was designed to evoke certain types of work from participants – maintaining the illusion that they are interacting with a virtual pet, accepting a unified presence, responding to personal questions without receiving answers to them, and performing the work of building a relationship. Instead, participants rejected the idea of a pet, fragmented a unified presence, pushed for reciprocal relationships, and questioned whether they would actually like to put work into building a relationship. In other words, the technology is designed to mediate a particular relationship and elicit specific kinds of work – but participants pushed for a different kind of relationship with teleoperators, and did other kinds of work to get there. As technologies to provide social support enter our homes, we should carefully consider the kinds of work that these technologies require of their users.

ACKNOWLEDGEMENTS

This work was supported in part by the National Science Foundation Graduate Research Fellowship (DGE- 1256082). Thank you to the individuals that participated in this study, as well as Selma Šabanović and the anonymous reviewers for their feedback on this paper.

REFERENCES

- [1] Bratteteig, T. and Eide, I. 2017. Becoming a Good Homecare Practitioner: Integrating Many Kinds of Work. Computer Supported Cooperative Work (CSCW). 26, 4–6 (Dec. 2017), 563–596. DOI:https://doi.org/10.1007/s10606-017-9288-7.
- [2] Bratteteig, T. and Wagner, I. 2013. Moving Healthcare to the Home: The Work to Make Homecare Work. ECSCW 2013: Proceedings of the 13th European Conference on Computer Supported Cooperative Work, 21-25 September 2013, Paphos, Cyprus. Springer, London. 143–162.
- [3] Breazeal, C. and Foerst, A. 1999. Schmoozing with robots: Exploring the boundary of the original wireless network. *Proceedings of the 1999 Conference on Cognitive Technology (CT99* (1999), 375–390.
- [4] Caldeira, C., Bietz, M., Vidauri, M. and Chen, Y. 2017. Senior Care for Aging in Place: Balancing Assistance and Independence. Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing (New York, NY, USA, 2017), 1605–1617.
- [5] Ceci, C., Björnsdóttir, K. and Purkis, M.E. 2013. Perspectives on Care at Home for Older People. Routledge.
- [6] Chang, W.L., Šabanovic, S. and Huber, L. 2013. Use of seal-like robot PARO in sensory group therapy for older adults with dementia. 2013 8th ACM/IEEE International Conference on Human-Robot Interaction (HRI) (Mar. 2013), 101-102
- [7] Charmaz, K. 2006. Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis. Sage Publications.
- [8] Companion Care Salaries in the United States | Indeed.com: https://www.indeed.com/cmp/Companion-Care/salaries. Accessed: 2018-09-02.
- [9] Consolvo, S., Roessler, P. and Shelton, B.E. 2004. The CareNet Display: Lessons Learned from an In Home Evaluation of an Ambient Display. *UbiComp 2004: Ubiquitous Computing* (Sep. 2004), 1–17.
- [10] Czaja, S.J. and Sharit, J. 1998. Age differences in attitudes toward computers. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*. 53, 5 (Sep. 1998), P329-340.
- [11] Dishman, E. 2004. Inventing wellness systems for aging in place. Computer. 37, 5 (May 2004), 34–41. DOI:https://doi.org/10.1109/MC.2004.1297237.
- [12] Dombrowski, L., Harmon, E. and Fox, S. 2016. Social Justice-Oriented Interaction Design: Outlining Key Design Strategies and Commitments. Proceedings of the 2016 ACM Conference on Designing Interactive Systems (New York, NY, USA, 2016), 656–671.
- [13] Edwards, W.K. and Grinter, R.E. 2001. At Home with Ubiquitous Computing: Seven Challenges. *Ubicomp 2001: Ubiquitous Computing*. G.D. Abowd, B. Brumitt, and S. Shafer, eds. Springer Berlin Heidelberg. 256–272.
- [14] Ekbia, H. and Nardi, B. 2014. Heteromation and its (dis)contents: The invisible division of labor between humans and machines. First Monday. 19, 6 (May 2014). DOI:https://doi.org/10.5210/fm.v19i6.5331.
- [15] Ekbia, H. and Nardi, B. 2015. The Political Economy of Computing: The Elephant in the HCI Room. *interactions*. 22, 6 (Oct. 2015), 46–49. DOI:https://doi.org/10.1145/2832117.
- [16] Ekbia, H.R., Nardi, B. and Šabanović, S. 2015. On the Margins of the Machine: Heteromation and Robotics. *iConference* (2015).
- [17] Ekbia, H.R. and Nardi, B.A. 2017. Heteromation, and Other Stories of Computing and Capitalism. The MIT Press.
- [18] English, T. and Carstensen, L.L. 2014. Selective narrowing of social networks across adulthood is associated with improved emotional experience in daily life. *International Journal of Behavioral Development*. 38, 2 (Mar. 2014), 195– 202. DOI:https://doi.org/10.1177/0165025413515404.
- [19] Eustis, N.N., Kane, R.A. and Fischer, L.R. 1993. Home Care Quality and the Home Care Worker: Beyond Quality Assurance as Usual. *The Gerontologist.* 33, 1 (Feb. 1993), 64–73. DOI:https://doi.org/10.1093/geront/33.1.64.

