

Modern Day Marine

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US Navy Program Developing Better Human Surrogates

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ORLANDO, Fla. – Aziz was angry.

His town had been hit during a US operation, you see, and now its vital infrastructure is damaged. Understandably, he wanted to know what the American facing him was going to do about it. The American, it must be said, wasn't sure.

It's a situation that has played out numerous times in the post-9/11 era, and an area of education and training the Pentagon has tried to emphasize. But as the increasingly uncomfortable American found out, things can get complicated outside of the classroom.

The good news in this story? Aziz is a robot, the American is a passerby at the I/ITSEC show here, and the stressful encounter is exactly what the Office of Naval Research (ONR) is looking for.

First funded in fiscal 2012, ONR's Human Surrogate Interaction program is studying the best way to train and educate service members on stressful interactions they may encounter while serving.

Capt. Wes Naylor, commanding officer at the Naval Air Warfare Center Training Systems Division, says the point of the program is to push servicemen into uncomfortable situations, such as an angry villager, that they may encounter in the real world.

"You won't realize how uncomfortable it can make you until you're really" interacting with it, Naylor said. "You get a real visceral reaction to it."

While the simulation has certain artificial intelligence responses programmed in, there is an operator involved to keep the flow of conversation going. That operator could be based anywhere in the world, and could monitor and react to multiple simulations at once if required.

"There are certainly a lot of programs out there where they use intelligent agents and that works for some applications," Naylor said. "But highly intense applications like this where you need the interactions, in real time, without the lag — the intelligent agents just aren't there for that yet."

The research program, funded through fiscal 2016, is focused on sorting through how best to train these human interactions. Right now the team is experimenting with a desktop-based simulation, lifelike models like Aziz, and virtual reality systems such as the Oculus Rift.

The goal is to differentiate how people react to each setup and adjust accordingly, said Arjun Nagendran, a research assistant professor at the University of Central Florida who is working with the Navy on the program.

Nagendran's team wants to find the sweet spot for simulated human interactions, which he describes as the intersection of "situational plausibility and place illusion; we try to preserve both concepts through the simulation."

He said the program has made "really large strides" over the last year, noting that eight months ago Aziz was just an idea, and is now a fully formed test model interacting with passersby.

Another area the team is studying is creating a virtual interface for training officers to handle victims of sexual assault. The scenario can also be changed to one where an officer has to determine if a sexual assault occurred, or any number of other situations.

Naylor noted that role-playing that situation can be hard, because service members are aware that as soon as the door opens they go back to being buddies. The digital solution also keeps the conversation going. If, for example, an officer tries to blow off the simulation, it responds as a person would — anger, hurt, resentment.

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"It really sucks you in that this person is really upset and it feeds into your emotional response because it really makes you feel uncomfortable and you feel an obligation to help," Naylor said. "It exposes the weakness of even some very highly trained people in a very uncomfortable way. You don't always get what you expect." ■

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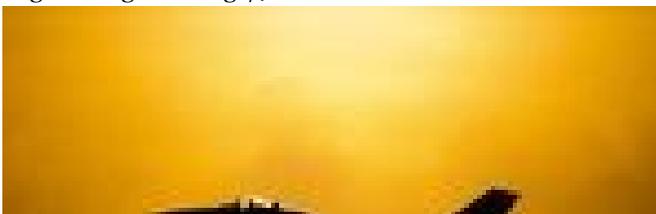
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