EPISODE 542

[INTRODUCTION]

[0:00:00.3] JM: A financial exchange is an operationally intensive business; you have customers making a high volume of transactions, your service has to be low-latency and highly available and you're dealing with a lot of money. A cryptocurrency exchange has all of the complexity of a typical financial exchange and then some additional complexity.

ShapeShift is a cryptocurrency exchange that allows users to buy and sell digital assets; Bitcoin, Ethereum, Litecoin and lots of other currencies. ShapeShift also has a set of tools and APIs that allow developers to build higher level applications to transact in cryptocurrencies. ShapeShift's CEO is an early cryptocurrency entrepreneur named Erik Voorhees, who will appear on the show in a near future episode.

Today's guest is Jon, the COO of ShapeShift. He handles the operations of the company. He prefers not to use his last name, because ShapeShift is particularly sensitive to social engineering attacks. We will get into why that is in this episode. We'll explore lots of other topics too; how to scale a cryptocurrency exchange, the products that ShapeShift offers and some of the near-death experiences that ShapeShift has had. After all, it is a startup and every startup has moments where it seems like the company will die.

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[INTERVIEW]

[0:04:02.6] JM: Jon is the COO of ShapeShift. He is joining us to discuss cryptocurrencies and running a cryptocurrency exchange. We've just led off the conversation with one of the peculiarities of being part of a cryptocurrency exchange, which is that security policy around

trying to I guess be cagy with identities and that's to avoid – what's the purpose of that? Talk a little bit more about that.

[0:04:28.3] J: Yeah. Well, first Jeff thanks for having me on. Really appreciate it and a chance to talk to you a bit. Yeah, so starting with that, ShapeShift has a policy regarding the security of our employees where we just – we try not – the general policy, there is more specifics to it, but I can't go into, but the general policy is not to give out more information than necessary.

A lot of times that includes whether or not our employees post themselves on LinkedIn, whether or not we get out last names, things like that. It's just trying to control the flow of information, so that some of the more nefarious hackers and such in the industry who might want to do us harm, or try to steal some of the funds that we have or things like that don't have easy social engineering points that they can just grasp onto and try to use that information to get to another piece of information, etc., because that's usually how it works.

They get one thing and then they use that to get something else, to get something else until they've found someone vulnerable, or someone they think they can exploit. The less of that information we put out there in general from our security perspective, we think that's better for the whole organization. I know there's a lot of other exchanges that take similar mindsets.

[0:05:38.0] JM: I've worked at some places that have some high security protocols, but I've never had to do anything like that, of course. I work in Amazon and they have all kinds of security protocols, but is just again not anything close to that. Is it the nature of the fact that it is a cryptocurrency exchange and you can operate with that cryptocurrency exchange in anonymous fashion? There are so many security vulnerabilities inherent in the system that you're running. Is that why you just have to take an extra degree of security?

[0:06:16.7] J: Yeah. I think that's certainly part of it. A lot of it is just what's inherent to the industry. There's so many things that people who run this exchange has have to deal with. We're a little unique in that case. A lot of these exchanges are holding large amounts of customer funds, often billions and billions of US dollars' worth of these various assets.

That's a big target. I mean, we're dealing with whatever is essentially irreversible crypto assets that when you send then, like there's not an easy way to get them back, so if a hacker, someone who is nefarious either gains access, or even more likely just has enough information like a spear-fishing attack for example, that can be more than enough for them to make off with millions of dollars in value that you'll never see again.

As a result, we have to take this stuff very, very seriously. In ShapeShift's case, we're fortunate that we do not hold customer funds. As a result, we're not sitting on billions of dollars of customer assets or anything. We still do have a number of our own assets and a lot of those similar problems.

[0:07:21.3] JM: Explain what ShapeShift does for people who are totally unfamiliar to this?

[0:07:25.5] J: Yeah. ShapeShift is a platform that allows both users and machines, people and machines, or both users of our product to easily and frictionless buy and sell various digital assets. Specifically to do that without any use of fiat or traditional currency. It's all done just from one digital asset to another digital asset.

In ShapeShift's case, we're actually holding a inventory of these various things, very much like store front might hold it in a grocery store, might hold an inventory of various items and we buy and sell those with either a person or a machine interacting with our API that wants to deal with those.

[0:08:07.4] JM: Traditionally, a exchange like, well I'm thinking e-trade, but e-trade is not really an exchange. I don't think it's more like an exchange provider. In these kinds of systems, the traditional systems where people are trading, there are notions of accounts that are managed by companies. I think ShapeShift is interesting, because you don't have a notion of accounts. You facilitate transactions between people's wallets that are decentralized abstractions. Is that right?

