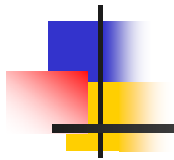


Ubiquitous Experience Media and Computer Mediated Communication



Kenji Mase

Information Technology Center

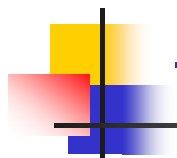
Nagoya University

mase@nagoya-u.jp

<http://mase.itc.nagoya-u.ac.jp/~mase/>

1

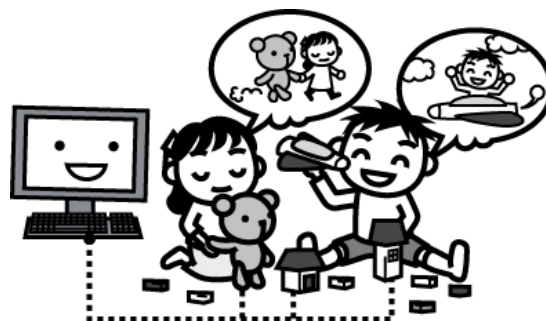
ICT's next target - an ultimate one -



- Knowledge Sharing Society
 - Looooong history
 - Knowledge is a key of
 - Creativity and Wisdom
 - Source of knowledge
 - Learning
 - experience



Experience Sharing



2

Experience Sharing



- Yesterday
 - Letters, Books, Newspaper, TV, Internet
- Today: Web
 - Social Networking Service (text-based)
 - YouTube (Visual Experience)
 - Knowledge Community (Yahoo!Answers)
- Tomorrow: *“Experience Web”*

3

Steps for Experience Web

- Use of Computer as TNG Experience sharing media
- Exploit the attributes of Computational Media
 - Reusable
 - Processable
 - High mobility
 - Transformable



Ubiquitous Experience Media (UEM)

4

Various UEMs

- Wearable UEM
 - Wearable computer as UEM
- Visual UEM
 - Visual memory aid
- Robotic UEM
 - Robot as a second self that remembers
- Narrative UEM
 - Narrative creates new experience
- Classroom UEM
 - Ubiquitous classroom (u-learning)



