EPISODE 1298

[00:00:00] DA: Hello, everyone. Welcome to this very special episode of Software Daily podcast. Today our interview, your favorite host, Jeff Meyerson. Jeff recently launched a book called *Move Fast: How Facebook Builds Software*. Currently, it's ranked number one under the computer engineering category in Amazon. And I'm going to be your host today. My name is Dalyana. I'm a data scientist. I'm also Jeff's friend. So I'll make sure to put Jeff on a hot seat. Jeff, are you ready?

[00:00:34] JM: I'm ready.

[00:00:35] DA: So you never worked at Facebook? How did you learn so much about Facebook? Like did you hack into their internal email or something?

[00:00:44] JM: I have two good friends who worked at Facebook. One of them is Nick Schrock. He's the CO creator of GraphQL. And one of them is Pete Hunt, who's done a lot of work on React. He's also an entrepreneur. Nick is an entrepreneur as well now to their ex-Facebook people who are now entrepreneurs. They're both running their own companies. They're listeners to the podcast. So they're familiar with me and my work. They came to me one day and said, “Hey, the world doesn't know how Facebook builds software. The world thinks that Facebook builds software the same way that Google and Microsoft have built software, but they're doing something different. And we think you should tell that story. We think you should interview 5 or 10 Facebook engineers and put them on the Software Engineering Daily podcast.” And I said, “Okay, sure, why not.” So I started interviewing these people. And what came out of those interviews was blowing my mind. So Nick and I, Pete and I had – I think it was Pete and I. We sat down at a coffee shop, and we were just talking about how interesting the interviews were, and reflecting on them, and how they were fitting into Pete's thinking as a new company founder. And then somewhere during this process, Pete actually ended up – His company got acquired, and he joined Twitter. So that was a very interesting side narrative. But we determined that the information that was coming out of those interviews was so novel and so useful that it needed to be calcified into a book. And so the book writing process began.

[00:02:02] DA: That's interesting. So you mentioned Facebook builds software differently from other tech companies. But based on my understanding, all the tech companies, they have to move fast to win competition, launch products. So what's specifically about Facebook that they move fast in a way that's different from other companies?

[00:02:25] JM: The initial phrase, move fast and break things, that was coined by Mark Zuckerberg has been ridiculed by different journalists and critical sources. Move fast and break things perhaps doesn't make so much sense for core communications infrastructure. We have to remember that Facebook started as a product that was not for core communications infrastructure. It was for posting about the photos that happened in your party last night. Over time, Facebook, very deterministically became core communications infrastructure. But they did that by moving incredibly fast and aggressively, because Google was nipping at their heels the entire time. So Facebook had no choice but to move fast. That's the only way you outrun Google, is you move extremely fast. You basically strike Google where Google is indefensible, which is speed. Google is a company that was founded by computer science PhDs, and it takes a long time to get a PhD.

Now, the fact that you're willing to patiently wait for your PhD means that you're willing to put forth the necessary research to build MapReduce, or to build the Google file system, or to build Gmail. Those are projects that are on the scale of building the Empire State Building. It's that complicated. Maybe that's an exaggeration. But at some level, it's proportional. And Facebook basically said, “Look, we can't compete with that. We have to do something different.” And so they said, “Okay, we're just going to step on the gas as fast as we can, and just build as fast as we can, and put some loose numbers around what success means and just drive towards those numbers like really aggressively, very aggressively.” And that's move fast.

Now, an inherent consequence of that speed in the early days was breaking things. And it didn't matter, because you're breaking a photo experience for a college student when he has a hangover. It doesn't mean anything. But when you become core communications infrastructure, you have to rephrase what you're doing. You don't want to lose your competitive edge. So you don't want to lose the move fast. But you do want to assert that we have become core communications infrastructure. And you do that by saying move fast with stable infrastructure,

which is what move fast became. So Facebook today moves fast with stable infrastructure. And that is a feat that is unparalleled.

I have worked at Amazon. Amazon moves fast in a quite a different way. That would require quite a longer book than Facebook. You work in Amazon, so you understand what I'm saying. You know that company moves quite fast. It's just different than Facebook. But yeah, I think that summarizes. I think that summarizes what Facebook does.

[00:04:49] DA: Yeah. Can you tell us more about move fast versus building stable infrastructure? Because sometimes if you move very fast, you might compromise your long-term vision and you might hurt, say, customers' experience. So from Facebook's engineering culture, or their infrastructure, how do you think they find the balance as Facebook becomes bigger?

[00:05:13] JM: The book encompasses three parts. The first part is product. The second part is culture. And the third part is technology. The product informs everything. The product informs the engineering. The engineering informs the culture. I'm sorry. I got it backwards. The product informs the culture. The culture informs the engineering. So at the top, you have – Well, I shouldn't say the top, because it's not very hierarchical in reality. But at the origin, I would say, product is what matters. So you have a product that you want to build. You have an idea. You think, "Okay, let's build this within the Facebook ecosystem." We have this product idea. We're going to leverage the assets that Facebook has. We've got interesting server infrastructure, a cool social network, lots of API's, lots of tech that nobody knows about. We're just going to run this product idea through the filter and levered by the things that we have in-house, which allows us to do whatever this product is. We were able to build it in a differentiated way. Secondarily, we assemble a culture that supports that product mentality. And third, we foster an engineering environment that encourages the culture and reinforces the strength of our product direction. So you have this stack, this philosophical stack that allows you to build products more aggressively. And that is how Facebook moves fast today. It moves fast in an organizational level, which makes it a very formidable company.

[00:06:36] DA: Yeah. You mentioned about a philosophical stack. I read your book. You talked about Facebook values employee's individuality. And one engineer leader you interview said the management cannot just blindly assign work to an employee. It's more productive for

an employee to work on something they're very interested in. And later, he also add that, “Well, of course, some projects,” I'm just going to rephrase it, “is impossible for employees always work on project they're interested in. You have to be an adult, have patience, and not be a diva about it.” And while you're doing their interview, some of the engineers still works for the company. So, of course, they have to be a little bit considerate about this position. So how much of this individuality is true within Facebook that kind of be a part of this philosophical stack?

[00:07:32] JM: So, many of the – In fact, I think all of the engineers that I interviewed. No, not all of them, but I would say most of them. Probably 80% to 90% of the engineers at Facebook have never started a company. So their definition of autonomy is different than those that have started a company. So like Pete and Nick understand what true autonomy is. An engineer gets gratification from having autonomy over their direction. Within a company like Facebook that is structured like Facebook, it's very hard to maximize an employee's autonomy. Eventually, like Facebook is going to have to reckon with that, as all the major corporations are going to have to reckon with that. As you know, you're a creator yourself, the opportunities available to individual creators and individual entrepreneurs are just getting amped up exponentially. So it's going to be very hard to keep employees at these sort of organizations. And I'm not saying anything that is controversial. Everybody knows this. It's why you have really rapid talent leakage at the lowest levels. It's why the hiring markets are like so overstrained right now. Hiring markets are more overstrained than they've ever been at any point in history. And that's because there're a lot of companies that are not worth working for, for engineers, and engineers are sort of realizing that.

So there's definitely a really interesting cultural foreshadowing in the book, because you can sort of see there are people who are extraordinarily talented and charismatic that stay at the company. And you can stay there. You can stay there and contribute to the empire. And there is an incentive system that should keep those people there. Now, how fast can Facebook deploy that incentive system? We'll see over time.

[00:09:09] DA: Okay. And then you mentioned Facebook has some very talented engineer. Some people call it 10X engineer. And I have a question about that. But for people who are not familiar with this concept, can you explain a little bit what is like 10X engineer or someone called an influencer engineer?

