

Imagined Needs: Social Robots and their difficulties in usage in elderly care settings in Japan

Why Is It That Technologies for Old People Do Not Achieve Their Goals?

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Social robots for older adults or caregivers are sometimes far from solving the problems they face.

How can this be explained?

- The needs of the users imagined by the designers (Madeleine Akrich, 1992)
 - Hypothesis: The discrepancy between imagined users and actual users
 - **Question: What needs are imagined by the designers?**
- Grey literature of 5 social robots commercialised in Japan (Nao, Palro, Papero, Pepper, Sota)
 - Quantitative data analysis (word frequency, word tree using *NVivo*)
- Interviews with robot providers
 - Qualitative data analysis (using *NVivo*)



Pepper



Sota



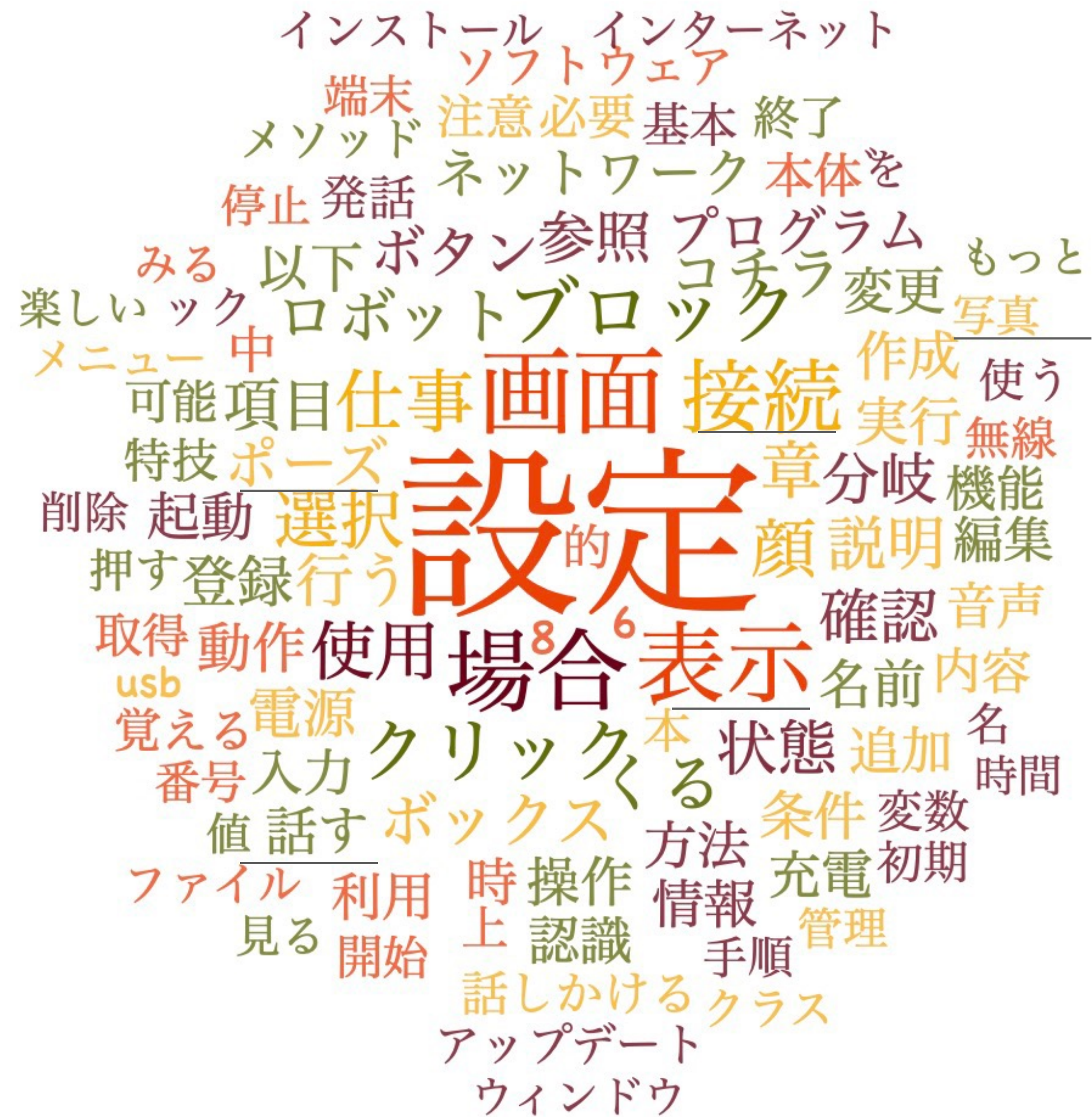
Nao



Papero



Palro



Word cloud of user guides of social robots (N=3)

Imagined users or their needs

(from word frequency of user guides):

- ポーズ=posing: 302 times
- 話す= chat: 237 times
- 写真=photographs: 121 times
- 設定= setting: 2072 times
- 表示= displaying: 755 times
- 接続= connection: 640 times

Imagined use (from interviews with robot providers) 1

- “We originally built it as a platform for interactive robots.”
- “We started joint research (in 2015) with a major provider of fixed telephone and internet lines (who we now cooperate with) to see if it could be used in the elderly care sector.”

extract from an interview with a robot provider company in Japan (May 2022)

Imagined use (from interviews with robot providers) 2

Around 10 years ago, there was a strong feeling within the company that, although we were developing our own software in various areas, we wanted to develop something ourselves, and the Ministry of Economy, Trade and Industry (METI) had just launched a roadmap project to develop robot technology as the next industry for the future. We participated in the project that was launched in 2008 or 2009, or I don't remember exactly when, and that's when we got our start in the robot business.

extract from an interview with a robot provider company in Japan (April 2022)

Imagined use (from interviews with robot providers) 3

“We didn't start out selling it to long-term care facilities for the elderly or for personal use, but rather for research and development, or for use as educational material.”

extract from an interview with a robot provider company in Japan (April 2022)

Imagined use (from interviews with robot providers) 4

- “The final goal is to sell the internet connection line. I couldn't get a response with a straight question like “How about an internet line for your facility?”, so I took a different approach by asking “How about a robot for your facility?”
- “(I)t seems that an indirect approach like this is taken in the sales industry, I think it is.”

extract from an interview with a robot provider company in Japan (June 2022)

User Representations for Social Robots

Social robots for whom?

- Imagined use: recreational or rehabilitation activities
 - Real needs of whom? elderly people or caregivers?
- No target user or even for other purposes
 - underestimation of the “complex process” of care (Joan Tronto, 1998)?



Caption

Conclusion

- **Heterogenous users' images**
- **the absence of users' image**
 - **for social robots in elderly care settings in Japan**

Thank you for your attention.