



Name: “History Repeating”

Season 4: Episode #5

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 Byerly, founding partner of Fiddlehead, a digital marketing consultancy.

Melinda Byerly:

Welcome back to another episode of Stayin' Alive in Tech. I'm very pleased to introduce our next guest, Heidi Williams, because her story truly embodies what this podcast—and its name—is all about. Heidi is currently Head of Engineering for B2B & Platform at Grammarly. Prior to her role there, she served as VP of Platform Engineering at Box, which was preceded by her time at Macromedia and Adobe, where she spent over a decade in positions ranging from Senior Engineering Manager to Group Manager. During all of this, Heidi also found time in the midst of her work to earn three U.S. patents.

Melinda Byerly:

Heidi is a founding member of Dreamers & Doers, a highly-curated, female-focused, collaboration and co-mentorship community, consisting of an ever-growing network of entrepreneurs, investors, and advisors. She also serves as an advisor at CaregivingHQ and Raise for Good. Heidi is also the founder at WEST Diversity & Inclusion, a dynamic learning community designed by and for women in technology, whose mission is to help more women enter & flourish in technical roles through one-on-one mentorships and community development.

Melinda Byerly:

The WEST acronym stands for Women Entering & Staying in Tech, and Heidi is a living example of its mission: She entered the tech world in the 90s, and she's stayed there. She's still alive, and she's thriving. As you'll hear in her own words, Heidi “rode the wave from CD-ROMs to the web, to mobile, and to live video streaming” while working at some of the biggest and most prolific tech companies in the world. She has been in the driver's seat during all of it.



Melinda Byerly:

This journey has also given Heidi a profound first-hand experience as to how quickly everything can change after years of stability—whether it's the first company you've worked for being acquired by a much larger one, having the foundational technology behind most of your company's products suddenly rendered obsolete, or realizing the company you've been with for over 10 years may no longer be a fit for your life and family commitments.

Melinda Byerly:

But Heidi rolls with the punches; she knows how to survive. I hope you enjoy her positive perspective because it is as timeless as it is valuable.

Melinda Byerley:

Heidi, welcome to the podcast.

Heidi Williams:

Thanks for having me. I'm really excited.

Melinda Byerley:

I like to ask people where (they) grew up. I like to hear about it, because I've lived all over the United States and I'm always fascinated to hear what state people grew up in, what it was like for them, and maybe what you wanted to be when you were little—or what you thought you wanted to be.

Heidi Williams:

Yeah, so interesting. Well, I grew up in a tiny town in Northern Vermont. It was about 3,000 people. Very, very tiny. And we were about 15 minutes from Canada. So I feel like Sarah Palin when I can say that from my childhood home, we could see Canada from my house. (Laughs)

Melinda Byerley:

(Laughs) Better maple syrup, I guess, or hockey definitely.



Heidi Williams:

Oh, yeah. I'm definitely a maple syrup sell-out, for sure. So, yeah. And my mom was a nurse, a registered nurse working in home health and my dad was a mechanical engineer. What did I want to be as a kid? I think it ranged. I feel like I always was interested in so many different things. I probably, at one point, I wanted to be a writer or a teacher, I think maybe at one point I wanted to be a psychologist, I think when I was a little bit older. And I always laugh because I feel like getting into engineering management, I got to do a little bit of all of those things. And so it's funny how it comes full circle.

Melinda Byerley:

I love it. I love it. We're going to get into that. We're going to get into the psychology of engineering. I was looking at your LinkedIn profile and got a sense of when you graduated from college—and we'll get to that in a second—but do you remember the first time you put your hands on a computer? And if you don't, do you remember when you started to become aware of technology?

Heidi Williams:

Well, it's funny. I tell a lot of people that I really didn't discover computer science or computers for real until I was a sophomore in college. But the reality is that my dad and I, because he was a mechanical engineer, I always gravitated towards doing projects with him where we could build things or experiment. I remember very vividly when he got a Radio Shack TRS-80, back in the '80s and—

Melinda Byerley:

Yeah, I remember that!

Heidi Williams:

Yeah, yeah. He still has it actually.

Melinda Byerley:

We do, too. We should have a little museum.

Heidi Williams:



It's so fantastic. And he got a copy of BASIC Magazine and we sat there and copied all the words out of the printed magazine and built this program that was called the dancing devil. I don't remember even how it worked, but there was an audio tape that you played music and this ASCII art devil would dance on the screen to the music that you were playing. And so that was actually the first time, I guess, that I was doing programming without even really thinking of it that way.

Melinda Byerley:

The metaphors write themselves. Have you ever danced with the devil in the pale moonlight is like... That could be the title of your autobiography.

Heidi Williams:

(Laughs) Exactly. I love it. I'm stealing it.

Melinda Byerley:

Dancing with the devil. And so, did your father know how to program, or did you work through it together?

Heidi Williams:

I don't think he did know how to program. He was very interested in computers and I think, again, in that era, computers were marketed at folks who were mechanical engineer types. And so he was interested in how it worked and I think he did programming, not even in spreadsheets, but he would have calculations that he would do that were... I think he was learning around the same time and we just figured it out together.

Melinda Byerley:

All right. Let's talk about majoring in computer science. How did you decide to do that? Especially, I mean, we're not far off in the same age, and it wasn't something that a lot of women were doing. It seemed like at the time. Did you grow in that path or how did you come to the decision?

Heidi Williams:

It was definitely a confluence of events. I would say one of the key things, I guess, two things happened at the same time. My freshman year boyfriend was in computer science and I didn't really know what any of that was, but I would go with him to different places



and see what he was working on and could see the neat things he was able to do with programming. Whether it was graphics or other kinds of things that are interesting. That was one data point. He kept telling me he thought I would really, really like it, but I wasn't sure.

