

Jacqueline Harper: "Shining Star"

Season 3: Episode 3

Speaker 1: Welcome to Stayin' Alive in Technology. A series of conversations with Silicon Valley veterans touching on war stories from the past and practical advice for today. And now, here's your host, Melinda Byerley, founding partner of Timeshare CMO.

Melinda Byerley: When my friend Everett Harper told me about his mom's life story, I knew immediately I wanted to have her on the podcast. Jacqueline Harper, to me, has the kind of story that I feel is constantly being overlooked as we write the history of tech. Jacqueline Harper never went to college and worked for IBM as a secretary in 1964. She is a black woman who in 1965 was sent home from work when she became pregnant with her first child, my friend Everett. Eight years later, after her three kids were born and back in school, she went back to IBM and taught herself how to automate some of the work she was given in the typing pool.

Melinda Byerley: She was fascinated by programming and got an offer from IBM to take a class of theirs, a programming class, which she failed. She returned to pass that programming class and then went on to do programming for IBM for over 25 years in all of the languages you read about in history books and as many of our guests have mentioned learning as well.

Melinda Byerley: Mrs. Harper can still talk about those languages as though they were people, and you'll hear that in this episode. You'll also see an amazing photo of her on our episode page standing over the young white male programmer she was mentoring in the 1970s. For me, that photo is emblematic of just how much we've lost and forgotten as a profession in the last 40 years. Mrs. Harper is, to me, the embodiment of what I'm trying to convey to the world with Stayin' Alive in Tech, which is that technology is made up of so many different people and so many places around the world. Each of them is pushing, striving, making things happen. It's not just what you read about in the tech press, or on Twitter, or on people's blogs. And that's why her song and our Spotify playlist is "Shining Star" from Earth, Wind & Fire.



- Melinda Byerley: Everett tells me that EWF was always on in the house as he was growing up and I couldn't agree more that their infectious joy is a fitting tribute to the way Mrs. Harper is moving through life. Listening to Jacqueline, I realized that what really binds us together in tech is our belief in progress of all kinds, how we can change the world if we work hard, work together, and never give up. And how, if we understand this arc of history, it can help us keep moving in difficult moments. Even today, Mrs. Harper is telling the stories of other hidden figures--slaves that were living in New York.
- Melinda Byerley: The episode you're about to hear was one of the most complex episodes we've done to date. Jacqueline Harper, like many black women of her age, has no social media presence, no formal resume, no biography. So the process of preparing for this interview involved interviews with her son, Everett, who first told me her story, pre-interviews with her, and assembling the story of her life from her children and again from her own narrative after we recorded it. I want you to understand all of that as you listen to her speak.
- Melinda Byerley: Mrs. Harper sounds a little different from every other guest we have because she is different. Just like Jacqueline is doing, we all have a role to play in revealing the lives of those passed over by history. You can help us by sharing this episode on social media, writing reviews wherever you get your podcasts, and sponsoring to help us offset our production costs.
- Melinda Byerley: But, in the meantime, join me as we celebrate another hidden figure of technology's history. Enjoy meeting Jacqueline Harper.
- Melinda Byerley: Jacqueline, welcome to the podcast.
- Jacqueline Harper: Thank you. Thank you for having me.
- Melinda Byerley: I wanted to ask you what you thought you wanted to be when you were a little girl? When you thought about what you wanted to do when you grow up, do you remember what that was?
- Jacqueline Harper: Yes. I wanted to be a secretary. I wanted to learn how to use the typewriter.
- Melinda Byerley: Did you see people using typewriters at that time?



Jacqueline Harper: Yes. I did. It was an aunt of mine. She had an old-fashioned typewriter. It was usually broken, but I wanted to use it and I was told that my family would be a secretary and use the typewriter. So I went to high school and took the commercial course.

Melinda Byerley: In typewriting?

Jacqueline Harper: It involved typewriting.

Melinda Byerley: Oh please, go ahead.

Jacqueline Harper: Yeah, typewriting and shorthand.

Melinda Byerley: Do you still know shorthand?

Jacqueline Harper: Vaguely, but they are not using it at all today.

Melinda Byerley: No, I don't think we are but I know my mother had to learn to use it too.

Jacqueline Harper: Yes. Yes.

Melinda Byerley: You mentioned that to me when we talked before the call about your life in high school in the 50s and I thought it would be a good place to jump in. You talked about some of the barriers you faced as a black woman.

Jacqueline Harper: Well, in high school, I wanted to be a secretary but there were some large companies like Heinz, U.S. Steel, Westinghouse, that would come to the school and recruit.

Melinda Byerley: Oh, interesting.

Jacqueline Harper: And then, yes. And they never recruited minorities. So, Washington, D.C. federal government would come to the school to recruit. But we had to pay for board and housing, transportation, and I could never figure it out so I never went. I never got an opportunity to go. Just didn't have the means.

Melinda Byerley: The means, and where were you living at this time?

Jacqueline Harper: I was living in Pittsburgh, Pennsylvania.

Melinda Byerley: Right, so this isn't Alabama, this is Pennsylvania.



Jacqueline Harper: No, no, no. And the funny thing of all is that someone from Connecticut would come to the school looking for girls who wanted to pick tobacco in Connecticut and it was a joke because we never heard of it, we never understood that Connecticut would have tobacco fields. Funny.

