AURA: Urban Personal Projection to Initiate the Communication

Miyo Okada
Laura Lugaresi
Keio University Graduate School of Media Design
Yokohama, Japan
miyo@kmd.keio.ac.jp
laural@kmd.keio.ac.jp

Dingding Zheng
Keio University Graduate School of Media Design
Yokohama, Japan
zheng208@kmd.keio.ac.jp

Roshan Peiris
Keio University Graduate School of Media Design
Yokohama, Japan
roshan@kmd.keio.ac.jp

Katrin Wolf
Hamburg University of Applied Sciences
Hamburg, Germany
katrin.wolf@acm.org

Cristian Norlin
Mikael Anneroth
Ericsson Research, Ericsson
Stockholm, Sweden
cristian.norlin@ericsson.com
mikael.anneroth@ericsson.com

Kai Kunze
Masa Inakage
Keio University Graduate School of Media Design
Yokohama, Japan
kai@kmd.keio.ac.jp
inakage@kmd.keio.ac.jp

ISS 2018, November 25–28, 2018, Tokyo, Japan.

ACM ISBN 978-1-4503-5694-7/18/11.
https://doi.org/10.1145/3279778.3281758

Abstract
We present a concept of AURA, an urban personal projection to initiate the communication. In this work, we focus on how to break the ice with strangers through technology in urban public space. The Aura, as an enliven spiritual pet, floats around users feet. We introduce a simple interaction scenario, attracting a person who comes within personal distance of the user who carries the AURA. To break the ice between strangers, a projected butterfly as the Aura is moved toward a person who comes within 2m of the user, and then back and forth to attract that person. We believe that externalized interactive representation of the user in the form of a spiritual pet can ease and facilitate the communication, serve as a conversation starter, and make the interactions between people more fun.

Author Keywords
Icebreaker; Social Interaction; Personal Projection; Communication; Display; Aura.

ACM Classification Keywords
H.5.m [Information interfaces and presentation (e.g., HCI)]: Miscellaneous.

Figure 1: An Animation Image of AURA Used in This Demo

Figure 2: Projector Setting with a Single Strap Backpack

Introduction

Diffusion of technology increased chances for online encounters, but seems to have no impact on offline communication opportunities. Aura[5][8] takes advantage of technology to encourage awkwardness free verbal and nonverbal communication between people in real-world scenarios[2]. The device creates a customized and interactive floor projection inside users' personal distance.[4]

We present the concept of AURA, a device that projects a personalized animation around the user.(Figure 1) This projection interacts with anybody within 2m from the user, taking the burden of making the first move. In this work, we tests the interaction of a user with Aura and passer-by in an urban context.

AURA for the Testing in the wild

Ice breaking using technology is explored elsewhere[3], we assume that AURA can achieve a natural communication starter like a dog taken for a walk in a park. Communication occurring with stranger through pets are often shown.[1, 7]

In this demo, AURA satisfied following requirements, the definitions by Veevers(1985) as the social meaning of companion animals.[6]

- The projective function; the extent to which the selection of a pet is interpreted as making a statement about the owner.
  The content of AURA acts to show user's mood. A flapping butterfly attracts surrounding people as a substitute for socializing desire in this demo.

- The sociability function; the extent to which having a pet that acts as a social lubricant and effects the quantity and quality of interaction with other humans.

In this demonstration, we achieve this by adopting an animation of a flapping butterfly that invites curiosity, comments, and desires to chase after. The projector was stored in a back that had a whole to create a subtle interaction. Therefore, it was fixed into a single strap backpack with a hole for the projector lens. (Figure 2)

Figure 3: User Wearing AURA in Public Space

Figure 4: User Communicates with a Person through AURA in Public Space

- The surrogate function; the extent to which the pet-human interaction may serve as a supplement to human-human interaction or even, in some extreme cases, as an alternative to it.

  The butterfly as AURA shows a movement as if it stops at the feet of the person entering personal distance of the user and tries to show an intention to take communication instead of the user. (Figure 3,4)

Conclusion

We presented a concept of AURA, an urban personal projection to initiate the communication. In this work, we focus on how to break the ice with strangers through technology in urban public space. The Aura, as an enliven spiritual pet, floats around users feet. We focus on the social meaning of companion animals[6], and introduce a simple interaction scenario, which provides functions to break the ice with strangers.[6] In this work, we tested the interaction of a user with Aura and passer-by in an urban context. The butterfly as AURA attracts a person who comes within personal distance of the user, and take the burden of making the first move. From this scenario, we showed the possibility to increase opportunities to meet people in the urban city through interactive personal projection.

References

[1] Baum, F., and Palmer, C. opportunity structures: urban landscape, social capital and health promotion in australia. *Health promotion international 17*, 4 (2002), 351–361.

[2] Brown, B., Reeves, S., and Sherwood, S. Into the wild: Challenges and opportunities for field trial methods. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, CHI '11, ACM (New York, NY, USA, 2011), 1657–1666.

[3] Grönvall, E., Kinch, S., Petersen, M. G., and Rasmussen, M. K. Causing commotion with a shape-changing bench: Experiencing shape-changing interfaces in use. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, CHI '14, ACM (New York, NY, USA, 2014), 2559–2568.

[4] Hall, E. T. *The hidden dimension*, vol. 609. Garden City, NY: Doubleday, 1966.

[5] Lugaresi, L., Lin, K., and Zheng, D. Wearable aura: Interactive personal projection to bring people closer. In *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems*, CHI EA '18, ACM (New York, NY, USA, 2018), SDC05:1–SDC05:6.

[6] Veevers, J. E. The social meaning of pets: Alternative roles for companion animals. *Marriage & Family Review 8*, 3-4 (1985), 11–30.

[7] Wood, L., Giles-Corti, B., and Bulsara, M. The pet connection: Pets as a conduit for social capital? *Social science & medicine 61*, 6 (2005), 1159–1173.

[8] Zheng, D., Lugaresi, L., Chernyshov, G., Tag, B., Inakage, M., and Kunze, K. Wearable aura: An interactive projection on personal space to enhance communication. In *Proceedings of the 2017 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2017 ACM International Symposium on Wearable Computers*, UbiComp '17, ACM (New York, NY, USA, 2017), 141–144.