Heidi Williams:

And then after my freshman year in college, I actually got to take a test called the Johnson O'Connor test. And I don't really know if it's still around, but it's something that measures your natural aptitudes and their philosophy was that if you do things that you are naturally good at, things that are your natural-born talents, as opposed to the things you have to learn or might be more difficult for you, that you would feel more fulfilled in your career.

Heidi Williams:

And when they came back with my results, they basically saw that I was way off the charts on problem-solving ability. And they recommended a bunch of different career paths. One of which was computer science, another one was a surgeon. And I have reasons that I couldn't do that. But surgeon or film director, all of these things that were around problem-solving and computer science, because I knew a few people in the computer science department and I thought, all right, I'll try it. And so I took my first class, my sophomore year, absolutely fell in love with it, and somehow managed to cram a bachelor of science in three years. That's how it began.

Melinda Byerley:

What was your first computer science class?

Heidi Williams:

It was object-oriented Pascal. It was lovely.

Melinda Byerley:

Yowza. There wasn't even like logo, that was like jumping in with both feet.

Heidi Williams:

It really was. And our professor was actually writing the book as we were taking the class. So his teaching assistant's part of their job was to take the latest chapter to the copier and get them to print copies for everyone in the class. And that was a weekly occurrence. And



so it was a fantastic class, super dynamic, but teaching assistants also would act out skits that had to do with whatever programming concept we were learning at the time. And then, sure enough, two years later they switched to Java and he rewrote the book. So they had to go through it all over again.

Melinda Byerley:

Do you remember there being a lot of women in your class?

Heidi Williams:

The very first class probably was a better ratio than by the time we ended. And I guess that was in '92, fall of 1992, and the class had maybe 25% women in it. And that definitely decreased by the time we graduated, but it wasn't terrible. I think that opening class was maybe 70 or 80 people. And so, I feel like I could imagine there were 10 to 15—not doing the math here—20 women in the class, perhaps.

Melinda Byerley:

Now, over your career, you've obviously had the chance to... You've been a computer scientist, you've been a leader of computer scientists, a manager of computer scientists, how do you think that the role of that education has changed since you graduated?

Heidi Williams:

It's a great question. When I think about the education, certainly the opportunities and things that you can learn now in computer science classes are totally different. So for example, I don't think we even... I remember when they introduced the first class around security and cryptography, and I remember thinking it sounded really dry and boring and, who would need that? And sure enough, I wish I could take it way back then. Of course, things have evolved a lot, but there was a lot that was super-new at that time that really wasn't mainstream. And think now you see people saying that security and cryptography is the thing they want to major in, as opposed to being just one additional optional course that you could take. Data science, machine learning, all of those things came much, much later.

Heidi Williams:

We had artificial intelligence, which was in learning it all and listening and whatnot. I also think we learned things that were way lower-level operations, not just the programming languages, but one level below that or learning how to actually do circuit design and things



like that. And those were all part of the required computer science curriculum. I'm not sure if those are required now. And I feel like we may have lost a little bit along the way where people understand that at a high level, how things work, but they haven't been down in the weeds, actually plugging things together and seeing how they work at a super-low level. So I think the breadth of what you have to learn is a lot broader, but you may not be going as deep or as down to the wire as we used to.

Melinda Byerley:

I certainly have friends in hardware who I'm trying to get to come on the podcast. They're more shy, I think. And they are constantly raging about how software developers don't know anything about circuits and chips. That feels right. I mean, pre-pandemic in our private alcohol field soirees, they'll say something like, "The software developers don't know anything about chips anymore and how do you actually get it done if you don't know that?" So, that's really interesting. I think—

Heidi Williams:

Yeah, and I do—

Melinda Byerley:

Go ahead, please.

Heidi Williams:

I was just going to add one thing, which is, I also wonder, over time, chips became more likely to be bug-free, and the likelihood of having to get down in there and debug something has decreased so dramatically over time. It's almost not worth everyone having the knowledge. At the same time, the one time you run into an issue like that, boy, you wish you knew how to do it. So I think it's the same thing, whether it's chips or whether it's debugging the network layer, or debugging backend services, it's the more bug-free that those become, the less it feels like it's a critical skill to understand how they work, which is interesting.

Melinda Byerley:

In those days, did you have a computer in your dorm room or did you have to go to a central area where the computers were kept?

Heidi Williams:



Well, for the computer science program, we went to a central area. So they were all Sun SPARCstations for the most part. I did happen to have Apple IIe or something like that in my dorm, but that was more for my other classes. I took—

Melinda Byerley:

Word processing and—

Heidi Williams:

Exactly. Tetris.

Melinda Byerley:

Tetris. Yeah, right? And I remember, when I was talking to Karen Catlin too, about her experience, we talked about teamwork. And April Wenzel said the same thing, that they both felt one of the things that was missing in computer science education was team programming. What was your experience like? And it's okay if it's different.

Heidi Williams:

Well, it's interesting, Karen and I both went to Brown, so experiences were very similar (Laughs). And I know Karen quite well. I agree. I feel like we did quite a bit of teamwork and it was a combination of actually working on big projects together. I mean, one of the classes, it was just called Software Engineering and it was to take all of the hypothetical things you had learned and put it together and simulated how software is built, which is in teams and figuring out, how do you design together? How do you decide who gets to work on what? How do you decide who's going to present the work afterward?

