

Dave: Welcome to another edition of the Elegant Workflow Podcast Series, A member of the Tech Podcast Network and now available on Stitcher. Today we are speaking with Josh Kline who is Head of Media and Entertainment at Box Consulting. Josh, welcome to the Podcast.

Josh: Thank you very much Dave.

Dave: Can you tell us a little bit about your career background and your journey to your current position at Box?

Josh: I have been in Los Angeles for 30 semi years and after going to USC, I made it into the mailroom at ICM, the talent agency. I then worked for the head of Motion Picture talents but knew I wanted to be closer to content creation to learn really how movies were being made and so I went into production and worked on several films at Paramount. From there, I really wanted to move both into writing and producing and then a brief window, I written a screenplay that Walter Hill and his producing and writing partner David Gyler optioned roughly at the same time I had optioned the rights to an anime series called Star Blazers and set that up at Disney as a live action feature and spent the next couple of years shepherding both of those projects and as luck would have it and has it frequently, both projects ran into headwinds. I had to figure out what to do next. I went back into production. I worked in music video and commercial production for several years and the time when I was a production coordinator, I was working on a commercial with a stunt coordinator. He and I became friendly and he had already started working on a startup idea. This was back in late '99 very beginning of 2000. He didn't have any technology or business background. He's a very bright guy and he believes that we are in a place and time where people in the industry should be able to volt and distribute their reels online and was making efforts to launch a service that would do that. So I joined him in that endeavor. I had some technology background and some business background so he and I were pretty good partners and then the economy collapsed, the technology industry collapsed in the beginning of 2000. I had to figure out how to keep things going or just throw in the towel. We changed the company which was known as SampleReels.com. We did a pivot into becoming a service provider. As it turned out, we were digitizing an awful lot of video to support the SampleReels.com service. We become very proficient at that and we started working closely with Microsoft and became their primary service provider in Hollywood essentially. We helped launch businesses like Cinema Now and Movie Link and digitized all those films to get them up and running although that wasn't really what it was we got into business for to be a service provider, we really wanted to be in the software business. We took our backgrounds in production - our ability to create web UI and really cutting edge user experiences and our ability to digitize video. If you put all those in a martini shaker and pour it out, you got something that resembles Digital Dailies. That's the direction we took the company and back into 2002 and started to put all of our efforts or even in 2001, put all of our resources into developing a digital daily system which today sounds a pretty common place but in 2001, it didn't exist and in 2002, we were the first open internet-based, browser-based, secure dailies distribution and we really changed how people go through the review and approval process in film and television production was lucky many years later or less certainly to have received an Emmy for conceiving and deploying Digital Dailies so that gave me years and years of background in digital media, in production experience. After about 7 years at that company Sample Digital, I left and started a new startup called Secure Path Technology which was a metadata service provider, cloud-

based metadata service provider that was tied to content identifiers at the time, one called ISAN, eventually we have worked with a number of identifiers. I spent five years in that part of the industry where at the end of five years, we ran into headwinds of our own – a new collapsing economy at the time when we needed to re-capitalize and ultimately to do something that wasn't in the business plan which was really move the team and the technology, well actually not even the technology, just the team and the customers over to deluxe as a way to provide continuity. We built out some new technology over deluxe and established a metadata service group over there and I was at deluxe for a little bit and I left deluxe to join Final Draft where I've been friendly with the owner for some years and he had a desire to re-orient the company towards cloud delivery of services. He asked me to come in and spearhead that for him. I went to Final Draft for two years. I was preparing to launch a set of beta services. Unfortunately, the timing around that was such that Final Draft was getting to release a new version of their desktop software for the first time in four and a half years. The company wanted to focus all of its efforts and all of its resources on that because it's the one thing that's a sure thing for them. Around the same time, I got to know the co-founder and CEO of Box, the enterprise cloud content management company and he was looking to be a bigger player in industry verticals and the media and entertainment space among them. He recruited me to come in and help lead that effort and so I was faced with staying at a company that was going to divert resources away from the cloud effort or joining Box whose corporate logo is actually a cloud and the choice is pretty obvious at that point. I've been at Box now for about 20 months. I'm happy to work with all of our media and entertainment customers. It keeps me relatively close to production and content creation where I enjoy being. I get to see the world from a different perspective at a much larger technology company.

