Blogger Roundtable
Bill Gates
Julie Lerman, The Data Farm; Kelly Goto, gotomedia; Rob Howard, Telligent; Kip Kniskern, LiveSide; Molly Holzschlag, Molly.com; Jesse Warden, Flex and Flash Developer; Jonathan Snook, Digital Web Magazine; Keith Peters, BIT-101; Erik Natzke, JOT
December 4, 2007

BILL GATES: Okay. Well, great. Well, I saw your agenda, so I've already learned a lot, and I'll just say a few things and then let people ask whatever questions they want.

You know, we started believing in the magic of software back when it wasn't a very mainstream thing, computers weren't used very broadly. And even then the idea of revolutionizing how you would get at information and how you'd interact with things was part of the dream.

We've come obviously a long way as an industry. We've got a good sized software industry, and we're revolutionizing most everything with digital approaches broadly.

Most recently, the idea of how you match buyers and sellers, and how you do deep collaboration, obviously that's become a defining application for the Web.

In the next few years, things should improve pretty substantially. I mean, we still don't think of TV as being a Web application, but the right pieces have been put into place to change that. The phone companies, AT&T and Verizon, actually do use Web-based delivery of video, non-broadcast, and, in fact, they're building infrastructures that allow you to do personalized video, so you can interact with the context, interact with the ads, things that we've targeted, high-definition, and they use a software platform called Media Room that we created to do that. That's one of the things we got into way before its time, have been working on it for a long time, and we're just at about a million people using that right now. Over time, we expect the cable cos will want to go with a broad software platform as well.

So, the arrival of video on the Web, until you get TV sort of connected up, you're not getting the kind of scale that you'd really like. I mean, yes, it's happening, it's a great thing, there's some cross-fertilization in terms of how things are developed, but it really hasn't been there.

There's a lot in terms of the interaction style, where if you have to interact with the keyboard and mouse, there's just a lot of things that aren't simple. You have a lot of companies trying to make breakthroughs on that. For us really an iconic thing is something like Microsoft Surface where you just take information, take how you interact with a map when you have a keyboard and a mouse, and then take when you have Surface where you can zoom in, pan around, try out different things. Take how you would sit down with a friend and look over some photos. Your computer is set up so that it's not that easy for multiple people to sit there, not that easy for multiple people to navigate around, it's just not a shared experience; whereas having the tabletop type environment with the natural interface makes that very simple.

We actually have a product that's not a consumer product, so it's not as visible as a lot of consumer things, that are called RoundTable, that show some of the potential on this, where you take and you have just digital cameras and digital audio pickups, and so if somebody is remote but wants to have a meeting, a virtual meeting with a group of people, they get to see all the participants, and it automatically directs the meeting in terms of knowing who's talking, telling them who's talking, showing that in the main display, but still showing the 360-degree view of everybody in that room.

Our view is that these natural interaction techniques are very complementary to each other; that is touch screens, surface touch, touch whiteboard, pen type interfaces, which you've seen on the tablet, natural 3D input, which you see on things like the Nintendo Wii at this point, but you'll see very broadly as a standard input peripheral over time, not just for videogames but for PCs as well, and that's one of those push/pull things where the Web is not 3D today, but that's partly because the peripherals aren't there, and the peripherals aren't there partly because the Web is not 3D. Well, why isn't it 3D? Well, there's been at least five startups a year that have said now we're going to make the Web 3D, and then they go and fail. The tools, the performance, the richness, the environments. You know, (First Life ?) has gotten some degree of critical mass in terms of what they do, but still people won't think, okay, I go to a bookstore on the Web, it's going to be a 3D experience; I go to a site to navigate what my house is going to look like, that's a 3D experience, but that will change. We and many others are investing super heavily in the input devices, the runtimes.

And, of course, our friends in the silicon industry are making it reasonable. In fact, one of the reasons 3D failed is that if the refresh rate is not just incredibly high, and the quality is not incredibly good, 2D is better, and you can just read the

information and create the illusion of whatever you want in your brain, as opposed to something that literally can make you feel poorly because it's just jittery and out of date. So, a variety of things will come together there.

So, I'd say TV and the Web, 3D and the Web, the Web being user-centric, so as you're going up onto various sites, all the things that you do just get stored in the Web instead of stored on the device itself. Why don't people license more music? Well, there's a lot of reasons, but one of them is that if your music licenses don't sort of exist forever up in the cloud, if they're down on some crazy client, what if you lose that client or you decide to switch to some other operating system, or you want to change something, you might lose it, whereas physical CDs at least you can always go and re-rip those things. That's sort of eternally available rights for you.

Just moving around between devices, the fact there's any state that just gets isolated on that device really makes no sense. Web storage is cheap enough that having whatever your favorites are on one device show up on another one, even cross-device where it would be a ticker when you're watching the TV set, it would be a homepage when you're on a PC, it would be a set of channels when you're on a phone-type device, that stuff should be user-centric instead of device-centric, and we're building a set of services there.

