

Ken Albers: It's June 27, [2006], and if you could state your name.

Joe Hewitt: I'm Joe Hewitt.

Blake Ross: Okay. Joe, when did you first begin using computers?

Joe Hewitt: When I was seven years old. My dad bought an IBM PC Jr. for our house, and that was my first computer.

Ken Albers: And was that sort of where your interest started generating, or did you have any other influences as far as technology and computers?

Joe Hewitt: Yeah, that was pretty much it. My dad was interested in changing careers to become a programmer, and he bought the computer to sort of teach himself to program. And so I'd watch him writing programs and typing programs out of *PC Magazine* that, you know, they'd give you the code on paper and you'd type it in. And that was really where my interest started, following him as he learned. Later when I got older I sort of took off on my own.

Ken Albers: And did you ever have—what's your sort of educational background? Did you then pursue formal computer training at any point or—?

Joe Hewitt: Yeah. I'm not a very academic guy, so I sort of halfheartedly went through school. I started out as a computer science major. Didn't really like formal computer science, so I switched to graphic design. Realized I wasn't an artist so I went back to computer science. Then I got a ton of job offers in the field, so I just dropped out of college and I've been professional ever since.

Ken Albers: And what's sort of the first programming project you remember working on? Was it back with those *PC Magazines*?

Joe Hewitt: Yeah. Yeah. I remember when I was in fifth grade writing a program to do, like, an animated ASCII art of, like, a rocket ship blasting off. That was my first program that I remember. And I wrote a game show. I think it was Jeopardy or something like that. All in Basic, Cartridge Basic back then (GW).

Ken Albers: And how did you first connect with open source or start contributing to an open source project?

Joe Hewitt: I was a web developer. I guess it was '99, 2000, around the time that Mozilla—when I started getting interested in Mozilla. I followed the project mostly from the standpoint of a web developer wanting to see what this new browser was going to turn into. And eventually I learned about XUL, and became fascinated with it and started looking for ways to get involved in it. And before I even really

started contributing, a job opened up here. I was living in Maryland at the time actually and Netscape hired me and flew me out here.

Ken Albers: And what did you start doing at Mozilla? What sort of projects did you work on?

Joe Hewitt: I started out in the Netscape user experience group which were the people that did the visual theme and the user design for the entire Netscape and Mozilla Suite, and I was in charge of sort of writing a lot of CSS and JavaScript and making sure that the designs that those people came out with were executed.

Ken Albers: And during the time—or throughout your period of time working at Mozilla, did you usually work alone or in groups?

Joe Hewitt: It was always a little bit of both. Collaborating with other people whenever it was necessary. So I'd say over the years there were more—there were a lot of times when I was working alone, I'd say.

Ken Albers: When you were in groups, how did you find that the division of labor was generally determined?

Joe Hewitt: Whoever was most interested in doing the work, really. A lot of people were very independent, very self-motivated, especially when I later switched over into the Netscape browser team. That's where I started working with people like Blake and Dave Hyatt. Back then we'd all kind of sit around and do whatever work we thought was fun, and lot of the features that we worked on were driven more by our own interests than what our managers told us to do, so.

Ken Albers: And did you find there was sort of a leadership structure at that point, or was it sort of free-form, like you say, you know, you were interested in this and you worked on it or, you know, did—?

Joe Hewitt: There was not a lot of respect for management at the time, so any leadership that was foisted on us I think at that point was sort of snickered at. I'd say a lot of leadership came from just, like, late-night runs to Denny's. I'm sure you've heard about Denny's at this point. Somebody—nobody's told you about Denny's? You haven't interviewed Dave Hyatt yet, have you?

Olivia Ryan: No.

Joe Hewitt: Yeah, Denny's was, like, the place where all the action happened. Anyone who was still awake at, like, midnight on IRC would be talking about stuff and Dave Hyatt or somebody would say, "Let's go to Denny's." And we'd all go to Denny's and talk about new ideas, and then we'd go home and implement them. Yeah.

Ken Albers: So you just mentioned IRC. I mean, what were—if you can outline sort of the different communication methods you guys employed when you were working on different projects?

