EPISODE 342

[INTRODUCTION]

[0:00:00.3] JM: When you purchase an eBook, you must agree to the terms of service that tells you what you can do with it. What is actually in that terms of service, what are you agreeing to when you buy an e-book the? The answers might surprise you.

In this episode, Srini Kadamati interviews Chris Groskopf on how the rise of digital products has eroded the ideas of traditional ownership. They discussed digital ownership from the point of view of the legal system, from the point of view of consumers and the companies who are creating these products.

Chris is a data journalist who uses data and graphics and storytelling to build compelling news experiences. He's worked on multiple pioneering teams at organizations like the Chicago Tribune and NPR and he's currently the first data editor at Quartz, which is a digital first Atlantic publication.

He's written about how complex systems like the stock market can fail and how most of the world's art is actually locked away in museums. Outside of journalism, he has worked on multiple Python data libraries like Agate, proof, and csvkit. He is experienced in engineering as well as data journalism.

[SPONSOR MESSAGE]

[0:01:24.3] JM: Dice.com will help you accelerate your tech career. Whether you're actively looking for a job or need insights to grow in your current role, Dice has the resources that you need. Dice's mobile app is the fastest and easiest way to get ahead. Search thousands of jobs from top companies. Discover your market value based on your unique skill set. Uncover new opportunities with Dice's new career-pathing tool, which can give you insights about the best types of roles to transition to.

Dice will even suggest the new skills that you'll need to make the move. Manage your tech career and download the Dice Careers App on Android or iOS today. To check out the Dice website and support Software Engineering Daily, go to dice.com/sedaily. You can find information about the Dice Careers App on dice.com/sedaily and you'll support Software Engineering Daily.

Thanks to Dice for being a loyal sponsor of Software Engineering Daily. If you want to find out more about Dice Careers, go to dice.com/sedaily.

[INTERVIEW]

[0:02:43.8] SK: In September 2016 you wrote a really great piece from service agreements and the concept of ownership and digital ownership and how companies are taking advantage of TOS agreements to destroy ownership in the digital age. I'm curious what compelled you to write this article? What was the inspiration for it?

[0:03:04.0] CG: My interest tend to be pretty all over the place, but I'm especially interested in the ways is the law intersects with other areas, intersects with software, intersects with culture, and I think that it's sort of a rich vein for doing analysis because it's got this sort of the law, like software has the sort of very logical, very analytical side to it that lends itself to being analyzed.

The piece in particular came out of — It's by these two researchers, Perzanowski and Hufnagle who are both very active in sort of right to repair issues and issues around ownership and things like that. They had written a really interesting paper which became part — Basically became part of the book where they looked at what people thought they got when they bought something from Amazon, bought something from an online store.

Basically people presume they get a huge set of rights with the material which in reality of course they don't. The material they get is not governed by the laws that govern when you by things in a store. It's governed by these terms of service agreements, this sort of — Not exactly informal laws, but the sort of shadow legal system. I found out that principal really fascinating and as I started looking into the research, there's just a huge body of material out there about that which hasn't really, I think, been well communicated to the public.

[0:04:23.4] SK: Interesting. Do you think the confusion may be because there is a certain set of expectations around physical ownership of goods that kind of people have kind of taken for granted and extended to digital world? If you could just talk a little bit about you what were those original physical ownership guarantees that we had.

[0:04:41.9] CG: Sure. They talk a lot about this and their analysis. You're right, that there is like a set of expectations around buying things that come from the long long history of treading physical money for a physical object that you can then put on the shelves on your house. People expect, for instance, that they're going to be able to lend it, that they're going to be able to give is to their kids when they die, that they can toss in the fire if they want to, or get rid of it forever. There are these sort of very tactile expectations around ownership which don't translate online.

One the really interesting things the researchers that I centered my piece on did is that they did a sort of thought experiment where they changed the text of the button that people clicked when they bought it from buy now to license now and it pretty dramatically changed what people's expectations around what they're getting. Then there was also a third variation where under license now, they also sort of listed very explicitly what rights you were buying.

I do think — I think those expectations have come from the physical world and I also think, and they make the point, that online retailers have done nothing to discourage that way of thinking, right? We use expressions like buy. They use words like own, and those words are arguably pretty incompatible with the actual rights that you're requiring.

[0:06:00.7] SK: Just to be completely clear, let's say I lived in the early 1900 and bought a typewriter. What kinds of ownership rights would I be able to enjoy?

