

Eric: So in today's podcast, we have assistant professor Carla Reyes talking to us about the Uniform Commercial Code in digital assets. Professor Reyes is an Assistant Professor Of Law at Southern Methodist University School of Law. She is the chair of the Texas Working Group on blockchain matters. She's an American Bar Foundation fellow. She is Research Director of the Uniform Law Commission's Technology Committee, Associate Research Director of the permanent editorial board of the Uniform Commercial Code. She has published numerous articles relating to such things as autonomous corporate Personhood like DAOs. She has a CV and a publication list

that would take me far too long to read here. So a quick review, the UCC, Uniform Commercial Code, is a set of laws that govern all commercial transactions in the United States. It has evolved from the establishment of the Uniform Law Commission in 1896. That's a long time. The UCC evolves over time to suit use-cases and changing business environments, electronic records, and how they are treated in commercial contracts is an example of that, but it is not a federal law.

It gets adopted at a committee level, as Carla touches on, then gets adopted by the various states, which facilitates uniformity across all states. The code also offers interpretations that are helpful to practitioners. Now we talk a lot about secure transactions because for digital assets, how do you take a security interest in them

if they are not tangible? What happens to a customer of a digital asset exchange on bankruptcy? Listen on. As usual, if you enjoy this podcast, please share it.

And with that, I bring you assistant professor Carla Reyes,

Welcome to The Encrypted Economy, a weekly podcast featuring discussions, exploring the business laws, regulation, security, and technologies relating to digital assets and data. I am Eric Hess founder of Hess Legal Counsel. I've spent decades representing regulated exchanges, broker dealers, investment advisors, and all matter of FinTech companies for all things touching electronic trading with a focus on new and developing technologies.

So on today Encrypted Economy, we have Professor Carla Reyes on the podcast. She is an assistant professor of law at SMU School of Law. She's a chair of the Texas Work Group on blockchain matters. She's an American Bar Foundation fellow and the research director of the Uniform Law Commissions technology committee and the permanent education board of the UCC.

I think I screwed that last one up. Carla, welcome.

Professor Reyes: Thanks very much. And yeah, I am. I'm a research director for the technology committee of the Uniform Law Commission and also an associate, a Co Associate Research Director for the permanent editorial board of the Uniform Commercial Code.

Eric: And so thank you for straightening me out on that.

Now her work on the UCC is very relevant because we're going to be talking about security interests in crypto today in digital assets, and she is a resident expert. So Carla, thanks so much for coming on the podcast.

Professor Reyes: Thanks so much for having me. And I don't know, I'd go so far as say I'm a resident expert, but I

I can call you a resident expert. But she's, she's, well-known in the space for her insights on the matter of particularly given her work with the current draft of the UCC that's underway article 12. So Carlos what triggered your interest in digital assets and even the UCC itself?

Eric: Like how you got this

Professor Reyes: actually fell into both of them? So I was I started my career as an associate Perkins Coie in Seattle, Washington, and I started in litigation and the privacy and security group. And. I'm not, I still, to this day when I'm asked this question, I don't know how, but at some point I started working with Dax Hansen on the transactional side.

Mostly around money services, businesses, regulations, and it wasn't long before that work in electronic financial services blurred into digital asset work. And along those lines of my work with the with the uniform commercial code sprung up. In line with the digital assets around the same time as the digital asset work.

So it was organic that I fell into it and a friend of mine. And I, we joke once you work in this space, you don't work in anything else because it's so interesting and you just get sucked into it. So I haven't worked really in any other areas since.

Eric: Great. So before the podcast, Carl and I had a discussion about the UCC and its applicability to security interests in digital assets, which is what we're talking about today, largely.

But we also talked about the relationship between property law and how their UCC relates to property. Carla, do you want to

Professor Reyes: set this table for that? I can speak to all of the, I'm not going to speak to all of the UCC, but for article nine specifically, security interest in the UCC, security in order to establish a security interest, right?

Article nine, governs security interests created by contract by and large and in which the property that's taken as collateral is goods and fixtures. And when. In order to have an enforceable security interest of enforceable security agreement the requirements under 9 2 0 3, is that part of the requirements anyways, is that the debtor have rights in the collateral,

the debtor, not being, not the person that you lend money to necessarily, but the person who has rights in the collateral who owns the property that becomes the collateral.

And then the question of when they gain rights in the collateral or what rights they have, or the property law question specifically, the article nine differs to state property law on those issues. But so it's still state property law principles that govern the rights of the debtor in the specific collateral.

And then. Relatedly then the security the rights of the secured creditor in the collateral contingent on non-payment, usually of a debt. The

Eric: UCC was not situated to contemplate digital assets. And so when did that initiative begin? How has it identified what were the discussions and the failures or the concerns that led

Professor Reyes: into it?

Yeah, so good question. Most, most of the time changes to the UCC are driven by commercial practice, right? So the UCC prides itself on representing commercial practice on the ground. So the reason the project at the uniform law commission and the ALI. It's a joint project, right?

Because the CDC has governed by both bodies, the American Law Institute, and the Uniform Law Commission. So the reason the joint project initiated to look at the UCC and emerging technologies is because commercial practice demanded it and the issues in particular around. And I should say the reform effort, isn't just on our focused on security, interests issues.