Melinda Byerley: So why were they coming? It was a fake recruiter?

Jacqueline Harper: No, a dealer wanted to recruit workers to pick tobacco in fields and we just laughed because we were not farmers. We were commercial people.

Melinda Byerley: You were steel, you were at the heart of US steel in Pittsburgh.

Jacqueline Harper: Absolutely. Absolutely.

Melinda Byerley: Was your neighborhood segregated in those days? Did you live or were you integrated?

Jacqueline Harper: No. We were integrated initially. But when I became older, many of the people, white people, moved away, so we were probably all black by the time I went to Baltimore. I went to Baltimore with my husband.

Melinda Byerley: And what year was this?

Jacqueline Harper: That was 1966.

Melinda Byerley: 1960s.

Jacqueline Harper: No, '63.

Melinda Byerley: '63. And you started, did you have a job at that point or did you have to look for a job when you went to Baltimore?

Jacqueline Harper: I had to look for a job, but in Pittsburgh I had experience. I worked at Secretary for the Unemployment Compensation Office and I had experience. When I got to Baltimore, so many opportunities for black people. They were all employed. I couldn't believe it; they were all over the place. They were teachers, they were educators, secretaries, everything. And I had no problems. I worked for a mental health association in Baltimore. It's interesting because I knew about all the politicians in Washington, the one's Mandel, oh, so many of them. We would absolutely try to lobby them into better understanding mental health better.



Melinda Byerley: I know we think about it as such a problem today but the stigma was even worse back then, I assume.

Jacqueline Harper: Yes. They had closed many of the mental health asylums. They had about five major asylums in Baltimore. As a matter of fact, they had a street called Asylum Road.

Melinda Byerley: Really?

Jacqueline Harper: Yes, it was in Catonsville, Maryland.

Melinda Byerley: And were those all closed in the '80s with Reagan or did they start closing before that?

Jacqueline Harper: I'm actually not sure.

Melinda Byerley: That's okay if you don't know.

Jacqueline Harper: Because we moved away. Yeah, IBM came recruiting. My husband, Westinghouse, blacks, black colleges, just get on the bus and we all came to up here, upstate New York.

Melinda Byerley: So IBM recruited you when you were living in Baltimore?

Jacqueline Harper: Yes.

Melinda Byerley: And your husband.

Jacqueline Harper: Yes. They wanted him. I, they felt I was just coming along and that they would find something for me so they really wanted him because he was a Westinghouse engineer and what's interesting, Westinghouse never hired him in Pittsburgh, but Baltimore Westinghouse employed him.

Melinda Byerley: Wow.

Jacqueline Harper: So we ended up in Baltimore. And then IBM came along in the early '60s and recruited many, many blacks. And my husband was one of them. So that's how we got to upstate.

Melinda Byerley: Were there black women being recruited by IBM at this point or were they mostly men?



Jacqueline Harper: Some of the women, they were in college. And they had the mathematical background. They were recruited.

Melinda Byerley: What was IBM like? Because I have in my notes that you started in 1964. Is that right?

Jacqueline Harper: Yeah, it's true. Yeah.

Melinda Byerley: What was it like to work there? Do you remember it?

Jacqueline Harper: Yes, I do. And what I really remember, I had to make an important decision. Because I started my family. IBM did not wish to have women walking around in maternity clothes.

Melinda Byerley: The horror!

Jacqueline Harper: Yeah, so the choice was either you resign or you agree to return after the baby is born. So they really didn't like that look, that maternity look, big tents.

Melinda Byerley: So once you started showing, you had to go home.

Jacqueline Harper: Absolutely. Go home. Go home.

Melinda Byerley: So did you go home?

Jacqueline Harper: Yes. Because, in this upstate area, infants were really hard to find home care for. If you had a toddler, potty trained, you could have care for them. So I went home and I went home for eight years because I had two more kids.

Melinda Byerley: Did they give you a choice to come back?

Jacqueline Harper: Yes. If you came back, it had to be six weeks after the baby was born. Funny. I just knew, I said, I knew I couldn't do that. It was like, resign, I had to resign.

Melinda Byerley: Did you resign before your first baby was born or was it something you understood after your baby was born?

Jacqueline Harper: No, I resigned. I worked for IBM six months and resigned.



Melinda Byerley: Wow.

Jacqueline Harper: I had to. I had no choice. Because I knew I couldn't return.

Melinda Byerley: And you have three children.

Jacqueline Harper: Yes.

Melinda Byerley: So you had three children in eight years, sounds like.

Jacqueline Harper: Yes, yes.

Melinda Byerley: And I never asked where Everett was in there. Which order was he? Was he first, second, or third?

Jacqueline Harper: First born. First.

Melinda Byerley: Everett's your firstborn, okay.

Jacqueline Harper: Yes. Yes. So I stayed home until all of them got in school all day. All day. Then I looked at IBM and the only thing I could request would be the secretary. And they had opportunity for a secretary to work in something called a pool.

Melinda Byerley: A pool.

Jacqueline Harper: A big office pool for secretaries.

Melinda Byerley: The big secretarial pool. Just like Mad Men as we see, the big room of people.