[0:08:42.2] J: Yeah. That's a good way to put it. When we first built ShapeShift, the goal was always to try to allow the exchange of these various digital assets, or the buying and selling of them were accurately to be done very transparently and to be done very frictionless. Part of that lack of friction, or even more important safely, and part of that lack of friction and safety that in

our opinion for a lot of these transactions, user accounts and that type of information is just unnecessary. It doesn't add anything to it.

We end up holding a bunch of data about the user that they may not want if that data becomes a treasure trove for again hackers and bad actors to try go after. A lot of it is just concerned with customer safety and we don't want to have to take information that we think just endangers people, or endangers customers.
I think a great example of this and we've seen this over various headlines at the last number of years since we started ShapeShift, but the one that's still relatively fresh in everyone's mind was the Equifax incident. How much better would it be if Equifax hadn't been holding everybody's data a lot of times even without their knowledge and just created this treasure trove of information for someone to go after.

Our philosophy is whenever you have that information, it's only a matter of time until it leaks out or gets attacked somehow. The biggest tech companies and the governments of the world can't keep this information safe. We think the best way to keep users safe is to not have that information in the first place if we don't need it.

[0:10:09.1] JM: When someone submits an order to ShapeShift, so for example let's say I want to convert a Bitcoin into the equivalent number of Litecoin, or the equivalent number of Ethereum, what do I need to do in order to initiate that transaction as a user?

[0:10:29.8] J: Yeah, good question. It's pretty simple the way we've set it up. Essentially, all you have to do – there's a couple ways you can use a system, but at its most basic level all you have to do is tell us the two assets that you're looking to convert between. You sell us that you have Bitcoin and you want Ethereum, for example.

Then we give you a Bitcoin address to send to from your own wallet. As soon as we detect that you've sent that Bitcoin transaction, we figure out what those current rates are and we convert it and we send you your Ethereum, as soon as we are sure that you've sent it correctly and it's confirmed on the network, it gets sent out immediately to you so that we're – it's never really in transition for very long.

[0:11:10.9] JM: Like any exchange, you have buy orders and sell orders coming in for any particular currency. You have people that are looking to sell their Bitcoin, at the same time you have other people that are looking to buy Bitcoin, or exchange it. More appropriately I should say, somebody is willing to exchange Bitcoin for another currency and another person is willing to exchange a different currency for Bitcoin.

In the best case, you would be able to match those two buy and sell orders that exchanges are often doing this internal matching process, which works out really well, because then you just take a fee and you can take a fee from both sides. It's very good business for you, but in the event that you happen to not have people that are matched at the same time, or in the event that you yourself do not have the liquid assets available.

In order to service that request, you might have to go out to a different exchange and make a purchase of one of those currencies in order to satisfy the user's request. In that case, ShapeShift is an abstraction over other exchanges, as well as its own internal matching system and liquidity. Is that an accurate representation of what the company does?

[0:12:33.9] J: Yeah. You're close in some of those aspects. We definitely in some ways are that kind of abstraction layer and that we make it much easier than having to go to a traditional centralized order book exchange to figure out if you can post an order that will match with the seller and things like that.

In ShapeShift's case, we're not really exactly doing that type of matching you described. You don't put up a limit order or say I want to buy this at this price on ShapeShift. Instead, we're just sourcing those prices from the exchanges all the time and we say, "Here is the best price we can find right now and you decide if you want to take that price or leave it." It's more like doing a market order, where you just – you say you want to do this and then we have the inventory on hand, so we send your order out right away.

You don't have to think about is this going to match, or do I have to wait this period of time or anything like that. You just have to think, "Okay, I want this asset and I want that asset. Here is the rate. I'm good with that rate. Great." Then it all gets done.

You're right that at times we have to source from other exchanges to manage our liquidity and inventory, but that's one of the magic aspects of ShapeShift is a lot of the stuff we're doing behind the scenes to make sure that we always have enough liquidity and that we're constantly moving funds back and forth between our own wallets and exchanges that we use to make sure that whatever is happening, we have liquidity to meet the demand.

[0:13:51.3] JM: You want to have your own liquidity on hand, but at the same time you want to quote the prices of other exchanges. It's not like you were making your own subjective assessment of the quote to offer to the user. Although, you could do that, if maybe you do that sometimes. Generally, you are pinging a bunch of different exchanges and you're deriving a quote from the other exchanges.

[0:14:20.8] J: Correct. We're not doing price discovery on our own. Price discover is best suited for one of those more traditional limit order exchanges, because that's just like any other market, that's how we find what the current price of something. One person is willing to buy at this price, one person is willing to sell at this price and when they eventually match, they do that and there's lots of crypto exchanges out there that do that pretty well.