103:16 A. Lazar et al.

[20] Farshchian, B.A., Vilarinho, T. and Mikalsen, M. 2017. From Episodes to Continuity of Care: a Study of a Call Center for Supporting Independent Living. Computer Supported Cooperative Work (CSCW). 26, 3 (Jun. 2017), 309–343. DOI:https://doi.org/10.1007/s10606-017-9262-4.

- [21] Fitzpatrick, G. and Ellingsen, G. 2013. A Review of 25 Years of CSCW Research in Healthcare: Contributions, Challenges and Future Agendas. Computer Supported Cooperative Work (CSCW). 22, 4–6 (Aug. 2013), 609–665. DOI:https://doi.org/10.1007/s10606-012-9168-0.
- [22] Foong, P.S., Zhao, S., Carlson, K. and Liu, Z. 2017. VITA: Towards Supporting Volunteer Interactions with Long-Term Care Residents with Dementia. Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (2017), 6195–6207.
- [23] Glasner, J. 2016. Why Venture Capitalists Are Caring More About Home Care. Forbes.
- [24] Greenhalgh, T., Wherton, J., Sugarhood, P., Hinder, S., Procter, R. and Stones, R. 2013. What matters to older people with assisted living needs? A phenomenological analysis of the use and non-use of telehealth and telecare. *Social Science & Medicine*. 93, (Sep. 2013), 86–94. DOI:https://doi.org/10.1016/j.socscimed.2013.05.036.
- [25] Institute of Medicine of the National Academies 2008. Retooling for an Aging America: Building the Health Care Workforce. Institute of Medicine.
- [26] Irani, L.C. and Silberman, M.S. 2013. Turkopticon: Interrupting Worker Invisibility in Amazon Mechanical Turk. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (New York, NY, USA, 2013), 611–620.
- [27] Koch, S. 2006. Home telehealth—Current state and future trends. *International Journal of Medical Informatics*. 75, 8 (Aug. 2006), 565–576. DOI:https://doi.org/10.1016/j.ijmedinf.2005.09.002.
- [28] Lazar, A., Thompson, H.J., Piper, A.M. and Demiris, G. 2016. Rethinking the Design of Robotic Pets for Older Adults. Proceedings of the 2016 ACM Conference on Designing Interactive Systems (New York, NY, USA, 2016), 1034–1046.
- [29] Lee, M.L. and Dey, A.K. 2011. Reflecting on Pills and Phone Use: Supporting Awareness of Functional Abilities for Older Adults. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (New York, NY, USA, 2011), 2095–2104.
- [30] Light, A., Leong, T.W. and Robertson, T. 2015. Ageing Well with CSCW. ECSCW 2015: Proceedings of the 14th European Conference on Computer Supported Cooperative Work, 19-23 September 2015, Oslo, Norway. Springer, Cham. 295-304
- [31] Lindley, S. and Wallace, J. 2015. Placing in Age: Transitioning to a New Home in Later Life. ACM Trans. Comput.-Hum. Interact. 22, 4 (Jun. 2015), 20:1–20:39. DOI:https://doi.org/10.1145/2755562.
- [32] Lindley, S.E., Harper, R. and Sellen, A. 2008. Designing for Elders: Exploring the Complexity of Relationships in Later Life. Proceedings of the 22Nd British HCI Group Annual Conference on People and Computers: Culture, Creativity, Interaction - Volume 1 (Swinton, UK, UK, 2008), 77–86.