Joe Hewitt: I guess AIM was used for communication with some people, and IRC was where the cool kids would hang out. It was like a clique. There really was a lot of, and still is, a lot of that sort of cliquish behavior. So yeah, IRC was where there was like a secret room that a lot of people would just sort of hang out in and make fun of everyone else. And the rest of the time you would just use AIM to communicate with everyone else in the company and open source contributors from outside the company.

Ken Albers: So not as much with mailing lists then, or—?

Joe Hewitt: There was some stuff that would happen on the newsgroups. And of course there was Bugzilla which was really the place where I think a lot of the decisions eventually were formally communicated after they were made. But I would say that more so even than in person, IRC was where a lot of the stuff happened.

Olivia Ryan: Was it difficult sometimes if too many decisions were being made on IRC, sort of not in an open forum where everybody could sort of see what was going, or were the main people already on IRC so didn't matter?

Joe Hewitt: It was—I guess there were probably some people who got annoyed if they weren't involved in the decision-making. There was I think IRC, there were, like, two chat rooms in IRC. There was # Mozilla, which was the open chat room that usually had, like, 50 people in it. And a lot of the people in there were the people that we tried to kind of avoid when making certain types of decisions. And then there was another chat room where I'd say another, like, 15 people would hang out. And so the people that—I don't think those people even knew about the other chat room, actually.

Ken Albers: How important do you think comments in the code are to smooth development in Mozilla Firefox?

Joe Hewitt: If I recall, the code commenting in Mozilla was not always that great. It really depended on the person. Some people believed in it and some people didn't. A lot of the code in Mozilla is like a little fiefdom where you have one guy who pretty much owned it, and occasionally other people would, you know, go in there and fix a few things. But I think to a large degree people would comment as much as they felt was necessary for themselves or if something became really central to the project they would—people would write a lot of comments and those interfaces would become very well documented. But, that was sort of selective.

Ken Albers: And you just mentioned about, you know, ownership of code and modules. Did you think that—was strict ownership enforced?

Joe Hewitt: Yeah, there was—ownership policies were formalized. There was, in Bugzilla there were actual, you know, there was an actual column in the database for the e-mail address of the person that owned each component, and that person had the first say over what went on in addition to the review process.

Ken Albers: And did you think that that was, you know, a useful process? Did it work, or were there problems with it?

Joe Hewitt: I think it was a useful process, sure. I mean, with open source you can't just have anybody from anywhere just checking in. And even though there is that review process, people would review things, you know, give things the thumbs-up even though they didn't own the module. And so somebody at some point had to have that final authority over that. So the review—the ownership was really just kind of a way of saying that if you didn't like something and you owned it you can, you know, back out of the check-in. That didn't happen very often, though.

Ken Albers: How would you describe your programming style?

Joe Hewitt: My programming style. I was always a bit of a Nazi about code cleanliness and organization, and maybe that was—I think some of us were—those were perhaps the people that started the cliques and then made fun of everyone else. But when you're working in a large organization you can't, you know, just go around, like, striking people down who don't do things the way you like it. Some people did. That wasn't really my style. I would say my—because of that I would find my programming style I guess tended to be more insular. [laughs] Because rather than having to get into fights with people I would just kind of go off and do things myself and, you know, go off in my own direction so I didn't have to deal with either having to argue with people or having to not get my way. [laughs]

Ken Albers: Right. Did you ever notice tension between those working on the front end and those working on the back end?

Joe Hewitt: Yes, definitely. People who were working on the back end would try to work on the front end, the results were not usually good. If it had to go the other way around, that was less—that probably happened less often, the front end people working on the back end. Especially in Netscape, there were people whose job was to work on the front end, and those people would often try to work on other people's front ends, and that was never—that didn't always work out so well.

Olivia Ryan: Was there a lot of communication between those two groups?