We're not trying to necessarily be exactly in that sphere. Our service is a bit different. It's more about trying to make this easy, fast and safe for the users involved. A lot of those users, their eyes just glaze over when they see something like a order book. They have no idea what they're looking at. It's confusing.

We try to make this much simpler and easier. Here is a rate to go from this asset to this asset. You just send it here and you get it there and you don't have to think about it much more than that.

[0:15:07.7] JM: Fascinating. Internally, do you view it as some system of price discovery? Because internally, you could be looking at all the different exchanges and you could say, "Well, this one has a higher price and we've got a surplus internally of this kind of currency. Well, or maybe we have a paucity of this kind of currency. Maybe we should just quote from a higher price from a different exchange, or do you always defer to the lowest price that you find among the set of exchanges?

[0:15:38.3] J: Yeah, good question. We definitely could do those type of things and explore those type of things that you just mentioned. Really our goal is generally to try to get the consumer the best price we can at any given moment. We feel like it's better to build the business by trying to make the experience the best for our users and our partners, of which a lot of our volume comes from, and show them the best price that we can find at that moment and not necessarily try to jack it up in any certain way, or make it higher for our own benefit.

We'd rather just source them what we think is the best price at that time. I think back to your question regarding price discovery, I think I wouldn't call ShapeShift a mechanism for price discovery, but I think ShapeShift as a whole contributes a lot to the price discovery of the ecosystem just by the fact that our orders do impact the exchanges, and as a result, that's going to adjust the prices as our orders go through them.

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[0:16:37.4] JM: If you are on-call and you get paged at 2 AM, are you sure you have all the data you need at your fingertips? Are you worried that you're going to be surprised by things that you missed, errors, or even security vulnerabilities because you don't have the right visibility into your application? You shouldn't be worried. You have worked hard to build an amazing modern application for your customers. You've been worrying over the details and dotting every I and crossing every T.

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[INTERVIEW CONTINUED]

[0:18:21.9] JM: Interesting. If what you're saying is true, then your requests drive down the price, because if you're typically deferring to the lower priced purchase price of an exchange, then you're probably driving down prices overall.

[0:18:37.3] J: Yeah. I'm not sure if that means we're driving down price. It depends on the markets. Sometimes the market is just going one way. We see this all the time, like Ethereum or Bitcoin is just rising like crazy and to some types of market scenarios and everyone wants to buy and they want to speculate this, so maybe which one of these they think is going to be higher a few moments from now and things like that.

That drives a lot of that action sometimes upwards. I wouldn't say necessarily moves price down. I would say that ShapeShift in many ways, because we interact with possible exchanges forces like a version of arbitrage almost, where it won't necessarily force the price down, but it will eventually force exchange prices together given enough volume.

[0:19:19.2] JM: Right. My wording there is pretty bad, because when I say with driving the price or something down, these are all like relative quotes and it does – like driving one thing just means something else is being driven up.

Well, yeah. That's interesting. It sounds like basically what ShapeShift serves to do is to thin the margins between different – Yeah, thin the arbitrages between different currencies, because if you can sweep the market, if you can sweep all the different exchanges and you can just choose what looks to you to be the most efficient price, that seems to be what the agency of ShapeShift is all about is let's find more market efficiency.

Then also looking at ShapeShift's products, what you said about trying to drive customer trust and customer value, that resonates because it looks like you're working on a lot of ways that things like e-commerce companies could build in plugins and things like that. Looks like you're working on the up cells and working on the up cells, I would say is predicated on having the lower-level aspects of your business working really smoothly and getting the customer a great deal of trust and great deal of value.

[0:20:31.7] J: Yeah. I think that puts it well. When ShapeShift started, the goal was always just to make things easier. Especially in the early days of crypto vet when we started four years ago and even before that. There was a lot of really terrible user experience in the space. It's still not the best compared to a lot of other industries and it's gotten better and I think a lot of that has to do with the roots of all of these really being a lot of very technical engineering minds of people don't always make the best for design and user experience level things when something needs to become more mainstream as crypto is starting to inch closer to.

I think at ShapeShift, we really always wanted to focus on that UX and just create tools and various products that make the ecosystem and cryptocurrency easier to use. That's always been our goal.

[0:21:19.5] JM: Can you tell me a little bit about integrating with those other exchanges, like when you ping an exchange, does it tell you how much liquidity is on that exchange and how many exchanges do you have to integrate with? Do you have some measurement of trust of the different exchanges? Because maybe you ping one and then you put in a market order and it looks like they may have screwed you over or something.

When you analyze it in retrospect like, "Oh, well they gave us one small lot at that price that they had quoted us, but then they jacked up the price really quickly and it feels like we're getting cheated here." Just tell me about the interaction between these different exchanges.

[0:21:58.0] J: Good question. The various exchanges that we work with and we're always adjusting this list, it depends who actually has the volume and what's popular on the market at any given time.

