Contextual-Analysis for Infrastructure Awareness Systems

- Juan David Hincapie Ramos
  IT University of Copenhagen
  Software Development Group
  jdhr@itu.dk

- Aurelien Tabard
  IT University of Copenhagen
  Software Development Group
  auta@itu.dk

- Florian Alt
  University of Duisburg-Essen
  Pervasive Computing and User Interface Engineering
  florian.alt@uni-due.de

Contextual-Analysis for Infrastructure Awareness Systems

Infrastructure /ˈɪnfrəstrʌktʃəʳ/

Is a relational property if a system towards a user in the context of an established practice (Star ´99).

Infrastructure Awareness /ˈɪnfrəstrʌktʃəʳ/ /əˈweənəs/

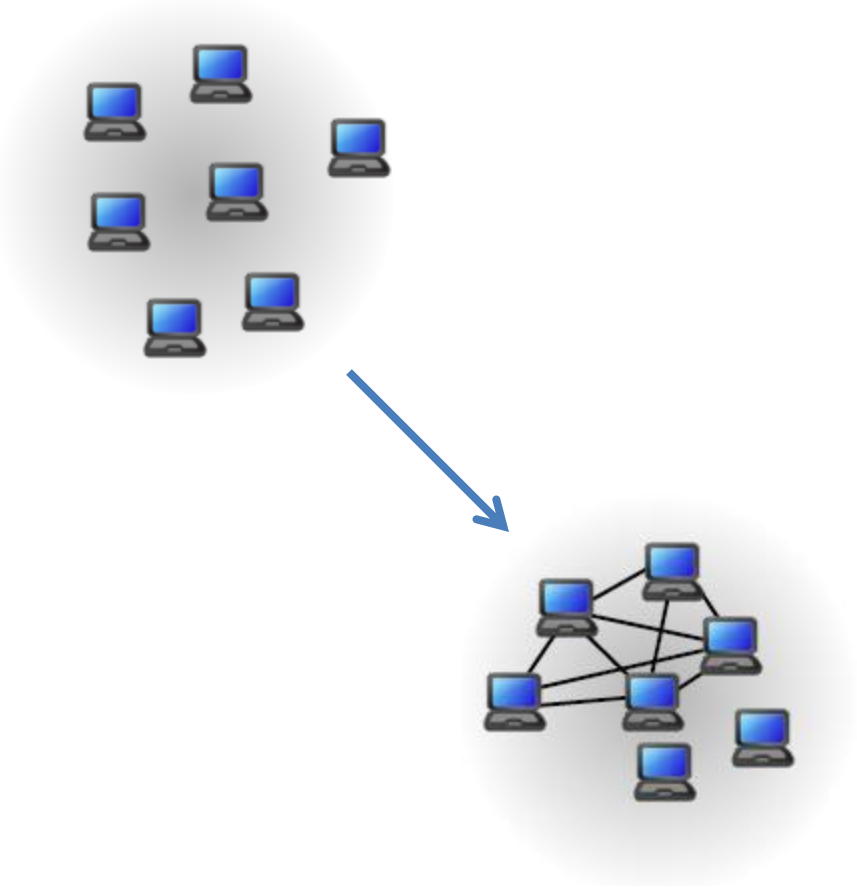
A user's state of consciousness of about one or more properties of a system of infrastructure.

