EPISODE 358

[INTRODUCTION]

[0:00:00.3] JM: Professional hackathon phone programmers travel around the hackathon circuit, winning merchandise and small cash prizes and subsisting on these. There are enough hackathons that some programmers actually do this as a full-time job. For example, Peter Ma, a programmer who describes himself as a rapid prototype specialist. Peter is a great programmer and he's received lots of offers to work at big tech companies. What drives him to stay independent and work on hackathon projects?

There other types of corporate hackathons. Many of us are familiar with the hackathon where some manager orders pizza and suggests that everybody stays at the office late fixing bugs because it's exciting, it's a hackathon. Some hackathons are held for kids to get them exposed to certain technologies early on.

Lizette Chapman is a reporter at Bloomberg where she writes about technology and business and news and I was fascinated by her story about hackathons, which is linked to in the show notes. It was great to have her on the show to talk about the characters of the hackathon circuit, what drives them and why corporations sponsor hackathons.

Lizette has cohosted the Bloomberg Decrypted podcast in another episode about hackathons. Decrypted is one of my favorite podcasts and I recommend checking it out.

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[0:01:36.3] JM: For more than 30 years, DNS has been one of the fundamental protocols of the internet. Yet, despite its accepted importance, it has never quite gotten the due that it deserves. Today's dynamic applications, hybrid clouds and volatile internet, demand that you rethink the strategic value and importance of your DNS choices.

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[INTERVIEW]

[0:03:35.4] JM: Lizette Chapman is a senior reporter at Bloomberg. Lizette, welcome to Software Engineering Daily.

[0:03:39.9] LC: Thanks, Jeff. I'm happy to be here.

[0:03:42.0a] JM: You've been writing about hackathons recently and you also did an episode of Bloomberg's Decrypted podcast about these hackathons. What got you interested in hackathons?

[0:03:55.3] LC: A couple of things. One of the first ones was just going to parties and hearing from venture capitalists and also some big tech companies all about how they're spending time there and how they're scouting talent there. Then the other thing was this amazing lack of awareness of what really goes on from people who don't spend time at these.

I was speaking with a colleague in New York who is knowledgeable about so many things, deep and broad, and that she thought that it was a gathering to go and steal people's data. You hear the term hack a lot, and so there's some misconceptions about what actually happens there. There was a lot of surprise, and she wasn't the only one. There were a lot of other people that I

spoke to as well who had never heard of it. I thought, “Wow! This is a huge disconnect. This is an opportunity to tell some good stories.”

[0:04:49.3] JM: Hackathon can mean several different things. Why don’t you disambiguate what that term actually means?

[0:04:56.1] LC: Absolutely. Hackathon on its purest form means to put something together really quickly under a deadline pressure. You can hack together a solution for something if it's hardware or software for that matter, like media, specialized bot to go find links to fake Russian news sites, which is one hackathon project that I saw.

Another one was a special headset allowed you to control a Tesla with your mind, that’s another one that I talked to someone who built that. That’s hackathon in the purest concept, and there are a lot of events that corporations have sponsored in recent years, internal ones, like at Facebook and Google and other large companies where they say, “Okay, that’s it. We’re just going to hack on this one concept for a while. This is your day to hack something together.”

One company that I spent some time with, this health insurance company, back in New Jersey called Clover Health that Sequoia is backing. They do that once every 3 to 6 months and it's just kind of a pause and a reset internally to go in and work out some products and maybe some glitches that are happening and spend the time to do that deeper R&D under a timeline pressure, mind you. This isn’t an extended time. This is like 24 to 48-hour period, to make something better or make something new that has never existed before. Did I answer your question?

[0:06:19.9] JM: It definitely answers my questions.

[0:06:21.5] LC: Okay.

[0:06:22.2] JM: From your point of view, what are the pros and cons of a — Because I've worked at companies where they’re like, “Alright, on Thursday, everybody is going to have the option to stay late and we’re ordering pizza and we’re going to do a hackathon.” I’m like, “Cool, I’m leaving at 6 PM as normal. I have no interest in that.”

That's a type of hackathon that I don't have interest in, but these other hackathons, like the ones that you reported on where a bunch of kids can go on a Saturday to Facebook or maybe they go to their local school cafeteria and they do a hackathon in the cafeteria and it's sponsored by Facebook or Google, that's a more appealing type of hackathon. What are the pros and cons of these different types of hackathons?

[0:07:08.3] LC: Right. I'm glad you brought that up, because there is a really big divide between people that are doing it for money and for networking and job connections, people that are professionals and in the job market already, and then people that are doing it that are on the younger side that seem to be doing it more just for the fun of it and for bragging rights. I mentioned that headset to move a Tesla with your mind. They called it Teslapathic.