We try to plug into as many of the major exchanges that are doing volume as we can, at least for the asset areas that we use, and make sure that we're ready to use those at any given time. It's easy to think that I see a lot of FUD conspiracies get thrown around online of people thinking exchanges are screwing them or doing nefarious things in various ways.

As someone who is operating a company in the space, I have a lot of sympathy against those type of arguments, because I know that people just tend to jump to whatever they want when they see things like that. It's usually not the case.

In our case, like when we pull an API from an exchange and it will differ a little bit from exchange to exchange, we're just pulling the state of the order book. We're trying to figure out for this asset, what are the various orders on that book, what kind of price can we derive from those orders and how long do we think those orders are going to be on that book and if they've changed since we last looked at it, we need to update it again.

I don't feel like we usually see – feel like we're getting cheated or anything by an exchange, because it's usually the users on the exchange are setting the price, not the exchange itself, because it's people buying and selling that actually forms that market price. Now there have certainly been times when maybe some things have happened on various exchanges or bugs had happened. In those case, we have to get contact with the exchange operators and just work things out.

I've never really seen a time where we couldn't just work things out, other than exchanges that have actually collapsed. That's the biggest risk in the whole market and one of the reasons people like to use something like ShapeShift rather than one of these exchanges is at any given time, if an exchange is holding your keys and they disappear, there is very little you could do.

We really at ShapeShift try to encourage users to hold their own keys and we don't ever want to hold their keys exactly for that reason. That's the real risk more than messing with you on the price or something like that.

[0:23:58.0] JM: Right. Okay. This is the risk of a exchange also functioning as a bank, which is problematic, because if the exchange blows up for some reason, either it takes too much risk, or it has some bug where it ends up sending out tons and tons of money and there's not –

[0:24:19.3] J: Or in the crypto space back to our original point, more than likely that the reason most of these exchanges have been knocked over is they got hacked.

[0:24:27.6] JM: Right. Certainly. I mean, yeah you can just get hacked, or you can have a night capital type of even where maybe you've got some automated system that goes haywire. You ship a bug and it just ends up trading out all the assets and then it's like, "Wow," well we've got all these customer assets that maybe they were margining against those customer assets and then they end up claiming the assets or something. I mean, I think hacking, but hacking like you said is probably the biggest issue.

[0:24:56.2] J: At least has been historically.

[0:24:58.2] JM: Historically. Yes, yes, historically. Tell me about support, because you've got a system where basically people don't need to have accounts. They just make a transaction, they put in the wallets – well, I guess they just have to put in the wallet that they are sending money from, as well as the wallet that they want money sent to that's really all they have to input.

If there's some bug that occurs, they need to be able to contact support and I guess, they would need to be able to tell support what happened. In a typical support system you can just say, "Oh, yeah. My login is this. My birthday is this." How do you handle support tickets?

[0:25:39.1] J: Yeah. That's a really good question and you would think it would be harder for us in many ways, but ShapeShift has throughout its history been known to have one of the better support systems and support teams in the whole industry. One of the reasons for that is that everything we do is visible and transparent. It's all on chain at some various blockchain.

Even if we don't have an account, all we need is for a user to point us at the transaction on the blockchain and then we can track down what's going on and figure out things again for them.

We have a good support, a growing support team and particular at the end of last year when volumes were growing across the industry and pretty much every crypto exchange in the space was dealing with just scaling their support teams. They just couldn't keep up and we were no different at that time.

I mean, at this point we're very caught up and it's really never been an issue for us. In fact, it's actually make support easier because anytime a user contacts us, we just have to figure out what happened on chain and we can trace it back. There is nothing – you can't hide anything on a public blockchain. It's all right there, so we can figure it out every single time pretty much.

[0:26:42.0] JM: That's true. That is actually – you have a super simple API where people are just sending transactions to a wallet that is owned by ShapeShift. When they point to a transaction they, "Hey, I was trying to send money to ShapeShift. Can you inspect that?" I guess, it's very well-defined. That doesn't seem problematic after all.

Have there been any vulnerabilities where you can have a support system, where if you have a malicious support person, maybe they could conspire with outside actors to scam ShapeShift, like if you accidentally hired somebody who is just very greedy and I don't know. Have you considered that vulnerability?

[0:27:26.4] J: Absolutely. I mean, we ourselves got hacked a number of years ago. There's actually a story out there you can Google called – that Erik, our CEO wrote called deluding of the fox that explains the whole situation that we dealt with. It was all because of the internal actor.

Internal threats are by far the large, probably the biggest threat that any crypto company faces, because they are the ones that you put trust in, they are the ones you gain access to things. A lot of how we design and try to design both our support and operational systems is to try to avoid those type of things.