Heidi Williams:

And so that part of it was really fun. It was considered an upper-level class, which was interesting. But then there was even just doing things like code reviews, that was something that we actually did in college. Your teaching assistant would be available for office hours. So they would actually print out the code for your program, read it and give you feedback and comments on it, which is interesting to think about that as the very first code reviews I ever got were in 1992 in school.

Melinda Byerley:



I mean, printing it out, that's just amazing to me. I'm just trying to imagine, sitting there correcting code with a red pen, but that sounds about how you would learn. It's not like you could save it or have it to go through. How did we get into this situation then where it feels like we're at the lone program, or do you have any sense of how that changed or what may have contributed to that changing? Or is that a misperception?

Heidi Williams:

Well, I don't know how schools are teaching it today, but definitely all the places that I've worked, team has still been a really critical part of getting software built. And so I think maybe it's a misperception where there's certainly a lot that a lone programmer can do, but for all of what I think of as really great software companies, they really value teamwork and collaboration, and that you do get to a better outcome when you have other people that you can talk about the work and poke holes in each other's ideas, and try to push each other to come up with better ideas. And so, I think the team is actually still very front and center in terms of the software world today.

Melinda Byerley:

I probably think I know the answer to this question, but you would major in computer science again, wouldn't you? Or would you change it?

Heidi Williams:

I absolutely would. Although it's funny when I graduated, I did not think I would go into software. I thought that was fun, but I will find some other career for myself (Laughs).

Melinda Byerley:

It's a nice hobby. It's like English literature, but now I'm going to go be a lawyer. What did you think you were going to do then?

Heidi Williams:

I really thought that I would end up being a teacher of some kind. I really did believe that my future would somehow be in an academic setting of some kind.

Melinda Byerley:

So going to graduate school, for example, next?



Heidi Williams:

Yeah. Or I really wanted to try the industry first. I wanted to see what it was actually like. And so I did a couple of internships, one which could have easily swarmed me off of the software industry and one which propelled me into the software industry. So I guess half-and-half, but yeah, I guess I pictured maybe even not a graduate degree, but even teaching at the high school or at the elementary school level.

Melinda Byerley:

So Bauer, I don't know which path I want to go down. Do we want to talk about the horrible internship or the good one?

Heidi Williams:

The horrible one. I can summarize really quickly, which was, my job was to translate a QA test plan from one language to another, which essentially didn't feel like a software job at all, because I was mostly in word documents—or the equivalent—transcribing a test plan to be applicable to this new software that was supposed to do exactly what the old software had done. And so it was just staring at a wall. I was basically parked in a hallway, facing my computer, facing a wall, not talking to anybody all day long, doing the most rote thing that involves no problem-solving at all. It was absolutely the opposite of anything that I find fun about computer science.

Melinda Byerley:

That sounds like hell. It sounds like document review for lawyers. It sounds painful.

Heidi Williams:

It was. It was terrible (Laughs).

Melinda Byerley:

I don't think most computer science internships are like this. So if you're in college, thinking about majoring in computer science, do not be frightened by this (Laughs).

Heidi Williams:

Yes, yes. It was terrible because they pitched it as a quality assurance—a job and that was very similar to computer science—and years later, I realized that that is not at all what QA



is, and that it is a really fulfilling career path as well. But it was terrible the way that they pitched it and the actuality of it. So yes, that's not what software is like at all anymore.

Melinda Byerley:

Thank goodness you had a positive internship or we wouldn't be here to tell this story or we'd be telling a different story. So you graduated from college, you think you're going to be a teacher, how did you get the first job that you had out of college?

Heidi Williams:

It basically came from the good internship. The good internship was at Macromedia at the time. And actually, really funny story about how I got that job, which was that basically the head of engineering for a product called Director at Macromedia back in '94, '95 or whatever this was. He had been a Brown graduate as well. And the professor that was the head of the computer science department at the time kept in touch with everyone who had graduated. And he said, "I know a guy, I'm going to call him right now. And you can talk to him and see if he has any job opening." So he literally put me on the spot called Norm Meyrowitz and said, "Norm, I have an engineer here who wants an internship, talk to her and see if you want her to come out to California." And so I immediately got thrown into doing this interview in front of my professor on the spot and it felt so intimidating.

Melinda Byerley:

No prep? No white board, either. So yeah.

Heidi Williams:

No, it was interesting actually. But the professor, the fact that he would even place the call was enough for Norm to know that I was worth hiring, which was amazing. It was really just a referral and that was it. And Norm, the first thing he said, he said, "Well, we have a couple of QA positions open."

Melinda Byerley:

(Laughs) No!

Heidi Williams:



And I said, "No, I don't want to do QA." (Laughs) I said, "Do you have anything that involves coding?" And he said, "Well, sure." And so he described what the job was like, and sure enough, I got to come out to San Francisco for three months.

Heidi Williams:

And I ended up working with the documentation team, building sample projects and sample code for this new plugin architecture that they were building for the Macromedia products. And so it was really fun, the code had to work, but it basically had to be well-written and well-documented and clean, and easy to explain, so that it could be part of the documentation set. So it was really fun. I loved it. And being in creative software was so much fun, to really get an idea of having artists and creative professionals using our code. It was really, really cool.

Melinda Byerley:

Well, and plus you know actually coding versus... Why do you think that they were asking you if you wanted a QA job? Is that something that new developers would do? That doesn't seem right to me, but I'm not a developer.