The pros and cons of each side, I think it's really up to the individual. With the kids, young adults I should say, who I met at Tree Hacks, which is Stanford's annual competition, there was a huge desire to prove themselves. They've been studying computer science or graphic design or in a related field for months, sometimes years, of they've just taken one or two coding classes. Again, the degree of knowledge really varied a lot, but the desire across the board, the one that I talked to. It was just this thirst to see what they could. It's kind of like training, doing soccer practice forever and it's like, "Okay, when is the tournament."

There was a similar dynamic at play that I witnessed with students at university and there were a few high school students there too. Those were some of the motivations. Some of the pros on that side again is getting their name out. I think the satisfaction of seeing that you built something out of nothing in a very crunched time period. Making friends was another big pro that a lot of them talked about, like people that have traveled on buses from Harvard, from Michigan University, all the way to Palo Alto, a couple of people flew. Meeting a people from all over the place that shared this love of building things and they were able to work together in this very very tight, intense time period, but they all were having a really good time.

It's very different from what you described as like, "Hey, we're getting pizza. We're having a hackathon, and you got to stay up all night." That's pretty different. I got to tell you. I haven't met many people — I didn't meet anyone in the course of reporting this story that went through that

experience, although I've certainly talked to people like yourself who've had that. That wasn't the focus of this particular story, but I heard that it can be tricky.

[0:09:20.6] JM: Yeah, I guess I'm conflating a lot of different definitions of hackathon. The one that I talked about, which is where a company says, "Hey, we're having hackathon on Thursday and you can work on fixing bugs during the hackathon. The only difference is you're working after hours and we're ordering pizza for you." That's a pretty straightforward bad idea, but some companies still do it. Sometimes they do it with success. I mean I guess it has its place.

The stuff that you were reporting on was, one, these kids who do hackathons, and we'll talk about that a little bit later. You also wrote the story about the Hackathon Circuit, and there's these groups of people who make a living, or you could call it a living, different prize and Amazon gift cards and couches and television and stuff that you can win at these different hackathons. Describe what the hackathon circuit is.

[0:10:20.6] LC: The professional hackathoners. There are a group of people, a lot of guys. A few young women as well who make the majority of their livelihood through winning at hackathons. These are professional hackathons, not those sponsored by major league hacking, which has a site that's more devoted toward the university stuff. These are ones that are sponsored by Intel, by Google. More recently, by Procter & Gamble, by New York Fashion Week, by things like that that are looking to get the best and the brightest mind to help them come up with new ideas for their product, to feel more connected to the tech world, because as it is, everything has a tech component these days. There's just no escaping it.

You look at some of these older companies that aren't traditionally known as a tech company, they're all looking for way to get into. These professional hackathoners line up a number of different hackathons, and they're all published in advance based on the prize money, the type of technology that's there that they get to play around with, be it VR, or maybe Amazon, Alexa's API, for example. They'll go and they'll select certain ones that they go to and compete in for money, prizes, and of course, bragging rights.

[0:11:44.2] JM: One of the people that you profiled in this hackathon circuit that I think illustrates this type of character quite well is Peter Ma. Tell me about Peter Ma.

[0:11:54.2] LC: Peter; he's constantly fidgeting with something. He's a 33-year-old San Franciscan, he's a former World of Warcraft champion and he makes a living off of Hackathons. Everything in his condo, everything, his flat-screen TV, his own theater systems, his 3D printers, his phones, tablets, computers, even his furniture, they were either hackathon prizes or they were purchased with the winnings.

He knows he could get a corporate job at Google or Facebook or Uber and he told me that he's actually thought about it, he's entertained job offers from a number of them, but he doesn't want a full-time — He doesn't want to be tied down. He can make enough money to live the way he wants to, which includes a lot of traveling and not being beholden to someone else's schedule.

He also had Intel that sponsors him. He's one of Intel's innovator, so he's part of the Intel Innovator Program, which basically means he gets all their schwagg and he gets new gear whenever they come out with it, that he gets to play around with and do rapid prototypes for project that he things are interesting.

You asked something interesting. You said can they subsist off of this? Can they make a living? I think making a living depends on how someone wants to live. Do you want to have a four bedroom, three bath house with a garage and a pool? That's going to be different than someone who wants to backpack the Pacific Crest Trail three months out of the year. I think it depends on each individual. I was fortunate enough to meet a pretty broad swath. Anyway, that was an interesting dynamic that I was able to witness.

[0:13:42.2] JM: I used to play Magic the Gathering really competitively, and I met a lot of people who were doing it "full-time" but the prize purses at these events, the competitions for these card games are I think the same as true for World of Warcraft or a lot of these different games, are pretty paltry. It's like everybody flies into compete for a $30,000 first place prize, which is a lot of money, but hundreds of people competing for that, it's not enough money that can lead to a subsistence, so you see people change their definitions of what a subsistence income is because they want to compete at this game so much.