Also in the Internet today, if you want to build an application that's going to be very high scale and very reliable, you're basically having to reinvent everything to do that. The vision is that people should be able to just subscribe to a service that takes care of that for them.

Now, no one is offering that today. Amazon offers raw computing with EC2, they offer raw storage with S3, but they don't offer a scalable model where you just basically write the app and then it scales infinitely. You have to do all the technical work still, because it's basically a UNIX machine is the paradigm.

The idea of cloud services that take care of fault tolerance, load balancing, and then let any kind of startup just have it be auto-hosted, and then, fine, if they're popular they pay a little bit for the capacity that is used, but they don't have to do some brilliant engineering design.

You could even say, you know, why did MySpace over a year ago, why did MySpace beats Orchid? Well, if Orchid or Friendster had performed so that you didn't have to wait, so you could log in, maybe they would have been the one to accrete the kind of positive momentum. Or if they'd been able to connect up to a general platform, then this idea of extensibility, they wouldn't have had to generate it on their own, it would just come inherent with the platform that came along.

So, it's still too hard to write scaled Web sites, and there's a way of taking this cloud-based computing offering and making that available, so it's quite easy for people to do things.

This gets very interesting when you get beyond classic Web sites, and you look at certain types of scientific computation problems where the way that the data flows, it's not as simple. Most Web sites what you do is a front-end/back-end architecture, and you just do state management where the front-end is state-less and you have some criteria for responsiveness, but a lot of these other Web things, particularly what we have to do to do Web analysis, to build the algorithms that actually drive the search engine, these are state of the art scientific computing problems, and so we've created the general fabric that will let people host those things as well, which is a big breakthrough in how you think about how computing gets done.

Down on the clients Silverlight is a big deal for us, and MIX will be a huge milestone in terms of the feedback we've got, and the new things we're doing there, that we're pretty excited about that and making that both richer and broadening the set of devices that that connects to, and ourselves having our key applications take advantage of that in a pretty rich way.

And there are some high level services. Still today you have too many passwords, too many accounts. Any preferences you state just kind of stay in one place. Moving things cross-Web is still way too difficult. So, we have some new ideas that we can expose about that that will hopefully move the Web -- help it move at the incredible pace that it's been going along.

You know, MIX has become a great event for us, and I'm certainly in a lot of meetings where we're developing neat new stuff, and people say, well, will it be done by MIX or why don't you hold that till MIX. So, along with the PDC, which is more just the basic platform type things, I'd say MIX is our most important event for what we're doing in terms of developer technology.

With that, I'm sure there's lots of interesting areas I didn't touch on, but let me go ahead and open it up for whatever people are curious about.

Is someone moderating or --

TIM HARRIS: Well, what we thought we'd do is just make sure everyone gets an opportunity, we'll go around the room, and we'll go ahead and start with Kip, and then we'll go from there.

BILL GATES: Okay.

KIP KNISKERN: Yeah, I read about Windows Live, and if you could just kind of assess where you think Windows Live is right now, and what do you think the perception of Windows Live versus some of your competitors is now. It seems like that Microsoft -- maybe the tools are there, but maybe the perception of it being the cool thing to use, at least U.S.-centric, isn't as good as (off mike).

BILL GATES: Well, it's hard to say. I mean, Messenger has a certain strength, Hotmail has a certain strength. We're doing a broad set of things under that Windows Live banner.

The first time we actually delivered on Live as something that's kind of unified and integrated together is the Windows Live 2 download that we just did, what's that, like a month ago, and the numbers on that are super good, and we're just in the planning for what we call wave three, and the kind of things we're going to build into that. So, we feel pretty good about it.

All those consumer services are basically big, big volume. They're tiny businesses in a sense, but they're very important for the population of users that you connect up to and the opportunities you get out of that.

Some of the things like state in the sky, obviously we want to do a lot more innovation so that everybody just understands that they should use that. Today, no matter whose thing it is, .Mac or the various eDrive cloud store type things, they actually are all pretty small share, they're kind of messy to use. We think that by the way that we'll connect up to Windows in a rich way we'll be able to do something pretty dramatic there, but that awaits the next big wave that comes along.

So, those are all businesses that are going quite well. Messenger is the lead product in most countries in the world. I think Hotmail is still the lead in most countries or number two in most countries, so they're fairly strong.

There are people doing other things, and nobody really has kind of the breadth I'd say that we have. Maybe Yahoo! comes the closest to it, but you'll just have to see how that unfolds in terms of the usage and the numbers.