Heidi Williams:

It's an interesting thing. I feel like at that period of time, it wasn't very common for college kids to be getting summer internships at software companies. I think one, there wasn't a huge list of software companies to go to in the first place. But they also felt if you haven't finished your degree, you're probably not qualified to code yet. And so, I think there was just not as much knowledge about what are you learning, what real skills do you have. And so they tended to say, "Well, QA is software adjacent. You have to be technical enough to understand how the product works, but we don't necessarily know if we would trust your coding skills." So people thought of it as a great way to get started in the software industry. And it's interesting because QA has evolved a lot, where QA 100% requires just as much coding these days as it does, black box testing, and being a user of the product. It's evolved tremendously in terms of being a real discipline of computer science as well.

Melinda Byerley:

That's super interesting to see how things have changed because now there are so many companies, but I do get your point. You don't want the pre-med person operating on you. At the time, we didn't have version control. So the costs of bugs were higher, so you couldn't take as much risk.



Heidi Williams:

Yeah. Yeah. And for sure, I mean, I was the one and only summer intern in all of engineering at Macromedia at that point, it was just so, so uncommon to have interns.

Melinda Byerley:

So should I assume that you had an offer at the end of your summer, or did you have to then go through a formal interview process after graduation?

Heidi Williams:

I actually did go through the formal interview process after graduation, which was fine. I mean, one of the guys who was my mentor over the summer interviewed me and he said, "I don't know. We can just chat because I already know everything about you." (Laughs) But other folks really, they grilled me and I appreciated it, they really wanted to make sure I had what it took, which was great. Yeah. So I ended up with two different offers and ended up going back to Macromedia just because I really loved the people and I loved the software and decided that was where I was going to try things out. And before I knew it, Macromedia through Adobe, I ended up staying there 17 years.

Melinda Byerley:

That's amazing. I mean, I think in a world today where people switch companies every few years, what do you think the advantages—and I guess we'll talk about disadvantages too—are of staying in one place for that period of time.

Heidi Williams:

Yeah, definitely. I mean, Macromedia through Adobe changed so much in the time that I was there. From 350 employees all the way up to maybe 12,000 by the time I left. And what I thought was really neat, even Macromedia at 350, we already had a lot of software products. And so one of the great things about staying at a bigger company is that there's a lot of variety of things that you can work on. And switching to another product team is fairly low-risk because you are a known quantity. You have people who vouch for you and you already know how the company works, you know who to go ask questions.

Heidi Williams:

And so it's a very comfortable transition for internal mobility. It was very, very comfortable to do that. I felt like I got to take a lot of risks and do work on a ton of different kinds of



products over the 17 years that I was there. And certainly, the relationships that I'd built up over that time really paid dividends anytime that I wanted to work on something new. That was definitely one of the benefits of staying as long as I did.

Melinda Byerley:

Well, I was thinking about a story that one of... Again, one of my hardware friends told me. I can't say the names otherwise I'm telling tales out of school, but a particular hardware phone manufacturer, the person had been trying to hire engineers out of this phone company in order to come to this tech company that also works on phones.

Melinda Byerley:

And what they discovered was that these people had become anchored in that particular hardware manufacturer's way, and subsequently either their skills had fallen off or they were so used to—if you will—or adapted to that environment, that it was fairly certain that they would not be able to adapt to the different style and the pace of the way things have changed. I'm curious what your thoughts are on that. And it got me thinking, quite frankly, To Flash. It got me thinking about Steve Jobs deciding that Flash was going to die—and at that moment. So maybe there's a response that takes those into account.

Heidi Williams:

Yeah, definitely. I mean, I think it's interesting to think about, what do you lose by staying someplace a long time? And I think that's right. I think that you can become so accustomed to doing things a certain way. It's hard to imagine how you would apply that in a different kind of culture, or a different technology stack. I mean, like I said, it's very comfortable and even today, I think there's a lot of people at Adobe that are celebrating their 25, 30 year anniversary. So people have been there a long, long time. But I think one of the things—

Melinda Byerley:

You get institutional knowledge. I mean, you get institutional knowledge, you get good leadership and mentorship, people aren't leaving every two years. So you get a mentor ideally, or a manager that might be able to stay with you for a few years. Yeah. There's some real upsides, too.

Heidi Williams:



That's right. Yeah. And you've built credibility and whatnot. I can imagine, I don't know about how every industry works, but if you are at a company that is not by itself innovating all the time, it would be very easy to lose your skills or to feel like you're not working on the most cutting edge things. And so I think one of the specific things that was special about Macromedia and Adobe is that we went from Authorware and Director on CD-ROMs to building Dreamweaver for the web and Flash animation on the web. And then all of a sudden, the advent of mobile devices and live video streaming.

Heidi Williams:

The amount of new technologies that we were exposed to over the time that I was there was just phenomenal. I would imagine that in another industry—like the phone industry perhaps—also evolving quickly, but maybe not quite as quickly over certainly since the iPhone came out and things like that. But before that, I wonder how much innovation there was year-to-year in other kinds of companies and industries. So, I feel like I got lucky that I ended up at a company that rode the wave from CD-ROMs to the web, to mobile, and to live video streaming.

Melinda Byerley:

It's not just about going to the hot company when you graduate. It's that you've got to know when to leave the hot company when the hot company is not evolving, or changing, or giving you that those opportunities, otherwise you'll slowly fall behind, even if they're the market leader, even if the benefits are good. You can wake up at 35 or 40 and discover that you're out of date—if you're not careful.

Heidi Williams:

100%. Yeah. I think that's really, really true.

Melinda Byerley:

Talk about Flash for a moment. I don't think I asked Karen about this, about what happened when Steve Jobs killed Flash. I thought it'd be fun to... What was that like? I mean, it's probably good for the young folks to tell them some of the backstory about the animosity between Flash and Steve Jobs.