- [33] Lorenzen-Huber, L., Boutain, M., Camp, L.J., Shankar, K. and Connelly, K.H. 2011. Privacy, Technology, and Aging: A Proposed Framework. Ageing International. 36, 2 (Jun. 2011), 232–252. DOI:https://doi.org/10.1007/s12126-010-9083-y.
- [34] Melenhorst, A.-S., Rogers, W.A. and Caylor, E.C. 2001. The Use of Communication Technologies by Older Adults: Exploring the Benefits from the User's Perspective. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting.* 45, 3 (Oct. 2001), 221–225. DOI:https://doi.org/10.1177/154193120104500305.
- [35] Mort, M., Roberts, C. and Callén, B. 2013. Ageing with telecare: care or coercion in austerity? Sociology of Health & Illness. 35, 6 (Jul. 2013), 799–812. DOI:https://doi.org/10.1111/j.1467-9566.2012.01530.x.
- [36] Muller, M.J. 1999. Invisible Work of Telephone Operators: An Ethnocritical Analysis. Computer Supported Cooperative Work (CSCW), 8, 1–2 (Mar. 1999), 31–61. DOI:https://doi.org/10.1023/A:1008603223106.
- [37] Muller, M.J., Carr, R., Ashworth, C., Diekmann, B., Wharton, C., Eickstaedt, C. and Clonts, J. 1995. Telephone Operators As Knowledge Workers: Consultants Who Meet Customer Needs. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (New York, NY, USA, 1995), 130–137.
- [38] Mynatt, E.D., Essa, I. and Rogers, W. 2000. Increasing the Opportunities for Aging in Place. Proceedings on the 2000 Conference on Universal Usability (New York, NY, USA, 2000), 65–71.
- [39] Mynatt, E.D., Rowan, J., Craighill, S. and Jacobs, A. 2001. Digital Family Portraits: Supporting Peace of Mind for Extended Family Members. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (New York, NY, USA, 2001), 333–340.
- [40] Nasreddine, Z.S., Phillips, N.A., Bédirian, V., Charbonneau, S., Whitehead, V., Collin, I., Cummings, J.L. and Chertkow, H. The Montreal Cognitive Assessment, MoCA: A Brief Screening Tool For Mild Cognitive Impairment. Journal of the American Geriatrics Society. 53, 4, 695–699. DOI:https://doi.org/10.1111/j.1532-5415.2005.53221.x.
- [41] National Research Council of the National Academies 2011. *Health Care Comes Home: The Human Factors*. National Academies Press.
- [42] Nishio, S., Ishiguro, H. and Hagita, N. 2007. Can a Teleoperated Android Represent Personal Presence? A Case Study with Children. *Psychologia*. 50, (2007), 330–342.
- [43] Odetti, L., Anerdi, G., Barbieri, M.P., Mazzei, D., Rizza, E., Dario, P., Rodriguez, G. and Micera, S. 2007. Preliminary experiments on the acceptability of animaloid companion robots by older people with early dementia. 2007 29th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (Aug. 2007), 1816–1819.
 [44] Orlov, L.M. Technology for Aging in Place: 2018 Market Overview: 2018.
- https://www.ageinplacetech.com/files/aip/Market Overview 2018 Final 03-14-2018.pdf#. Accessed: 2018-04-16.
- [45] Parker, A.G. 2013. Designing for Health Activism. interactions. 20, 2 (Mar. 2013), 22–25. DOI:https://doi.org/10.1145/2427076.2427082.