[0:06:09.5] CG: I think ownership. I'm not a historian of ownership, but I think the basic expectations I think are pretty straightforward, right? If you have something, you physically have it, you can do whatever you want with it. That is not in any way damaging to the person who sold it for you because the objects are finite.

If you choose to resell it or give it away, you're not in any way damaging the person who sold it to you originally. With things like e-books and video games, they're infinitely copiable. The ability to resell them, or copy them, or give them away, creates a whole complicated set of knock on consequences and the law and the courts have not caught up with that. Now we have this sort of alternative system that regulates those things that comes through terms of service agreements and privacy policies and things like the ability to break the typewriter, or to resell it, just doesn't — It doesn't map clearly to the world of the internet where information can just be copied infinitely.

[0:07:08.6] SK: Yeah. It makes sense. That's actually really interesting. What — In which you're not a historian. Do you have a sense for the original property law that protected the rights that if someone tried to take your typewriter away, you could point to and the court system could point to as like, "You can't really do that." I'm curious, do you have a sense for what those kinds of rules were or what were the original laws around it?

[0:07:32.6] CG: I focused in my piece on sort of the transition away from traditional models of ownership. I think I don't know — I couldn't tell you detail exactly what the United Kingdom legal model that we inherited in states was.

What I think is really interesting is that when this problem, this sort of like shadow system of regulation, evolved from the floppy disk era, basically, when companies were trying to sell software for the first time and they realized that somebody could just copy it. They didn't have — Figure out a way to make it physically on uncopiable and they didn't have the benefit of things like serial numbers, because there was no internet yet.

They invested the end user license agreement, the EULA, which used to be — They called them shrink wrapper agreements because they were really shrink-wrapped to box. When you broke the plastic, that was implicitly accepting those agreements. Those agreements protected — They basically were able to say, "By opening the box, you have effectively sign something that says that you're not going to copy it and give it away."

Now, when we got to the internet sort of 30 years later, those end user license agreements has sort of transformed in the legal system into terms of service which apply much the same principle to a much broader set of products and services.

[0:08:54.3] SK: Were EULAs — How did the courts react to them and how did they enforced them?

[0:08:58.1] CG: That's sort of one of the funny things about this, is the in many ways the courts still haven't. I talked to a couple of legal experts about this and they — The EULAs were originally, think, created as sort of a hack to get around the fact that courts move slowly and technology moves quickly.

The legal system just couldn't adapt quickly enough to what was happening. I think there was, at least to a certain degree, some recognition of that by judges and other. What some of the experts I talked to would say is that the contract law filled a gap where property law couldn't explain things. We got all of these things which historically been government by property law are now suddenly governed by contract law, by end user license agreements, and then terms of service. That transition had all these consequences that now not only do the courts have to sort of figure out where things might've gone wrong, but in addition to that they also have 30 years of fallout, because it's not like the technology stood still starting in the 1970s, right? The technology is now intimately more complicated than it was when we were shrink-wrapping pieces of paper in boxes. They also have to deal with all of that.

Some of the people I talked to saw some good trends in sort of the courts, a few decisions that seem to maybe tends toward thinking about restoring some rights of ownership. In the vast majority of cases that people I talked to who are for a more traditional property model are quite saying a lot about it. They really don't foresee a clear path and there are some crazy ideas around using a blockchain to track ownership, and that stuff is all very interesting. But if the courts can't answer the basic questions, the likelihood we're going to get a grants in the regulatory scheme I think is pretty outlandish.

[0:10:52.6] SK: Yeah, I think like it seems like technology is not the problem here, or we don't need a technological solution. It seems like kind of need more of a legal solution or an agreement of some kind.

[0:11:04.1] CG: Yeah. That's one of the reasons why I like this particular story and that drives a lot of the stories that I write is that I find that there is a very popular line of thinking about problems being technical problems that end up being legal problems. I'm reminded of a lot of the sort of civic hacking projects over the last 10 years or so. A lot of people went into those problems thinking that the problems with city government, or problems with state government, were technical problems.

[0:11:21.4] SK: That actually makes a lot of sense. We used to you have EULAs and then we changed to TOS agreements because it turns out you cash and grab digital SAS software and there's no shrink-wrapped to turn over or whatever. What is the difference between EULA and a term service agreement for people who aren't familiar with it?

