EPISODE 1319

[00:00:00] JM: Auren, welcome back.

[00:00:01] AH: Thanks, excited to be back.

[00:00:04] JM: You're how many years into running a data as a service business?

[00:00:07] AH: A little over four?

[00:00:08] JM: Okay. I've talked to a lot of infrastructure as a service companies, software as a service companies, platform as a service companies, only one data as a service company. And it's more than four years into your company. Why are you the only data as a service company?

[00:00:23] AH: Well, there are other data as a service companies, right? So there are plenty of DaaS companies, but of the successful companies in the world, if you think of like SaaS versus das, it's probably 500 to one, maybe even 1000 to one. So there's just way more SaaS unicorns than there are DaaS unicorns.

[00:00:44] JM: Why are you the only non-domain-specific data as a service provider?

[00:00:51] AH: Well, SafeGraph is a domain specific So SafeGraph has data about physical places. And that's all the data that we have. So our goal is to have data on every single place in the world and every attribute about the place. And we're very far from that goal today. So there's roughly the same number of places as people worldwide. And there's probably like 10,000 relevant attributes about a place. If you think of your home, it might be the number of bathrooms, or what the soil is made out of, or what the roof is made out of, or the last time the sale price of the home, or all these different attributes you might search for, right? So there're just lots and lots of attributes about a place. And then there's lots of different places in the world.

[00:01:25] JM: How much margin in the location data as a service business do you have to unlock before you expanded into the second vertical?

[00:01:34] AH: Well, I mean, before you move out of places? Is that what you're asking?

[00:01:37] JM: Yeah, into something else.

[00:01:39] AH: Well, the places market is a really big market. So there already about 1000 companies that sell data about physical places. So we're one of 1000 different companies. There're some huge companies, like Co Star is a $35 billion market cap company. And it sells data mostly about offices. So if you want to learn about like the office rents in America, they have a really good data set on that. They also sell some data about apartments. And so there's CoreLogic, recently sold for $6 billion dollars. And they have really good data about physical places. So there're a lot of companies that sell data about physical places. And there're really only four things you would want data on, right? So there's data about people, data about places, that's where SafeGraph plays in. There's data about companies or organizations, and then there's data about products. And so those are the four main categories. You could join those. And so there're lots of different companies that are on the join of those. And then you could also mix them with time or with price. So if you wanted to get like a stock ticker data feed, that would be data about companies mixed with a time mixed with price. So you can get the tick of AT&T going back over 100 years. Maybe 100 years ago that tick was by day. Now you can get the tick maybe by 10th of a second or something, but it's a really probably high-quality data feed that you can use, and you can back test a lot of your models using that type of data.

[00:02:59] JM: So let's say – You're post series B at this point, right? Or series A?

[00:03:04] AH: Yeah, post-series B.

[00:03:05] JM: Post-series B. Your series B was what? A year ago?

[00:03:09] AH: Six months ago.

[00:03:10] JM: Six months ago. Okay, so let's say, theoretically, in another six months, you're profitable to the tune of like three times your cost of goods sold plus your salaries? Would you reinvest your profits into going deeper into the location data category or the places category? Or would you expand into like, companies or something?

[00:03:37] AH: Yeah, our goal is to have data about every single place in the world. So we're extremely far from that. And I don't think we're going to hit our goal until five years from now. So we would add more countries. We add more places. If you think of data, it's just rows and columns, right? You can add more rows. So that would be, let's say, more geographies or more places within the US. For instance, SafeGraph doesn't have data about houses in the US or something. And then you could also add more columns. Those would be more attributes. And our goal would be to add more rows, more columns until we actually hit every – There are certain things. You prioritize. So we don't have any data about North Korea today. And we don't have a lot of clients that want data about North Korea. But one day, hopefully, we'll also have data about North Korea as well.

[00:04:21] JM: I heard some SafeGraph related podcast, I think it was like a couple years ago when I was – I think it was after I interviewed Ryan, or before I interviewed Ryan. And it was about like the infrastructure or what we know about the SafeGraph infrastructure publicly. And it sounded a lot like the Google indexing problem, where basically you have indeterminate data about what should be a source of truth. There should be a best article on the Internet about how to produce a podcast. It should be somewhat definitive. Similarly, there should be definitive data about like the Subway restaurant on Market Street, right? So it's basically the same problem, because you have to aggregate subjective data into an objective truth, right? It's basically the same problem.

[00:05:15] AH: Yeah, it's very similar problem. There are some differences. So in Google's case, they might present you with hundreds of different potential truths. And then they're basically saying to you, you sort through those truths and you figure out the truth, or figure out the right truth for you, right? And so they might give you many, many different articles about podcasting. In SafeGraph, we're really trying to give one answer. So we are trying to get to the truth about a fact. And that fact might be that Subway opens at 8am on a Tuesday. And of course, that fact might change. Maybe used to open at 7:30am. And now it opens at 8am. And so we need to not only have the fact, but then update the fact on a timely basis.

And so we gather data from many, many different sources. And those sources may have a conflicting data. One of them might say it's open at 8am. One of them says it's open at 7:30am.

Both of them could have been right at certain points in time. But maybe only one of them is right right now. Maybe none of them are right right now. So we have to use the different types of data to try to figure out the truth and figure it out. And our goal is to be 100% true. We will never be 100% true just because we have billions and billions of facts that we have data on. And so it's impossible to get to 100% true, but we're not satisfied even when we're at 99%. We have to keep going. And our clients find bugs. Our users find bugs. Our customers find bugs, our employees finding bugs all the time.

And then one of the things that we also do is publish our books. So we try to every month say, “Hey, we had all these bugs last month. Here's our problems. Here's what we trying to do. Here's how we went through it.” And it's just a never ending problem to get to the truth. But we just sell facts. So there're a lot of companies that sell analytics, or predictions, or lots of other types of things, or some sort of subjective. For SafeGraph, we're just in the business of selling facts. So it's really just like news. These things happen. This is the truth of something. And then our customers take those facts and then they build upon that, and hopefully build these great innovations. But the number one thing that they're relying on us for is that those facts are true.

[00:07:28] JM: The problem with Google is that there's a veneer of objectivity over ranking of things in the world. But there're actually two ranking systems. There's the paid ranking system and the unpaid ranking system, which is the ads business versus the non-ads business. But in some sense, it's actually even more truthful, because it's saying here's the version of the truth that somebody paid for. And here's the version of the truth that we're presenting in an unpaid capacity. Those are actually just like two different offerings relative to what SafeGraph is offering, which is basically truth as a service.

[00:08:03] AH: Yep, yep, that's right.

[00:08:06] JM: Is the SafeGraph business potentially proportional to that truth as a service business that Google vins?

[00:08:15] AH: You know, in some ways, it's also different. Who's your customer, right? And so you're going to have a different product – Even for like truth, you're going to have a different product for different customers. So in some ways, you can think of SafeGraph as just a news

organization. We publish news. We publish facts of the world, right? That's what news organizations. If you think of like AP or something, like they publish facts of the world, or Reuters, or whatever it might be. But a news organization, like their customers and individual news consumer who can kind of like read through the pros and disambiguate. And they're a relatively intelligent person, and they're trying to understand that.
In SafeGraph's case, our customer is generally a data scientist who's taking in a bunch of our facts. They're maybe not a human is looking over each one. And then they're running it through some sort of model. And they're using that model to either make some sort of prediction or some sort of optimization or some other type of thing. And so they need to, first of all, have these facts categorized in a way where you can run it through a model. So if it was just in prose, in an article, it'd just be very difficult maybe for a data scientist to use that. So if you thought of – Maybe you could have a description of a baseball game, or you can have the box score. The box score would be very, very easy for our data scientists to take apart. Whereas maybe a description, a long description of a baseball game may be enjoyable for a human to read, but less good for like a machine learning algorithm to parse through. So our customer is that data scientist, but everyone in the Google customers not necessarily an algorithm, right? They are an algorithm, but they don't sell to algorithms. They're really focused on the individual human to actually go through. And so they have a different experience because of that.

[00:09:58] JM: What's the hardest data engineering problem you're dealing with right now?

[00:10:02] AH: Well, I mean, there's many, many hard engineering problems –

[00:10:05] JM: One of the hardest one?

[00:10:06] AH: Well, I think the hardest one changes all the time. And so by the time this podcast goes, there may be a different one that –

[00:10:13] JM: [inaudible 00:10:13] data engineering problem.

[00:10:14] AH: Yes, exactly. Yes, that's exactly right. We're not sure if the cat is alive or dead. I think there're a lot of different issues. But the simple one that is always hard is how do you know something is true? And how do you know it continues to be true? And there're some things that

have some sort of definitive thing, like your birth date is definitive. I know your birthdate is x. Here's when Jeff was born, or something like that.

[00:10:40] JM: Your calendar I know knows my birth, or your email system. One of the two knows my birthday.

[00:10:44] AH: That's right. That's right. Or at least your birthday, maybe not your date, or the time of your birth or something like that. But these are things that are somewhat definitive. And your birthdate doesn't change. Your social security number is somewhat definitive. That could change. Maybe you enter the witness protection program or something. But for most people probably is fairly definitive. But many, many other things about somebody could change. Imagine your marital status could change, or obviously your age changes all the time, right? And so there're many, many different things about you that change. And so even if they were true in the past, they may not be true in the future. And so this is a very, very difficult problem of not only making sure that something is true today, but something continues to be true over time.

And store hours is really – I mean, we just went through this last year and a half with COVID. And so if you just think of like the store hours – First of all, store hours do change all the time. So that's just something even pre-COVID the average McDonald's might have been changing their store hours on a pretty regular basis. And then they may also change – So just because on every Tuesday, it was open at 8am. On a specific Tuesday, like maybe that Tuesday happened to be Christmas. They may have very, very different store hours on a very, very specific Tuesday. And so you need a whole other system to understand like, “Okay, there are there are some exceptions to Tuesdays.” And then during COVID, in some cases, we had places that were changing their store hours every single day. And so it was really, really hard to stay up to date on some of these things. So even something like a store hour saying you don't think it changes that much, but it changes all the time. And there're lots and lots of other data that is in flux quite a bit.

[00:12:30] JM: To what extent do you involve yourself in lower level engineering related decisions?

[00:12:38] AH: Personally?

[00:12:38] JM: Yeah, personally.

[00:12:39] AH: I wouldn't say I'm personally not involved in most of the engineering decision. We have a great engineering team at SafeGraph. We have great engineering leadership. We have really, really strong folks all the way through. And so I spent a lot of time on products, like figuring out like what's the new products we should be building? Talking to customers and trying to learn what they need to do. And I also would never get hired on our engineering team. So if I'm not a good enough engineer to get a job on our engineering team, even though a long time ago I used to code. Even back then, I wasn't good enough to get on the SafeGraph engineering team.

[00:13:15] JM: When the decision was made to go more heavily into the Spark realm instead of the Snowflake realm, did you recuse yourself from that decision? Or did you listen heavily and consider a pining? Or did you just not even think about it? You just let the engineering team – Or the decision was made without your intervention at all?

[00:13:36] AH: Yeah, most. I mean, 99% of the decisions that SafeGraph, maybe even more, are made without even consulting me in any way at all, which is great. So I think CEOs should spend the vast majority of their time on the biggest, biggest decisions in the company. And then they should spend some of their time on these tiny, tiny little decisions, and nothing in between. They should never spend their time on like the mid-level decisions in the company, if possible.

[00:14:02] JM: And choice of Spark versus Snowflake is a mid-level decision?

