Children and Mobile Technology: the Japanese Experience

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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

(Cabinet Office Survey: Information Society and the Young People 2002)
## Media Timeline in Japan

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953</td>
<td>TV Broadcasting Start</td>
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<tr>
<td>1961</td>
<td>Color TV Set Release</td>
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<tr>
<td>1964</td>
<td>Tokyo Olympic Games Live Broadcasting</td>
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<tr>
<td>1969</td>
<td>Apollo 11 Lunar Landing Satellite Live</td>
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<tr>
<td>1972</td>
<td>Casio’s MINI calculator</td>
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<td>1975</td>
<td>Sony’s First Home VCR</td>
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<td>1978</td>
<td>Toshiba’s First Japanese Word-Processor</td>
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<td>1979</td>
<td>Sony’s “Walkman” Release</td>
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<td>1982</td>
<td>Music CD</td>
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<tr>
<td>1983</td>
<td>Nintendo Video Game</td>
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<tr>
<td>1985</td>
<td>Video Game Soft “Dragon Quest”</td>
</tr>
<tr>
<td>1987</td>
<td>Sharp’s First PDA</td>
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<tr>
<td>1989</td>
<td>Nintendo’s Mobile Video Game “Game Boy”</td>
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</tbody>
</table>

### Print Generation
- Mass media
- One-way communication
- Linear story

### TV Generation
- Multimedia
- Individual
- Interactive
- On demand
Media Timeline in Japan

90  Karaoke Box, Super Nintendo, Car Navigation System
91  Dos/V
92  Windows 3.1, MiniDisc
94  Sharp’s Zaurus (PDA) Release, Sony’s Playstation

95  Internet Boom, Windows95, Mobile Phone Boom Start
96  Digital Camera Popularization, Pokemon!
97  “PrintClub” Photo Seals & “Tamagocchi” Booms
98  DVD
99  DoCoMo’s i-mode, Windows98
00  Camera-equipped Mobile Phone (J-PHONE)
01  3G Mobile Phone (DoCoMo), GPS equipped Mobile Phone (AU)
02  Mobile Movie Mail

“Digital Generation”

“Net Generation”

Networking
Self-navigation
Collaboration
Lessons from the Multimedia Camps

- **STYLE:**
  - 3 days 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

- **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, grandparents 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
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)
“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 🍣”
“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

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
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