Jacqueline Harper: Yeah, yeah. It's kind of funny in a way, because we all backed each other up. We all had children and dental appointments and doctor appointments and school days. And so they knew what we had to do with each other. And it worked for a while, it worked.

Melinda Byerley: Was this an integrated group of women as well or were there mostly minority women or what was the mix there?

Jacqueline Harper: It was a mix up of both.

Melinda Byerley: Okay.



Jacqueline Harper: Both.

Melinda Byerley: Did you feel welcome there? Did you feel comfortable there?

Jacqueline Harper: Yes I did, because I worked hard and they liked that because we backed each other up. They needed that. The one thing that IBM permitted was smoking.

Melinda Byerley: Thank god for that.

Jacqueline Harper: Yes, they permitted smoking and you had your choice of sitting near a smoker but the person that smoked the most was the manager. Her office had black ceilings and the sky was gray. No, not really. Her office, you hated to go in there, because your clothes, your eyes would burn, you would smell and your hair collected that scent. But she was a chain smoker and when you went in her office, she closed the door. So there you are.

Melinda Byerley: Were you given smoke breaks or did-

Jacqueline Harper: We kind of got out of that.

Melinda Byerley: In the pool, were you allowed to smoke or did you have to go outside?

Jacqueline Harper: Yes, people smoked.

Melinda Byerley: At their desk?

Jacqueline Harper: Yes. You were permitted and they would paint the room every other month because the smoke would tarnish the walls and ceilings so they had to paint. No, they progressed, they progressed, were you had the option of whether or not you wanted to be near a smoker. But they still smoked and it was smoke in the room. So.

Melinda Byerley: You know, you mentioned the maternity clothes and that remind me to ask you about the dress code or what you were required to wear to work.

Jacqueline Harper: Well, absolutely no tank tops, no bare legs.

Melinda Byerley: Nylons.

Jacqueline Harper: Men always had to wear a tie. On days when people had meetings, the men would always wear suits with the ties. Now in the 70s, there was



always women that would try to wear those real short miniskirts and go go boots. I recall that one woman tried to get away with it. She worked on the data center floor, the raised floor. And she would mount those big tapes on the tape drive and spin, spin the tapes on a raised floor with go go boots and a miniskirt.

Melinda Byerley: So she had an audience.

Jacqueline Harper: Yes. They sent her home.

Melinda Byerley: Okay.

Jacqueline Harper: That's when men knew they needed female managers. It was so funny but if you showed cleavage or your skirt was too short, you went home.

Melinda Byerley: And pants, when did you get to start wearing pants to work?

Jacqueline Harper: You were permitted to wear pants. Remember those nice, not jump suits, pant suits came out.

Melinda Byerley: Yeah, the classic sort of masculine style, yeah.

Jacqueline Harper: Yeah. You were permitted to wear that.

Melinda Byerley: That was in the 60s already you could wear pants?

Jacqueline Harper: In the 70s.

Melinda Byerley: In the 70s you could go to pants, okay.

Jacqueline Harper: Yes. Yes.

Melinda Byerley: Go ahead, please.

Jacqueline Harper: I just want to capitalize on that by saying that most people followed those rules but there was always people who tried to push the limit and show more cleavage or skirt too short and were sent home.

Melinda Byerley: Did you ever push the limits? I know your kids will want me to ask you that question.



Jacqueline Harper: No. No, I never did. I never did. Just didn't feel like being bothered with all that attention. All that drama. No. No. I was pretty straight-laced.

Melinda Byerley: That's all right. That's good. That's good to hear.

Jacqueline Harper: Boring.

Melinda Byerley: I don't think you're boring. I want to ask you about how you moved into engineering and one of the things I'll tell our listeners that I want to confirm, you didn't go to college, right? You went straight from high school, you got married. And so you're at IBM, you're working in the typing pool and you become an engineer. How do you go from sitting in the typing pool to being an engineer? How did that happen?

Jacqueline Harper: It's not really an engineer. It's a programmer.

Melinda Byerley: Fair enough.

Jacqueline Harper: Interpreting what the engineers needed in a task. Now, I began to notice that the magnetic card machine typewriter was programmable and I began to use it as a programming machine and my first, I think, first success was IBM once a year would require managers to fill out forms that identify each individual and every manager had to do it. So I would clip out these large volumes of paper, with the magnetic card machine, and generate the same information they needed to fill out. Before, it was done one at a time, but the magnetic card machine could do it volumes at a time. From that point on, I began to realize that you could program something and generate data that was needed for engineering, secretaries, and managers.

Jacqueline Harper: So I went to college. I went to school. I learned APL, which is obsolete. I learned assembler, I learned PLS, but most colleges taught COBOL. APL ran all the airline systems, I learned later on. My APL was so tricky and so foreign, I just could not understand. I could not play with it and it was real individualized. You could express yourself through APL. COBOL was very, very syntax-oriented. One declarative sentence, period. You always had to write it like sentences and use proper syntax for each statement. Assembler was very, very, how can I say? Letter, space, numeric-oriented. In other words, each space had to be identified or accounted for. Each numeral had to be defined as being decimal or character. If it wasn't decimal, you couldn't do any additions or anything. Subtraction, any multiplication, you could not use it to formulate a mathematical algorithm. Each letter had to be defined



as such. A character, alpha numeric, numeric. And when you write a program in assembler, it was so precise and you had to declare each individual variable and define what it was to be used as. Character, decimal, alpha numeric, it was just interesting and time consuming. Tedious. And it took forever to get it right.