ROB HOWARD: I guess it's my turn. So, I guess one of my questions would be is when you look at the business, and you look at how Microsoft as a business started and grew since '98 into 2000, you look at technologies like (social software ?) and how that enabled businesses to become more transparent, I'm just kind of curious what your thoughts are on do you think it was a case of the technology enabling that, or was that just -- were we simply at a point in time where businesses wanted to be more transparent and were looking for means for how to better communicate with the customer? I used to work at Microsoft, and I loved how we went through this transformation of there used to be a point in time where Microsoft was a very closed off shell, you didn't really get to talk to people, and then in the late '90s and early 2000 Microsoft really opened up, became a much more transparent organization. Do you think that was because of the software or just because business was just changing and evolving?

BILL GATES: I'm not sure. The breakthrough business idea of Microsoft, which is really 1974, is the idea of creating a critical mass of software developers on a platform, and that there was no software industry, there were five companies doing mainframe software, and we wanted there to be a software industry. So, a certain openness about our developer tools, our APIs, flying all over the world convincing ISVs to do something, that was my 1970s and 1980s, begging people to write software for MS-DOS. No, I didn't have the megaphone of the Internet or of the sort of hyper success that Microsoft would achieve by the mid '90s that meant that business writers or people were going to write about whenever we were doing something.

So, we certainly weren't closed. We were out there just begging people to write software. Remember, people didn't really believe in personal computing, then they didn't believe in graphics user interface. They thought, oh, this is too slow, it's too hard to write the software. It took a lot of evangelization, going out convincing people to do things.

The Internet has been a huge benefit to the entire world in terms of transparency, transparency of you're a buyer for products, you can find things; you're somebody who's curious about learning information, you know, I want to know about black body radiation, I just go onto the Web, I do image search, I find five PowerPoint presentations, I watch three of them, I see who they mention, and I think, okay, maybe that guy is a little better. It's mind-blowing today how much you can learn.

Now, certain structured things are still hard to learn, like go to the Web and try and understand foreign aid. Because that's kind of a numeric thing, the classification of (inaudible) is hard, the Web does not do that well today. Now, some software breakthroughs in terms of letting you visualize data in rich ways and normalizing it as it comes from different sources, over the next three of four years that will happen. In fact, most of my day today was in a visualization group where we're talking

about what breakthroughs are needed so that if you want to study a question like that, take economic flows, you want to understand this sub prime thing, you want to see the numbers, okay, what percentage of people bought what type of mortgage over what period of time, when does the interest rate go up, what does this mean, what portion of their income is it. If you really want to understand it more than just trivial text-type articles, there's nothing out there today that lets you do that. Anyway, that's not directly related to your question.

So, I think every business and organization benefits by communicating to its customers, to its partners, the more you do the better you are. Our success is not based on any type of secrecy about what we're doing. Apple likes secrecy, but good luck to them. It's not a period of time where it's that easy to keep secrets. There are various regimes around the world that are finding that, and various companies that want to surprise people with the big event. We want to make sure that we're not creating expectations we can't fulfill. So, we like to know when we're going to try and get something done before we promise it. But just talking about our general direction, we've always wanted to be totally open. And it's sort of natural if you're a platform company who's working with multiple hardware innovators, and those people have to plan ahead. I mean, we've got to get Intel to plan their chips three years ahead, we've got to get system design plans years ahead.

So, what happened in the '90s in terms of openness, I'd give technology all the credit, not motivation. The motivation is there.

Now, there are people who deserve credit, like coming up with Channel 9, which in retrospect is an obvious thing of, okay, you have somebody with a random camera go around, film the person, put it up on the Web, and that's a neat thing that got a certain critical mass and a certain kind of cache to allow us to connect our developers down in the trenches with people who care about their work, and cut out all the stuff in the middle that tends to be so headline oriented and so narrowing the message about how this person is making tradeoffs of how they want to improve the product, you know, not get that feedback, not share, hey, you think we blew it, well, we're sorry, here's why we made that mistake, here's how we're going to make it better, really see the human at the other side of that interaction. But I think the desire, at least relative to our business model, has always been there.

JULIE LERMAN: I think a lot about the Bill Gates Foundation and I'm really happy that you're able to focus on it. If you ever want to open up an office (off mike) call me.

BILL GATES: Okay. (Laughter.)

JULIE LERMAN: But I do wonder like right now the big focus is on turning the Internet into our personal network. I wonder if you have kind of visions beyond that of things that if you weren't shifting your focus over to that, you might want to drive?

BILL GATES: Well, computer science had some very ambitious goals over time; to create devices that are hyper-intelligent is sort of the ultimate, because as soon as you do that, then you just ask them what you should do, and they tell you. That's the Holy Grail of computer science. That's going to take many decades before it's achieved. There are different theories about the approach in terms of just modeling how it's done through evolution versus de novo invention.

So, everything we've done is sort of just on the spectrum of, okay, that's the ultimate out there. In the meantime we're just kind of a tool that's helping people get things done. Are we as good as a personal assistant in terms of remembering what a person likes and remembering what they're interested in? A personal assistant, after they've worked for you two or three years, they're a lot smarter about helping you out. Is a computer as good as that? No, not within -- not even close. In fact, it doesn't even learn all that much. I mean, there's, yes, it tells you who bought this book or something, but in terms of helping you organize things and know what the thing is you should do next, computers are very limited.