It's not an easy process. You have to trust people at certain points. You have to try to fire the right people and then you have to try to design systems that both give them enough access to

their jobs, but also make sure they're being audited and checked and that if they were to do something wrong and trace back to them.

That is a difficult challenge that I think every crypto company deals with and we're not different there. We've definitely developed some of our own processes and we're constantly evolving that to watch out for that type of internal threat.

[0:28:27.5] JM: Yeah. You've got some truly Byzantine actors in the distributed system there. These kinds of support vulnerabilities in order to think through them, do you bring in security experts, or are they just things that you can only learn by getting bruised a number of times? Or does it come down to tooling that you have to build? How do ensure that you are less vulnerable to inside actors?

[0:28:59.0] J: All of the above really. There is no one-size-fits-all solution to any security question in my opinion. When you look at outside people to try to help us on various things, get security audits as we need them on various products, we also have a chief information security officer and security team on staff at ShapeShift, and that's obviously a big part of their task is trying to hunt down these various problems and keep ahead of it and at the same time, yeah we do need to build some of our own tools, because our problems are unique.
Going back to what I was saying about that deluding up the fox story that we published after our own incident, we thought that was really working, because there isn't a lot of visibility to these things.

A lot of companies, even traditional companies get hacked all the time and you never hear about it, because nobody wants to admit that something happened, but it's really hard to learn if nobody shares that information.

In our case, it was really important that we shared that information, because we wanted to promote better practices and security around the whole space, and we wanted to show people, like here is things we did, where we know we messed up and that other people can learn from, so that hopefully they don't have to learn it first chance.

We look at that information. We talked to other exchanges and we tried to really share information collaboratively in the community so that we can call out these things. There is definitely no pansy type solution that you just do this one thing and everything's great. It's a constant iteration and constant changing.

In that event where you had an inside actor, was there a legal recourse there? Were you able to go to law enforcement and say, "Hey, we got hacked by an inside actor." Does law enforcement just say, "Ah, it's a cryptocurrency company. We can't help you."

[0:30:38.1] J: Yeah. In our case, we definitely did go to law enforcement and we also got – we ended up getting a civil judgment against the actor, the former employee. Unfortunately, that employee basically fled and disappeared. Getting a judgement against them is not that helpful if you can't force it and find them and find something to actually take back, but the law enforcement did talk to us at various points, at various points they showed interest in going after this person, but we've never seen the actual fruits of that labor.

I mean, for all I know there could still be some sort of investigation or case going on there, but we haven't heard any updates on it a while. Law enforcement is not usually going to share that information with you.

[0:31:18.7] JM: Have there been any moments – maybe that was one of the moments, but I mean, every startup has its moments where they're just like, "We're going to die here. This is going to kill our business." Have you had any hair on fire moments like that where you're just like, "Okay, we're dead. We lose."

[0:31:32.6] J: I'm not even sure if I can count the number of moments of what we're like that. I'm still harping to them where nowadays when those type of things come up, they don't need to face me, even though our newer member of the staff get very faced by them.

Yeah, that hack was definitely one of the biggest moments. More importantly, the losing the money we did, which comparatively to some other crypto exchange hacks was not even that much, but you know is significant for us in that stage. It was the fact that it brought our site and we had to rebuild out infrastructure and brought our product down for over two weeks.

You never know when you bring – probably you know off an operating product like that and it goes down for that period of time. Are you going to be able to regain people's trust? Are they still going to want to use it?

Fortunately, I think because of our model, the fact that we did hold customer funds and the fact that no customers lost anything in our incident, that really gave us some credibility. We were one of the few companies that was able to turn an incident like that to actually a positive PR event, because it proved out our model.

There was no data for that hacker to steal from customers and there was no funds for that hacker to steal from customers. While we were exposed to some risk, nobody else was. When we turned back online, we were very fortunate that our customers really still wanted to use us, still trusted us because we had just basically demonstrated our model to them, even though that wasn't the way we necessarily wanted to do it.

[0:32:51.9] JM: Okay. That's really interesting. I got a collection of random questions I wanted to ask you. How do trading bots affect your business?

[0:32:59.0] J: Yeah. I mean, well trading bots like as I mentioned in the beginning, there's two really main use cases for ShapeShift to their people themselves using it or each various machines. The trading bots would fall into that machine category. We're totally fine with that. It doesn't necessarily affect our business. It's just yet another machine that might add volume to our exchange.

[0:33:20.4] JM: How does regulation affect ShapeShift today?

[0:33:23.7] J: Well, that's another constantly evolving question, of course. It honestly depends too on which jurisdiction you're talking about, because there is – ShapeShift is a very global business. We get volume and business from all over the world and there is various jurisdictions and those jurisdictions have a lot of different opinions, often at odds with each other about how they want to view the stuff.