Jacqueline Harper: But you know what?

Melinda Byerley: What?

Jacqueline Harper: Even today, if you receive in your address or your name, my name is Jacqueline. If I receive a letter where my name is truncated, I know those people have not changed the format of their program for years. In other words, you're giving 12 spaces for first name only, where your name might be 15. But I still get mail from my utility places that truncate my first name because it's long. So even today, once a program works, the rule is never touch it. If it works, don't fix it.

Melinda Byerley: If it ain't broke, don't fix it. Right?

Jacqueline Harper: Ah, it's funny. Don't fix it. Don't fix it. It's funny.

Melinda Byerley: You mentioned working in the pool and then getting the tapes and being able to start to move things faster. Did you bring this to someone's attention or did one of your managers notice? How did you come to take the courses that you took?

Jacqueline Harper: I actually initiated the conversation. Expressed a desire to move into programming. Now, my support came from managers outside the pool.

Melinda Byerley: Interesting.

Jacqueline Harper: They were already programmers and engineers. I initiated the conversation with them, with the hope that if I became a programmer, I could join their functions. That was the idea. And they encouraged it. They really encouraged it and they were happy to see it happening. Even though when I went to programming school, it was so difficult. So difficult. I had-

Melinda Byerley: Were you going at night while you worked?



Jacqueline Harper: When I went to IBM programming school, they gave me time to do it during the day.

Melinda Byerley: Okay.

Jacqueline Harper: But many of the students were fresh out of college, could work at it, could stay all night, could learn from each other but I had to go home, fix dinner, pick the kids up from school. I had so many other things to do and I really failed the course first time.

Melinda Byerley: Wow, you did?

Jacqueline Harper: Yes.

Melinda Byerley: That must have hurt.

Jacqueline Harper: It did because, in my life, I had never failed a course. Never. And when he called me in the hallway, my teacher knew I was failing. He said, "Mrs. Harper, you are a very nice lady. Go home and take care of your kids." Yes. "Go home and take care of your kids." So I thanked him. He was nice, called me in the hallway.

Melinda Byerley: Bless your heart, as they say.

Jacqueline Harper: But I felt, ugh. I'd never failed a course. Never. But the programming was so new to me, so foreign, so strenuous, I just could not stay after 5:00. But this was not a 9:00 to 5:00 course. It was all day. Some of the students worked into the night, and they got extra assistance from teachers. So I went home.

Jacqueline Harper: Fortunately, my supportive management team, they were so understanding. They knew I was a hard worker and they knew I had tried. So they collectively agreed that I should take some time, catch my breath, catch your breath, and return. Return to programming school and take three weeks at a time to learn.

Melinda Byerley: Oh, interesting.

Jacqueline Harper: Come back, yeah.



Melinda Byerley: So they were teaching so many classes that you could take it in modules. You could come back.

Jacqueline Harper: Right, exactly.

Melinda Byerley: Fascinating.

Jacqueline Harper: Exactly. Exactly.

Melinda Byerley: Whose idea was that?

Jacqueline Harper: And that helped. Management, my support management group. Outside of the secretarial arena. They were engineers and programmers and IBM had all levels of management. First, second, third, fourth, and it was my second level manager who actually made the choice decision I should return. And he was nice. I really appreciated the help. I really did.

Melinda Byerley: So three weeks at a time. How long did it take you to finish? This was the first course.

Jacqueline Harper: Right. It was just three weeks. I would take off three and go back. So all in a row, I think I finished everything in nine months. Yeah. About nine months. And it was good because they even started me as a programmer technician, but my pay increased. Then after about six months, I became an associate programmer.

Melinda Byerley: Okay.

Jacqueline Harper: More money, more money.

Melinda Byerley: Yay! More money.

Jacqueline Harper: Yes. So it was just developing and taking on bigger projects, completing the paths, and support along the way. I had help. I learned a lot.

Melinda Byerley: And your husband was supportive of you? Did he help? Were you able to ask him questions or did you have to sort of do it all on your own?

Jacqueline Harper: I hate to say it but no, he didn't want to hear it.

Melinda Byerley: That's the truth. That's the truth, Mrs. Harper, that's what we deal in here.



Jacqueline Harper: He didn't want to hear it.

Melinda Byerley: He said, "I've got my own job, you've got to do yours," huh?

Jacqueline Harper: He didn't want to hear it. He didn't want to hear about programming when he came home. It just bothered him. So I did it on my own. I took a few more courses at colleges and I just continued to learn on my own. My husband was a different kind of programmer. He actually interfaced with the system, the large system. The computer itself.

Melinda Byerley: Okay.

Jacqueline Harper: Where I had engineering tasks. The engineers would define what they wanted and we would program to their needs.

Melinda Byerley: So in those days engineers didn't code their own code. More like product management it sounds like. They would spec it out and then you would actually do the coding? Do I understand that?

Jacqueline Harper: Exactly, yes. Exactly.

Melinda Byerley: Wow.

Jacqueline Harper: Exactly. Exactly.

Melinda Byerley: So how did they know it was going to work if they didn't build it?

