Children and Mobile Technology: the Japanese Experience

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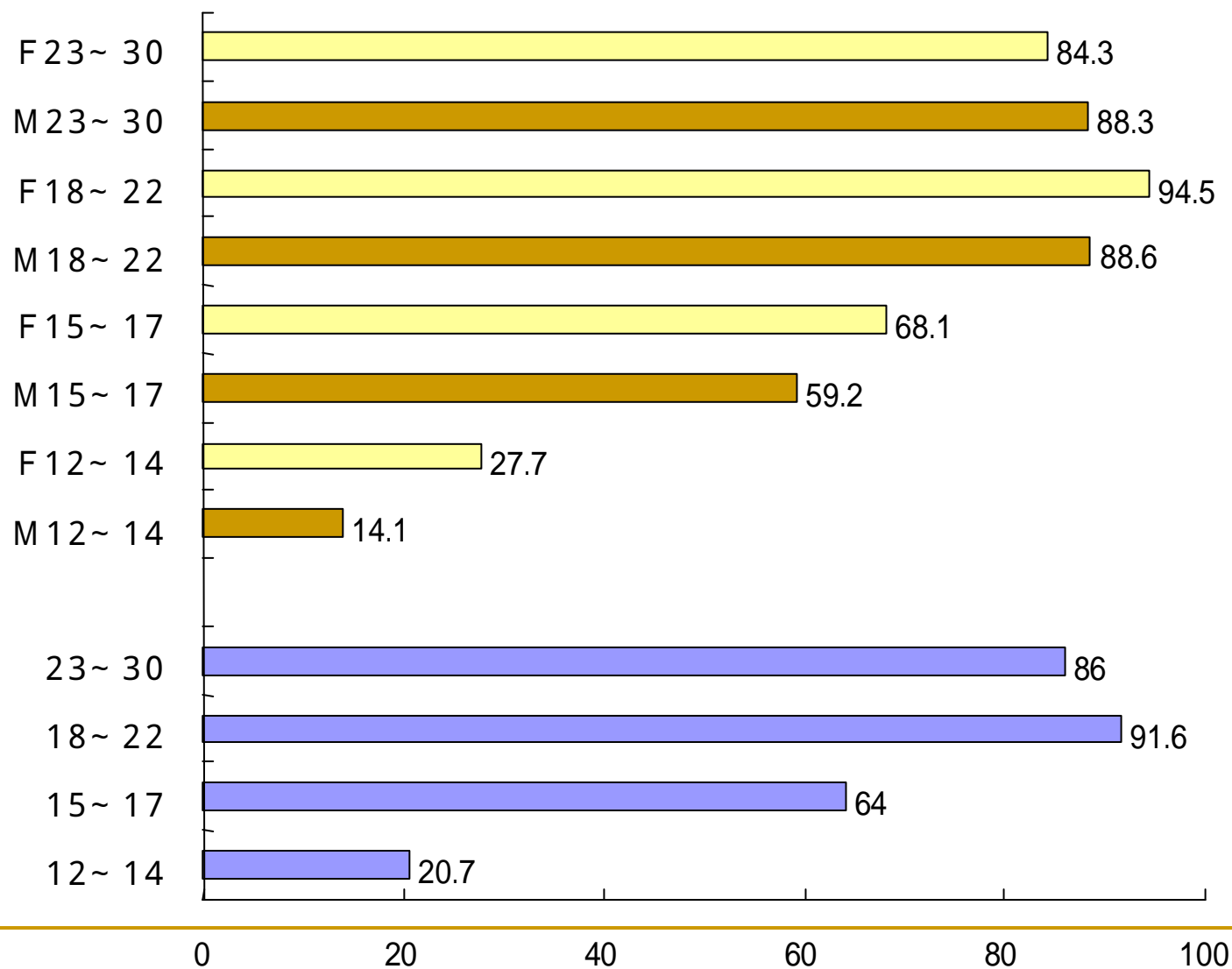
Tomohiro Kawamura

