Where to next?

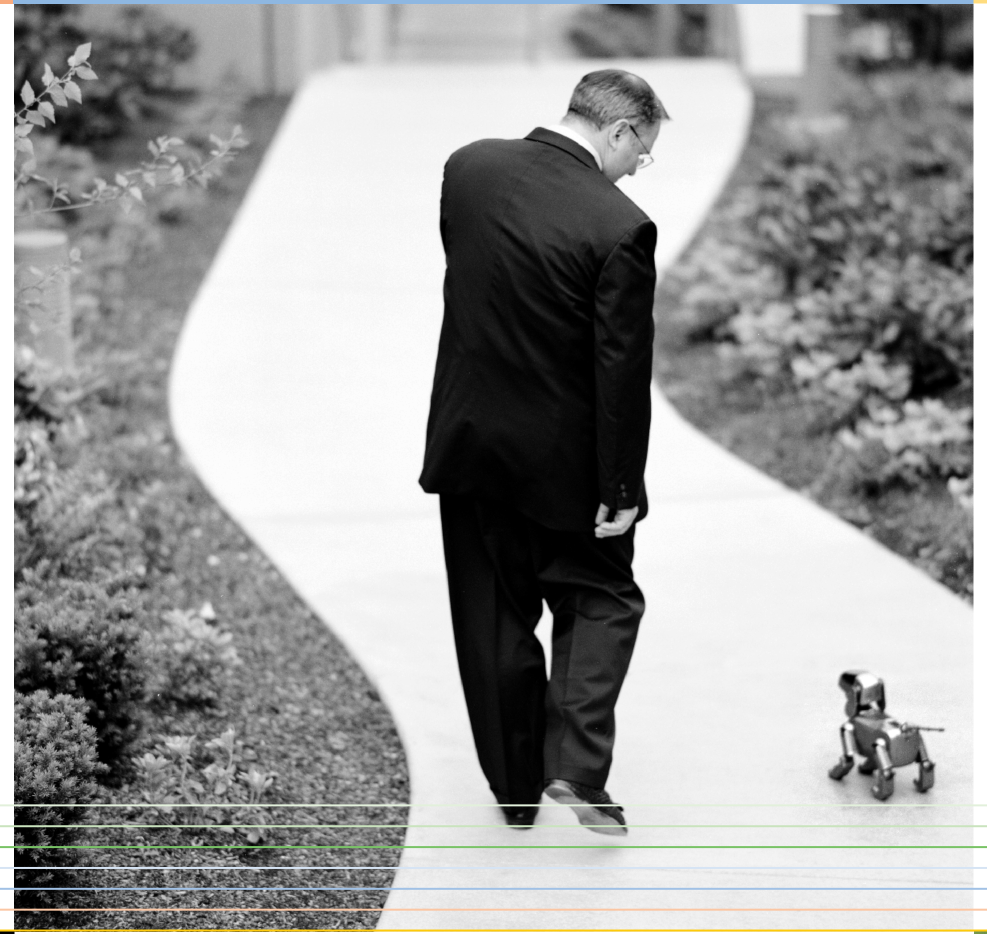
We're entering a new era of computing that promises to be more exciting and amazing that anything we've seen so far. Get a glimpse into the future with a look at some of the projects we're working on today.

Bill Gates
Chief Software Architect

Back in 1975, Paul and I dreamed that computers would be ubiquitous and indispensable. Many of the things we imagined have already come true, and now we're on the verge of even greater breakthroughs. Every year, computers are becoming smaller, faster, cheaper and more versatile. They can recognize handwriting and voice commands, organize themselves into networks, and send information around the world in an instant. The power of the PC can now be embedded into all kinds of devices, from refrigerators to gas pumps to credit cards.

Today, as Microsoft's Chief Software Architect, I spend most of my time doing what I think I'm best at: thinking about where technology is going and figuring out how our software and services can turn these exciting developments into useful, indispensable tools for everyone. Some of these concepts will become the software we'll use tomorrow, while others might make it into software our grandchildren will use. When I think back to when Paul and I were just kids starting out, I'm amazed by the progress we've made. But then I look ahead to the world of my own children, and I realize that the changes yet to come will be even more exciting.

Craig Mundie
Senior Vice President, Consumer Strategy



Part of my job is to think about what people do every day, how they use technology now, how they could be using it in the future, and what Microsoft can do to help make it easier for them. A lot of everyday activities are pretty complicated, but people need to perform them to live. Take groceries. Imagine that everything you buy has "smart" packaging. This would allow sensors in your pantry, refrigerator, trash compactor, and recycle bins to keep track of everything as it comes and goes. You can also apply this kind of technology to other activities, like washing clothes. Today, most clothing has an itty-bitty label with washing instructions, which most people never look at. If the labels were smart, they could tell the washing machine to regulate the water temperature as well as the amount of soap.

Just as an electric motor acts as an "amplifier" for your muscles by enabling you physically to do more, the computer is an amplifier for your brain. It's hard to predict exactly what we'll do with that power. I like to think that by creating the software that makes the most of it, we're ultimately going to make a big, positive difference in the world.