Jacqueline Harper: Well, they would actually have a design or plan or some sort of electronic pattern that they would lay out or spec. And they had to have some idea that this would work. So it was a matter of programming, testing. It would take a long time. Quite a few years. Because you would do it in phases. In phases.

Jacqueline Harper: I actually, one of the most exciting things that I saw was a robot. We would program their little arm to go back and forth and [inaudible 00:36:41]. Make a circle, semi circle, and then hit the midpoint. It was kind of cute in a way, seeing the robot. I designed a pattern on the chip, on the little tiny chip. So it was kind of an interesting test. It worked. And once we had it working, they would invite programmers into the room to actually see something move and work and function. That was fascinating. So we had a little robotic arm as my first robot.



Melinda Byerley: Did you program that robot?

Jacqueline Harper: Yeah, our team, we had a team.

Melinda Byerley: Wow.

Jacqueline Harper: Yes. Yes.

Melinda Byerley: And so there was so much code then in those days, probably, it was bigger. It wasn't as efficient or elegant as it is now?

Jacqueline Harper: Today, it's more user friendly. It's funny. People, how can I say? Let me go back a minute and say that when we wrote programs, we had to define, allocate data sets. The whole data, input and output. And we had to allocate data sets with primary and secondary blocks to hold the data.

Melinda Byerley: Because the computers didn't have the memory then, right?

Jacqueline Harper: We had the memory in large systems. The large systems would know what we needed if we wrote the allocations for the data properly. Each program had to be defined to the large system. It was like we would program an envelope with the name of the program, date, time stamps, confidential or non-confidential. Everything had to be identified to the large system because we were running multi-units, multitasking. That's what MBS is, a multitask system.

Melinda Byerley: Wow.

Jacqueline Harper: And many, many programs were running at the same time so you had to identify your program. You had to call in certain systems that were used. How can I say this? It's hard to define how you use the system but you give the space back to the system.

Melinda Byerley: You kind of borrow it for a while. And then you have to turn it back over.

Jacqueline Harper: Yeah.

Melinda Byerley: Okay.

Jacqueline Harper: Yes. And you only hope your program does not fail in the interim because you would get a system dump. A dump would be everything that



was running at the time that your program failed. You had to go through the dump, find your program in hexadecimal, find, identify, and determine where the problem occurred.

Melinda Byerley: So you didn't have all of the tools they have now is what you're saying. You had to do it by hand.

Jacqueline Harper: Exactly. Exactly. We actually had a card with the hexadecimal conversions. It's like an alphabet and you'd have to be able to understand your code in hexadecimal to be able to find where the problems occurred. It was something.

Melinda Byerley: That's what scared me off of programming, Mrs. Harper. I'm younger than you, but the first class I took in college, we didn't have compilers. We didn't have any of the tools. It was a misplaced semicolon. It just drove me crazy. I could never get the thing to run and I couldn't do it.

Jacqueline Harper: Yeah. Everything has to be accounted for and everything had a hexadecimal number.

Melinda Byerley: And it's not like you could take your computer home in those days so you were at the office.

Jacqueline Harper: Exactly. Exactly. You would spend hours and if you had to stay, not overnight, but stay until you find it, that's what you would do. Not only that, we only were, we had a computer room which had about 12 systems. And you had to take turns or wait in line or come early or stay late to be able to get on the systems.

Melinda Byerley: And so if you got a dump, you had a problem because you would have to get back in line.

Jacqueline Harper: Yes. But you would take a dump which was wads and wads and wads of paper and go through it at your desk. Try to find your program, identify it, go back, stand in line, get on the computer, and we had TSO. Time sharing option. We'd get on the system and then maybe wait, wait for it to come up. You had to wait and find your program, get on, log on, find your program, fix the problem, run it again. And you would, then walk up to the data center, get your program, hopefully it didn't dump. If it works, fine. If it didn't, you have another dump. You keep dumping until it worked.



Melinda Byerley: What was the longest project you remember working on?

Jacqueline Harper: I think that's hard to say because they were all long. Hard to identify.

Melinda Byerley: Might be in time too, like months. Years?

Jacqueline Harper: Usually there were phases.

Melinda Byerley: Okay.

Jacqueline Harper: You worked in phases. Phase one, two, and three, maybe a couple years. Two years.

Melinda Byerley: So long periods of time and I think people...In an age now where you can get a company code out on the internet within hours, I think it's just worth reflecting on how much time it took to do that back in those times.

Jacqueline Harper: Yes. Now when Db2 and SGO came along, the time was cut short because we could generate a good statement, Db2 and SGO are so English-like. You could actually say, "Select color." You could select whatever you wanted and generate a full report out of something. You could even say where you wanted it to come from. Select module A, B, or C from this table and you would get a full report. We were always looking at wafers.

Melinda Byerley: What are wafers? For people who don't know what they are, what are wafers?

Jacqueline Harper: Wafers are the little chips that go into the computer. Usually these wafers have logic. For instance, one wafer might be "Turn on." "Stop." Different technology would be on a wafer. So those wafers would go into your laptop or computer and be able to speak with whatever buttons you push. That's what the wafer and chips, that's what they do.

Melinda Byerley: So you said you looked at them a lot. You looked at wafers a lot.

Jacqueline Harper: Yes, and we would, they would manufacture them. They would always have to comp them. At other locations, say Raleigh and Burlington, San Jose, would actually request them from East Fishkill.