Child Research Net

Outline

- **Birth of the Digital & Network Generations**
  - Background and statistics

- **Lessons from the Multimedia Camps**
  - Do not teach them!
  - Exploring new IT potentials with kids
  - Beyond generations

- **Children and Visual Mobile Communication**
  - Camera equipped mobile phone and visual expressions
  - Potentials of mobile video communication

Mobile Phone Use in Japan

- Mobile phone users: 79,433,000 (62% of total population)
- IP connection service users: 60,235,000

The Telecommunications Carriers Association (http://www.tca.or.jp)
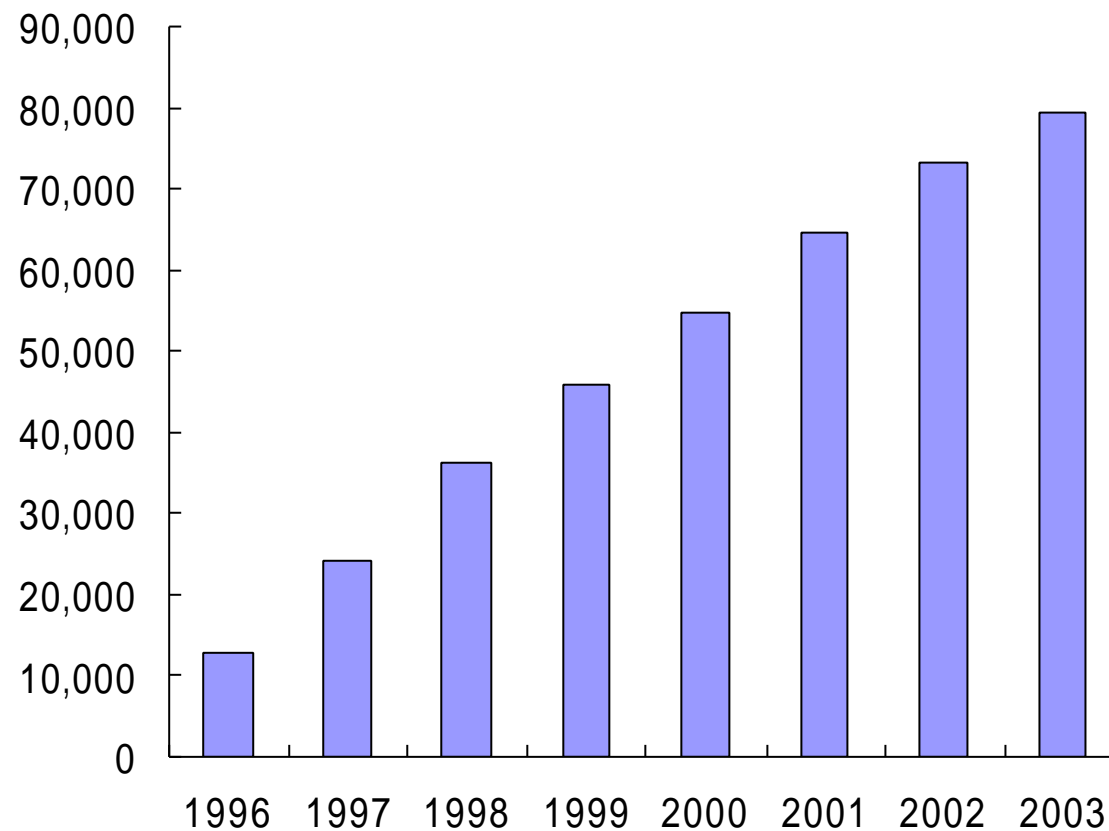
Mobile Phone Use of Age 12-30

F — 84.3
M — 88.3
F — 94.5
M — 88.6
F — 68.1
M — 59.2
F — 27.7
M — 14.1

86
91.6
64
20.7

(Cabinet Office Survey: Information Society and the Young People 2002)

Media Timeline in Japan

"*Print Generation*"

53	TV Broadcasting Start
61	Color TV Set Release
64	Tokyo Olympic Games Live Broadcasting
69	Apollo 11 Lunar Landing Satellite Live
72	Casio's MINI calculator