There's a lot of emerging to other emerging technology questions that come up even beyond like digital asset questions specifically. So there's reform happening in the hardware bottled hardware and software sections of sales, et cetera. So it's the whole thing, looking at emerging technologies for the whole thing.

But for secure first the secured transactions questions, some of the problem was around how you perfect in collateral that is digital assets. For those not as familiar with article nine to. A couple of things the secured creditor wants to do. So you create a security interest.

It's enforceable against the debtor namely, which then says, if you default on your obligations to me, I have rights now property rights in the collateral that you put up to secure the loan, but then secondarily, you want to notify the world that you took that security interest so that you can have rights.

Vis-a-vis other creditors, namely you get first in line access to that collateral in the event that the debtor goes under, right? Whether they have. They have financial difficulties. And

so that, that process of getting priority over other creditors, we refer to as perfection. And the questions around digital assets in particular was a like, what are they in order to determine how you perfect in your collateral?

You have to decide, you have to classify the collateral. And the question is why, what are they? And article nine parlance. And then once you know what they are, how do you perfect. So generally speaking, I, and I have to say this prior to El Salvador's adoption of Bitcoin as legal tender digital assets are general intangibles.

Most likely if you're analyzing them under. The current classification system and general intangibles can only be perfected by filing. So you file a UCC one form in the relevant filing office and perfect your security interest in digital assets. That way, the difficulty, however, lies in the negotiability.

The sort of, yeah, what I want to use the word negotiability, although that's a very specific word and UCC parlance, but in the free-flowing use of digital assets in commerce. So we use it like money a lot. And it's difficult to unencumber or to be sure that general intangibles are unencumbered on a go-forward basis.

So if a debtor sells your collateral, Without your authorization, the security interest continues in the collateral to the next person. I'm borrowing certain take for the applicability of certain take free rules. And so in particular, for general, intangibles are difficult to know that those assets are unencumbered once they're sold because of the requirements that you perfect by filing.

So those are the concerns around secure transactions that people wanted to. To rectify. I probably been talking for too long, but I could say more, but those are the court issues. What is it? And if it's, if it is general intangible, do we like that? And not really, because it results in an optimal way of perfecting namely by filing.

And there's a couple of reasons why it's non optimal. And one of that has to do with the industry itself and whether they want the there are several players in the industry who are not comfortable with the filing process for a variety of maybe unique reasons to the industry. And then and, and then even beyond that, like filing maybe the suboptimal way to know quickly whether this specific digital asset that you're getting from someone is encumbered or not.

Because it does not have general tangibles do not have the sort of super negotiability take free rules that money has, for example.

Eric: And so maybe just to frame some of these security interest issues in terms of how they emerge in digital assets. Maybe you could spend a, just a few minutes going through some of the cases, the use cases where you would more typically see this like a

Professor Reyes: super common use cases are just lending lend a loan using Bitcoin as collateral.

And so if I make the loan and I may take a security interest in the Bitcoin a common industry practice is to take custody of the Bitcoin during the pendency of the loan in, in, depending on the lender in this context, some of those lenders have gone ahead and filed UCC filings to perfect their security interests. Others have said, Nope, I have control of it. That's good enough. And the answer under existing UCC is there's not good enough. You don't actually that's you have control. So the functional equivalent of possession, right? In the event, your debt or default, it makes it super easy for you to revisit.

If you can use the word possess for a digital asset, but you didn't actually perfect. And so it may be that some other lender you're took a nonpossessory security interests in that same Bitcoin and they beat you and technically you have to give them the Bitcoin to so they can realize the value of their loan.

That's the very simple prototypical example is as simply a loan against Bitcoin as collateral using Bitcoin as collateral where you did not file for whatever reason. And instead you took control of it, and it makes it easy to enforce against the debtor after they default.

But it didn't perfect. You and there are other intangible assets where control is a mechanism for perfection under the UCC. But up until this point, like before the reform, it is not a method of perfection for digitally.

Eric: And would the perfection be something that would be pursued more frequently when it's how should I say less of a revolving type of loan, or does that not matter?

Professor Reyes: Why does it really matter? So you want to perfect for two reasons one, you want to protect in the event that your debtor defaults and you, so you and you repossess, and you want in other creditors, if they've also defaulted with other creditors and everybody, if any of those other creditors can claim that as their collateral too, you want to be first in line so that you can collect what you're owed off of that, the sale of that collateral, right?

When it's when you dispose of the collateral, usually via sale, then you can collect that and apply it to what you're owed and not to what they're owed. But ultimate also, if it's so bad that your debtor goes into bankruptcy, if you're not perfected, the bankruptcy trustee gets the first access to that collateral for the bankruptcy estate and not you.

And you're the, you might as well be an unsecured creditor in terms of bankruptcy proceedings. So you want to perfect any time you're a secured creditor in order to a claim, your stake, your priority against each other creditors, and b, to protect yourself in the event of bankruptcy so that you can beat the bankruptcy trustee to that asset.