Heidi Williams:

Definitely, definitely. There's a long history there. And I do think Macromedia and Adobe and Apple, all had very good relationships for a long period of time, and then some tougher



relationships during those times as well. I mean, I'll even go further back. I actually feel like before the Apple fight came along, back in '99, I guess I was working on Dreamweaver and everyone was super excited about being able to use JavaScript to animate things in your webpage.

Melinda Byerley:

Oh! (Laughs)

Heidi Williams:

(Laughs) I know, animation, whew! And I mean all cheesy for the most part in the beginning, but—

Melinda Byerley:

Blinking read text.

Heidi Williams:

The blink tag. The blink tag. Yeah. So I think that was happening. Browsers were starting to be more capable. At the same time Macromedia had also bought Flash. And so there was an interesting rivalry, even internal to Macromedia about whether Dynamic HTML—which later got renamed, I guess not exactly but Ajax and things like that—whether Dynamic HTML or Flash was going to win the day in terms of bringing interactivity to the web.

Heidi Williams:

And so I think I got randomly interviewed on the street by a reporter during the dot com boom. And I think one of the things I said was, "I don't think we're going to have plugins in the browser for very long. I think this Dynamic HTML thing is going to win the day. The browsers are becoming more capable, we don't need plugins like Flash to do all this extra stuff for us, the browser is going to be able to do it." I can't say that I actually was predicting the future. I just was standing up for Dreamweaver and its future at the time. But you fast forward to browsers on desktops working a certain way, but then when mobile phones came along, I feel like at that point, Flash really was the dominant technology for building any kind of real web application. Because of the plugin architecture, it had a thicker client than the browser itself to work with. And so it could do some really, really amazing things.

Heidi Williams:



And what was interesting is that, my belief about what happened with Apple and Flash was that Apple had a monetization scheme, which required that people use the App Store. And if you made the browser super-capable of doing things, then it meant that they didn't need to use the App Store and built and installed applications. And so they needed the browser to be as incapable as possible. And that included removing Flash's capability. Because otherwise you could just blow the Flash app and have it run in the browser on the iPhone. And then Apple gets cut out of the whole App Store monetization. So it was a really interesting example where the best technology, Flash, did not win because Apple wanted to create this market for itself of monetizing installed applications. And it just couldn't allow Flash to live in that world.

Melinda Byerley:

And I mean, I remember it was one of those almost a manifesto, what it was written. It was like, "Whoa, gauntlet thrown down." What was the reaction inside of Macromedia at that time?

Heidi Williams:

It was tough. We had so much invested in Flash, beyond just Flash itself. There was the Flash desktop tool and having that run in the Flash plugin. We had built tools for developers. We had tools for developers working with designers. We had built a whole monetization scheme for video via Flash for online gaming via Flash. There were some huge markets that we were tapping into in really, really interesting ways through Flash. And we even actually got creative about it. We found a way to even take a Flash executable and cross-compile it to native iOS byte codes. So that from the Apple App Store perspective, you could not tell that someone had authored that application with Flash and just compiled it to iOS—

Melinda Byerley:

A threat to them. What a threat to them, because then there's could be all sorts of things they can't tell or see if they don't know. Wow. Fascinating. So were people sad, were they angry? Did people leave? What was chair-throwing? I mean... All of the above?

Heidi Williams:

All of the above. Yeah. I think engineers felt very threatened by this idea, that perhaps we were going to have to shut down these product lines that had been around forever. There were new product lines that had started. I think we were frustrated that our senior leadership couldn't work it out with Apple, which is unrealistic. That's not how that was



going to go. I do remember when I think one of the things that Adobe did was we took out a whole page ad in something like the New York Times, that was a dear Apple letter, and writing and pleading with them, "let's work together, and we want this to work out, and please don't break up with me" kind of letter. And the company was cheering. We were so excited that maybe this was going to work and Apple would listen to us.

Heidi Williams:

And so there was a little bit of hope in there, but for the most part, I do think people started to leave. I think, unfortunately, as we saw maybe revenue declining, I think we started offshoring some of our development work, which was really hard. So you have the double whammy of, "We need to keep working on Flash, but we can't do it here in the United States. So we're going to do it someplace else that's going to cost less." So there was that on top of all of it. It was definitely a hard time and a frustrating time. I think everyone felt like the technology that was better should win. And it just wasn't going to.

Melinda Byerley:

I think that's where I want to get at. What'd you learn from that experience? Watching that as a person, I mean, it was a super-early in your career, but in the critical phase of your career, what are some of the lessons you took from watching that experience in terms of managing technology at that level?

Heidi Williams:

I think that was right around the same time that I started being very interested in the business dynamics of software. And so—

Melinda Byerley:

It's funny how that works.

Heidi Williams:

I just realized that it wasn't enough to just build the best thing. You had to consider, "Can I sell it? Do people want it? What is going to make it successful? Does it have to be everywhere to be successful and useful?" I think Flash is one of those interesting things where it wouldn't have been so. It's popularity increased its own popularity, if that makes sense. The fact that Flash was on 98% of desktops and browsers around the world made it



so ubiquitous that if someone had to choose a platform to build on, that would be the one because it worked consistently across every single browser, as opposed to—

Melinda Byerley:

It's a network effects type of business.

Heidi Williams:

100%, 100%. And so I started being really interested in that concept of, "It's not just about building the right features, it's really understanding the market in which it has to flourish and what are those things that can make it be successful or kill it." And so I started getting very interested in all sorts of things like that: partnerships and how can two companies working together have a better outcome than if they work by themselves. And all of that became very interesting to me.