It's not very clear yet. It's something where we have a legal department, we spend a lot of legal bills trying to figure all the stuff out, figure out how do we operate our business scenarios and figuring out all these questions as a constant process. It's hard to say exactly how it affects us at any given day, because it feels like it changes every week almost, especially lately.

[0:34:03.0] JM: Do you have to register yourself as an exchange?

[0:34:06.2] J: Again, it depends on the jurisdiction and who you ask and who you're getting legal advice from. I can't necessarily comment exactly on that on what is exactly required and what is defined as an exchange and all these things. It's a constantly evolving process.

[0:34:20.4] JM: Is it evolving to the point where there are places where it's just not defined at all and you're operating in some sort of gray area?

[0:34:28.4] J: Yeah, well I think crypto as a whole has existed in a kind of uncertain, at least an uncertain area for a number of years. Regulators are getting – people are paying more attention and regulators are starting to look at it, sometimes to the detriment of the industry obviously.

One of the big achievements of the internet was that it was able to go so long without significant regulation. It really allowed a lot to develop. We really like to see that happen in the crypto world, but we know that regulators are going to have their opinions on things and they're going to try to regulate certain things and we have to pay attention to that and try to comply with all local laws of any jurisdiction we serve.

It's just something we're constantly having to reevaluate. In the very early days, a number of years ago, one of the first states in the US for example to do anything significant was New York when they passed what's called the bit license from the New York Financial Services Department.

That was one of the clear pieces of legislation actually on the books that made it clear that what we were doing needed a license and we would have to go to this whole process and ourselves and a number of other crypto companies that saw there's way too own risk and hurting

innovation decided to leave and no longer service New York. To this day, we don't service New York as a result of that.

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[INTERVIEW CONTINUED]

[0:37:06.6] JM: The bit license that was promoted by somebody in government, who shortly thereafter left government to start a consultancy that helped people become compliant with that policy that he had helped push into action. It was like the prime example of regulators just playing both sides of the table.

I think for a lot of people in cryptocurrency, that probably just made them all the more obsessed with – maybe the Erik Voorhees flavor of let's be less regulated and let's have more liberation and experimentation.

[0:37:50.5] J: Yeah. I mean, I think that was an important less to a lot of people in the crypto industry, because I think you just described very well what happened. A lot of people, a lot of big thought leaders tried to engage with the creators of the bit license during all the discussions to really try to help them guide what they were doing and show them the issues they were going to cause if they didn't change the way they were doing it.

They were passively listened to and then ignored, and then New York ended up passing this terrible license. Even to this day, it seems like it's not something any of them wanting than the guy who had really spearheaded it just left and the financial services department was left dealing with this thing, but none of them really wanted to deal with.

It's just a perfect example of bad regulation that was clearly passed that benefited almost nobody, except for maybe large incumbents that wanted to stifle innovation. That's really not good for consumers. It never leads to benefits to consumers, and to the degree that regulators want to say that they're trying to help and protect consumers, that type of thing is really not what's going to help.

[0:38:56.7] JM: Although, the efforts of the SCC at least to cast some aspersions on ICOs and perhaps some ominous warnings that are being issued to ICOs perhaps past and future and short impending ICO participants. That's not maybe positive. Because some of these ICOs are just terrible, just completely fraudulent, just completely worthless tokens that are being offered to people. Although, maybe if you're somebody like Erik Voorhees, maybe you would say, well maybe this is the – this should be allowed, because if people can't figure out for themselves what to invest in then they shouldn't be investing.

I have no idea if Erik Voorhees ever said something like that, but I could imagine him saying something like that. Are there tokens that you do not issue, or that you do not trade in? I don't want to mention anyone, but are there ones that you just do not allow people to trade in, or do you let people trade in whatever they want to?

[0:40:00.5] J: Well, this is again a large part of what our legal department does is trying to figure out which of these assets, or some sort of high risk of being considered securities, which aren't

where we're trying very hard to not list anything that we think may be too close to that line of being potentially considered a security.

That is something we're very cognizant of and anything listed on ShapeShift is something that we're trying very much based on our legal advice to put up there, and be kosher with that stuff.

[0:40:31.3] JM: Sorry, you cannot list securities, or you want to list?

[0:40:34.5] J: Absolutely not. We have not and we'll never list something that explicitly is recognized to be a security. The things that we're trying to trade and we think are very important is that there is lots of type of digital assets in the space. A lot of them really don't fit that traditional definition and I think it's very close to how you know the traditional – when Bitcoin first came out of the scene, everyone wanted to call it just a currency.

