Now & Next E04 – Cryptokitties: The cats that broke part of the blockchain

Full interview transcript

Leora Kornfeld (LK): Bryce, I have a challenge for you. I have this hunch that any time you go, let's say, to a dinner party and then people find out what you do, they go, oh, the blockchain, I've heard of that, and then you have to go and explain it in 25 words or less. And I'm going to make you do that, but you're not allowed to use the terms "distributed ledger" or "immutable." So go ahead, and you can say "decentralized" maybe once or twice, but that's it. So go ahead. Take the challenge.

Bryce Blaydon (BB): None of that'll be necessary. So this isn't my official answer, by the way, but I do want to point out that if you go to the Crypto Kitties website, you will notice that none of those terms appear there, because that is actually a big part of what we are trying to do with this product is to make this technology accessible and avoid all the industry jargon. But to answer your question, what is the blockchain? Simply put, the blockchain allows two people to trade value with no one in the middle. Got it down to less than, I think, 10 words for you.

That is a very simple answer, but one of the issues you run into with this technology—and it is in no small part because it is such a new technology, because a lot of us are still just figuring it out—when people are asked what is the blockchain or why does the blockchain matter, people default to trying to explain how it works. And if I were to ask you "What is the Internet?" you probably wouldn't tell me about IP addresses or hypertext protocol. You would probably say it's a giant network that connects a bunch of people and makes ideas and media accessible. And that's what we are trying to do for the blockchain is make it accessible, make it matter to people so they understand the value attached to it. And this technology can ultimately realize its potential because a lot of that potential is potentially very good for consumers. It's just a matter of making sure that consumers access it and understand it so it doesn't just stay in the hands of industry insiders who know what distributed ledger technology is or the Byzantine protocol and things of that effect.

LK: Yeah, and this is a really radical idea. I'm going to use a little bit of jargon: the intermediary, it's often called the middle person,

but it's a way to work around the intermediary, the middle man, and that's a very revolutionary idea, isn't it?

BB: It absolutely is, and to be clear, that is also not the entire extent of what this technology does. That is the most immediate and most meaningful answer to why does the blockchain matter, what does the blockchain do, but it's also worth recognizing that there's substantially more that the blockchain can do. Since 2010, the headline has been "Is this the next bitcoin?", and everything about the blockchain was kind of tied to bitcoin, the cryptocurrency, and that is very understandable. The first success in the blockchain was bitcoin, and that is perhaps the most obvious application of this technology. As I said, it allows two people to trade value with no one in the middle. That is basically what currency is supposed to do, but currency has an immense amount of centralization tied to it, i.e. a government usually, but the blockchain changes that. And bitcoin is the first and biggest example of this, but it is only a sliver of what this technology is capable of. And what we set out to do with CryptoKitties was show other potential use cases, other things about this technology that are incredibly exciting but aren't being explored, because, again, everyone is just defining success and what this technology is capable of by the biggest shining star, which was bitcoin, and I really do want to make clear, they earned that. I say it earned that, but it's going to be . . . this technology's never going to realize its potential if we only limit it to that understanding.

So, with CryptoKitties, what we did was we wanted to showcase what this technology means for our relationship with digital assets as a whole. To put this in real world context, I'm sure you remember in the '90s, the RIAA got very upset because suddenly music could just be copied and shared infinitely and as a result . . .

LK: Without payment involved, that one little detail, yes.

BB: Without payment and without anyone in the middle and that, as a result, kind of led to us not valuing digital media like we used to. In the '70s and '80s, our favourite song comes on the radio, we would have a microphone under the speaker so that we had a copy of that song. It wasn't something that you could just create out of nothing, but in the 1990s we saw things like torrenting, and larger file sites, and the Internet as a whole allowed for digital media to be instantly copyable and infinite. And that's very good from a proliferating media viewpoint, but it's not so good from a valuing the digital asset, the digital art, whether it's video or text, even, or music.

So, what we showcase with CryptoKitties is, for the first time ever, thanks to blockchain technology, digital scarcity is possible. There can be just one of a digital asset. This asset can actually belong to someone. There is a record of who made this asset, where it came from, who it belongs to, who has owned it, such and so forth. And when I say asset, that's a very esoteric way of putting it, but to put this in other terms, this means that, say, a song could be sold to fans, and hypothetically—and this is a real weird example—but if an artist did fund their next song from their fans, if they then chose to license that song, it could be a relationship with the fans where anyone who invested in that original song actually gets money from that licensing deal. To be clear, that requires somebody to build that thing, and I think Imogen Heap is actually at the centre of some really cool advances that way.

