LIVING WITH ROBOTS
AND INTERACTIVE COMPANIONS

What do we mean by long-term interaction? How do we study robot use in everyday settings? Three complementary studies of Pleo, a robotic toy.

As robotic artefacts are entering our homes and other every environments, we need to understand how people will adopt and relate to these technologies. This also poses challenges for designers, partly as they are built for new forms of interaction and experiences, and also as their relatively high production costs advocate for a lasting long-term mode of interaction.

An important goal in LIREC is therefore to explore how robotic technology is interacted with in real world settings over prolonged periods of time.

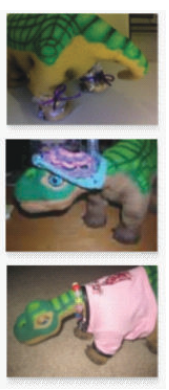
To illustrate how such studies can be performed we here present three different studies of a state of the art robotic toy – Pleo.

1. ”Blog study” (virtual ethnograpy)

What do people post about their use of the Pleo robot on their ”Pleo-blogs”?

Example blog-post:
“Today, I am beading a crystal necklace for Pleo, and adding a fossil charm! His crocheted wardrobe will consist of a ”floppy hat”, walking boots, cape and of course, sunglasses, for our walks and sidewalk surf days! He will be styling!”





Findings:
- users seem to personalize and accessorize robotic toys to a surprisingly large extent

- blogs used as a medium for storytelling and social performance in a community

- “performed belief”: people stage situations and play along with them in their texts

M. Jacobsson, (2009). Play, Belief and Stories about Robots: A Case Study of a Pleo Blogging Community. Proc. of Ro- Man, IEEE.

2. ”Adopt a Robot” interviews of families having Pleo in their homes for several months



“It doesn’t deliver to 100% [as a substitute to a real pet]... I mean, it lasts for maybe an hour and then it needs recharging…”

“It was going to be fun to see how he developed, and he didn’t, he’s just a stupid machine that walked around and nothing much happened, he did the same things, and sounded the same, made the same noises.”

“I have mostly petted it… I really don’t know how to play with it. It doesn’t really work to throw a ball...”

Findings:
- tension between Pleo as a “toy” versus alternative to live “pet”

- visible in play and interaction, use over a prolonged period of time, and basic maintenance issues

- challenges for designers to maintain interest and engagement over time: maintenance, making more interactive, responsive and controllable

Y. Fernaeus, M. Håkansson, et al. (2010). How do you play with a robotic toy animal? A long-term study of Pleo. Proc. of IDC’10, ACM.

3. ”Always on”: Making people keep the robot always on and carry it with them constantly for several days



The robots in LIREC are phrased as technology that will be on and available for users to interact with. What happens when users are asked to keep Pleo at an arms length at all time and switched on while continuing with everyday activities?

"She [an old Lady on the subway] looked at me - sort of with an evil outlook... As with a "Shut that thing [The Pleo] off!" And I - Ok, Ok, Ok... I'm not particularly - like I'm not easily embarrassed or usually care much, but OK, shit then, I will turn it off then so she [The old Lady] doesen't turn crazy or something..."

Findings:
- method captured experiences that may not appear at home or when blogging e.g. in-between social contexts, subway trips etc

- hard work for the participants

- robot alters the personal space by becoming an object for display that attracts attention

This study is currently under analysis for future publication.

Mattias Jacobsson, Ylva Fernaeus, Sara Ljungblad, Maria Håkansson, and Lars Erik Holmquist
http://www.sics.se/projects/lirec

SICS