Eric: It's a very good point though, on perfection because in bankruptcy, because with regards to digital assets, a lot of a lot of exchanges, they have obviously wallets on the exchange. They have wallets that they're holding assets on the exchange. There's other third parties that are holding assets on the exchange.

And if there is a bankruptcy most of the interests probably aren't perfected in that case. And so they would tend to naturally drop to unsecured.

Professor Reyes: You mean if there's a bankruptcy of the exchange itself?

Eric: Yeah. Or any of the parties that feed into it.

Professor Reyes: So if there is a, if certainly if there's a bankruptcy of the exchange itself, barring certain contractual, so barring the exchange undertaking certain additional duties that would elevate your continued interest in the property you gave over to the exchange. If the, essentially they become custodian of your stuff, barring that, and that'd be look more like an article eight securities intermediary idea, but barring that then

yeah. When you hold your digital assets with an exchange and the exchange goes bankrupt, like then in bankruptcy, all you have is an unsecured claim against the exchange. That's probably all that you are as a user, I think we see that in the credit case. For example,

Eric: Yeah and you don't, people don't typically think about this because when they deal with their equities brokers or even their futures brokers, there are specific provisions under the UCC.

So you don't have to go through those,

Professor Reyes: you as a user holding your digital assets with the exchange. I wouldn't, I don't need to perfect. I didn't, I don't have a secure security agreement with the exchange. It's the other it's how do I say it? I don't really have a way to elevate myself to secured credit creditor status because I'm a user of their services, but I'm entrusting my stuff to them.

And the question is whether my entrustment of digital assets when they go bankrupt, did my digital assets become part of their estate or is it segregated out and kept aside for me, especially because they were custodian of my stuff, but it doesn't really belong to them. Does that make sense to you?

Two different questions between a secured credit or taking digital assets as collateral versus a user unintentionally becoming an unsecured creditor of an exchange that got into financial trouble.

Eric: So in the context of a broker dealer and like even the commodities futures those would be segregated.

Professor Reyes: Yeah, exactly.

So the special rules that applied to them, aren't so much about perfection as it is that the special rules say, this is not part. If the broker-dealer goes bankrupt, this is not part of the bankruptcy estate.

Eric: So in under UCC, article 12 digital assets are defined as what?

Professor Reyes: Control electronic records actually.

So rather than using the term digital assets, we use the term controllable, electronic records and that definition. And I actually haven't there's a new draft out. I didn't have time to get through it all, but as I recall, the definition of a controllable electronic record is simply an electronic record.

Capable of being subject to control and electronic record, those words have meaning under the UCC broadly particularly record. And then control is control, as I've said, is a term that is defined variously depending on which classification of collateral you are looking at. So if it is an intermediate security, then control means one thing, if it is a deposit account, there's a definition of control for that.

And so article 12 offers a definition of control for digital assets as well. And yeah, so a controllable electronic record is an electronic record capable of being subject to control, but control, not in like the common parlance dictionary, definition of control, but rather control as defined in article 12.

Eric: Okay. And so it does examine what that means. What is an unspent transaction output?

Professor Reyes: and unspent transaction output is a Bitcoin balance a unit, but it's a Bitcoin thing, right? And it's essentially, so Bitcoin, the Bitcoin blockchain operates in transactions as their basic unit of function.

And when the thing that my private key unlocks is an unspent transaction outputs and it operates under a super simple script that just says if this private key hashes to this public one, then unlock the UTI XO and allow them to spend it. And then once you've spent it, it becomes a, it's not a UTX hole anymore.

I'd rather have that asset is extinguished and a new UTX is created. So that deficient.

Eric: Yeah. And so I'm, I'm building into sort of a different ways of thinking about what a controllable electronic record is. So there's also a concept of unit of account. That's, generally used outside of, Bitcoin or proof of work type accounting.

And how do you how do the controllable like electronic record w first, what is the distinction between both. And does that distinction have any meaning for what is a controllable electronic records?

Professor Reyes: An, an account based system doesn't have this transaction. I idea where the UTX though is extinguished and another one is created rather it functions more like literally an account where there's a balance deduction added, et cetera.

But the beauty, I think of article 12 is that it defers to the system. So article 12, and I think this actually drives digital asset people nuts because there's been a lot of A lot of commentary, maybe in a certain channels that I'm in that that the control definition doesn't make any sense.

It doesn't make any sense. Maybe if you're looking at, if you're trying to think from a technical perspective one way or the other, but it's a functional definition that tries to describe the attributes of control of a thing without deferring to one kind of technology or the other.

The article 12 is agnostic as to whether this is a UTX old model or an account-based model. It doesn't care. Both of those. Would work as providing a method of control under for our controllable electronic record. The, and the definition of control uses the term system, right?

And this is also something common to the ECC before article 12. But the idea that you would defer to the system to tell you certain things, because we can't predict how the technology is going to develop in the future, and it's not like nobody wants commercial lawyers trying to predict how the technology is going to go on the future.

Two of the key attributes of article 12 is to be technology neutral, as much as possible, and to describe things functionally as much as possible. So that in order to preserve that technical technological neutrality,

Eric: To take one particular example a hard fork. How does the, this notion of a controllable electronic record change in the event of a hard fork where you basically get, you know, to electronic records?