Dave: That's a very interesting career progression. What makes you so strong out there on the consulting end is you understand what the customers want because you've done that. You've been on the creative side working on getting projects done and done production. I think its interesting because a lot of consultants, they just have a very good consulting background, they understand that world but they may not always understand what the customer wants.

Josh: I remember seeing that before I worked in consulting. In fact, it's funny you mentioned it that way, in my discussion oftentimes with some of our product teams and some of our engineering teams, they always want to talk to the customer and I start by saying I can shortcut the effort because I am the customer. Let's work with my knowledge base first and then when we ran out of that then we'll bring in third parties to fill in the blinds.

Dave: And it's also very key when you walk into the customer that you already have some of what they want done and you can demonstrate it to them like they don't want somebody walking in there saying, okay what do you need, let's start from scratch. They don't have that kind of time. As you know, since you've done production, that's the last thing you want is somebody sitting there and saying, so how do you make a movie?

Josh: Let's walk through your process every step of the way if you wouldn't mind educating me and then we can figure out how to make it better.

Dave: Yeah I think that's very key. What do you see now that's coming because of these cloud solutions for example some of the things you're doing at Box? What new capabilities are available to productions that you can do through a cloud provider?

Josh: I reference things like when I got started doing Digital Dailies and the cloud band just met other people servers and so you know, there's security issues around that but in the absence of any other solutions somebody provides a good one, they'll use it. But at that time, we didn't live in a multi-device universe. We didn't have persistent connectivity and that's all changed now and so what companies like Box and obviously not the only cloud content management player out there where you need concerned ways as our each of our competitors but companies like Box provide scale and coverage and security. So, talking about scale, what can we do that we can do before? Well the idea that somebody could upload a cut, pretty much anywhere in the world, have that hit a robust data center presence, transcode that in nearly real time from just about any acquisition format and then anybody who has privileges to access that content can simultaneously stream that content to their mobile devices or desktops anywhere in the world. That chops out giant chunks of the middle that used to take time. It used to be, okay I got a cut and you need to get that cut somewhere where they can digitize it and they got the ability to upload it or they digitize it from the acquisition format to a compressed format and they upload it and then it goes into this other system where at some level of dependability, it will get pushed out into a web UI. It's just a much clunkier and longer process. As I said, we just cut out big chunks of the middle now and we shrink that process.

Dave: And also it sounds like you can scale within that process too so, gone are the days where you take your film to the post house, oh all the telecines are booked and even in the digital realm, sometimes you get somewhere they don't have any capacity for transcoding. Being cloud-based, I imagine you have the ability to spin up servers as you need to or work with 3<sup>rd</sup> parties around functions like transcoding. If you don't have that available I assumed that that's probably the biggest thing that's helping people is that they don't have to buy all this on Prem and buy a ridiculous amount of capacity that you're only going to use, let's say five days a month or something like that but they need to have that capacity with a massive amounts of dailies come in and need to get transcoded.

Josh: Certainly. I mean that cuts close to home for you all the work you did at Warner Brothers too. You just have to build out the capacity if you were ever going to reach the peak level of requirement.

Dave: Oh exactly. If I was to do it all over again, I mean I would build things and I am building a lot of things right now in the cloud. There's just no reason to build it on Premises for 90% of what you need to do especially if you have a good internet out blank and you have some decent bandwidth.

Josh: Yeah, I keep seeing the necessity for something on Prem just shrinking. There are certainly areas that are like real time DI and things that are in nature where you want to have your storage as close to the processing powers possible as close to the actual control services but for a whole messities, pieces of the workflow, so much that can be handled in the cloud where it's just not building out storage and servers in your on facility.