That really poisoned the well a little bit, because it shift people's perspectives in a way that they didn't fully understand the technology and what was going on. Bitcoin is far more than just a currency. It's a currency, it's a protocol, it's a piece of software, it's in many ways its own economic system. It's this thing that just really – it defies the categories that had existed beforehand.

In many ways the same way that the internet defied many categories of media before it had existed. When you have something very new like this, it's very common for everyone to try to couch it in the old terms that they understand, because that's the language they have to use with. In reality, it's something new and category breaking that any language you try to apply to it is really just limiting it and not appreciating it for this new thing that's really been created.

I think that supplies to a lot of various types of tokens and assets in this phase is that a lot of these just do not fit in this category of being a security. They are something totally different. I mean, obviously the SCC is going to have their opinion on that, but we have to pay very close attention to that and other regulators of the jurisdictions will have their opinions and they're not always in-line with the SCC or others think. It's nobody really knows the answer to this question, because they're all trying to apply old terminology to a very new thing that just breaks all these categories.

[0:42:17.6] JM: I completely agree with what you said. Although, you've got currencies like Tron, which the whitepaper of Tron was copied from the IPFS whitepaper. You read it and it just smells like a scam. You investigate who is involved in Tron and it looks like a scam. You have things like Tether, where you've got this company that is claiming to have one dollar in reserve currency for every one Tether in existence, and yet, they refuse to let auditors prove it.

You can make arguments that these things should not be traded, because they are at a fundamental level, fraudulent. On the other hand, you could say people want to buy these just because other people believe in them. That's actually a valid perspective. Maybe you should let people buy these stuff, regardless of the fundamental underpinnings. Maybe you should let people buy Dogecoin, even though there's not much development going on, just because they think other people believe in it. That should be fine.

I could see arguments for either side. Do you fall convincingly on either of those sides? What are the coins that should be kosher to be kosher to be traded on something like ShapeShift?

[0:43:37.6] J: Yeah. I mean, again ShapeShift does not – we do not intend to be something like a securities exchange. We're trying to trade these new ideas and this new type of assets. Again, you're getting into a discussion where we're really trying to classify exactly what these things are. Our opinion is really is on a case-by-case basis.

There are assets that are closer to that security line and maybe should be considered securities and they're ones that we really think should not, that they're something totally different. It's hard other than our case-by-case basis to figure those things out. I mean, you even talk about something like Tether and the issues that I know BitFenix and people that own that have had in terms of getting an auditor to bless it and show these things.
We know from our own experience that – again, this is always seen differently from the outside, but there's a crypto company that has experience in this area. It's really hard to get an auditor to audit anything in the crypto space. It may not be – I'm not saying I know anything about that particular situation, because I don't. It wouldn't surprise me at all based on my experience it has nothing to do with them not wanting to get the audit, as much what the auditor basically wanting

a bunch of things that are impossible for a crypto exchange to show, because they don't really understand what they're auditing yet.

It's not like auditors have tons of experience auditing crypto companies. There's a lot of nuances that they just don't understand. We've seen that even in our experience trying to get ourselves audited for investors and various financial purposes. It's a long and arduous process and it's not easy.

A lot of that issue might just be that people don't understand these things and I see that all the time. When it comes to things like things that are clearly scams and fraudulent, obviously we're against that. We don't' want to list things that are clearly scams or fraudulent. We don't want to promote those type of things.

They're absolutely going to exist in any sort of free market economy, but we don't think that's the majority of the used cases and we don't think that that's in it of itself. It shouldn't mean that the whole industry is negative because of that or something like that. It just means that there is some bad actors in the space and we have to make sure to promote to talk about that and not support those type of bad actors and hopefully agencies like the SCC will really focus on those who were doing things that are purely fraudulent and things like that. That's the type of thing they should be doing.

[0:45:47.9] JM: Fascinating. How do you assemble a team that can make these kinds of assessments? Do you just bring together the best lawyers and accountants and securities, professionals? How are you auditing these things?

[0:46:04.5] J: Yeah. It's a difficult question. I mean, how do you hire people with experience in the space when the space is so new and on the frontier? You try to find things that are analogous. You try to find people who have really highly respective and very smart and powerful individuals to come and help you and that's really what we're looking for when we build the space.

In our case as a crypto company, a lot of what we're building is just on the engineering side. We're trying to find the best and brightest engineers to help us build the future more or less,

because so much of what we're building is just stuff that has never existed before or category breaking like we've been talking about. It's not something where you have an easy roadmap of you can easily get your business from A to B in this way. It's something totally new and different.

[0:46:46.4] JM: Is there any interesting compensation strategies you use to get good engineers? Because it seems like the war for talent in cryptocurrency is like the war for talent in normal tech, but taken to a higher degree because it's super specialized. A lot of the people that do have the skills are already rich.

