D5

TRANSCRIPT–Bill Gates and Steve Jobs at D5

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*Following is a transcript of the interview Kara Swisher and Walt Mossberg conducted with Microsoft Chairman Bill Gates and Apple CEO Steve Jobs at the **D5** conference on May 30, 2007.*

[*Video plays*]

Kara: Well, thank you.

Walt: Before we get started, there were some pioneers–of course, we have the pioneers here on the stage, but there were some other really important pioneers in the video we just saw and a couple of them are here in the audience. Mitch Kapor, who is a regular, could you just stand up, wherever you are? There he is.

[*Applause*]

Walt: And Fred Gibbons, who has not come to D before, but is here tonight. Fred. There's Fred right there.

[*Applause*]

Walt: And I don't know if he's in the room, but I do want to recognize our fellow journalist, Brent Schlender from Fortune, who, to my knowledge, did the last joint interview these guys did. It was not onstage, but it was Fortune magazine. Brent, I don't know if you're in the room. If you are, can you stand? Maybe he's way over there.

[*Applause*]

Kara: So let's get started. I wanted to ask, there's been a lot of mano-a-mano/catfight kind of thing in a lot of the blogs and the press and stuff like that, and we wanted to–the first question I was interested in asking is what you think each has contributed to the computer and technology industry, starting with you, Steve, for Bill, and vice versa.

Steve: Well, you know, Bill built the first software company in the industry and I think he built the first software company before anybody really in our industry knew what a software company was, except for these guys. And that was huge. That was really huge. And the business model that they ended up pursuing turned out to be the one that worked really well, you know, for the industry. I think the biggest thing was, Bill was really focused on software before almost anybody else had a clue that it was really the software.

Kara: Was important?

Steve: That's what I see. I mean, a lot of other things you could say, but that's the high order bit. And I think building a company's really hard, and it requires your greatest persuasive abilities to hire the best people you can and keep them at your company and keep them working, doing the best work of their lives, hopefully. And Bill's been able to stay with it for all these years.

Walt: Bill, how about the contribution of Steve and Apple?

Bill: Well, first, I want to clarify: I'm not Fake Steve Jobs.

What Steve's done is quite phenomenal, and if you look back to 1977, that Apple II computer, the idea that it

would be a mass-market machine, you know, the bet that was made there by Apple uniquely–there were other people with products, but the idea that this could be an incredible empowering phenomenon, Apple pursued that dream.

Then one of the most fun things we did was the Macintosh and that was so risky. People may not remember that Apple really bet the company. Lisa hadn't done that well, and some people were saying that general approach wasn't good, but the team that Steve built even within the company to pursue that, even some days it felt a little ahead of its time–I don't know if you remember that Twiggy disk drive and…

Steve: One hundred twenty-eight K.

Kara: Oh, the Twiggy disk drive, yes.

Bill: Steve gave a speech once, which is one of my favorites, where he talked about, in a certain sense, we build the products that we want to use ourselves. And so he's really pursued that with incredible taste and elegance that has had a huge impact on the industry. And his ability to always come around and figure out where that next bet should be has been phenomenal. Apple literally was failing when Steve went back and re-infused the innovation and risk-taking that have been phenomenal. So the industry's benefited immensely from his work. We've both been lucky to be part of it, but I'd say he's contributed as much as anyone.

Steve: We've also both been incredibly lucky to have had great partners that we started the companies with and we've attracted great people. I mean, so everything that's been done at Microsoft and at Apple has been done by just remarkable people, none of which are sitting up here today.

Kara: Well, not us.

Walt: Not us. So in a way, you're the stand-ins for all those other people.

Steve: Yeah, in a way, we are. In a very tangible way.

Walt: So Bill mentioned the Apple II and 1977 and 30 years ago. And there were a couple of other computers which were aimed at the idea that average people might be able to use them, and looking back on it, a really average-average person might not have been able to use them by today's standards, but it certainly broadened the base of who could use computers.

I actually looked at an Apple ad from 1978. It was a print ad. That shows you how ancient it was. And it said, thousands of people have discovered the Apple computer. Thousands of people. And it also said, you don't want to buy one of these computers where you put a cartridge in. I think that was a reference to one of the Atari or something.

Steve: Oh, no.

Walt: You want a computer you can write your own programs on. And obviously, people still do.

Steve: We had some very strange ads back then. We had one where it was in a kitchen and there was a woman that looked like the wife and she was typing in recipes on the computer with the husband looking on approvingly in the back. Stuff like that.

Walt: How did that work for you?

Steve: I don't think well.

Walt: I know you started Microsoft prior to 1977. I think Apple started the year before, in '76.

Steve: '76.

Walt: Microsoft in …

Bill: '74 was when we started writing BASIC. Then we shipped the BASIC in '75.

Walt: Some people here, but I don't think most people, know that there was actually some Microsoft software in that Apple II computer. You want to talk about what happened there, how that occurred?

Bill: Yeah. There had been the Altair and a few other companies–actually, about 24–that had done various machines, but the '77 group included the PET, TRS-80 …

Walt: Commodore?

Bill: Yeah, the Commodore PET, TRS-80 and the Apple II. The original Apple II BASIC, the Integer BASIC, we had nothing to do with. But then there was a floating-point one where–and I mostly worked with Woz on that.

Steve: Let me tell the story. My partner we started out with, this guy named Steve Wozniak. Brilliant, brilliant guy. He writes this BASIC that is, like, the best BASIC on the planet. It does stuff that no other BASIC's ever done. You don't have to run it to find your error messages. It finds them when you type it in and stuff. It's perfect in every way, except for one thing, which is it's just fixed-point, right? It's not floating-point.

So we're getting a lot of input that people want this BASIC to be floating-point. And, like, we're begging Woz, please, please make this floating point.

Walt: Who's we? How many people are in Apple?

Steve: Well, me. We're begging Woz to make this floating-point and he just never does it. You know, and he wrote it by hand on paper. I mean, you know, he didn't have an assembler or anything to write it with. It was all just written on paper and he'd type it in. He just never got around to making it floating-point.

Kara: Why?

Steve: This is one of the mysteries of life. I don't know, but he never did. So, you know, Microsoft had this very popular, really good floating-point BASIC that we ended up going to them and saying "help."

Walt: And how much was the–I think you were telling us earlier …

Bill: Oh, it was $31,000.

Walt: That Apple paid you for the …

Bill: For the floating-point BASIC. And I flew out to Apple, I spent two days there getting the cassette. The cassette tapes were the main ways that people stored things at the time, right? And, you know, that was fun.

I think the most fun is later when we worked together.

Walt: What was the most fun? Tell the story about the most fun that was later.

Kara: Or maybe later, not the most fun.

Walt: Let them talk.

Kara: Teasing.

Bill: Well, you know, Steve can probably start it better. The team that was assembled there to do the Macintosh was a very committed team. And there was an equivalent team on our side that just got totally focused on this activity. Jeff Harbers, a lot of incredible people. And we had really bet our future on the Macintosh being successful, and then, hopefully, graphics interfaces in general being successful, but first and foremost, the thing that would popularize that being the Macintosh.

So we were working together. The schedules were uncertain. The quality was uncertain. The price. When Steve first came up, it was going to be a lot cheaper computer than it ended up being, but that was fine.

Kara: So you worked in both places?

Bill: Well, we were in Seattle and we'd fly down there.

Walt: But Microsoft, if I remember correctly from what I've read, wasn't Microsoft one of the few companies that were allowed to even have a prototype of the Mac at the time?

Steve: Yeah. What's interesting, what's hard to remember now is that Microsoft wasn't in the applications business then. They took a big bet on the Mac because this is how they got into the apps business. Lotus dominated the apps business on the PC back then.