Hackathons are a little bit different. There's much more money in the technology industry. When a company holds a hackathon and they have a first-place prize of a big-screen television or maybe a $10,000 or $10,000 Amazon gift card, whatever it is, and they want to attract somebody like Peter Ma so that he comes in and he builds a rapid prototype and he's competing for the first place prize of the hackathon, why is that valuable? Who is that valuable to, to have somebody like Peter come and show up and compete at the hackathon?

[0:15:07.8] LC: It's hugely valuable to the companies. Their company is only as good — and it's only as good as its next technology, all right? That next technology is only going to be as popular as the developer enthusiasm around it that that can then breed more applications, more use cases for it. You get something like Microsoft Hololens versus an Oculus. You get more and more developers saying — Let's say Microsoft sponsors a hackathon and they give out, say, 40 Hololenses there for people to play around with and then they give out a bunch as prizes. That's seeding the new generation and the next wave of applications that are going to be relevant.

It is very valuable to Microsoft, to IBM, to Intel, to even Disney. They all have prize with this and big booths and developers that were there — Or developers advocates rather, that were there until late late in the evening or early early in the morning at the Stanford Hackathon because they wanted more people to be excited about their technology.

It's in their best interest to play nice with developers. Developers are their livelihood. Without them, there's no new technology that's coming from outside the company.

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[INTERVIEW CONTINUED]

[0:18:40.3] JM: This is a subtle difference, but have you looked into the competitive programming community at all?

[0:18:47.2] LC: Not as much. Could you tell me about it?

[0:18:48.9] JM: The competitive programmers, this is somewhat different because these are people who — The contest, the competitive programming contest will be something like they're given a very specific problem like, “Okay, you’re give in 1 billion Chinese words and you need to find the closest words in English that map to those Chinese words.” That’s a bad example, but basically these problems that are much more well-defined. A hackathon is, “Hey, here is the Alexa technology. Do something cool with it.” That's fun for some types of programmers.

Other types of programmers like a much more specific task, like, “Hey, implement Facebook.” and they will see creativity at the lower levels where, “Okay. Cool, implement Facebook, now I

get to choose what framework to use, how can I extract better performance out of this very narrowly defined algorithm?" These kinds of things.

It might be interesting to you. I don't know. It's a different type of community because these are — There's just people who tend to be more — They're on the extreme end of being mathematically inclined, where I would say that people who are attracted to Hackathons are more artistically inclined.

[0:20:14.6] LC: Interesting. That's very interesting. Yeah, I can see the value in that for sure, and I think there was at least two or three startups. One is coming to mind called Kaggle, and they actually crowdsource the — Okay.

Yeah, I think that there's a huge desire on the part a lot of super smart competitive people to prove themselves outside of the confines of their four walls at work or their four walls of the classroom for that matter. It sounds like both of them meet that threshold.

[0:20:44.6] JM: At these hackathons, are people typically working in teams or are they individualistic?

[0:20:51.9] LC: Almost 99.9% of the time based on what I saw, based on who I talked to, it's always teams. You can build it alone. There's an interesting dynamic that goes on. At the competitive ones, for the professionals, I saw a lot of people that came in and they had their group already. They had maybe a loose knit group of — Like Peter, for example. He had a group of maybe like 10 to 12 people that he talked to on a regular basis, and sometimes they would be available for one hackathon, but not another.

One guy in the group, he was kind of in charge of rustling up all of these different hackathons that they could all go as a team and earn and make money on, and he was the guy that would often pitch to the judges at the end, which is a crucial part. It's not only what you build, but it's how well you can explain it to laymen and women and really sell them on it. This one individual that was on Peter's team, he heard about this Hackathon for God, and it was a church-sponsored hackathon and they wound up going in and after a couple of hours they came away

with $10,000, for example. There's all different types of groups getting involved and it's interesting to see how much it's really taken off.

[0:22:04.0] JM: What kind of software do you write when you're hacking for God?

[0:22:08.4] LC: I don't know the range of them because I didn't attend that particular hackathon. The one that Peter and his group built, it was a way for people who are homeless to find showers and food pick up and also crisis counseling, and I think that there were some drug intervention as well all on one screen. That's what they were building.

[0:22:34.9] JM: That's great. When something like that gets written, does somebody end up deploying it and maintaining the software or does it just vary from case-to-case?

[0:22:44.2] LC: That is the best question. You nailed it. This is the dirty little secret about hackathons. Actually, someone I talked to at this at this party called the Graveyard for Good Ideas, okay? The dirty little secret is most of these don't really work all the way. It looks like it works, but maybe the back-end is not really connected. There's no entry page. There's no way to login. The security is all jacked. A lot of times, when there's a code update from one of the languages that they've done or some piece of technology that they've used, some API or something, they're not there hanging out. They, meaning the team. Isn't there hanging up making sure it's updated.

