(Music: "The Sound of Silence," Simon & Garfunkel) Hello voice mail, my old friend. (Laughter) I've called for tech support again. I ignored my boss's warning. I called on a Monday morning. Now it's evening, and my dinner first grew cold, and then grew mold. I'm still on hold. I'm listening to the sounds of silence. I don't think you understand. I think your phone lines are unmanned. I punched every touch tone I was told, but I've still spent 18 hours on hold. It's not enough your software crashed my Mac, and it constantly hangs and bombs � it erased my ROMs! Now the Mac makes the sounds of silence. In my dreams I fantasize of wreaking vengeance on you guys. Say your motorcycle crashes. Blood comes gushing from your gashes. With your fading strength, you call 9-1-1 and you pray for a trained MD. But you get me. (Laughter) And you listen to the sounds of silence. (Music) (Applause) Thank you. Good evening and welcome to: "Spot the TED Presenter Who Used to Be a Broadway Accompanist." (Laughter) When I was offered the Times column six years ago, the deal was like this: you'll be sent the coolest, hottest, slickest new gadgets. Every week, it'll arrive at your door. You get to try them out, play with them, evaluate them until the novelty wears out, before you have to send them back, and you'll get paid for it. You can think about it, if you want. So, I've always been a technology nut, and I absolutely love it. The job, though, came with one small downside, and that is, they intended to publish my email address at the end of every column. And what I've noticed is � first of all, you get an incredible amount of email. If you ever are feeling lonely, get a New York Times column, because you will get hundreds and hundreds and hundreds of emails. And the email I'm getting a lot today is about frustration. People are feeling like things � Ok, I just had an alarm come up on my screen. Lucky you can't see it. People are feeling overwhelmed. They're feeling like it's too much technology, too fast. It may be good technology, but I feel like there's not enough of a support structure. There's not enough help. There's not enough thought put into the design of it to make it easy and enjoyable to use. One time I wrote a column about my efforts to reach Dell Technical Support, and within 12 hours, there were 700 messages from readers on the feedback boards on the Times website, from users saying, ""Me too, and here's my tale of woe." I call it "software rage." And man, let me tell you, whoever figures out how to make money off of this frustration will � Oh, how did that get up there? Just kidding. (Laughter) Ok, so why is the problem accelerating? And part of the problem is, ironically, because the industry has put so much thought into making things easier to use. I'll show you what I mean. This is what the computer interface used to look like, DOS. Over the years, it's gotten easier to use. This is the original Mac operating system. Reagan was President. Madonna was still a brunette. And the entire operating system � this is the good part � the entire operating system fit in 211 k. You couldn't put the Mac OS X logo in 211 k! (Laughter) So the irony is, that as these things became easier to use, a less technical, broader audience was coming into contact with this equipment for the first time. I once had the distinct privilege of sitting in on the Apple call center for a day. The guy had a duplicate headset for me to listen to. And the calls that � you know how they say, "Your call may be recorded for quality assurance?" Uh-uh. Your call may be recorded so that they can collect the funniest dumb user stories and pass them around on a CD. (Laughter) Which they do. (Laughter) And I have a copy. (Laughter) It's in your gift bag. No, no. With your voices on it! So, some of the stories are just so classic, and yet so understandable. A woman called Apple to complain that her mouse was squeaking. Making a squeaking noise. And the technician said, "Well, ma'am, what do you mean your mouse is squeaking?" She says, "All I can tell you is that it squeaks louder, the faster I move it across the screen." (Laughter) And the technician's like, "Ma'am, you've got the mouse up against the screen?" She goes, "Well, the message said, 'Click here to continue.'" (Laughter) Well, if you like

that one � how much time have we got? Another one, a guy called � this is absolutely true � his computer had crashed, and he told the technician he couldn't restart it, no matter how many times he typed "11." And the technician said, "What? Why are you typing 11?" He said, "The message says, 'Error Type 11.'" (Laughter) So, we must admit that some of the blame falls squarely at the feet of the users. But why is the technical overload crisis, the complexity crisis, accelerating now? In the hardware world, it's because we the consumers want everything to be smaller, smaller, smaller. So the gadgets are getting tinier and tinier, but our fingers are essentially staying the same size. So it gets to be more and more of a challenge. Software is subject to another primal force: the mandate to release more and more versions. When you buy a piece of software, it's not like buying a vase or a candy bar, where you own it. It's more like joining a club, where you pay dues every year, and every year, they say, "We've added more features, and we'll sell it to you for $99." I know one guy who's spent $4,000 just on Photoshop over the years. And software companies make 35 percent of their revenue from just these software upgrades. I call it the Software Upgrade Paradox � which is that if you improve a piece of software enough times, you eventually ruin it. I mean, Microsoft Word was last just a word processor in, you know, the Eisenhower administration. (Laughter) But what's the alternative? Microsoft actually did this experiment. They said, "Well, wait a minute. Everyone complains that we're adding so many features. Let's create a word processor that's just a word processor: Simple, pure; does not do web pages, is not a database." And it came out, and it was called Microsoft Write. And none of