

# When it Mattered

## Episode 38: Joey Krug

Chitra Ragavan:

When Joey Krug was 10 years old, his dad bought him an old Apple computer on eBay. Although neither realized it at the time, it would prove to be a timely gift. Krug's brother did recover, and Krug pretty much forgot about programming until he was 15 years old when he discovered Bitcoin. Hello, everyone. I'm Chitra Ragavan, and this is When It Mattered. This episode is brought to you by Goodstory, an advisory firm helping technology startups find their narrative. His exploration of Bitcoin and cryptocurrency led Joey Krug to develop Augur, a decentralized cryptocurrency gaming platform. Prediction markets like Augur can range from the benign, such as betting on sports, weather, and politics, to the sinister, including so-called assassination markets where people bet on celebrity killings of politicians and other famous people or predict the number of people killed in a terrorist attack. Joining me now to discuss how prediction markets work and where the cryptocurrency industry and markets are headed is Joey Krug. He's the co-CIO at Pantera Capital, one of the largest blockchain-focused investment firms. Krug also is co-founder of the Forecast Foundation, which developed Augur. Joey, welcome to the podcast.

Joey Krug:

Thanks for having me.

Chitra Ragavan:

Describe the computer that your dad gave you when you were 10 and what it was like to first start using it and to learn to program with it.

Joey Krug:

Yeah. My dad bought me an old Apple IIGS. I think it was one of the nicer models of the Apple II, but of course he bought it decades later, so it was pretty cheap on eBay. There were kind of a few things you could do. You could sort of program in the command line using an Applesoft BASIC, which is sort of a language that I think initially Wozniak did a lot of work on. Steve Wozniak built that. There wasn't a whole lot you could do with it. You could write fairly simple programs, you could write programs that would make small games like tech space games, and you could do a few other things, but it wasn't super extensible. Then the Apple II did have a UI as well, although I didn't really use that as much because I was more just playing around with BASIC.

Chitra Ragavan:

That was also the year when you and your family had a family crisis. What happened?

Joey Krug:

Yeah. Around that same time, my brother got sick with this really rare disease called hemolytic uremic syndrome. He had this variant that is super rare. Only about 600 people in the world have it. Yeah. Programming was kind of a way to take my mind off that.

Chitra Ragavan:

How did your brother do afterwards? Did he recover?

Joey Krug:

Yeah, he did. Eventually, we ended up kind of coming across this experimental treatment for a drug called Solaris, which was used for another disease called PNH. It ends up that the Solaris drug actually works pretty well for atypical HUS. As soon as he started getting that, he made a fairly rapid recovery, and he's fine now. He has to get this medicine every two weeks. It's an infusion, but it basically sort of negates all the effects of the disease.

Chitra Ragavan:

But he ended up in the hospital for a year, so I guess having this computer was a way for you to keep your mind off things.

Joey Krug:

Yeah. During that time, when he was hospitalized, I actually left school and homeschooled myself. Yeah. That was kind of one way to take my mind off things and also to spend more time with my brother, but also messing around with programming on that computer was sort of like a relaxing, fun, and exciting thing to do just to sort of keep my mind off things. Yeah.

Chitra Ragavan:

What was the next step in your evolution in terms of programming and then finally discovering Bitcoin?

Joey Krug:

Yeah. In terms of programming, I didn't really do that much back then beyond write some stuff in BASIC and make a few relatively straightforward websites. Then for a few years, I didn't really do much until I was in high school and came across Bitcoin. I came across Bitcoin on this online forum called overclock.net. It was forum about making your computer run faster than it comes to you stock from the manufacturer. It's kind of known as overclocking. That was something I did as a hobby, and I came across Bitcoin there. They were seeing that you could mine Bitcoin and basically make money from your computer running overnight, which I thought was interesting. I started mining Bitcoin in May of 2011. Eventually, I ended up quitting mining because it made my room about 85 degrees. It was in the Midwest, it was during the summer, so things got literally too hot, but that was sort of my first exposure to Bitcoin.