[00:09:27] JM: Yeah. So those are two slightly different things. I'll eliminate both of them. So 10X engineer is a fairly common phrase. If you search on Twitter, you'll find some crazy threads about it. 10X engineers is the concept that there are actually engineers that are 10X better than other engineers. And I believe that to be true. But in order to avoid controversy, the way that I would encourage defining it is you define your metric of success for an engineer, whatever the KPI for an engineer success is. If you could define that in your head, like okay, that's fine. Now let's rate two engineers side by side. The 10X engineer probably will show like a 10X quantity relative to the non-10X engineer. So that's the 10X engineer. And you can measure it through things like the number of times their code gets run per day in production. That's not a great metric, but it's like a metric. And then the influencer engineer is an engineer who is able to have impact on an organization by – Well, I mean the way it's often defined in the book at least is you write code that's so impactful that everybody sees the code. And they're kind of blown away by it. Like Nick Schrock is an example of this. Nick Schrock had some key insights that led to GraphQL. GraphQL is a breakthrough in developer ergonomics, and just the architecture of distributed systems. And Nick is just this hipster developer who sells it really well. So it's grounded in fundamental computer science concepts. But Nick Schrock never wrote a white paper about it like he would have if he were at Google. So that's like he's sort of the equivalent to like the principal engineer, the kind of person that invented MapReduce, something like that, except that he did it at Facebook. And since Facebook is like a social network company, the impact of that is that he actually is able to magically assemble resources easily because of his charisma.

[00:11:13] DA: Okay? So for this type of influencer engineer, in the book you went into details about how a normal engineer can grow to an influencer engineer. So one way people can do that is to follow this rule, or I don't know, this principle called code wins arguments. So in my mind, it’s like UFC. You want to challenge the champion. And you immediately become the champion. So it really shortens your road from, say, a junior engineer to influencer engineer, right? You don't have to have the experiences, go through those red tapes and the promotion process. So I think it's very – It gives young engineers a lot of motivation. It also kind of flatten the hierarchy. But on their side, it could also backfire, right? So if everybody wants to become this influencer engineer, a lot of them wants to challenge the champion, pick up the fight. Maybe

some of that type of code with argument is unnecessary. How do you see Facebook find a balance in this situation?

[00:12:46] JM: My issue with the UFC analogy is that UFC is zero-sum, right? Two UFC competitors are not trying to help each other as much as possible. They're trying to beat each other. When you're working in an engineering organization, you're trying to help each other. So a 10X engineer, an influencer, they're not getting there at the expense of somebody else. They're actually getting there by putting other people on a stepladder and helping them reach higher heights.

[00:13:11] DA: Okay. So it's more collaborative. But you do have to win an argument or prove your capacity by actually writing code. It's not like you read a document or organize some meetings. And you have to write the code that make an impact.

[00:13:26] JM: The biggest problems in organizations are not explicit arguments. They're more fundamental than that. They're more environmental arguments. They come out in differences of behavior. So you have differences of behavior that create perverse scenarios. And oftentimes, those scenarios are just settled by the smartest person in the room. And the smartest person in the room settles the argument by writing the code that solves the problem.

[00:13:49] DA: Mm-hmm. So, yeah, I think now I'm more clear about the infrastructure, the culture behind this move fast mentality. So I think probably Peter Thiel said something like big companies are good at scaling, and smaller companies are good at innovating. Now with the scale of Facebook, do you think Facebook still haven't like add for innovation? Because I can hardly remember when was the last time Facebook released a groundbreaking product? Another question is, think about the scale, the infrastructure, the culture behind it, do Facebook still needs innovation? I mean, they can literally just get inspired by a lot of their competitors' product and just build it really quickly, right?

[00:14:39] JM: Being the first investor in Facebook, Peter Thiel, has had tremendous influence over the direction of the company. If not for his advice to Mark Zuckerberg, we don't know if Facebook would be as innovative as it is today. Facebook has moved beyond the curse of the innovator's dilemma. It has moved beyond the curse of the current that gets addicted to

an easy win. Facebook continually challenges itself and reinvents itself. You can look at their acquisitions. You can look at their acquisition strategy, their mergers and acquisition strategy. For example, the parse case study of how aggressively they innovate. They're willing to innovate through acquisitions like Google did. But they're also willing to innovate with pure in-house innovation, such as Portal.

Portal is a tremendously innovative product. And it's underestimated, because it looks goofy, and it sounds stupid. But if you try Portal, you understand what's going on. You'll understand it's groundbreaking. If you look at what they're trying to do in virtual reality, you see a market leader that is just uncontested. You see an apple level of innovation at the virtual reality level. So Facebook's going to win that market if nobody else catches up, which I don't see any conceivable competitor, maybe BiteDance or something. But I haven't seen anything that even comes close.

So just as the metaverse reaches its apotheosis, Facebook is going to have the best portal into the metaverse. So it's a powerful position to be in from an innovation standpoint. And so their innovation strategy, a lot of it is around sort of around how do we keep our lead in that department? It's about like how do we have enough innovation at all areas of the stack that people are satisfied working? You don't want people working on boring parts of the infrastructure. You want to decentralize the infrastructure, keep it lean, keep it enjoyable, which is really hard to do. But you do that and you keep the innovation cycle high by setting high goals. So for example, you have the Facebook Messenger Lite product, which is essentially a lower bandwidth version of Messenger. And if you think of the gradient of different bandwidths across the world, we still don't have evenly deployed high-bandwidth internet to everybody. We need that kind of infrastructure. We need the sort of progressive app infrastructure at all areas of the stack, and that's a never ending problem. So, again, when you become communications infrastructure that operates the world, your innovation perspective changes.

[00:16:59] DA: What do you mean by their perspective?

[00:17:02] JM: So you don't wake up every day and say, "Let's build something completely new." You don't say let's go build the Facebook theme park, because we didn't do anything innovative yesterday. Your innovation and your breakthrough level just – You have to reorient it.

You have to say, “Okay, now that we are the market leader in X, now that we have differentiated infrastructure in Y, what's the 10-year vision where we can make something groundbreaking and surprising that will sneak up on people? And all of a sudden we're going to have a lead in a domain that is just infallible.”

[00:17:34] DA: Yeah. But from a Facebook user’s perspective, what I see – So I'm not very familiar with Portal. What I see is, okay, because of TikTok, they launch the Reels. And then Instagram added Stories. From my perspective, it just feels like Facebook are just busy catching up. But I remember also reading some news Zuckerberg talked about within a company that, “Oh, we shouldn't feel that just because our ego, we shouldn't develop similar products. It’s now like we're copying other company. It’s more like we look at our competitors and see, “Okay. Oh, this is what the customers really want.” And then we go the things for our customers.” What do you think about that?

[00:18:19] JM: So when Android copied the iPhone, the end result was a platform that I prefer to iPhone. I'm an Android guy. I don't fault Apple users. It's just a different perspective. Good artists borrow. Great artists steal. That's a cliche for a reason. It's because it's true.

[00:18:41] DA: Yeah. Can you imagine Facebook? What would be Facebook like today if Facebook, say, didn't acquire Instagram?

[00:18:49] JM: Zuckerberg would have figured it out.

[00:18:52] DA: Okay.

[00:18:53] JM: I mean, a note on that. I don't remember the story in tremendous detail. But it sounded like when Facebook acquired Instagram, the infrastructure for Instagram was not awesome. It was kind of a Rails app that was moving really, really fast and like having some engineering problems. And that's fine. They would have figured. That would have been a very interesting counterfactual. That would’ve been interesting counterfactual to watch. What happens when Kevin Systrom leads Instagram to IPO? I'm sure we would have an interesting company. There's plenty of room for new social products. Yeah. So it's kind of impossible to imagine. I think what would have happened is Facebook would have had to double down on its

core product. Did you read the Facebook camera part of the book where they tried to compete with Instagram before they acquired it?

[00:19:37] DA: I didn't read that part.

[00:19:38] JM: Okay, that's fine. So when Instagram was coming up, Facebook was like, “Okay, let's just try to build this thing in-house. It can't be that hard.” So they made this thing Facebook Camera. And we talked about this in the Pete Hunt interview. If anybody's more curious about that story, listen to the interview I did with Pete Hunt about this. So Facebook Camera is this thing you've never heard of, because it was just not that compelling. And the reason it wasn't compelling is because it didn't have the finer edges of design that Instagram did. Instagram was just such a buttery smooth experience. And my thinking is that Facebook would have figured it out. Facebook would have thought of something cool to do that is related to that space, sort of the post-Facebook social era. You think of it like Salesforce. Salesforce was kind of the first industrial grade CRM. Here's a company that says, “We're going to dominate CRM,” and they do so well in CRM. They do so well in CRM that they're a victim of their own success in some ways, because they can't support all the CRM use cases. So other CRMs get started up and say, “Hey, we're going to cater to this subset of the CRM market.” In the meantime, Salesforce just acquires and acquires and acquires and acquires and grows in creative ways.