Melinda Byerley:

How did that affect some of the career choices you made after that?

Heidi Williams:

So for better or for worse, I guess, as Flash was going down and not being put on the iPhone, I was working on a product line that was for developers, but also that ran in the Flash platform. And unfortunately, we had layoffs that year. I got moved out of engineering and into a product management role. And so I would say it wasn't necessarily a choice that I made, but I decided to stick with it and try it out.

Heidi Williams:

And it was fascinating to be able to partner with business development, working with these other companies, trying to figure out what are these requirements that we have from enterprise customers and partners that can help us inform what our product line is going to be, or how we're going to move forward. And so I felt like that was a really pivotal moment where I got to be on the product management side, beyond the business development and partnership side that really increased my learning and understanding of how you can set up the right, I guess, ground or soil for a product to grow and flourish.

Melinda Byerley:



I love that story, especially, I think, to young founders today. It's an old story. I mean, Betamax was better technology than VHS. And Facebook wasn't the first social network. And there are so many stories about how the code alone isn't enough, that you'd think we'd know this lesson right now, but it's still being learned even today. It's still playing out in the market places and they say that engineers think they don't need marketing. Come on. (Laughs) As a marketer, I like to... That's self-serving but true.

Heidi Williams:

You could have indicated.

Melinda Byerley:

I could have indicated. You mean marketing matters? What is product management? I like to ask you that because Adam Nash was on the podcast, too. He's been a product manager for many years, at eBay, at LinkedIn, back at Dropbox. And it just seems like there are many definitions for product management as there are people, but what's your vision of what a product manager is? What are the core functions and what type of people are successful at it?

Heidi Williams:

I think about engineers and product management together, owning the vision of what is it we're trying to build. And the way that the roles break down a little bit is that product management at a high level is responsible for: "Why are we building this? Who are we building it for? And what are we building?" And then engineering is at a high level responsible for, "How do we build it and how long does it take, when are we going to get it done? Who gets to work on what parts of it?" And so, if you think about that, I think there's a lot of blending where engineers also really need to understand the what, and the why, and the who, but largely product management is defining those business aspects of—we the nuances, I guess—between, "Are we targeting enterprise developers or are we targeting developers for the Apple app store?"

Heidi Williams:

Who is your target market exactly is really, really important. And once you have those personas of who you're going after, who you're marketing this product to, you can get to really fine-grain detail on exactly what you need to do to solve their problems and to serve their needs. And then you can build the right product for it. So I think it's that clarity, or that context within which you're building a software.



Melinda Byerley:

Aside from obviously technical products that are sold to a technical audience, do you think it's necessary these days for product managers to have a developer background? I can see how it's helpful. Do you think it's necessary?

Heidi Williams:

I don't think it's always necessary. I think it depends on what you're building. So I would imagine that a product that is very consumer-focused, you may not need to be technical at all. You might be way more interested in understanding market dynamics and understanding consumer mentality and whatnot. You have to be conversant in what the engineers are telling you, but I don't think you have to be super technical, but a lot of products these days are built where you have a product itself, but then that product also exposes APIs. And then I think you do need a product manager who's technical.

Melinda Byerley:

Yeah. I mean, I don't know how you'd have that conversation otherwise. Probably not a good thing. Just because it's fun, we'll get into some of the future stuff in some of the next questions, but just thinking about this, my observation is that maybe close to 20 years ago, when I got here, business people ran companies, more business people. I'm thinking of Meg Whitman at eBay—business people. And in the last few years, it's definitely more of the technical people running companies, like Mark Zuckerberg. And I would be curious about your perspective of that. Do you think we've gone too far to the other side or are we at the right balance? If you had to pick your perfect CEO, what's the mix of business and technology?

Heidi Williams:

It's such an interesting question. And I feel like I'm going to have a terrible answer, which is, it kinda depends. And I think it depends a lot on the stage of the company that you're at and what kind of company you're trying to build. And so I see the technical founders are very successful early on with startups. And I think a lot of that is because they know inside and out exactly what they're building. But I've also seen a fair share of business-led founders. Although they usually have a technical counterpart, who's also a founder. So every founding team seems to have a technical leader as well at this point.

Heidi Williams:



But as you get bigger, I think that a lot of times technical founders—if they don't figure out how to augment their business sense personally, or surround themselves with business people—I think it's hard for them to make that transition, to building a bigger company or figuring out, "Okay, now how do we get into another market and adjacent market and increase our market share and market cap in some way." And so I think that we have in Silicon Valley, a habit of highlighting folks who are the exception and not the rule. And that makes us think that it's the rule, but it's not. And so, besides Mark Zuckerberg and thinking through who are the other leaders these days or founders who are still the CEO of their company—

Melinda Byerley:

Thinking of Drew at Dropbox, and I'm thinking of Brian Chesky at Airbnb—although he's a designer, not technical. So it would mix. Right?

Heidi Williams:

Right, right.

Melinda Byerley:

I mean, I think Drew's a developer. Yeah. It's rare for them to stay past a certain point, the ones that are developer-only.

Heidi Williams:

I think that's right. I think you said it exactly right. That there's a certain point where they reached the max of their skillset, unless they've been augmenting their skill set along the way. It's rare for a technical founder to still be leading the company at 2,000 or 5,000 people.

Melinda Byerley:

So you were at Macromedia and I may be stepping back in time because my timeline is fuzzy, was Flash killed while Adobe owned Macromedia still, or was that afterward?

Heidi Williams:

Yeah, it was killed after Adobe acquired Macromedia.