Chitra Ragavan:

How did your interest in Bitcoin then lead to your exploration of cryptocurrency and the idea for Augur?

Joey Krug:

Yeah. After I started kind of getting into Bitcoin in 2011, I basically mined it, read the white paper, which was this sort of idea for a currency that somebody had created that wasn't created by a government, which I thought was interesting, because that was the first time I'd seen anything like that beyond gold, but gold wasn't really created. It was just mined. I thought that was really fascinating, but I didn't really do a whole lot with it until maybe late 2013 when the price started picking back up. I was going to university at the time. I was at Pomona in Southern California and ended up launching a Bitcoin club with a few of my friends and started working on some point-of-sale software, the idea was you could pay with Bitcoin in stores, and ended up realizing pretty quickly that Bitcoin itself wasn't a great payment mechanism. It's pretty slow. It's very volatile. The end consumer doesn't really want to pay with it. I kind of took a step back in the summer of 2014, in fall, and thought about, "What do people actually want to do with this tech? What could you do with it?"

Joey Krug:

If you think about Bitcoin, it has really a few main properties. It allows very low fee transfers globally, and it allows those transfers with no limit. You can send \$1 million for the same cost as sending \$10 of Bitcoin, and you can do it all over the globe. I thought, "Okay. Well, what else does this apply to?" To me, one of the obvious things was finance. Finance today is inherently not global, it's pretty expensive, and there's various limits attached to it. If you look at finance, there's really two main categories. There's underlying assets like stocks and bonds. Then there's synthetic assets, which are basically are futures and derivatives. Synthetic assets could be made in a digital form because they don't need the actual underlying. A synthetic asset is basically just a bet. Then if you kind of view it sort of in a reductionist way, what you could build is this sort of global, peer-to-peer betting platform, which is sort of like Bitcoin but for betting. That's sort of what we started working on. We started building Augur at the end of 2014.

Chitra Ragavan:

For the lay audience, could you describe what a decentralized prediction market platform is and why blockchain and crypto are so well suited for building some of these online gaming platforms?

Joey Krug:

Yeah. I think decentralized prediction market, the concept is that you can basically create markets on anything. It could be anything from a presidential election, who will win, to the price of some other asset, like the price of Ether, or to the outcome of a sporting event, like who's going to win a soccer game. The core concept behind prediction markets is that the price is a probability. For a soccer game, for instance, if the odds are one-to-one or 50%, that means the team has a 50% chance of winning. If a team scores a goal and the odds for Team A bump up to 70% or 0.7, that means they

have a 70% chance of winning. The idea is that these markets can be predictive, and you can get some sort of useful value in them from the predictive capacity alone. That's true, even if you're not actually interested in placing bets or trading on them. That's kind of the core concept.

Joey Krug:

On the decentralization piece, the benefits you get from decentralization are that you could have this sort of global liquidity pool, similar to how Bitcoin is a global way to send money, the fees would be much lower, and there's sort of no limits in the sense that lots of traditional centralized prediction markets, I would say, are really just betting sites. You might go to a bookie like Betfair or Bet365 or something. In that model, if you start winning, you're winning money from them. It's not peer-to-peer. It's not an actual market, particularly in Bet365's case. They have an incentive to cut you off and to basically close your account, not because you did anything bad, but just because you won money from them. A prediction market makes it entirely peer-to-peer. It's market-based. There's no house that's losing if you're winning. The only people are the other traders. That's a pretty different dynamic and, I think, makes for a much more kind of compelling product.

Chitra Ragavan:

Yeah. It reduces that layer of corruption where somebody can cheat you out of your money, like you said.

Joey Krug:

Yeah. Exactly. That's another big problem is a lot of these bookies are offshore, and they don't always pay out, especially if you win a lot. They might say, "Well, we think that you don't actually deserve to be paid out," or there's always some reason if you have a very large payout. It doesn't happen a lot. I'd say if you talked to professional betters, maybe 5% to 10% of their amount that they bet has issues getting paid out, but it's a real problem.