[0:11:51.2] CG: Legally, it's a complicated question, but the basic principle is that EUALs cover software and terms of service agreements cover services and things that you do on the web. Now there's a pretty fuzzy line there as I think most of the listeners of this podcast will understand, that life what's an app? Is it software? Is it a service? If the software doesn't work, run out of service.

That has had — One of the things I talked about towards the end of that story is that that line is going fuzzier and fuzzier over time and now what we find is the physical products that you buy comes with terms of service agreements, because they're dependent on the internet.

[SPONSOR MESSAGE]

[0:12:38.3] JM: Do you want the flexibility of a non-relational, key-value store, together with the query capabilities of SQL? Take a look at c-treeACE by FairCom. C-treeACE is a non-relational key-value store that offers ACID transactions complemented by a full SQL engine. C-treeACE offers simultaneous access to the data through non-relational and relational APIs.

Company's use c-treeACE to process ACID transactions through non-relational APIs for extreme performance while using the SQL APIs to connect third part aps or query the data for reports or business intelligence. C-treeACE is platform and hardware-agnostic and it's capable of being embedded, deployed on premises, or in the cloud.

FairCom has been around for decades powering applications that most people use daily. Whether you are listening to NRP, shipping a package through UPS, paying for gas at the pump, or swiping your VISA card in Europe, FairCom is powering through your day. Software Engineering Daily listeners can download an evaluation version of c-treeACE for free by going to softwareengineeringdaily.com/faircom.

Thanks to FairCom c-treeACE for being a new sponsor of Software Engineering Daily, and you can go to softwareengineeringdaily.com/faircom to check it out and support the show.

[INTERVIEW CONTINUED]

[0:14:19.7] SK: Yeah, talk about a little more. What are some examples — I'm sure people own products, physical products that fall into that category that they don't even know about.

[0:14:28.8] CG: Any internet of things device almost certainly has some kind of a terms of service agreement covering the API that that device is connected to. Those range across a really really wide spectrum, all the way from things like John Deere tractors which come with a terms of service, and which has been a huge problem for farmers that can't get their equipment repaired except by John Deere.

There's also sort of silly things all the way on what might be considered the other end of the spectrum like sex toys, which now some sex toys are designed to phone home or to be operated remotely and those things come with terms of service agreements and you get into really weird issues about privacy, about data collection, about your ability to use something you paid money for if you don't want to connect it to the internet. Those are just two kind of like very different examples, but there's a whole world of stuff in the middle covering things like Alexa or a fancy set of Bluetooth headphones, or whatever it might be. There's terms of service all over the place now.

[0:15:33.2] SK: Interesting. Do you have any examples of court cases around TOS agreements where people feel like their rights were infringed upon but the TOS agreements kind of allowed those? Do you have any kind of example of those?

[0:15:46.0] CG: I don't have any ready right at hand. The truth is the TOS agreements are pretty untested in courts. If you talk to — I talked to one expert, Nancy Kim, and she has covered this in really fine detail and has written a book about it. I think the truth is, or what I was able to suss out from talk talking to her is that a lot of these things are dependent on a pretty classical interpretation of property law and they just haven't been tested in — Not all of the aspects of these things have been tested in modern environments, modern legal environments. There's also a lot of things that are sort of potentially open to reinterpretation or open to the re-legislation. Certainly, the Congress to get involved in any number of these issues.

I'm sure there are a few interesting specific cases out there, but I think in general what I uncovered is that the search is not — There's just not a lot of these cases being test. One very particular reason for that is because a lot of these terms of service agreements include anti-class-action clauses. The only lawsuits that can be brought against them are by individuals and very rarely is the monetary damage from the company that buy MP3s from large enough that would be worth it personally suing them. Even if it was, in a lot of case, since they also have mandatory arbitration clauses which prevent you from taking the court. There's sort of this layer cake of things that prevent these things from ever getting to court.

[0:17:15.9] SK: Let's expand on that a little bit. People who aren't familiar, what exactly is mandatory arbitration clause?

[0:17:21.5] CG: The mandatory arbitration clauses basically say that by agreeing to the terms of service you agree that you won't take the company to court if you have a dispute with them. You will instead meet with a mediator, and that the decision of the mediator will be binding. The mandatory part meaning you don't have a choice. You can't take them to court and arbitration obviously they'd be referring to the mediator.