Melinda Byerley: Okay.



Jacqueline Harper: Yeah. That's what we were, a big manufacturer of chips and products. We would send them out to other locations for them to build computers. That's what we did in Fishkill.

Melinda Byerley: And you were there until 2001 so you saw... I'm trying to imagine the arc of starting programming mainframes in the 60s and 70s and then leaving in 2001 even as the PCs are hitting the... The internet is coming up, we're in the middle of the first boom. How did your life change? How did your programming life change?

Jacqueline Harper: Well actually, what happened. We saw it coming. We could see that the request for chips was beginning to diminish. Fewer and fewer place like Burlington, like San Jose, Raleigh, fewer and fewer demands were made on us and we saw it coming. And the manufacturing began to go downhill and they began to need fewer and fewer people. Laptops began to flourish and people began to work from home so IBM really didn't need more and more offices. We saw other companies begin to move into our building which was back in the 70s, we were so secretive. We would never let another company on the same site, but we began to share space.

Melinda Byerley: Wow.

Jacqueline Harper: That was unheard of. But they would build a wall and keep them out. They would have their space, we would have ours.

Melinda Byerley: Okay.

Jacqueline Harper: Then they began to ask people, "Would you like to go home? Take a laptop, work from home?" More and more people began to do this and IBM began to occupy a little tiny corner of our giant, and I'm talking about giant plant. We went home. IBM today, that same space was sold to GlobalFoundries. Because IBM really lost all of its manufacturing space. I saw it go down, I saw it sold.

Melinda Byerley: Were you frightened?

Jacqueline Harper: Actually, I had my years. I had my years. And I knew that I could still collect a pension, so no, I was not afraid. And today, IBMers are working, I think, without pensions. You have to plan your own medical, plan your own retirement, and do it, and be happy if you're not laid off in the interim,



because IBM systematically began to lay off people. They started like in 1998. Where IBM began to lay off chunks of people.

Melinda Byerley: All right.

Jacqueline Harper: They didn't need them. They didn't need them. Plus, they began to go offshore. I have to say they went to India, they went to Belarus, they went to China. Other places to get offshore programming. They could get the labor a little cheaper, they could put the people in small spaces. At IBM, they could squeeze, I'd say four programmers in maybe a 12 x 12 space.

Melinda Byerley: Wow. That's pretty tight.

Jacqueline Harper: Yeah. Yeah. And they also would go to Belarus, recruit them, and bring them... Belarus, Russia, has exceptionally good programmers, so they went there and they recruited them. India had very good programmers. And they would work for less and then you did not have to give them the pensions and other kinds of perks.

Melinda Byerley: Which is fascinating, when you think about what programmers get today.

Jacqueline Harper: Yes. Yes. They really do.

Melinda Byerley: I mean, it's fascinating that we went from "how cheap can we get it" to free food and transportation.

Jacqueline Harper: Yeah, yeah. But IBM was good to its employees. We had good medical, we had family days, we had circus days, we had Christmas. We had every family-oriented day you can imagine. And they would actually, they were so generous, we would have a day with students came in that would shadow us. We had diversity days. I have a hobby of creating African dolls and they actually asked me and several people who had hobbies and diversity hobbies to share with other IBMers. So IBM was really family-oriented and was exciting for my kids. My kids will tell you how much fun they had at IBM days. Circuses. I saw The Supremes.

Melinda Byerley: Really?

Jacqueline Harper: They would bring rock stars.



Melinda Byerley: So Silicon Valley didn't invent this? Silicon Valley didn't invent bringing famous people to the office?

Jacqueline Harper: It's funny, it's funny, you had family time. Yeah, I even met Floyd Patterson.

Melinda Byerley: Really?

Jacqueline Harper: Yes. He lives nearby so he came in. Yes. So celebrities would come. Family day. It was nice. It was fun.

Jacqueline Harper: But we live in a one company environment. And when IBM began to go downhill, many of the effects of that were felt throughout the community. People moved away, shops, mom and pop shops closed. Many things went downhill with IBM, unfortunately.

Melinda Byerley: Mrs. Harper, so I know we're getting close to our time together and I'd love to ask you just a couple of more questions if it's okay.

Jacqueline Harper: Sure.

Melinda Byerley: So who are some of the people that you remember most that helped you along your journey? How did they help you?

Jacqueline Harper: Well, I had several managers. His name was Ed Holden. He was a second level manager. He had a staff of about 40 or 50 people under him. And he was very encouraging. Very supportive and understanding. It was mainly him that supported the programming effort. Then I had a black manager of equal opportunity. His name was Hank Jackson. He was from Atlanta, Georgia. He was the equal opportunity officer on site. And he supported my efforts. He encouraged me.

Jacqueline Harper: I have a personal friend--Pat Murphy is a personal friend. Even today, she is still available for support. She worked at IBM for 40-some years.

Melinda Byerley: Wow.

Jacqueline Harper: She is a letter perfect programmer. They love her. They loved her because she was fresh out of college and she had been an IBMer the whole time and a good, excellent, letter perfect programmer. I had a friend named Evelyn Crenshaw, who was a manager at IBM. Very, very creative and



supportive. These are people that understood me, knew my children, knew that I was striving, and supported me for anything I really wanted to achieve. I have a personal friend named Mary Sprigs. She helped us get established in this little area by directing us to home opportunity, introducing us to church environments, programs that were for children, healthcare, home care, etc. So I had some very, very good friends that I still have today. They understood me, my children, my environment. They helped. Otherwise I would have gone back, probably, to Pittsburgh, without these friends.