The best asset that Microsoft has by quite a bit is our research group, and that's why we've put so much into that, and I get to spend a huge percentage of my time making sure we're bringing in the best people, and as we make breakthroughs, that that gets translated into the products.

And they are very open. I mean, the Microsoft Research Web site, you want to know what Microsoft is doing, well, five years from now, go to the Microsoft Research Web site and see what (Lilly ?) is writing about social computing, or see what the 3D graphics guys are saying about how that pipeline will change, or look at how the translation guys, the breakthroughs they've made recently in being able to take documents in different languages and translate them in different directions. So, I feel very comfortable that the ambition level that we defined as a company is pretty strong.

We've talked a little bit publicly about a process we're using called "quests" where we write down -- we have six communities: developers, IT, information workers, consumers. Anyway, so we have these communities, and then we write down, okay, 10 years from now, what would we like software to do for them? How can you -- you know, you walk into a datacenter, you will see no people, you'll just see a few machines. Well, what would it take? How abstract will the

applications have to be to be modeled such that the resources can be applied and the error conditions can be handled and things like that, so that you have that just empty datacenter? And even the datacenter can be fairly small, because if you get a heavy load, you can just delegate it out to some crazy cloud datacenter that Microsoft runs, and we'll take your overload condition, or if your datacenter blows up, we'll do the disaster recovery. Of course, you have to pay us a little money, but we'll be there to do that.

So, you take that vision and you say, okay, where are we today, where is that vision, what's the work, and so you get these individual quests, each community already has about eight of them, some have actually 10 or 12, and we have quest summits where the people who believe in that stuff sit and talk about it, and see if we're making progress on it.

So, we have a pretty good way of driving our software agenda. What is the magic of software going to do? What does the home look like, what does the office look like? As we get your desk, there's a computer in your desk, not on your desk, and you're just manipulating information and in a meeting room you're calling up that information, what do we need to do to make sure that comes true?

So, I don't think my -- I think there's a process here and some pretty great people who will make sure that stays quite ambitious, even next summer when I get to spend full time on the foundation stuff.

KELLY GOTO: I've got a two-part question (off mike). That was interesting (off mike). I was wondering -- I just had a daughter four months ago, and I'm wondering as a parent with a legacy, I don't know if you consider yourself Bill 2.0 now, maybe Bill 3.0, but what does the future look like (off mike) what you want to leave behind? What does Bill 2.0 look like?

BILL GATES: Well, I don't know about these version numbers. (Laughter.) I mean, it's an arbitrary thing.

PARTICIPANT: Three-point-oh, Bill novo.

BILL GATES: But what is -- I never understood, you know, what was Web 2.0, what was that? The AJAX stuff got done in IE 4. (Laughter.) People finally woke up and actually did something to it, and they called that a revolution? I mean, we'd only shipped 100 million copies of IE 4 at the time. But Web 2.0, what was it? It's kind of random to say, oh, this was the day.

You know, our whole industry is full of these desire to create a headline around this is the day that such and such happened, whereas, hey, every day there's a little bit more Internet, a little bit more networking, a little bit more personal computing, and there aren't really that many discontinuities in terms of what goes on. I mean, maybe Intel made a breakthrough where they figured out how they could get the clock -- we're hitting this clock ceiling. It's one of the first times that the hardware guys aren't giving us our wishes where we say, okay, we want big screens with high-definition, boom, they give them to us; or we want certain graphics performance, they give it to us. Clock speed they can't give us, or they don't know how.

Anyway, in terms of having kids is not -- it's not an easy thing to describe how that affects you. I mean, authors I suppose try and do that, or various creative forums. It's a very exciting thing.

My daughter happens to go to a Tablet PC school, so she knows more about Tablet PC than I do. I get her homework, her graded homework every day, I see what she got wrong at dinner, I can know whether we have to discuss scientific notation or whatever it is, and she's just so much more -- for her it's so natural to use the pen and just be reading everything online. They got rid of the textbooks, and it's a phenomenal thing. And this year it's all based on OneNote where they use the collaborative synching of OneNote where they're updating their thing, and the teacher sees it. Anyway, that's a pretty phenomenal thing.

The thing I asked for Christmas last year, those Teach12.com DVDs, the sad fact is that in their science area I now have all of their lectures. These things are brilliant. If you weren't here to hear me enthused about that, these are not -- they're kind of pricy, but these are brilliant science lectures. If you want to learn about -- if you want to understand how semiconductors work, get the lecture called "Physics in your Everyday Life" and watch it. He will explain to you, better than I've ever seen explained, because I've always tried to explain to people how semiconductors work. If you want to know about geology, just get the geology course. If you want to know biology, you want to know string theory, you want to know anything, they've gone and found the very best lecturers in the world and they're fantastic.

