



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

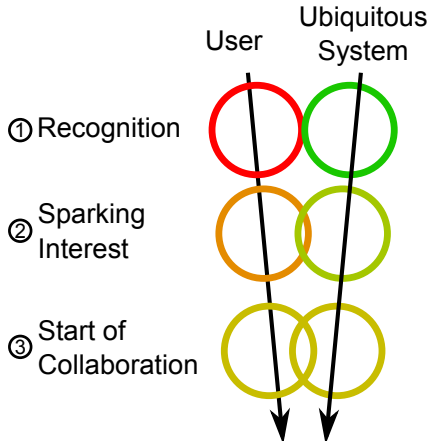
- Humans remain unobtrusive towards each other
- Is an interaction desired at all?
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Human-Computer Interaction

- User explicitly declares the wish for interaction
- System can make rough guesses about user behavior
- Too little knowledge about context

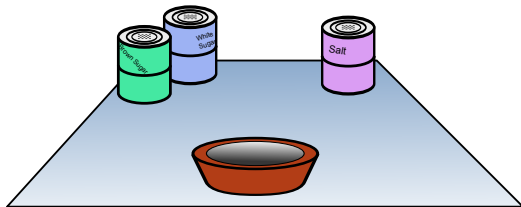
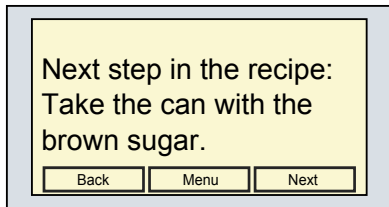
Ubiquitous Alignment

The Concept



Ubiquitous Alignment

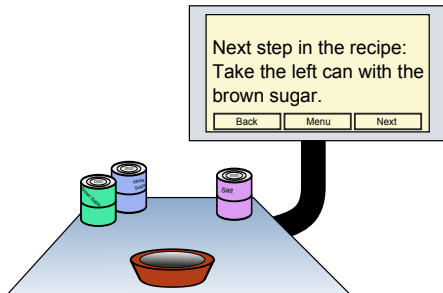
Preparation: Example of Application



Ubiquitous Alignment

Recognition ▷ Sparking Interest ▷ Start of Collaboration

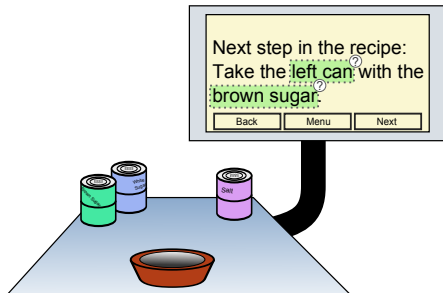
- Taking note of system
- Recognition of readiness
- Analysis of user behavior



Ubiquitous Alignment

Recognition ▷ **Sparking Interest** ▷ Start of Collaboration

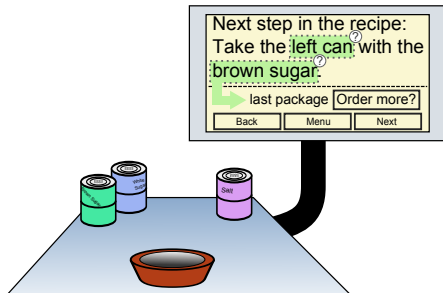
- Expressing possible helpfulness
- Indication of available options
- User response is not required



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





Ubiquitous Alignment

Human-Human Interaction – Ubiquitous Alignment

Human-Human Interaction

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Ubiquitous Alignment

Human-Human Interaction – Ubiquitous Alignment

Human-Human Interaction

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Ubiquitous Alignment

Human-Human Interaction – Ubiquitous Alignment

Human-Human Interaction

- Humans remain unobtrusive towards each other ✓
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Ubiquitous Alignment

Human-Human Interaction – Ubiquitous Alignment

Human-Human Interaction

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Ubiquitous Alignment

Human-Human Interaction – Ubiquitous Alignment

Human-Human Interaction

- Humans remain unobtrusive towards each other ✓
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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)

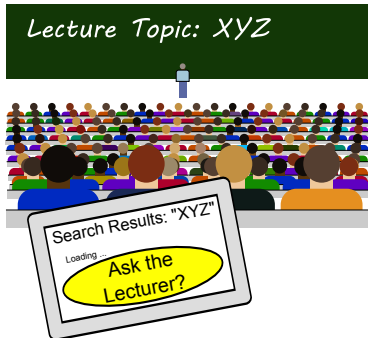
**Turn
Left**

FYI: That
store on the
right is closer,
actually



Future Perspective

Student Support System



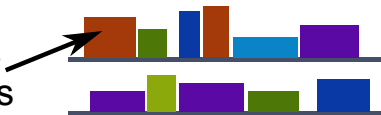
- Offer the exchange of lecture-related questions and answers
- Timetable support (canceled classes, conflicts)

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: L^AT_EX, Inkscape, Notepad++, SVN