So Facebook would have acquired Vine. Like Vine was kind of a mismanaged acquisition. Maybe Facebook would have snatched that up if – Anyway, so that's my theory.

[00:20:58] DA: Yeah. Okay. And recently, Facebook – I think it just maybe yesterday or two days ago, Facebook launched Facebook Bulletin, is their new newsletter. Have you heard of that? So Facebook is getting into the greater economy space. So they're trying to compete with Substack. So based on your understanding of the Facebook ecosystem, how do you think Facebook can catch up and, maybe in a future, dominate in a greater economy?

[00:21:25] JM: So I don't really think of this as a zero-sum sort of thing again. Like if I were running Facebook, I probably would have aggressively tried to integrate with Substack, rather than trying to be predatory. I would say that Facebook's – The partnership that I think is a crown

jewel in terms of Facebook is that of Spotify, the partnership between Spotify and Facebook, the tight integration between the social experience and the music experience. My strongest critique of Facebook is actually its lack of integration support, particularly with Google. If you go into messenger and you send a YouTube video to somebody, the experience of opening a YouTube video is very poor, and it's very poor on purpose.

Similarly, when you try to tweet an Instagram thing, the experience there is terrible. And I don't know about that relationship. There's been some back and forth about the relationship. But my suspicion is that is more on the Facebook side than the Twitter side. That Facebook is not willing to play nice with Twitter. Facebook is not willing to play nice with YouTube. And I think Facebook would just – I would find it a more credible organization if they would just aggressively actually tried to integrate. I think would make their product more bulletproof. So the newsletter thing, like let's do newsletters from the ground up. Let's do podcasts from the ground up. I just think it's a kind of a petty strategy to be honest.

[00:22:40] DA: Yeah. But from the product perspective, if you have a website, you do want to direct users to your own website instead of sharing the content on Twitter and outside. So kind of that makes sense to me. But you tweeted something similar, right? You said I love Facebook. But there's my strongest advice to the company. Make more integration with competitors, rather than going for walled gardens. It's like what you just mentioned. So it seems a little bit counterintuitive to me. Can you be more specific about – So if you're both competing on the social space, why do they have to be collaborative instead of go all-in and compete?

[00:23:19] JM: This is the core premise of *Zero to One*, the Peter Thiel book. You do not win by competing. You win by being the best at ignoring competition, or partnering with competition.

[00:23:30] DA: Yeah. So do you think Facebook doesn't have the confidence to be this unique unicorn in this space so they feel they have to compete? Is it a sign that they don't have the capacity to build this empire?

[00:23:45] JM: Okay, I'm so glad you asked this, because this actually gets at the heart of why I do what I do. When I was in Amazon, I listened to the audio book for *Zero to One* six times. So I was at Amazon for only eight months. But while I was there for that eight months, I

listened to the book six times. And the reason I kept listening to it is because it resonated with me in a philosophical way that nothing else I've ever read has. The key insight being, we have some sort of DNA in our biology or in the way that our culture tends to develop that causes us to aggressively compete with one another. You can imagine all kinds of reasons why that's the case. But one way or another, it is something we need to move beyond as a species, at least until we're like competing for space in the solar system. It just makes no sense to compete aggressively unless you're in a situation where your foe cannot be convinced of this truth. So it's sort of a prisoner's dilemma kind of thing. If all your opponents agree to operate in a positive-sum manner, you're living in paradise. But if you can't discern your opponent's intentions, or if you are convinced that your opponent is a zero-sum operator, you have no choice but to decimate them and act as swiftly as possible.

[00:25:02] DA: Right. Let's say if there's a tiger chasing you right now, it's very hard for you to do some long-term thinking, right? Think about your long-term vision. Your goal at this moment is to survive. I think that also goes back into this move fast mentality. So my question is do you think this type of competitive mindset is related to this move fast philosophy, which I feel behind it is driven by fear instead of driven by a long term vision?

[00:25:33] JM: Great question. So you know me. You know how I work. I work very fast. And the reason I work fast is because life is short. And there's so much to be done. There's so much fun stuff to explore. There's so much room to explore. You want to move fast both to evade your competitors and to reach your goals as quickly as possible so that you can define new goals.

[00:25:56] DA: Right. Okay, life and a company I think it's different. For life, I agree, life is short. But I recently started to have a different belief. I think life is also long. Sometimes we can really figure out what we're doing, but we don't really have to stress out. We need to be patient. And if we're just constantly chasing the next goal, then we're always on the go and then we forget to enjoy the journey. I think there should be a balance between move fast and think long-term. Do you think Facebook would be ever in that stage to have some type of long-term vision and be a little bit more relaxed? I'm not saying they will move slow, but have something that they're not thinking about just catching up, but balance this type of competitive mindset.

[00:27:13] JM: This is another question that gets at the heart of why I do what I do. The people that are at the helm of these different organizations have a kind of power that is unparalleled in history. If you talk about the power that Zuckerberg has, or Bezos has, or Larry Page, or Elon Musk, the scale of power that they have is it must be intoxicating to be one of these people. And the question is when you have the personality that allows you to build Facebook, like Zuckerberg, clearly you're not a typical human being. What is his value system? Do we know? We probably have no idea. We probably truly have no idea. He could be a complete psychopath. He could be like the nicest guy in the world. He could just be like all these things that he's introducing and inventing is actually all for our long-term benefit. It's just we can't see his vision yet. We're going to be in the metaverse. It's going to be fantastic. You're going to it. You're not going to have a choice, but you're going to love it. We don't know who he is or what he is.

[00:28:21] DA: Isn't that weird? Like he's like the kind of bigger than the president of the Internet. And we don't even know who this guy is. We don't know his value beliefs, his childhood trauma –

[00:28:32] JM: But here's the thing. He's also not. Like we also all have a choice. You don't have to use Facebook all the time. You don't have to use Instagram all the time. You have to use WhatsApp all the time. It's all kind of an elaborate illusion that says, "Hey, we're taking away your control. And we're going to give you notifications and beeps, and bloops, and messages, and sexy girls all to essentially distract you from the fact that you're seeding your autonomy." It's all a choice. And it's always been a choice. It's been a choice since we had television. So I don't know. I mean, it's going to be interesting to watch, because these figureheads have a lot of power.

My guess? Honestly, I'm biased to think that – I mean, I just have to be optimistic about this, because if I'm not optimistic about it, it scares me too much. If one of these guys is actually malevolent, secretly, that's kind of like we're toast.

[00:29:27] DA: Yeah. I do like what you mentioned that we have a choice. But I think I do believe big companies have that responsibility. And also we need to hold them accountable in terms of protecting our privacy. Be mindful about pushing a lot of notifications. But exactly like

you said, before Facebook, people – It's not there's something come distract us. So sometimes when we feel bored or when we want to procrastinate because we feel the pain of doing something, starting something new. We are actively seeking for distraction. So I do think a lot of time we also – It's not like – I don't know how to phrase this. It's kind of also something I want to talk about it with you, because, Facebook and other tech companies, currently they all have this controversial, very controversial image, especially for Facebook, right? But when you think about like when I lost my phone, or actually I lost my phone pretty often. Every time I would log into Facebook, I would tell my friend how to find me. I use Messenger as a temporary kind of text. So Facebook actually is very helpful in this way. And I do stay connected with someone on other side of the earth just because of Facebook. So do you think you know when people say, "Oh, I hate Facebook." They just posted on Facebook. Do you think people should be a little bit more objective or a little bit more appreciative of Facebook?

[00:31:02] JM: I have a close friend, Quincy Larson. He's the founder of Free Code Camp. Have you seen Free Code Camp?

[00:31:07] DA: Yea. I published my blogs there before. Yeah.

[00:31:09] JM: Oh, really? Okay. All right. Great. So Alright, Quincy Larson, I would love to have Quincy Larson's ethos basically in place of any of these guys that are like at the top. I mean, maybe Quincy Larson's got a really long con where he's really just trying to take over the universe by starting a charity, like a 501(c)(3) coding thing. I don't think so. He seems genuinely nice to me. And I talk to him a lot about this. He's fairly skeptical of anybody that's in – I hope I'm not saying anything that he wanted to keep private, but I don't think he would care if I said this. I think he's just deeply suspicious of really, really, really big power structures. Because he studied philosophy a lot, and he just believes that if you study ancient philosophy, you just see over and over and over again the people who get this amount of power abuse it and abuse the people who they essentially can control.