"***TV Generation***"

-Mass media
-One-way communication
-Linear story

75	Sony's First Home VCR
78	Toshiba's First Japanese Word-Processor
79	Sony's "Walkman" Release
82	Music CD
83	Nintendo Video Game
85	Video Game Soft "Dragon Quest"
87	Sharp's First PDA
89	Nintendo's Mobile Video Game "Game Boy"

"***Digital Generation***"

-Multimedia
-Individual
-Interactive
-On demand

Media Timeline in Japan

Year	Event	
90	Karaoke Box, Super Nintendo, Car Navigation System	
91	Dos/V	*"Digital Generation"*
92	Windows 3.1, MiniDisc	
94	Sharp's Zaurus (PDA) Release, Sony's Playstation	

Year	Event	
95	Internet Boom, Windows95, Mobile Phone Boom Start	
	Digital Camera Popularization, Pokemon!	*"Net Generation"*
96	"PrintClub" Photo Seals & "Tamagocchi" Booms	
97	DVD	*Networking*
98	DoCoMo's i-mode, Windows98	*Self-navigation*
99		*Collaboration*
00	Camera-equipped Mobile Phone(J-PHONE)	
01	3G Mobile Phone(DoCoMo), GPS equipped Mobile Phone (AU)	
02	Mobile Movie Mail	

Lessons from the Multimedia Camps

- **STYLE:**
    - 3days summer camp for primary school kids to experience new digital media through playing and learning.
    - 20-30 kids and their parents
    - directed and organized by university students staffs
    - sponsored by National Youth Center (1995-2000)

- **EMPHASIS:**
    - Not to teach kids but let them experience it
    - Explore the potential of mobile technologies integrating the real world activities and network communication
    - Human interaction over generations (kids, students, parents, grand parents etc.)

Videos:

- **Multimedia Camp 1999 in Tokyo**
  - GPS, PDA, Digital Camera, and the Internet
  - Theme: "Exploring Tokyo with Wearing Digital Media"