- Joe Hewitt: I'm trying to remember what the organizational structure was. There was, there was communication between the two groups. There's some people—a lot of the backend people—have you interviewed David Baron yet?
- Ken Albers: Mm-hmm.
- Joe Hewitt: Yeah, people like David Baron who are, like, exclusively focused on the back end tended to kind of block out everything else that was going on at the front end and not even care that the front end existed. And that was fine, I mean, those people—that was really not a problem. So I think those people didn't really communicate with us at all. And then there were some people that kind of floated back and forth. I pretty much was one of those people. I kind of worked all over the place.
- Ken Albers: To what extent do you think Mozilla has relied on the work of volunteers?
- Joe Hewitt: I don't think they—that Mozilla relies on the contribution of volunteers. I think that if—it tended to happen that once the volunteers' contributions became so significant, they were relied upon, that person would get hired at Netscape or Mozilla later on. So, I mean, once your contributions were that significant, that it would sort of start taking over your life. And so there's really—by the way, I haven't actually been, like, working on Mozilla in about three years. I don't know if you know that. But if I recall from back then there were some people who never got hired but continued contributing. And those people were very important in their own way, for sure. But most of the major work was pretty much most always done by people who were employed.
- Olivia Ryan: What about, like, testers? What kind of role do they play in an open source project?
- Joe Hewitt: Yeah, testers are a different story for sure. Testers were largely from outside the company, and testers came and went a lot of the time, so. That was always important.
- Ken Albers: What do you think—because you never really volunteered with Mozilla. You essentially were hired right when you encountered the project. And, I mean, coming at it from your perspective what do you think was—what was the draw for people who did volunteer, do you think?
- Joe Hewitt: Probably the same reason that you guys are here interviewing me, honestly. Like, there's just something about—I sometimes wonder, like, what is the draw for this project? I mean, it's a web browser. I guess web browsers are just so generic, so broadly used. I think they're like a television set. Like, they're just the one thing everyone identifies with. And so there is so much attention around the project for that reason that people just want to work on a project that people think is

important. And not only that, but I think the reason that I started getting involved—being a web developer and creating software is a painful process a lot of times. You find yourself, you know, banging your head against the wall trying to get the browser to do what you want it to do. And, you know, before open source, before Mozilla was open source you had no say in how that—how the browser operated. So people would get involved pretty much just to make sure that the browser worked the way they want it to work so that their web projects were working correctly.

Ken Albers: I mean, do you think those are sort of the same reasons why Firefox has drawn such a large number of users? Like, I mean, it's become sort of the public face of open source. You know, it's set apart from other open source projects in a lot of—in that way, in its popularity. Do you think that's related to similar—?

Joe Hewitt: Yeah, yeah. It's really all thanks to Microsoft and their sort of dramatic things they have done that caused a lot of drama in the software community, I think.

Ken Albers: We understand that during the early development of Firefox the CVS access was restricted to a small team. Why do you think that was, and did that sort of access change over time?

Joe Hewitt: You said Firefox, right?

Ken Albers: Yeah.

Joe Hewitt: Yeah. I mean initially it was restricted to Blake Ross and Dave Hyatt. That was the whole point of the project, to stop having to—stop having to battle things out with other people whose philosophies were different. And, I mean, it had to be really strict in the very beginning because the whole point of the project was to purge a lot of stuff that we didn't agree with. And so once that purge sort of had been done and the philosophy of the product became more familiar to everyone, I think the door was sort of opened up a little bit more wide so people could come in. But by then they already understood what the guidelines were. But in the beginning nobody did, and so we had—there was only one way to establish those guidelines.

Ken Albers: What do you think—when you started out working, what did you—what do you think Mozilla's initial priorities were, and how would you say they changed over time, and where do you think they might stand now?

Joe Hewitt: I think initially the goal was simply to release an open source browser. It was pretty simple. Netscape 4 was the start of the project. Everyone hated Netscape 4, and so they were pretty much playing catch-up to Internet Explorer in the beginning. So the goal was create something as good as Internet Explorer and get it out there and establish it. Nowadays Mozilla's products are regarded as better

than Internet Explorer. So, I mean, I don't hang out over there every day, so I don't quite know what they're thinking, but from the outside right now it seems like there's actually kind of an identity crisis going on. So whatever their direction is, I think they're actually trying to figure that out.

Olivia Ryan: Would you have a hope for what you would like to see Mozilla do or, I mean, I'm sure you don't sit around thinking about that all the time, but—

Joe Hewitt: I do, actually. [laughs]

Olivia Ryan: [laughs] Okay.

Joe Hewitt: Like, are you asking, like, is what I want Firefox to be, what it is or what it's going to be?

Olivia Ryan: Yeah, that, or—a company the size of Mozilla and the potential that they may hold to go in one direction or the other—you sort of mentioned that you think they might be having an identity crisis. What do you think—what direction do you think might be the best path for them at this point?