Of

Professor Reyes: course you've picked like the one example that works everywhere, like in every email chain everywhere.

So at base it wouldn't. Okay. So before the hard work you have a controllable electronic record and after the hard fat fork you have to the original one didn't go away. So you still have one, but you created like, it's another record entirely. And so maybe now you have two controllable electronic records that the UCC doesn't prohibit that, or and in fact would recognize, I think both of them as potential controllable electronic records. I'm not sure if that answers your question.

Eric: And pursuant to which they would still be a security interest in both?

Professor Reyes: Wow. So that I think is governed by different questions. There are concepts of in article nine that would apply to anything literally just got finished teaching students namely proceeds so value tracing concepts and after required collateral concepts.

So there are two ways that it. The security interests could attach to the new controllable electronic record, but it would depend on how the security agreement was written and whether you're perfected and all those things based on how your indication of the collateral was written in your in your filing statement or if under article 12, you perfect by control.

If you have control of both of them, right? If you only have control of the one. You know, maybe you're not perfected in the other, but those concepts are things like proceeds after required collateral products. Although products, I was going to say products, offspring block, but those are more like farm animals stuff.

Bees make honey, right? That's a product of your collateral and the bee. And then offspring would be like a cow has a calf. So I don't know that I'd call a hard fork, creating offspring of your original collateral, your original controlled electronic record, but certainly it could be proceeds.

Proceeds are defined as anything that are rises out of the original collateral. And typically, although that is, it arises out of it after disposition of the collateral. So I sell my cow and I get 2000 bucks back. Now, the cow is still probably collateral because I didn't get authorization first. So they, the new person took subject to, but the \$2,000, isn't it?

Collateral also because it was in exchange for the cow at rose arose out of, or was acquired after disposition of the collateral. So although I didn't sell my original controllable electronic record to get this new one, there could be an argument that I rose out of it. And now it is it's proceeds and thus it's collateral.

But it depends. I think the lawyerly answer it, it just depends. But it's not, I wouldn't say it is collateral just because it's a controllable, electronic record. I don't think. Does that make sense? I think that's governed by other rules in article nine that are just there and have been for forever.

Eric: And also a, a lesson for those who are perfecting and describing their collateral in their UCC filing statements,

Professor Reyes: you always get proceeds to two or three F says, you always get proceeds, whether you put the word proceeds in there or not, but for after required, anything else you probably want to.

Eric: Wait, could you describe the take free rule for controllable electronic records and how they differ from other property under the UCC?

Professor Reyes: Okay. Take free rule is the rule that the, so like I said, normally without authorization, if you sell your collateral or transfer collateral without authorization, the security interest continues in the collateral and the person who takes the collateral takes it subject to the security interest, even if they had no prior knowledge, there are exceptions to that.

And those exceptions are some of them are the take free rules. And one such take free rule is relates to the transfer of money. So if you're, if your collateral was money and that is transferred to so in my cow example if I sold the cow and I got \$2,000 and then I used the \$2,000 to buy BS.

Let's go with these. I don't know why, but, and I used the \$2,000 to buy bees. Then the bees become collateral because they're. But the person who takes the money takes it free, that it's not, and that's a, our existing rule in article nine. They, that \$2,000 that I've transferred to them is not encumbered.

Why? Because we don't want to restrict the negotiability of money in general commerce. That sounds like a bad idea. And so there's just a blanket take free rule which as I mentioned to alluded to earlier general intangibles, that doesn't apply to that, that's part of the problem with the existing rules as applied to say Bitcoin.

So in article 12 the idea is to extend this idea of taking free taking the digital asset free in the context of an onward transfer determined by the control standard. So if you are a good faith purchaser for value that takes control of digital assets that were otherwise encumbered, then you take free of that.

Eric: And then what's transferred in, in exchange is what now becomes encumbered. So what were some of the more challenging determinations that the committee had to make with regards to article 12 and how article nine related to it?

Professor Reyes: So I think I'm a couple of the more challenging determinations was one, the definition of control.

So how do you define functionally the control definition in a way that works right. For both, for, and for a couple of reasons, right? So if you define controllable electronic records, if the limiting marker is the definition of control, right? It's any electronic record that subject to control, we need to define control in a way that doesn't capture other things that are otherwise digital assets that we don't mean to include.

So we don't we don't really mean to include like digital. For example, right? Like how do you carve out what is controllable? So you have to define control in a way that doesn't capture that stuff. While still capturing stuff you do want right. And making it broad enough because we don't, we can't anticipate what else might be in the box of the stuff we want to cover.

Cause we don't really want to revise this again, like next year. So how do you make it broad enough to last the test of time without making it so broad that you capture things you didn't mean to include and cause difficulties. That was one of the challenges. The second challenge is how do you write a functional definition that technologists will read and not go like what?

Which is usually honestly the response that I've seen most often, which is they read it. They're like, what does that say? I don't like we don't know. And part of that is a uniform commercial code problem. There are locks in the uniform commercial code that uses. That mean one thing in like the regular world and mean something entirely different in for the UCC.