- **Multimedia Camp 2000 in Okinawa**
  - i-mode, digital camera, notebook computer
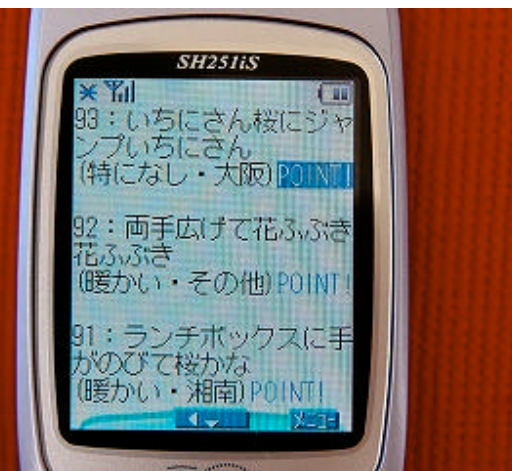 - Theme: "Mobile Collaboration"
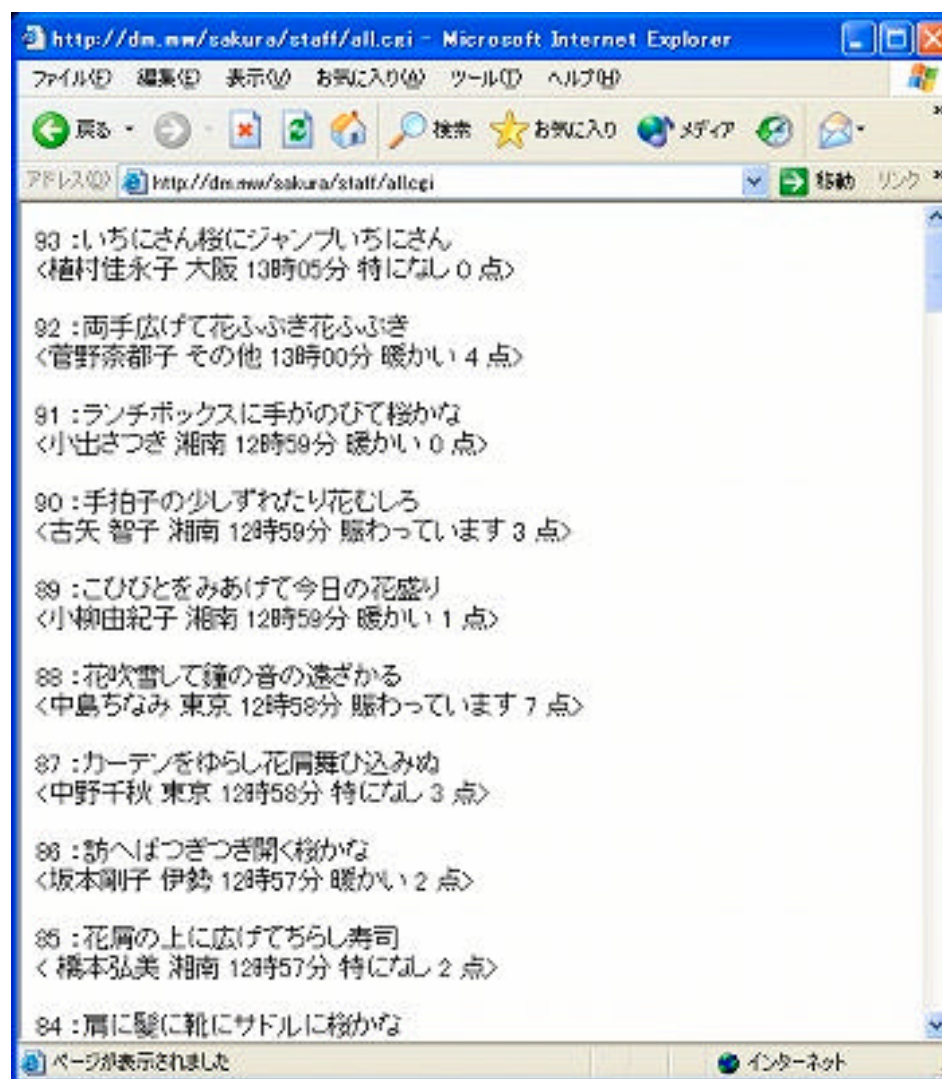
Mobile Haiku Contest

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Mobile Haiku Contest
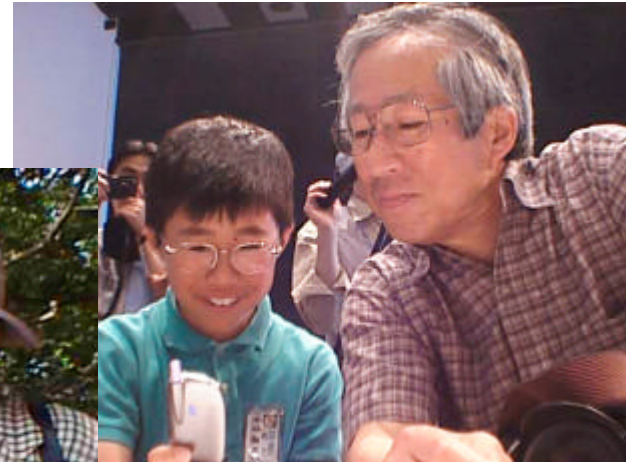
Mobile Haiku Contest