[00:14:05] AH: Yeah. Yeah, it's an important decision. It's not the biggest decision in the world. If you make a mistake – First of all, they're probably both good choices. So it might not even matter, right? They're both incredible systems to go on. And so that might move later about who you recruit, or other types of things. And they're both reversible type decisions. There may be a cost to reversing it, but they're both reversible type decisions. But like very, very big strategic things. And then the small things would be really important because they add up. Often, like they are things about culture. Some of the really, really small things. And so you can't be involved in every small thing. So they need to pick and choose some small things they need to

get involved. But the mid-level things are things that personally I try to stay away from as much as possible.

[00:14:53] JM: The financing markets are changing rapidly. How do you make sure you right size your investment capital strategy to the constantly changing times?

[00:15:11] AH: Well, there's a lot of different flavors of the day that finance markets reward. And I think if you're constantly chasing that, then this is like a difficult strategy. So you need to have some sort of consistent view of the world. And SafeGraph happens to be an extremely capital efficient company that isn't necessarily what is most rewarded today. So today, growth is rewarded well. There's always some sort of give and take between growth and capital efficiency. But today, I would say like 99% of the weight of venture capitalist is on growth and maybe 1%, or 95.5 on capital efficiency. We've seen scenarios where it's more like 50-50 or other types of things. And so for SafeGraph, we are growing very, very fast. Let's say 100% year over year. But the markets would probably prefer a company that was growing 400% or 300% year over year with a lot less capital efficiency. But we are what we are. We are an extremely capital efficient company that has – That's in our DNA. And maybe the markets a year from now will much more reward relatively fast growing still 100% year over year, but companies that are more capital efficient.

[00:16:24] JM: I noticed you brought a paper.

[00:16:26] AH: Always brought a paper, yeah.

[00:16:29] JM: Can you do an African graph right now?

[00:16:30] AH: Sure, sure.

[00:16:32] JM: Okay, what do you want to do?

[00:16:33] AH: I don't even know if we can get this on camera here, but I'll try to –

[00:16:36] JM: You can definitely do it. You can just draw it and then show it in the camera.

[00:16:39] AH: Try to describe it. Okay.

[00:16:40] JM: Or I can take a picture and we can intersperse it into –

[00:16:43] AH: You always have to start right this, right?

[00:16:45] JM: Not always.

[00:16:46] AH: Not always. Yeah, there're lots of different things. So let's say – I mean, a simple one would be number of times Auren has been on Software Engineering Daily, right? But first of all, I got to get my signature in. Very important. And then, okay, one. Okay, let's see, 2017, 2018, 2019, 2020, 2021. And then, okay, I'll just use a different pen to get this thing going. Okay, so we got both 2017, 2018, 2019, 2020 nope. Alright, so this is this is the graph over here. I don't know if we can get this on camera here.

[00:17:39] JM: Move it on the camera.

[00:17:40] AH: So yeah, one on 2017. One on 2018. One on 2019. Zero on 2020, 2021. We could do one on – So yeah, launch a podcast.

[00:17:48] JM: I mean, can do a non-axis one? Non-axis description of SafeGraph.

[00:17:55] AH: How about my new podcast, World of Gas, versus Software Engineering Daily?

[00:18:01] JM: I mean, so I just realized this. I'm embarrassed that I just realized this, but the name of your company SafeGraph and your drawing napkin graphs. They are SafeGraphs. A napkin graph is definitively save. Is there a dangerous napkin graph? The dangerous napkin graph.

[00:18:16] AH: Let's do that one. Let's do napkingraph.com valuation.

[00:18:24] JM: Do you own that?

[00:18:26] AH: Of course.

[00:18:26] JM: Is it used yet?

[00:18:28] AH: Nope. No. If you go do it right now. So it's going to look something like this, right? Dollars, time.

[00:18:37] JM: This is really what you do in the investment capital markets these days, right?

[00:18:40] AH: Yeah, exactly.

[00:18:41] JM: This is the true Trojan horse of SafeGraph.

[00:18:43] AH: Yeah, exactly. So napkingraph.com that I bought for $10 a year ago. That's probably worth at least $12 today. So it's already appreciated 20% my investment.

[00:18:55] JM: How many safegraph.x domains do you own?

[00:18:59] AH: Oh, good question. Probably not that many.

[00:19:00] JM: Not that many.

[00:19:01] AH: Yeah. Probably most of the important ones. But some domain troll out there listening to podcast wants to go by safegraph.fr or d or something, we probably don't own all those.

[00:19:12] JM: Have you had to deal with any like adversarial attacks, like somebody reselling your data or like doing something weirdly adversarial? Or has it been mostly a pretty easy business?

[00:19:23] AH: It's been hard. I'd say mostly good. Like one of the problems with data, as opposed to software, is when somebody buys your data, they're signing documents saying they

can't resell that or put out in the public domain and they have to – Because your data is your lifeblood. That's your product. And it's very easy to replicate data. But luckily, I mean, most people are good actors. They're not trying to do something bad. They may, by accident, leave a port open on an AWS bucket or something like that. And they have to go fix it. But generally, they're trying to do the right thing. And so data companies do have that issue. And some data companies like SafeGraph will salt our data as well. So for certain customers, you can salt your data.

Back in the day, like the mapmakers, they would put like fake places in their map. So when their maps were copied, they knew that –

[00:20:18] JM: Did that really happen?

[00:20:19] AH: Yeah, yeah.

[00:20:19] JM: What?

[00:20:20] AH: Yeah, so back in the day, like the old mapmakers in Europe –

[00:20:22] JM: Why do you know that?

[00:20:24] AH: So if you're a data person, you have to know.

[00:20:27] JM: Is that a Wikipedia article or a dense obscure book that you own?

[00:20:29] AH: I'm sure there's a really good Wikipedia article on it. Absolutely. Probably all the above. Yeah, yeah, probably all the above. So people will salt their data. They'll do other types of things in their data, .01% of the data will –

[00:20:41] JM: Okay. So you can do that. You can do that.

[00:20:43] AH: You can create little fingerprints and other types of things. But luckily, like we've never had to really use them. We have great customers, and they treated our data with respect. And just like any type of thing that can be used or abused, certainly data can be.

[00:21:00] JM: How does the sales incentivization policy at SafeGraph compare to that of LiveRamp? From what you know about LiveRamp, or from what you used to know about LiveRamp?

[00:21:13] AH: Well, I mean, I think sales is always – Enterprise sales is a very, very hard thing to do. I think it's really hard to be enterprise sales person. It's an incredibly challenging and also rewarding and very, very interesting job. A lot of people don't want to be in enterprise sales, which is partially why enterprise sales people are paid so much, because a lot of super talented people, for whatever reason, don't think it's a good profession. I think it's an incredibly rewarding and wonderful profession. It's really interesting. You get to talk to like super smart people about their interesting problems. It's a challenge every single day. So every day, you're incredibly challenged. And it's a very, very hard job, and which is kind of often why jobs are often rewarding is because they're hard.

So I wouldn't say the challenge of selling DaaS products is – Obviously it's different than selling SaaS products, but there's a lot of similarities as well. You have to understand the customer's need. You don't want to oversell the customer. So you're really trying to make sure you're delivering something to the customer that the customer wants. In SafeGraphs case, and same with LiveRamp and most either SaaS companies or DaaS companies, if the customer turns after a year, you don't really make money. In fact, often you'll lose money. And so if you had a lot of customers that were churning after a year, this would be really bad business, and you probably would not last very long at the company.

[00:22:44] JM: So customer success company.

[00:22:46] AH: Well, first of all, it starts with the salesperson. You need to make sure that they actually do need this product. You can't sell them something that they don't want or that's going to sit on a shelf or something like that. This would be really bad for your business. You have to make sure that, for almost every single customers, there's a true customer need, and they really

can benefit. It doesn't always work out. So there'll be cases where it doesn't work out, or the customer decides to change their mind, or there're different priorities, or the customer obviously can go out of business. There're many cases where your customer could still churn. But if you have a high rate of churn, you're not going to be a successful company. From a dollar churn perspective, you need to get to negative churn from a dollar perspective. Every single good enterprise, SaaS company or DaaS company has a negative dollar churn. But even from like an actual turn of customers, if you're turning more than, let's say 10% of your customers a year or something like that, you're going to have a very, very difficult time staying in business.

[00:23:43] JM: This podcast is five shows per week, 50 weeks per year, five ads per show. Five times five times 50 is 1250 ads per year. We are trying to figure out our sales strategy. And we're entirely bootstrapped. How would you architect that problem?

[00:24:07] AH: Well, I don't know. I really don't know anything about podcasting. I mean. One of the things with ads, it used to be – I used to know a lot more about the ads business, but there's a lot of ad aggregation companies because there's a lot of publishers that are similar to you that are relatively small. They've got like very, very core niche audience, whether it's for podcasting, or website, or whatever the publisher might be, a social media app or something like that. And they can't necessarily afford to have a whole big sales channel. And also a buyer of ads wouldn't want to just spend all their time on just that one particular publisher, because that doesn't necessarily hit their reach. So there are often all these aggregators that sit in between the publisher and the buyer.

[00:24:55] JM: SSPs.

[00:24:56] AH: Could be lots of different types of things, right? So SSPs are one type of aggregator, but there're dozens of different types of aggregators. In the old school, there were like just people that would rap many different newspapers and many different magazines and stuff like that.

[00:25:10] JM: Agencies.

[00:25:08] AH: Yeah, it could be an agency, or it could be other types of raps that would allow –

[00:25:13] JM: So when you're doing LiveRamp, you thought of the agency. You could kind of bucket the agencies with DSPs or SSPs sort of?

[00:25:21] AH: Well, not necessarily.

[00:25:22] JM: You just call them aggregators in your head?

[00:25:23] AH: Yeah, there are all these different types of aggregators. And they do things in different ways. Again, you can have an old school aggregator, which is like a person that would try to like insert this little subscription notice into all these different types of magazines and newspapers and stuff like that. Then we'd go to all them and then make some sort of deal. And then they would get to, let's say, millions of people, and then like that that could work. But if it got to only in the hundreds of 1000s, like it wouldn't work for the advertiser. And so they would go around and take – And then they'd take, let's say, a 10% brokerage fee or something like that for making that happen. So aggregators have existed since basically modern advertising in like the 30's started happening. So the last 100 years, once you started getting professional advertising, you also started getting aggregators who could help make that happen and help make both the buyers and the sellers happier.

And aggregators exist everywhere, right? So in every single markets, often, they need some sort of aggregation to happen, especially if there's like – There's somebody who's like a market maker who's bringing buyers and sellers together, especially either you want to sell to lots of different types of people, or you want to buy from lots of different types of people. Then you need some sort of middleman who's helping make that happen. And sometimes that's a marketplace like that we're familiar with. Like Airbnb kind of acts as that kind of marketplace. And these marketplace as a company can be really, really valuable. But sometimes it's actually just an individual. And a lot of well-known professions are individually – If you think of a real estate broker, or an investment banker, or something, they're middlemen, and then they're taking transactions from both buyers and sellers or from one or the other.

[00:27:08] JM: So let's say I want to take a highly manual podcast ad sales business and turn into an automated ad sales business. Do you have any pieces of advice?

[00:27:19] AH: I don't.

[00:27:20] JM: Nothing? Come on, man. You build an ad tech company.

[00:27:24] AH: Yeah. Well, I mean, I guess one advice is just figure out, “Okay, is there a way to get scale?” So is there a way to like maybe –

[00:27:31] JM: 1250 ads per year? That's not scale?

[00:27:34] AH: Well, not really. Yeah.

[00:27:35] JM: It’s kind of scale.

[00:27:36] AH: Yeah, it's kind of, but maybe people want to – Maybe someone doesn't want to buy unless they're reaching an audience of X millions, right?

[00:27:43] JM: I don't need that customer.

[00:27:44] AH: Well, maybe you do. Maybe you can go to the 10 other podcasts that are like you, and you could join together in some sort of way.

[00:27:52] JM: There’s no any other podcast like me.

