

Mercury News interview: David Evans, chief technologist for Cisco's Internet Business Solutions Group

*By Brandon Bailey*

When Dave Evans thinks of a car, he sees a mobile computing platform that adjusts to the personalities of different drivers while linking them to a global network. The "chief futurist" at Cisco Systems believes cars are just one of the smart and connected machines that people will use to navigate through a deluge of digital information and choices. Evans, whose job is anticipating trends for the giant networking company, recently showed off some prototypes at Cisco headquarters in San Jose. One was a mock-up of an automobile dashboard, with voice controls, music playlists and touch-screen displays that can be rearranged, enlarged or personalized to each driver's preference. A "check engine" light prompted the onboard computer to reach out to the Internet for a video explaining the problem. In the demo, the computer then e-mailed with a car dealer's service department, syncing with the driver's online calendar to schedule a visit for repairs.

Evans also spoke about robots, teleportation and the very human fear of computers taking over the world. The interview was edited for clarity and length.

Q What does a futurist do at Cisco?

A I wear two hats: I'm chief technologist for our Internet Business Solutions Group, where my role is to help our customers: If you're building a new hospital, you may break ground today but you won't open the doors for two or three years. Well, in two or three years, technology will be very different. So part of my role is to help them build things according to how the world will be, versus how the world is today.

And then more broadly as Cisco futurist, it's about understanding where the world's going. It's not about sticking your finger in the air and guessing. We talk to a lot of customers, do a lot of polling, do scenario planning, talk to VCs and startups. And I consume massive amounts of technology.

Q What led to the dashboard prototype?

A We had a large automotive customer come to us and say, "If Cisco did a connected car, what are some concepts you might demonstrate?" So this is just one possible future, something we built as a conversation starter. But there's no question every car is going to be networked at some point.

Q I've heard you're also interested in robots.

A It goes back to when I was 12 or 14. Before I got into tech, I wanted to be a surgeon. I was very intrigued with prosthetics, artificial limbs and ways to control artificial limbs using your mind. I remember cutting up a broom stick to make a wooden hand.

At Cisco, we developed software for a virtual person called Halie, an homage to HAL (the computer in "2001: A Space Odyssey"). You can talk to her, using natural language, and she can perform tasks like adjusting environmental controls, getting information from the network, managing your calendar.

Studies have shown that human interaction with a virtual character is richer than simply reading a text-based Web page. So I'm very intrigued with the notion of replicating the

human essence, if you will, both through hardware and software: robotics and virtual people.

Q Do you think this will help us deal with the explosion of data that's occurring?

A Absolutely. As we create all this information, we might find it helpful to augment ourselves with virtual characters that reside on devices. So if I'm in a new city, she may help me find things; or if I'm in a store, she might give me advice on products.

Within the next two or three decades, there is no question in my mind that robots and other machines will become cognitively superior to humans in terms of raw processing power. This does not mean that robots will take over the world. But the tools and technology will become infinitely more capable to help us in variety of tasks, whether it's space exploration or driving our cars for us.

Q You mentioned HAL, the sci-fi computer that ran amok. Fear of robots taking over is a recurring theme in pop culture. Do you think that's diminishing as people use technology more?

A I think so. Unfortunately, movies that have nice, friendly robots don't make for great stories as much as the "Terminator" scenarios. But that's a reflection of human emotion. Machines are not emotional.

Q You've made predictions about teleportation. How will that develop?

A We're now seeing 3D printers, which allow us to fabricate 3D objects. We're getting to the point where we can fabricate human organs. You could see a day when you go to an online retailer and see a widget you want to buy. But instead of having it shipped to you, you download the recipe and fabricate it at home.

This gets a little philosophical: In order to teleport something, you teleport the recipe or the state of something, which means the original is destroyed. So we can teleport the state of atoms, not the atoms themselves.

Now in labs they're able to teleport the state of one or two atoms. So, by 2050, I think we should be able to teleport inanimate objects. But to teleport organic life, add a 1 to that, so about 150 years.