Bill: Right. We'd done just MultiPlan, which was a hit on the Apple II, and then Mitch did an incredible job betting on the IBM PC and 1-2-3 came in and, you know, ruled that part of the business. So the question was, what was the next paradigm shift that would allow for an entry? We had Word, but WordPerfect was by

far the strongest in word processing dBase database.

Walt: And Word was kind of a DOS text …

Bill: All of these products I'm saying were DOS-based products.

Walt: Right.

Bill: Because Windows wasn't in the picture at the time.

Walt: Right.

Bill: That's more early '90s that we get to that. So we made this bet that the paradigm shift would be graphics interface and, in particular, that the Macintosh would make that happen with 128K of memory, 22K of which was for the screen buffer, 14K was for the operating system. So it was …

Walt: 14K?

Bill: Yeah.

Walt: The original Mac operating system was 14K?

Bill: 14K that we had to have loaded when our software ran. So when the shell would come up, it had all the 128K.

Steve: The OS was bigger than 14K. It was in the 20s somewhere.

Walt: I see.

Steve: We ship these computers now with, you know, a gigabyte, 2 gigabytes of memory, and nobody remembers 128K.

Walt: I remember that. I remember paying a lot of money for computers with 128K in those days. So the two companies worked closely on the Mac project because you were maybe not the only, but the principal or one of the principal software creators for it, is that right?

Steve: Well, Apple did the Mac itself, but we got Bill and his team involved to write these applications. We were doing a few apps ourselves. We did MacPaint, MacDraw and stuff like that, but Bill and his team did some great work.

Kara: Now, in terms of moving forward after you left and your company grew more and more strong, what did you think was going to happen to Apple after sort of the disasters that occurred after Steve left?

Bill: Well, Apple, they hung in the balance. We continued to do Macintosh software. Excel, which Steve and I introduced together in New York City, that was kind of a fun event, that went on and did very well. But then, you know, Apple just wasn't differentiating itself well enough from the higher-volume platform.

Walt: Meaning Windows, right?

Bill: DOS and Windows.

Walt: Okay. But especially Windows in the '90s began to take off.

Bill: By 1995, Windows became popular. The big debate wasn't sort of Mac versus Windows. The big debate was character mode interface versus graphics mode interface. And when the 386 came and we got more memory and the speed was adequate and some development tools came along, that paradigm bet on GUI paid off for everybody who'd gotten in early and said, you know, this is the way that's going to go.

Walt: But Apple wasn't able to leverage its products?

Bill: After the 512K Mac was done, the product line just didn't evolve as fast–Steve wasn't there–as it needed to. And we were actually negotiating a deal to invest and make some commitments and things with Gil Amelio. No, seriously.

Kara: Don't be mean to him.

Bill: I'm sorry?

Kara: Just saying the word Gil Amelio, you can see his…

Bill: So I was calling him up on the weekend and all this stuff and next thing I knew, Steve called me up and said, don't worry about that negotiation with Gil Amelio. You can just talk to me now. And I said, "Wow."

Steve: Gil was a nice guy, but he had a saying. He said, "Apple is like a ship with a hole in the bottom leaking water and my job is to get the ship pointed in the right direction."

Walt: Meanwhile, through all this–I want to get back to the thing we saw in 1997 at Macworld there–but Windows was just going great guns. I mean, Windows 95, to whatever extent earlier versions of Windows had not had all the features, all the GUI stuff that the Mac had, and Windows 95 really was an enormous, enormous leap.

Bill: Yeah. Windows 95 is when graphics interface became mainstream and when the software industry realized, wow, this is the way applications are going to be done. And it was amazing that it was ridiculed sort of in '93, '94, was not mainstream, and then in '95, the debate was over. It was kind of just a commonsense thing. And it was a combination of hardware and software maturity getting to a point that people could see it.

Walt: So I don't want to go through every detail, the whole history of how you came back, but…

Steve: Thank you.

Walt: But you in that video we all saw, you said you had decided that it was destructive to have this competition with Microsoft. Now, obviously, Apple was in a lot of trouble and I presume that there was some tactical or strategic reason for that, as well as just wanting to be a nice guy, right?

Steve: You know, Apple was in very serious trouble. And what was really clear was that if the game was a zero-sum game where for Apple to win, Microsoft had to lose, then Apple was going to lose. But a lot of people's heads were still in that place.

Kara: Why was that, from your perspective?

Steve: Well, a lot of people's heads were in that place at Apple and even in the customer base because, you know, Apple had invented a lot of this stuff and Microsoft was being successful and Apple wasn't and there was jealousy and this and that. There was just a lot of reasons for it that don't matter.

But the net result of it was, was there were too many people at Apple and in the Apple ecosystem playing the game of, for Apple to win, Microsoft has to lose. And it was clear that you didn't have to play that game because Apple wasn't going to beat Microsoft. Apple didn't have to beat Microsoft. Apple had to remember who Apple was because they'd forgotten who Apple was.

So to me, it was pretty essential to break that paradigm. And it was also important that, you know, Microsoft was the biggest software developer outside of Apple developing for the Mac. So it was just crazy what was happening at that time. And Apple was very weak and so I called Bill up and we tried to patch things up.

Bill: And since that time, we've had a team that's fairly dedicated to doing the Mac applications and they've always been treated kind of in a unique way so that they can have a pretty special relationship with Apple. And that's worked out very well. In fact, every couple years or so, there's been something new that we've been able to do on the Mac and it's been a great business for us.

Steve: And it's actually–the relationship between the Mac development team at Microsoft and Apple is a great relationship. It's one of our best developer relationships.

Kara: And do you look at yourselves as rivals now? Today as the landscape has evolved–and we'll talk about the Internet landscape and everything else and other companies that have [gone] forward, but how do you look at yourselves in this landscape today?

Walt: Because, I mean, you are competitors in certain ways, which is the American way, right?

Kara: We watch the commercials, right?

Walt: And you get annoyed at each other from time to time.

Kara: Although you know what? I have to confess, I like PC guy.

Walt: Yeah, he's great.

Kara: Yeah, I like him. The young guy, I want to pop him.

Steve: The art of those commercials is not to be mean, but it's actually for the guys to like each other. Thanks. PC guy is great. Got a big heart.

Bill: His mother loves him.

Steve: His mother loves him.

Kara: I'm telling you, I like PC guy totally much better.

Steve: Wow.

Kara: I do. I don't know why. He's endearing. The other guy's a jackass.

Steve: PC guy's what makes it all work, actually.

Walt: All right.

Steve: It's worth thinking about.

Kara: So how do you look at yourselves?

Walt: I mean, let me just ask you, Bill. Obviously, Microsoft is a much larger company, you're in many more markets, many more types of products than Apple is. You know, when you were running the company or when Steve Ballmer is running the company, you think obviously about Google, you think about, I don't know, Linux in the enterprise, you think about Sony in the game area. How often is Apple on your radar screen at Microsoft in a business sense?

Bill: Well, they're on the radar screen as an opportunity. In a few cases like the Zune, if you go over to that group, they think of Apple as a competitor. They love the fact that Apple's created a gigantic market and they're going to try and come in and contribute something to that.

Steve: And we love them because they're all customers.

Walt: I have to tell you, I was actually told by J Allard, I'm serious, that because of the nature of the processor, the development platform they used to develop a lot of the software for the Xbox 360 was Macs. And he claimed that at one point, they had, like, placed the biggest order for whatever the Mac tower was at the time of anybody, and it was Microsoft.

Bill: I don't know if it was the biggest, but, yeah, we had the same processor essentially that the Mac had. This is one of those great ironies is they were switching away from that processor while the Xbox 360 was adopting it. But for good reasons, actually, in both cases. Because we're not in a portable application and that was one of the things that that processor road map didn't have. But yes, it shows pragmatism, but we try and do things that way. So that was the development system for the early people getting their software ready for the introduction of Xbox 360.

Steve: And we never ran an ad on that.

Walt: I see. Admirable restraint. That's wonderful restraint.

Steve: There were hundreds of them.