you are nodding in acknowledgment, because it died. It tanked. No one ever bought it. I call this the Sport Utility Principle. People like to surround themselves with unnecessary power, right? They don't need the database and the website, but they're like, "Well, I'll upgrade, because, I might, you know, I might need that someday." So the problem is: as you add more features, where are they going to go? Where are you going to stick them? You only have so many design tools. You can do buttons, you can do sliders, pop-up menus, sub-menus. But if you're not careful about how you choose, you wind up with this. (Laughter) This is an un-retouched � this is not a joke � un-retouched photo of Microsoft Word, the copy that you have, with all the toolbars open. You've obviously never opened all the toolbars, but all you have to type in is this little, teeny window down here. (Laughter) And we've arrived at the age of interface matrices, where there are so many features and options, you have to do two dimensions, you know: a vertical and a horizontal. You guys all complain about how Microsoft Word is always bulleting your lists and underlining your links automatically. The off switch is in there somewhere. I'm telling you � it's there. Part of the art of designing a simple, good interface, is knowing when to use which one of these features. So, here is the log-off dialogue box for Windows 2000. There are only four choices, so why are they in a pop-up menu? It's not like the rest of the screen is so full of other components that you need to collapse the choices. They could have put them all out in view. Here's Apple's take on the exact same dialogue box. (Applause) Thank you � yes, I designed the dialogue box. No, no. Already, we can see that Apple and Microsoft have a severely divergent approach to software design. Microsoft's approach to simplicity tends to be: let's break it down; let's just make it more steps. There are these "wizards" everywhere. And you know, there's a new version of Windows coming out this fall. If they continue at this pace, there's absolutely no telling where they might wind up. [Welcome to the Type a Word Wizard] (Laughter) (Applause) "Welcome to the Type a Word Wizard." Ok, I'll bite. Let's click "Next" to continue. (Laughter) (Applause) From the drop-down menu, choose the first letter you want to type. Ok. (Laughter) So there is a limit that we don't want to cross. So what is the answer? How do you pack in all these features in a simple, intelligent way? I believe in consistency, when

possible, real-world equivalents, trash can folder, when possible, label things, mostly. But I beg of the designers here to break all those rules if they violate the biggest rule of all, which is intelligence. Now what do I mean by that? I'm going to give you some examples where intelligence makes something not consistent, but it's better. If you are buying something on the web, you're supposed to put in your address, and you're supposed to choose what country you're from, ok? There are 200 countries in the world. We like to think of the Internet as a global village. I'm sorry; it's not one yet. It's mainly like, the United States, Europe, and Japan. So why is "United States" in the "U"s? (Laughter) You have to scroll, like, seven screensful to get to it. Now, it would be inconsistent to put "United States" first, but it would be intelligent. This one's been touched on before, but why in God's name do you shut down a Windows PC by clicking a button called "Start?" (Laughter) Here's another pet one of mine: you have a printer. Most of the time, you want to print one copy of your document, in page order, on that printer. So why in God's name do you see this every time you print? It's like a 747 shuttle cockpit. (Laughter) And one of the buttons at the bottom, you'll notice, is not "Print." (Laughter) (Applause) Now, I'm not saying that Apple is the only company who has embraced the cult of simplicity. Palm is also, especially in the old days, wonderful about this. I actually got to speak to Palm when they were flying high in the '90s, and after the talk, I met one of the employees. He says, "Nice talk." And I said, "Thank you. What do you do here?" He said, "I'm a tap counter." I'm like, "You're a what?" He goes, "Well Jeff Hawkins, the CEO, says, 'If any task on the Palm Pilot takes more than three taps of the stylus, it's too long, and it has to be redesigned.' So I'm the tap counter." So, I'm going to show you an example of a company that does not have a tap counter. (Laughter) This is Microsoft Word. Ok, when you want to create a new blank document in Word � it could happen. (Laughter) You go up to the "File" menu and you choose "New." Now, what happens when you choose "New?" Do you get a new blank document? You do not. On the opposite side of the monitor, a task bar appears, and somewhere in those links � by the way, not at the top � somewhere in those links is a button that makes you a new document. Ok, so that is a company not counting taps. You know, I don't want to just stand here and make fun of Microsoft ... Yes, I do. (Laughter) (Applause) The Bill Gates song! (Piano music) I've been a geek forever and I wrote the very first DOS. I put my software and IBM together; I got profit and they got the loss. (Laughter) I write the code that makes the whole world run. I'm getting royalties from everyone. Sometimes it's garbage, but the press is snowed. You buy the box; I'll sell the code. Every software company is doing Microsoft's R&D. You can't keep a good idea down these days. Even Windows is a hack. We're kind of based loosely on the Mac. So it's big, so it's slow. You've got nowhere to go. I'm not doing this for praise. I write the code that fits the world today. Big mediocrity in every way. We've entered planet domination mode. You'll have no choice; you'll buy my code. I am Bill Gates and I write the code. (Applause) But actually, I believe there are really two Microsofts. There's the old one, responsible for Windows and Office. They're dying to throw the whole thing out and start fresh, but they can't. They're locked in, because so many add-ons and other company stuff locks into the old 1982 chassis. But there's also a new Microsoft, that's really doing good, simple interface designs. I liked the Media Center PC. I liked the Microsoft SPOT Watch. The Wireless Watch flopped miserably in the market, but it wasn't because it wasn't simply and beautifully designed. But let's put it this way: would you pay $10 a month to have a watch that has to be recharged every night like your cell phone, and stops working when you leave your area code? (Laughter) So, the signs might indicate that the complexity crunch is only going to get worse. So is there any hope? The screens are getting smaller, people are illuminating, putting manuals in the boxes, things are coming out at a faster