The problem is I've seen them all now. I'm going to go back and re-watch maybe about half of them, because they're that fun and interesting.

Some of them -- my daughter is 11, my son is 8 -- some of them, like I got all their high school ones. Some of those are good enough I'll get to watch with my kids and go through and see if they're ready for them. So, I might have to think of something new. I've told them they should go get more lectures. There are some areas that they don't cover very well. They don't cover chemistry as well as they should. There's actually nothing that's really good on chemistry out there.

Anyway, I'm 50-some-years old, so I guess there's a lot of different changes. July 1 will be as much of a demarcation for me as there's been for a long time, just because I was 17 when I was writing the BASIC full time, so I've worked full time for Microsoft since then, and so that will be the first time that I don't work full time for Microsoft. So, it will be an interesting change. I'll still work at Microsoft, I'll come in one day a week, and there will be various projects that I work on. I get to take my kids to school, but after July 1 I'll get to pick them up, too. I've never gotten to do that.

Keith Peters: Great. So, I'm a Flash developer, and obviously one of the interesting things here is hearing more about Silverlight. In the Flash community Silverlight is seen kind of as a threat, and obviously big competition, and been labeled Flash killer. So, I was just wondering what your view of the future of Flash and Silverlight and how you see like Silverlight toppling Flash or a world where they come together and have like their own spheres, specialization or --

BILL GATES: Well, visualization runtimes, there's no exclusivity whatsoever; that is, Silverlight will run on your Mac, it will run on a Windows PC, and you as a user, you don't even know, when you go to a Web site, if it uses Flash it uses Flash, if it uses Silverlight it uses Silverlight; you don't have any clue about that. So, it's not like word processors or operating systems where you as the user you might decide to use two, but it's a complete pain to learn all the commands and the differences and all these things.

So, there's a tendency with operating systems or word processors that if two are very similar, one will get ahead, and once something has high market share, the other one has to be pretty phenomenal to come in and contest that, because there's just huge switching costs for the user.

For an end user there's zero switching costs. We're going to get Flash downloaded onto everything in the universe -- Silverlight downloaded on everything in the universe just like Flash. There will be that runtime everywhere. It's small, it's no big deal. It used to be that memory was so limited, that you couldn't have multiple of anything, but here it's just fine.

So, the choice is much more at the designer level, and I don't know whether we'll -- we're just investing in it, we think it's a really great thing. Scott knows a hundred times more about it than I do.

But what is the model? Is it just going to be better than Flash, and take share away at the designer level? Is it going to be better at certain things like when you want programming logic related to it because we're very good at that? Will it be better just in the Windows environment and about the same everywhere else, because we're good at doing that integration? It's hard to say.

The idea that there is some competition at that level, you know, maybe that's a healthy thing. Maybe the Flash guys will go fix a few things. I hope not. (Laughter.)

So, end users won't know, designers will know, and today designers are 90-some percent Flash, and X percent Silverlight where it's some tiny little number. So, over the next years, as people see these pieces roll out, they'll get an opportunity.

I think most designers want to try a different environment. I mean, why not take a project, go and try it; is it really a lot simpler, is it hard to switch? People want there to be some variety there, because there are different paradigms in terms of how you present things, and we've taken some different choices. I mean, Flash, the decisions were made before the Internet existed. That doesn't mean it's necessarily terrible, but we got to look at a lot of more modern things when we made the choices about how Silverlight is designed, so that at least that ought to intrigue people a little bit.

Erik Natzke: We got a chance to see Surface today, and it was just remarkable to see like physical computing being brought to that level. Do you feel that home automation has sort of fallen short of its promise of like the 1980s and where you felt like you were actually going to have this controlled environment that's then integrated into your automobile? One of the examples that I threw out there today was like imagine if every time I was searching a map, that that map went to my car. Do you think now that with all this conversation of the cloud, will we get to that point or are we going to go towards Surface where it's a centralized unit versus like multiple devices that can work as a whole? Because that promise in the cloud seems extremely advantageous when you start to think about now it's not about power or a laptop or a Palm device; it's about everything connected together. So, do you feel like home automation is eventually going to get there, or was it just like, ha-ha, that didn't work, let's move on?

BILL GATES: Well, I think we can separate things out. Your state, the stuff you care about will be overwhelmingly in the cloud. There may be some really gigantic things in terms of videos or big photo collections that use special case to be on, say, Home Server or something, but even there, there will be an entry in your cloud directory that says this is this thing, but I only have a pointer to it instead of holding the thing, but logically everything will just be up in the cloud.

So, if you're, say, going to your doctor's office and they make you wait, there will be a tablet device sitting there. If you authenticate to that thing, phew, your state comes down, your homepage, your documents, your software rights, your music rights, it's going to be on that device. If you lose your phone, you just say to the cloud, hey, never authorize that unit again, but pick up a naked phone, authorize who you are, and, phew, all your stuff comes down onto the device.