LK: The first musician to use the blockchain to sell and license her music.

BB: Yes, she's been involved since 2015, and there are some incredible examples of the music industry, and this can be applied to the art industry as well. Because digital assets became instantly copyable, we stopped valuing them as much, and how we access these things ultimately shapes our relationship with them, and 20 years later very few people own digital media. The closest thing you'll get is a physical representation, like a DVD or an album, but most people just stream music. We subscribe. We have a short-term, basically, access that we're basically paying for the convenience of accessing it because torrenting is difficult now and that is how our relationship has been shaped. And with blockchain technology, our relationship to digital assets is, once again, going to change. And it might not be tomorrow, it might not be next year, but 5 years, 10 years, 20 years from now, I think we're going to have a completely different relationship with digital goods and assets, things like scarcity—and I hope that's not too esoteric a term—but things like scarcity make us value things more, and when things are scarce, they kind of become real. If something is infinite, it is a variable, it is incalculable. You cannot put a number on it.

LK: This is important because what you're doing now, you're talking about this like an economist would, actually. Because what you're doing, you're talking about scarcity and abundance, so when there's scarcity, prices go up. When there's abundance, prices go down.

There are these other ideas like there are rational actors in economics, but there's also irrational economic behaviour that happens and I believe that you've seen some of this with CryptoKitties, there's benevolent behaviour going on. There's a kitty orphanage. Can you explain what that is?

BB: A lot of people have started to understand the value of this technology and, yes, that could lead to people being a little dogmatic sometimes, but it can also lead to some incredible insights and some incredibly iterative thinking that results in some really cool stuff. What the adoption agency somebody set up with CryptoKitties is, is basically users who have played a lot of this game, have bred a lot of cats, can donate cats, and those cats are then donated to new players, people who are just getting started. Because at the end of the day, a lot of the people who are playing this game believe in our vision for this technology and what we are trying to do with CryptoKitties as a platform, frankly.

What we've seen with—we actually just launched something called the KittyVerse—and what we saw within a month of watching CryptoKitties was about a dozen third-party products created on top of it. And now there are dozens of these things and they were created and some of them have actually started having revenue created too, completely outside of us. They do not, in any way, have to go through a central authority, i.e. us. They can just contribute to this ecosystem. Everyone is a stakeholder in this experience because they actually own their digital assets and there are all sorts of unique and neat ways to engage with this technology.

LK: So we've talked about some of the benevolent behaviour which is charitable and generous. What about the competitive behaviour, which is what we would expect in online games? Tell me a bit about the people who are maximizing value or maybe even doing more, the less benevolent behaviour that you've seen with CryptoKitties.

BB: To be frank, most of the behaviour I have found frustrating in this industry hasn't actually been tied to CryptoKitties. Pretty much the moment CryptoKitties became successful, we saw . . . so many puns, copycats come out of the woodwork, and I think Baidu, which is China's Google, announced Cryptodogs within the month, or Cryptopuppies, I can't remember the exact name, and some of these games which just are basic concepts came out and for the most part, that's fine. Again, in much the same way the next bitcoin was a headline, I saw this as a very positive

sign that the next CryptoKitties became a recurring headline. When somebody wants to innovate and do something really interesting, they start by imitating and then they start tweaking it and then the real change starts to happen. That's when real innovation happens and that's mostly fine.

What I'm less okay with are those scam artists I mentioned. I'm less okay with some of these games that quite literally stole our art. I'm less okay with people stealing all the words I wrote and just copy and pasting them into their thing. Again, to take us back to the 1990s problem. The time and thought we put into things, it's a little frustrating to see somebody just take that, but to see somebody build up from that, that is incredibly exciting. Within the community, the only real "controversy" we have right now—and again is one of those very interesting things unlocked by blockchain technology —is people have coded bots to basically breed incredibly difficult-to-get cats at a pace a human player can't keep up with.

So, I'm going to need to explain this just a little bit more to explain why this matters, but basically there are these special cats we call fancy cats and they have custom art and they look really cool. And we limit how many of them can be created, and users can find these cats, usually as a surprise by breeding together two cats that have certain genes associated with them. And once this happens, once somebody discovers this fancy cat, they have cat 1 of let's say 500. But the moment that is figured out how to do, all these bots come in and they start buying up cats with the traits that are necessary to breed this special cat and then they start breeding them and they start breeding them at a pace that your average human player can't necessarily keep up with.

To be clear, the bots as a whole, they're a controversial issue right now but they're an incredibly interesting one. Bots as a possibility within cryptogames or frankly just the blockchain as a whole is fascinating, but it's also very new and very challenging to account for, because as much as we are trying to create the best possible experience for players foremost, we are also incredibly interested by these new possibilities. While these bots might be frustrating for some players, the people who make these bots have shown a lot of that benevolence.