Chitra Ragavan:

Now, we should also say that sort of the theory behind these betting and prediction platforms is the so-called wisdom of crowds, right? That a large group of people may know more about these trends than individuals.

Joey Krug:

Yeah, that's right. I think he's a New York Times writer, but I'm not sure. But James Surowiecki is the author of *The Wisdom of Crowds*. There's actually a book on it, and it's a really good book. I'd encourage anybody who's remotely interested in this stuff to read it. He talks about starting with a very simple example like... This was discovered, I think, in the 1800s at a fair in England. What they did is they had a contest to guess the weight of an ox. The sort of key concept behind wisdom of crowds is that some people are going to guess very low. They might say, "The ox only weighs 100 pounds." Some

people may guess very high. They may say it weighs 10,000 pounds. Well, The people who are uninformed, their answers sort of tend to cancel out.

Joey Krug:

What surfaces is the actual reality, which is approximately how much the ox weighs. I think in that specific example, it's actually backed by real-world, historical data. They were within, I think, about 2% of the actual weight of the ox. To take it a little less abstract, this concept also applies to the stock market. If you think of the... I believe it was the Challenger explosion that was caused by faulty O-rings. One of the two big NASA rocket catastrophes was caused by that. The market was able to figure out which company had produced the faulty O-rings. Within a matter of hours, the price of that company had went down by, I think, 8% to 10%. All the other companies that produced O-rings but not faulty ones, their stocks kind of recovered. But it took the government, I think, six to nine months to do a Congressional inquiry and figure out the same conclusion that the market came to in a matter of hours. That's kind of a really good example of the wisdom of crowds.

Chitra Ragavan:

That's amazing. The other thing I didn't realize when I first started looking into Auger is that online gambling on sports is actually illegal in many states, as is betting on elections. In some ways what these decentralized platforms do, I guess, is they remove that layer of governmental censorship and also opens it up to markets globally. Right? Someone in Beijing could use Auger to bet on a Redskins game.

Joey Krug:

Yeah. I think the global aspect is very interesting because you can have sort of a shared liquidity pool. Yeah, I wouldn't really encourage somebody in the U.S. to create a market on a Redskins game because that would probably violate a law in whatever state they're in. But in a place like China, on the other hand, where it's a fairly unregulated market there, you have Bet365 which operates there, I think that's really interesting. The other interesting element too is if you look at the betting markets in Europe, in China, and wherever, the liquidity isn't really shared today because it's not really this open protocol. Each company is operating in a handful of countries, and their incentive isn't to share liquidity with their competitors. It wouldn't even make sense financially for them to do that. But if you have this sort of open protocol that anyone can access, the liquidity is sort of inherently shared from the beginning, which is an interesting component of Auger.

Chitra Ragavan:

How does Auger work? If I were somebody who likes to gamble, how would I find a prediction market on Auger and bet on something, and where does the cryptocurrency fit in?

Joey Krug:

Yeah. Auger is entirely peer-to-peer. First, you need to get access to the Auger interface, assuming you're betting with an interface as opposed to programmatically. There's kind of two main ways to do that. One is it's hosted on IPFS, which is this decentralized file-sharing system. You can access that through the right regular web. CloudFlare, for instance, they host portals into IPFS. In layman's terms, you can access Auger through a link just like you would access anything else on the web. Then what happens when you click on that link is everything runs on your kind of own machine in the browser. What it does is it starts connecting to Ethereum nodes, it starts getting data from Ethereum, and it starts sort of displaying the markets to you. Then what you would do as an actual user is you would sort of search for or look for the market that you wanted to bet on.

Joey Krug:

Say you wanted to bet on an English Premier League soccer match. You might click on the soccer category and filter down, or you might just search in the name of your team, maybe you type in Manchester United or something, and then you would come into the market. You would look at the price. You would say, "Hey, Auger says that the current market price is, 'Manchester has a 60% chance of winning.'" If you think that feels cheap, then you would basically input the amount that you want to bet on it. At that point, you need two things. You need an Ethereum wallet, which is pretty easy to get nowadays. You can get one even using a username and password if you're not super concerned about security.

