Ubiquitous Alignment

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Structure of the Talk

- Comparison of Human-Human Interaction and Human-Computer Interaction
- The Ubiquitous Alignment Concept
- Example of Application
- Future Perspective
Introduction

Human-Human Interaction

- Humans remain unobtrusive towards each other
- Is an interaction desired at all?
- Reacting to the other person’s behavior
- Adapting to the other person
Introduction

Human-Human Interaction
- Humans remain unobtrusive towards each other
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Human-Computer Interaction
- User explicitly declares the wish for interaction
- System can make rough guesses about user behavior
- Too little knowledge about context
Ubiquitous Alignment

The Concept

1. Recognition
2. Sparking Interest
3. Start of Collaboration
Next step in the recipe: Take the can with the brown sugar.
Ubiquitous Alignment

Recognition ➤ Sparking Interest ➤ Start of Collaboration

- Taking note of system
- Recognition of readiness
- Analysis of user behavior

Next step in the recipe:
Take the left can with the brown sugar.
Ubiquitous Alignment

Recognition ➤ **Sparking Interest** ➤ Start of Collaboration

- Expressing possible helpfulness
- Indication of available options
- User response is not required

Next step in the recipe:
Take the left can with the brown sugar.

Brown Sugar
White Sugar
Salt

Back Menu Next
Ubiquitous Alignment

Recognition ▶ Sparking Interest ▶ **Start of Collaboration**

- User learns how to control the system
- Indication of additional options
- System meanwhile knows the user, too

Next step in the recipe:
Take the left can with the brown sugar.

last package  Order more?
Back  Menu  Next
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Human-Human Interaction

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Ubiquitous Alignment

Human-Human Interaction – Ubiquitous Alignment

Human-Human Interaction

- Humans remain unobtrusive towards each other ✓
- Is an interaction desired at all? ✓
- Reacting to the other person’s behavior ✓
- Adapting to the other person ✓

⇒ Ubiquitous Alignment is very much like human-human interaction.
Future Perspective

Navigation Systems

- Point traveler unobtrusively to...
  - ... the next ticket vending machine
  - ... offers along the way
  - ... alternative connections (for example, equivalent destinations)

FYI: That store on the right is closer, actually
Future Perspective

Student Support System

- Offer the exchange of lecture-related questions and answers
- Timetable support (canceled classes, conflicts)
Future Perspective

Shopping Guide

- Guide user to the desired products
- Suggest equivalent products
- Influence scheduling
  - for a minimized waiting time at the checkout counter
  - for a good connection to public transportation

You want to buy this
This has the same features, but is more powerful
Conclusion

Comparison of Human-Human Interaction and Human-Computer Interaction

- Differences between the start of human-computer interaction and human-human interaction

Ubiquitous Alignment

- Allows human-computer interaction to start very similarly to human-human interaction

Examples of Application

- Applicable to a variety of scenarios

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Tools used to create this presentation: \LaTeX, Inkscape, Notepad++, SVN