So, it will be a multi-device world, because there will be different screen sizes, the car is clearly different than the TV set, which is different than the desk, which is different than the thing you might want to take on the plane. All these devices will be radically better, and some of them will disappear -- if you have cameras and you can talk, then you don't even see the computer. I mean, so the computer is most powerful when it disappears, and it's just in this pervasive environment.

The word "home automation" to me sort of calls up things like setting your thermostat or turning the lights on and off or the coffee turning on before your alarm rings or something like that, which, hey, I actually believed in that stuff, and I still do, but it's kind of an adjunct to media. Media is where you get this intense interest: the family photos, the TV shows that I want to watch.

So, the thing that justifies putting in that big HD screen, that's TV, Xbox Live, and the fact that, okay, you want to save a little power while you're on vacation, we turn some things off, we can piggyback that old dream that never happened on its own onto the media infrastructure that will exist in the house, where you'll have a little thin tablet you carry around, you'll have those big screens, and in your bedroom, your walls, you can put up whatever group you're into, you don't need posters anymore, you just put it up on the walls, and if your parents are coming in, you push a button and change to something else. (Laughter.)

Today, that sounds like a dreamy thing, but the screen guys with these laser generated things and some stuff we're doing in that area, you know, we've made some acquisitions and done some inventions. Screens will be dirt, dirt cheap, and so the magic of taking the camera technology with the right software, like you saw with Surface, that starts out as a fairly expensive device, but eventually every computer, when you touch the screen, it will be able to see what you're doing, not just see that you touched, but see what it is that's there, and that's a lot richer than just touch screen, although there will be some touch screen stuff over the next two or three years.

So, the home, you know, music anywhere you want, your phone is this neat remote control that just when you're in an environment it knows what things that you might want to change the state of and do the commands, we have this thing of what we call devices combining and recombining, that if your phone is near a big screen, of course your phone should be able to project on the big screen. If you're near a printer, of course your computer should offer that up as a device.

So, we have this very dynamic environment that today it's kind of limited. Yes, USB devices come and go, but it's not like big storage or computation or big screens show up, and the phone magically takes advantage of those things. That will happen. And when you take your phone into the car, it will talk to the car, it will say, hey, what's in this car, and the car will say, why, I have a big screen here, I have voice recognition here, I have storage here, and so the phone can get at the resource of the car, the car can get at the resources of the phone, and they're both -- it's devices combining and recombining. And you're seeing a tiny bit of that in that thing called Sync, this -- hopefully you've seen the ads for this Ford Sync thing where they took the Microsoft software and put it in. It's voice recognition. You take your iPod or whatever into your car, just name the song, hopefully it understands what you said and plays the song.

PARTICIPANT: So, Ford already has it?

BILL GATES: Mm-hmm, Ford Sync.

PARTICIPANT: No, I didn't know that.

BILL GATES: They're shipping in all their new cars, including the Ford Focus, this thing that you take a phone, a Zune, an iPod in, it just recognizes that it's there, says, okay, what kind of device is it, and you can talk and do instant messages or it will annunciate the instant messages that are coming in to you.

PARTICIPANT: Are they using Bluetooth?

BILL GATES: Well, right now it uses Bluetooth, but the software is kind of neutral. Most devices in the car are Bluetooth. Wi-Fi is really -- 802.11n is sort of the ultimate in wireless, and unfortunately Bluetooth, because it was low power for so long, and Wi-Fi wasn't low power, that we have this mixed world where you're going to have to have both Bluetooth and Wi-Fi, and the chip guys are just going to have to put them both on the chip, and hopefully users won't understand what's -- have to think about what's going on. But you need both. Cars have tended to be Bluetooth, cars and phones, whereas the rest of the world has tended to be Wi-Fi.

JESSE WARDEN: So, your (inaudible) has really influenced a lot of software industries and then as soon as you announced the Gates Foundation, the media jumped on it and talk about how you were (inaudible/off mike) philanthropic endeavors. Was there a turning point that made you feel like you wanted to do that sometime or was it a culmination thing? How did you get to the point where you now want to (off mike)?

BILL GATES: Well, I said even in my 20s that I didn't think somebody who was 60-years old should be deciding the technology strategy for a state of the art software company. So, you know, I'm pretty old now, and it's good for somebody else to come along. I'm still the guy who thinks, hey, saving a few bytes of memory is a worthwhile thing, let's spend a few hours and save a few bytes here. Nowadays just saving a megabyte, it's not worth it, don't waste your time. So, you get a certain mindset about what makes sense. To me, computing power is still a little scary. Now, compared to the people before me, I was a revolutionary in how I thought about those things.

So, there comes a point where somebody should pick things up. Since the age of 17 I was CEO and sort of chief software architect until seven years ago, and then I got -- that was a big change, maybe not as big but it was a big change, because then Steve took over and has run the company since the year 2000, and that was sort of getting ready for the idea of running Microsoft in a different way.