So accounts, for example accounts and common parlance might mean both accounts receivable and the account at the bank. But in UCC speak, that's not true. Account is monetary obligation, and a deposit account is your account at the bank. Those kinds of things. The other challenge has been the dialogue and I think it's related, but the dialogue piece sort of an edge, an educational piece about commercial law concepts, like why do we have to have a concept of control in the first place?

Can't you say that it just gives them the rules for money? Why can't we just make money rules apply to digital assets? Money you perfect by possession and by possession alone, possession in like fine. When you have it in your wallet, you possess it right now. So in the commercial law, under the UCC, possession is only for tangible things.

It's impossible under UCC in the UCC world to possess an intangible thing. That's why we have concepts of control for deposit accounts in intermediate securities in the first place. And so we need. We need it for that, but conveying that control is the functional equivalent of possession.

That's been hard too. And that's not so much a determination cause that's true throughout the UCC, but it's just been one of the challenges I think.

Eric: Yeah. And I think, it's, it's not only something that the UCC struggle, whether it's also we talked a little bit about property law. It's something that states struggle with as well.

W you know, how do you define property ownership? So of digital assets. I noted some of the issues that may be a practitioner has to worry about when they're perfecting a security interest in digital assets, like the hard fork, for example. But let's face it. The UCC system has its challenges anyway, and it probably.

There, there needs to be some effort to update it and make it more accessible to two parties, filing interests. And what are your thoughts on blockchain's ability to, to, or distributed ledger technologies, to simplify and improve the process?

Professor Reyes: And I think this is separate and apart from necessarily perfecting in digital assets.

Although I think it offers unique opportunities for solving some of the issues around perfecting for digital assets, because under, so I should be clear under article 12, the control definition, doesn't just serve the limiting function of defining what a control electronic record is.

It also is designated as a preferred method of perfection of digital assets. So it does double duty, it defines what a controllable electronic record is, and then it, then we say it also, you can perfect. The preferred method of perfection is by control. You can, of course always file to perfect as well.

It's just not the preferred method of perfection then for priority purposes in article 12, but separate and apart from. Questions I think and I've thought for a long time dating back to work, at least since 2017 that blockchain or distributed ledger technology could be used to update the filing system itself.

The filing system is plagued by a variety of difficulties practical difficulties. And so far as if its goal is to put other future secured creditors, thinking about lending against the same collateral on notice that one already exists so they can decide for sure if they want to take second priority or not.

The filing system doesn't always give actual notice, cause it's hard to find the filing, the financing statement itself. You can only search on the debtor's name. There are lots of problems with making sure you have the correct name that you, once you get you do search on the correct name, whether you're going to get like a.

Responses and you have false positive, which one is your dead? Or how do you know? So there's just a lot of difficulty and making sure that you actually hit on the right financing statement further there's like furthering that complication is that the financing statements

are supposed to be well, they under the UCC they lapse at five years and then they can be cleared out of the system a year or so out thereafter.

And the problem is many filing offices. Don't have like really the processes for doing that sort of like record retention policies where they clear it out regularly, like they could under the rules. And so you have lots, you'll get lots of returns on old filings that may not that really don't mean anything.

But they're still in there. And there's also a problem with Unauthorized filings. The UCC requires that the debtor authorized the filing of a financing statement before one is filed, but there is no signature requirement anymore. And the filing office itself is not allowed. It's restricted under the UCC from confirming the accuracy of any of the information in the blanks that you fill out.

So you have to fill them out for the filing of the financing statement itself to be effective for perfection purposes, but it doesn't have to be the accurate information. As long as the blanks are filled in, you're good. And the filing office really doesn't. The authority to for the incentive, for that matter to try and confirm the accuracy of anything contained in one.

And so what ends up happening is people file false ones. For loans that don't exist against collateral, didn't say all the debtor's assets. And so there's no loan there and they say, we took this lateral, everything this guy owns. Um, and it's and it can be a problem. It's used either in like revenge scenarios, difficult divorces for example, or against politicians a lot, or sometimes, um, prisoners who want to make a hassle for the prosecutors on their case or the judges that were involved in their sentencing, for example, they'll file they'll file false financing statements.

So I think the problem in this filing system filing system for the financing statements is namely that what the filing system is trying to do is get a whole bunch of people that don't trust each other, to agree together on the existence of certain facts and on the evolution of those facts over time.

That is one thing that distributed ledger technology does well. It helps a whole bunch of people sharing information on a peer to peer basis, agree as to the accuracy of facts shared between them and to how they evolve over time. And so why couldn't the filing system be built on distributed ledger technology and deed?

I think it could. And I think that if it was you, we could do a couple of things that we haven't been able to do with the filing system before one, if, if all the states joined into one distributed ledger, you could finally have one interoperable filing system, which is not what we have right now.

We have the exact opposite of that. Too you could prevent certain false filings. You could put politically interesting people, right? So people most likely to be the targets of false

filings. You can put them on a list so that anytime something was filed and their name hits on the, on that list, that it would trigger a request for that person to sign it with their private key and say, yep.

For real, this really is me. And I can barely. Filing system exists. You could do really cool things with digital assets. This way, if the digital asset was the collateral, you could actually escrow the collateral in the filing system itself. You could perfect it that way. And the maybe if you didn't trust the lender right.