So I actually don't fault this sort of countercultural or counter-corporate agenda, like the Bernieisms. But I think we need more subtlety to it. I'm trying to bring more subtlety to it, because ultimately, we don't know. These guys are just like winging it probably to some extent.

And so you're winging it and you have that amount of power? Should you have scrutiny? Probably. Because –

[00:32:28] DA: Who should have the scrutiny? Do you think the Congress should do that? The people should have a Facebook monitoring committee?

[00:32:34] JM: Everyone should have scrutiny. Everyone should have scrutiny.

[00:32:36] DA: But we don't have the power, like you and I. We file a ticket to Facebook, "Hey –"
What are they going to do?

[00:32:42] JM: I mean, Microsoft looked indestructible in the Windows days, and then there were disruptive forces that caused the company to have problems. And then it was able to kind of reinvent itself. And now it's really becoming formidable again. That kind of thing could happen to Facebook. Facebook could slip on a banana peel somehow. Like I really think this whole idea of people, of your best talent leaving your company, and then the company sort of rots from within. That's probably Facebook's biggest enemy. I think it's kind of likely to happen in the coming years, and if Facebook doesn't do something drastic. So I don't think we really have that much to worry about at this point. Because like who wants to work for the evil empire? Nobody wants to work for the evil empire.

[00:33:21] DA: Nobody wants to work for the evil empire. But if you do, our brain will justify our decision. We always think, "Oh, the bad guys. How can they go to sleep at night?" No. The bad guy don't think that way. They think they're Robin Hood. They think they're doing it for the good. So people always justify their decisions.

[00:33:38] JM: But you don't want to do that. Like you don't want to go – Nobody wants to work at the evil empire. Do you want to spray your LinkedIn profile like Dali on a data scientist at the evil empire? No. You want to be – You're talking about data – It's the data scientist, right? You want to be a media icon. Whether or not you work for a company, you deserve to maximize your individuality. And the internet is the biggest stage in history. If you're really good, I mean, the only reason – If you're really good, the only reason you stay at one of these places is

because you believe that it's your best chance at creating a better life for your children essentially. I think Elon Musk does this tremendously well. He's so charismatic. And he's really just paints a picture of like, “We've got this set of problems that we absolutely need to solve to ensure the future of humanity. We're going to pursue it relentlessly. I'm going to sleep in the warehouse to make this happen, to make sure we meet our car production deadlines.” It's very noble. And I have a hard time imagining Elon Musk gets the big red button. Like there's no big red button. You never make the big red button and you press and you say, “Ha! Ha! Ha! Ha! Ha! Now I get to take over the world.”

[00:34:44] DA: I feel like he has a Twitter button.

[00:34:46] JM: He has a Twitter button, but it's sort of like a random number generator. He doesn't really know what's going to happen. He tweets out a meme because he just wants to see what's going to happen. It's not because he's like, “Ha! Ha! Ha! This meme that I've lifted from somebody, it's going to cause people to follow him with zombie-like adherence.” That's not going to happen. There's no big red button, at least not anytime soon. I don't know. But maybe – I mean, because I mean, Hitler got people to – Very smart people to follow him. So I mean, I don't know enough about history to really be the best judge of like where the current power dynamics go. But I do think we are also at a unique point in history. So it makes it hard to judge based on precedent. This whole creative economy thing is like a really big deal. Just basically the premise that anybody ultimately will be able to make a living off of doing creative stuff. That's going to happen. All economic signs point in that direction. And so what does the world look like when that happens? Nobody can really say with certainty, but I don't think anybody's going to want to work at the Deathstar.

[00:35:47] DA: Yeah, that makes sense. So I think from what I'm hearing, we don’t – We’re in right now, what's behind our motivation?

[00:35:54] JM: And by the way, I think that's why we're this heads is all open source. It all goes open source, because ultimately, you look at crypto, there's a reason why crypto is really popular. There's a lot of reasons why crypto is really popular, but a lot of is the transparency. People can look inside their own souls and say, “I am not a trustworthy individual.” Everybody can look inside themselves and know that they're narcissistic, they're selfish, they're at some

level evil, they're fallible. Everybody knows this about themselves. Therefore, nobody trusts each other. Therefore, the only direction you can go is a completely open system, because we have the technology to build completely open system. And the places where we don't have that technology, we'll get there soon.

[00:36:33] DA: Cool. So I love that you mentioned crypto and the blockchain technology. Right now, Facebook, they have a center. They have people to see whether the post violated community rules. So where do you think Facebook's future competitors will look like? For example, is it going to come from a decentralized social network? Or is it going to come from content platforms like Tiktok, or both?

[00:37:00] JM: Facebook's biggest enemy is itself. The more it exhibits hyper competition through behavior, like making YouTube terrible inside Messenger, the worse the product will become, and the worse the internal political direction will become. So as long as Facebook thinks in a positive-sum direction and realizes that its position is completely unparalleled in the world, it's going to be fine. And they're going to do really well. They're going to prosper. But you're probably going to have some of these problems. You're probably going to have problems like people leaving to go do creator economy stuff, and then it's like, “Does the infrastructure still work if you remove a lot of the operations people? We’ll see.” So, I don't know. The jury's still out, but my bet is on Facebook.

[00:37:46] DA: Okay, yeah, that's an interesting answer. And my mind is still running our discussion about whether Facebook is like evil corp or not. In my mind, I don't think any company is not binary, right? When they're building something big, they might hurt some other groups benefit. And then even think about how they collect our data, right? Of course, they leaked our data or sell our data to some companies. That's definitely wrong. But to be honest, when I see some ads on Instagram, a lot of times I buy something, and then when I get it, I hate myself. But there're some other times I'm glad I found that product, right? Otherwise, there’s no way for me to discover it. But now with Apple's devices, stronger rules on privacy, it's going to be very hard for Facebook to post more targeted ads. So how do you think Facebook will navigate this? Is Facebook going to build their own iPhone? Like F phone? That sounds weird. Just their own phone or wearable devices so they can continue their current business model on ads, or even collect more data.

[00:38:59] JM: This is such a good question, because it gets at one of the most productive directions that Facebook is headed in right now. And that is React. The first year I was doing Software Engineering Daily, I did a series of shows about the React technology. React is Facebook's set of technologies around building user interfaces. The user interface, for people who don't know, is your mediation between yourself and the software. So interface is basically anything that stands between you and the technology. The fact that Facebook is in control of the direction of the interface, the universal interface, React has become the universal interface. The fact that Facebook controls that property essentially means that Facebook's technological direction is defining how people look into their devices and look into their technological ecosystems.

Now, React is open source. Well, mostly. It's managed by the React team at Facebook. It was managed by Tom Occhino, one of the most charismatic people that I interviewed. He actually just left Facebook. I don't think he left Facebook because he was not having a good time. I think he was been working there for a very long time. I think he wants to relax. He wants to do some other stuff. I love Tom. I think Tom loves Facebook. But when I did those interviews, this was back again in like 2015, maybe 2016. What I discovered was this set of technologies was going to be so influential that Facebook would have optionality on essentially anything it wanted to in computing. But it would not have the sort of optionality that something like Windows had, because they were playing an open source.

And what Facebook found was the more open it became, the more communicative it became, the more successful it became, the more dominant React became. Because the community basically said, "Look, we've been waiting for this. We've been waiting for the open source ecosystem that is fun to play in, all due respect to the Linux community." And Linux runs our lives. I bow down to Linus Torvalds every day. That's not a healthy community for a new developer to go and work in compared to React. I mean, I would love to do some shows on this if somebody wants to take issue with what I just said. I think the same is true of the Kubernetes community to a lesser extent. I think Kubernetes is probably pretty welcoming. But ultimately, it's backend technology, which is going to be less accessible in frontend technology. Frontend technologies fun. It's like you get it going really quickly. You get to see how it works. Kubernetes, you're setting it up. You're running it on the command line. You're not seeing it in a

webpage. You don't really have a tangible grasp of what's going on. So it's not as visceral as something like React. So React is this like visceral positive environment. And again, React truly is the future of Facebook. To the same extent that Kubernetes is the future of Google. So like at an infrastructure optionality level, that's really powerful.