These clauses have really proliferated and I would say that I actually have some numbers on this, so I'll have it to pull them out. A good 50% at least of the terms of service agreements that we all agreed to have these mandatory arbitration clauses and a lot of the big ones that most everybody is using.

The New York Times had done a lot of great reporting around this and basically what it boils down to is that these companies have created a pretty impregnable legal shield to any sort of consumer action against them. They're sort of famously been used in the financial services industry, but are increasingly also used for just general software, your music streaming software, your web hosting. Those kind of things probably have mandatory arbitration clauses that prevent you from taking them to court.

[0:18:30.3] SK: Interesting. Have people tried to sue against mandatory arbitration? I'm curious how that's held up in court because it almost — I mean you make it seem like it's almost impossible to sue a company like that.

[0:18:40.2] CG: It is. It is, and there have been things which have tested those arbitration clauses. So far, in the vast majority of cases, they have stood up. There have been a couple of exceptions to that were specific judges have thrown them out and allowed something to go to trial. Again, the incentives are pretty strongly weighted against the individual because even if you could go to trial, is it going to be worth your time? That's like a pretty rare — There's a very narrow slice of cases where there's a potential for a trial to begin with and then there's sort of all these roadblocks put up in the way of it.

[0:19:15.4] SK: Interesting. One thing you discussed in the article pretty extensively which I enjoyed was consumer apathy. You actually had a quiz that was based on the study that you mentioned around digital ownership that kind of tested people's understanding of the rights they thought they had when they purchase something online. Talk about that quiz a little bit. Talk a little bit about what you expect to see and what you ended up seeing.

[0:19:40.1] CG: Yeah, the quiz was basically — It was basically just a replication of exactly what Perzanowski and Hufnagle did in their original research projects which it showed a webpage

that basically looked like Amazon or Zappos or something and then had a product on it and then you were supposed to select which rights you thought you got.

We didn't track analytics on it, but I feel confident that our results would have been quite similar to what they got in the study which is that most people dramatically overestimate what rights you get. In point of fact, you get none of them. You get none of the rights in the list of things that you got. There's like a different ones for lending, reselling, things like that.

[0:20:23.5] SK: Yeah. I took the quiz and I actually got them all right. Yeah, I put no for; I can copy for my own use, resell it, bequeath it, give it away, lend it to a friend, throw away all my devices, keep it indefinitely, and I own it. The message you had was actually pretty funny around that because I got all of them right.

[0:20:39.8] CG: Yeah, which obviously that's rare, since I had to handle that case in the code. That's not the answer we'd expect. You now, courts' audiences is sort of self-selecting for like a pretty savvy reader. I'm sure that you're not the only one who got them all right. I do think that the average user certainly doesn't understand that all of their music could disappear at a moment's notice and they would have absolutely no recourse. I just don't think that's a way people engage with the world.

To the point of apathy, one of the central questions in the book that Perzanowski wrote, coauthored, is are people going to care about those? Does the next generation, do they just not care about owning things anymore? It's a really fascinating question and I think you can come out from a lot of angles. There has been this line of thinking, the millennial's don't care about owning things because they into the sharing economy and they're not buying houses and they value experiences more than things. All these sort of like certain tropes about millennial's.

A lot of those I think are because Millennial's don't have any money. Nott because they actually don't want to own things, but there does seem to be some evidence that there is sort of a general way of thinking about owning things, that it's shifting a little bit. People are a little more communal about resources and it remains to be seen if there will be a backlash at some point.

I can certainly imagine for my own sake that if I'm 75 and I die and I own a thousand movies on Amazon, own all the classics and I can't give them to my kid when I day. I can imagine that suddenly becoming a really big issue for me. Not having cared for a long time, but then your first generation of digital natives is about to die.

[0:22:23.9] SK: Yeah, it's like your health. You'll only really start to care about it when you notice it's — Or it's like too late, right?

[0:22:30.0] CG: Yeah. The other place that I think it's fascinating, and I didn't get into this in the story. I've always wanted to revisit it. I think it's interesting to think about how much people value things that they create in digital worlds. With some notable exceptions, if you play a videogame and you spend hours and hours and hours building your perfect castle, you don't own it and you don't own the rights to the way it looks and you don't own the ability to replicate it on your own server and you don't own anything about it.

I think there is an interesting question to what extent kids today, kids yesterday, and kids tomorrow are going to grow up feeling quite a cultural deficit for not actually having anything that they make. I don't know what the answer to that is. I had some heated arguments about it. There's definitely different opinions about how much people in the future will care about that stuff.