pace. It's funny � when Steve Jobs came back to Apple in 1997, after 12 years away, it was the MacWorld Expo � he came to the stage in that black turtleneck and jeans, and he sort of did this. The crowd went wild, but I had just seen � I'm like, where have I seen this before? I had just seen the movie "Evita" � (Laughter) with Madonna, and I'm like, you know what? I've got to do one about Steve Jobs. (Music) It won't be easy. You'll think I'm strange. (Laughter) When I try to explain why I'm back, after telling the press Apple's future is black. You won't believe me. All that you see is a kid in his teens who started out in a garage with only a buddy named Woz. (Laughter) You try rhyming with garage! (Laughter) Don't cry for me, Cupertino. (Laughter) The truth is, I never left you. I know the ropes now, know what the tricks are. I made a fortune over at Pixar. (Laughter) Don't cry for me, Cupertino. I've still got the drive and vision. I still wear sandals in any weather. It's just that these days, they're Gucci leather. (Laughter) (Applause) Thank you. So Steve Jobs had always believed in simplicity and elegance and beauty. And the truth is, for years I was a little depressed, because Americans obviously did not value it, because the Mac had three percent market share, Windows had 95 percent market share � people did not think it was worth putting a price on it. So I was a little depressed. And then I heard Al Gore's talk, and I realized I didn't know the meaning of depressed. (Laughter) But it turns out I was wrong, right? Because the iPod came out, and it violated every bit of common wisdom. Other products cost less; other products had more features, they had voice recorders and FM transmitters. The other products were backed by Microsoft, with an open standard, not Apple's propriety standard. But the iPod won � this is the one they wanted. The lesson was: simplicity sells. And there are signs that the industry is getting the message. This is a little company that's done very well with simplicity and elegance. The Sonos thing � it's catching on. I've got just a couple examples. Physically, a really cool, elegant thinking coming along lately. When you have a digital camera, how do you get the pictures back to your computer? Well, you either haul around a USB cable, or you buy a card reader and haul that around. Either one, you're going to lose. What I do is, I take out the memory card, and I fold it in half, revealing USB contacts. I just stick it in the computer, offload the pictures, put it right back in the camera. I never have to lose anything. Here's another example. Chris, you're the source of all power. Will you be my power plug? Chris Anderson: Oh yeah. DP: Hold that and don't let go. You might've seen this, this is Apple's new laptop. This the power cord. It hooks on like this. And I'm sure every one of you has done this at some point in your lives, or one of your children. You walk along � and I'm about to pull this onto the floor. I don't care. It's a loaner. Here we go. Whoa! It's magnetic � it doesn't pull the laptop onto the floor. (Applause) In my very last example � I do a lot of my work using speech recognition software. And I'll just � you have to be kind of quiet because the software is nervous. Speech recognition software is really great for doing emails very quickly; period. Like, I get hundreds of them a day; period. And it's not just what I dictate that it writes down; period. I also use this feature called voice macros; period. Correct "dissuade." Not "just." Ok, this is not an ideal situation, because it's getting the echo from the hall and stuff. The point is, I can respond to people very quickly by saying a short word, and having it write out a much longer thing. So if somebody sends me a fan letter, I'll say, "Thanks for that." [Thank you so much for taking the time to write ...] (Laughter) (Applause) And conversely, if somebody sends me hate mail � which happens daily � I say, "Piss off." (Laughter) [I admire your frankness ...] (Laughter) (Applause) So that's my dirty little secret. Don't tell anyone. (Laughter) So the point is � this is a really interesting story. This is version eight of this software, and do you know what they put in version eight? No new features. It's never happened before in software! The company put no new features. They just said, "We'll make this

software work right." Right? Because for years, people had bought this software, tried it out � 95 percent accuracy was all they got, which means one in 20 words is wrong � and they'd put it in their drawer. And the company got sick of that, so they said, "This version, we're not going to do anything, but make sure it's darned accurate." And so that's what they did. This cult of doing things right is starting to spread. So, my final advice for those of you who are consumers of this technology: remember, if it doesn't work, it's not necessarily you, ok? It could be the design of the thing you're using. Be aware in life of good design and bad design. And if you're among the people who create this stuff: Easy is hard. Pre-sweat the details for your audience. Count the taps. Remember, the hard part is not deciding what features to add, it's deciding what to leave out. And best of all, your motivation is: simplicity sells. CA: Bravo. DP: Thank you very much. CA: Hear, hear! (Applause)