Nadine & EDGAR, The Friendliest robots You'll Ever Meet

In the future, social robots like Nadine and EDGAR could help address a shrinking workforce or save time and travel costs.

Asian Scientist Newsroom | January 7, 2016 | Technology

Unlike conventional robots, Nadine has her own personality, mood and emotions. She is powered by intelligent software similar to Apple's Siri or Microsoft's Cortana, and can also be made virtual to appear on a TV or computer screen rather than in person.

Thallmann, the director of the Institute for Media Innovation who led the development of Nadine, said these social robots are among NTU's many exciting new media innovations that companies can leverage for commercialization.

"Over the past four years, our team at NTU have been fostering cross-disciplinary research in social robotics technologies—involving engineering, computer science, linguistics, psychology and other fields—to transform a virtual human from within a computer into a physical being that is able to observe and interact with other humans," explained Thallmann, an expert in virtual humans and a faculty from NTU's School of Computer Engineering.

"This is something like a real companion that is always with you and conscious of what is happening. So in future, these socially intelligent robots could be like C-3PO, the iconic golden droid from Star Wars, with knowledge of language and etiquette."

Nadine's robot-in-arms, EDGAR, was also put through its paces at NTU's new media showcase, complete with a rear-projection screen for its face and two highly articulated arms.

EDGAR is a tele-presence robot optimized to project the gestures of its human user. By standing in front of a specialized webcam, a user can control EDGAR remotely from anywhere in the world. The user's face and expressions will be displayed on the robot's face in real time, while the robot mimics the person's upper body movements.

EDGAR can also deliver speeches by autonomously acting out a script. With an integrated webcam, he automatically tracks the people he meets to engage in conversation, giving them informative and witty replies to their questions.

Led by Associate Professor Gerald Seet from the School of Mechanical & Aerospace Engineering and the BeingThere Centre at NTU, this made-in-Singapore robot represents three years of research and development.

"EDGAR is a real demonstration of how telepresence and social robots can be used for business and education," added Seet. "Telepresence provides an additional dimension to mobility. The user may project his or her physical presence at one or more locations simultaneously, meaning that geography is no longer an obstacle."

"In future, a renowned educator giving lectures or classes to large groups of people in different locations at the same time could become commonplace. Or you could attend classes or business meetings all over the world using robot proxies, saving time and travel costs."

Given that some companies have expressed interest in the robot technologies, the next step for these NTU scientists is to look at how they can partner with industry to bring them to the market.

Source: Nanyang Technological University

Disclaimer: This article does not necessarily reflect the views of AsianScientist or its staff.

Tags: Nanyang Technological University, Robotics, Singapore, Social Robots