[0:23:22.4] SK: One thing that's interesting is in the survey you mentioned — Sorry. When you're covering the study itself, you mentioned that people were willing to pay more for ownership. Do you think that is — Is that actually happening? Do you think there are products and places where people are experimenting with the?

[0:23:40.3] CG: Yeah. They tested that by basically giving people multiple price points with different levels of ownership and people were willing to pay slightly more to own it. I don't know. It's like a 10% or 15% increase. Not a huge amount.

To my knowledge, nobody really does that. I don't know — I think one of the ironies of this whole situation is I don't know if legally you could, because I don't know how you could write — There's no obvious way that you can write a terms of service agreement that conveys

ownership. The legal system simply doesn't have a mechanism for doing that. If you convey ownership, then they can copy it and give it away.

The system, there's sort of like a disjoint where the terms of service agreement exists for commercial benefit of big companies, but they also exist because there's not an obvious alternative. I want to lay all the blame on money-grabbing CEOs. That would be unfair. It's also just the case that like people wanted to run businesses and get on with their lives and there was no clear regulatory mechanism from doing that. Now we're in the situation with this really really stupendously ad hoc system and it's unclear what to do about it.

[0:24:49.9] SK: Yeah. It's interesting you mentioned because just last weekend I was at the family and we were on iTunes, I guess, and we're looking for a movie to watch and we weren't even — It was $15 or something to "own" the movie and $3 or $5 to rent it for 24 hours. Obviously it feels like some classic movie. Maybe you want to own it digitally. The pricing option makes sense, but the cheaper one was just so compelling. As you mentioned earlier, there is trend towards kind of experiencing over owning.

I'm curious, are there kind of efforts in the legal side to try and change this? Because it seems like it's not — It's really unclear. It's almost like; does anyone stand to lose from this? It's seems like a win-win some ways. The legal system seems with it. Consumers, mostly, seem fine with i. Then, obviously, companies are reaping the benefits.

[0:25:47.8] CG: Yeah. I think to a certain extent, we'll have to see. If that example you describe of should you rent it or own on it on iTunes. Of course, the truth is should you rent it for a day or should you rent until you die or they go out of business, right? That's the actual choice they're giving you.

I don't think there has been at this point sort of the level of widespread discontents or even understanding that's necessary as a preface to discontent for there to be like an organized movement against this.

There are certainly scholars out there who are sort of sounding the alarm about this, but I don't think they're getting a lot of play. There has been — The sort of exception to that is there are a

couple of related issues that have gotten a lot of attention. Right to repair, the ability to basically like fix your tractor or fix other things that have software in them. That has sort of become a perennial topic, and I think eventually we probably will see legal action on that. There is a law called YODA that keeps getting proposed every year. Yeah, I forgot what YODA stands for, but it kind of doesn't matter. That one would return some rights to do these fixed things and would curtail terms of service around physical goods. There are, nibbling around the edges, some important things, but there's no sort of broad effort that I've seen to re-track this or find a new system.

[0:27:10.4] SK: Interesting. What do you think about open-source and the free software movements? How do you think some of this stuff applies to software? So far we mostly been talking about an e-book, or a movie, or something digital that you buy to consume most, but not may be used in the same way you'd use software. Io I'm curious how this extends or applies to a kind of open-source software.

[0:27:33.8] CG: It's a good question. As a creator of open-source software, I've asked myself that question. I think that the line that I most often heard from people is that open-source software is one of the few places where this doesn't really seem to be an issue, because the alternative that was invented for licensing software, the sort of like — The MIT licenses, and the Apache licenses, and then even the copy left of the GPl. Those systems sidestep the issue of ownership in large part by providing very sort of disengagement from the rights of the creator. The creator can relicense it if they want to, but the copy that you've put out there is sort of out there in perpetuity and people can take it and do what they want with it.

I don't think that these issues sort of directly impact the way people create or use open-source. I think the more interesting question is is there something that runs the other way? Is there something in the way that we do open-source that we should think seriously about applying to the way we do other kinds of goods?

Every time I start thinking down that path I end up in pretty utopian-grandiose thoughts about how to restructure the property law system. I don't think those are worth repeating. Suffice it to say, I think that the open-source is one of the most interesting places where we do this sort of stuff in the internet quite different.