You have a lot of interesting projects that don't really go anywhere. They're kind of just in limbo. They're built, but it takes that — One of the guy that I was talking to said it took the last 10% takes 90% of the effort, working out all those tiny bugs, getting the security. Everything I just talked about. Yeah, it's definitely not like, "Hey, add water and here you go. Here's your new top-ranking app." It's not like that.

[0:23:53.6] JM: Yeah. This is what's interesting to me about these companies sponsoring hackathons, because I guess it's not a — I guess, at a company, you want both of these types of people. You want the people who can ship the rapid prototypes a person like Peter Ma because he's just generating ideas, and even if his ideas go to the idea graveyard, maybe you

have a blossoming flowers of fully functional products that bloom out of that corpse ridden compost pile of ideas.

[0:24:31.5] LC: Exactly. You know what? To that point, actually, when I talked to the head of innovation over at Procter & Gamble, one of the people that was involved in sponsoring the Febrice Hackathon. This is a Febrice Hackathon, they had people there from Park, they had Intel, they had a lot of other co-sponsors to bring more technologies into play that were available for the developers to mess around with, and also just kind of to boost the general goodwill that developers feel toward their companies.

When I talk to the people at Febrice, what they said was that this is the fastest way to get innovation into our companies without a doubt. These different hackers came up with more ideas in a 24-hour period than they could have over a several year period. That's something Angel Hacks, which is a group that basically does hackathons for hire, or hackathon on demand for a lot of these different large companies that aren't traditionally in technology. That's kind of what they bank on.

I want to touch back to something earlier that you said, which is who owns these ideas. That's a really interesting point. It's a sticking point for a lot of people are candy. So far, what I've heard is that, generally — Again, I haven't done a study on this. I wish someone would or if they had, reach out to me. Let me know the results. What I have heard more or less for the people at Angel Hacks who worked with hundreds of different companies sponsoring these hackathons, like New York Fashion Week and, again, Procter & Gamble, Nike, some big banks, etc., was that the developers own their IP. They go in and they do it and they develop it. Again, the devils in the details. Getting it from that 90% almost there to the hundred percent, it takes a lot of work and a lot of people from inside the company or maybe getting that same hacker to come back and work on it. A lot of times, people are just interested in the process of creation. You're hacking something together out of nothing, that a big motivating factor along with the money.

[0:26:29.1] JM: Speaking of motivation, a lot of engineers in Silicon Valley will express their motivation as making the world a better place. Some of them will just say, "Okay, I'm just trying to make lots of money right now and we'll see what happens later." What's the motivation for a hackathon professional? Because it seems like it is neither making lots of money, nor making

the world a better place. If you're a professional hacker, you're not really doing either of these things, I guess, that you're just motivated by hacking.

[0:27:01.3] LC: Right. I have no way in heck can I speak to the motivations of every individual out there. Each person is their own world in what motivates them. Maybe one week, it's going to be different, maybe couple of months later. I can tell you the conversations that I've had with people on what they said at the time. For one woman, it honestly was bragging rights. It was to show just how fierce she was and what great things she could build in such a short period of time. It was that the collective wow that she got by walking into a room, or by just getting recognition and respect for her skills. Which, yeah, you can get that at a job, but it's not really the same.

One guy that I talked to this really interesting guy, he said back in the day —This was a couple of years ago when traveling for hackathons was much more rare. He flew into one that was being held in New Orleans and he's here from San Francisco. When he came in, his flight was delayed. He came in about an hour late. The organizer of the even stopped everything, climbed up on top of the table and made an announcement saying, "Roger Pincombe is here from San Francisco. He's the hacker that did this," and he rambled off this whole list of accomplishments.

Roger told me that he — It was the highest high he'd ever felt. It was it was this amazing feelings. He said he felt like a rockstar. How often do you get that when you're coding alone in solitary? You just don't get that. Because his name was getting out and because — And people came up to him later and were like, "Wow! That's so great. I saw that you wrote this," and it was being recognized for being the best at their skill by their colleagues and by their competitors and by people — By like-minded people, and that's something that transcends money.

[0:28:58.5] JM: Okay. Let's talk about these hackathons for kids, this is another side to the hackathon world. Why are companies running hackathons for kids?

[0:29:11.2] LC: To be clear, the companies are not running the hackathons. It is a university. Like, let's take Stanford or University of Michigan, or CalHax. Usually, it's their local computer science department or there's a computer club or whatever it is. It varies by name at each campus, but you get the general idea.

Then typically we'll reach out and find sponsors who are willing to foot the bill which includes food mostly, because they keep these folks which can run anywhere from like, I think, it was a hundred at the California State University of Merced, that was a couple months ago, to several thousand. I think PennApps is one of the largest ones. Imagine feeding and keeping hydrated all of these people and then the bathroom facilities and all that, and then renting out the locations. Any large area with screaming fast Wi-Fi, bathrooms, and lots and lots of outlets, will be fine. It's for 24 to 48 hours.