Joey Krug:

That would be if you're betting relatively small amounts. Then the second piece is you need the currency to actually bet in. Right now, Auger uses Ether. In the new version 2 that's going to launch in a few weeks, it will use Dai, which is this stable coin pegged to the dollar. To acquire Dai, you could buy it on Coinbase. There's a few other ways you can buy it. If you're, say, in Asia and there wasn't an exchange that had Dai, you could buy Tether, which is pretty easy to get. Then there's really easy ways to confer Tether into Dai. It's something that most countries in the world should be able to get.

Chitra Ragavan:

Online betting is a huge industry. What is the potential for these decentralized crypto prediction markets?

Joey Krug:

Yes, I think longterm, if you look at them, you can sort of think about, "Okay. Well, what would it look like if you had a betting platform that the liquidity was sort of global and the fees were very low?" If you look at betting today, the average user on Betfair is paying roughly 5% of their winnings to Betfair. People who are actually running a lot, like the professional traders, they're paying 40%. It's called a premium charge. Most people don't know about it, but it's this fee that you pay if you're winning a lot on Betfair. The fees are really high today.

Joey Krug:

If you think about, "What would this look like?" I think it looks almost like betting becomes more of a financial market where it's very efficient, the fees are very low, it's sort of inherently global, and that's sort of very different than how betting looks today, where you're kind of betting against the house, the house has things set up to turn you off, and they're incentivized to charge you very high fees. It's sort of like a rigged game against you versus if you went into the stock market, and you just made a few random bets, you would sort of end up probably neither losing nor gaining money if you made enough independent ones. But in betting today, on average, the average better is probably losing 10% on average per bet that they make because it's so rigged against them.

Chitra Ragavan:

We've talked a lot about good stuff that's associated with these types of markets. Before we talk about some of the other crazy prediction markets that are on Augur and some of the other similar platforms, we should say that when you created it... I mean, because it's a peer-to-peer system, that you have no control over what markets are created on Augur. Correct? How does it work?

Joey Krug:

Yeah, that's right. The way it works is somebody can go and create a market basically using whatever free text input they want. It's basically similar to like the... if you ever heard of... This is kind of inside baseball, but if anybody's ever heard of ISDA agreements, ISDA agreements for swaps and traditional finance just sort of fill in the blank. You can put it in there whatever you want. Of course, traditional finance is centralized, but in a peer-to-peer system, it's sort of similar. Obviously, these aren't swaps. They're betting markets. But the idea is that you can enter a market about really any sort of real-world event as long as it has an outcome that's determinable.

Chitra Ragavan:

We read about some of these crazier prediction markets, like betting on celebrity killings or a political assassination markets and things like that. Without going into too much detail, how do these types of markets work, and how do they come about? Were you concerned when you saw them pop up on your platform?

Joey Krug:

Yeah. I guess a couple of things. One, I'd say, is the platform isn't necessarily our platform in the sense that we can't really control what happens on it. But when I say more kind of high level, the way I think about Augur in general is it's a sort of tool. Any tool you can use for good or bad purposes. The classic example is something like a hammer or a car. Well, either of those you can kill somebody with, but you can also build a house or go on a vacation with your kids. In the case of something like Microsoft Word, you can write a beautiful essay or a poem or you can also write a ransom note. The same thing is true here. When I thought about building Augur, these weren't really use cases I was thinking about as being interesting.

Joey Krug:

The way I thought about it is sort of, "Do the benefits of this tool outweigh the potential negatives of the tool?" I think that they do. If you look at it empirically, don't take my word for it, look at the data, historically, almost no money has been actually bet on these sorts of markets on Augur. In fact, at the moment, there aren't any markets like this on Augur, but there were, I would say, almost two years ago now. The only time they really existed was for a period of about a month right after launch where somebody made them, I think, for shock value. But nobody really traded in those markets besides the person who created it. One of them, the person traded \$50 with themselves to sort of make it look like somebody had placed \$50 on it. But that was sort of the extent of the activity, which I guess is a sort of positive thing about humanity, which is it's actually good that humans, even though they could bet on this stuff, actually don't want to.