We have an incredibly active online community. When we had a low number fancy cat come out, the creator of one of the bots was asked by the community to start a breeding system of them, to get on this one, and it was like no problem. So, as

much as there might be controversy, I really can't overstate how impressed I am with this community and how criticism and feedback and benevolence all has been like a true example of people being stakeholders in this experience. They don't necessarily all agree but they've all invested in it in a way and that leads to them valuing it and their community as a whole.

LK: Right, and what you're talking about, it's something that wasn't necessarily foreseen by CryptoKitties designers that emerged from this community, and it's a very imaginative community and engaged community. Looking beyond CryptoKitties itself, what do you see for the broader creative industries with this kind of behaviour and activity that's happening outside of the framework of what was designed?

BB: That is a question I literally gave a 20-minute talk on in Amsterdam last month at the Next Web conference. I think that is incredibly exciting. So, earlier we talked about the music industry and how art became instantly copyable. And most people think about new technology in terms of what industry can this disrupt and the art industry and the creation of art, things like—and excuse these words that I'm going to be throwing at you—but provable scarcity through ownership, traceable history, asset storage, fraud reduction, payment for creators. Those all have immense potential to disrupt industries, but as far as actually creating art, that is something that we were also trying to showcase with CryptoKitties. We were showcasing how, for the first time, art could be personalized, it could be interactive and it could be extendable in a way it wasn't before. What I mean by this, so personalization, customization, there are more possible visual combinations of CryptoKitties than there are people on the earth. And to be clear, CryptoKitties is an incredibly rudimentary example of how art can be personalized, but that is neither here nor there.

LK: So, you're talking about in the tens of billions then?

BB: I believe 17 billion. There is a chance it's trillion, but I think that might just be genetic combinations, not necessarily visual. At least 17 billion, I'm fairly confident in that number. There is a set number of CryptoKitties that can ever be created. However, the CryptoKitties themselves are eternal, basically. Short of the entire world destroying every piece of technology that's ever been connected to the Ethereum network, these cats are going to outlive us all.

LK: Can you just say a couple words about the Ethereum network, because that's the first time you've used the phrase today.

BB: The Ethereum network is the world's second-largest blockchain, and it is what CryptoKitties is built on. It's also partially why CryptoKitties became infamous is because when we launched CryptoKitties in late 2017, our product proved so popular that we kind of broke the Ethereum network. It had never had that many people trying to interact with it before, and we kind of shut down what is colloquially referred to as the world's super computer or at least made it very, very, very difficult for people to use.

LK: Right, well, congratulations. There's no bigger compliment than that. It would be like breaking the Internet.

BB: My parents were never really happy with me when I broke their computer, so I do feel a little bad. It is worth noting that, yes, it is a point of pride in some ways but it's also a serious challenge in this industry. We want to run into these problems so that we can solve them but we want to do it in a way that doesn't compromise what other people are trying to do.

The Ethereum network is the world's second-largest blockchain. Bitcoin's blockchain is the biggest. What makes the Ethereum network unique is it introduced something called smart contracts, and we don't need to get into too much detail about what those are, but basically a smart contract makes it so that you can put computation, i.e. creative applications, or to just put this simply, apps, on blockchain technology. I'm probably oversimplifying something there but that is a fair way to say it, I think.

To bring it back to the question of what the blockchain means for art, for the creation of art, I touched on personalization. I don't think I've touched on interactivity, which is what makes a digital asset real for a lot of people. And by this I mean, CryptoKitties showcased how you could take two pieces of art, i.e. two CryptoKitties, put them together and create a third one that was essentially a remix of the other two. And again, that's a somewhat rudimentary example, and I think there are going to be far more interesting ones in the future, but you can't do that with an oil painting and you can't even do that with most digital art as we understand it right now. And then finally, and perhaps most interesting to me, is extensibility. I talked a lot about you can collect and breed these digital cats and that's really cool, but as I said with the KittyVerse we launched, people have made it so that these cats can now battle one another. These

cats can now race each other, and how your cat does in a battle relates to its unique genes, which are represented on the token, and all of these experiences happen outside of CryptoKitties. We do not control them. We are not gatekeepers. And there are dozens of these things being built right now. Somebody has made a social network for the cats and the profile belongs to the cat itself. So, if you trade that cat, you also trade that cat's social media profile.

LK: So it's a series of parallel universes that, like you say, exist outside of the framework that you built for CryptoKitties.