Again, it's not the corporations that are holding it, they are going to sponsor it. Your questions is why would they do that? Again, same reason, to get their name out, to engender goodwill with these different students. Ultimately, in some cases, to hire them, and they get a list of the people that have participated if they agree to share their information. They say, "Oh, yeah. I remember that project so and so worked on. Let's reach out after the fact." It's this warm network of very bright and motivated people that instead of going out and partying on a Saturday night, they are building something new using fresh off the presses APIs.

[0:31:00.0] JM: Are there enough kids that are good at programming to do well at these hackathons?

[0:31:05.1] LC: Again, good at programming. Well, are they building the next Instagram? Who knows? All the projects wind up a little differently. Some of them are finished. Some of them are not even close. Some of them are total fails.

The motivation around a lot of the kids — Now, I talked about the professional hackathoners. Yeah, it's money, it's bragging rights for sure. With the kids, there is a great desire to hone their skills and to learn and to really put themselves to a test, see what was possible. Are there enough kids that are good enough at coding to have projects that do well? Again, it's a sliding-scale.

[0:31:51.0] JM: What's interesting is that the prevalence of technology — And I think, the smartphone, the fact that kids get — All kids get exposed to smartphones. Well, most kids in the United States get exposed to a smartphone. Say what you will about the societal effects of that

or the behavioral effects of that on kids, certainly builds a fluency with technology at a young age. It's hard to say how well that fluency and technology translates to an ability to code and to understand how to design computer systems. You got to assume that there is some positive impact there.

[0:32:34.8] JM: Yeah, definitely, early exposure. Now, it's not something that's locked away in this big mainframe. It's in your pockets. It's entertainment. It's your connection. Because it's so prevalent, and there's some many new tools that have been developed that make things so much easier to build than ever before that the interest level and the curiosity level has gone up as the barriers have gone down. You've got things like Scratch and Hopscotch and some other ones. Some visual languages that you can kind of cut and paste as a kid, it's kind of like playing a little game of Tetris. I don't know if you've played around with Scratch or not, but it's really neat and it allows kids to kind of think in that way early. My youngest is in first grade and they were doing programing in kindergarten, and that's not unusual.

[0:33:23.5] JM: I remember when I was —Depending on where your definition of a kid is, but maybe 11 or 12 or perhaps 14 or 15, I wanted to be a writer. I thought that the cool thing to do if you're to be a creative person or an artist is you write the next Great American novel, or just a great novel, that maybe it's appreciated worldwide.

[0:33:45.7] LC: How did that work out?

[0:33:48.0] JM: It didn't really work out, but maybe I'm making the great American podcast. I think that the thing that a lot of people dream of these days, the creative young people, is you want to make the next great app, like that's the aspiration. Do you think that aspirations have shifted among young kids were there are a lot more kids dreaming of — Entrepreneurship or knowledge creation was not even something that was on my radar when I was a kid.

[0:34:19.0] LC: Totally, I couldn't agree with you more. You look at these massive success stories, and of course, the .00001%. Nobody talks about the failures, and a lot of people are just kind of in the middle, but the aspirational level is huge for a lot of these kids and it's become this bona fide career path of being an entrepreneur and starting something on your own. There is a

lot of interest in that, and that's a category in tech entrepreneurship that I won't say didn't exist 30, 40 years ago, but certainly it was nowhere near as large or as loud.

[0:34:50.7] JM: Yeah, arguably, it might have even been taboo.

[0:34:53.9] LC: Yeah, maybe so in countries. In the United States, not so much.

[0:34:59.2] JM: Maybe not taboo, but you tell somebody — Well, at least if you're 20 something and you decide to go "start a business". 10 years ago, if you did that, it was like, "Okay, you're some kind of weirdo. You're not going to med school. You're not going to law school."

[0:35:15.6] LC: In some ways, it's attracted — Some people are in it just for them for the money though, and that's really the wrong reason. I've seen that shift. I'm sure you have to, because you talk to so many people in this field, but it's created this glut of people that are starting companies just for the sake of starting them and it's becomes — Early stage funding is gotten a lot easier in recent years. Certainly, there was a pullback in a lot of late stage funding last year nationwide, but the early stage is still going strong, which is why it is so hard for people to get tech talent, is because entrepreneurs that I talk to they say, "Yeah, I've got my first five people, or I've got my first 10 people, but everyone else I want to hire, they're all doing their own startups." All the people they would hire, they're all doing their own startups already. It's kind of a funny situation. Of course, you've got competition from the really big ones as well. It's tricky here in Silicon Valley and in Seattle and New York and Austin — Even Austin and Salt Lake City to some extent too.

[SPONSOR MESSAGE]

[0:36:22.3] JM: Angular, React, View, Knockout, the forecast calls for a flurry of frameworks making it hard to decide which to use, or maybe you already have a preferred JavaScript framework, but you want to try out a new one. Wijmo and GrapeCity bring you the *How to Choose the Best JavaScript Framework For Your Team* e-book.