[00:27:53] AH: Okay. Well, of course. Yeah.

[00:27:56] JM: Except data as a service podcast.

[00:27:59] AH: Yeah, world Dass. Yeah, exactly. Yeah, we don't have ads, unfortunately. So yeah, but I mean, there might be ways to go and to join together to get some sort of scale to understand that.

[00:28:08] JM: But is that the best approach? I mean, how many deep partnerships did you do with LiveRamp? Or did you kind of try to own the stack?

[00:28:17] AH: Well, LiveRamp is a middleware company, right?

[00:28:20] JM: We're kind of middleware. We're like middleware for sales and marketing.

[00:28:24] AH: Well, you're a publisher, right? So you are a publisher. You publish a –

[00:28:26] JM: Sort of. We're also a sponsored content company, or like maybe a tracking company if we want to do tracking.

[00:28:32] AH: Yeah, like a good publisher, like The Economist or something like that, right? Like a high-end publisher that publishes something really valuable.

[00:28:40] JM: Like you described, SafeGraph is a news company earlier. So why can't we be a data company?

[00:28:46] AH: You can be. Yeah.

[00:28:47] JM: Okay. Should we be?

[00:28:48] AH: I don't know.

[00:28:50] JM: But how do you like marshal the truth? I mean, is the goal to actually just think of the idea that is believable and then you marshal the truth behind that idea?

[00:28:57] AH: Well, I think every company has a different kind of vision in what they're attempting to do. And I also think it's also like where you are in your life and stuff. So I think there's a small number of problems that are key problems in the world that are going to make the world, and then solving those problems could really make the world a significantly better place. And one of those problems is the problem of democratizing data. And so you could see a world in the future where basically 12 companies control most of the data. And that's a world

where if you believe data is the core fuel to innovation, then that's a world where you're just going to have a lot less innovation, because just 12 companies are not going to be as motivated. And then the majority of the rents for those innovations are going to accrue to those 12 companies. And neither of which is a world that I want to live in. I don't think most people listening to this podcast would be interested.

And so solving that problem is a really, really, really big deal, really allowing – Truly democratizing access to data so that any innovator can get access to the data. Just like today, any innovator can get access to compute. All you need is a credit card and a bit of technical knowledge and you can get access to compute. And that's really open up the aperture for innovators all over the world. The same thing should be true for data. You shouldn't have to have a proprietary BD deal to get access to data. You shouldn't have to have some sort of other like proprietary system to get access to data. It should be available to anybody, and they should be able to start innovating on top of that data.

[00:30:26] JM: So is your goal to push towards a world with open data as fast as possible?

[00:30:32] AH: Yeah, I mean, open is always – It's about open access to data. So it shouldn't be that like we would never sign – SafeGraph would never sign an exclusive deal. Let's say somebody want to get our data just for like the insurance industry or something like that, like we would never – Or just for a specific market. I have the exclusive deal to your data to sell into Japan or something. Like we would never sign a deal like that, because we want to make sure that everybody can get access to our data. And maybe that's a huge company. But maybe that's a small researcher somewhere as well. And they should have the equal access to our data so that they can build things on top of that data.

[00:31:10] JM: So the thing that's like good about the focusing on location data is that it is in many ways noncontroversial. I mean, you can kind of compare yourself to the Yelp API. I think I mentioned this to you some time ago, is that I use the Yelp API in college. I had a lot of fun playing around with the Yelp API. It's actually a really fun API.

[00:31:31] AH: Yeah, absolutely.

[00:31:33] JM: And so the idea of building lots of products around SafeGraph location data is totally conceivable. But if it's a mission-oriented company and you really want to drive forward this mission, probably the way to do it would be to do something shocking, like help public health care data or something. Anonymize public health care data. Let's say you can solve K anonymity and do public health care data related to like people who have had trouble during the pandemic or something like that. Like you could do something really shocking, draw a lot of attention, draw a lot of media. Maybe that would be a better approach.

[00:32:06] AH: Could be.

[00:32:07] JM: But it's not safer, right?

[00:32:09] AH: Yeah, it could be.

[00:32:10] JM: It's risky.

[00:32:11] AH: We actually looked at that. When we're first starting the company, it was actually data about health care. And I'm involved in a company called Datavant, which is kind of like a middleware for healthcare data. And I think that's a really great thing. When you're starting a company, when you're like two, three people, and you're first starting a company. And even if you're 100 people as a company, which is what SafeGraph is today. We're roughly about 100 people. You can't do that many things. So if you're trying to do very many things, you're very likely not to win in any of them. So you have to pick a very, very small number of things that you're going to do well, and there's going to be – That means there's just lots of things that you want to do that you can't do. And there's many, many things you'll never ever get to do. And you have to be okay with that. And that's true in life too. Like I always had this idea that I was going to write a novel one day.

[00:32:59] JM: Yes, I remember this.

[00:33:00] AH: You remember this? Okay. So yeah, you have to you have to be okay with just deciding you're not going to do it.

[00:33:06] JM: Ghostwriting has gotten really good.

[00:33:08] AH: You're right, and maybe I'll change your mind. But you have to be okay with basically not pursuing every single thing. You don't have enough time in your entire life to pursue every dream.

[00:33:20] JM: If you ever want to publish a book through Software Daily, written by or without a ghostwriter, fully paid, all you have to do is send me an email.

[00:33:28] AH: All right, awesome. Okay. I'm going to going to publish a book. It's going to be the napkin graph.

[00:33:33] JM: It can be the napkin graph.

[00:33:33] AH: Okay. Alright, let's do it.

[00:33:35] JM: A napkin graph coffee table book by Auren Hoffman, published by Software Daily. Do you want them like blown up so much that they're pixelated so it's like a big coffee table book?

[00:33:46] AH: Yeah, one nice coffee table book. Yes, you can –

[00:33:48] JM: But with pixelated napkin graphs.

[00:33:50] AH: No, you can pixel. It doesn't look this. It could be the actual size.

[00:33:53] JM: Do you want to like outsource them to artists and have the artist like redo them with –

[00:33:56] AH: No, no, no, I want them to look raw. Yeah, raw with my terrible handwriting and everything like that. Yeah, absolutely. So yeah, well, let's publish this book together. Okay? We already have this idea. Every single subscriber to Software Engineering Daily will buy it for their

parents for the holidays. It will be a big seller. We'll make billions of dollars. You can keep your share, and I'll give my share to charity. So it'll be a really fun project.

[00:34:25] JM: I really want people to know how much value I've gotten from your writing over the years. I've gotten just tremendous amount of value, like from your content, from your podcast, all the various things I've gotten a lot of value out of it. And so I actually got you some groceries as a gift. You can like take a look at them on air or off air. They're just a collection of things that are – They're a representative of the heterogeneity of ideas that you've given me. It's a gift.

[00:34:53] AH: Okay. Wow! Thank you. It's a gift. I appreciate it. Whoa! I've got a booster shot. I need to have one of these today. Okay, this is good stuff. Okay. Wow!

[00:35:04] JM: It's Magic cards.

[00:35:05] AH: Oh, Magic the Gathering. Okay.

[00:35:07] JM: So you still haven't played that game, right?

[00:35:08] AH: I still have not played Magic the Gathering. I'm waiting for my kids to get into it. We've been playing some Pokemon, which is kind of similar, I think, right? Has some similarities, which has been fun. But I really want to get into Magic the Gathering really bad. And I've just been just waiting. I think my kids might need to be like one year older before we're ready to really, really dive in.

[00:35:33] JM: Can I give you a brief history of Magic the Gathering?

[00:35:34] AH: Yeah.

[00:35:35] JM: Okay, Magic the Gathering, if I have this right, started in 1993 by Richard Garfield. Richard Garfield is an expert in computational complexity theory. So he's essentially a guy who has studied what makes situations complex. And that's why he was able to make the best game in history.

[00:35:51] AH: You think Magic the Gathering is the best game in history?

[00:35:53] JM: It's not even a comp conversation. I mean, except for Supercompute.

[00:35:54] AH: Okay. Alright, well, now I really need to play it. Okay. Oh, Supercompute. I don't know Supercompute.

[00:35:59] JM: That's the game company I'm starting.

[00:36:01] AH: Oh! Okay. Yeah, yeah. Okay, I got it. Okay.

[00:36:03] JM: The product probably will be out by the time this airs.

[00:36:06] AH: Okay. Awesome. Alright, I'll try to get that too.

[00:36:08] JM: It will be the best game you've ever played. Maybe not initially, but eventually. So started in 1993 by Richard Garfield. He's a computer science genius. They played tested the game in cardboard. They like drew out the cards on cardboard so that they could test it. Once they knew they had a good game, they got it printed. The company was called Wizards of the Coast, Wizards of the Coast makes Magic the Gathering.

In 1999, Wizards of the Coast was acquired by Hasbro. Hasbro, as you know, is a toy company. Toy companies are great. Toy companies don't know how to make software. So there was a chasm that every games company had to cross into digital. And Wizards of the Coast fell down the chasm, because they're owned by Hasbro.

[00:36:54] AH: Okay. So they had a great card game, but they weren't able to make a digital game.

[00:36:58] JM: So they made a digital game. It's actually pretty good. It's called Magic Online Digital Objects. Apparently, the story is – And I think it was originally made in 2002. And I think that it was originally made by this company called Leaping Lizard, which was a contractor that

apparently they somehow entered into a conversation with Wizards of the Coast/Hasbro. Essentially, they were dared by Wizards of the Coast that they – Wizards of the Coast said, “Okay, look, if you can actually make this into –” Because it's a very complicated game with a lot of rules. And Wizards of the Coast essentially asserted that this was not possible to do in software. Leaping Lizard proved them wrong, except it was like Leaping Lizard is random software company. So they made it work, but it's not great software. And then that became Magic Online Digital Objects. That's like the lineage of that game. So they've got a whole lot of technical debt in that product. It's still only on Windows. It's not on Apple.

[00:37:56] AH: Why can't someone just buy the Magic the Gathering from Hasbro? Like some smart group of people and then like create it to amazing thing?

[00:38:05] JM: Because it's a crown jewel and a publicly owned company.

[00:38:08] AH: Okay, is it a very profitable – Okay.

[00:38:09] JM: It's a crown jewel. It's a crown jewel. I mean, Magic Online Digital Objects is a great game. It's actually become a very, very good game. But it's a monolithic .net application that only runs on Windows. And so the solution to this apparently, according to Wizards of the Coast/Hasbro, is to make a brand new digital game experience called Magic the Gathering Arena. The secondary economy – First of all, the secondary economy in Magic is super important. You open up these booster packs. It's like random lottery tickets. It's like legal gambling basically. This is another problem with the game is essentially it's a legal gambling for children. So it's casinos for children. That's what Magic the Gathering is.

[00:38:46] AH: Yeah, I don't see it as a problem. I see that as a feature.

[00:38:50] JM: We could go very deep. I mean, do you want your kids playing No Limit Hold'em for 1000s of dollars?

[00:38:55] AH: Maybe. Not for thousands of dollars. But yeah, for thousands of pennies maybe.

[00:38:58] JM: Maybe? I mean, would you be okay with a like the – Let's say somebody made Not Limit Hold'em in Roblox, because Roblox is a platform for making games, right? Let's say somebody made No Limit Hold'em for Roblox. Your kids can only lose up to $100 per day. Is that something you want in the world?

[00:39:18] AH: No, that might not be something I want. Yeah.

[00:39:20] JM: Maybe not. Is there a way to regulate that today? Unclear. Anyway, back to –

[00:39:29] AH: So the Mt. Gox stuff was the original – Like it was originally like some sort – It was for the secondary economy originally before it moved to a Bitcoin And that was the genesis. It's kind of like Tokyo Exchange for Magic the Gathering cards. Okay. Interesting.