And where I'm going with this is that the React paradigm is so encapsulated of what we want as programmers that they could make a very compelling phone experience. I wrote a fairly long post about this a while ago. It was originally a core answer, but I turned it into – I believe I turned it into a Software Engineering Daily post. I don't think it's an audio post. I think it's just a written post. It's just about a hypothetical Facebook phone. What would you get if you made a Facebook phone? Like what would it look like? And we're not talking about Facebook – Do you remember Facebook Home? Did you use that?

[00:42:28] DA: No.

[00:42:29] JM: I think it's Facebook Home, was this product that I think was sold in TMobile stores, TMobile or AT&T stores. It was a phone. It was a phone that was branded. It's a Facebook phone, but it was actually, I think, an HTC phone. And they had a nifty little skin for it that was Facebook first, social first. Great vision, worthwhile product actually, worthwhile exercise.

I'm going to take a tangent here. This is why Facebook is an awesome company, is they will make a super aggressive, embarrassing bet like that. The Facebook graveyard of products is hilarious, like Facebook Gifts, all this stuff. And that's because they're especially shameless. I want to say shameless, because I'm shameless in the same way. I put out tons of content. A lot of it's really bad. I put a lot of ridiculous stuff, because I'm just seeing what sticks. I don't know what's going to stick.

[00:43:19] DA: Yeah, it's just experiments.

[00:43:21] JM: It's an experiment. You know this. It's hard to get noticed on Twitter. It's hard to get noticed anywhere. Facebook does it by releasing the Facebook Home. Nobody wants to use it. Nobody wants to buy it. They take their ball and go home. They shut it down. They say,

“Whatever. We'll write it off. And that's like a .3% of our advertising income. Like we don't care. We’ll run that project. We'll run that experiment.”

So Facebook has already done a phone. And what they realized is that phones are hard. Same thing that Amazon realized. Yes, they will both have phone experiences. Of course, why wouldn't they? Like I want to try Amazon phone. I want to try Facebook phone. That'd be awesome. And by the way, it's very important for us to realize that it's a multi-device future. You're going to have essentially a hovering thing next to you at all times. I call it the familiar. You're going to have the familiar, right? You're going to have the thing that is like Alexa. Or like what was the Facebook one? M? Facebook M? What was the little virtual assistant you got with Facebook for Messenger? Facebook M. I think they have this like voice assistant thing. So you're going to have this little like hovering device where you're going to able to say to Facebook, “Hey, give me X.’ You're going to be able say, “Amazon give me X.” It's going to be hovering with you, or it's going to be on your clothing or something. It's going to be ambient computing. So the future is ambient computing. The future is you have access to all these platforms by voice, and you can talk to them at any given time. So it's like the future is not the phone. The phone is sort of yesterday's platform. We're just all waiting to get today's platform. And Facebook will be a part of that.

[00:44:43] DA: So you think there will be some other type of wearable devices that maybe like watch or glasses?

[00:44:50] JM: It's wearable, it's hoverable. I don't know it's biomechanical. Who cares? It's something. It's something different than what we're doing with this rectangle that we're carrying around.

[00:45:00] DA: Yeah. And you mentioned, phone is something they already tried before. And then they’re putting out a lot of bets, small bets to see which one would be someone, a customer will actually like. So how do Facebook take risks? Do they have some philosophy behind that?

[00:45:19] JM: Yes. There's a chapter called portfolio strategy in the book. Portfolio strategy is how a company makes their M&A decisions, and how it makes its internal bets. So your

portfolio strategy is based on a number of things. It's based on your core competencies. It's based on your balance sheet. It's based on how cash flows work for your company. Based on those details, you can architect a strategy for how you invest in new technology. I call that portfolio strategy.

New technology, again, is formed in-house or it's formed through acquisitions. The best story in the book about portfolio strategy is that of parse. Parse was a cloud services company founded by Ilya Sukhar. He's one of the best thinkers in infrastructure. Parse was a novel approach to having a cloud system that was tightly integrated with mobile applications. So around the time Parse was founded, mobile was hard to do, cloud was hard to do. Parse said, “We're going to do all of it in a unified way, and give you a great experience.” Beautiful acquisition target. Facebook acquired it when it was crossing the chasm from desktop to mobile. The crossing of the chasm from desktop to mobile was foundational in Facebook's DNA.

So when you cross the chasm from desktop to mobile, there's a period of time where you don't know if you're going to survive that chasm crossing. You don't know if you're going to be able to thrive in a post-mobile world, because you actually don't know if mobile ads are as successful as desktop ads. Facebook is an advertising business. Desktop advertising was wildly successful for Facebook. Around this time, Facebook was having some success, some limited success in the gaming category. Facebook was able to make significant money from platforms like Zynga by I think app – I don’t remember. App installs, or micro payments, or something. They just give you some sauce for your gaming company. And they take a little cut. So maybe gaming, maybe gaming works. But gaming is so risky. Like gaming has so much fundam – It has so much fundamental risk relative to an advertising business. So they really were looking at the advertising business very closely. And they were making the super aggressive shift to becoming a mobile company, because if you become a mobile company, you can become a mobile advertising platform.

So in parallel, with this bet, Facebook says, “What if we do cloud? What if we acquire Parse?” They acquire Parse. They start making parse a little bit better. Obvious synergies with Parse. If you add Facebook to Parse, you get a unified auth experience. You can authenticate with Facebook, all the way from end-to-end. You have an auth platform for your cloud provider. You have an auth platform for your mobile provider. Very compelling experience idea. However,

mobile ads started to work in a very big and very obvious way. Facebook said, “This parse thing is cool, but we just don't have the resources to allocate to it. So we're going to go all-in on mobile.” I believe this was a critical error for Facebook, I believe, at a bare minimum, you spin-off Parse. It doesn't make sense what they did. And I think they did that because Facebook was in so many things at that time that they couldn't behave optimally.

I mean, this is why Facebook gets criticized so much. This is why a lot of these companies get criticized so much. You know, you work at Amazon. There's probably nobody you know that you work with that is like, “Oh, yeah, I definitely want Amazon to be acting in a negative way. I definitely am trying to abuse my power here.” This stuff is all incidental. Ultimately, we're all – Everybody who's working at these big organizations is tinkering on this gigantic Frankenstein. We can't completely control the Frankenstein. We do our best to control it. But Facebook is this thing that has just grown beyond anybody's control. Now, what do you do with that? I don't know what to do with it. So anyway, sometimes you shut down parse and you make a mistake. But yeah, lost opportunity. It's tragic.

[00:49:19] DA: Yeah. Speaking of mistakes, do you think Facebook ever made any mistakes that almost killed code Facebook?

[00:49:26] JM: No. The closest thing you could say his Facebook in a different universe could not cross the chasm to mobile. But that was never close to being a reality.

[00:49:38] DA: Yeah. So in the book you mentioned, I think Zuckerberg kind of regretted not moving to native fast enough from – Is it HTML?

[00:49:47] JM: HTML 5. Yeah.

[00:49:48] DA: Yeah. So do you think that's just a decision from hindsight? They should have moved a long time ago, or is more like a luck? They did it and then it was successful.

[00:50:01] JM: It was not luck. It was paranoia. They had constant paranoia, because they were afraid that they were going to drop the ball. Facebook knew the potential of the company that it had. I spoke with Mike Vernal. That entry was so important to me, because he

understands Facebook's strategy more deeply than anybody else I've spoken with, because he was an executive. He was an executive in charge of strategy. He's now an investor at Sequoia. And from talking to him, I understand that very little of what the public may perceive about Facebook as accidental is, in fact, accidental. There are many cases where Facebook had to make a difficult choice. It had to accept tradeoff, and it chose to make a tradeoff. In each of those cases, my impression is that Facebook did the best that it could.

[00:50:52] DA: Mm-hmm. Yeah. And so now Zuckerberg is one of the few founder CEOs in Silicon Valley for the big tech company. So how much of Facebook's culture philosophy you think it's originally from Zuckerberg philosophy? Or do you think it's from a few founding members? Maybe they're like early advisors?