The foundation stuff has turned out to be very exciting, and I'd say there's one thing in common with the foundation and Microsoft. When we announced a software-centric vision of the world, 1975, there weren't a lot of people involved in that, and it's been exciting to see it sort of developed as we dreamed that it would, and many people coming in and contributing to that.

When the foundation got going in global health, there just wasn't that much -- there was nothing going on in terms of Malaria, TB. We have 20 diseases that we do. And we think we're going to conquer the majority of those in some reasonable period of time.

So, my ability to spend full time on that, go get the pharmaceutical companies more involved, get the best scientists more involved, back some risky approaches there, I may be more unique in terms of facilitating some of that than I am in software.

And sometime in my fifties I was going to make a change, and so about a year and a half ago, we picked the date and told the world, and we're on track for that to happen.

So, there's nothing magic about the date, but it seemed like Microsoft was in good shape, Ray Ozzie was the person stepping up to take on a big part of what I'd one uniquely, and so we made the choice.

JONATHAN SNOOK: My question is more regarding (off mike). I've often felt that Microsoft has certainly been reactionary (off mike).

BILL GATES: Especially when we started the company. (Laughter.) I knew that three years later, Apple would come along. It was (just a reaction ?). (Laughter.)

JONATHAN SNOOK: So, like, I mean, think of like Word (inaudible) or WordPerfect before (off mike).

BILL GATES: Oh, really? (Laughter.) When do you think Microsoft did its first word processor, just out of curiosity?

JONATHAN SNOOK: Apparently it was before my time. (Laughter.)

BILL GATES: Way before WordPerfect, way before Bruce Bastian started school at BYU. Anyway --

JONATHAN SNOOK: What year was that?

BILL GATES: The myth of all these things. We did 8080 word processors, 8080, eight-bit machine word processors. Every stupid thing we did first. (Laughter.)

PARTICIPANT: Let it be known.

BILL GATES: I mean, I'll date myself. Has anybody ever used a Model 100, Radio Shack Model 100? Okay, that was the first portable computer. It's a Z80 based system. It had this nice little word processor in it. You didn't have to give save commands. It had an eight-line LCD, 8 by 40 character LCD type thing.

Why does the IBM character set have all the characters it has in it? Because I put the Wang word processing characters in, because I thought, oh, maybe we'll do a Wang type word processor.

Who did Microsoft's word processor? Who? A guy named Charles Simone. Who is Charles Simone? Go back to the annals of Xerox PARC, and look at who wrote the first bitmap graphics word processor, a guy named Charles Simone, Dr. Charles Simone. Look at his PhD thesis on the thing.

Anyway, he started in 1980, after we'd done our first word processor. He came in because he believed in doing bitmap word processors. But anyway --

JONATHAN SNOOK: Well, then let me rephrase my question.

BILL GATES: I mean, come on. (Laughter.) Do you guys remember Electric Pencil, do you remember WordStar? WordPerfect was late. We were early. The midrange is guys like Electric Pencil and WordStar. Now, we didn't win in word processing until people bet against graphics user interface, and we bet on graphics user interface, and people kind of messed up. There were even some good word processors, but they got messed up. What was that one on the Mac that was really good? FullWrite? FullWrite was actually a very good word processor, but they never took it anywhere. Anyway. But we were imitating them. (Laughter.)

JONATHAN SNOOK: There's a myth that Microsoft doesn't innovate. How do you feel that Microsoft can change that attitude?

BILL GATES: We can't change it. If you think we just imitate, then that's -- you just can't change it.

Did we do personal computing? Who did that damn personal computing thing? When I bought that 8008 for $360 down at Hamilton (Avenue ?), what was that?

Anyway, tablet computers, is there somebody else out there doing tablet computers? IPTV, is there somebody else out there doing -- by definition what we do is the baseline. Everything Microsoft does is the baseline, and what we don't do, that's what's innovative I guess. (Laughter.) And by that definition the other guys do all the innovative things.

I remember Google invented Web search. No one did it before they did. It's very interesting how they did that. (Laughter.)

In the computer industry the person who does something first and the person who does it successfully, they are rarely the same, but the memory is -- I mean, people think Apple Computer was an early personal computer company. Well, let's see, I had licensed 17 people to do personal computer basics before I did the Applesoft BASIC, before I went out with Steve Wozniak and did the version that worked with a cassette tape, because they didn't have the disk yet. But Apple invented personal computing.

So, let history be rewritten at all times. But there's no way to get it straight, I guess. Go look at what Microsoft Research is doing, and then decide who are imitating and let me know.

JONATHAN SNOOK: Well, I'm sure that (off mike) Microsoft Research (off mike).

BILL GATES: I'm sorry?

JONATHAN SNOOK: The stuff coming out of Microsoft Research (off mike).