Melinda Byerley:



Got it. So the acquisition happens—we'll back up a little bit in time. So there's a theme here. I see already in this episode your ability to roll with the punches. I've seen this in a lot of people in Silicon Valley, especially into a hyper-growth company. You get acquired and then Flash dies, I mean, what was it like to be acquired? And as you went through the Flash experience, did it feel like, "Oh my gosh, we're getting pummeled on all sides here." How did you keep an even-keel as you went through it?

Heidi Williams:

Sure, sure. Yeah. The acquisition was an interesting one. We actually made jokes at the time about how for a while, I think Macromedia and Adobe had felt like competitors. We didn't have a lot of products that were competing head-to-head, just a few. And so we had always felt like competitors and that everything about the companies were different. But yeah—

Melinda Byerley:

That's a tough one.

Heidi Williams:

Right? And we felt like we were all serving creative professionals and just a handful of products that overlapped Fireworks and Photoshop Dreamweaver and GoLive Cyber Studio, which Adobe had actually bought from a company called GoLive. And so, just a handful of these. So, Macromedia thought, "We're San Francisco, they're San Jose. We are the hip cool folks with the piercings and the tattoos. And they're the ones with offices with closed doors and we're round, our logo is round. Their logo is square." We had all of these funny comparisons that we made between the two companies that everyone was really dreading being acquired. But interestingly, there was something at the root of it—something that we had that was super in common—which was that all of us were really passionate about the creative professional.

Heidi Williams:

We're passionate about building good software. And we were very concerned on both sides about making sure that this was not going to be an acquisition that failed, because there really didn't seem like a lot of great opportunities to put the sets of products together and have them work better together. And so they actually put together a culture committee that had Macromedia and Adobe folks working together to figure out, "How do you do this? How do we do this? What works, what doesn't work? What matters most? What are your



values? What are our values?" And we worked really, really hard to do that work before the companies were put together.

Heidi Williams:

And I was super impressed about that because I don't think a lot of companies put that kind of effort into onboarding a new company. Not always, but it's certainly what I've seen. So we really appreciated that. I think interestingly, the transition was smoother than we thought it would be. I'm sure there were people that ended up leaving anyway. I'm sure there was a point where we felt like there was more process just because the company was so much bigger. I think Macromedia was 1,200 when we got acquired and Adobe was 5,000. We were immediately in a much bigger environment and had to learn new processes, new ways of doing things. But ultimately, I feel like it's probably one of the most successful acquisitions of that time. There were plenty of bad ones to point out. And I feel like that one went surprisingly well.

Melinda Byerley:

And so leadership was a big part of it because sometimes... I was at PayPal, I was one of the first eBay people to go to PayPal. And I can't say that was a pleasant experience. I mean, I learned a lot there, no regrets. I met great people, but boy, the cultures, they had been fighting each other, even though they were symbiotic, they were neck and neck. And there was a lot of antagonistic feelings, certainly on the PayPal side. So they didn't like people from eBay and it was an unpleasant experience to go from one culture to the other. I do think leadership has a lot to do with how well it goes, but the employees do, too. I mean, if you're in that competitive mindset, how did your leadership help you let go of that and say, "This person that I'm fighting is now my ally?"

Heidi Williams:

Yeah. I'm trying to remember some of the specifics, because I'm not sure I really remember exactly what they did. Honestly, I'm not sure I have a good answer for that question. I feel like it may have felt all superficial at the time, where leadership would get onstage together. So it wasn't that we were now only listening to Adobe leadership. We actually had Macromedia leadership still there and talking about things. I think they found opportunities to highlight what was great about both sides. I can't remember when we immediately started jumping in.

Heidi Williams:



I think we did actually, finding—let me think of an example: Dreamweaver and Photoshop to work better together. Now, we can because we're part of the same company. So let's get engineers on the ground talking one-on-one to each other and appreciating each other's skills and building respect and trust with each other. I think that helped; there were so many easy opportunities to do integrations with the products that just putting people together on the ground was really helpful.

Melinda Byerley:

Okay. That helps a lot. I think that'll help our listeners if they're in that situation. Let's skip ahead to the decision to leave this mostly idyllic—what sounds like very positive nurturing—growth-oriented environment to go to a new company, and that company was boxed. I'd love to hear how you made the decision to go, how it was different, and what surprised you about that experience.

Heidi Williams:

The decision to leave was actually, I guess—one of the good things about Adobe was that lots of new opportunities came up. You could work on something new. And I was working on something that I wasn't sure I really knew where I wanted to go with it, which was—this was a crazy story, and then I will get to how I ended up at Box and what that was like—but essentially five days before my second maternity leave, my team got laid off and I was assigned to a new team. And the manager who had been that team's manager was asked to step down so that I could be the manager, but he needed to keep managing the team for the five or six months that I was on maternity leave. (Laughs) And so, not a situation that was necessarily set up for success in any way, but it was a totally different role, which was leading a team to build Lighthouse marquee applications that could highlight some of our technology.

Heidi Williams:

And so when I came back from maternity leave, what that really turned into, was that we were working with business development, our live-streaming video platform called Prime Time. And we were working with NBC sports to deliver the 2012 London Olympics. And it was the first time that they had live video streams of every sport available on a mobile device with ads being able to be inserted real-time in these sporting events. So, it was crazy, and I essentially realized that sports only happen on nights, weekends and holidays, which meant that I was always on call at the worst possible times. So essentially, I didn't know where that team was going. And after the Olympics was over and all of that, I decided to start looking around. So I'd heard great things about Box and I was excited that it was a smaller company.



