

Yuki Aki with  
an OriHime robot  
Photo: Itabashi Yuichi

# Empowerment through Alter-ego Robots

**Yuki Aki aims to overcome the difficulties caused by physical disabilities and distance through “alter-ego robots” and realize a society in which everyone can participate.**

---

**SASAKI TAKASHI**

---

**E**ven if you cannot leave home because of illness, if you had an alter ego, you could still attend school as usual or work in a company. This was the idea that gave birth to OriHime, an “alter-ego robot.” OriHime can easily be operated by anyone using a smartphone or personal computer and can be communicated with as if the real person were right there in its place.

OriHime is a doll-type robot with only an upper body. It is 23 cm tall, 17 cm wide and weighs 660 grams, and houses a built-in camera, speaker and microphone. By connecting OriHime to the Internet, an operator can remotely control the robot using a personal computer or smartphone to move its head and change its line of sight, or signal “Yes” or “No” and express feelings like joy and anxiety by head or hand movements.

Yuki Aki, the co-founder and COO of Ory Lab Inc., is developing the robot. Yuki has loved science since she was a small girl. As a first-grade student she received first prize at the Natural Science Observation Contest organized by a newspaper company for her study of the ecology of snails. In 2006



Yoshifuji Ory with a remotely operated OriHime-D robot at Alter-Ego Robot Café DAWN  
Photo: Courtesy of OryLab Inc



Yoshifuji Ory (third left) with colleagues and robots at Alter-Ego Robot Café DAWN  
Photo: Courtesy of OryLab Inc

when she was a first-year student in high school, she received the Minister for Education, Culture, Sports, Science and Technology's award (the top award) for her research on fluid dynamics in the Japan Science & Engineering Challenge (JSEC). But Yuki had to be hospitalized for an extended period with tuberculosis shortly after that, which prevented her from participating in the Intel International Science and Engineering Fair (ISEF), in which only top JSEC winners qualify to participate. The following year she again succeeded in winning a JSEC prize, and used her previous bitter disappointment as a springboard for her participation in the ISEF. At that time, Yuki became friends with Yoshifuji Ory, the 2004 ISEC Minister for Education, Culture, Sports, Science and Technology's award winner who later became CEO of Ory Lab Inc.

"Yoshifuji had a very hard time with illness and truancy in his elementary and junior high school days. He told us about his basic concept for OriHime, to use a robot to combat social isolation. Because it was exactly what I myself had felt when my own illness prevented me from participating in the ISEF, we hit it off right away. And we decided to launch the alter-ego robot project together with the other people we had become friends with through the JSEC," says Yuki.

The OriHime prototype, completed in 2009, was shaped like a doll with its hands and legs and had many problems in practical applications because it was hard to operate and easily fell over. Through trial and error, they completed the current style featuring only a movable neck and arms in 2013. In 2016 they managed to mass-produce robots and finally

provided them to many users through a monthly rental business model.

"Currently, we provide OriHime to large companies that actively promote teleworking as well as to hospitals and individuals. Operators often tell us that as they look and hear around the office via OriHime, they feel as if they were there. People who make contact with OriHime in the office say that the personality of the operator shows in neck and arm movements as well as in their voice. OriHime is a technology that can communicate a person's presence, as well as their mind and feelings," says Yuki.

Until now, Ory Lab Inc. has focused on providing as many OriHime robots as possible. But now it plans to carry out new projects. One of the projects is a public experiment called "Alter-Ego Robot Café DAWN" using OriHime-D, a new type of alter-ego robot about 120 cm in height that can do simple manual labor. In this experiment, people suffering from serious diseases like amyotrophic lateral sclerosis (ALS) and with severe disabilities operate OriHime-D by OriHime eye, a communication device that can be operated with the eyes alone, to perform customer service tasks.

"This café gives bedridden people who have never worked before the opportunity to feel the joy of working. In addition, we also propose a whole new work style different from conventional teleworking to companies that have a hard time with shortages of human resources," says Yuki.

Now many eyes are turning to Yuki and her friends' activities to overcome various restrictions through the new OriHime technology and connect people with each other and with society. 