To not. Confiscated early on default, or if there was some dispute about default, you could do it that could help there. But ultimately I think that using a distributed ledger and slips or smart contract based filing system, we could get rid of a whole bunch of the rules in article nine that I am like in the middle of teaching my students.

It takes me like about a month of classes to get through them that have grown up in order to solve the practical problems of the way the filing system was supposed to work, but doesn't actually work in practice. And I think I think technology could fix some of those so that those rules aren't actually even needed anymore.

But that's probably more than you wanted when you asked the question, but there it is. And I've actually, I've built, I prototyped it. So that there I have code out there that could be used for this purpose in a, in an article. Yeah, but anyway,

Eric: Yeah. It's definitely something where, you know, particularly if the cost efficiencies come into play, you could definitely see, um, broader adoption.

There's, there's so many areas when it deals with light court, with county filing offices, whether it's deeds or what have you. You know, a lot of these places are still dealing with you know, rickety metal filing cabinets that are rusted on one side and, paper that is like crinkly and aged with time and that sort of the system.

And, you know, you know, something like this would have a lot of value to lenders in particular looking to confirm because then they wouldn't have to worry about going across jurisdictions. And to your point, it does allow you to it allows the collateral to be updated accordingly over time and ensure accuracy.

Professor Reyes: Um, good stuff, you know, I think to these middleware, like the graph or something, you could make it so that you could search on other things and not just the debtor's name, which would be quite useful. Um, but all that remains to be seen. And yeah, there's a cost benefit analysis, but there's quite a few states out there that now allow you to just file your form by inputting in you know, in a web form.

And if that's true, you just have to change the backend. Like you don't actually have to change the user interface. It's just a matter of changing the backend, how it's processed, and it'd be, it wouldn't be that hard to update to this, but

Eric: yeah, sure. Certainly the jurisdictions which see the most amount of activity in this aren't orient the middle rickety cabinet ones.

They're further along. Keep up the fight, you know, I think there's, there's obviously a huge benefit if that that gets widely adopted, um, so we're going to shift gears again a little bit where we're going, going to talk about open seas. So Timothy McKinney he sued open seas.

Hacker got a hold of his Bored Ape at a fraction of the cost from an open seas wallet. Purchaser was contact contacted saying, give it back. And of course the purchaser said, no, I got this really good deal on a Bored Ape. I'm not giving it back. What are you crazy? So what really happened there?

What does, what are the different rates? Of the D of the parties in this action. Help me spell it out a little bit. Yeah.

Professor Reyes: Um, I guess a couple things, one is to your question, what rights in the Bored Ape the NFT actually gives you, which is separate apart from the hack, which would go to questions under the terms of service of open seas.

There's a great article out by Professor Juliet, Moringiello and Christopher Odinet. The property law of NFTs, I think is what it's called. Yeah. The property law of tokens. And they actually just review a whole series of NFT platforms in terms of service and demonstrate pretty clearly how it.

Basically, none of them give the token holder any actual rights to the underlying intellectual property of the thing connected to the NFT. And rather as at most, maybe people get a license to display the content of the thing that is connected to the NFG. And um, the question that, of course for whether that license was onward, transferred through all of this, like whether there's any remedy to be had just through open seas or some other platform, it'd be harder for open seas given the way their platform works.

But in, in a more centralized one, it might not be that hard to extinguish a license as to this NFT and then re attach it to some other NFT. So that's one, um, one option, but that's setting that aside. The question of whether the purchaser from the hacker good title to the NFT at all has is one straight out of sales law.

Um, and um, there's this common law rule called nemo dat and it's longer than that, but I'm not good with Latin. And so I just say nemo dat, which basically means,

Eric: All it holds it. I, it, nemo dat quod non habet, now I didn't pronounce it. That probably has a mixture of French and Arabic in it.

But nemo dat quod non habet.

Professor Reyes: Yep. That's it. But I

Eric: took a shot. You don't have to embarrass yourself. I embarrass myself.

Professor Reyes: So what it stands for though is that one, a person cannot give what one does not have, right? So the idea is you can only onward transfer. You can only sell the title that you actually have now, a C when they steal a good and they steal something and they have no title, they avoid title.

That's what they acquired. They acquired nothing, they acquired the thing, but they don't have the property rights to the thing. And when a thief onward. A stolen thing. They have nothing to all. They have no property rights to onward transfer. And so the purchaser from the thief also receives nothing.

They, the, they do not have property rights in the thing. Um, there are exceptions to the Nemo debt rule, but And the common exceptions thrown around, out in the world as the good faith purchaser for value exception and, um, that exists, but it exists for voidable title, not for thieves, but for fraudsters.

So fraudsters and someone to say it wasn't a. Say the person, what is his name? Michael, what,

Eric: but Michael Timothy making them McKinney. So

Professor Reyes: say he sold to Timothy McKinney say he sold his board aid. And rather than receive I don't know, some digital asset in return for automatic payment, he accepted a check.