[00:39:45] JM: Yeah, secondary market built I believe on top of the – The Magic Gathering Online Digital Objects client has a built-in secondary economy system, but it's just encased in this terrible software. This terrible .net application that's it's just not a good software experience.

[00:40:05] AH: Why is like – So on this thing it says 13 plus, okay? I play a lot of games. My kids are not yet 13. And we play a lot of – My kids play a lot of games. So we play a lot of Settlers of Catan. And we put we play a lot of other games. And most of those, let's say, I'd say they might say 10+ or 11+ or something. And my kids might be younger than that. They can play that. But why is it so complicated that it says 13+? You rarely see a game at 13+.

[00:40:35] JM: The game has some design problems. That's one of the reasons. But I think the true reason for the 13+ rating is that the earliest iterations of the game had some violence and occult symbolism.

[00:40:46] AH: Oh, so there's some violence in there. Okay.

[00:40:49] JM: And also, the game originally had a patina of gambling, because there was this ante feature. Originally, Magic was played for ante.

[00:40:58] AH: Ante?

[00:40:58] JM: Ante. Like literally, you sit down with your deck, your opponent sit down with their deck and you ante the top card, and you just play for it. Sometimes you flip an expensive card, sometimes they flip an inexpensive card. It's pretty fun. It's pretty fun. It's not as fun as like tournament Magic for cash, which is very fun, but also low stakes. Strangely, it's like the most cerebral best game in the world. And it's only played for low-stakes. It's a better game than poker, and it's played for significantly lower stakes. Anyway, so the thing that really just irritates me, this game is essentially my religion. Like I grew up with this game.

[00:41:30] AH: Now, in some games, how much of luck is a factor? Like if you have someone – Like if Roger Federer plays me in tennis, like he's 100% chance going to win, right? If I play a grandmaster in chess, they're 100% going to win. But if I play Settlers of Catan, and to say I'm a mid-level player in Settlers of Catan, if I play even the best players, I still have a pretty decent chance of winning in Settlers of Catan.

[00:41:55] JM: And that's a good feature.

[00:41:55] AH: Yeah. Which, which is great. That's why I love playing with my kids, is like they can beat me legitimately. I don't have to play down. Like they can legitimately beat me, and it's really fun. Well, how does that work with Magic the Gathering?

[00:42:07] JM: So you want that feature. But what you want to avoid is the degenerate scenarios where you can know, let's say, I sit down, I'm playing against you, I do what's called a mulligan. A Mulligan is where your hand has the incorrect distribution of card types. So basically, every opening hand you have, you need to have a proportional distribution between what's called lands and spells. Lands are your resources, spells are the things you're doing with the resources. If you get a resource imbalance, it's like you just can't win.

So the way that they fix this is if you get a seven card hand with a resource imbalance, you shuffle it back in, but you draw six cards.

[00:42:45] AH: Okay, got it.

[00:42:46] JM: So I start with six cards . You start with seven.

[00:42:48] AH: Yep, got it.

[00:42:49] JM: They've done calculations, or they've run some data, so I've heard. I don't know if I trust this data. Maybe SafeGraph can solve this.

[00:42:56] AH: Yeah. We're going to be selling data on Magic the Gathering in the future. Yeah, there's a good product coming out. Yeah.

[00:42:59] JM: On mulligan statistics. Apparently, if you mulligan, on average, you lose 23% of the time more. So you basically –

[00:43:07] AH: Yeah. Okay, got it. So it's not too bad.

[00:43:08] JM: Well, but it's problematic. Because the problem is, in those scenarios, you often mulligan to six cards, the six cards are marginal. So imagine a situation where you start with seven cards, they're great. I start with six cards, they're marginal. We're going to sit down and we're going to play for 15 minutes. I'm going have a horrible experience. You're going to smash my face.

[00:43:25] AH: A typical Magic the Gathering game is 15 minutes or –

[00:43:29] JM: Five to 30 minutes.

[00:43:30] AH: Okay. That's great. That's also good too. Then you just play another game. Like it's fine.

[00:43:35] JM: Yeah. And occasionally, it takes like two hours for a game. Very rarely, you're like, "Why is this game still going?" It's really fun. But that's a problematic scenario, where I am sitting here and I know I'm going to spend the next 10 to 15 minutes losing to you. It's going to take you 10 to 15 minutes to like kill me. And I'm just sitting there all the time.

[00:43:52] AH: And how much have you spent on Magic the Gathering cards in the last –

[00:43:54] JM: Money?

[00:43:55] AH: Yeah, like just buying –

[00:43:57] JM: I mean, I've made money. I've made money in Magic over the years.

[00:43:58] AH: Okay, got it. Because you're betting and stuff like that.

[00:44:01] JM: I mean, I was playing tournaments. I was like buying and selling cards. I was just hustling pretty much.

[00:44:05] AH: Okay, got it. Okay. Interesting. Yeah. Yeah, it sounds fun. Okay. I want to play. I'm worried I might get addicted to it.

[00:44:11] JM: I just need you to know how frustrating this company, this – Imagine if somebody acquired your religion and they just managed it into the ground. That's what has happened. And I say that with all love and due respect to the organizations involved. It's just they're making Stranger Things cards now. So they're literally taking the brand and using it to promote Stranger Things, which is fine, I guess. Like I don't know. Do you want Christmas brought to you by SafeGraph? Maybe? Probably not. Probably –

[00:44:44] AH: Yeah, it was brought originally by Coca-Cola, right?

[00:44:46] JM: What?

[00:44:49] AH: Coca-Cola was good at like really making Christmas Christmas.

[00:44:53] JM: I didn't know that.

[00:44:54] AH: Yeah, Santa Claus. They helped create like the modern day – I mean, I hope no young kids are listening to this. So, yeah.

[00:45:03] JM: Anyway, so the thing that really frustrated me was that they basically made the second game Magic the Gathering Arena. And the cards that you own in Magic the Gathering Digital Objects, the first game that they made, do not transfer over. So imagine, basically, somebody has forked the economy and they said you don't get the rights to the money that you already made.

[00:45:22] AH: Got it. So you have all these valuable digital assets. And you can't move them over.

[00:45:26] JM: I don't even own any digital objects. This was just frustrating to me as basically like we can't solve – They can't figure out how to port their billion dollar business line to Apple. It's a software problem. It's a database problem. Like this is not hard. Call in the consultants.

[00:45:45] AH: Well, one of the things in general, digital assets, is that it is, in many cases, very, very hard to have a secondary economy in digital assets. So like I just bought a new car, an old car.

[00:45:56] JM: Yeah, I've seen the blog posts.

[00:45:58] AH: I'm selling the old car. It's actually great. You get to sell it. Someone can buy it. Whatever the market is. There's some sort of clearing price. And I haven't sold it yet, but I feel confident I'll sell the old car. But I have all these like old Kindle books that like I'm not going to read anymore. I have no way of like selling – Or our old movies I bought on iTunes or whatever it might be. I have no way of selling these things to somebody who might actually really benefit from them and like them. And so I think it is always often hard when some sort of – There's usually some sort of central authority that controls these digital assets and create some sort of rules around them. And so even though that Kindle book, if you think of like a paperback maybe cost you $12 to buy. The Kindle book maybe cost you $10 to buy. But the paperback, at least you can resell, let's say, for $4. Whereas the Kindle, you may have like zero chance of reselling. Not only do you have zero chance of reselling. You can't even really gift it to somebody. At least the paperback, you can give it to a buddy. Say, "Hey, I love this book. You will benefit from this

book. Go check it out. The Kindle, much, much more difficult to go do that, or an Audible kind of book or whatever. It's much more difficult to give to a friend or something.

So I think these digital things are hard to like think through. And it'd be really great if there are like secondary economies for them. Even things that aren't necessarily digital or sometimes are like plane tickets. I think airlines would make way more money if there was a secondary economy for plane tickets, because first of all, they could charge a lot. I would pay a lot more for a plane ticket if I knew I could resell that ticket. And I didn't have to deal with like the plane company of having – There's just a simple secondary market for me to move those tickets around or something. And so you have all these other types of things. I think, certainly, that the events companies, once StubHub actually became much more legit, they actually end up making more money with the advent of StubHub because people were willing to pay a lot more because they knew it was easy to – Even if they're going to take a loss on it, it was easy to move that ticket again. Whereas before, I used to buy and sell tickets when I was in high school for like U2 concerts and stuff like that.

[00:48:07] JM: What did you say? U2 concerts?

[00:48:08] AH: Yeah. Yeah. Or Guns n' Roses, or all these different concerts.

[00:48:11] JM: You go to concerts?

[00:48:12] AH: I would go too, but I would like buy four tickets and sell three or something like that and i would have enough –

[00:48:17] JM: What's the best concert you went in high school?

[00:48:19] AH: Guns n' Roses was really good. Madison Square Garden, Guns n' Roses. Oh my gosh!

[00:48:23] JM: You grew up in New York?

[00:48:24] AH: Yeah, I grew up in the suburbs. Yeah. So that was like amazing. Soundgarden opened for them. Incredible. Incredible. Incredible.

[00:48:32] JM: That's like two different eras, right? Soundgarden is a very different era from Guns n' Roses.

[00:48:36] AH: Yeah, but, but, but, but, I mean, it was awesome. Yeah, it was awesome.

[00:48:41] JM: Did you ever go to Half Price Books? You ever been to Half Price Books? Do you know that story? Have you heard of that?

[00:48:44] AH: I don't think so.

[00:48:45] JM: So it's like a great place where you can buy used books. And you can also just take all your books there and give it to them and they give you like a check. So you just bring in your book into the back. And they just give you a check. And then you can take it to the front and buy books.

[00:48:55] AH: There's a place like that in San Francisco. I don't even know if it's still around. It's called Green Apple Books on Clemente Street in San Francisco.

[00:49:00] JM: it is around. It is around. In fact, I passed by it the other day.

[00:49:03] AH: So I used to always do that. I would take all my books to Green Apple Books. Most of them, they'd give me a check for zero.

[00:49:11] JM: This is in college?

[00:49:11] AH: Yeah. No. No. Po post-college. But let's say I was in my early 20s. I would bring like 30 books.

[00:49:17] JM: Have you like sold a business by then?

[00:49:19] AH: Well, I'm a frugal guy. And then they would give me credit. And they would also be really knowledgeable. So they would often say – I would go there all the time. I was going there for a while, like every week sometimes. And often I would sell books back to them that I bought from them. And then they were very knowledgeable and they would be able to suggest different books that I could buy. Yeah, it was great. So this is maybe a different era, but it was a really great place. And sometimes I just sit there and I just read a book.

[00:49:48] JM: Yeah, just look through stuff.

[00:49:49] AH: Yeah, I'd read like a couple chapters of a book just like sitting on the floor and put it back on the shelf.

[00:49:53] JM: So many books. So many books.

[00:49:55] AH: Yeah. One of the great things about – Which is different from, I think, today, is this idea of like browsing is a weird kind of concept. And so today, I don't really browse. I don't actually go into most physical stores, even like whether it's a grocery store or whatever. But back in the day, I used to browse. And I used to spend a lot of time in bookstores just like going through. And just like I would read a chapter. I'd sit down on the ground and just read a chapter and then I just put it back. And then I would like – And just by like the cover of the book, or the title, just completely random. And I used to like – This is pre-kids. I used to spend either every Saturday or every Sunday just reading. I would spend probably eight hours just reading. And often I would just do it in my home or at a park or some like that. But sometimes I'd like walk into a bookstore, especially if I was in a new city or something. I love just going to random bookstores and just opening up some random book. And some of the best books I've ever read in my life were just like random books I found. And sometimes they were books that are on sale for like $1. And you would just go through and read them. And some of them were really –

[00:50:56] JM: When you say books you've read, does that mean books you've completed or just books that you've read a page from?