Dave: The term hybrid cloud comes to mind. If you need to do certain things locally, then just store what you need to do locally and push the rest up into the cloud with the price of 10G dropping so quickly. It's amazing how fast you can push data around. It's not as expensive as it even was a year ago, let alone five, ten years ago, where you were lucky if you had a 100 mega bit out blank.

Josh: Sample Digital when we got our first T3. It was like a big deal at the time. This was like probably a dozen years ago – signing the contracts for T3, seeing it's just Verizon or ATT wheel in and network rack and just know that we were going to use it 5%, 10% of the time. We were trying to figure out was to generate revenue off of that thing and along the lines of being like a data upload-download facility for people who needed the ability to have FTP files around. So, the high speed of networking changes the world, the persistence of networking, it has changed so much and it's funny in my current company talking about these things and talking about the way it used to be. Most of the people I work with in at Silicon Valley, they were in grade school or pre-school when I was doing these things the first time around and most of them have never seen a tape robot.

Dave: How many people have the tape robots now? How many people need that when you can just push something up onto a platform like Box and let you guys deal with it because nobody really wants to think about these things where the files are, is it geographically separated? Do you have moldable copies around the world in case there's some type of a natural disaster? And I guess most of all, what I love to ask you a little bit about is security, that's on everybody's mind these days. One of the things I think a lot of people don't realize is actually being on a cloud platform is more secure than having it locally.

Josh: I absolutely agree. If you are one organization and you got the servers that you manage all this on Prem stuff and you have to defend yourself against threats from around the world, you're a disadvantage against a company like Box or Dropbox or Amazon or Microsoft or Google where we have vast dev ops team and security teams that manage our infrastructure 24/7. We're dealing with the same threats but you can't resource as one organization, it will be very difficult to resource to the same level as a cloud content providers have to because out of self-preservation frankly, if we went down the same way that Sony got attacked and suffered, we're done. The one thing we do is actually secure people's contents, store and secure, manage people's contents. If our servers came up tomorrow and they were bricked, then we don't have a business anymore. We're clearly going to put the resources into making sure that that doesn't happen, never happens. So I think that that's a pretty good example where cloud becomes safer than on Prem purely out of self-preservation and an expectation. We're probably traded company now and we're not going to get any grief from the market about the amount of money that we spend on securing our infrastructure, it's an expectation.

Dave: I don't think there's a huge pool of these high-end security experts out there anyway so if everybody wants to do this on their own, on Prem, finding the people, affording those people, the really high-end good people that you need. Only these larger companies like you mentioned have the money to have these resources. You can't just get some guy who got his Certified Ethical Hacker Certificate two weeks ago, put them in charge of your securities, not a lot of people who have been doing it for a long

time and so when you see those people, you snap them off and those are the ones who are going to get to work in a place like Box.

Josh: Yeah and traditionally, the difference between Seattle and Silicon Valley, those companies have always put a premium on that type of skill set and entertainment companies have not so to your point, if you have that skill set, you're going to go to where you're considered a valuable asset and where people are going to pay you and that tends to be for the big technology companies.

Dave: I think that's very true and also it's the most interesting thing to do career wise. You don't want to be working at some mom or pop operation where you're securing ten servers. It's a lot more interesting if you're doing this to have the larger infrastructure and I think that's another thing people don't always think about. It's not just how much you're paying them but they want a challenge. They want to have somebody who's trying to hack into their system everyday. That's actually interesting to most of the people doing security, not somebody who's just sitting there and not seeing anything ever come down the line and not having any attacks to deal with. I think that bores a lot of them.

Josh: I totally agree. Where's the challenge?

Dave: What trends are you seeing around production efficiencies these days? We have a lot of new technology solutions. You mentioned earlier things like automated content identification and metadata or you're seeing some interesting trends or technology wise.