Chitra Ragavan:

But if you had some kind of a well-funded state actor that wanted to do harm, theoretically, they could use something like this to do it, although, like you said, to date, it's there, there's that shock value, but no one has really leveraged it in that bad way.

Joey Krug:

Yeah. I think if I were a state actor, I think the way you could potentially leverage this is by maybe... This is something that DARPA and the CIA wanted to do a decade or so ago, but it sort of got canceled for political reasons. But you could make markets on whether a certain regime change will happen or things like that, not where you're trying to actually incentivize the activity, because things like that, there's not really a dollar sum you can incentivize it with per se, but more to try to elicit what people actually know on the ground. Somebody on the ground knows that there's this huge protest happening in Egypt. It might be useful to know that and have that priced in the market. I think it would be extremely difficult to actually, say, incentivize a protest using market forces. That is just something that people tend to do those sorts of activities due to very passionate reasons versus paying them. Well, if you're a nation state who has enough money to pay people to protest, you may just pay them to protest outright. You don't need to Augur to do that, as an example.

Chitra Ragavan:

Yeah, it would be a lot simpler, right?

Joey Krug:

Right. Yeah. Way simpler.

Chitra Ragavan:

It's my understanding, and correct me if I'm wrong, that when you first developed Augur that there was some kind of a so-called kill switch where you could come in and intervene if something crazy was bet on, but that kill switch was actually killed. What happened there? What would a theoretical kill switch have done? Why did you guys get rid of it if you did?



Joey Krug:

Yeah. It wouldn't have done much. What it was a thing called an emergency stop. For developing smart contracts, which is what this technology is called, it's sort of recommended practice that when you create a very complicated one, there's some sort of way to pause it and enable people the ability to withdraw their funds. When we launched the first version of Augur, there was a trusted community member who had the ability to pause everything for a window of about two weeks after launch. The idea was that if somebody found some sort of critical security bug, a bug that could lead to people losing lots of money, the idea was that the contract would be paused, people would withdraw their funds, and a new version of Augur would be deployed that had a fix for it.

Joey Krug:

These sorts of pauses wouldn't actually prevent people from redeploying Augur. For instance, if we decided that, "We just don't want to work on Augur anymore. We're kind of over it," and we paused it and walked away, well, first of all, that can only happen in the first two weeks ago in launch, which was a few years ago. But if we decided that, somebody else could just take the code and re-upload it. The real main benefit of that isn't for things like that, but it's more just for to try to prevent security issues if a vulnerability was discovered shortly after launch. The reason for that is you can do all the bug bounty programs you want, you can do all the security audits you want, but sometimes hackers don't really come out of the woodwork until a system is actually live.

Chitra Ragavan:

Have you seen a prediction market on Augur that to you kind of fulfilled your dream of what a decentralized prediction market was designed to do?

Joey Krug:

Yeah. That's a really good question. There have definitely been a few that I thought that when I saw them, but I don't remember them off the top of my head at the moment. I think really interesting ones to see would be things like, "Will SpaceX launch X, Y, Z Product before a certain date?" There might've been like one or two markets like that, that I think were kind of interesting to me. It'd be also interesting to see a market like, "Will Tesla launch full self-driving before a certain date?" Things like that where you're sort of getting real good informational value out of them are sort of more intellectually interesting than a random soccer match, as an example.

Chitra Ragavan:

What do you see happening in terms of potential regulation of Augur and similar prediction markets? I know there've been some legal issues raised and some legal challenges. Where do you see it going?

Joey Krug:

Yeah. I think if you look at prediction markets, there's really, I'd say, maybe two to three classes of activities that are regulated or that could be regulated, and I would think

those would be market creation, so actually creating the contract on Augur for a specific market, which is what you're doing when you create a market, you're basically deploying a new contract that has the terms for the market that you're making, and then also potentially trading on those markets. Although, if you look at historical regulation, trading is really only regulated, so far, anyway, when you're doing it sort of as a business or as a sort of institutionalized thing. If you're making a \$50 bet on a soccer match, at least in most places, like even in the U.S., it's not really a very regulated activity.