[00:51:13] JM: Zuckerberg studied psychology. And he has a background in understanding, I believe, like Greek mythology, or Roman mythology, or all of the above, all the dusty old philosophers. It seems like he's read a lot of that stuff. It's clear he has a deep understanding of the history of philosophy, the history of humanity, the subjects that he needs to study today to understand human motivation. And that is so thoroughly representative within his organization. To study his organization is to study his belief system. And I was enchanted by it. I'm not paying worship at the helm of Zuckerberg. I got into this business because I'm an artist. And I see a fellow artist in him. I see somebody that has done something new. And it's exciting to me. It's magnetic. That's what Facebook is as an organization, is it's magnetic. So yes, the company epitomizes who Zuckerberg is.

[00:52:14] DA: Yeah. Well, it's interesting. You said he's an artist. In your definition, what is an artist?

[00:52:20] JM: Somebody who wants to bring a vision to life and have other people experience it?

[00:52:27] DA: Okay. And what kind of artists are you?

[00:52:29] JM: I mean, I have a vision that I want people to experience. I have an experienced that I want to – I have a vision that I want to experience. Something that is different.

[00:52:37] DA: Yeah. What kind of vision you have for yourself?

[00:52:41] JM: Well, there's a lot to it.

[00:52:43] DA: Like the one that drives you the most that gets you up in the morning.

[00:52:47] JM: Really, what gets me up in the morning is just the nature of it, all the fractal nature of it all. The fact that the further you reach out along the path, the more of the path you see. The longer the path gets, the more at forks. You never even get close to having an understanding of the entirety of that path. That's so exciting.

[00:53:10] DA: Is it what motivated you to start the Software Daily podcast?

[00:53:14] JM: Basically.

[00:53:14] DA: You also started a few companies. So as a founder, what are the things you feel Zuckerberg did so great that he avoided some other kind of engineer founders typical mistake that you think only Zuckerberg can pull it off?

[00:53:33] JM: One of my favorite business philosophers is Oren Hoffman. Oren Hoffman has written a lot on the Internet. I have been trying to get him to write a book for more than six years. I hope he writes a book. The world deserves it. He has a belief that you should always cater to your strengths, rather than trying to fix your weaknesses, unless you have a gaping weakness. From what I can tell, Zuckerberg doesn't have any gaping weaknesses. Seems like a genuinely happy and contented guy. And so therefore, he caters to his strengths. And his organization is built to do that.

[00:54:10] DA: I'm curious, now you mentioned, what do you think are Zuckerberg's strengths?

[00:54:14] JM: Well, I mean, the company is one of a kind. And he's basically said in every instance that he's had a choice. He's basically said, "Let's double down on what makes us

quirky. Let's double down on what makes us heretical. In his public appearances, he's sort of flavourless, which is what you want to do. That's like how you want to present yourself. You present your flavor through your actions, not through your words.

[00:54:34] DA: So what are something from a founder, engineer perspective, that you see Zuckerberg did, which is in a very genius way that only himself can pull it off? Especially, what type of typical kind of this engineer founder usually make mistakes in those area that he perfectly avoided? Or he did not avoid, but he fix it?

[00:55:00] JM: Right. Okay. I just don't think Facebook has had any major slip ups to be honest. Any times where – By major slips, I mean times that really truly threatened the company. Again, the closest thing was the mobile, potential to dive to mobile. Zuckerberg grew up reading about Bill Gates. Bill Gates is the most paranoid guy ever. He's always been paranoid about things that could kill his company. And Bill Gates was building in a time when many more things could kill your company. It was much harder to build companies when Bill Gates was building. That's one of the reasons that makes Bill Gates so impressive. Facebook has been seeing 10 steps ahead since the beginning. What are all the ways we can die? Let's enumerate them and avoid them.

[00:55:42] DA: So you mentioned, I think Facebook has this great philosophy, infrastructure. And sounds like Facebook didn't really make any super big mistakes. So you also mentioned this book is a case study. It’s not an instruction manual. And every company is different. But are there any area that you have conviction that other companies should definitely follow what Facebook did?

[00:56:08] JM: In that book, there is a modern strategy for how to be a creative person. There's a modern strategy to be creative as an organization. Everybody in the world wants to be creative, either at an individual or an organizational level. Facebook invokes this creativity so thoroughly that there are principles within this book for everyone. There are places in the book where it's a little bit more technical and harder to read for some people. But if you scan the book and take it seriously, you will find something that's useful to you as a creative person.

[00:56:43] DA: Mm-hmm. So you think other companies can be more creative?

[00:56:47] JM: Everyone can be more creative.

[00:56:49] DA: So during your research, and also in my conversation, I definitely learned more about Facebook and something to kind of change my mind about Facebook. So during our research, are there anything that previously you believed about Facebook, whether it's positive or negative, and then you'll realize it's such a misconception in public that you want to share?

[00:57:12] JM: Well, the whole idea of the book is to show people how wrong they are about how to perceive Facebook. Because it showed me how wrong I was about what I thought about Facebook. I want everybody who reads it to be surprised a little bit. If you read the book, you will not find a scathing investigation of Facebook. You will find a curious approach, an observation of the company, a willingness to learn from the company. A willingness to look at this and say something went right here. What can I learn from that?

[00:57:51] DA: So there's something I'm curious. But if you don't want, you don't have to answer that. So you spend a lot of time. You talk to Facebook, a lot of Facebook engineers. A lot of them at that time still works at Facebook. Do you think you're biased? And if you are, what are some area you think might potentially be biased?

[00:58:13] JM: I'm biased, because I have a lot of friends there at this point. Well, people I consider friends. I don't know if they consider me friends. Pete, Nick. I know Pete and Nick considered me friends. I hope the other people I've interviewed consider me friends or at least friendly. So yeah, I've got some biases there. And I generally don't like to knock companies. I knock companies when they're doing something obviously incorrect. Like I give a hard time to some infrastructure companies when I think they're doing something that's a waste of time. And anybody who's been criticized on my show, I'm really not trying to criticize in a way that is going to make you feel bad. I'm just trying to prevent you from doing work that's a dead end. Sometimes I talk to these companies that are pursuing a strategic direction that's not correct. And I try to convince them of that sometimes. And oftentimes, it falls on deaf ears.

So am I biased? I mean, I am really good at making friends into people who don't like me.

[00:59:04] DA: Yeah. Even, I don't like you.

[00:59:07] JM: Right? I know. I know. You're just doing this for your own self-interest. No. But seriously, all I say is like I can be a pretty blunt person. That's my tendency. I get this from probably my mother. I editorialize quite easily. We had to tamp down the editorialism in this book. But anyway, all I'm trying to say is that, naturally, I have biases, but I'm kind of a critical person. It's kind of at my core. I hope you know me well enough to know that. And so I've tried to be critical of Facebook. I mean, I am critical. I was just strategically critical. I just wish YouTube worked in Messenger. Why doesn't it work? I know you guys are capable of making this work. Why doesn't it work? I'm not accepting, “Oh, we don't know why it’s not working. Integration error.” Like, “No, thank you. No, thank you.”

[00:59:48] DA: Okay. Yeah, that’s fair. On a side note, I think the bluntness, you said a lot of you don't like it. I can't speak for other person, but that's something I really like about you. I think that earns trust from people. So I think I can see that you were very passionate when we you talk about React, those engineering elements. So do you miss being engineer when you write a book?

[01:00:10] JM: I'm still an engineer. I’m still an engineer.

[01:00:11] DA: You’re still an engineer?

[01:00:12] JM: Yeah. I'm building a company right now.

[01:00:14] DA: What company are we building?

[01:00:16] JM: So the company called Supercompute. It's a company that's – We have the goal of redefining the future of computing. And it's a gradual roadmap to getting there. But that's the mission. Our first product is a game. Hopefully, the first version of the game will be out in two to three months.

[01:00:35] DA: Oh, wow! Where can I find it?

[01:00:37] JM: You can't find it anywhere right now. It'll be in your browser. I'll send you a link.

[01:00:42] DA: Okay.

[01:00:43] JM: Yeah. So that's the company.