[0:28:58.2] SK: Interesting. What efforts — We talked about this a little bit earlier, but what efforts are people trying — You mentioned the blockchain. The people who are really excited about blockchain as like to ownership. What are some kind of either technological or legal efforts besides some of the ones that you mentioned that maybe people can get involved with who are interested in this?

[0:29:17.0] CG: The big one that I have seen real movement around are these blockchain efforts. There are a handful of different companies that are doing sort of various kinds of what you might call like a blockchain registry of ownership. That one which I've seen which is the most elaborate, like on the company name, but there is a company in the U.K. that's doing it for video games.

Basically, keeping very fine-grain track of who owns what in video games which allow you to do interesting things like create very realistic market economies, because suddenly that sort of wielding plus one is actually unique. They have a whole spiel about all the interesting ways this can be used. I talked to them about the possibility of like, "Could you extent this to music, or something like that?" I think there's a lot of interest in that direction. I don't think anybody thinks that the legal system would be even remotely readily to catch up to the practical implications of implementing something like that.

We've seen how hard it's been for finance to wrap their heads around the blockchain and it's an intrinsically financial technology. To try and get the legal system, which is one with the slowest moving social systems. To catch up with this I think is pretty much a started at this point.

There have been some interesting stuff. Hufnagle, who I mentioned before, has written about blockchain, applications of the blockchain to ownership. The other sort of idea that comes around every now and then is the idea that you need some sort of centralized system of registering these things whether blockchain or not. You could imagine the government having a role in tracking who owns digital goods. That comes with its own raft of problems. We'll see. I don't think any of them are in the awe thing, but there are people thinking about interesting things.

[SPONSOR MESSAGE]

[0:31:11.3] JM: For more than 30 years, DNS has been one of the fundamental protocols of the internet. Yet, despite its accepted importance, it has never quite gotten the due that it deserves. Today's dynamic applications, hybrid clouds and volatile internet, demand that you rethink the strategic value and importance of your DNS choices.

Oracle Dyn provides DNS that is as dynamic and intelligent as your applications. Dyn DNS gets your users to the right cloud service, the right CDN, or the right datacenter using intelligent response to steer traffic based on business policies as well as real time internet conditions, like the security and the performance of the network path.

Dyn maps all internet pathways every 24 seconds via more than 500 million traceroutes. This is the equivalent of seven light years of distance, or 1.7 billion times around the circumference of the earth. With over 10 years of experience supporting the likes of Netflix, Twitter, Zappos, Etsy, and Salesforce, Dyn can scale to meet the demand of the largest web applications.

Get started with a free 30-day trial for your application by going to dyn.com/sedaily. After the free trial, Dyn's developer plans start at just $7 a month for world-class DNS. Rethink DNS, go to dyn.com/sedaily to learn more and get your free trial of Dyn DNS.

[INTERVIEW CONTINUED]

[0:33:10.2] SK: How are these blockchain approaches work in terms of how hard would they be integrating to a product? How would it be from a consumer standpoint? It seems almost like a digital serial number that like our hardware products have.

[0:33:24.8] CG: I think that's a pretty good analogy. You would somehow store a token on the chain that is unique and that you can own at any given time and that conveys you ownership to the product. How exactly that interfaces with the thing you own? I think that's the part that the U.K. company I mentioned has been working on which is sort of like how do you use that token to sort of unlock the thing that you're using? You still need some central repository that says,

"Yes, that token can be as access to this thing." Maybe that has to go over the internet to do that.

I think there's a lot of interesting problems there. I also think that those are technical problems and therefore probably solvable problems. Whereas I think the legal problems are much less tractable.

[0:34:12.2] SK: Right. That makes a lot of sense. Let's talk a little bit about Quartz things and a little bit of your work there. What exactly is Quartz things? What are you guys focused on?

[0:34:22.6] CG: Courts, we describe it as a guide to the new global economy. Quartz as a brand is basically — It's a new way of doing business news. We draw business news quite broadly to include sort of all things that smart, savvy, businesspeople would be interested in reading out. The Things team inside of that is somewhat nebulously defined a team of people who also write code and design products and sort of build these journalism-centered unique projects.

One of the things that differentiates us from sort of graphics desks at a lot of other places is that we are all reporters and coders, so everybody on our team both writes the words and the JavaScript, or Python, or whatever it may be. That allows us to sort of engage with a kind of story that a lot of other reporters would have a harder time getting into and allows us to tell stories in a way that can be quite unique. The piece we were just talking about, building that quiz sort of gives people a different entrée into that topic. That's basically what we are.