Melinda Byerley: After Baltimore or after you retired?

Jacqueline Harper: Yes, even... I planned to live in upstate New York two or three or four years at the most. Four at the most. But with friendships and understanding, opportunities, somehow I just felt that white people would all be against us, but I actually, I found that they were quite kind, considerate. And I stayed. I stayed here. My children had good opportunities in school. IBM actually awarded Everett a scholarship when he was in ninth grade.

Melinda Byerley: Really?

Jacqueline Harper: He got \$1000 scholarship. They would identify an outstanding student and Everett could read at age two, so he was like an old man, teachers called him an old man. But he received an IBM scholarship when he was quite young, a ninth grader.

Melinda Byerley: Wow.

Jacqueline Harper: Yes. He did.

Melinda Byerley: I didn't know that about him. That's a good story.

Jacqueline Harper: Yes, yes.

Melinda Byerley: What advice do you have for young people today getting started as programmers, engineers? And I think it's also important to ask if you have any special advice for young black women who are coming into this profession today.

Jacqueline Harper: Actually, I feel that young people should always follow through what they want to do. And get the education and get the support and open your



mind to new and exciting things because it's out there and there are people willing to follow through with you.

Jacqueline Harper: Now let me give you one example of a young person who came into a certain organization I was in. I belonged to many black history groups but it's one thing to know black rhetoric. To know black facts. To know black history. But it's another thing to implement, begin to go forward and develop something. Begin to research, educate, and know others who are in the same field. I would say that would be true of anything that you need to do in life. Follow through, get the education, examine opportunities, speak with others in that field and follow through with what you want to do ultimately.

Jacqueline Harper: That's not really advice. It's just a way of getting through all of the whatever you must do to get to the end or to progress in whatever field you're in. Begin to progress. Follow through on the education.

Melinda Byerley: What's the best advice you've ever received? That anyone ever gave you?

Jacqueline Harper: Well, let me see. That kind of thing because when I was young and I wanted to be a secretary, my mother always encouraged me to go through and follow through and learn how to type. I even got a typewriter for Christmas. It was a toy, but I got it. Even though she never had the money to send me to any kind of business school, I never had the money, but she always encouraged me to go through with it. And by starting as a secretary, it opened my eyes to other things and that's why I got further along in IBM because I, with my eyes, see that there was another opportunity to go forward. And that's what I did.

Melinda Byerley: You know what we have in common is that my mother did the same thing. She told me that if I could type I would always have a job.

Jacqueline Harper: Can you type?

Melinda Byerley: Yes I can. 75 words a minute, not as fast as you I bet.

Jacqueline Harper: Good for you. Good for you.

Melinda Byerley: I do. I still know how to type.

Jacqueline Harper: Oh, okay.



Melinda Byerley: Another question I like to ask people who especially lived through the 60s is that as you I'm sure can read, it's a challenging time right now in the United States and I think young people of all races really but are especially anxious about what's coming in the future. And I love to hear people who lived through the 60s and 70s and the 50s to talk about how today compares, especially as being a young black woman, what gives you hope as you compare these two periods? What's the same and what's different in your experience?

Jacqueline Harper: Well, what I found in the 60s and 70s, there was a consciousness about saving a tree, recycling, diversity. In the 60s and 70s, they were introduced as good ideas. We in the 70s began to recognize that we used too much paper. We had paper, little pads of paper, eight by 12, legal sizes. Lined paper with holes, lined paper without holes, flip charts, reams of printer paper. And we introduced the idea that we must cut back on some of the paper. Today I find that they really have cut back, but the idea that they sort of take for granted is that it happened overnight. That maybe if we progress along the lines of saving, we could even go further in saving paper.

Jacqueline Harper: For instance, we stopped using yellow number two pencils because of the wood in the pencils. Today, I don't even know that you could find a good number two yellow pencil. Today, maybe if we take that even a step further, we could do more in conversation. I find that things they use today to conserve, it's very worthwhile, but it could be taken even a step further somehow because in the 70s, it was the beginning. We should have gotten along much, much further, but in the 90s and in the 80s perhaps we slacked off a bit. Maybe if it had been continual progression, it may have been even better than we... By now, maybe the plastic bottles and plastic bags would not even be in existence. I don't know, just maybe.

Melinda Byerley: If we kept going.

Jacqueline Harper: Just maybe.

Melinda Byerley: So that's a big difference between when you started your career and now. Politically, is it worse or better in your opinion?

Jacqueline Harper: I cannot speak politically.

Melinda Byerley: Okay. That's all right. Everybody's got different things they want to talk about so that's all right.



Jacqueline Harper: Yes.

Melinda Byerley: Another question we love to ask our guests, because we develop a book list is if there were any books that really were meaningful to you in your life.

Jacqueline Harper: To Kill a Mockingbird.

Melinda Byerley: Really? That's a beautiful book.

Jacqueline Harper: One of the books. One of the books that I couldn't put down, it was just so fascinating because Emmett Till had just gotten killed. So that was one book. Another book I couldn't put down was Jurassic Park.