[01:00:45] DA: Yeah. Oh, that's really cool. What motivate you to build a gaming company?

[01:00:51] JM: So the modus operandi of Software Engineering Daily from the beginning, now Software Daily, I should say, is to understand the world of software at a very deep level. My ground hypothesis is that the world through the lens of software looks markedly different than the world without software. And the more software there is, the thicker the lens gets. And the more that your perception of the world gets warped, gets warped positive or negative, but you've got this lens that's just thickening. And that's why I think this company is pursuing a deep problem set, Software Daily. But I started Software Daily after I left Amazon. And at Amazon, I didn't do much work. I was not a good employee. I was going to be on a PIP when I left. You know what PIP is right?

[01:01:34] DA: Yeah.

[01:01:34] JM: Performance Improvement Plan, PIP.

[01:01:37] DA: I didn't know that part.

[01:01:39] JM: Yeah. Shout out to Tim Mead, my manager. He's a great manager. I love Tim. I'm just a terrible employee. He got him lucky. He's like dear friends still. I tried to ship code to production without a semicolon at the end. It didn't compile. It didn't make it through the CI pipelines. So I didn't get any code into production during my eight months there. But anyway –

[01:01:59] DA: I can see that's a self-critical part of Jeff.

[01:02:02] JM: Yeah. But anyway, like I would go to Amazon. I get there 5:30 in the morning and just walk around, just walk around the halls. And I just felt it was the coolest place in the world.

[01:02:12] DA: Oh, wow!

[01:02:13] JM: So you worked at the Seattle HQ for a while, right?

[01:02:16] DA: Yeah, four years.

[01:02:17] JM: Four years. Okay. So I was in – Was it Denny? There's a building called Denny, right?

[01:02:22] DA: Yeah, sounds like. Denny – Like there's a building, Denny Triangle. Or maybe they changed names. Anyways.

[01:02:29] JM: So, yeah, it was in the heart of South Lake Union. Just one of 50 towering Amazon buildings, some of which are anonymous. And you go in there, you swipe your badge on the machine, you take the elevator up to the 17th floor or whatever I worked on. And you just walk around. And you go to your cubicle. You look around the cubicle. You see the whiteboards. You see the equations. You see the enthusiasm just in the paperwork, in the organization, and the frugality, the door desks, the myth of the door desk is very real. You walk through the break room, and you see the snack machines, and the coffeemaker, and no other perks. There's no other perks, except for ones that are subject to economies of scale, like decent furniture, right? There's like decent furniture, high-quality security systems, decent computers. I don't know how good your laptop was. But I had a pretty crappy Dell machine that's, I guess, if we're going to about criticism, that's maybe a criticism of Amazon. I wish they would invest in engineering hardware a little bit more.

[01:03:35] DA: I mean, we all mostly use Mac.

[01:03:38] JM: Okay. Alright. Well, maybe the data scientists get it better.

[01:03:41] DA: No. Engineers too, but it depends on the personal preference. But yeah.

[01:03:46] JM: Right. Yeah. I mean, I was a low level, like SDE1 or something.

[01:03:51] DA: So you like walk around and you just feel the excitement. You're thinking about just day one –

[01:03:57] JM: You know what I'm talking about? Have you ever gotten there really early when nobody else is there?

[01:04:01] DA: Yeah, but I probably was too sleepy to work around.

[01:04:04] JM: Okay. Yeah, I mean, I would drive from Bellevue. So I would drive, whatever, 15, 20 minutes. It's like pitch black, misty rain from the Seattle skies. Going across that bridge to Seattle from Bellevue. Parking in the parking garage. Getting a prime parking spot, because nobody prime – No pun intended. Because nobody else is there. You get a great parking spot. You get out of your car. You enter the building. There're not even many security people there. You swipe your budget and you go upstairs. You just walk around. You take out your Kindle. I would take out my Kindle and read in areas that were doing Kindle planning or doing audible planning. Doing planning for books shipping logistics. I would soak in the atmosphere. I would soak in what this thing has become and just marvel at it and almost pay worship. Like I've never paid worship to religious building.

And so after eight months, the day I left, I sent some ideas to Jeff Bezos. Like I send some company ideas, because I was working on some side projects there. I was just like, "I think Amazon should do these things." And they're like, "We really need you to work on –"

[01:05:08] DA: Oh, they responded?

[01:05:10] JM: Well, I mean, my manager, Tim. I mean, he was in a tough position because he's like, "What do I do with his employees that will not work on the things I assign him? He only wants to build like –" I don't think I'm spoiling any IP for – Well, I guess I shouldn't even say it. But let's say I wanted to reimagine the infrastructure for food trucks. Amazon didn't hire me to do

that. Amazon didn't hire me to invent the Turkish casino. Amazon didn't hire me to invent the choose your own adventure hyper decision tree. These different products that I wrote a six pager for, they weren't interested in that. I sent the products to Bezos at the end. I said, “Look, I really think you should build these. I think there're a few subtle problems with their culture where people like me can't really aggressively get my like thing off the ground. And so I'm going to have to leave and go do –” By the way, I tried to start a podcast there too. I went to – I don't know, some marketing person, higher up marketing guy. I completely respect. Like I understand why he didn't let me do the podcast. But still, I just thought – I don't know. I mean, I thought they would really try to retain me, but they didn't.

And so I became very curious about that. And that was one of the things I wanted to explore within Software Engineering Daily. And so I think I found some answers over the six years of doing it. But the Straussian goal of Software Engineering Daily was to start a company. I wanted to start a company. I was going to inspect the world of software, observe the world of software, and understand the opportunities that were there. I came to the conclusion that digital advertising was the highest margin purely digital business. And I thought about the best product for the digital advertising space. And that product was AdForPrize. I approached AdForPrize with poor strategy, made several key strategic mistakes. Ended up losing all my money. Started another company, had cofounder issues. Start another company, couldn't find product market fit. Tried to build a software platform within Software Engineering Daily, couldn't find product market fit. Felt hopeless. But then finally figured out what to do, and that's Supercompute.

[01:07:34] DA: Yeah. I'm very excited about this company you’re going to build. It sounds like you're going to step into the engineering shoes. Yeah. What about the Software Daily podcast? So you’re going to spend all the on your – The gaming company? What's the future for Software Daily?

[01:07:50] JM: So we just hired an interim CEO. I'm hoping that she joins as full-time CEO, if it's a good fit. We'll see what happens.

[01:07:57] DA: For Software –

[01:07:59] JM: For Software Daily. Yeah. Yeah. So we'll see what happens. It's a tough job. I don't know if anybody can do it. We're kind of operationally quite weird. So we'll see. We'll see if it works out. I do want to have somebody essentially take over as CEO and direct the company. But I'll still be involved. I'll still be hosting some shows. I'll be involved in key decision making. But really, a lot of my attention is going to have to go towards Supercompute.

[01:08:25] DA: Yeah. That's exciting. So I just have a few last rapid fire questions. If you can work in any team in Facebook or any product, what would you choose?

[01:08:38] JM: Supercompute.

[01:08:39] DA: No. In Facebook. Sorry. My question was, we're going back to Facebook.

[01:08:43] JM: Oh, so I have to work at Facebook.

[01:08:45] DA: Yeah. So you have to work at Facebook, but you can pick any product or any team, what would you want to work on?

[01:08:53] JM: Do I have green card issues?

[01:08:56] DA: I don't know.

[01:08:57] JM: Okay. If I have green card issues, then I work on –

[01:09:01] DA: How does that relate to green card issues?

[01:09:03] JM: Because if don’t have green card issues, I leave.

[01:09:05] DA: Okay. Alright. Just forget about it. You don't want to work at Facebook. I get it. And then if you have five minutes with Zuckerberg, what would you tell him?

[01:09:13] JM: Fix YouTube integration?

[01:09:16] DA: Who is our favorite sibling?

[01:09:18] JM: What? You can't Trojan horse me like that?

[01:09:22] DA: I can. Answer the question, Jeff.

[01:09:24] JM: I cannot answer that question.

[01:09:25] DA: Who's your favorite cat? Which one is our favorite cat? I know you have two. They're not here. They don't understand.

[01:09:31] JM: Also unanswerable question.

[01:09:33] DA: Oh, okay.