[00:51:02] AH: I mean, in my case, I would say like the transformative books were be books I completed, because if it was a good book, I probably completed it. And so a lot of great books

I've read, read a chapter or two here and there. But most of these books, a lot of times I'd end up buying it. And then I don't think I could ever finish a book at the bookstore. So I maybe start it there. And then, "Oh, this is good. I want to keep it." I'll go buy the book. And it's kind of a try before you buy things. It's really great. And then take it home, or take it to the park, or whatever, or take it to a pizza place and just kind of go through it.

[00:51:34] JM: Had there been any books of that caliber that had been written about the last 15 to 18 months? As in COVID? Like the COVID experience?

[00:51:42] AH: Yeah. Well, there's a new one by Neil Ferguson. I haven't read it yet. I have it, own it. I own the book. And I'm planning on reading it. That kind of like talks about not only this experience, but Neil is an amazing historian. And so then he goes through all these other different pandemics that we've had over the year. We've had one in the 50s. Obviously, we had a famous one in the 20s. And kind of went through the different pandemics and tries to understand like from historical – He builds, okay, what's similar about other pandemics? What's different? Etc. And kind of like I've talked to him about it, read summaries of the book, but I haven't yet read the book. I'm planning on doing that in the next couple months.

[00:52:20] JM: Are there any other pandemics in history with this much political intrigue?

[00:52:24] AH: Well, I think most pandemics caused injury. So if you go all the way back to the Black Death, or something like that, like it caused a lot of intrigue. or the Conquistadores bringing smallpox to the Latin America. Obviously, really changed and altered the political landscape for hundreds of years. So I do think pandemics do make a lot of – Whenever you have big change in the world, obviously, that is almost always accompanied by some sort of political change.

[00:52:56] JM: Do you have any predictions for big political changes, things that are non-taboo, non-taboo political changes? Maybe preferences in restaurant as seen by SafeGraph data?

[00:53:05] AH: Oh, well, I think society is always changing, which is great. I mean, one of the great – It's always nice –

[00:53:09] JM: And can you see it in real time through SafeGraph data? Can see societal changes?

[00:53:13] AH: So one of the great things that we did in — well right at the start of COVID is we started this SafeGraph community. I think we now have about 10,000 academics that are very, very active. We have a lot of non-academics too that are very reactive in the SafeGraph community. We've had hundreds of –

[00:53:29] JM: Mostly through the Slack channel or what?

[00:53:30] AH: Yeah, we have a Slack channel. Yup. Anyone can go. It's free. The Slack channel itself is free. And you just go to the SafeGraph community.

[00:53:37] JM: Have you used Slack Huddles yet, by the way? Slack Huddles, these like audio things?

[00:53:42] AH: I haven't done those yet. Do you love them?

[00:53:42] JM: Oh my God! They're so good. So Clubhouse is like kind of okay. Slack Huddles are amazing.

[00:53:47] AH: Okay, I'll check them out. I've seen the feature. It looks cool.

[00:53:50] JM: I'm enjoying it more than podcasts actually. Because it's just you're getting a conversation with all the people that you want to hang out with anyway.

[00:53:56] AH: Yeah, yeah. Yep. Yeah, that's cool.

[00:53:58] JM: Anyway, sorry. So the community.

[00:54:00] AH: Yeah. So we have this like community of all these different researchers, hundreds and hundreds of published academic papers. So you have some of the smartest people in the world that are using our data to learn about like what's going on in the society.

[00:54:11] JM: Because you have some free deal for academics, right?

[00:54:14] AH: That's right. That's right. So if you're an academic, it would basically be free data.

[00:54:18] JM: What constitutes an academic, by the way?

[00:54:20] AH: Let's say someone in a PhD program at a well-known university or something like that.

[00:54:24] JM: What about a kid in India?

[00:54:26] AH: Should not yet so. But ideally, we'll have something like that for maybe somebody like that. It doesn't have to be part of an academic institution. They have to sign certain agreements, etc. And so we have a list of maybe a couple a thousand institutions that you need to be a part of that are relevant, etc., today. And hopefully we can democratize that more over time. But it's just been incredible. And then they have their own lens.

And then of course, like any data, data is only part of a solution. So you probably heard my analogy. Like I like to think of SafeGraph data as an ingredient. So we sell like, let's say, high-quality butter to pastry chefs. And those pastry chefs take our high-quality butter. And they take many, many other ingredients. And then they make this like amazing croissant. And then, of course, like the end consumer of that innovation, that croissant, may not even know there's butter in it. They certainly don't know there's SafeGraph butter in it, right? But the chef knows how important that ingredient is. But again, there're many, many ingredients that go in.

So if you think of these academic papers, okay, where an important ingredient, but there's so many other greens. And then of course, it's their own ingenuity and all the different things that they have, and their own experiences with this particular thing. The Southside of Chicago, or whatever, they have this amazing experience there. And then they're able to create less like really great data, or sorry, really great innovation, really great paper. And again, we're just one of many, many ingredients that go into this incredible innovation.

[00:55:47] JM: So I really like the company Palantir. And they published – There was one article that was written about this company that I thought was revealing. It's pretty shadowy company. There's really not much known about it. But the thing that I really liked that they said, publicly, I think the CEO said this, is that they try to – Basically, they see surveillance as this really, really big potential problem. And so they try to alleviate the problem by defining the cutting edge of it. And I feel like that's true of a lot of newer technology, where it really takes a person with an up close view of what's going on in technology to understand how dangerous some of this stuff is, or potentially dangerous, basically, to self-regulate. Do you have any perspectives on like how we get to a place of sensible regulation around modern technology? Like a place where we can move beyond where like senators are asking Mark Zuckerberg about his subscription service? Like how do we get real conversation about, like, actual software related – Like why are we just like not having real conversations about technology and like its impact on the world not at the level that it should be? Like what was so special about Quora back in the day, right? We had these like really in depth conversations where people were taking topics very seriously.

[00:57:09] AH: I mean, I pushed back a little bit. I think those conversations are happening.

[00:57:12] JM: They're happening, but not in a public forum. Not on stage.

[00:57:17] AH: Well, I don't think any good conversations happen in public forums really, I mean, because if you're starting to have a conversation, you need to be a bit vulnerable. And you need to potentially – You need to be playing with ideas. And playing with ideas in a public forum is incredibly dangerous. So you need to be playing with ideas with a group of people that assume positive intent of you and know that you're a good person and you're trying to get to the right place, and you're still in the ideas playing stage. You're in the learning stage. You're asking dumb questions, right?

Imagine the ridicule that you get in public if you ask a stupid question or something. So I think these things happen outside of the public realm. And I think one of the unfortunate things is that the public realm is pervading everywhere. And so if you ever listen to a panel at a conference, like it's never interesting. In fact, if you talk to a PR person, and the PR person is like prepping you to go to the panel, they will specifically tell you –

[00:58:23] JM: This is, by the way, Clubhouse versus Huddles. Huddles are private, right? They're not recorded. They're not public.

[00:58:28] AH: Yeah, exactly.

[00:58:31] JM: I love Clubhouse, but it's a little bit uninteresting because everybody's performing in a very straightforward way.

[00:58:36] AH: Yeah, that's probably right. I haven't spent that much time on Clubhouse. But if you're on a panel, your PR person will say, “Don't be interesting.” They'll say, “Sound smart. It's important to sound smart, but not interesting.” And so anytime you ever see somebody –

[00:58:52] JM: Did somebody told you that before?

[00:58:53] AH: Oh, every PR person tells you that. That is the first thing that they'll tell someone who's like smart and who's ever tried to be interesting before. They'll say, “Don't try to be interesting, because if you try to be interesting, there's an extremely high likelihood that you're going to say something you regret or something that could be taken out of context or whatever.” So let's say a PR person is managing a CEO, or they’re managing a senator, or whatever it might be, they just say, “Sound smart.” You don’t want to sound stupid. So sound smart. Say something that you've said before, ideally, and here are the notes. Here are the things that are safe to say. And that's what everyone tries to do. I think it's very, very risky for people to try to be interesting probably.

Now, eventually, they can say something that is interesting after they've developed it with a small group of trusted people, etc. But I think one of the problems in the world is that many people have a small group of people that they that they work on something like this with, but those small group of people tend to be very similar to them, right? Because they tend to be like their super close friends that are going to assume positive intent. And so they're not necessarily pushing them on the idea or helping them work through that idea in the right way. And I've certainly been lucky. And other people, I'm sure, have been lucky to find a group of friends or a group of people to work with that have very, very diverse views on things and very, very diverse

backgrounds. And that's super, super helpful. But also, I think super rare that you can have this kind of, let's say, off the record conversation with groups of people.

If you're a libertarian, like Bitcoin enthusiast, and you're in a little libertarian Bitcoin Slack. Yeah, you can have these like, interesting conversations on the margin with folks. But you may have like very, very, very similar worldviews. Again, it can help you sharpen your view and understanding and they could push you and help you. But if you have people very, very different views, but still assume positive intent, which is kind of the core thing. That could really help you take to the next level of how you're thinking about it, or they can give you a really good straw man, “Okay, have you actually thought about this? Or I like that. I like it,” but without arguing, because sometimes arguing, that not productive, or just trying to score points. It’s more like, “Okay, I'm going to help you get your views better. I'm going to help you think about it in a different way,” etc.

[01:01:13] JM: You know what’s a good example of this, speaking of crypto, cryptocurrencies were conceived not only to allow people to have decentralized free speech with regard to money. It was also about having low-cost or zero-cost payments. And I feel like the entire crypto ecosystem has lost that message. It's become all entirely about this decentralization free speech thing. It is no longer about just simply building a low-cost financial system. I mean, do you have any – Have you looked at FinTech at all? Do you have any understanding of like why things just don't get cheaper over time?

[01:01:57] AH: Well, I think they're starting to. So if you're an average consumer in America, like they're starting to be all these new FinTech banks, which charge like very much lower fees, or maybe zero fees. Whereas before, just like operating a checking account at a more traditional bank may have been very, very expensive for people that didn't have X dollars in the bank, or they don't charge overdraft fees. You have these other types of things. So like, I would say, for certain types of class of people, obviously it's a lot cheaper to borrow money today than it was 10 years ago. All these different solutions have been there. If you think of like trading stocks, it's cheaper. So there're definitely a lot of costs that are coming down. And if you think of ETFs and the vanguard revolution, right? So it's cheaper to buy and hold things. And so I think these things have been incredibly good. Payment is difficult. But I think, slowly, over time, you'll start to see that.

One of the great things about crypto is – I think these two just extraordinary people in crypto, and I think part of the reason of the success is basically about these two extraordinary people. So first of all, you have Satoshi, right? We don't know whether it's him or a her, group of people. We don't know anything necessarily about who this person is. But this it's kind of a mythical person. And the fact that it is a mythical person is like this person can't like go cheat on their spouse or something, because before we know, this person is dead, right? We don't know who this is. And so we can scribe like all this goodness to this person without just like most humans have lots of bad qualities without seeing the bad qualities of that.

And so a part of the reason I think Bitcoin's success is this like Satoshi character that's out there that is kind of like the deity of crypto. And we can all believe in this in deity without all the bad things that often come with humans. And then in the Ethereum world, you have this Vitalik character. And he is just weirdly a good person. And so he just doesn't have as many –

[01:04:13] JM: Is he deistic? Is he semi-deistic?

