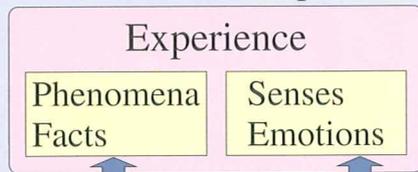# Experiment of Recalling Emotions in Wearable Experience Recordings

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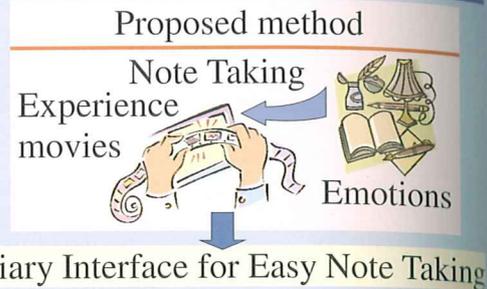{hirano, kajita, mase}@itc.nagoya-u.ac.jp

UL AN — Ubiquitous Learning Architecture for Next Generation

INTELLIGENT MEDIA INTEGRATION

Background and Purpose

Experience recordings by wearable system
↳ Recall of experiences, recording split-second events

Experience

| Phenomena Facts | Senses Emotions |

Video & Microphone   How?

Past method
Indirect Recording
perspiration   heart rates

Proposed method
Note Taking
Experience movies   Emotions
Diary Interface for Easy Note Taking
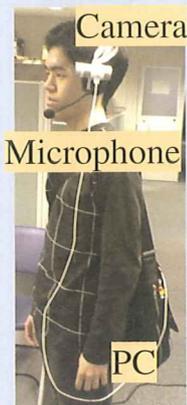
Diary Interface: Assigning Emotional Keywords and Notes to Experience Movies

Day-long movie includes many useless parts.

Extracting important parts, emotional notes are assigned to these parts.

Camera
Microphone
PC

1. Add indices during/after interesting experiences manually

Index Button

Wearable System

2. Search similar images with a color histogram to infer interesting part using a given index frame

Diary Interface

3. Modify the segment

4. Clip memorable frames, and describe diary notes

5. Check off relevant emotional keywords on the checklist

Recalling Experiment

Purpose Compare three memory cues to verify the most effective

Procedure
A game experience → Diary Taking → After 6 months Recall Test
Subjective Experiment

Instruction
Subjects recalled each experience and answered the five questions listed below using five choices (1: low - 5: high) under each condition.

Memory Cues Condition
1. Diaries and a checklist of emotions
2. A movie
3. A movie, diaries and a checklist of emotions

Q1: Recall what happened? Q2: Recall who caused the experience?
Q3: Recall when the experience happened?
Q4: Recall what emotional you felt? Q5: Recall why the experience happened?

Result Means of the five-grade evaluation system of recalling experiences

(a) Cond. 1, then Cond. 3

condition	Q1	Q2	Q3	Q4	Q5
1	3.44	3.37	3.50	3.29	3.56
3	4.44	4.53	4.10	4.12	4.10

(b) Cond. 2, then Cond. 3

condition	Q1	Q2	Q3	Q4	Q5
2	3.91	4.09	3.16	3.07	3.40
3	4.60	4.65	4.02	4.18	4.21

Movie & Diary & Checklist provide better recall in all items (Q1 - Q5).
(Two-side T-test, $p < 0.01$)