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[INTERVIEW CONTINUED]

[0:38:07.5] JM: This is something that is interesting to me, and I'm sure you talk about it to lots of people because you're reporting on this kind of stuff and just talking to people who have their fingers on the pulse of hiring/text/everything in Silicon Valley, and it is becoming really easy to start a company. There are certainly some outcry at, "Oh, the people who are entering are just in it for the money or whatever," but I would rather have a glut of people starting technology companies for the money than have a glut of people becoming doctors or lawyers from — You'd rather have somebody selling you a SAS product that they — For some marketing thing that they started just because they wanted to make money than you walk into a dermatologist's office who they're just in it for the money and they're going to try to sell you some crap that you don't really need.

The hiring question is interesting because if you're a young engineer and you've got an option between going to Google and starting a company and getting some easy funding from Y Combinator, it seems like it's really changed the composition of people who are going to these large — How much is it impacting the hiring pipeline of these giant tech companies that it's become so easy to be entrepreneurial outside of a big tech company?

[0:39:40.3] LC: That's a really good question. It seems like — I think each company has its own dynamics. I've yet to meet someone that's working at a large company that doesn't have a project or two on the side that they're doing kind of on their own time and they're inspired by something. Maybe they're working with friend, maybe they're working alone. I don't see the two is mutually exclusive. At least that's not what I viewed.

How seriously they work on one of those things? How much time do you have? If you're a super hyper motivated person and you're working on the weekends and at nights too. There are some people who have done that and then quit their solid gig as soon as they got their start up off the ground. Certainly, there are a lot of stories about that, and some quiet people working very quietly on things like that as well.

[0:40:25.9] JM: Maybe I haven't thought about this much and don't know anything about it —I think about from an investment point of view, sometimes software engineers are just these huge asset. Engineers basically have — For a company, they hire an engineer at a fixed cost structure, which is their salary. There are some variable cost, I guess, if you're giving them equity, and the equity that you're allocating to them is fluctuating. Then there are some variable costs.

For the most parts, it's fixed. The fixed cost, you can look at it as a fixed cost, and yet they produce these software products that spin off really high margins of recurring revenue. If you get an engineer that you're hiring at a fixed cost structure and they design a software product that has outsize returns, that's a really good equation.

From my point of view, that's why some of these companies, like Facebook and Google, have such incredible profit margins. Their profit margins are so tremendous. Unless you are really looking at these companies up close, you're probably under appreciating just how much money they are making per engineer. That's actually what led me to just leaving kind of the corporate environment, just being like, "This is kind of a terrible deal."

If I'm an engineer going to work at one of these big companies, I get paid certainly good amounts of money, but the profit margin per engineer is so tremendous that it kind of feels like a

scam. Do you think the market is currently structured to undervalue software engineers in these corporate environments?

[0:42:04.9] LC: Wow! That's a leading question, if I've ever heard one. I can see that point. I could definitely argue that point, but since you already did, I'm going to take the other side because I think it's a more interesting conversation. I would say, yeah, there are fixed cost. You know what? They're not a fixed asset. The companies do not own them. Just look what happened when the whole self-driving debacle with Google and Uber and Levandowski and all that. They quit. They do their own things. They've got their own side project. We are an at-will employment state here in California and in other spots throughout the nation, and the world for that matter.

I think it's up to the individual engineer to do what's right for him or her. In your case, it sounds like you did the math and you said, "I'm getting a raw deal," and you found something new that's a reall really good faith, and mazel tov on that. For others, maybe they don't want to deal with doing the marketing development, the business development, the partnership deals, hiring a whole sales team. There is a lot of infrastructure and support that goes around. It's not just the product. You know as well as anyone, the best technology does not always win. In fact, it usually loses. It's usually something else. That would be my devil's advocate answer to that.

[0:43:25.6] JM: Yeah. It's a fair response. I will say there's certainly a lot of comforts to working at a big company. Getting back to the hackathons for a bit. From your point of view, is the ROI for a hackathon worth it that these companies are spending?

[0:43:45.9] JM: There's two people investing, or two groups of people — Two groups. There's the people, the participants. Is the ROI worth it? They spend a weekend, they go in and they fan all their social commitment. Sometimes they give up their health. I talked to one guy who had to stop doing hackathons because he would get deathly sick a couple days after they concluded. That's one group. They learn, they make friends, they have bragging rights, they get money and prizes.

The other side; is it worth it for the corporations? The ones that I talked to say, "Absolutely, yes. It doesn't cost that much." Take a look at IBM Watson and their three — It's a five-year, $3

million prize, or I might be inversing it. It might be 3 million — $3 or $5 million, but it's for their AI Watson prize and it's something that they've been investing in for a long time, and they have these different hackathons. Not only that one, but there's a couple of hundred that they have going on at any given time. When I asked, I said, "Why do you do it? What's the ROI?" They said, "We don't know. We just know that it pays off later down the line."