Bill: Steve is so known for his restraint.

Kara: How do you look at Microsoft from an Apple perspective? I mean, you compete in computers and…

Walt: I mean, you can say you don't compete, you know, the era of destructive whatever, whatever you said in 1997, but you think–you're consciously aware of what they're doing with Windows, you followed Vista closely, I think.

Steve: You know, what's really interesting is–and we talked about this earlier today–if you look at the reason that the iPod exists and the Apple's in that marketplace, it's because these really great Japanese consumer electronics companies who kind of own the portable music market, invented it and owned it, couldn't do the appropriate software, couldn't conceive of and implement the appropriate software. Because an iPod's really

just software. It's software in the iPod itself, it's software on the PC or the Mac, and it's software in the cloud for the store. And it's in a beautiful box, but it's software. If you look at what a Mac is, it's OS X, right? It's in a beautiful box, but it's OS X. And if you look at what an iPhone will hopefully be, it's software.

And so the big secret about Apple, of course–not-so-big secret maybe–is that Apple views itself as a software company and there aren't very many software companies left, and Microsoft is a software company. And so, you know, we look at what they do and we think some of it's really great, and we think a little bit of it's competitive and most of it's not. You know, we don't have a belief that the Mac is going to take over 80% of the PC market. You know, we're really happy when our market share goes up a point and we love that and we work real hard at it, but Apple's fundamentally a software company and there's not a lot of us left and Microsoft's one of them.

Walt: But you may be fundamentally a software company, but you've been known, at least to your customers and to most journalists as the company that kind of pays a lot of attention to integrating software and hardware. Microsoft has made some recent moves to be a little more like that, obviously not in your core biggest businesses, but with Xbox and Zune and, you know, the Surface computing device we saw today is another example. These aren't markets that hold up in size to Windows or Office, but they're some of your more recent initiatives. Are the companies' approaches to this merging a little or …

Steve: Alan Kay had a great quote back in the '70s, I think. He said, "People that love software want to build their own hardware."

Walt: Well, Bill loves software.

Steve: Oh, I can resist that.

Bill: The question is, are there markets where the innovation and variety you get is a net positive? The negative is that in the early stage, you really want to do the two together so you want to do prototyping and things like that, you know, really as one thing.

And then take the phone market. We think we're on 140 different kinds of hardware. We think it's beneficial to us that even if we did a few ourselves, it wouldn't give us what we have through those partnerships.

Likewise, if you take the robotics market, very undeveloped. We have over 140 tiny-volume robots using Microsoft software. And the creativity, building toys, security things, medical things, we love the innovation and the ecosystem that's going to grow up–who knows when, but we're patient–around that and we'll have a great asset with this robotic software platform.

So there are things like PC, phone, and robot where the Microsoft choice is to go for the variety.
Apple, it's great. For them, they do what works super well for them. And there's a few markets like Xbox 360, Zune, and this year we have two new ones, the Surface thing and this RoundTable, which is the meeting-room thing, where we'll actually, through subcontractors, but the P&L on the risk and all that for the hardware, the design is completely a Microsoft thing.

Walt: The RoundTable: Is that something you've announced or were you just announcing it here?

Bill: We've shown prototypes of it. That's the thing where it's got the 360-degree …

Walt: Oh, right. It's like Cisco has something in that market and HP too, right?

Bill: Oh, HP has a very high-end thing that's a tiny bit like it, but anyway.

Walt: All right. Do you ever regret–was there something you might have wanted to do differently? And maybe you feel like this happened after you left Apple, something you might have done differently where you could have had a much bigger market share for the Mac?

Steve: Well, before I answer that, let me make a comment on Bill's answer there, which is, it's very interesting, in the consumer market and the enterprise market, they're very different spaces. And in the consumer market, at least, I think one can make a pretty strong case that outside of Windows on PCs, it's hard to see other examples of the software and hardware being decoupled working super well yet. It might in the phone space over time. It might. But it's not clear. It's not clear. You can see a lot more examples of the hardware/software coupling working well.
So I think this is one of the reasons we all, you know, come to work every day is because nobody knows the

answers to some of these questions. And we'll find out over the coming years and maybe both will work fine and maybe they won't.

Walt: Yeah.

Steve: Yeah. It's good to try both approaches. In some product categories–take music players–the solo design worked better. In the PC market, the variety of designs at this stage has a higher share.

Walt: It has a higher share? It has a lot higher share.

Steve: It's not that much different than music players the other way around.

Walt: Is there some moment you feel like I should have done this or Apple should have done that, and we could have had …

Kara: You stuck to this idea of the hardware/software integration and it's working very well right now.

Steve: There's a lot of things that happened that I'm sure I could have done better when I was at a Apple the first time and a lot of things that happened after I left that I thought were wrong turns, but it doesn't matter. It really doesn't matter and you kind of got to let go of that stuff and we are where we are. So we tend to look forward.

And, you know, one of the things I did when I got back to Apple 10 years ago was I gave the museum to Stanford and all the papers and all the old machines and kind of cleared out the cobwebs and said, let's stop looking backwards here. It's all about what happens tomorrow. Because you can't look back and say, well, gosh, you know, I wish I hadn't have gotten fired, I wish I was there, I wish this, I wish that. It doesn't matter. And so let's go invent tomorrow rather than worrying about what happened yesterday.

Kara: We're going to talk a little bit tomorrow, but let's talk about today, the landscape of how you see the different players in the market and how you look at what's developing now. What has surprised both of you since having been around for so long, and still very active and everything, and your companies are still critically key companies? There are many, many companies that are becoming quite powerful. How do you look at the landscape at this moment and what's happening especially in the Internet space?

Steve: I think it's super healthy right now. I think there's a lot of young people out there building some great companies who want to build companies, who aren't just interested in starting something and selling it to one of the big guys, but who want to build companies. And I think there's some real exciting companies getting built out there. Some next-generation stuff that, you know, some of us play catch-up with and, you know, some of us find ways to partner with and things like that, but there's a lot of activity out there now, wouldn't you say?

Bill: Yeah, I'd say it's a healthy period. The notion of what the new form factors look like, what natural interface can do, the ability to use the cloud, the Internet, to do part of the task in a complementary way to the local experience, there's a lot of invention that the whole approach of start-ups, the existing companies who do research, we'll look back at this as one of the great periods of invention.

Steve: I think so, too. There's a lot of things that are risky right now, which is always a good sign, you know, and you can see through them, you can see to the other side and go, yes, this could be huge, but there's a period of risk that, you know, nobody's ever done it before.

Kara: Do you have an example?

Steve: I do, but I can't say.

Kara: Okay.

Steve: But I can say, when you feel like that, that's a great thing.

Kara: Right.

Steve: That's what keeps you coming to work in the morning and it tells you there's something exciting around the next corner.

Walt: Okay. So the two of you have certainly–you're involved every day with the Internet, you have Internet products, you have a whole slew of stuff on the Internet, you have iTunes and ".Mac" and all of that, but on

another level, you're the guys who represent the rich client, the personal computer, the, you know, big operating system and all that. And there is a certain school of thought–and I'm sure it's shared by some people in the room–that this is all migrating to the cloud and you'll need a fairly light piece of hardware that won't have to have all that investment, all the kind of stuff you guys have done throughout your careers. So as much as people might think of you as rivals, one way to think of you is the two guys …

Steve: We're both dinosaurs?

Walt: Huh?

Steve: That we're both dinosaurs?

Walt: Dinosaurs? Yeah, whatever. I can talk about that. No, seriously …

Kara: You're betting on a system that is changing.

Walt: In five years, is the personal computer still going to be the linchpin of all this stuff?

Bill: Well, you can say that it will be predicted that it won't be. You know, the network computer took this over about, whatever, five years ago we disappeared. Remember the single-function computer? There was somebody who said that these general purpose things are kind of a dumb idea.