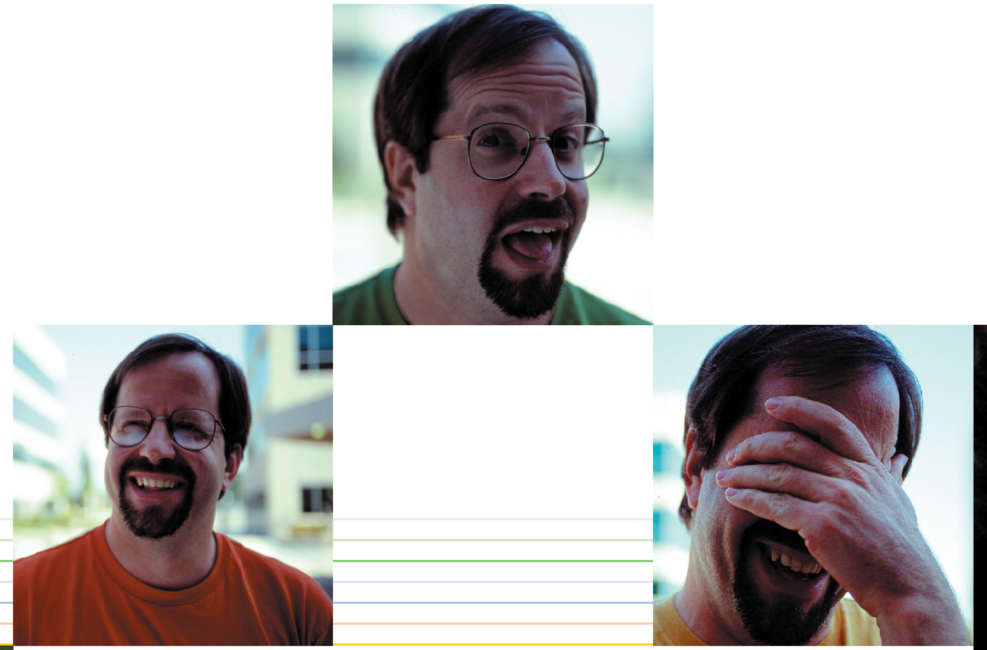
David Vaskevitch
Senior Vice President, Business Applications Division

During the next 10 years, the way the world does business will change enormously. One fundamental implication of the Internet is that customers can begin serving themselves. At first, customers will just want 24x7 self-service. Later, they'll demand real-time service, such as immediately having funds deposited when a stock is sold or instantaneously receiving loan approval.

This combination of self-service and real-time implementation will form the basis for building true communities. In the consumer world, these will take the form of membership services. For example, when I make a reservation at my favorite restaurant at 3 a.m., the chef will take my preferences into account when creating that evening's menu. New applications will also allow manufacturers to plan production and inventory needs cooperatively with all their suppliers. Imagine a small custom bicycle shop where all the parts appear precisely when they're needed.

Our division is working to build and sell products and services that make this vision a reality. Twenty-five years ago, Microsoft led the PC revolution. Today, we have the opportunity to lead a new business application and services revolution. What a great challenge for the next 25 years.

David Weise
Project Leader, Natural Language Group



Everyone says, "We want to talk to the computer." I don't want to be able to talk to my computer. I talk to it all the time. I want the damn thing to listen! We already talk to computers for simple activities such as getting stock quotes or scheduling a flight, where the vocabulary is more constrained and the semantics of the situation can be clearly described. Since the machine "knows" the context, it can keep querying you for what it doesn't know. But it gets harder if you want to say to Word, "Please make this text bold" or if you want to tell your browser, "Please get me yesterday's headlines about the Pope and Bill Clinton and all the related jokes." But we're working on it.

Now, here's the science-fiction part. What if the program could read the articles and merge them together, finding what's common and throwing away the redundant bits? I also want to have a slider bar that lets you say, "I'm a sixth grader, so please show the information to me in terms I can understand." What I just described is still at least 20 years out, but it's going to happen.

Lyndsay Williams
Researcher in Hardware Systems

These days, you need an instruction book to use a computer, but I want to make devices that are simple to use. When you get a new pen, you don't expect some instruction booklet with it. You pick it up and use it. Making a computer small enough to fit inside a pen is just a matter of eliminating things that are too big.

A few years ago, I came up with the idea of using an accelerometer inside a pen to record handwriting movement. Accelerometers are used in car airbags. When you crash your car, the motion is detected and the accelerometer triggers the airbag.

In the pen, it will detect the movement of your hand on the paper and use pattern recognition to determine what a particular set of movements represents. It will learn about your writing style as you use it, so it will get smarter over time. Whenever I sit down at a desk and use a computer, I'm struck by how limiting it is. Who says you have to sit in a chair to use a computer? Really, you should have the computer with you all the time, so it's there whenever you need it.

Gordon Bell
Senior Researcher, Microsoft Research

Telepresence is a technology that lets you be there without really being there. Basically, the Internet frees us of the limitations of time and space: we can go shopping any time, any where in the world. We're trying to add the visual and audio aspect that will allow you to feel like you're really there, and also allow others to feel your presence.

Telepresence will impact the way we work. People who toil in tiny cubicles can have wall displays that make them feel like they're anywhere: a sidewalk café in Paris, a beach in Jamaica, their own living room. Colleagues from all over the world can meet virtually, maybe holographically, in your office. You'll see them, hear them, and feel their emotions, just like in person. For all practical purposes, they'll be there.

The key to telepresence will be the emotional connection–feeling present and having others feel that you are present. I believe that telepresence will be central to the future of computing. Personal telepresence gear will become standard office equipment, like telephones. This will have dramatic implications for how we work, play and interact with others.