Sustainability

Appropriation

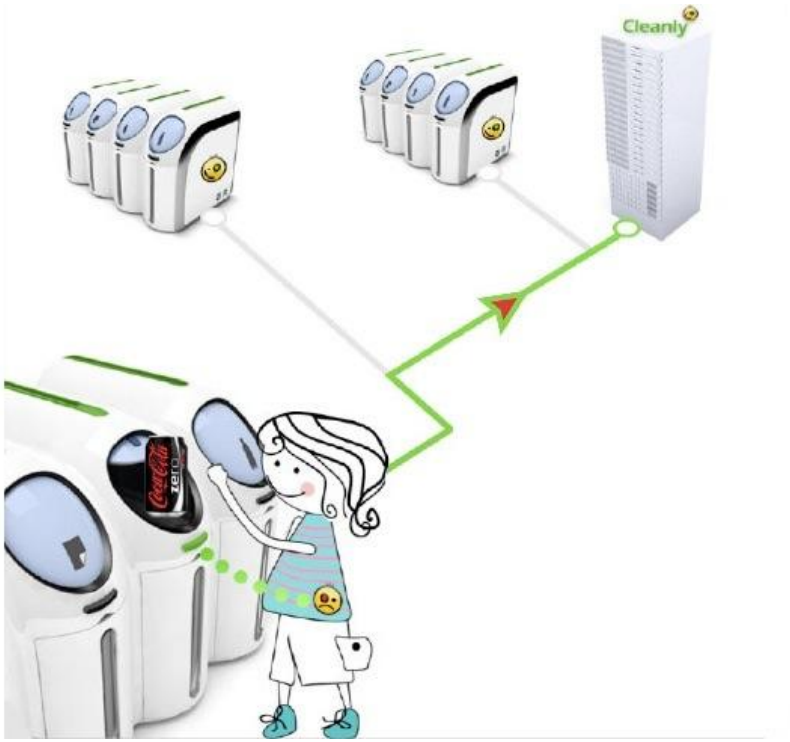
Background

- P2P Computational Grid



Background

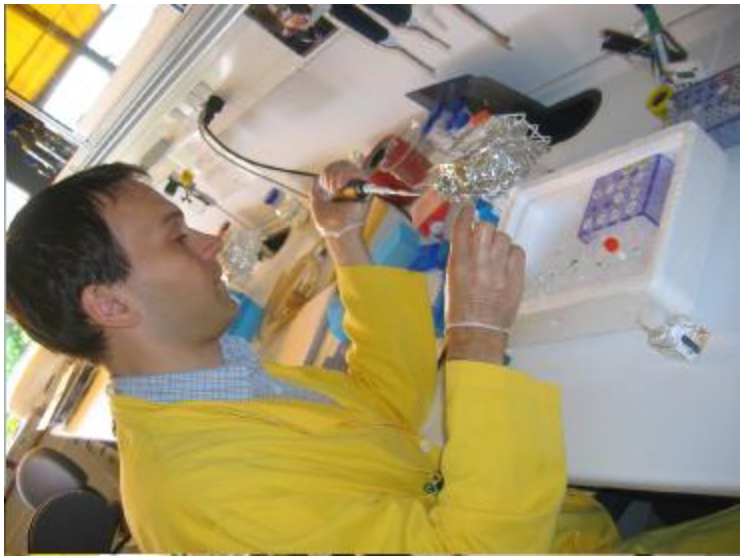
- Cleanly – trashducation urban system

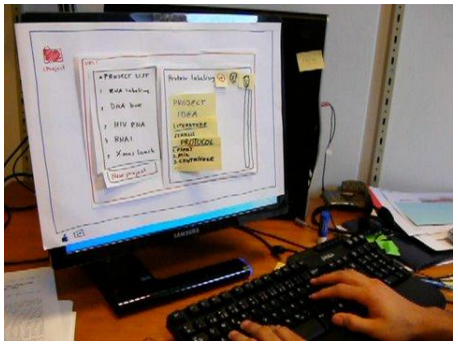


Methods

P2P Computational Grid

- Molecular Biologists
- Observations (place+activities)
- Semi-Structured Interviews
- Mapping of activities and infrastructures
- Video prototypes – new technologies (how they conceive new technologies should support they work – activities+infrastrucutures)





Methods

Cleanly

- Open space observations
- Ramdon interviews
- Online-surveys (people's conceptions on cleanness)

Key Problems

- How to motivate biologists to join/stay the P2P grid?
- How to engage people with Cleanly?

From our fieldwork:

- Invisibility
- Voluntary Infrastructures

Challenges Using Contextual Analysis

Creating Awareness

- Nimbus and Focus
- Use contextual analysis to find the users focus, then build your system so that they provide effective awareness.

The Usage of Metaphors

- When using visual metaphors to deliver information make sure your users get it. Make sure they understand, easily and intuitively, they source of visual elements and behaviors.

Domain Models

- Do not base your domain models on the users' understanding of infrastructure, neither on the visual metaphor. Both of them are highly volatile.
- Base your domain model faithfully on the infrastructure.