Mobile Haiku Contest

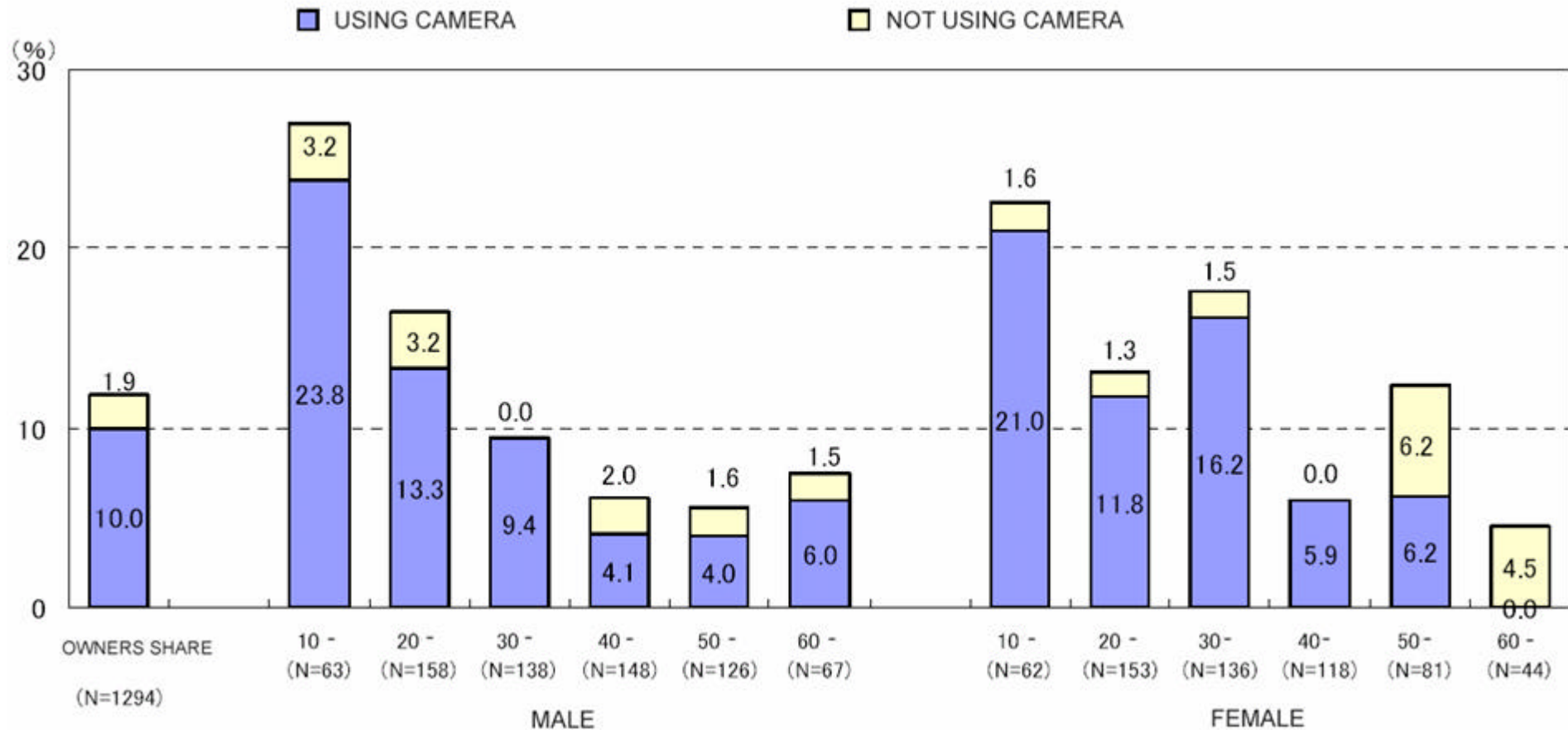# Evaluating Published Haiku on the Internet

Camera-Equipped Mobile Phone Owners

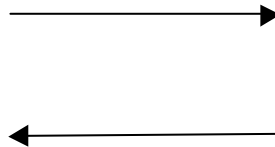(ratio to the total mobile phone owners by age and sex)

(Source: Nomura Research Institute, Cyber Life Observations 2002)

Reporting Current Situation through One's Perspective

"Now, I'm arrived at the campus."