Kara: Larry Ellison.

Bill: The mainstream is always under attack. The thing that people don't realize is that you're going to have rich local functionality, I mean, at least our bet, whereas you get things like speech and vision, as you get more natural form factors, it's a question of using that local richness together with the richness that's elsewhere.

And as you look at the device, say, that's connecting to the TV set or connecting in the car, there are lighter-weight hardware Internet connections, but when you come to the full screen rich, you know, edit the document, create things, you know, I think we're nowhere near where we could be on making that stronger.

Steve: I'll give you a concrete example. I love Google Maps, use it on my computer, you know, in a browser. But when we were doing the iPhone, we thought, wouldn't it be great to have maps on the iPhone? And so we called up Google and they'd done a few client apps in Java on some phones and they had an API that we worked with them a little on. And we ended up writing a client app for those APIs. They would provide the backend service. And the app we were able to write, since we're pretty reasonable at writing apps, blows away any Google Maps client. Just blows it away. Same set of data coming off the server, but the experience you have using it is unbelievable. It's way better than the computer. And just in a completely different league than what they'd put on phones before.

And, you know, that client is the result of a lot of technology on the client, that client application. So when we show it to them, they're just blown away by how good it is. And you can't do that stuff in a browser.

So people are figuring out how to do more in a browser, how to get a persistent state of things when you're disconnected from a browser, how do you actually run apps locally using, you know, apps written in those technologies so they can be pretty transparent, whether you're connected or not.

But it's happening fairly slowly and there's still a lot you can do with a rich client environment. At the same time, the hardware is progressing to where you can run a rich client environment on lower and lower cost devices, on lower and lower power devices. And so there's some pretty cool things you can do with clients.

Walt: Okay. So you're saying rich clients still matter, but–maybe I misunderstood you, but your example was about a rich client that is not a personal computer as we have thought of a personal computer.

Steve: What I'm saying is, I think the marriage of some really great client apps with some really great cloud services is incredibly powerful and right now, can be way more powerful than just having a browser on the client.

Kara: You're talking about a software company being a software and services company rather than a …

Steve: I'm saying the marriage of these services plus a more sophisticated client is a very powerful marriage.

Walt: Bill?

Bill: Yeah. Architecturally, the question is, do you run just in the cloud and all you have downloaded locally is the browser? And that is the same question for the phone as it is for the full-screen device. There will always be different screen sizes because these are, you know, the 5-inch screen does not really compete with the 20-inch screen, does not compete with the big living room screen. Those are things that there will be some type of computing behind all of those things, all connected to the Internet, but the idea that locally you have the responsiveness of immediate interaction without the latency or bandwidth limitations that you get if you try and do it all behind, that's what leads to the right balance.

Kara: What does that device look like in five years? What would be your principal device? Is there one or…

Walt: I could be wrong, I think you carry a tablet with you, right?

Bill: Right.

Walt: Which has not necessarily stormed the world yet.

Bill: Yeah. This is like Windows 1992, I think. That is, I'm unrepentant on my belief.

Walt: Okay. But to go back to Kara's point, what would you each imagine that you would carry as your principal, let's say, thing to do the Web and…

Kara: I mean, Jeff Hawkins showed a very lightweight device.

Walt: Yeah. I don't know if you guys saw, but Jeff Hawkins showed a Linux-based, very small–I think he called it a companion to a smart phone today.

Kara: A phone companion, which sounded a little naughty.

Walt: It doesn't matter, you weren't there, but what would you think you each would be–I assume you carry a tablet PC. I don't know what brand it is. Maybe you change them up, I don't know. You obviously carry a MacBook Pro, I would guess, or a MacBook.

Steve: Yeah. Well, and an iPhone.

Walt: And an iPhone?

Kara: You have one?

Steve: I do.

Kara: Right here?

Steve: Yes.

Walt: Well, he has one. He took it out before. Really.

Kara: Sorry.

Walt: He flashed his iPhone earlier today.

Kara: Anyway, go ahead. So what is your device? What's the device that we should be carrying?

Walt: What's your device in five years that you rely on the most?

Bill: I don't think you'll have one device. I think you'll have a full-screen device that you can carry around and you'll do dramatically more reading off of that.

Kara: Light.

Bill: Yeah. I mean, I believe in the tablet form factor. I think you'll have voice. I think you'll have ink. You'll have some way of having a hardware keyboard and some settings for that. And then you'll have the device that fits in your pocket, which the whole notion of how much function should you combine in there, you know, there's navigation computers, there's media, there's phone. Technology is letting us put more things in there, but then again, you really want to tune it so people know what they expect. So there's quite a bit of experimentation in that pocket-size device. But I think those are natural form factors and that we'll have the evolution of the portable machine. And the evolution of the phone will both be extremely high volume,

complementary–that is, if you own one, you're more likely to own the other.

Kara: And then at home, you'd have a setup that they all plug into?

Bill: Well, home, you'll have your living room, which is your 10-foot experience, and that's connected up to the Internet and there you'll have gaming and entertainment and there's a lot of experimentation in terms of what content looks like in that world. And then in your den, you'll have something a lot like you have at your desk at work. You know, the view is that every horizontal and vertical surface will have a projector so you can put information, you know, your desk can be a surface that you can sit and manipulate things.

Walt: Can I please have a room in my house that doesn't have a screen and a projector in it?

Bill: You bet.

Walt: Thanks.

Bill: The bathroom.

Walt: Well…

Kara: That's the perfect place for it, actually.

Walt: So what's your five-year outlook at the devices you'll carry?

Steve: You know, it's interesting. The PC has proved to be very resilient because, as Bill said earlier, I mean, the death of the PC has been predicted every few years.

Walt: And here when you're saying PC, you mean personal computer in general, not just Windows PCs?

Steve: I mean, personal computer in general.

Walt: Yeah, okay.

Steve: And, you know, there was the age of productivity, if you will, you know, the spreadsheets and word processors and that kind of got the whole industry moving. And it kind of plateaued for a while and was getting a little stale and then the Internet came along and everybody needed more powerful computers to get on the Internet, browsers came along, and it was this whole Internet age that came along, access to the Internet. And then some number of years ago, you could start to see that the PC that was taken for granted, things had kind of plateaued a little bit, innovation-wise, at least. And then I think this whole notion of the PC–we called it the digital hub, but you can call it anything you want, sort of the multimedia center of the house, started to take off with digital cameras and digital camcorders and sharing things over the Internet and kind of needing a repository for all that stuff and it was reborn again as sort of the hub of your digital life.

And you can sort of see that there's something starting again. It's not clear exactly what it is, but it will be the PC maybe used a little more tightly coupled with some backend Internet services and some things like that. And, of course, PCs are going mobile in an ever greater degree.

So I think the PC is going to continue. This general purpose device is going to continue to be with us and morph with us, whether it's a tablet or a notebook or, you know, a big curved desktop that you have at your house or whatever it might be. So I think that'll be something that most people have, at least in this society. In others, maybe not, but certainly in this one.

But then there's an explosion that's starting to happen in what you call post-PC devices, right? You can call the iPod one of them. There's a lot of things that are not…

Walt: You can get into trouble for using that term. I want you to know that.

Steve: What?

Walt: I'm kidding. Post-PC devices.

Steve: Why?

Walt: People write letters to the editor, they complain about it. Anyway, go ahead.

Steve: Okay. Well, anyway, I think there's just a category of devices that aren't as general purpose, that are really more focused on specific functions, whether they're phones or iPods or Zunes or what have you. And I

think that category of devices is going to continue to be very innovative and we're going to see lots of them.

Kara: Give me an example of what that would be.

Steve: Well, an iPod as a post-PC…

Kara: Well, yeah.

Steve: A phone as a post-PC device.