[01:09:34] JM: I mean, I can say what I like about each of them.

[01:09:35] DA: Okay. What do you like about each of them?

[01:09:37] JM: Scout gets me. He gets me. He understands me at a very deep level. He understands what I'm upset. He understands when we're both happy. When I'm happy, he's happy. When I'm upset, he's upset. He's like my mirror, as Justin Timberlake would say. Rusty is the id. He doesn't win any fights with Scout. He's a little brooding, but he smiles all the time. So he's brooding just beneath the surface. He's had weight issues. But I love rusty. Rusty sits in my lap now. I had a lot of trouble getting him to sit in my lap. You can't use laser pointers with Rusty. You can't shine lights around Rusty. You can't use the flashlight app around rusty, because light bothers him.

[01:10:22] DA: Yeah. Okay, cool. I think this is a good place to wrap up our conversation. So who should read this book? Software engineers? Product managers? What do you want to tell them?

[01:10:34] JM: Yeah, I think anybody. I wrote the book. The book has a funnel. The top of the funnel is software engineers who listen to my podcast. Slightly further down the funnel is – Well, I don't know if I'm articulating this correctly, but it should appeal most to software engineers who listen to my podcast. Beyond that, it should appeal to software engineers. Beyond that, it should appeal to technical professionals, and then creative professionals.

So I actually believe this is a universally useful book. It may not be accessible to everybody. I'm not a great writer. This is my first time writing a book. It was harder than I expected. But I'm satisfied with the result. And by the way, if you don't like it, then you can give me a gift by just criticizing me. Send me an email. Tell me your criticism. Send me a tweet. I really want to know what's bad about it so I can fix that in the next book.

[01:11:24] DA: Okay. So where can people order the book? Or where can I send that criticism?

[01:11:29] JM: Amazon. You can order on Amazon. You can send the criticism to – Twitter's maybe better.

[01:11:34] DA: Yeah. Okay. Anything else you would like to share?

[01:11:38] JM: Are we're going to talk about data scientist?

[01:11:40] DA: Sure.

[01:11:41] JM: So you're starting a media property?

[01:11:44] DA: Not a property. It's just a podcast. I'm starting a podcast called The Data Scientist.

[01:11:49] JM: Okay, so what's it about?

[01:11:51] DA: It's about data scientist interview a data scientist. So talk about their career journey, their life. Who they are outside of data science. So I think in a data science world, there

are a lot of technical materials out there, but it's hard for people to find inspiration, and feel related to talk about what their struggles. How did they become data scientist? For example, data scientists' very unique role that a way our manager can be product managers. Our managers can be engineers. And we collaborate with so many different job roles. So sometimes people don't know how do you communicate effectively? How do you grow your career? How do you get a job? How do you transition your career. I just want people to feel there are other people on the other side of the podcast that share the same journey with you, and you're not alone. I also want to humanize data scientists. We're not just this nerdy data monkey person behind a screen like madly typing. We have our hobbies. We have our lives. And just want to share their story. Well, I'm fortunate to have a platform. But a lot of great data scientists have great stories. They don't have a lot of following on social media. I want to use my platform to bring them on a stage and let them shine.

[01:13:17] JM: Shouldn't you also be interviewing people from outside the world of data science, because you're going to bring a unique perspective?

[01:13:23] DA: Yeah. If you think about The Economist, the magazine, of course now talk a lot about all the different type of topics. So of course, for example, I will interview maybe a CEO of an AI company. Talk about the future of data science. I can interview marketing analysts to how they use data science, or basically everybody's doing data science, or something related. I think, occasionally I can bring those people in a podcast, and then get their perspective. Share their story. So this will be a people-focused podcast. So yeah, I think that's a great idea. Do you want to be on the podcast?

[01:14:02] JM: Absolutely. What's something you learn as a data scientist at Amazon, a senior data scientist, that would surprise people?

[01:14:13] DA: I think a lot of people think if you are a senior data scientist, you work at a big companies. Every day, you're using those super complicated algorithms. But actually, what we do is, whatever, solve the problem, whatever works best for our customers. So what I always advocate is it's always good to learn a broad set of tools to have more options when you are solving a problem. But it's important to be customer-focused to think about how to solve the business problem, have the right impact.

So for example, if logistic regression can solve a problem, then there's no need to build a deep neural network. So I think the mentality to solve the problem and also leadership principle would then simplify. How do you simplify a solution? I think that's a lot of people kind of wouldn't expect. That was something also I didn't expect when I joined Amazon. I think when I joined Amazon, I saw we're going to talk about super complicated things. But we spend a lot of time talking about, for example, how do you measure whether customer are satisfied with a purchase? And, for example, if people have a lot of clicks on a website, does it mean they're engaging? Or does it mean, they're confused? So there's so many domain expertise that's beyond the scope of data scientists that a lot of young data scientists didn't know, which I think is actually very important.

Data Science is just our toolbox. So I made a meme before. We're actually like investigators, right? We're piecing a lot of puzzles, and then solve the problem. And data science is tool, but it's not a goal. So it doesn't matter what type of tools you use, who you work with. Never look down on the things that seems non-technical, because they might be the key puzzle piece of your entire project.

[01:16:21] JM: Profound. Yeah, I think the rise of data science in light of the size of these companies is no accident, because you essentially need an entire division to be able to understand what is going on at your company. I mean, I have this issue. We have the issue right now where we just like don't really understand what we spend money on. We've got like multiple credit cards. You got different places where expenses are materialized. So it's like what are you liable for? What kinds of personal expenses are getting expensed at the business bank account? It sounds very boring. It's actually kind of a data science problem. It reminds me of a data science problem, because the data is dirty. It's in CSVs, or it's in PDF, and it's like so much of data science is about data extraction. How are you extracting the data? How are you normalizing the data? How are you getting the data in a place where you can present it to somebody like an accountant or a bookkeeper who can actually give you actionable advice based on the data? Can you actually create a high-fidelity picture of what the heck is going on here? That's a lot of what a data scientist has to do.

[01:17:24] DA: Yeah. So a lot of people also don't know that doesn't matter where you work. You probably spend a lot of time getting the data. And it's not like boring work. Because when you are working on getting the data, cleaning the data, you also understand the data better. So you can figure out what are some assumptions, and you can have high quality data during this process. So I think, if you find the reality is different from what you expect to learn from school, just be patient and let curiosity lead your way,

[01:17:59] JM: What's the interface between you and the data engineers?

[01:18:00] JM: So this is an interesting question. So I've been on teams that we have dedicated data engineers to help me gather data. But I still need to do some lightweight data engineering to be more independent as a data scientist. There are some teams I've worked on I was also a data engineer. So I will build my own pipeline. I will work with software engineers. So there are software engineers kind of work as data engineers, and I work with them. So I think it's always good to have some data engineering skills. So that will give you more power, more independence. But also feel that data science is a team sport. You don't have to feel not enough if you can to write code like software engineer, if you don't understand marketing, like the campaign manager. Learn how to collaborate with other people. And also just really be flexible. If this team doesn't have the data engineer dedicated, don't complain. Just learn it. Do the work. And if there is, figure out a way how do you collaborate with them better. So there's no like kind of standard way of how we work with data engineer. It really depends on the team and project.

[01:24:37] JM: It's a very interesting story. When people ask me – The very first video guest we did with David Rosenthal of The Acquired Podcast, he asked me what was going on in software. And the first thing I thought of was data engineering. I just think it's such a profoundly interesting space, because it's such a profoundly academic space. I think of it as a very academic space, because it's distributed system. It's distributed systems at the – It's at the intersection of distributed systems and cost management. You have crypto, which is at the intersection of distributed systems and pure finance. But the data engineering world, the cost related challenges, how do you optimize price at some level? Anyway, getting off into a tangent. Did you want to wrap up?

[01:25:18] DA: Yeah.

[01:25:18] JM: Okay. You want to wrap up. All right. Great. This has been awesome. Very special.

[01:25:22] DA: Yeah.

[01:25:22] JM: Thank you so much. Thank you so much for hosting us. I'm really flattered.

[01:25:23] DA: Yeah. Thank you for having me on the podcast. So go to Amazon, get a book, and looking forward to see your next steps.

[01:25:32] JM: Thanks, Dalyana.