Okay. So I don't know why you would do that in this context, but let's just pretend that they accepted the check, and it was a bad check and it got returned for effort, insufficient funds. That's a type of fraud, right? And the person purchasing the thing with the fraudulent check, they would have obtained voidable title, and rather than completely void title and avoidable title someone with voidable title can in fact, onward transfer, good title, better title than they had despite nemo dat it's an exception to the nemo dat rule to a good faith purchaser for value, namely someone who purchaser for value, so gave value and had no idea about the fraud.

So had no clue that they, it was originally obtained, um, via an insufficient check, right? Then that case voidable title, yes, you could, the purchaser could obtain good title, even though the seller didn't have it to give. And then in that case, the original owner, their like

their remedies would be to go after the fraudster and get their money back, but they couldn't go back and reclaim the property.

In the case of the thief, you cannot wash the, you can't launder the bad title. It's void. It's not, voidable, it's void, you can't launder it. And so the original owner can go after the purchaser in a reclamation action and try and get the thing back. Um, but the question of whether you can, you said the purchaser politely said no, and even if you sued them and you got an order to do it, like the question of how you would force them to send back your NFC.

But a new one entirely. Um, and that, and the separate question, but in particular, the UCC recognizes the rule of Nemo dat under section 2, 4 0 3. So in article two on sales section 2, 4 0 3 Subpart one, the first sentence of Subpart, one goes to void title. And the second sentence along with part sub-parts a through D of sub-part one, those are voidable titles.

So it's right, right there in the UCC, but it's also a common law rule and of course, jurisdictions will vary as to their, sort of implementation recognition of, of Nemo Dat. And I would say there's one other variation which applies only to negotiable instrument and it's that a good a holder in due course can take better title than the person in the middle, the thief in the middle.

But and it's a stronger exception to Nemo dat than the one I've just described, but it's only applicable to negotiable instruments. And it's only for a holder in due course and digital assets are not negotiable instruments. And thus a holder of an entity cannot be a holder in due course.

Eric: So in Timothy McKinney's case, he sued open seas.

So what do you think the right, if you're the seller of the now of the board aid that's been sold at a fraction what are your remedies like? You're ultimately hoping that open seas go after the purchaser and voids the sale and or forces the purchaser to return it.

But the purchaser has already said no. So what is the right course for a seller in this case particularly on the open seats platform,

Professor Reyes: I don't know how open seas would even be able to force them to do that. Technologically speaking. I'm not sure even if that's what you want. I don't know how they go to the purchasers that you must give it back.

Like what is cause my understanding is it's not centralized custodial wallets that they have access to. Unfortunately, typically though you would go after either the thief and get, um, damages from the thief or if you could find them, which is usually a problem or you go after the purchaser and you, um, do an um, action for reclamation to get your stuff back.

But then you're back to the place where, what the court orders them to send it back to you. And then how, like how do you actually make them do that is the question.

Eric: And, and, and that I think is, even after you get through all those rights questions, innocent buyer, and innocent loser.

You still come back to how do you enforce it? And obviously I don't have a good

Professor Reyes: idea. I have no idea.

Eric: At the point in the final analysis, that's what you're left with. Um, so we talked about a lot with regard to security interests today. Where do you see the ongoing gaps developing as it relates to lenders and securing their rights for digital assets?

Professor Reyes: on after article 12.

Yeah. Yeah. I think one piece is state adoption. And then grandfathering so the transition period, which article 12 provide will provide for. But, um, so it's only uniform if all the states uniformly adopted and maintain UCC uniformity. And I think some of the difficulty will be that states have been acting without waiting for the final product.

And so we already have quite a bit of variation on this. I think pretty unfortunately. And so the question is willing those states that have already moved for, out of political expediency to try and change, update their UCC for digital assets, will they then adopt the new package? And so that it is uniform because it only.

The benefit of the UCC is the word uniform that wherever you're transacting, you're under the same rules. Um, so I think that is, is one thing to watch. And then I think the other bigger gap, I don't actually think there are many gaps left. I think article 12 is, is pretty solid. But I think one of the big gaps that will be education and making sure people understand the definition of controllable electronic record and how it works both as a limiting factor and as, um, as perfection mechanism. I do think the questions, I do think article 12 will help with the bankruptcy questions that people are beginning to ask. But I do think this custodian issue and, as a part of the bankruptcy estate or not, I think that continues to be an area to watch. And I think internationally watching the rules develop internationally as well will be at, be an area to watch because in parallel to this uniform law commission, American law Institute effort, there is an effort at one draw, which is the international harmonization of private law, Institute to, to look at these same questions, the private law of digital assets.

And it's been much more difficult because there's quite a bit of variation amongst countries in terms of how their commercial law. Works including everything and in

particular around questions of enforcement. So self-help repossession is a thing that secured creditors in the UCC can do.

And it's not a thing that you can do in a lot of other international jurisdictions. So to the extent that you are a creditor in digital asset land, where you take collateral, um, and take control of it take digital asset control collateral that you then take control of. And then you use that in order to repossess quickly, quite easily.

It's a question whether, who is your debtor? Where are they from? Are you allowed to do that under that jurisdictions law if it's not the us? Um, and I, I do think the repossession piece might be an ongoing, practical thing to, to keep an eye on

Eric: for sure. What is the, what did I, you know, based on past history, what do you think the pathway of state adoption is?