[01:04:15] AH: I think he's semi – Yeah, he'd be like a semi-god or something like that, right? And so it is weirdly just – At least for everything I've read about him and everything I've seen about him, he's just seems like a genuinely good person who's trying to do the right thing. Sure, he makes mistakes all the time. But he doesn't have the human – He doesn't have as many of the human foibles as most humans as the rest of us. So even though he is a real person, and you could meet him, and touch him, and get to know him, and I'm sure he'll make some terrible mistakes like all humans do. He is weirdly incredibly good. Much more so than almost any other person involved in tech, right? It's s really hard to think of anyone else who's anywhere at that level. And so it allows you to ascribe some sort of trust in – So you have this trust in Bitcoin because of the Satoshi character. You have a trust in in Ethereum because of the Vitalik character. And this is the way these things can really start to get going. So I am very long on the on those two platforms, because these two platforms are very, very – They're not just about like the technical ability. There is like a core trust and belief in the system going forward. It's a bit of a religion, right? And so in any type of religion, there's usually some sort of core figure in that religion, and it's very important to have a high belief in that core figure.

[01:05:44] JM: So you're telling me that a factionalized religion that's led by an anonymous deity and a non-anonymous semi-deity is a healthy situation.

[01:05:59] AH: Yeah. Yeah. Yeah. Absolutely. As long as you believe in that, as long as you believe in that, right? If you were in like the Soviet Union in the 30s, like, yes, there's Stalin that's out there. But like nobody really thought he was a good person. No one even in the Soviet Union at the time thought he was a good person. There are some people in America who are crazy who thought he was a good person. But basically, there's no one who lived in the Soviet Union who actually – No one really believed in the system that was in the system. So like communism was always this like fraud religion, where like everyone in the system never believed in the system because the deities were always bad. They're kind of bad people who were kind of running the systems. And so it's important in any type of like religious experience that you – Especially if it's like a more centralized one. And weirdly, even though like Bitcoin is decentralized also, like centralized in this kind of deity, right? And that you have some sort of belief in the core leader, even if that leader is dead, the core leader of the system.

[01:07:06] JM: But even if we just focused on Vitalik. So you have a guy who is really good at appearing virtuous, really good at wearing tie dye t shirts and doing eccentric behavior that looks vaguely positive. Still can't build a scalable payment system. Still can't build a scalable smart contract system. At what point do we stop taking this platform seriously? Like it's not scaling.

[01:07:31] AH: Well, it's hard. And so, in some ways, it is scaling in many, many different ways. And there're many different things that are getting built on top of it. And it's exciting and interesting. And there're all these different things that are happening. And there's like all these interesting innovations that are starting to happen. There's still small, whether NFT's, or smart contracts, or whatever it is, right? It's early, but it's exciting.

[01:07:55] JM: But all red herrings, right? It's like look at our NFT's. I'm like, "Where's my micropayments? Why can I pay a guy in Nigeria five cents to transcribe something?"

[01:08:05] AH: Yeah, well isn't here yet. But you could see a world where that's coming.

[01:08:10] JM: Would you feel comfortable putting your money through a semi-decentralized system? Let's say something that's decentralized at the cloud provider level. Let's say you have a blockchain that's synchronized between all the best cloud providers. Let's say you take a thousand of the best cloud providers in the world and you build a decentralized blockchain between them. Is that trusted enough to run our financial system?

[01:08:28] AH: Whether it's decentralized or centralized, I think you could have decentralized systems that are trusted and centralized systems that are trusted, or some sort of hybrid. And so I don't know that like the centralization or not is important. Centralization, it depends on who's doing the centralization, right? And so if you're in certain countries, you might not trust the central authorities of those countries today. If you're in other countries, you may you may have higher trust in the central authorities. All of my money is tracked by the IRS or whatever. Like I have trust in the US government. I trust the central authority. But maybe if I lived in another place, I would have – If I lived in Venezuela or something like that, maybe I'd have very low-trust in the central authority, and some sort of decentralized monetary system would be more appealing to me.

[01:09:22] JM: Alright. Rank the following three planned economies. Xi Jinping planned economy, or call it the China planned economy. Vitalik Buterin planned economy, or the Colosseum planned economy?

[01:09:36] AH: I don't think I know enough to rank any of the –

[01:09:39] JM: All right, describe the planned economies.

[01:09:40] AH: I don't know if I know enough or even describe any of those three planned economies. My day job is SafeGraph. That's where I spent most time on. So I don’t know –

[01:09:50] JM: Okay. Describe the SafeGraph planned economy.

[01:09:51] AH: I don't know if there's like a planned economy, but –

[01:09:54] JM: If we could live in a in a planned economy designed by SafeGraph, if we had to live in a planned economy designed by SafeGraph. We've lost all our leaders –

[01:10:02] AH: Yeah, I do think we should be living in a world where facts are more central. And so if you think of like – Have you ever red like the Foundation Series or something?

[01:10:12] JM: I haven't.

[01:10:13] AH: Okay, good series. I recommend it.

[01:10:16] JM: Is there a movie?

[01:10:16] AH: There's going to be a movie, I think, coming out. I heard or heard there's going to be a movie. So one of the premises of the series is that having these facts kind of collected in some sort of place, like an encyclopedia or something like that, is very, very important for societies to go to move forward. And I would like to see a more – I'd say there is importance in opinion, and understanding, and interpreting, and etc. But I think we've moved too much in the world to that and less of the world of actually just like determining that this is a true statement. This is a true fact. So there's a pendulum. You can always swing too far one way or the other. But I would like to see a world where we revere those that are trying to hold the facts.

In some ways, like if you think of like the archivist at the Library of Congress or something like that, like they're trying to preserve things. They're trying to preserve the facts or something like that. I have a real reverence for those people that were the librarian or something like that. Like I have a real reverence for those types of people. They're not actually –

[01:11:23] JM: Or the used bookstore operators.

[01:11:24] AH: Yeah, they're not the innovator themselves. They're not the author. They're not the creator, but they're kind of the maintainer. And they're the kind of these unsung heroes that are incredibly important. And the Foundation Series is filled with some of these folks as well.

[01:11:40] JM: Librarians.

[01:11:41] AH: Yeah, exactly. They're kind of filled with these types of unsung heroes. And they're very important to maintaining culture. They're very important to things. And that's why we started SafeGraph. There's some humility involved in starting a company where you don't want to put yourself at the center. You're there really trying to record what's happening. Trying to record the truth and putting it out there. And just why I log with Wikipedia, with all of its problems. Wikipedia obviously has tons of problems. Anyone can go through it. I just love the fact that, at its core mission, it's trying to describe facts that are out there. And trying to get those facts to everybody in the world. There isn't a gate to who gets to see it. Or if you have a certain view, you can't see the facts or whatever. They're trying to open up to everybody. Again, you could use those facts for bad. You can learn about something and then use that and weaponize it. And these things can be weaponized. But I think getting that knowledge out there is still more good than bad. And it's essentially a really good thing for the world.

[01:12:41] JM: Alright, let's do a six minute World of DaaS interlude. So you get to host a mini-six minute episode of World of DaaS with me as your guest. Pretend I'm a data vendor.

[01:12:54] AH: Well, so one of the things – And I'd be interested in your thoughts on podcasts. So I mean, I have never done a podcast without massive prep. So I write all my questions ahead of time I send all the questions to the guests. I'm editing it. I'm spending a lot of time. I have a producer.

[01:13:11] JM: Wait, you do the audio editing?

[01:13:12] AH: No, no, no. Editing the question. Editing the questions. I'll have our producer. And she and I work on the questions for a long time. We usually try to send it to the guest often a week before the show so they have a chance to go through it, go back and forth on – And I'm really trying to like learn about – And it's been like a lot of time just trying to think. Like what do I really want to know about this business or about this other types of things. And I don't think I could do **[inaudible 01:13:38]** episode with you, because I haven't spent like the many weeks leading up to this interview thinking about your business or thinking about like what I want to know from you. And I think there're different types of people that are out there.

There's people that react in different types of time. And there's like these super, like witty, like faster than their feet. Like someone, let's say, in the British Parliament or something like that. They're funny, and they're very quick with the quip, right? That's not me at all. Like I need to be – I don't need to spend months on something, but I often need to spend like Hours kind of on something like thinking it through, getting to a point. I can make a decision relatively quickly. I don't need days to make a decision or something like that. But I'm not the one who's like coming up with like the smart cool answer like right off the bat or something like that. I'm not super quick on my feet.

[01:14:32] JM: So first five years of Software Engineering Daily, I did at least a page and a half of prep before every interview. You remember my stacks of paper that I would always come to interviews with? I'd have three to four pages of paper. For you, it was three to four pages. For the average person, it's one and a half pages. You answer questions probably in 60% of the time that most people answer questions. So you have a 40% like condensation function, which is great. More people should have that.

But the reason I stopped doing it is because I found this algorithm that I like to use. And basically the algorithm is instead of like having this piece of paper in front of you, which is like your storage, this is like your database, like basically you're coming with a database prepared. And every time that you want to ask a question, you have to access the database, and it takes you all the time that would take to access a database, which is actually like fairly time consuming. Rather than that, you only keep one variable in your head. And it's just in your head. So it's in-memory access speed. It’s like random access memory.

The one variable is like X equals the best question that you can ask this person in this given span of time. It's just the best question. That's all you keep. You're constantly updating it. So whenever the person's talking, you're just constantly running what they’re saying.

[01:15:47] AH: There’s no way I could do that. Like I love that about you. And I think that's amazing. And I've definitely like heard many – I've followed different interviewers that are good at those types of things. Like that's just not – I would fail at that.

[01:16:00] JM: You think so?

[01:16:01] AH: Yeah, absolutely. I mean, but isn't it basically like you always have at least one thought at the forefront of your mind, right? So it's basically like what is the thought that is at the forefront of your mind phrases as a question.

[01:16:13] AH: Yeah, my guess is like 70% of those might not be that good.

[01:16:17] JM: Or even you just make a statement. Or you just pause. If you have nothing to say, you just pause. And eventually they'll say something. And you can edit the pause.

[01:16:26] AH: Yep. We're just going to go on the pause here, right?

[01:16:30] JM: And you said something.

[01:16:32] AH: Totally. Totally I felt uncomfortable.

[01:16:34] JM: Exactly. And the listener feels uncomfortable too, but it catches their attention.

[01:16:37] AH: Yeah.

[01:16:39] JM: That to me is modern podcasting. You can't do scripted anymore. If you do scripted, nobody will pay attention.

[01:16:45] AH: That might be true. Maybe that's why your audience of Software Engineering Daily is so much bigger than the World of DaaS audience.

[01:16:53] JM: Not for long. The other thing you could do, and I think I encourage you to do this a little bit, but I really think what would be interesting is if you just interview people at SafeGraph. Like talk about the business. There's so much you could talk about that would keep you as a closed source business, effectively like really interesting marketing slash – Like the Inside Intercom Podcast. Did you ever listen to that?

[01:17:11] AH: No.

[01:17:12] JM: It's like literally what it sounds like. The CEO just interviewed people –

[01:17:14] AH: Alright, we're definitely going to start doing that. Just kind of like the building and public type of thing. Yeah. So we'll start doing that probably starting in 2022. We actually have the guests lined up all the way through the end of this year. But we'll start doing that as well. We'll start building a little bit more in public and having a kind of, "Okay, here's a strategic problem that we're grappling with," and making it – I think, first, we'll probably do a few that are just for employees only just to get our foot in the door. So just like an internal podcast just for our own employees, which is kind of what I think will be a fun thing to kind of build in public at least with, let's say, at the time off 150 people or something in the company. And then once we I think find our footing, we'll start to release that a little bit to the broader sense. I think that'd be really fun. It's dangerous. But I think part of the reason it's fun is that it is a little dangerous.

[01:18:10] JM: Yeah. I mean, you get to edit it. It's not live.

[01:18:12] AH: Yeah, that's right. That's right.

[01:18:13] JM: It's not alive.

[01:18:14] AH: Yeah.