5

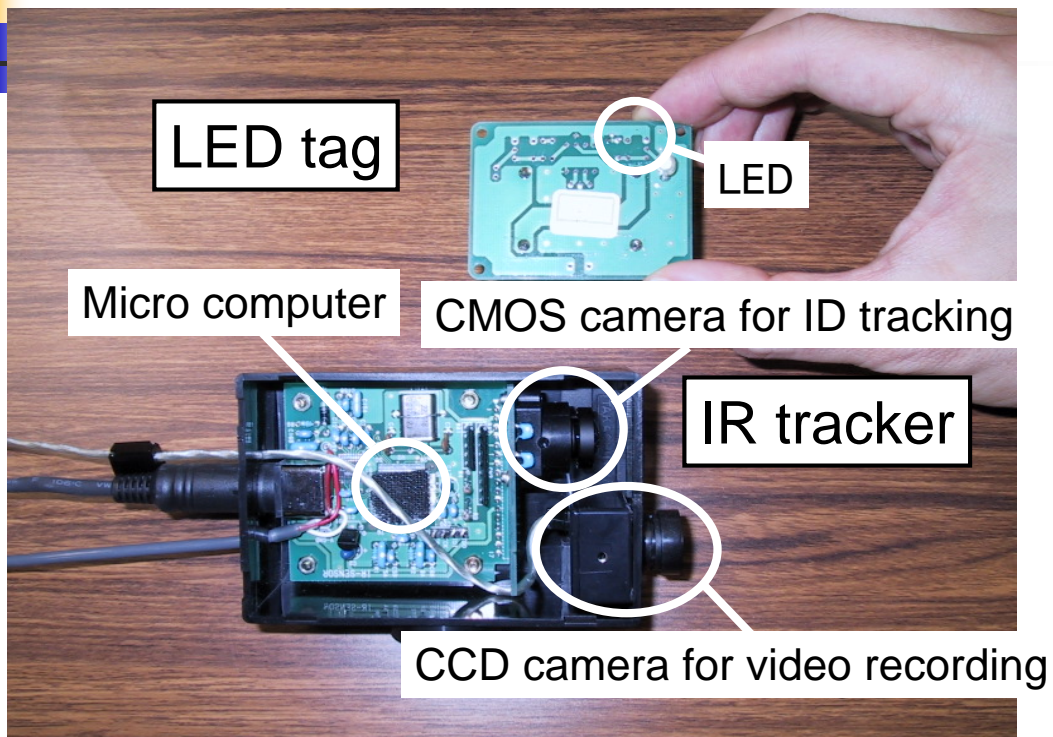
Wearable UEM

Experience and Interaction
logging devices

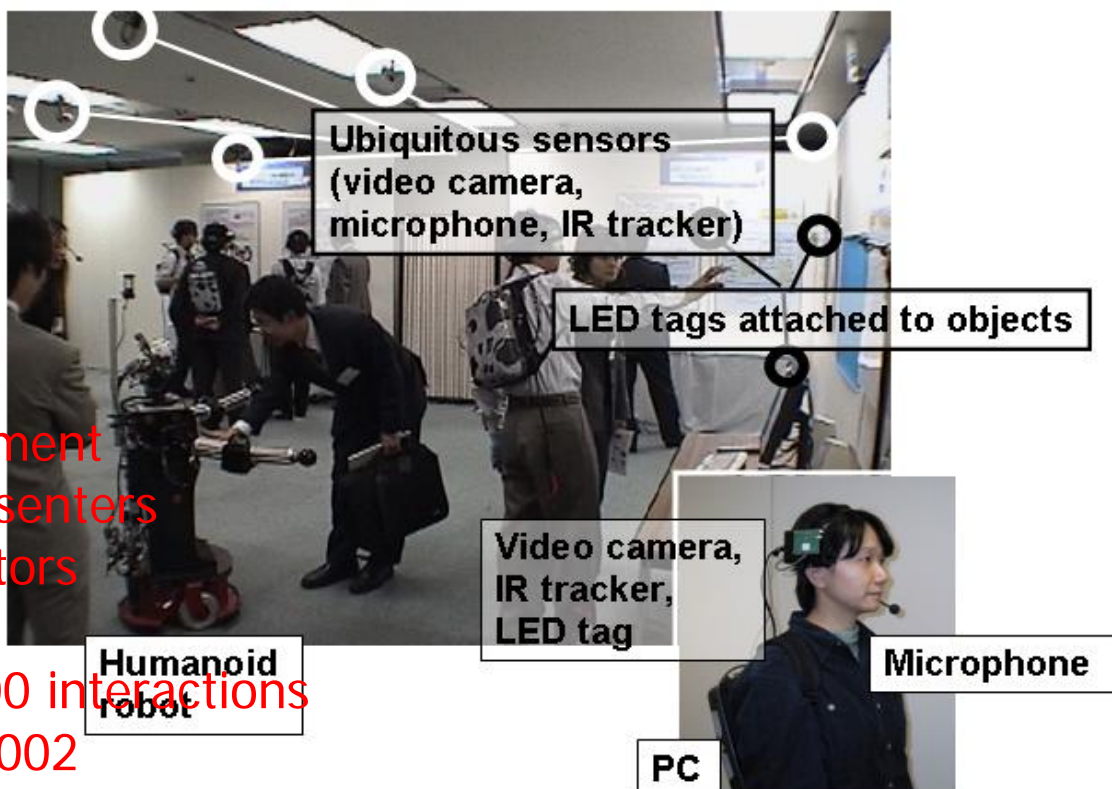
with 1st-person, 2nd-person and
3rd-person positions/views

(Reusable, Processable, Mobility)₆

Interaction Tracker and Tag(2002)



7



Experiment
16 presenters
63 visitors
340GB
380,000 interactions
Nov. 2002
ATR Open House