BILL GATES: All our products are based -- all our products are based on stuff that came out of Microsoft Research. We are playing catch-up in Web search. What things are we behind in? Some design and usability things we could be better in, search we could be better in. So, we have categories where we need to match and exceed what a brilliant company has done. Adobe has done a great job with Flash, it's a very nice piece of work. Is it good that there's some competitor trying to make it better? Who knows? But, yes, they were the first mover in many elements of that. I can talk to you about people who failed who did it before them, but it doesn't really matter; they got out there and they drove the very big numbers.

So, we always have a few categories like that, but most of our revenue -- who's revolutionizing management software? Who's revolutionizing security software? I mean, seriously, who do you think? The business computing market, which is way bigger than the consumer computing market, no one pays attention to it. Even in the Wall Street Journal, and you think, oh, this is the paper they're going to tell me about business computing; no, it's all about consumer computing. It's okay, but thank God for business computing, because it allows us to price our consumer computing stuff super cheap, and still pay the salaries of these wonderful researchers who like to be paid.

Anyway, I'm -- (laughter.) It's not the first time I've heard that. I'm not -- (laughter) -- it's a very common view that if you figure out how I can get rid of it, I will do so.

MOLLY HOLZSCHLAG: So, I have a little bit of an infrastructure question, as related to MIX and the open conversation and transparency. A few years ago, MIX was a big information and conversation about the opening of ideas, it was about when in the specific we talked about the browser, IE 7, a lot of interest in that, a lot of (inaudible) talking about it. So, for the last year or so, I've been working, I've been a consultant here with the IE and (inaudible) team to try and help get standards implementation to be strong, and we see some really great advances.

But very recently there seems to be a shift in infrastructure, and I don't really know exactly what happened, but what I understand, my understanding is that IE sits on the Web platform rather than in the -- excuse me, on the platform, on the Windows platform rather than the Web, and something seems to have changed where there is no messaging now for the last six months to a year going out on the IE team. We seem to have had -- they seem to have lost the transparency that they had been able to get some momentum going on in the IE 7 phase, in the year and a half (off mike) at MIX.

So, I'm very concerned about this, because being the person here that's supposed to be the liaison between designers and developers for the Web and the browser conversation, this conversation seems to have been pretty much shut down, and I'm very concerned as to why that is, and how we can correct it.

BILL GATES: I'll have to ask Dean what the hell is going on. I mean, we're not -- there's not like some deep secret about what we're doing with IE.

MOLLY HOLZSCHLAG: But they're not letting -- like you know how people (inaudible) going around talking (inaudible), but I do realize that there is a new engine, there is some information, and this information is not -- we are being asked not to talk about it. So, I'm concerned about that.

BILL GATES: I'll ask Dean what's going on.

BILL GATES: I mean, is IE 8 represented at MIX? I assume it is.

JENNIFER RITZINGER: Yes.

MOLLY HOLZSCHLAG: To what extent?

JENNIFER RITZINGER: To be determined

MOLLY HOLZSCHLAG: So, at MIX.

PARTICIPANT: There will be disclosure by MIX.

PARTICIPANT: By MIX.

PARTICIPANT: Yes.

BILL GATES: There's a paradox about disclosure, which is when you're far away from doing something you're super open; when you're very close to doing something you're open; when you're making your cut list of what you can do and not do, then particularly because -- well --

PARTICIPANT: (Inaudible) expectations and that causes trouble.

BILL GATES: Yeah, and so I don't know where Dean is in terms of if he's willing to commit what's in IE 8 and what's not in IE 8. In terms of standards support, he'll see that it's a glass half full. It adds a bunch of new stuff we didn't have before, it doesn't add everything that everybody wants us to do.

MOLLY HOLZSCHLAG: I mean, really IE 7 (off mike).

BILL GATES: No, and believe me, Dean gets this stuff.

MOLLY HOLZSCHLAG: Oh, Dean totally gets it, and that's why I'm concerned, because they have always been so forward facing. So, my --

BILL GATES: I'll look into it.

MOLLY HOLZSCHLAG: Yeah, do. (Off mike).

BILL GATES: I mean, I will look into it.

PARTICIPANT: (Off mike).

BILL GATES: We do sometimes have MIX -- a lot of how the MIX agenda gets set is the tools guys, and we need to make sure the Win -- yeah, we have two organizations. I mean, they're totally complementary, but we should make sure the Windows messages come through in MIX. I know last year the Windows group felt like their messages could have -- we could have done an even better job on the Windows related messages, that that didn't happen. So, we'll double check that.

MOLLY HOLZSCHLAG: Thank you.

TIM HARRIS: Although this is fascinating, we've reached 5:00.

BILL GATES: I guess I gave too long answers to make it all around. Sorry about that. (Laughter.)

PARTICIPANT: (Off mike).

BILL GATES: Okay, then we made it exactly around.

BILL GATES: Great.

PARTICIPANTS: Thank you.

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