BB: Yes and no. So while people built them outside of us, they also diversified the ecosystem. These things are in parallel, implied that they don't touch each other. They can in some ways. We haven't seen exactly what that looks like yet, but keep in mind, we just launched like seven months ago. So, parallel universes isn't quite right, but an ever-expanding universe. Potentially infinite experiences.

LK: Something that happened recently, which is things that go up must come down, and we've seen a little bit of a or maybe more than a little bit of a CryptoKitties crash, like a market crash. Can you explain what happened there with the median price of the CryptoKitties?

BB: Something I do want to point out just from a product perspective is we aren't trying to make cats as expensive as possible. We are not trying to make a cryptocurrency where an individual thing should always be worth 100 million dollars. As much as people are, like, the average price is going down, that to me says CryptoKitties is now more accessible than ever.

From day six, to be perfectly honest, we made a very conscious decision to be very careful about how we talk about these cats selling and how much they are selling for. We worked with regulators before launching to make sure we weren't classified as a security. I don't actually know of any other blockchain products that worked with regulators before launching and launched a practical product besides us, and again, this was one of those challenges of emerging technology is working with an existing understanding and what you are trying to showcase as a new use case. So, earlier I talked about how bitcoin defined success for the blockchain or what a blockchain is capable of and again, I'm not going to name any names, but some incredibly reputable publications were incorrectly calling us a cryptocurrency and that is not at all what we are. Yes, these cats can have an immense amount of value placed on them and yes,

that value can be in dollar figures for some people, but I think that would be like equating taking every sale of every oil painting ever created and if it's on a slight decline, being like, well, art's dead.

Maybe that just means there are more people creating oil paintings. Keep in mind, there are also over 800,000 CryptoKitties now, and people can breed them and create new ones and I'm getting some limitations in place to keep it from just exploding exponentially. There is a cooldown time with each breeding action a player takes that kind of doubles each time basically up to a maximum of two or four weeks.

LK: Is this like supply management?

BB: A little bit. We're actually trying to hire a crypto-economist because we have some pretty interesting things going on here but yes, that was an economic decision to basically keep the scarcity aspect of what we are trying to showcase with this game and with this platform a central aspect of it, basically.

LK: I'm not surprised to hear that you've just hired an economist, like an in-house economist for this, because like you said, one of the defining characteristics of CryptoKitties is the scarcity. If you flood the market, it's great for the mainstreaming of the technology but then it goes more into being something that is primarily a financial-based instrument as opposed to all of these other ideas that you both have for CryptoKitties and the things that you guys haven't yet imagined, and that's the coolest part. It's like where this can go, a lot of that is up to the community, isn't it?

BB: It absolutely is, and that is actually why we are trying to invest so much in our community. I talked about how we launched the KittyVerse, which is basically just our term for all these third-party tools, games, projects created on top of it, but we also launched something called the Nifty Kitty Fund, or program I should say, and basically people can apply to it. We've already started this with a few projects and we give them a small loan and if they pay that back via revenue and if they never make revenue, no problem. That's the current incarnation of it. We'll see how it goes, and we'll see if we can increase it, but we basically—in much the same way we launched CryptoKitties with a sustainable revenue model instead of doing something called an ICO, an initial coin offering, which is basically fundraising with the general public and selling a dream and a promise—we want the people creating these experiences to be

able to create these experiences but also to do so in a way that gets them to a sustainable practical place.

So, we want to allow that room for innovation and for interesting development, but we also want it to move in a meaningful direction and not just be playing with our toys.

When CryptoKitties launched, we launched with something called ERC721. We do not need to get into too much about that, but basically it's how non-fungible, that is to say non-money, things can exist on the blockchain, and over time it became the standard. Why this matters is now there is an immense number of people creating projects using this token. So we open-sourced a licence for those people to use for things like how does art ownership work in the world of the blockchain, what does licensing these things mean. If I own a thing with a digital asset, what can I do with that art? And to put this in more understandable terms, so if somebody owns a CryptoKitty, for example, you can take that art, you can put that on a T-shirt, you can put that on an oil painting and we can't stop you. That's yours. You can do whatever you want with that, but not every project has a lawyer. Not every project has somebody who can go after these people who rip off your art necessarily. And again, the blockchain is introducing some incredible and neat things for what the future of ownership will look like, but it's still an emerging technology.

There's still an immense number of insights to be gleaned and some potential use cases to be unlocked and, yeah, so we really just license to the blockchain industry as a whole, and anyone is welcome to use it and anyone is welcome to get the back end and we already have some thoughts in mind for how we're going to improve it.