Then you look at companies like Twilio, for example, that their entire strategy, the whole reason that they were able to grow the way they did is because they sold to an individual like an enterprise. They sold their APIs one developer at a time, one hackathon at times for several years before they got to the point where they could go public. Is it worth it for these corporations, these companies? Hell, yes. That's my short answer. Based on the fact that they're not only continuing to do them, but there's more.

[0:45:28.0] JM: The Twilio one is more convincing to me, where you can say, "Okay, we held a hackathon and we got these accounts at hackathon," then they can track the ROI on those accounts and just be like, "Well, that was definitely worth it."

Also, that — Are you going to say something?

[0:45:46.1] LC: No. Go ahead. You're going to say that they track those. Yeah.

[0:45:48.9] JM: I was going to say, the approach of kind of, "Let's have a hackathon and it will pay off some place down the line." I don't know. Maybe that works. Maybe it doesn't. Probably harder to track. I guess all marketing is hard to track.

I wanted to talk to you a little bit about media in general, because I interviewed Brad Stone a few months ago and he's your colleague at Bloomberg and I asked him about the current media landscape. We had a lot of interesting conversations around that. There's a lot of small players in the media industry today, and there's a few very big players. My company, Software Engineering Daily is really small. Bloomberg is really big. The conversation I had with Brad was sort of what the roles of the different sizes of media organizations? What do you think these different sized media organizations are better suited to?

[0:46:49.2] LC: That's a great question, and it keeps changing it seems like, like daily. The role of every news organization is to inform and, hopefully, entertain and illuminate, shed light on something that the reader or the listener wasn't aware of before and they walk away going, “Aha!” and it helps them navigate the world better with accurate information, help them navigate it better, make better choices and hopefully be a better citizen. I started my career on a very small paper on the U.S. Mexican border, on a California-Mexican border, and I think about how that newsroom has shrunk over time and other new small newsrooms have shrunk and shrunk over time just kind of the consolidation in these large ones.

You ask what the role is for smaller news organizations, I think it's to look under rocks that some of the big guys forget about, and they are close to what is going. They have the sources. They have the local access. They have the ability to point a finger at something when wrongs are being done either at a city council level or zoning and ordinance level or things like that and do right by their community by acting as the fourth estate.

Some smaller news organizations don't have the financial resources. They don't have the team of lawyers. They can't wait two, three years to do like a huge investigative piece because they don't have the financial — They just don't have the financial resources to do that. That's where I see some of the larger ones coming into play and stepping up and doing their share.

[0:48:29.8] JM: Yeah, I certainly think about the Theranos story with John Carreyrou. I don’t know if you’ve followed that much.

[0:48:38.4] LC: Oh, it’s a great story. Did I follow it? Every single piece of it. It was very strong reporting and really quite a story.

[0:48:46.7] JM: The perfect illustration of what a big media company can do for you if you’re reporter, I think he spent like 9 or 10 months just following that lead and picking it apart before he could actually publish anything.

[0:49:02.6] LC: Yeah, that's right. That's right. That's the type of story that it was. Every story is different. Of course, just like every hacker is different and every podcast is different, but one thing that each story has to have, especially in this age of fake news, is everything has to be

really nail down the unbelief. Not like it didn't have to before, but I think that the bar has gotten even higher and as the stakes have gotten higher with unnamed sources and also ensuring that documents are verified in such and that takes resources and takes money.

[0:49:39.2] JM: I agree with that, and this is certainly something that I've built an appreciation for in the last four months or so. Honestly, before that, I was just like, "You know what? Down with the giant media institutions, nobody needs these things. We should break all them." The way that the market is suggesting to us that thing should go is all the giant media companies should be broken up and you just have these individual reporters. You have Brad Stone reporting on X, you have Kara Swisher reporting on X. You have John Carreyrou reporting on X. Who needs these giant media institutions?

Now, my opinion on that has totally shifted where there is a lot of value out of having these big institutions. Maybe that was obvious to somebody like you who has more experience in this field than I do, but it was actually got a wake-up call to me.

[0:50:30.9] LC: Right. I'm with you. I mean I think that the landscape overall has changed a lot. I think that we're in for more changes as we navigate just new areas and looking at the checks and balances that we have for our three branches of government and the role that the fourth estate needs to play.

[0:50:51.3] JM: The fourth estate, is that the press?

[0:50:52.4] LC: Yes.

[0:50:53.4] JM: Okay.

[0:50:53.9] LC: Yes it is.

[0:50:54.5] JM: There was a story on the Bloomberg Decrypted podcast recently about these Chinese proclivity towards subscriptions. Like, in China, people are willing to pay for stuff, which is awesome. It makes me wonder, do you think that we're going to see the bigger — Like,

Bloomberg for example. Could you see Bloomberg moving towards more of a subscription model than the ad supported model or will readership going in that direction?