Joey Krug:

If you're betting 50,000 on that same soccer match and you're doing this across 100 soccer matches over the course of a 10-day period, and you do that for three years, that starts to become a regulated activity because it looks a lot like bookmaking where you're actually doing something that would traditionally fall under regulation. I think for that, the way I look at it longterm is that markets will probably be created in jurisdictions where it's favorable to do so, where you can sort of get a betting license to do that, and I think the same thing is true of trading, although for trading some countries you don't need a license to do it. Any trading firms that sort of do institutionalized trading on Augur will probably domicile and actually have traders based in countries where it's more clear-cut and easier to do, places like the Isle of Man, as one example, or even potentially the UK versus, say, the U.S.

Joey Krug:

Then very longterm, the way I see it playing out is you think of Bitcoin, it's this sort of core underlying protocol, where Augur is trying to sort of be the same thing but for trading and betting. If you look at Bitcoin, you have exchanges on top, which are regulated businesses. Coinbase is a regulated business. They do KYC on their customers, and they have the ability to get in and out of that system. You have different exchanges in other countries. I think the same thing will be true of Augur. People will build them, I think. They'll build sports books and things on top of Augur that are regulated, but they're benefiting from the global liquidity pool from Augur, they're benefiting from the way faster settlement... sorry, not faster settlement, way cheaper settlement, and benefiting from not having to run any of the actual operational backhand exchange software.

Joey Krug:

You could sort of think of it like you're just building a UI on top of Augur. I think longterm I would see those probably being regulated, where if you're a company that's creating markets on Augur or trading on Augur and that sort of thing, I think those companies will sort of be regulated. In my opinion, the short answer is people will build sports books on top of Augur where those individual sports books get regulated in their respective jurisdiction, but they're sort of accessing the underlying liquidity pool that's shared sort of globally, similar to how Bitcoin works.

Chitra Ragavan:

I'd love to get your insights on where we are in the cryptocurrency industry in general. We had that the heyday of 2017, where it was tons of excitement, prices skyrocketing, and now you are kind of in the doldrums. What's going on, and where are we headed in the next year and the next two to three years, would you say?

Joey Krug:

Yeah. I think in terms of where the market's headed, you have a couple of big problems still. One is it's still very difficult to acquire cryptocurrency. I'm a huge fan of Coinbase, but it's still actually pretty difficult for the average person to even acquire cryptocurrency through Coinbase. If you try to create a new account there, the amount of steps, the amount of time it takes, the amount of time you have to wait, all that stuff, it adds up. If you're a crypto geek who's buying it because you think Bitcoin's going to go up, that's a hurdle worth jumping over. But if you're a person who came across an application for the first time, and you're like, "I wonder if this crypto stuff is actually even useful? Maybe I'll try it with \$100 and see where it goes," and an example might be a better one Augur who's comparing it to a centralized option, it's probably not worth the hurdle for them to wait a week to get their money. That's still a big problem, is the fiat problem.

Joey Krug:

I think lots of people are working on that, but it's going to take a few years for it to really get solved where you can onboard and get crypto very quickly. The other problem is scalability, and that's sort of in the phase where people are launching test networks that have the ability to do hundreds of transactions per second, but they're not in production yet. I think by the end of this year, we'll maybe see one or two of those in production. Certainly by the end of next year, we'll see a good handful of those in production. I think you sort of need both of these things for the space to start to take off from a fundamentals actually useful standpoint.

Joey Krug:

From the price standpoint, I think with the halving coming up, I think that's going to be a pretty solid positive price pressure for Bitcoin. For those who don't know, the halving is this sort of concept that the amount of Bitcoin printed or mined every day, starting, I think, in roughly May this year, will cut in half. There's going to be less supply that's on the market. If the demand stays constant, that would make the price start to go up. But I think from a fundamental standpoint, which is what I'm more excited about, things start to look very interesting around the end of this year.

