

ContextAware Personal Remote Control



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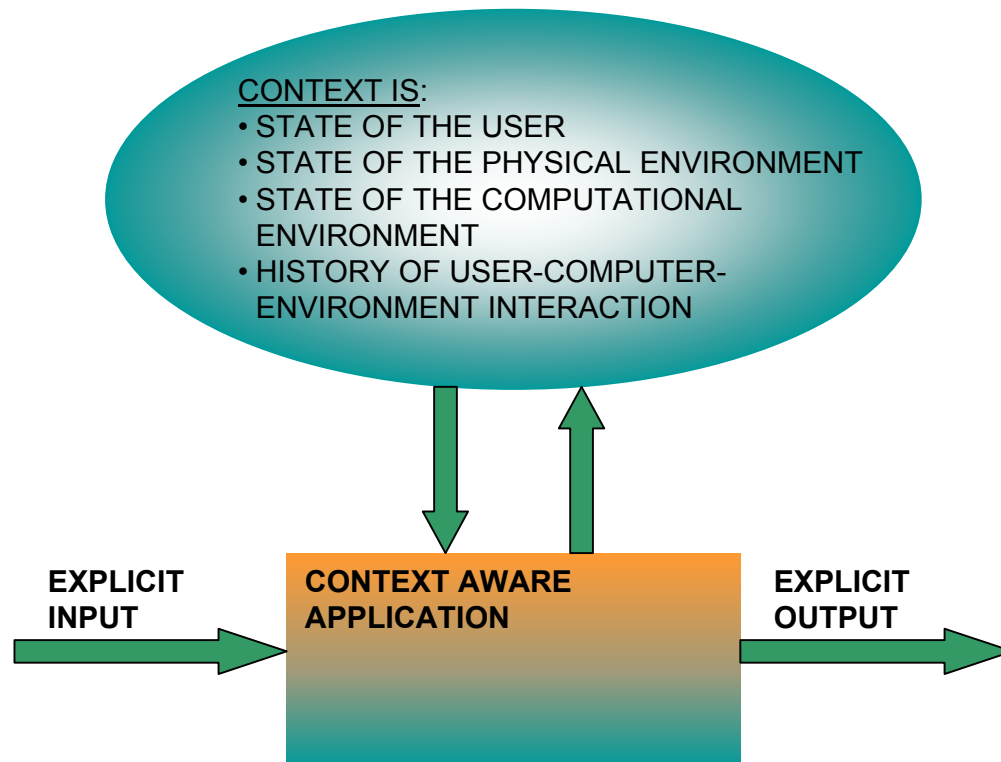
Background

- Easy Access
 - Access to large db of audio, video content
 - Natural way of interaction
- HomeLab
 - Demonstrating prototypes of Aml systems
 - Test bed for research initiatives

Why CA?

- Overload of information & functionality
 - Increased UI complexity
- Appropriate behavior
 - Less intrusive, polite
 - Adhere to social conventions

What makes a system CA?



Definition of CA?

Within the field of HCI the device can be called context aware if it can use information **relevant** to the user of the application extracted either through sensing or other means, excluding the explicit input given by the user, analyze it and adapt its behaviour or the internal state based on the reasoning either defined by the application or the user.

Directions in CA research

- Location awareness
- User activity tracking
- Context modeling
- raw sensor data analysis, high level facts extraction, learning, ...
- little research on the usability

PRC concept

- Mobile personal assistant
- Carrier application: EPG
- CA:
 - Prevent annoyance with intrusive devices
 - Attractive attention appropriately
 - Prevent overload of functionality

Memory Prostheses

- Forget-me-not (Rank Xerox)
- The Memory Glasses
- The Wearable Remembrance Agent



How?

- Sensing light, touch, motion, noise, devices
- Derive meaningful facts: in the suitcase, user arrives, in the hand, ...
- Inference logic to adapt the behavior

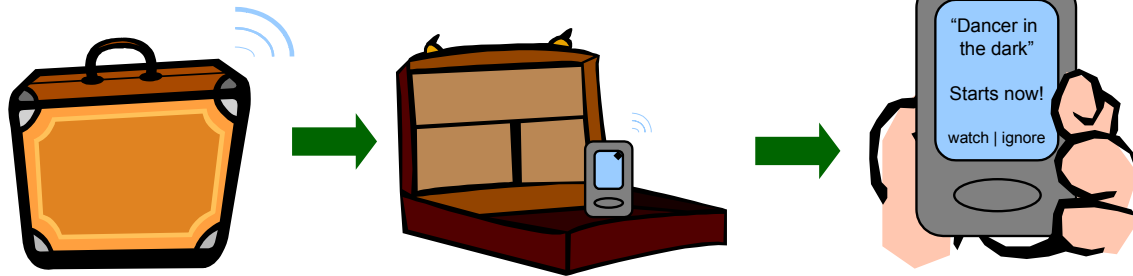
Scenarios



User arrives



User is watching TV



In suitcase



Let's make things better.



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Next steps

- User study:
 - User acceptance of autonomous and less predictable device behavior
 - The impact of individual preferences
 - What are the building blocks for the user to program system behavior

Next steps

- User control over the system behavior
- Inference engine:
 - Extendable
 - Verification of the rules consistency
- Context model
 - Relationship between the cues
 - Means of high level facts extraction

Ideas