[0:47:09.4] J: Yeah, that is actually a very good point. I've heard from more than one other crypto CEO or COO that they've had issues with retaining employees, because their employees got into Bitcoin really early and just got too rich, and they didn't want to work anymore.

That is a non-unique problem in the industry that you see pop-up sometimes. It is. It is very competitive. There is only so much talent out there and you have to find ways to either take people who aren't in the space and get them up to speed on the nuances of the space, or find those people that already have the skills you need, who are already up to speed in the space if you are far between.

There's no silver bullet to that problem. We have to try real hard and have to train our people and try to find the best that we can and bring them in. I wouldn't say there is any necessarily super unique compensation strategies we're using. We're exploring a lot of things other tech startups would do, like finding ways to do equity plans and ways to get them interested and things like that.

We've talked about exploring ideas like profiteering and such, which we haven't thought to yet, but we would like to do more things like that. We're certainly always evaluating that trying to find the best way to motivate them. A lot of it is just pretty standard. I mean, honestly the best recruitment for ShapeShift and other crypto companies is just that a lot of the people who join us really want to be in the space.

We get a lot of people who actually come to ShapeShift. One of our cultural things is a lot of people actually take pay cuts for us, because they were working at some other job that they

thought they have a lot of skill, but it's some big corporation and they don't feel like they're contributing in a way and they really want to be actually in the blockchain space and crypto. ShapeShift is a chance for them to do that and they get really excited about what we're doing and they want to come onboard.

[0:48:50.8] JM: I think people like that that take a pay cut, oftentimes they're doing that because of the charisma of the CEO, which I think in this case Erik Voorhees is a charismatic guy. I've only watched some YouTube videos of him, heard some podcast interviews and then I looked into his background a little bit.

He's been posting in online forums for 9 or 10 years about this stuff. His vision for an economic system that is – I don't know, some people would describe it as crypt and archaic, but I think that has a majority of flavor to it that I don't think aligns well with who is he is. How would you describe him and his political beliefs and do you align with them?

[0:49:39.8] J: Yeah. Erik is great. He has said a lot of things publicly and a lot of people get impressions of that way, but at his heart Erik is just a very smart, humble and visionary person. He really does see things in two ways things in the industry that I don't think a lot of other people do. He's genuinely just kind and really cares about the people that work with him and the things that he's doing, and he's so passionate about it.

I do think that permeates out to potentially interviewees and other people who work in the company that they really appreciate that about him. He's one of the few people and I've met a lot of people in the space where you see the way they talk in public and you get them in private and they're almost like a totally different person.

The person that Erik puts out publicly is himself. He's really not all that different. He's that thoughtful, he's that kind in person. It's been an absolutely pleasure to work with him for the last four years. At times, there are parts of his politics that I very much agree with and then there is times that I disagree with him.

He's someone who's – he's trying to get everyone over to his point of view necessarily. He wants a discussion of ideas and for the best one to win out. He's totally fine if you disagree with

him, if you back up your arguments. I've always very much appreciate that about him and my relationship with him.

[0:50:53.2] JM: Okay. I k now we're short on time here, but I'm so fascinated by this company. Can you tell me a little bit about product development and the roadmap/the goals. What's the big vision of where ShapeShift is going?

[0:51:09.6] J: Yeah. That itself seems changed a good bit too, but the big vision is try to stick to our core philosophies of creating products that are easy to use, that add value to the space, that are trustless as much possible, that don't require people to give us their private keys or become custodians of.

To really proliferate those type of products in the industry that we think are useful. The current ShapeShift product has been the main driver of that, but we have a couple other ones out there now. We have a prism – our product enclosed [inaudible 0:51:40.3] called prism that is another trustless way to create digital portfolios of digital assets and do that in a way out of VNS, theorem smart contract that we think is really cool.

We have another product just for market data and stuff like that called coin cap. We recently last year acquired the hardware wallet maker KeepKey. Now we're also putting those type of things out and they all fit this philosophy of not trying to take hold of customer funds, trying to make them easy to use and allowing them to have some sort of this trustless experience having to do with converting digital asset with one another.

We have a number of other products, probably about three in the pipeline right now that I cannot speak of unfortunately, because they're not far enough along, but we hope over the next year to be unveiling a number of those and to just keep innovating. We're not a company that's trying to sit back on what we've built and just iterate on just that. We really want to keep building new products and things that we think people will want.

[0:52:39.8] JM: Okay. Well, I think that's a good place to stop and I hope to cover those secretive products at some point in the future.

[0:52:46.7] J: Be happy to come back on when that happens.

[0:52:49.0] JM: Okay, Jon. Well, great talking to you.

[0:52:50.7] J: Yeah. You too, Jeff. Thank you so much for the time. I really enjoyed the conversation.

[END OF INTERVIEW]

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