Chitra Ragavan:

Given all the regulation that's already set in and is bound to set in, and even more in the coming years, will people ever be able to make the kind of money they made back, say, when you were a young user of Bitcoin and mining Bitcoin? Is kind of that period over?

Joey Krug:

Well, I think in terms of percentage increases, Bitcoin, I think, has gone up 10,000X or something like that since the beginning. That's obviously not going to happen again. It

would be worth more than the global economy, I think, if it went up 10,000X. But Bitcoin certainly could go up 10X from here. That would put it sort of on par with the market cap of gold, or a little bit lower, and you could view Bitcoin as a sort of digital version of gold. The other area where I think you could potentially make returns would be in things outside of Bitcoin. If you look at the ecosystem around Ethereum, it's sort of trying to make a decentralized version of finance. Stuff there isn't nearly as expensive as Bitcoin is.

Joey Krug:

It's sort of more like Bitcoin in 2011 both in terms of pricing but also in terms of actual adoption and how far along it is and how far it has to go and that sort of thing. I'd say, yeah, you're not going to make the same returns that I bought buying Bitcoin at, say, \$20 back in 2011, but the next kind of big thing never looks like the last one, and I think there are areas, even within cryptocurrency, where as a savvy investor you can make really solid returns over the next five years if any of these other areas beyond just digital gold start to play out.

Chitra Ragavan:

Is there any one area that people should keep an eye on as sort of the next area to watch?

Joey Krug:

Yeah, yeah. To me, it's sort of decentralized finance. I think if you look at what this tech can be used for, it really can be used for money, digital stored value, and then if you look at money, well, what do you use money for? Well, people buy stuff with it, but they also use it in various financial activities to try to make more money or to try to hedge against various risks? If you could have a financial system that was very efficient, global, with very low fees, and sort of the equivalent of Bitcoin but for finance, I think that would be a really compelling use case.

Chitra Ragavan:

Looking back at your younger self when you first discovered Bitcoin and your journey over the last, what, decade or more, do you have any thoughts on sort of what you have learned and the person you've become as a result of understanding this new technology?

Joey Krug:

Yeah. Yeah. I think one thing I thought back then is that all the good opportunities would be taken up super quickly, but that's not really true. There's still a ton of new opportunities in this space to create businesses that people haven't really done. I guess it's pretty rare that you're actually too late to an industry, I guess, would be something that I've learned. It's much, much easier to be too early. I guess that's kind of one thing. The other thing is just that you're kind of always still learning, especially in a industry that moves as fast as crypto. It feels like if I just went away from my keyboard for a year,

I would probably feel very dumb when I came back. You have to kind of be constantly paying attention, is the other thing.

Chitra Ragavan:

Awesome. Joey, thank you so much for joining me today and for the great conversation.

Joey Krug:

Yeah, thanks for having me.

Chitra Ragavan:

Joey Krug is the co-CIO at Pantera Capital, one of the largest blockchain-focused investment firms. Krug also is co-founder of the Forecast Foundation and the core developer of Augur, a decentralized prediction market platform. This is When It Mattered. I'm Chitra Ragavan.

Chitra Ragavan:

Thanks for listening to When It Mattered. Don't forget to subscribe to the show on Apple Podcasts or your preferred podcast platform. If you like the show, please rate it five stars, leave a review, and do recommend it to your friends, family, and colleagues. When It Mattered is a weekly leadership podcast produced by Goodstory, an advisory firm helping technology startups with strategy, brand positioning, and narrative. For questions, comments, and transcripts, please visit our website at [goodstory.io](https://goodstory.io) or send us an email at [podcast@goodstory.io](mailto:podcast@goodstory.io). Our producer is Jeremy Corr, founder and CEO of Executive Podcasting Solutions. Our theme song was composed by Jack Yagerline. Join us next week for another edition of When It Mattered. I'll see you then.