Walt: Is the iPhone and some of these other smart phones–and I know you believe that the iPhone is much better than these other smart phones at the moment, but are these things–aren't they really just computers in a different form factor? I mean, when we use the word phone, it sounds like…

Steve: We're getting to the point where everything's a computer in a different form factor. So what, right? So what if it's built with a computer inside it? It doesn't matter. It's, what is it? How do you use it? You know, how does the consumer approach it? And so who cares what's inside it anymore?

Walt: So what are the core functions of the device formerly known as the cellphone, whatever we want to call it? The pocket device. What would you say the core functions, like, five years out, what are the core functions of that pocket device?

Bill: How quickly all these things that have been somewhat specialized, the navigation device, the digital wallet, the phone, the camera, the video camera, how quickly those all come together, it's hard to chart out. But eventually, you'll be able to pick something that has the capability to do every one of those things.

And yet, given the small size, you still won't want to edit your homework or edit a movie on the screen of that size. And so you'll have something else that lets you do the reading and editing and those things. Now, if we could ever get a screen that would just roll out like a scroll, you know, then you might be able to have the device that did everything.

Walt: You know, in the very first D conference, we had these guys from E Ink here.

Kara: Yeah.

Walt: I'm sure you've both talked to them. They were talking about that. That was five years ago. It's always five years out. So do you…

Bill: Yeah. There's some advances in projection technology that are more likely to be delivered, I think, than the flexible material guys, but it's not even on the horizon, no matter which of the two approaches are pursued.

Kara: And any kind of quality.

Bill: We have some Microsoft research people who work on [that] and there's a lot of investment, but it's at least in the five-year time frame.

Walt: You, five years from now, what's going to be on that pocket device?

Steve: I don't know. And the reason I don't know is because I wouldn't have thought that there would have been maps on it five years ago, but something comes along, gets really popular, people love it, get used to it, you want it on there.

So people are inventing things constantly and I think the art of it is balancing what's on there and what's not on there, is the editing function. And clearly, most things you carry with you are communications devices. You want to do some entertainment with them as well, but they're primarily communications devices and that's what they're going to be.

Kara: Outside the computing area, what are the exciting areas in the Internet space at all that you're looking at that's interesting to each of your companies and in general for you? Any social networking, any kind of the Wikis, those kind of things, things we've talked about in the past couple–today, essentially?

Steve: You know, we're working on some things that I can't talk about, but…

Kara: Again.

Steve: Again, yeah.

Kara: It's very beautiful, I think.

Steve: There used to be a saying, isn't it at Apple …

Walt: Going to blow us away, though, when you can talk about it.

Kara: Blow us away, wow, it's great.

Steve: There used to be a saying at Apple, isn't it funny, a ship that leaks from the top. So the…

Kara: That's kind of like a sweater without sleeves is a vest. I don't get that.

Steve: That was what they used to say about me when I was in my 20s.

Walt: Okay.

Steve: There's a zillion interesting things going on on the Internet. The most interesting things to me are these incredible new services that people are bringing up and…

Kara: Surrounding entertainment or…

Steve: There's a lot of them surrounding entertainment, but there's a lot of them that have to do with just sort of figuring how to navigate through life a little more efficiently. And I think, you know, it's really great when you show somebody something and you don't have to convince them they have a problem this solves. They know they have a problem, you can show them something, they go, oh, my God, I need this. And I think you're going to see a lot of things like that happen over the next year or two.

Walt: You obviously have a very large Internet business with iTunes and you sell a lot of stuff in the Apple Store, but, you know, you were early with this idea that when you bought a computer from Apple, you had this kind of Internet service back end, and it was called ".Mac". And I think a lot of people feel you haven't developed it very much.

Steve: I couldn't agree with you more, and we'll make up for lost time in the near future.

Walt: And in your case, you obviously have huge things like Hotmail, for instance, which is, I guess–and Windows Messenger, which are both widely used and I don't even know how many users.

Kara: A gazillion.

Walt: Huge numbers. But on the other hand, as Steve Ballmer was talking about today, you know, other people have much stronger positions in things like search and other parts of the Internet. So are you guys, because you are the personal computer companies that are, you know, best associated with that, not as nimble as some of these competitors at this point? Do you worry about not being as nimble, both of you? I mean, obviously, Microsoft's a much bigger company, but you're a big company, Steve, Apple is. Do you worry about not being as nimble as somebody sitting out there with, you know, the kind of ten employees that you guys had in 1977?

Bill: Well, there's always going to be great new things that come out of other companies, and you want to be in a position to benefit from those, to have those inventions drive demand for Windows and personal computers and then some of those upstream things you want to participate in. I hope Steve mentioned we are going to participate in search, hopefully to a higher degree in the future than at present.

Walt: He did mention that, yeah.

Bill: So we'll see what we can do there. A lot of the applications are more specialized so they're not areas we'll go into. You know, take what can happen with education now that video is mainstream and all these tools that let you do rich interactions are very mainstream. I'm very excited about that. You know, the idea of empowerment goes back to the very beginning of our industry and some of those dreams that this would be used by students or that teachers could get better and learn from each other in these new ways, we're just at the threshold where some of those things can happen. And, yes, our companies can contribute to that, but as a whole, it's the ecosystem jumping on and building on each other where you can finally say finally technology did something for education.

Steve: See, I look at this a little bit differently, which is, we're not trying to do a lot of this stuff because it's not what we do. We don't think one company can do everything. So you've got to partner with people that are really good at stuff. Like, we're not, I mean, maybe Microsoft is great at search. We're not. We're not trying to be great at search so we partner with people that are great at search. And we don't know how to do maps on the back end. We know how to do the best maps client in the world, but we don't know how to do the back end so we partner with people that know how to do the back end. And what we want to do is be that consumer's device and that consumer's experience wrapped around all this information and things we can deliver to them in a wonderful user interface, in a coherent product.

And so in some cases, you know, we have to do more work than others. You know, in the case of iTunes, there wasn't a music delivery service that was any good and we had to do one, so we'll do one. But in other cases, there's companies doing a way better job because we're not as good at this stuff as other people are and we'd love to partner with them and so, you know, we selectively do that. And I think it's really hard for one company to do everything. Life's complex.

Kara: Let's talk about entertainment. Entertainment's important to both your companies. For yours with music right now and as you get into Apple TV. Microsoft has been within the Hollywood era. Where do you see that going in the era of YouTube? We've had a couple of network people here talking about changes that are happening in Hollywood and everything else. What is happening now to entertainment delivery and where do you all play? Because you'll be the delivery mechanism in one way or the other for most people.

Bill: Well, the big milestone is where the delivery platform is the Internet and so you bring the richness and the interactivity. I think you can get a little bit of a glimpse of the future of TV more from looking at community-type things like Xbox Live, where people are talking to each other, finding friends, you know, watching things together, talking about those things.

As you map that onto genres like educational shows or sports shows or watching the Olympics, the elections, that ability to navigate becomes very, very powerful. And we're not in entertainment. Yes, we do Halo, which is this big video game, but by and large, we're a platform and so it's the tough software things, whether it's the speech or the ink or the deep graphics, that's where things that take 10 years to get done, the IPTV stuff, the foundation there, you know, took ten years to get it done. Now it's finally coming to fruition and we have people like AT&T betting their company on putting that together.

So we're just at the start of having a scale-entertainment delivery vehicle, both through PCs, unfortunately not connected up to the TV set in most cases, but that's a point of innovation, and now things like IPTV and Xbox that are connected up in the living room.

Walt: Bill, you weren't here, but Steve showed a new function of Apple TV that brings YouTube directly to the TV. Is there going to be more of that from you? Do you see yourself the way Bill says, as an enabler of entertainment or, I mean, putting aside your Disney role, but your Apple role?

Steve: I mean, I think people want to enjoy their entertainment when they want it and how they want it, on the device that they want it on. So ultimately, that's going to drive the entertainment companies into all sorts of different business models. And that's a good thing. I mean, if you're a content company, that's a great thing. More people wanting to, you know, enjoy your content more often in more different ways, that's why you're in business, but the transitions are hard sometimes.