[01:18:14] JM: What do you think about this problem of like all this basically unstrapped unstructured podcast transcription and audio data that hasn't really been used for anything yet. Like Patrick O'Shaughnessy is trying to do something with Colossus there. There's a couple other people I've seen who have really tried to transcribe everything, like Listen Notes. But you kind of can't do it. It's too expensive to transcribe everything. But it seems like there's probably a lot of like pretty good latent information that's semi-structured, but nobody's really figured out how to structure it. Do you think there's something there or is it too unstructured?

[01:18:46] AH: Well, it's even hard to do it with just like text, which obviously would be easier to do than podcasts, because you already start with the transcription. So just imagine all the different blogs that people have written and stuff like that. It's incredibly, interesting content

that's out there. And just like how do you structure that? How do you manage that? Even Google can't really do a good job. And so it's a really hard problem. It's an exciting problem. And we do a lot of stuff where we're trying to read text about things like, again, like store hours or something like that. It can be written in many, many different formats. And that's a relatively structured thing, store hours. But you can imagine just all the different ways of like writing down your store hours or something and we have to somehow like crawl that and parse it and understand it. And it's different on every different website. And that's just like one very, very specific thing. Imagine if you're trying to generalize to podcasts about sports, and things about science, and religion, and relationship advices. It's like it becomes a really, really hard problem really, really, really quickly.

[01:19:52] JM: Top three SaaS products you discovered in the last year.

[01:19:58] AH: Oh, I think that's a hard one. I like Commsor.

[01:20:03] JM: What is that one?

[01:20:04] AH: Commsor.

[01:20:06] JM: Oh, that's the community thing.

[01:20:07] AH: Yeah, community thing like on Slack or something like that.

[01:20:09] JM: Did you look at the options for that product category?

[01:20:12] AH: The options?

[01:20:12] JM: I mean, there are like other things that are sort of like Commsor. Or do you just look at Commsor and go with it?

[01:20:16] AH: I don't remember what we did at SafeGraph.

[01:20:18] JM: Okay. There's one called Orbit. Orbit.love I think is the –

[01:20:21] AH: Okay. Cool. I'll check it out. So I ended up loving it so much I ended up investing in Commsor.

[01:20:27] JM: Can you do that with pretty much any business that you see at this point?

[01:20:30] AH: No, after I love a product, I often will call up the CEO and like – First of all that, sometimes they'll take my meeting, sometimes they won't. And I'll be like, "I love your product. It's so awesome. I just want to give you some ideas about what I like about it or something like that. They're often flattered. So they're willing to take my call.

[01:20:45] JM: By the way, can you ever do equity trades? Can you say I'll trade you some of SafeGraph equity for your equity in your company? Or is that just not legal?

[01:20:51] AH: It's probably legal, but it's probably too hard to do, because probably everyone always like overvalues their equity and stuff.

[01:20:55] JM: But that would be awesome, right? Wouldn't be that easiest thing to do if you could – Every time you see a product you like say, "Hey, can I trade you some SafeGraph equity?"

[01:21:02] AH: I don't even know exactly how you would do it from like a tax –

[01:21:06] JM: Forget the taxes.

[01:21:07] AH: If you think about like the reason why a currency is a currency is that it's it's so much easier. And then it's just like, "I'll just put money in."

[01:21:13] JM: But that's a bug, not a feature.

[01:21:16] AH: I don't think so. I actually think it's a real feature.

[01:21:19] JM: You don't want to a SafeGraph token.

[01:21:21] AH: I mean, but then everyone's going to value that token in a different way. Like I do have a SafeGraph token. I have equity. I have a share of safe graph stock, right?

[01:21:27] JM: Which would be better if it was liquid.

[01:21:30] AH: I don't necessarily thinks that's true, because everything is liquid. Even when I buy currencies, it's like, well, they basically – If you buy a cryptocurrency, right? They usually will put it in – They usually only put in two prices in dollars underneath, right? Those are the only two things that you can buy a token in usually. They don't even put it in Bitcoin. They don't even put it in – Like you just think of like all the other things you could put it in, in Apple share or whatever. They could tell you the price and anything, but they usually tell you two things. There's some USD token, whatever that is, Tether or whatever and –

[01:22:04] JM: But they couldn't price it in Amazon equity.

[01:22:07] AH: They could price it and whatever they want, but they don't because it's too complicated. It's like you don't want to list a price in like thousands of things. You want to list it ideally –

[01:22:15] JM: But that's a UX problem. That's not like a currency problem.

[01:22:19] AH: No, I think the dollar is a very simple conversion. First of all, we live off the dollar. You and I live in the United States. So we know what the dollar is worth. We know what we can buy with the dollar. We know how much it takes to earn a dollar. We know how much – So it's a very simple thing to quote everything in that thing. Now, it doesn't mean these other currencies – If you just think of like the rise of real estate in Cupertino, right? Okay, the rise of real estate real estate in Cupertino in dollars is positive. The rise of real estate in Cupertino in Apple share is negative, right? And that is what people are using really to buy their real estate in Cupertino. They're using Apple shares. They're not using dollars, right?

[01:23:02] JM: Did you make this discover on SafeGraph? Or did you make this discovery otherwise?

[01:23:06] AH: We make all our discoveries on SafeGraph.

[01:23:09] JM: You're using pricing data too?

[01:23:09] AH: No, not yet. But one day.

[01:23:10] JM: God! That'd be cool.

[01:23:11] AH: Yeah, that'd be really cool. Yeah. But like the average economist looks at the price in housing in Cupertino, they just look at it in dollars. And it's just the simple way. And then, okay, these prices are going up to 20% a year or something like that. They probably have some sort of understanding, "Okay, well, these people – probably a lot of them work at Apple, and people at Apple have become wealthy because of the appreciation of the stock price, etc." They're not thinking about it in all these different currencies, because there're so many different currencies in our life. Once you get to a certain level of success, you're probably dealing with like dozens and sometimes more different types of currencies and just like so much easier to convert them into one or maybe two if, let's say, you live between the US and Europe or something like that. You have a small number of currencies that you're –

And then, ideally, even like if you think of like the euro and the dollar, yes, they fluctuate between them, but the conversion between the US dollar has been relatively stable over I'd say the last 20 years or so. And it's not like crazy fluctuation in difference. So it's always relatively easy to make that conversion, whereas like the relationship between Apple shares and the dollar have been like incredibly unstable over the last 20 years. And so like if you're just starting to quote things in Apple, just like even understanding the inflation of the – It'd just be so hard to go do. So it's nice to have a common language. That's why you and I, we're speaking English right now. Like I can speak one language. You can speak a different language. We have a translator in the middle that, but that wouldn't be like fun for the listeners to listen to.

[01:24:49] JM: Or there are subtitles.

[01:24:50] AH: Yeah. I mean, yeah, maybe. And you can get the subtitle in your own language or something like that. But again, it would there would be a cost for us to actually having a real time conversation unless there's like a real time subtitles.

[01:25:01] JM: What if in real time we fade it to the background and then do like audio, like the robotic audio? Like the Stephen Hawking voice.

[01:25:07] AH: Well, you yourself were saying doing, transcriptions on the fly is really costly and really, really difficult.

[01:25:12] JM: No. But we're not airing on the fly. Like we have a pre-production.

[01:25:15] AH: Well, but our conversation is happening on the fly. So you're seeing something I need to respond to you –

[01:25:20] JM: But the whole production is for the benefit of the listener and the benefit the viewer.

[01:25:24] AH: Yeah, sure. You could send me a question right now. And we could do this async. And I could be at my home. And then I could answer the question. I go back. And we could do this over – And it's playing a chess game.

[01:25:34] JM: And it would be interesting. I mean, you're proving my point. This would be interesting.

[01:25:38] AH: Maybe we should do that sometimes. And we should do it in different languages. You can go learn Thai, and I'll go learn –

[01:25:44] JM: But seriously, you just pulled my point, because you just basically made an observation that proved that if you price something in Apple shares, it can be considered from another angle, which is kind of more interesting.

[01:25:54] AH: Well, it certainly is interesting. It's just really good to have a common – These join keys are so important to our lives. I think they're the most underappreciated thing. So language is a join key. The dollar is a join key. The meter light, whatever. Like the meter is a join key –

[01:26:11] JM: The shared reality.

[01:26:12] AH: Yeah. There's some sort of shared join key. And anyone who's ever dealt with databases before knows they're so important, instead of like Unix time. Like I love Unix time, okay? It's a super imperfect thing. It's like an integer. And it started in like January 1st 1971 or something, and it's like why did they started that? It's like you have to go negative time before – It's like this weird integer, right? But it's standard. And it's a standard thing that – Again, like any join key is imperfect. There's no such – The whole idea, if you're going to agree on the join keys, it has to be imperfect because it has to join all these different – And like the English language is the most imperfect thing. Like if you have kids and you start to see them learn English, you're like, “What the heck? This is a terrible language that we all speak.” Like it doesn't make any sense at all. And the QWERTY keyboard is like this terrible thing that we all use, right? So like, there're all these different join keys in our life, and they all have imperfections in them. But life wouldn't work without join keys. And the more join keys you have, the more you can actually collaborate.

If you even think of like coding. Okay, are you a coding in like Assembly or something? Are you coding and the machine language? Are you coding in –

[01:27:24] JM: I agree with you, but Apple shares or join key. Like we have a shared understanding of what an Apple share is. And it should just be more liquid.

[01:27:29] AH: I have no idea what the price of Apple shares are today. I actually don't know.

[01:27:33] JM: I don't know what the price of a dollar is.

[01:27:34] AH: And I don’t know what the price was three years ago.

[01:27:36] JM: Do you know what the price of a dollar 1 is relative to a Bitcoin, or relative to an Eth?

[01:27:41] AH: Right this second, no.

[01:27:42] JM: Exactly. So what's the difference?

[01:27:43] AH: Well, I think the dollar is a better join key.

[01:27:45] JM: But don't you want both as alternatives? Like if you can have a bigger universe of possibility?

[01:27:51] AH: Well, I think you get paid in many, many different ways, and you can get paid in your shares in your company. Or if you join SafeGraph, get paid in dollars and you get paid in shares in your company, but you also get paid in many other ways. I get to learn. I certain prestige I get paid in. Like you're not paying me anything for this podcast, right? But I get like prestige for being on this podcast that I get learning from being on this. So you're paying me in some way.

[01:28:15] JM: All I'm trying to say is if you want to buy Commsor as quickly and reliably as possible, probably the best way to do that is to offer SafeGraph shares.

[01:28:23] AH: I don't think so.

[01:28:24] JM: You don't think so?

[01:28:24] AH: Because now this guy who has no time to do due diligence has to do due diligence on this other company.

[01:28:30] JM: You got a great email signature. You're like offering free data and your email signature. Like who doesn't want equity in that guy?

[01:28:37] AH: Well, if I say she has no idea what a share is worth. And he doesn't know what the preference stack is on top of that. That's not his job. His job is to go build a company.

[01:28:47] JM: You blindly trust. You blindly trust in this scenario.

[01:28:49] AH: Well, how do know? How do you try to say, “I want five shares of Commsore for a one share of SafeGraph. Is that a good deal or is that a bad deal? Maybe it should be five shares of SafeGraph or one share of Commsore.

[01:28:59] JM: Luckily, we have these things called valuations, which usually price to some –

[01:29:05] AH: It’s like you don't know people are making things up. You don't know what the shares are.

[01:29:08] JM: Sending that over email. Sending the TechCrunch article over email.

[01:29:12] AH: But why? Like TechCrunch doesn't say the number of outstanding shares in a company.

[01:29:15] JM: Send the Crunch base, whatever. I mean, the carta public – You can't share with carta or something?

[01:29:21] AH: I mean, you're taking a very simple thing and making it super complex.

[01:29:26] JM: You're taking a super complex thing and keeping it complex, because it should be simplified.

[01:29:28] AH: Why is it complex to pay in dollars? Like it's the most simple thing. Like whenever I go to a store, I always buy in dollars. It's simple. It’s easy.