[0:51:25.7] LC: I can't speak for what Bloomberg intends to do or what New York Times or Wall Street Journal or anyone, really, but I understand why it's more convenient to do payments in some countries where they just leaped over the whole internet 1.0, 2.0 and they're already on mobile. It's just a lot more convenient. It's streamlined. It's all on Ali Baba or all in Baidu or what have you and it's all in one spot. Are people willing to pay? Subscriptions are doing well at New York Times right now. They're definitely up, but I think it's a slow transition. People like to get things for free, and paying for content, even well researched and accurate and it is something that traditionally has been supported by ads, I think that's going to take some time, but we're getting there. Hopefully there'll be enough options for all types of readers.

If they're willing to go through ads, great. If they want to subscribe and just skip the ads and get all the information and maybe some of the analysis and some of the data that they want to do their own deep digging and their own research, they can do that too.

[0:52:38.1] JM: Okay, Lizette. It's been a real pleasure talking to you about hackathons, and media, and everything. What are the topics that you're reporting on now and what should we look for in the future?

[0:52:48.9] LC: I'm constantly interested in what is next and what is new. Startups continue to be a major focus. Interested in cyber security. That never gets old. Interested in fintech. There's a lot happening in insurance tech. If I hear AI or VR one more time, I think I'm going to feel ill. Kind of did not, so hot on those. I've yet to find a way to make the API story sexy, although I really think it is, and one of these days I'm going to figure out a good way to tell that story.

[0:53:17.5] JM: I agree with you.

[0:53:19.1] LC: I know, I think it's really interesting. I think personalities are you hugely important because the character of people can drive a business to greatness and also reduce it to ashes. We've seen a lot of really poor behavior on the part of some founders, not all. There's

just some great founders and some great CEOs making excellent decisions. There's also some that have made some very poor decision, not Theranos, but you can look at —

[0:53:46.1] JM: Zenefits.

[0:53:46.7] LC: Zenefits, Uber, Tanium. That was one that my colleagues Sarah McBride and I recently reported on. There's a lot out there and I think finding the extremes is always interesting while recognizing that the reality is usually somewhere — Or the majority land somewhere in the middle.

[0:54:05.7] JM: The personalities in this business are so mercurial. You get the incredibly mercurial people who are just — Or your colleague. Who wrote the Elon Musk book? Ashlee Vance.

[0:54:18.4] LC: Ashlee Vance. Yeah.

[0:54:19.3] JM: I mean that was book was astonishing. Talk about a real-life character that is as exciting as any fictional character I've ever read about.

[0:54:28.7] LC: Yeah. There are a lot of really interesting personalities. You have to be really really strong to make something out of nothing. I have the utmost respect for founders and for entrepreneurs that this kind of throw a chunk of coral out into the middle the ocean and say, "Grow ecosystem! Grow!" They're starting something from nothing, and they have to be a little bit crazy I think and just believe and just kind of this — Believe in what they're doing and do it with conviction and with passion and really believe in it to convince people to join them as employees, to invest in them. to partner with them, and then to buy their stuff, and then there's more. The personalities fascinate me. I think our readers and our listeners too. More on that to come.

[0:55:18.5] JM: Yeah, one quick thing. I bet you can make the API story sounds sexy if you start calling it serverless. Have you heard the term?

[0:55:27.1] LC: Only when I'm in happy hour at a bar. Serverless — No. I have not. I have not for API. No.

[0:55:33.5] JM: Yes. If you want to make up story — Because I agree with you, the API story is sexy and the sexy term for it I think that you're doing hear more and more of is serverless. If you want some click bate, there you go.

[0:55:48.2] LC: I heard it first here.

[0:55:49.6] JM: You heard it first here. Okay. Thanks, Lizette. It was great talking to you.

[0:55:52.6] LC: Hey, you too. Have a good one.

[END OF INTERVIEW]

[0:55:57.6] JM: Deep learning is at the forefront of evolving computing and promises to dramatically improve how our world works. In order to get us to that bright future, we need new kinds of hardware and new interfaces between this AI hardware and the higher level software. That's why Intel acquired Nervana Systems, a platform for deep learning.

Intel Nervana is hiring engineers to help develop this full stack for AI, from chip design to software frameworks. Go to softwareengineeringdaily.com/intel to apply for a job at Intel Nervana. If you don't know much about Intel Nervana, you can check out the interviews that I've conducted with engineers from Intel Nervana, and those are available at softwareengineering.com/intel as well.

Come build the future of AI and deep learning at Intel Nervana. Go to softwareengineering.com/intel and apply to work at Intel Nervana. Thanks to Intel Nervana for being a sponsor of Software Engineering Daily, and I really enjoyed the interviews I have done with the Intel Nervana stuff. I think you'll enjoy them too.

[END]