And, you know, the music industry, it turned out that the Internet got fast enough to download songs pretty easily. There was no legal alternative and maybe they made some bad choices in how they reacted to that, but, you know, they're still trying to make the transition to a very different way of doing business, or ways of doing business while they're under attack from piracy. And we can all highlight some of the mistakes that have been made, but, you know, still, it's a tough job.

And Hollywood, I think, you know, has watched what's happened in music, learned some things to do, some things not to do, but, you know, they're still trying to map this out. How do they make some of these transitions, some new business models, different platforms, allowing their customers way more freedom on when they want to watch stuff and how they want to watch it. And I think there's a tremendous amount of experimentation and thought going on that's going to be good. It's going to be really good if you're a content owner.

Walt: Can I ask about the user interface of the personal computer for a minute? Vista has just come out, which is your best version of Windows you've done, has some UI improvements in it. You're about to do yet another version of the Mac OS called Leopard in the fall, which, from what you've shown publicly at least so far, has some improvements. But fundamentally, these are still the kind of file icon, folder icon, dropdown menu. I know I'm minimizing. There's a lot of other things. There's gadgets and widgets and all kinds of other cool things in there now, but, you know, you can see that it's still all built on what you started with, with what Xerox did research on.

In the offing in the next four or five years, is it possible there's a new paradigm for organizing the user interface of the personal computer? Let's leave cellphones and things out for a minute, but just the personal computer. Bill?

Bill: One of the things that's been anticipated for a long time is when 3D comes into that interface. And there was a lot of experimentation, sites on the Internet where you'd kind of walk around and meet people, but in fact, the richness, the speed, it just didn't sustain itself. Now we're starting to see with some of the mapping stuff, a few of the sites, that the quality of that graphics, the tools and things, are getting to the point where 3D can really come in. So I'd definitely say that when you go to a store, bookstore, you'll be able to see the books lined up, you know, the way you might be interested in or lined up the way they are in the real store.

So 3D is a way of organizing things, particularly as we're getting much more media information on the computer, a lot more choices, a lot more navigation than we've ever had before. And we can take that into this communications world where the PC is playing a much more central role, kind of taking over what was the PBX, sort of one of the last mainframes in the business environment. That will be a big change that will come to it. And as we get natural input, that will cause a change.

Walt: And what about this multi-touch stuff? It's really interesting. Obviously, Steve showed some of it on the iPhone when he introduced the iPhone. Steve Ballmer today showed a bunch of it with the Surface computing device. It happens, although it's not part of our program, that HP, which is a sponsor of this conference, has a multi-touch sort of display over here out in the foyer. Will this make its way into…

Kara: Sort of the Minority Report, this kind of thing.

Walt: Yeah. Will this make its way into–maybe you call it direct manipulation of objects with your hands and your fingers. Will this make its way into mainstream, let's say, laptop computers as a new UI or an additional part of the UI or is that just a thing for specialized devices?

Bill: Well, go beyond the laptop. Vision. Software is doing vision and so, you know, imagine a game machine where you're just going to pick up the bat and swing it or the tennis racket and swing it.

Walt: We have one of those.

Kara: Yeah. Wii.

Walt: Well, the Wii.

Bill: No, that's not it. You can't pick up your tennis racket…

Kara: Oh, your tennis racket.

Walt: Oh, I see what you mean, yeah.

Bill: And swing it.

Kara: Right.

Bill: You can't sit there with your friends and do those natural things. That's a 3D positional device. This is video recognition. This is a camera seeing what's going on. And, you know, in the meetings, like you're on a video conference, you don't know who's speaking, you know, they're audio only, things like that. The camera will be ubiquitous. Now, of course, we have to design it in a way that people's expectations about privacy are handled appropriately, but software can do vision and it can do it very, very inexpensively. And that means this stuff becomes pervasive. You don't just talk about it being in a laptop device. You talk about it being part of the meeting room or the living room or…

Walt: But on the laptop, the way that–and, you know, maybe what we have is great and we don't need any new big radical change, but when I turn on my laptop, whether it's my Vista laptop or my Mac laptop, you know, there have been improvements, but it's a lot like it was 10 years ago. It's much better, the graphics are better and all that.

Kara: We talked about that radical change to happen for both your companies.

Walt: But, you know, you have the mouse, you have the icons, you move around, you have the–I mean, and you talked about what a big gamble it was in '84 to do that and then the follow on with Windows. We still essentially have that approach and I'm just wondering is that going to change.

Bill: Touch, ink, speech, vision, those things come in, but they don't come in as a radical substitute. I think you're also underestimating the degree of evolution. Because you've lived with it year by year, you know, say we'd sent you away for 10 years and you came back and you said, wow, there's a search paradigm and that's more at the center of how you'd find these things. There's tagging. That's more at the center of how you'd find these things. You know, the evolution is a very good thing. In fact, even in that evolution, the stuff we did with Office, there's this balance you strike where, when you make a change–in that case, the ribbon–you're going to have some users who feel like, oh, jeez, I have to spend a little bit of time to be brought along to that. You know, but there has been good evolution, but these natural interface things are the revolutionary change and they will be very revolutionary. That, together with the 3D that I talked about.

Kara: Steve? I know you're working on something, it's going to be beautiful, we'll see it soon.

Walt: And you can't talk about it.

Steve: Yeah.

Walt: Bill discusses all his secret plans. You don't discuss any.

Steve: I know, it's not fair. But I think the question is a very simple one, which is how much of the really revolutionary things people are going to do in the next five years are done on the PCs or how much of it is really focused on the post-PC devices. And there's a real temptation to focus it on the post-PC devices because it's a clean slate and because they're more focused devices and because, you know, they don't have the legacy of these zillions of apps that have to run in zillions of markets.

And so I think there's going to be tremendous revolution, you know, in the experiences of the post-PC devices. Now, the question is how much to do in the PCs. And I think I'm sure Microsoft is–we're working on some really cool stuff, but some of it has to be tempered a little bit because you do have, you know, these tens of millions, in our case, or hundreds of millions in Bill's case, users that are familiar with something that, you know, they don't want a car with six wheels. They like the car with four wheels. They don't want to drive with a joystick. They like the steering wheel.
And so, you know, you have to, as Bill was saying, in some cases, you have to augment what exists there and in some cases, you can replace things. But I think the radical rethinking of things is going to happen in a lot of these post-PC devices.

Kara: I'm going to ask a more personal question. We have just a minute before we're going to open up for questions. What's the greatest–I'm not going to call this a Barbara Walters moment and ask you what tree you'd like to be, but…

Walt: She would love to be Barbara Walters, let me just tell you.

Kara: No, I would not. What's the greatest misunderstanding…

Steve: Ding.

Kara: Ding, right. Thank you, Steve. About your relationship. I mean, you're obviously going to go down in history–history books already say it kind of thing. But what's the greatest misunderstanding in your relationship and about each other? What would you say would be–this idea of cat fight? Which one of the many?

Steve: We've kept our marriage secret for over a decade now.

Kara: Canada. That trip to Canada.

[*Laughter and applause*]

Bill: I don't think either of us have anything to complain about, in general. And I know that the projects, like the Mac project, was just an incredible thing, a fun thing where we were taking a risk. We did look a lot younger in that video.

Steve: We did.

Kara: You looked 12 in the first one.

Bill: That's how I try and look.

Steve: He was 12.

Bill: But, no, it's been fun to work together. I actually kind of miss some of the people who aren't around anymore. You know, people come and go in this industry. It's nice when somebody sticks around and they have some context of all the things that have worked and not worked. The industry gets all crazy about some new thing, you know, like, there's always this paradigm of the company that's successful is going to go away and stuff like that. It's nice to have people seeing the waves and waves of that and yet, when it counted, to take the risk to bring in something new.