Is there like a slug of states when the UCC comes out, they just they adopt it right away. And then the others come along in a slower pace.

Professor Reyes: I have depended on the reform, frankly. There are certain revisions that have been adopted uniformly and have been adopted uniformly quite quickly.

There are other revisions that are still not uniformly adopted. So for example, the definition of good faith was revised. There used to be two definitions of good phase one in article one, and that applied to everything. And one in article two only for merchants. And now there's one in the most recent revision, there's one definition.

And I should say the two, they were two different definitions. One was like less stringent and one was very stringent for merchants. The new wine it's in article one alone, it applies to everyone. Um, um, Somewhere in the middle. It's not quite as stringent as there. Anyway, the point is there are states that haven't yet adopted that and that still maintain the two good face definitions.

And so it, it has just depended on. On what the reform was, what the revision was and what the states have, thought about that revision on the ground. I'm hopeful that digital assets, such a, a big deal that that this would be one people would jump on pretty quickly, particularly given all the movement in the states already you know, demanding resolution to these issues.

Um, and moving ahead if they didn't, if they didn't have one.

Eric: And so for the states that have moved ahead, do you think there are any states that might actually be slower to adopt because they already adopted something? Or do you think they'll embrace the change?

Professor Reyes: Yeah, so my, so Texas where I am, we've adopted a version of article 12 and it was the version of article 12 that existed at the time it went to the legislature with the exception that it applies to virtual currency and borrowed the term virtual currency from a different uniform law because the controllable, electronic record thing wasn't quite figured out yet.

And so I would expect Texas to be one that, that updates, um, when the whole thing comes out and quite, without much of a, hopefully without much of a, um, debate about it. But, but and not to name names, but I think Wyoming is one where you might see pushback, um, and maybe reticence to adopting the new article 12 thing in part, because, in part because the, and I want to tread carefully here about in part, because some of the concepts in the Wyoming multiple revisions at this point of their digital asset UCC stuff, some of them are reflective of what is in the article 12, but not all of them. Um, and, and I'm not sure that the differences are well understood enough to encourage them to adopt article 12.

Although I think the differences are quite important, namely that they've linked, for example, take free rules to money, to the treatment of money. So take free in Wyoming you get it. If you. If it qualifies for the same tape, how to save in digital assets in Wyoming, they take free the same way as money.

But as we've said, the problem is you take free up of a security interest in money. If you take possession of the thing, and that's impossible under the UCC, because possession is of tangible things, right? And so there, they, there are a few things that are like commercial law specific that I think remain problematic.

But I worry won't be updated because large bylaws by and large, they a lot of the concepts in article 12 are reflected in the Wyoming one it's just implemented differently.

Eric: Well, is it's something to work toward. You, you, you know, Carla and I are both on the Wyoming Select Blockchain Committee Working Groups.

Professor Reyes: Um, that's why I say I want

to tread carefully make anybody mad, but I do think there are pieces of it that don't quite fit commercial law principles still.

Eric: Yeah. And honestly, I think Wyoming has been pretty good about trying to update and trying to get to the right place, not moving at the speed of light, but being, being thoughtful and careful about how they do it.

And they are certainly You know; they certainly want to get to the right place. And then, so my not minor adjustments to be consistent. I would imagine that they would adopt except

to the extent that it's already been enshrined elsewhere, and then they have to think about, okay, how we reverse other, implications of this through other statutes.

Professor Reyes: I think I absolutely agree. I think they are trying to get to the right place. I'm, you've seen that they've done revisions of the thing, like over and over when they realize certain practical problems, because like the UCC model law generally they want it to reflect commercial practice. And um, yeah, where commercial practice has said, actually it'd be better if it said this they've already moved to change it.

Eric: Yeah. Yeah. And it gives you a little more cover. I was going to ask you specifically about Wyoming anyway,

so great. So Carla, anything else that you think that we should cover on this podcast? Before we break?

Professor Reyes: No, just to say

that if you remain interested in the article 12 work at the uniform law commission observers are always welcomed. You just have to reach out to the uniform law commission staff.

Hey, I want to be an observer of the uniform law unit UCC and emerging technology committee. And then you'll be on the list, and you could join our next meeting and contribute to the conversation which at times you may regret doing. But if you want, if you have comments about, or you have thoughts and you want to contribute them, you are welcome and encouraged to join that that's probably the last thing I would say, there's this feeling that like it's a secret society that want is riding this thing in secret and that couldn't be farther from the truth. All of the drafts are available on the website.

Everyone is welcome. Anyone is welcome to join the meeting, which, um, you know, I don't know about the next one. I think they're all, I don't think I'm planning in person to go in person. I think they're all hybrid at this point. So join via zoom. It's not even hard. But do consider if you have comments to consider coming in and offering them

Eric: And is there is there a specific website for the emerging law?

I think it's,

Professor Reyes: I think it's like a page on the, if you go to Uniform Law Commission and you searched by committee and you look for UCC, I think it's Uniform Commercial Code in Emerging Technologies Drafting Committee at this point, then I think I think that's how you find it.

Eric: Okay. So we'll throw a link into the show notes.

Carla, thanks so much for joining The crypto Economy. It was great to have you as a guest.