Melinda Byerley: Really?

Jacqueline Harper: And the reason is that I could see how it could happen. That you could, this was years later.

Melinda Byerley: Right.

Jacqueline Harper: I could understand now how, Jurassic Park, it being embedded in that amber could very well be something that could happen in the future.

Melinda Byerley: Those are two great books.

Jacqueline Harper: Yeah. Jurassic Park and To Kill a Mockingbird are two of the books that left impressions. Let's see, what else? There are other documentaries, true stories about history, black history.

Melinda Byerley: What should I, as a white woman, which ones do you recommend that I really pay attention to, these documentaries or these books?

Jacqueline Harper: Let's see.

Melinda Byerley: Yes, I can hear the, yes, we're going to let you go soon.

Jacqueline Harper: Yeah, there's a book called I Am Not Your Negro. By James Baldwin.

Melinda Byerley: Yes ma'am, I know who he is.

Jacqueline Harper: He has interesting things to say. There are other books, but...



Melinda Byerley: Can't go wrong with Mr. Baldwin.

Jacqueline Harper: Yes, yes. He's a good author.

Melinda Byerley: I have not read that book but I will read that book just because you told me to.

Jacqueline Harper: Yes. That's probably one of the good ones.

Melinda Byerley: Is there anything I should have asked you about your life, Mrs. Harper, that I should have asked you?

Jacqueline Harper: Yeah, just one thing to share. In Hyde Park, New York, which is the home of FDR, but also a colony of freed black slaves. And they were employed at the home of Dr. John Bard, who was the physician for George Washington. Dr. Bard gave the land to the freed black slaves in Hyde Park. And I recently helped to excavate artifacts from that property. The property was given also up to the Boy Scouts.

Melinda Byerley: Oh really?

Jacqueline Harper: Who found cellar holes on the land and they thought the cellar holes were [built by] Indians. Now Indians did not build cellar holes or foundations, but he also found artifacts and called it to the attention of my Black History Committee. The artifacts were identified as properties that belonged to slaves. Ex-slaves. Then we were able to dig further and found diaries from families that lived on the property. The diaries documented the slaves. St. James Episcopal Church in Hyde Park allowed us to go into their vaults. The vaults actually had ledgers of slaves that attended that church. That was our greatest find of all. We had a professor, Dr. Christopher Lenner. At the time, Sue Hinkle helped us to uncover the artifacts and to create an excavation of that property in 2001, two, three, and four. Four years our volunteers to help to excavate that land and we found so many artifacts that we were able to create a lifestyle and understand the lifestyle of those people who lived on that property years ago.

Melinda Byerley: Amazing.

Jacqueline Harper: Of free slaves. That was what I did after I retired. I retired for one weekend because I started my excavation of that land for four years after that weekend. So that was my retirement was a weekend.



Melinda Byerley: I mean, it's such a theme that you have about progress, right? Taking these steps and just keeping moving forward.

Jacqueline Harper: Keep it moving. And after that, today, here's what I'm doing today. As a result of that work, we are establishing memorials in the city of Poughkeepsie to identify the named and the unnamed slaves that lived in Dutchess County and I am in charge of the design of that memorial. That's where I am today and it's so fascinating because I get to go back and research African symbols, African grains, and other items I might want to put into a memorial, ancestral garden, something memorable.

Melinda Byerley: I would say this is pretty memorable. To help people remember who these people were.

Jacqueline Harper: Yes. Exactly. And we are looking through the old census to identify names, places, of people or former slaves that lived in Dutchess County. That is fascinating. I'm so excited about that work. It'll take a few years, but we're developing it now.

Melinda Byerley: And when did you start that project?

Jacqueline Harper: We started it maybe three or four months ago.

Melinda Byerley: And you made quick progress.

Jacqueline Harper: Yeah. Yes. It's going to take years to develop, but because I've been a member of black history projects throughout always, for years, I have a head start.

Melinda Byerley: The secret weapon.

Jacqueline Harper: Yes. Yes.

Melinda Byerley: I can't thank you enough for taking the time to share your story with us, Mrs. Harper.

Jacqueline Harper: Thank you.

Melinda Byerley: When Everett told me about your story, he'll tell you that my jaw was hanging open.

Jacqueline Harper: Thank you.



Melinda Byerley: I'm in awe of what you have accomplished in your life and your optimism and your spirit. The way that you keep pushing forward. I don't think there's a better way to embody what Stayin' Alive in Tech is all about than what you're doing even today. Continuing to just keep pushing progress forward I think is what binds all of us that have worked in technology together is that we value progress.

Jacqueline Harper: Thank you. Thank you.

Melinda Byerley: So you've lived a remarkable life. Not the least of which is you've raised incredible children who are also doing amazing things but-

Jacqueline Harper: Thank you.

Melinda Byerley: ... in your own life, you've set the example, you and your husband set examples for them and nurtured them and it's been my honor to speak with you today and I hope you'll come back again and keep us updated on the progress of this project.

Jacqueline Harper: Thank you very much for having me. Thank you for saying so many, well, interesting and nice things about me. Thank you.

Melinda Byerley: You deserve all of them, Miss Jacqueline.

Jacqueline Harper: Thank you very much.

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