Can we break down the diversity of office spaces to single users?
- Can we derive meaningful information about a user from the consumption and behavior tracking?
- How can we define *waste of energy*?
- Complexity of human behavior and behavioral change
  - Can we even deal with it?
  - How we could we best simplify things?