Joe Hewitt: Well, right now Mozilla is pretty much—largely focused on Gecko. The back end, essentially. If you go over there, I mean, 90 percent of the people who are employed are, engineering-wise, are working on the back end. There aren't a lot of people working on the front end. So I think that if it were up to me there would be a lot more focus on the front end. If you look at, like, some of the other browser projects that are sprouting up like Flock, they're pretty much entirely focused on doing new things at the front end. They're sort of taking risks, and Firefox is—right now they're really not taking too many risks. And that's sort of part of their charter at this point is to not do anything unless it has a certain amount of support from the community. A little bit more bureaucratic than what some other projects are. A lot more I'd say like Internet Explorer actually is. You know, it's driven by the committee over there at Microsoft, so. Now Firefox has its own committee, which I think is unfortunate.

Ken Albers: Do you think that part of Firefox's success was in how its marketing strategy mimicked the open source techniques that, you know, through things like Spread Firefox?

Joe Hewitt: Yeah, that was a huge part of the success. Absolutely. Yeah. That campaign really—it was all about capitalizing on the opportunity that they identified, which was that there was all this anti-Microsoft and all the fear of viruses and spyware and all that. And they capitalized on that and got the message out that Firefox was the solution to that, and people came in droves.

Ken Albers: Was there—you know, when Firefox started moving—using these sort of business-oriented models, in terms of marketing and things like that, was there ever tension there with people who were developers and who thought of open source in certain ways or—?

Joe Hewitt: A little bit. Not too much, because I think everyone wanted to see the product succeed at that point more so than they wanted it to—there were definitely some people who did care more about maintaining their principles, whatever those were, than the product succeeding. But I think those people were a pretty small minority.

Ken Albers: Have you ever contributed to any other open source projects?

Joe Hewitt: Have I ever—? No, actually, I don't think I have.

Ken Albers: No. But you were at Microsoft—I mean, you were at Netscape as an employee. And then have you ever worked in any other commercial software companies, and if you could just talk about how that compared to working for Mozilla?

Joe Hewitt: Yeah, before Mozilla I worked for a company in Rockville, Maryland called ZeniMax Media, and it was kind of an R&D type of the job. And that was before Netscape, so I didn't have any perspective on open source at the time. But it was, you know, a small team kind of working on a research project. But then after Netscape I worked for a company called PGP, and that was—it was really weird going over there and getting used to working on a small team and not having the open source community to answer to and to have to communicate. It was very strange. You know, we'd have a meeting, we'd talk something over and then we'd go implement it and there wouldn't be, like, a day of arguing on Bugzilla or, you know, there wouldn't be any sense that you had to reconcile this thing with the committee consensus or anything. I actually, you know—I don't know if I would say that one way is better than the other, but I would definitely say that I liked having to deal with the open source community.

Ken Albers: Because you had mentioned with Netscape that management wasn't real popular and you know. Like, I mean, how did that sort of affect the process as well, as a developer?

Joe Hewitt: The biggest way it affected the the project was when they would cut things, reorganize the company, not tell us what the future would hold. And so a lot of uncertainty was a big motivator. I think it was kind of what gave us the courage to do Firefox because we began to believe because of the lack of communication from management that they were about to cut Netscape entirely. So we thought, "Well, what the hell," you know. "We're just going to go off and do our own thing." But when the project was in full swing and, you know, we knew—we were confident that we were actually going to have a job and, you know, ship a



product in X number of months, the impact of management I'd say was just giving us hell when we didn't, you know, finish things on time that we were supposed to finish or spent too much time on things that they didn't ask us to do.

Olivia Ryan: What about the pace of development? Like, does one model tend to work faster than the other? Open source versus—?

Joe Hewitt: Versus commercial? I really think that that comes down to the developer. In a way, Firefox in the early days was almost like a closed-source project because we didn't let anyone in. So I think the speed of development really comes from the developer's ability to focus and know when and when not to get involved in a debate or sit around waiting for consensus.

Ken Albers: How would you define a successful open source project?