Walt: One last question and then we'll go to the audience.

Kara: Oh, no, he didn't answer us.

Walt: Sorry, what?

Steve: I haven't answered.

Walt: Oh, I'm sorry.

Kara: He only talked about his secret gay marriage so…

Walt: Oh, I thought that was your answer.

Steve: No, that wasn't my answer. You know, when Bill and I first met each other and worked together in the early days, generally, we were both the youngest guys in the room, right? Individually or together. I'm about six months older than he is, but roughly the same age. And now when we're working at our respective companies, I don't know about you, but I'm the oldest guy in the room most of the time. And that's why I love being here.

Walt: Happy to oblige. Happy to oblige.

Steve: And, you know, I think of most things in life as either a Bob Dylan or a Beatles song, but there's that one line in that one Beatles song, "you and I have memories longer than the road that stretches out ahead." And that's clearly true here.

Kara: Oh, sweet.

Walt: Oh, you know what? I think we should end it there. Let's just end it there.

Kara: I have a little tear right here.

Walt: Thank you. Thank you very much.

Kara: Thank you so much.

[*Applause*]

Kara: Wow. Okay. So some audience questions, please.

Walt: Questions. Can we have some lights? Roger.

Roger: Roger McNamee from Elevation Partners. Hey, guys, that was incredible. Thank you very much. We've got a big election coming up next year and I'm curious if there are any issues that you see in Silicon Valley that we all ought to be focused on communicating effectively to the next potential president of the United States. That is, any common ground that we share. Because it's weird, you don't actually hear any issues that people are talking about right now and I'm curious if you guys have any in mind.

Walt: Bill?

Bill: Well, certainly, education is one that I'd put at the top of the list.

Roger: Are there technological solutions right now that they could do something about or is that just sort of, like…

Bill: No. Technology is going to be helpful and more and more, but the way that teachers are measured and made excellent, the way that the high schools are designed, the expectations they have, it's not just a pure technology thing. It's more an institutional practice where the opportunity is. You know, there should be a lot of debate about the different ways of doing that.

Walt: Steve?

Steve: Boy, we've got some pretty big problems and I think most of them are much bigger than anything Silicon Valley can contribute right now to solve. So hopefully some of those will get solved. I also think we underestimate how much all of our industry depends on stability. We've enjoyed, you know, a long period of stability and we've been able to focus on technology and growing our businesses and stuff and I think we take that for granted sometimes.

One of the more interesting areas that we all suffer from, of course, is in the area of energy dependency. And there's a lot of work going on, I know a lot of investing going on, anyway, I don't know if the results are there, but a lot of investing going on in alternative energy and maybe Silicon Valley can play a small role in some of that stuff, too.

Kara: Are you guys investing in that area personally or…

Bill: Some.

Kara: Which might be a lot from you.

Bill: A billion here or there.

Walt: Steve, are you investing in that area?

Steve: No.

Kara: Just a Prius?

Steve: Yeah, just appreciating.

Walt: Over there.

Don: Hi. Don Eklund, Sony Pictures. My question is really, at what point is there too much diversity? It was talked about a few times in the discussion, the fact that now microprocessors are very low cost, memory's low cost, software is ubiquitous, but, my life has been made better by standards, like coding standards, network standards. And it seems like we're reaching a point where diversity is starting to take hold to a point where we're not going to be able to have the kinds of convergence devices that I think everyone would really be able to appreciate. And I'm wondering, you know, is this going to be, like, health care or mass transit where you just can never put it back in the bottle again? And I'd like to get your perspective on that, if there's still an opportunity to have some grand convergence devices that can really simplify people's lives and enrich their lives.

Walt: Steve?

Steve: Well, I think Bill and I would agree that we can get it down to two. No, I think it's hard to limit imagination and innovation. I think there's always going to be a bunch of new, great things. And I think that's part of what we put up with to get the innovation. We put up with a little bit of aggravation to get the innovation.

Bill: And I think the marketplace is awfully good at allowing diversity when it should and then getting rid of it when it shouldn't.

Steve: And then letting it come back sometimes.

Bill: Yeah. Yeah. I mean, in terms of standards and things. I mean, the Internet standards have been

incredibly powerful, you know, video formats, things like this. And so I don't see things that are going to really hold back a convergence device. You know, sure, there's a lot of wireless approaches, but that's pretty healthy right now. They each have various merits. A few of them will end up overlapping the other ones and kill the other ones out, but I think the industry's done very well at latching onto standards for the things that there were no longer any innovation in and then focusing on the places where it wasn't clear which approach was best.

Walt: Jesse?

Jesse: Hi. I'm Jesse Kornbluth, HeadButler.com. But you're not the youngest guys in the room anymore, it's perhaps appropriate to ask you a question about legacy, each of you. Bill, even your harshest critic would have to admit that your philanthropy work is, you know, planet-shaking, incredible, and could be, if you make it, a second act so amazing that it would dwarf what you've actually done at Microsoft.

[*Applause*]

If you had to choose a legacy, what would it be? And Steve, do you look at Bill and you think, gee, that guy is so lucky he had a company so rich with talent that he didn't have to personally come in every day and save it and, you know, I wish I had the opportunity?

Kara: Okay. He's not going to answer that one.

Walt: Bill?

Bill: Well, the most important work I got a chance to be involved in, no matter what I do, is the personal computer. You know, that's what I grew up, in my teens, my 20s, my 30s, you know, I even knew not to get married until later because I was so obsessed with it. That's my life's work. And it's lucky for me that some of the skills and resources–but I put skills first–that I was able to develop through those experiences can be applied to the benefit of the people who haven't had technology, including medicine, working for them. So it's an incredible blessing to have two things like that. But the thing that I'll, you know, if you look inside my brain, it's filled with software and, you know, the magic of software and the belief in software and, you know, that's not going to change.

Steve: So your question was about whether I wish I didn't have to go into Apple every day?

Jesse: No, if you envied Bill a bit, this second act that he has.

Steve: Oh, no. I think the world's…

Kara: You want to do anything else.

Steve: I think the world's a better place because Bill realized that his goal isn't to be the richest guy in the cemetery, right? That's a good thing and so he's doing a lot of good with the money that he made.
You know, I'm sure Bill was like me in this way. I mean, I grew up fairly middle-class, lower middle-class, and I never really cared much about money. And Apple was so successful early on in life that I was very lucky that I didn't have to care about money then. And so I've been able to focus on work and then later on, my family.

And I sort of look at us as two of the luckiest guys on the planet because we found what we loved to do and we were at the right place at the right time and we've gotten to go to work every day with super bright people for 30 years and do what we love doing.

And so it's hard to be happier than that. You know, your family and that. What more can you ask for? And so I don't think about legacy much. I just think about being able to get up every day and go in and hang around these great people and hopefully create something that other people will love as much as we do. And if we can do that, that's great.

Walt: Yeah.

Rob: Thanks, Steve and Bill. Rob Killion, here with my business partner. We've got a 100-person Internet media business. I'm wondering what would be the single most valuable piece of advice you'd give us to even attempt to create some of the value that you guys have done in both your very impressive companies.

Bill: Well, I think actually–it may be in both cases–correct me if I'm wrong–the excitement wasn't really

seeing the economic value. You know, even when we wrote down at Microsoft in 1975, “a computer on every desk and in every home,” we didn’t realize, oh, we’ll have to be a big company. Every time, I thought, “Oh, God, can we double in size?” Jeez, can we manage that many people? Will that feel fun still? You know, and so every doubling was, like, okay, this is the last one. And so the economic thing wasn’t at the forefront. The idea of being at the forefront and seeing new things and things we wanted to do and being able to bring in different people who were fun to work with eventually with a pretty broad set of skills and figuring out how to get those people those broad skills to work well together has been one of the greatest challenges. You know, I made more of my mistakes in that area maybe than anywhere, but, you know, eventually getting some of those teams to work very well together. So, you know, I think it’s a lot about the people and the passion. And it’s amazing that the business worked out the way that it did.