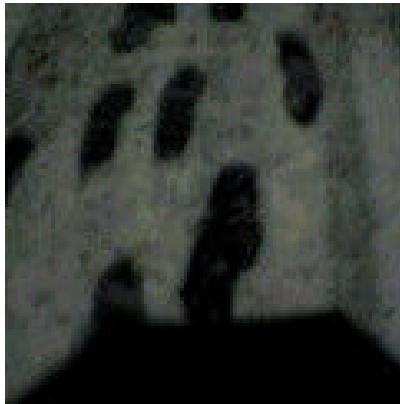"I'm having curry & rice for lunch at the cafeteria."

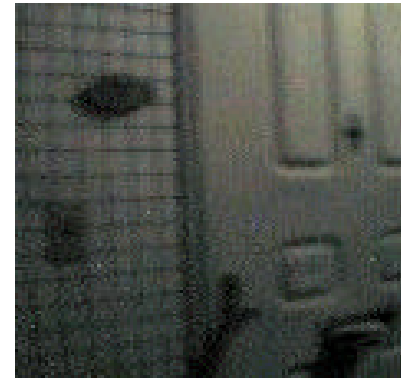"I'm stuck in traffic jam!(>_<)"

"I ordered delivery Sushi   "

Live Expression of Emotions and Feelings

"I woke up early to realize the covering of snow. Now I'm walking outside. It's exiting!"
(Footsteps and the shadow's of an umbrella)

"Oh my god! I forgot to bring a key. I'm waiting outside. It's cold here."

Characteristics of Mobile Photo Messaging
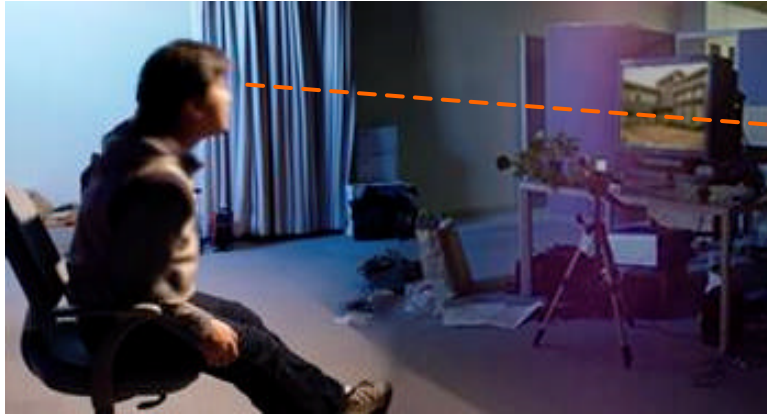
- **Live and Instant Expression**
  - Reporting what is happening to myself right here
  - Message only meaningful to send now
  - Instant emotions and feelings
- **A photo sent to a particular person**
  - A photo meaningful particularly to the receiver
  - Sharing one's experience with some special person
- **Rich combination of image and text**