Joe Hewitt: One that ships a product that people love. I don't think that any of the other things that people toss out as open source objectives really mean anything to me. The sort of hippie, rah rah spirit. That's just me personally, but I know that means something to a lot of people. If you read some of the blogs of people like Mitchell Baker, right now she's blogging, like, endlessly about what's Firefox's goal as an organization, what are our motivations, blah blah blah. So a lot of people, I think—the project isn't successful unless they have met some kind of abstract goal. But Firefox really—I think Mozilla was—Mozilla before Firefox was thinking about that a lot, and Firefox was kind of like saying, "Let's forget about for a while, guys, and just ship something that real people actually want to use."

Ken Albers: And what about, you know, on the other side? Like, what elements or practices, you know, are necessary for developing an open—a successful open source project?

Joe Hewitt: What sort of practices. Well, I think you just need—you need a certain amount of tools and process. Largely I think you just—you kind of need people who are just willing to communicate and be open. They're certainly a lot—when you first get involved in Mozilla you really have to get used to using Bugzilla and making—constantly giving feedback on the progress of what you're doing and speaking the language of Bugzilla as a project management tool, using the newsgroups. And, I mean, if you ignored all those things then, you know, there would be a hell of a lot of commentary being made on what you're doing by other people, and you might not know about it and then they'll be a little bit annoyed. They'll probably be annoyed anyway, but at least they'll know that you know that they're annoyed. [laughs]

Ken Albers: Do you consider open source software projects a public service?

Joe Hewitt: Public service. I suppose so. There's certainly a lot sacrificed for the public in terms of commercial return on investment. Yeah. But I don't think most people who get involved in it see it that way. They're more coming at it for the freedom and the control that open source gives them, really. They want to achieve some—there's something that's not working the way they want it to work and this is their chance to make it work that way. And the fact that that happens to contribute to the public good is just a nice warm, fuzzy feeling but probably not the primary factor.

Ken Albers: What do you think, if anything, the popularity of Firefox will do for open source movement as a whole?

Joe Hewitt: I think the coolest thing it's done is that it's changed the aesthetic of open source projects. Firefox is really I think the first software to come out that actually looked nice and had, like, graphic designers and people who weren't, you know, uber-nerds actually getting interested in the project. It sort of lifted that veil and people were not afraid to get involved. That really happened actually after I—I'd say around 2003, 2004, after I had sort of moved away from it. It was really refreshing to see some of the people contributing. I'm like, "What the heck? This guy's—" Like, when the design of the icons and the logo and all that stuff started getting done, I was like, "Who are these people?" Like, I wish we had them three years ago when I was involved. So now I think I'm seeing other open source projects starting to get people like that getting interested and contributing to it, so that's really cool.

Ken Albers: And how do you see—so is that sort of where you see—where do you see open source going, I guess, in the future?

Joe Hewitt: I don't think that, you know, capitalist motives are exactly waning in this world, so I don't think there's going to be a sudden shift and everyone open sourcing everything. But I think that there are a lot of opportunities to open source things that wouldn't have been taken upon prior to Firefox. Things that people—companies don't necessarily have a direct commercial avenue for some things that they do. Especially things like libraries and sort of secondary things that aren't directly consumer facing. And I'm noticing a lot of companies starting to open source those projects.

Like, take for instance Yahoo. They have this thing now called the Yahoo—YUI, the Yahoo User Interface library which they use to construct their homepage now and Yahoo photos and a bunch of other projects. And that—the fact that they open source that, I'd say three years ago they probably wouldn't have open sourced it. They would've created it and shared it within the company, but they wouldn't have really thought to put it out there for other people to use. So that's—I think that's really the future of open source. I don't think there are a lot of major projects that can go about open source the way Firefox has. I mean

there's a huge amount of infrastructure behind Mozilla. All the tools and all the community, and when you think about open sourcing your project, just putting the source out there and saying, "Hey, everybody. Like, look at the source." That's just, like, one tiny smidgen of what you have to do. I don't think too many projects really have the resources, because it really is costly.

Ken Albers: And do you think that open source techniques can be applied to other areas of production in society beyond software?

Joe Hewitt: Yeah, I think so. I think it makes sense. Although I don't see it being as effective as in software because, I mean, software is purely digital. Like, start to finish it's all digital. So at some point if you're open sourcing, you know, the design of, I don't know, some sort of, like, physical component, at some point it's going to leave the digital world and, you know, your contributors in Norway aren't going to be able to see that part of the process.