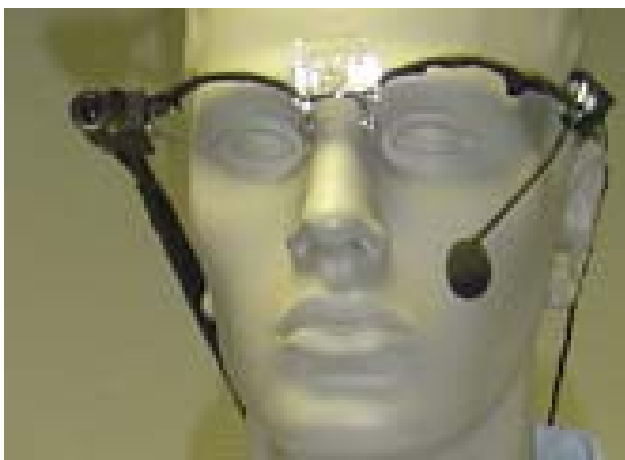
8

Experience Recording with Multiple Viewpoints



9

The 3rd Generation Wearable UEM (Tsuchikawa et al, ISWC2005)



245+
385g



75g

10

Applications of Wearable UEM

- Video report (business trip, sightseeing)
- Work diary (log)
 - Plant / Building
 - Survey / maintenance / patrol
 - Nursing
 - Manufacturing
- Lifelog
- CogSci Research
- Knowledge extraction



11

Robotic UEM

Sharing remote experience via
embodied media

(Transformed, Mobile)

12

Robot Teleconferencing



Action



Audio/
Visual

13

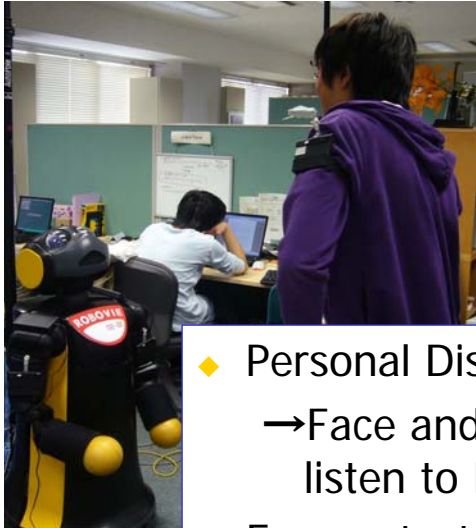
Robotic Talking Head



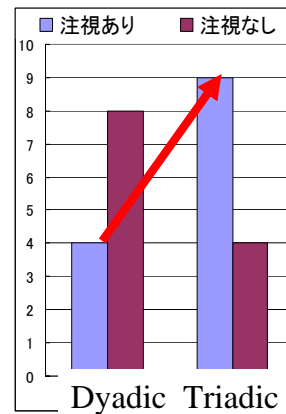
14

Context-aware Community Robot

Robots remember events/experience as an avatar or a community member.



- ◆ Personal Distance
→Face and listen to Robot
- ◆ Eye contact
→Listen to Robot



3rd Person looks at robot when the robot looks at him/her

15

Narrative UEM

Experience Sharing between Doctor and Patient at Medical Interview

(Transformed, Processable)

16

Narrative is essential to Experience Sharing

Patient's Narrative (Symptoms Story)

X → New Story for Medicine

Doctor's Narrative (Medic Story)

- Experience Narrative
- Narrative Expression



17

Visual UEM

Example: Shopping Application

Shopping experience transformed to
the personal preference conveying
media

(mobile)

18

External Visual Memory (of purchased goods) Helps Discussion of preference



19

Summary - UEM -

- UEM for Experience Web
 - Memory Aid
 - Memorize/Remember
 - **External Memory** and Retrieve/Search
 - Representation of Experience
 - Multimedia Life-time **Diary/Journal**
 - As an **Analysis tool** of interaction/behavior
 - Computational Theory of Memorizing and Experience

20