A closer look at how humans interact with technology

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Grinter has a personal relationship with her computer. She blogs, tweets and e-mails under the name Beki. Credit: Gary Meek / Georgia Institute of Technology

Most people have just one question regarding Roombas: How well do the robotic floor vacuums suck up pet hair and dust bunnies? A few might even wonder if their Roomba could go rogue and chase the family cat or attack them in their sleep.

Rebecca Grinter, M.S. ’94, Ph.D. ’96, a graduate of UC Irvine’s Donald Bren School of Information & Computer Sciences, has a more academic interest in the smart, saucer-shaped devices.

“Roombas are one of the first robots to leave science fiction and enter the home, so they're an ideal subject for my research. It has nothing to do with their ability to vacuum,” says Grinter, associate professor of

interactive computing at the Georgia Institute of Technology.

“I’m looking at ways people become personally engaged with technology so we can design robots and other machines — particularly computers — to better fit into the social experience.”

A few years ago, to learn what people did with their vacuums, she and colleagues visited online forums, where they found owners chatting about Roombas as if they were beloved pets.

“Many ascribed human and animal personalities to them. They named them. They dressed them up as frogs, ladybugs, even French maids. A few people raced them,”

Grinter says. The findings were published in an academic journal, raising eyebrows and drawing widespread media attention with the nonacademic title “Pimp My Roomba” (PDF).

While the 2009 study made many people laugh (even warranting discussion on “The Colbert Report”), Grinter’s Roomba research shed light on the tendency to personalize technology.

It’s the sort of man-meets-machine inquiry that has made her a pioneer in the relatively young field of human-computer interaction — and earned her the UCI Alumni Association’s 2010 Lauds & Laurels award for distinguished ICS alumni.

“One important responsibility of my work is to give a better understanding of how technology is a human experience — we’re connecting people, not just machines,” Grinter says.

She’s a prime example of someone who has a close personal rapport with her computer. She tweets, blogs and e-mails under the name Beki and

has a cute, bespectacled avatar toting a monkey handbag.

Grinter has posted her avatar — and occasionally a photo of herself sporting a tiara — for the profile picture on her Facebook page, where her "likes" include Amy Winehouse, Jane Austen and Shaun the Sheep. Her faculty profile — not usually the most entertaining of fare — describes her as an "all round good egg" and lists such hobbies as photography and whimsical knitted crafts.

She also mentions attending kindergarten in a British pub and having a license to operate a forklift — a skill she learned to help a friend refurbishing computers for charity.

Because of their user-friendly nature, Grinter's studies often wind up going viral. "Instant Messaging in Teen Life," which she co-authored with ICS alumna Leysia Palen, proved another headline grabber and was one of the 15 most-downloaded papers on the Association for Computing Machinery Digital Library in 2006.

"The intellectual part of the study could bore people to tears, but the topic struck a human chord and took off with the media," Grinter says. "Parents were trying to understand why their son or daughter was spending so much time instant-messaging."

She and Palen found that teens IM because they don't have the freedom to meet up with their friends; most have no control over their schedules and limited transportation.

"The Internet is a good way for them to work around different boundaries and find time to socialize, which is crucial to the teen experience," Grinter says.

In her 2005 study of iTunes use in the workplace, she found that

colleagues often judge each other by their playlists. Some of her subjects even had “playlist anxiety” over what songs to share.

“Music is such a part of our identities. People were curious about their co-workers’ playlists, and they would clean up their own to project a certain image,” she says. “One chap was embarrassed because his wife had downloaded Justin Timberlake into his library.”

Grinter first came to UCI through a study-abroad program from the University of Leeds, in her native England, and returned to the ICS school for her master’s and doctorate.

“I studied traditional computer science as an undergraduate, but I became fascinated by the human component,” she says. “UCI was one of the rare places where human-computer interaction was being taught.”

In 2004, Grinter joined Georgia Tech, where she founded and directs the Work2Play lab, which explores how computers affect people’s work and recreation — often blurring the line between the two.

“Beki has everything,” says UCI informatics professor Judith Olson. “She’s got an excellent publishing record, success in getting grants, visibility in the media, excellent teaching skills, and strong contributions to her profession and the community.”

Whether Grinter is studying how humans interact with their computers or their robotic maids, she hopes her research will help users work and play better with their machines.

“Our goal is to make technologies more usable and useful. By ‘usable,’ we mean easy to operate and understand. By ‘useful,’ we mean engaging, interesting and relevant to people’s lives,” she says. That goes for Roombas named Hal, too.

Provided by University of California, Irvine