Mobile Video Communication
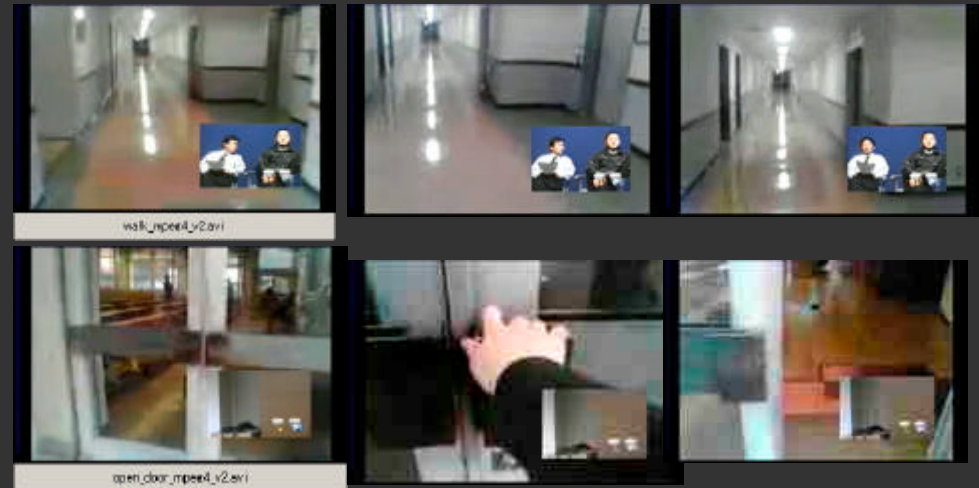

Live Vicarious Communication

Mobile Video Conference

Source: NTT DoCoMo

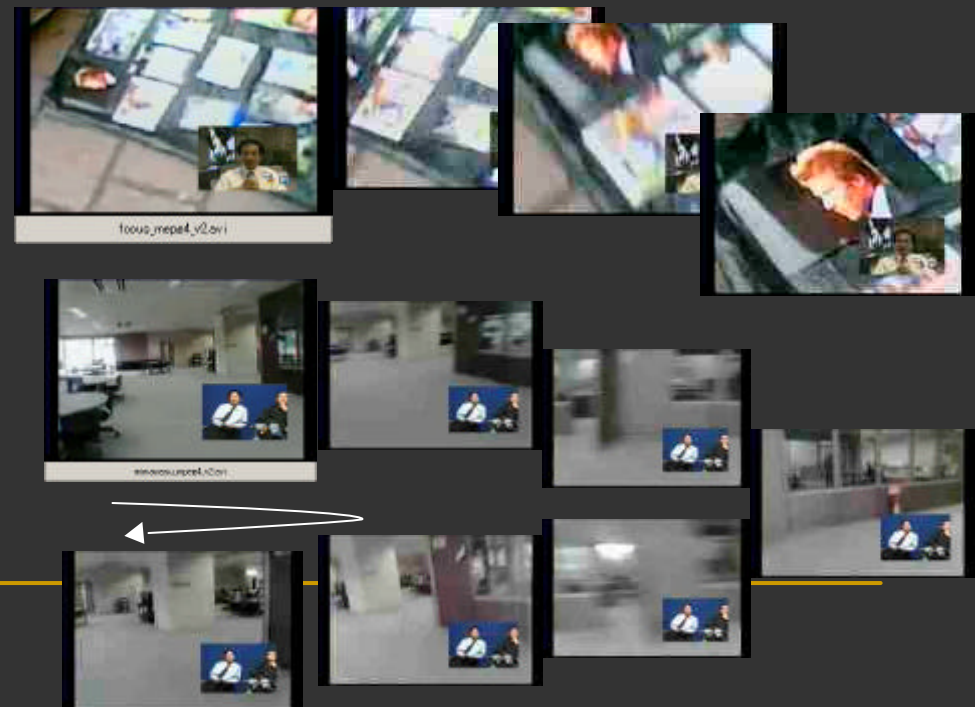# Mobile Video Expressions

Vicarious Experience of

      Body Movement

  -walking

  -pointing

  -grasping

Vicarious Experience of

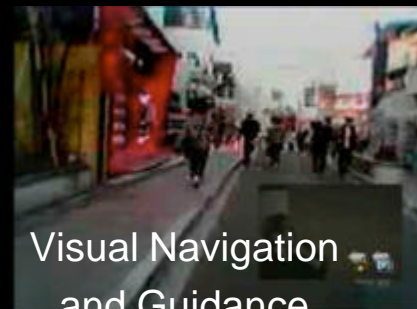   Personal Consciousness

  - attention

  - interest

  - mental process

Potentials of Mobile Video Communication

Remote consumer interview

Visual Navigation and Guidance

City planning discussion

Live teaching material in a classroom

Remotely Collaborated Fieldwork

korekore_mpeg4_v2.avi

Children and Mobile Visual Communication

- **Promoting the understanding of others**
  - ❑ attention to other person's perspective and interest
  - ❑ sympathy with other person's emotions and feelings
  - ❑ diminishing egocentric thought

- **Supporting remote assistance and collaboration**
  - ❑ fieldwork, training, education
  - ❑ cooperative problem solving
  - ❑ "mobile network intelligence"

- **Possibilities of new culture and arts**
  - ❑ rich expressions and interpretations
  - ❑ visual poem, diary