Steve: Yeah. People say you have to have a lot of passion for what you’re doing and it’s totally true. And the reason is because it’s so hard that if you don’t, any rational person would give up. It’s really hard. And you have to do it over a sustained period of time. So if you don’t love it, if you’re not having fun doing it, you don’t really love it, you’re going to give up. And that’s what happens to most people, actually. If you really look at the ones that ended up, you know, being “successful” in the eyes of society and the ones that didn’t, oftentimes, it’s the ones [who] were successful loved what they did so they could persevere, you know, when it got really tough. And the ones that didn’t love it quit because they’re sane, right? Who would want to put up with this stuff if you don’t love it?

So it’s a lot of hard work and it’s a lot of worrying constantly and if you don’t love it, you’re going to fail. So you’ve got to love it and you’ve got to have passion and I think that’s the high-order bit.

The second thing is, you’ve got to be a really good talent scout because no matter how smart you are, you need a team of great people and you’ve got to figure out how to size people up fairly quickly, make decisions without knowing people too well and hire them and, you know, see how you do and refine your intuition and be able to help, you know, build an organization that can eventually just, you know, build itself because you need great people around you.

Walt: Lise.

Lise: Lise Buyer. Question, I guess it’s historical curiosity. You approached the same opportunity so very differently. What did you learn about running your own business that you wished you had thought of sooner or thought of first by watching the other guy?

Bill: Well, I’d give a lot to have Steve’s taste. [*laughter*] He has natural–it’s not a joke at all. I think in terms of intuitive taste, both for people and products, you know, we sat in Mac product reviews where there were questions about software choices, how things would be done that I viewed as an engineering question, you know, and that’s just how my mind works. And I’d see Steve make the decision based on a sense of people and product that, you know, is even hard for me to explain. The way he does things is just different and, you know, I think it’s magical. And in that case, wow.

Steve: You know, because Woz and I started the company based on doing the whole banana, we weren’t so good at partnering with people. And, you know, actually, the funny thing is, Microsoft’s one of the few companies we were able to partner with that actually worked for both companies. And we weren’t so good at that, where Bill and Microsoft were really good at it because they didn’t make the whole thing in the early days and they learned how to partner with people really well.

And I think if Apple could have had a little more of that in its DNA, it would have served it extremely well. And I don’t think Apple learned that until, you know, a few decades later.

Walt: Over here.

Charlie: Yeah, hi. Charlie Brenner from Fidelity Investments. In our financial services industry, we are focusing very strongly on aging and retiring baby-boomers, a huge demographic.

Steve: We’re not that old yet.

Charlie: No, I wasn’t– The question is different from what it sounds like it’s going to be here. But most of the innovation that we see coming from computer and Internet companies is kind of youth-oriented. And I’m just wondering if there are activities going on in your companies acknowledging what’s going to be happening

generationally.

Steve: Oh, not true. I'll give you one example. So we started building in video cameras into almost all our computers a few years ago. And the response by people of all ages, but in particular seniors, has been off the charts because they're buying these things now and they're buying them for their grandkids, their sons and daughters with their grandkids so they can stay in touch with their grandkids. And they're videoconferencing more than younger people are. And it's incredible what this has done. So that's just one simple example, but there's, like, dozens of them that have clicked with, you know, seniors that are living independently that want to stay in touch with extended families and do other things like that.

Bill: Yeah, I think it's a very good point, when you look at the size of the market. And that's partly why it's great that there are all these companies out there who can see, okay, what would you do for seniors? I think natural user interface is particularly applicable here because the keyboard, you know, we're sort of warped in that we grew up using the keyboard and so it's extremely natural to us, but things like–and that's partly why when we showed the Surface computer, I showed it privately to a bunch of CEOs a couple weeks ago, I was kind of stunned by how blown away they were. But their ease of navigation is just not the same. And when they saw that, the idea that they could organize their photo album, it meant more to them than it did to me.

Steve: I'll give you another example. We've got a little shy of 200 retail stores now. And one of the things that stores are doing is personal training now. It's called one-to-one. And we are up to now a run rate of a million personal training sessions–they last an hour–per year. A million per year.

Walt: You only started a little while ago, right?

Steve: Yeah, we started about a year ago and we're up to a million training sessions per year run rate now. And a lot of those folks–some of them, anyway, many of them–are seniors. And they're coming in and they're spending an hour learning how to use Office and they're spending an hour learning how to video-conference. They can basically come in as much as they want and they can schedule these things throughout a year and they pay $99, I think, a year for it. And it's been great.

Kara: Last question.

Walt: Now the last question over there.

Unidentified male: We all share our common science-fiction experience of, you know, the metaverse or the matrix where we all could communicate without being in the same place. And by the way, thank you both for providing us the best platforms so far to go to chat rooms or to all go to a MySpace. It's a far cry from these things that we see on Star Trek at the holodeck. What kinds of things can you imagine that are partway there that could be much better than the three-window iChat that we might see in the next five or 10 years?

Bill: Well, I think Steve's going to announce his transporter.

Steve: I want Star Trek. Just give me Star Trek.

Bill: No, I think short of the transporter, most things you see in science fiction are, in the next decade, the kinds of things you'll see. The virtual presence, the virtual worlds that both represent what's going on in the real world and represent whatever people are interested in. This movement in space as a way of interacting with the machine. I think the deep investments that have been made at the research level will pay off with these things in the next 10 years.

Walt: Steve?

Steve: I don't know. And that's what makes it exciting to go into work every day, because there's–as we talked about earlier, this is an extraordinarily exciting time in the industry, and lots of new stuff happening. So, you know, I can't even begin to think what it's going to be like 10 years from now.

Walt: Thank you so much.

Kara: Thank you so much.

[*Applause*]

Kara: Thank you so much. That was great.

Walt: That's great. Thank you for being here.

Return to: TRANSCRIPT–Bill Gates and Steve Jobs at D5

Very soon Bill Gates and Steve Jobs -- both pioneering execs that need absolutely no introduction -- will sit up in front of the audience here at D and discuss god knows what. Don't miss this, people, who knows if this will happen again in any of our lifetimes. You'll know when we get started.Â Steve: Bill and I can agree we can get it down to two! Bill: The marketplace is great at allowing diversity when it should, and allowing it to go away when it should. Steve: And allowing it back sometimes! Harrrrr. Microsoft co-founder Bill Gates has had the opportunity to meet and work alongside major tech giants, including late Apple co-founder, Steve Jobs. In an interview with Bloomberg, Gates was asked whether his contemporary Elon Musk could be considered the "next Steve Jobs," due to the advancements his companies Tesla and SpaceX have made in electric cars and reusable rockets, respectively. "If you know people personally, that kind of gross oversimplification seems strange," Gates told Bloomberg in the interview published Thursday. There are some key differences between the wa Following is a transcript of the interview Kara Swisher and Walt Mossberg conducted with Microsoft Chairman Bill Gates and Apple CEO Steve Jobs at the D5 conference on May 30, 2007. [Video plays]. Kara: Well, thank you. Walt: Before we get started, there were some pioneersâ€“of course, we have the pioneers here on the stage, but there were some other really important pioneers in the video we just saw and a couple of them are here in the audience. Mitch Kapor, who is a regular, could you just stand up, wherever you are? There he is. [Applause]. English: Walter Mossberg and Kara Swisher interview Steve Jobs and Bill Gates at 'D5: All Things Digital' conference in Carlsbad, California, in 2007. Quotes made during the time of the photograph. [1]. Kara: "What you think each has contributed to the computer and technology industry, starting with you, Steve, for Bill, and vice versa." Steve: "Bill built the first software company in the industry and I think he built the first software company before anybody really in our industry knew what a software company was, except for these guys. And that was huge. That was re