My own role as data editor which is a new role as the beginning of the year, my role is now sort of interfaced with the newsroom and sort of spread the things capabilities more widely. I'm doing a lot of training and a lot of work directly with other reporters so that we can have a lot of projects that are a little bit better rather than the occasional projects that's a lot better.

[0:35:54.5] SK: Right. That's interesting. What are some pieces you're working on that you're really excited about?

[0:35:59.3] CG: I just launched a piece last week with Dan Kopf, another reporter at Quartz, that looks at 25 years of American wage growth at the county level. It's a map and some

accompanying charts that basically show how disconnected individual counties can be from the wage trends in the country. It's really pretty remarkable to see it on a map how sort of speckled it is. You would think like one state is doing well and another state is doing badly, but actually within a state like New York you'll have some of the best performing counties and some of the worst performing counties.

That was a fun one because we got to dig in to an extremely large dataset. The Bureau of Labor and Statistics data where you used, it's about 100 gigabyte single table. That was fun, but I don't get to work with data that large every day.

Other stories that I've been working on, I write occasionally about remote work, because I myself is a remote workers. I'm currently on a story about how incomes have changed for remote workers and how sort of the notion of who works at home has shifted.

[0:37:02.2] SK: Where do you work from, and where is Quartz based out of, and where is your team, to kind of give a sense?

[0:37:08.3] CG: Sure. Quartz is based in New York, but we have offices in a bunch of other places including India, Hong Kong, San Francisco, South Africa, and the U.K. We're all over, and my team, the Things team is distributed as well. We have two in New York, one in San Francisco and then myself in Texas. We, of course, work with people all over the globe.

One of the things that's really exciting about Quartz is having sort of a truly global team and a truly global focus, and I think it gives us the ability to do things that are much harder in a more traditional city-level newsroom.

[0:37:43.0] SK: Yeah. Is most of your work due to a lot of in-person journalism, or is it really kind of more digital journalism? I think a lot of the buzz word nowadays is data journalism. Are you kind of more — It seems like you're more collaborating with people who are all over the place but you're not physically going there.

[0:37:59.5] CG: Yeah. I very very rarely am physically in the room with a source. My own work, I would say, at least 75% of my time is spent writing code or doing analysis or doing the

production work to display something. When I'm actually — I encourage all reporters, whether they work with data or not, to pick up the phone. That's essential part of doing this job. I spend a lot of time on the phone with sources and sometimes video chat. As a general rule, I'm not pounding the pavement. As fun as that would be from time to time, for the most part, I don't miss that, but I think it's good to focus on the stuff that I'm good at and where I can lend added value.

[0:38:40.4] SK: That makes sense. What does your workflow look like when you're working with people kind of all over the globe, working with the people with different technical capabilities, data science knowledge? How does that workflow look like? What kinds of tools do you use?

[0:38:55.0] CG: Yeah, it looks very different from day-to-day, especially in this new role, because I am working with people with very different levels of skill and also very different expectations, big and small stories, all manner of objects, some of which I know about, some of which I don't.

The part that I can control, the sort of the technical stuff that I work with on my own time. I generally use Python for analysis although I also increasingly am using our, not so much by choices, because I'm just discovering that it is in fact more efficient for certain kind of things. Then, on the website, it's pretty vanilla; JavaScript, D3, basic visualization stuff.

The caveat that I will make to that is that is that one of the things that I love about working at journalism as a programmer is that it's new challenges every day and one day I got to host a website that could get a million hits and the next day I got to build a fancy, interactive, force-directed graph, and the day after that I've got to figure how to get a million rows into a database that I can give to a reporter. A million rows doesn't sound like much these days. A hundred million rows, a billion rows.

[0:40:05.2] SK: If you want to give it to a reporter and it's like over email or Dropbox, it could be — Yeah.

[0:40:10.5] CG: Yeah. It's always different problems, and so the technical tools we have really vary from moment to moment, and sometimes we just have to build them.

[0:40:20.3] SK: Right. Makes sense. To kind of wrap up this discussion, journalism has gone digital increasingly as you're probably aware. I'm curious how you think digital ownership ties to digital journalism.