[01:29:36] JM: Wouldn't you like to be able to buy a banana with like SafeGraph shares? Conceivably, if you could.

[01:29:41] AH: Well, I would like to buy. But would I like someone else every time I want it to go – Every time someone's to pay me for something I have to go evaluate. Let's say I'm selling my car right now, right? So let's say my car is worth $5,000 in dollars. And someone's like I want to give you 42 to share In this thing that I'm doing well." Well, now I have to go spend all this time to go evaluate. And then someone else comes to me and says, "Oh, I got one thing. I got a car to sell, right?" I can sell one guy. He gave me 42 shares in his company. Another guy is giving me – Another is giving me 50 shares in their company. And then another gal is giving me 20 shares in their company. I don't know what's better. I now have to spend all this time like evaluating what is what. I just want to sell my car to the highest bidder. It's so much easier, like if I sell my car for 5000. Someone offered me 5100. I'm like, "Done."

[01:30:32] JM: I mean, you're free to say in your opening salvo I will only transact in dollars for this transaction. You're free to say that. But it would be nice to be able to also say I will accept SafeGraph shares for this car.

[01:30:45] AH: Well, sure, sure.

[01:30:47] JM: I'm just saying that's the world I want to live it.

[01:30:48] AH: Yeah. Well, I think you could do that right now. You could do that right here.

[01:30:51] JM: And you can offer SafeGraph shares for Commsor shares. It would be great.

[01:30:55] AH: I don't know. First of all, I don't know want to sell a SafeGraph share. So like I own dollars and I own SafeGraph –

[01:30:59] JM: So should be able to trade shares in some other company. Probably there's some laggard that would rather own Commsore than the portfolio laggard.

[01:31:06] AH: Well, but that would be somewhat unfair to the CEO. And then plus, like they're using these – In this case, I'm not buying the shares from the founder, right? I'm buying the shares from the company. And the company takes the money that the investor puts in and then invest that money in like, say, people's salaries usually to actually make the company more

valuable, right? So let's say a company raises $10 million. It's usually not going out the door to a person. And they're just keeping it. It's actually staying in the company's treasury. And then they use that to go pay – So it needs to be somewhat of a liquid thing that other people – That other people are going to want. So if they were just going to take the SafeGraph shares and convert that into dollars so they can go pay people. Well, they might as well just have dollars to begin with, because now you have like transaction costs that are coming in. And most of the people they hire, like they want dollars. They want Commsore stock as well, probably, right. But they also need to have – Someone usually doesn't work for no dollars. Some people might, and just stock. But the vast majority of people like still need to pay their rent, and they need to buy groceries, and they need to do other things, and they need dollars to do those things. So it's a very simple –

Like join keys, people can get very complicated about stuff. And like everyone always wants to make a better join key. And everybody always wants to make a better – Other types of things. But they're so important. And every time they like – Also, the people complain the most about join keys are the engineers because they're like, "I can create a better join key. Like this join key doesn't make sense." And yes, the meter has problems, like all these different join keys that we use in our life all have incredibly weird problems that we all know about. The English language is like the worst. Is like almost the worst join key, but it's still the core join key that we all use for everything. And like Esperanto is so much of a better join key. And it was like a beautiful creation basically created by like amazing engineers. But like you have these like cold start problems that are hard to – Would it be better if like the whole world was speaking Esperanto? Probably? Like maybe that would be a better thing. I mean, I don't know. I've actually never spoke Esperanto. I don't know that much about the language. But like maybe that would be a better world. I don't know. But it's not going to happen. We live in a world where basically like most interesting conversations happen over English. The whole world has decided for whatever reason that this is the join key. Some people, they're native English speakers. Some people it's their second, third, fourth, fifth, sixth, seventh language, but they've decided this is going to be the core join key when we go to a conference, when we talk amongst folks, whatever, like we're going to use this as a joint key where we can understand. If you grow up in Sweden, like you understand, I've got to go learn English because it's the join key so I can have conversations and other types of places, whether academia or even just to listen to this podcast. It's not translated to Swedish, I don't think.

[01:33:55] JM: Oh, you had a hard stop in like 10 minutes. Last two SaaS products.

[01:33:57] AH: Okay. Oh, last two SaaS products. Well, I mean, it's not something I started using this year. But I mean, SaaS product, I think is just like an amazing SaaS product is Zapier.

[01:34:08] JM: Yeah. How amazing is that company?

[01:34:10] AH: It's a great company, yeah.

[01:34:11] JM: There's not really any competitors, right? There's like open source Zapier.

[01:34:14] AH: Well, there are. Their competitors are a little bit higher end. There's this French company called Integromat, which is really cool. If you're like a software developer and have that mentality, it probably works.

[01:34:24] JM: Do you all use Zapier a lot, by the way, in SafeGraph?

[01:34:26] AH: Yeah, absolutely. Yeah. I mean, it's got lots of problems and like –

[01:34:31] JM: But it's really high-margin too. Those API businesses are such –

[01:34:34] AH: Oh, yes, it's a great company in every way. Their cost of acquisition is so low because they have great SEO component. It has problems like – When apps fail, they'll always tell you that it fails. It's like, "Oh, that zap wasn't running for three weeks. Like I had no idea." So there are definitely some things that they could do to make it better, but it's an incredible tool both for like your personal life. You can do things for your personal life that's really cool.

[01:35:00] JM: Do you? Do you have personal Zap stuff you use?

[01:35:01] AH: Yeah, absolutely. I do like little personal things.

[01:35:04] JM: Napkin graph related.

[01:35:06] AH: Yeah, yeah, exactly. Or I'll do things in like a news reading app and it automatically update on my Twitter feed, or lots of other type of things.

[01:35:15] JM: What is a news reading app? Like Pocket?

[01:35:17] AH: Yeah, like Pocket or something like that. Yeah, so like imagine Pocket. You can star something there. And then I've got my normal Twitter handle, Auren, Auren, right?

[01:35:27] JM: Oh, and then your reading list.

[01:35:28] AH: But I've got Auren's reads, and that's like odd – I like something –

[01:35:33] JM: Oh, I was wondering what that thing was. So when you like something in Pocket, it automatically –

[01:35:35] JM: I like something in Pocket, it automatically puts it on that.

[01:35:38] JM: How much does that cost you? Is that like less than a cent in Zapier or something?

[01:35:41] AH: I have no idea because I just pay a monthly fee. So my marginal cost is zero because it is included in the in the monthly fee. It's a great product. And you can get a company-wide product as well. So you can get it for like your company, and let's say the company wide zap product, I think, costs like $3,000 a year which for a company is what –

[01:36:03] JM: Wait. What?

[01:36:04] AH: Yeah.

[01:36:05] JM: $3,000 a year for unlimited usage or –

[01:36:07] AH: Not unlimited, but it scales pretty well. At some point you're going to end up paying more.

[01:36:09] JM: That's cool. So you pay 3,000.

[01:36:11] AH: We paid 3,000 until I think one or two months ago. And we had it scale to – For a company to pay 3,000 for like middleware product, it's nothing.

[01:36:22] JM: Do you know off the top of your head any of the random Zaps that you use the you can disclose? So many?

[01:36:26] AH: Oh, we have so many. I mean, if you go to any market, any company it's good at marketing, marketing teams are really good at using zaps. There's going to be like hundreds of zaps. Or recruiting, any good company that's good at recruiting is going to have like hundreds of Zaps strung together. Essentially just marketing, right? So those would be like it's basically allows you to do things that like before you needed engineers to go do. Most marketing teams, most recruiting teams don't have like an engineer, a good software engineer embedded in them. And so they have to use these API's or these middleware tools or other types of things, whether it's like Segment or whatever it is that you're using.

[01:37:02] JM: Did you invest in Airbyte, or do you just use it at the company?

[01:37:05] AH: Oh, I invested in Airbyte. Every single LiveRamp alumni company is –

[01:37:11] JM: Oh, that's a LifeRamp alumni company? Wow!

[01:37:12] AH: Yeah, yeah. Basically all the whole engineering team, including the CEO is LiveRamp alum, yeah.

[01:37:16] JM: You know what's funny is that the competitors are not open source. And I'm an investor in Hightouch. I'm sort of encouraging him to go open source. I just feel like all this stuff should be open source.

[01:37:26] AH: Hightouch is an Airbyte competitor. Yeah. Okay.

[01:37:28] JM: Essentially. They're reverse ETL. Airbyte is forward and reverse, I believe. And Fivetran is forward. It should be in the same product .You want forward and reverse ETL in the same product. Airbyte does it all in open source. Airbyte is the winner as far as I'm concerned. And I'm saying that as an investor in Hightouch.

[01:37:41] AH: Well, they're a new company.

[01:37:43] JM: Or maybe it'll be multi-winner.

[01:37:44] AH: Look, they're a new company. What am I –

[01:37:48] JM: French guys, right?

[01:37:48] AH: Sorry?

[01:37:49] JM: French guys, right?

[01:37:49] AH: Yeah, yeah. exactly. One of my close friends, Tod Sacerdoti, started Pipedream. And they've got a different take on it. It's also like who's the who's the customer? Like in Pipedream's case, It's the software engineer and other – In Zapier's case, it's like the marketer, right? And so it's a different – Sometimes you have a different product or a different type of customer. For SafeGraph, like we sell data. But like our primary customers are data scientists and machine learning engineers. So we have a specific type of customer that we're building this data for, and maybe a different customer may not find as much value out of our data, right? And so you have a prototype of a customer. And then you end up building – if you think of like Salesforce, okay? Well, they have a very prototype of a customer that they're building their thing for. Maybe over time you can like expand the number of types of customers that can use your product.

[01:38:40] JM: Okay, last product. Last SaaS product. Starbucks mobile app.

[01:38:46] AH: I like the Starbucks mobile app.

[01:38:47] JM: It's simple. It's pretty good. Pretty good. Except, what's the worst feature of that app?

[01:38:52] AH: Oh, I don't know.

[01:38:54] JM: The default reload amount. The default reload amount.

[01:38:57] AH: It's like $20.

[01:38:59] JM: It's $25? I'm like, "Really? You grifting me, Starbucks?"

[01:39:04] AH: Yeah. Imagine an era of negative interest rates, you'd put like probably $2,000 on your Starbucks app. You can imagine like some sort of error where you're like you're getting negative interest rates.

[01:39:14] JM: But we're not in that era. We're not anywhere close to that.

[01:39:17] AH: Yeah, that's true. I don't mind. It's $25. So I'm not a big Starbucks – I don't go to Starbucks all the time, but I love Starbucks. It's an incredible company, also a SafeGraph customer. So I especially love them. So I only buy from our customers.

[01:39:32] JM: Alright. So you'd prefer if the default was $80?

[01:39:35] AH: No, I think it's fair. Because, again, they want to lower their transaction fees, right?

[01:39:40] JM: 25 is okay. It's okay.

[01:39:41] AH: It goes exactly to your payments problem. If the payments were zero, then they wouldn't need to do it. But because there's actually a pretty high – And Starbucks, like the average Starbucks, let's say, transaction is let's say $5 or something like that. Because you get

that 30 cent initial payment plus, let's say, 2.2% on top of, that 30 cent is a huge fraction of a $5 payment. So now 30 cent of the $25 payment, now you've just lowered that to a massive amount. So if the payments were lower, then they would be less likely to want to do that.

[01:40:17] JM: It's a good point, I guess. It's a good point, I guess. Maybe it's not such a grift. All right, well, great episode. Anything else you want to talk about?

[01:40:23] AH: Yeah. No, this was really fun.

[01:40:24] JM: All right.

[01:40:25] AH: Thank you, Jeff.

[01:40:25] JM: Cool. Great. Let me get Josh. That was great.

[01:40:27] AH: All right.

[END]