

Animated characters help patients discuss ailments, levels of pain

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The company's vision initially seems fanciful: Create applications for health care featuring animated characters that can understand language in all its complexity, from context to regional idioms, detect emotion and recognize facial expressions, perceive differences in personalities, and on top of all that, constantly learn.

To make all this seem even more far-fetched, put the company's base in the second floor of a modest office building in suburban Milwaukee.

Yet iDAvatars is among the companies that have set out to create applications based on one of the most advanced computer systems in the world - IBM's Watson. And IBM has taken note.

"They are one of the most innovative companies we work with," said Lauri Saft, who oversees IBM's partnerships with companies developing applications for the Watson system. "I've seen very few that have moved as quickly as they have."

IDAavatars also has put together a team of about 20 people scattered around the world.

Tom Meyer, who oversees technology, lives in Pune, India. Ozlem Ulusoy Chavez, who oversees project management, lives in Istanbul. Antonio Saraiva, a "game master" who works as a contract employee, lives in Lisbon, Portugal. Jerry Brown, who oversees design, lives in the San Diego area.

Several of them contacted iDAvatars after hearing about the company.

"The fact that you are a small company doesn't give you an excuse not to be global," said Norrie Daroga, iDAvatars' founder and [chief executive officer](#).

In the case of iDAvatars, it also is a necessity - the company would have a much harder time finding people with comparable experience in its own backyard.

FOUNDED IN 2013

Daroga, the former chief administrative officer of Metavante Corp., founded iDAvatars in 2013. So far, the company has won contracts from the Department of Veterans Affairs, Intel and Bayer AG.

The company, which has raised \$3.4 million from investors, projects revenue of \$1 million this year and is close to breaking even, Daroga said.

It is one of more than 350 companies that have or are building applications using the technology underlying IBM's Watson - the computer system commonly known for its appearance on the quiz show "Jeopardy!"

Watson understands context - IBM uses the example of "we feel blue because it is raining cats and dogs" - and can discern meaning from syntax. It also can learn patterns and trends.

IBM contends the technology - which it calls "cognitive computing" - will change how people interact with computers.

The system, the result of decades of work, started with one so-called

application programming interface, API, for questions and answers, said Saft, vice president of IBM Watson Ecosystem. It now has 28, such as one that analyzes the tone of a conversation.

The [application programming interface](#) is the way companies such as iDAvatars connect with the Watson system.

"We help them every step of the way," Saft said.

IBM also has a \$100 million fund that it plans to invest in early-stage companies.

The relationship with IBM has an additional advantage: It can open a lot of doors.

"We will go put them in front of large clients," Saft said.

ACCESSIBLE APPLICATIONS

At the same time, IBM recognizes that it will never know all the ways the technology can be used.

"They have the technology, but they need people like us who know what to do with it," said Jerry Brown, iDAvatars' designer, whose clients have included IBM, Chrysler and Lenovo.

The goal is to develop applications for [health care](#) that are more accessible and effective.

For example, when someone says his or her pain is a 10, on a scale of 1 to 10, yet the person's facial expression or tone doesn't show any pain, the animated character, or "avatar," can ask follow-up questions.

iDAvatars' tagline is "The Art of Empathy," and the company has set out to create empathetic avatars.

"Other companies create a technology product," Brown said. "What we create is a character on a technology platform."

That requires the skill of a playwright or television writer, said Brown, who started out as a copy writer in New York. Thousands of lines of dialogue, gestures and [facial expressions](#) all have to be scripted.

For the VA project, iDAvatars is creating two avatars - a receptionist at a registration desk and a virtual medical assistant.

The VA gave the company 2,000 questions, each that can be asked in five, 10, 15 different ways. The application has to recognize slang, for instance, used in different parts of the country and by people from different backgrounds.

"It's an enormous challenge," Brown said. "For me it's a chance to use everything I've ever learned in one job."

Some of the technology hasn't been perfected. But Daroga, iDAvatars' founder, points to the improvement in voice [technology](#).

"See how much change has happened in two years," said Daroga, who has undergraduate and master's degrees in engineering as well as a law degree.

iDAvatars, he said, has two business models.

One is to develop mobile applications for hospitals, managed care organizations and health insurers who would pay a monthly fee for each user. The other is to develop applications for patients in clinical research

trials.

Last month, Daroga took three trips to Silicon Valley, meeting with Intel, Samsung and IBM. The company's key employees also met with IBM in Boston.

The meeting with Samsung came after the company heard about iDAvatars and contacted Daroga. It later asked if he could give a one-hour demonstration for company executives from Korea.

It's an example of the interest in what iDAvatars has set out to do - and it suggests that the [company](#) has overcome one challenge.

"When you first hear about it," Daroga said, "it's too bizarre."

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