[0:40:32.1] CG: That's a great question. Yeah, how does digital ownership — I think the thing which that sparks in my mind is there has been very — now a decade-long conversation, about how we pay for journalism. I think that — I've never thought about this before, but that the fact that people use to physically get a paper, I think, did convey a sense of ownership over the material that is very different from the world of Google and where you just sort of stumble in to material. Whether that's intentionally via like a Twitter, or literally more random that that.

I think that in the same way that people are sort of increasingly leery of paying to own a song when they could just stream it. I think people are leery of paying for sort of the production side of journalism when they will get the news anyway. They are eventually going to hear about important things that burn down or blowup. I think that one of the things that as digital journalists we have to really think about is how we communicate to readers the worth of what we do.

Quartz is a bit interesting because we do have a fully ad-driven model and we are profitable, which is certainly not the case most places. For most journalists, I think it's a really hard time to do the work, the sort of like really hard-hitting accountability work that we all want to do while also figuring out how to persuade people that the six months you spent tracking down that piece of paper is worth them $20 a year, which is just a very hard sales pitch to me, right? It was easier when they got the sports scores every day, or the classified ads, but it doesn't work that way anymore. We somehow have to actually directly sell people the content. So far I don't think we've fully figured that out. Maybe there's some blockchain solution to that too. It hasn't struck me yet, but I'll keep my fingers crossed.

[0:42:25.9] SK: Pay per view.

[0:42:27.6] CG: Yeah. One of the things that people seem fascinated with trying, and I think I was just reading something about this today, sort of like flatter models where you just make this microtransactions. For my own part, I don't understand how you get wide enough adoptions and ever make that work, but it's a nice idea.

[0:42:45.0] SK: Yeah, for sure. Yeah, it seems like the kind of last point of discussion I have. It seems like with what's going on in the digital world with what's going on with digital ownership, in addition to potentially legal changes, there may need to be changes in the business model of these companies and even maybe people at Quartz, about you guys. I'm curious what your thoughts are on that. What have you seen or read about that has worked or hasn't worked or just kind of any concluding thoughts you have on that.

[0:43:15.0] CG: You mean specifically in journalism?

[0:43:17.1] SK: In journalism or elsewhere. I'm just kind of generally curious how businesses — Could change businesses models to accommodate for better ownership.

[0:43:24.3] CG: Yeah, it's a really interesting question. I think that the main thing that businesses could do is that they could do try to device legal contracts which are more explicit about what customers get and ideally declaim their interest in certain things. One of the best terms of service out there is actually from the square of all places, which has a really well-written terms of service agreement. There are a handful of others that sort of really rise to another level and are very clear about what customers get.

As much as I would love to fix ownership, my immediate concern is that we undo some of the things which are preventing any solutions from manifesting. The binding arbitration clauses, the anti-class-action classes, the explicitly taking ownership of all the goods in the terms of service. A lot of those things are I think pretty directly damaging and I think that they are preventing any sort of progress for companies that might actually want to try something different. Hopefully we made some progress on those and then the bigger picture things might start to become a little more clear.

[0:44:35.4] SK: That makes a lot of sense. You mentioned squares, the term service agreement is easier to understand. Is it still written in the classical legally way? That's something that's kind of always interested me is just like the fact that even if they'll all written, they're really long, they're not really annotated. There's not really usually images. I'm curious, maybe the world needs a wrap genius for terms of service agreements or something.

[0:45:00.7] CG: Yeah. Now that you mentioned it, now I'm afraid it might not be square. I might have to double check which company it is. The company which I'm thinking of, it's not written in legal use. There is a movement towards at least having a plain text version of their license. Actually, Facebook and Google will do. They both have plain text versions.

That is a part of what needs to be done. These things need to be written so that people can understand them. They also need to be integrated into the process of buying so that people don't just agree to them once at the very beginning and then not understand how what they agreed to applies to the thing they actually get.

[0:45:35.0] SK: That makes a lot of sense. Great, Chris. Thanks for coming on the show, I really enjoyed our discussion.

[0:45:38.7] CG: Thanks, Prini. I appreciate it.

[END OF INTERVIEW]

[0:45:44.9] JM: Thanks to Symphono for sponsoring Software Engineering Daily. Symphono is a custom engineering shop where senior engineers tackle big tech challenges while learning from each other. Check it out at symphono.com/sedaily. That's symphono.com/sedaily.

Thanks again to Symphono for being a sponsor of Software Engineering Daily for almost a year now. Your continued support allows us to deliver the this content to the listeners on a regular basis.

[END]