

Monkey mouths and hands could be key to future interactive enrichment systems

February 27 2023



Credit: University of Glasgow

Researchers from a Scottish university have teamed up with monkeys to learn more about how animals prefer to use interactive systems.

The researchers, from the University of Glasgow, found that white-faced saki [monkeys](#) at Korkeasaari Zoo in Helsinki preferred to use their mouths, teeth and hands to pull switches and swing panels from side to side.

Their collaboration, which suggests that monkeys may have their own preferences for the design of buttons, could inform the development of interactive enrichment activities for [zoo animals](#) in the future.

The research, presented today (Feb. 27) at the International Conference on Tangible Embedded and Embodied Interaction in Warsaw, is a joint project by animal-computer interaction specialists Vilma Kankaanpää and Dr. Ilyena Hirskyj-Douglas.

Dr. Hirskyj-Douglas has led the development of DogPhone, a prototype which helps dogs to choose to video-call their owners. Together with Vilma they have developed other systems which allow monkeys, including the white-faced sakis at Korkeasaari Zoo, to watch videos or listen to music.

Ilyena Hirskyj-Douglas, of the of the University of Glasgow's School of Computing Science, said, "Interactive digital systems have a lot of potential for enriching the lives of zoo animals by giving them [new experiences](#) and more control over their daily activities. However, it's still a new field of research, and we have a lot to learn about how animals want to interact with computer systems."

Vilma Kankaanpää, also of the School of Computing Science, added, "Many previous designs have tasked animals with controlling computers in human-like ways—using their fingers to touch screens, for example. However, animals often interact with the world in distinctly different ways from humans. They use their mouths, feet and tails as well as their hands, and may prefer to use that expanded range of interaction for interactive activities.

"What we wanted to explore was whether we could develop a system of interaction in co-operation with saki monkeys, which centered on their preferences and could help guide future iterations of animal-facing

interactive systems."

The researchers used a development process more commonly used in [human-computer interaction](#) called [rapid prototyping](#) to build a series of simple buttons and switches mounted on wooden panels for the zoo's three white-faced sakis to try out.

In their enclosures, the monkeys had the chance to push levers, press buttons, pull balls and swing a panel—all types of interactions that could be used to control interactive systems in the future.

Over the course of the study, which developed the prototypes across four design iterations, the monkeys appeared to prefer the systems which allowed them to use their mouths and hands to pull and swing items.

The most appealing surfaces for them to interact with appeared to be ones which were colorful, and which were sized to allow the monkeys to easily grip them with their hands and mouths.

Dr. Hirskyj-Douglas, of the School of Computing Science, said, "Rapid prototyping is proven technique for designing systems for humans to use. It offered a foundation for us to collaborate with this group of monkeys and learn what appealed to them.

"While each saki had their own individual levels of interacting with the prototypes, we were able to see broadly what they preferred as a group. Balancing individual likes with their preferences as a group will be key to developing effective systems for pack animals in the future."

Vilma Kankaanpää added: "Designing interactive systems for animals is challenging. It needs to balance human understanding of technology with respect for animals' inner lives and preferences, and take into account how the presence of humans in zoo enclosures might affect their

interaction with prototypes.

"This was a small study, with a small group of monkeys, but each piece of research is a piece of the bigger picture of how we might build interactive systems which are best-suited for [animals'](#) own needs. We're looking forward to taking what we've learned from this research into future studies to further broaden our understanding of animal preferences."

The team's paper, titled "Prototyping with Monkeys: Uncovering What Buttons for Monkeys Look Like," will be presented at the [International Conference on Tangible Embedded and Embodied Interaction](#), Feb. 26–March 1.

More information: Vilma Kankaanpää et al, Prototyping with Monkeys: Uncovering What Buttons for Monkeys Look Like, *Proceedings of the Seventeenth International Conference on Tangible, Embedded, and Embodied Interaction* (2023). [DOI: 10.1145/3569009.3572735](#)

Provided by University of Glasgow

Citation: Monkey mouths and hands could be key to future interactive enrichment systems (2023, February 27) retrieved 20 June 2024 from <https://phys.org/news/2023-02-monkey-mouths-key-future-interactive.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.