Heidi Williams:

It was about 750 people when I joined, and they were looking for someone to lead platform engineering. And I felt with all of the experiences that I'd had, most of what I'd worked on was developer-facing platforms or plugins or partnerships of some kind, and I felt it was going to be a great opportunity to go highlight those skills and see what I could do for Box. And I think what I loved about it was the culture. The people were amazing and very welcoming, very collaborative, just a really, really fun environment. And I think it was a great wake-up call to realize that even a company of 750 people is just so different from a company of 10,000 or 12,000. And there are a couple of different ways.

Heidi Williams:

One, not everything is set in stone—there's still room to shape the culture. There is still room to shape the process and how people work with each other. And there's really interesting problems to solve. And it's still small enough that those problems don't have owners yet. And so you can pick and choose what you want to wear and what you want to work on in order to improve the company or the software engineering process or whatever it is. And so I really, really enjoyed that about Box, that it felt like if I saw something that was wrong, I could take it on as a project and work on it, and people would be excited about that. I think in comparison, Adobe had gotten so big at the time that even if there was a problem, it was so big. It was hard to figure out who owned it or who to talk to about fixing it. And so that was a tough thing at the end of my time at Adobe, that I was really excited and energized by seeing that at Box.

Melinda Byerley:

One thing I noticed—and we're coming near the end of our time, so I've got just a couple more questions after this, we're getting there—one of the things I noticed about folks, after you've been with the company for a while, and it's growing and it's large—and I think this happens at both sides—when you're at a small company, you think, "Oh, wouldn't it be great to have all these benefits and a little bit of stability, less chaos, and less change?" And people who are at big companies think, "Oh, we're so slow, we're so... I want to go somewhere where it's more nimble or where we can make decisions faster." Is the grass greener on the other side of the fence, or does it depend?

Heidi Williams:

I think it depends. I mean, I think it is a situation of the grass being greener all the time, because certainly where it's someplace that's more stable, you may not be working longer hours, or it might be harder to keep up a work-life balance. You can do it, you just have to



work harder at it. I think it's one of those things I feel like people may switch from one to the other and try on all different sizes of companies, because they're all going to be different.

Heidi Williams:

And at the end of the day, it's about finding the one that fits you in terms of, what level of problem do you want to be solving? What engagement and impact do you want to have? What motivates you? I think you find a very different set of problems to solve, if you're at a five-person company, a 50-person company, a 500-person company, or a 5,000-person company. So really thinking about what kind of responsibility you want to have, what impact you want to have, and what problems you want to solve, is probably the best way to think about it.

Melinda Byerley:

Okay. We're almost near the end. I have a couple of lightning round-type things. What's the best advice you were ever given?

Heidi Williams:

The best advice I ever got doesn't actually come from a single person; it came from a class that I took at Box. It was called the Energy Project. I actually advise everybody I know to take it as well. And it was about thinking about your energy, that it comes in high energy and low energy, positive energy, and negative energy. And that you get your best work done when you're in high, positive energy. But as soon as things start to go sideways, you get in high, negative chaos energy, and then low negative energy is burnout. And the place where you can recover is low, positive energy, which is renewable.

Heidi Williams:

And I really appreciated that class because the idea was that you can't stay in high energy too long. You have to come back and renew on some regular cadence. And it was the first time as a mom and a wife, and a leader of an engineering team, that I felt like I could give myself permission to put myself first to renew. Otherwise, I couldn't go back to being high, positive energy for everyone else that needed me to be. And it was the very, very first time that, instead of feeling guilty about taking time for myself, I decided I needed to prioritize it.

Melinda Byerley:



That's awesome. We'll get a link to that. And we'll put it in the show notes because now I'm curious, too. Besides, I love two-by-two matrices. This is great.

Heidi Williams:

All good things come in matrices.

Melinda Byerley:

That's right. All the things. So just something fun then, a little fun lightning round because we're in a pandemic and we end—by the way, I'm amazed. Your kids and the landscapers, neither one of them interrupted our call. We were worried that might happen, but it worked out great. As we sit here in a pandemic, I love to hear what your guilty pleasures are in three areas: food, television, and non-screen entertainment. When you're not on a computer or a phone, what entertains you? What do you love in food, first? What's your guilty pleasure in pandemic food?

Heidi Williams:

My food for sure is chocolate. And I will admit we overbought on the Easter candy and have hidden the extras in the laundry room where only my husband and I know where they are. That's one. What was the second one? TV?

Melinda Byerley:

Television. Yes. Television or movies, that type of thing.

Heidi Williams:

I will say the best series that I found was *The Good Place*. I thought it was hilarious. And we binge watched it in about four days. It was awesome.

Melinda Byerley:

It's very good. And how about non-screen entertainment, when you turn off all the screens, what do you like to do for fun?

Heidi Williams:



I've been doing a lot of crossword puzzles, actually. I feel like maybe it's the problem-solving part of me, but I have really been enjoying the crossword puzzles. And then I actually also have been really enjoying getting outside for a walk or being able to kick a soccer ball around for a little bit every day.

Melinda Byerley:

You get your crossword puzzles in a book or in a newspaper?

Heidi Williams:

I've been doing them online, USA Today. And then also SFGate, both have a crossword puzzle that you can download and print.

Melinda Byerley:

Thank you so much for coming to the podcast, Heidi, and we wish you and your family safe, and we hope you'll come back and visit us when you're onto your next adventure. And we'll get to hear more of your thoughts about how engineering and product management are evolving in Silicon Valley.

Heidi Williams:

Thank you so much Melinda, it's been great.

Speaker 1:

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