Josh: The primary thing I'm seeing is both at the, so there's enterprise technology level where Box plays generally and then also with all of our Emony customers is collaboration – the ability to efficiently collaborate across a production. In the case of Box, that's production or that could be General Electric and their product teams. I think the idea of having these really significant siloed off experiences across a production that has been looked at and I think everybody's giving that a big thumbs down at this point and people are trying to figure out how to be as collaborative as possible and that involves the ability to openly communicate with team members and external collaborators and whether that's on documents or rich media assets. It used to be in the era of film and then sneakernet that these assets were moved in and out of systems and you'd lose all that collaboration from team to team, from system to system. The thing I'm seeing most is the need to collaborate and the need to access data about the things you're working on and to get information from the people you're working with, that's the number one thing I'm seeing.

Dave: And obviously, the cloud's a great solution for that because this way everybody's looking at the same data, everybody is tied into the same databases versus trying to do all this as you mentioned siloed in separate locations using separate systems and then trying on the back-end to reconcile all this different information together.

Josh: The cloud I think, that's a unique architecture for being able to share information if it's all stored in one place and everybody's accessing it from there instead of a P2P sort of scenario and everybody kind of wins. When you look at the rise of platforms like Slack, it's a really good example of a really young company that is now valued into billions because it reduces the friction of collaborating with people.

Dave: And its fascinating how they got started because it was just a solution they were using internally for their own product and they realized, hey this is a better thing to be developing than all these other little projects that they were doing at the company.

Josh: Yeah, it's funny I told the story to Aaron Levie, our CEO that Sample Digital was almost the precursor to Box. I mean we were sharing Digital Dailies in secure groups in a secure environment and I was just focused on production material and he came along 15 years later, 10 years later – actually not that long at Box, he came along around 5 or 6 years later and his focus was on all business information. I think he chose better as well.

Dave: And I think a lot of it too is timing and sometimes it's amazing these days what six months or three months can make as far as the difference. The company starts three months earlier than other companies when the technology isn't quite there. It feels like a month these days and technology is like a year. To me, sometimes it feels like even an hour, it's like a month of how fast things are moving.

Josh: It's pretty exciting. It's shocking to see how it plays out but it's pretty exciting to see the phase of advancement and innovation right now.

Dave: Yes that's true. One of the things I know you have a background with is EIDR - I know you're very active setting that up and I wonder if you could tell us a little bit about what EIDR is and how it's going to be helping the industry around solving a lot of the metadata challenges we all have.

Josh: In a way, the precursor to EIDR is ISAN which was a content identification standard that came out of Europe to track royalty. I got involved, I started a company based around ISAN. I got involved with MPAA in a working group they have there you know, everybody wanted something like this and it's funny how the one thing I learned is never to make a commercial bet on the adoption rate of the standard. That's what I would boil down my experience in metadata too but the basis for it all is inherently relevant and valuable. After several years of ISAN having sort of middling success in getting people to adapt that, Movie Labs created their own standard called EIDR, Entertainment ID Registry. Basically, they took what they learned because all of these people are involved in ISAN along the way. They took what they learned from ISAN and setup a different content identifier that serves slightly different purposes and they launched EIDR and in fact, after I left Secure Path Technology, and I joined Deluxe, Deluxe had a board representation at EIDR. So I've gone from being a board member of ISAN to one of Deluxe's representatives on the EIDR board. I got to see all angles of the metadata wars. Back then, I saw EIDR running into all of the same friction points that ISAN encountered. I think that both of them are still marching along. There are some interoperability between them, by the way I don't pretend to be expert and then at this point it's been a minute but I do keep up on it. I think that the inherent value if you look at EIDR, it's hard to argue an antipathical position that having a unique content identifier with a look up capability is anything but valuable. It's a bit of a war of attrition about sun setting existing technologies and existing infrastructure to be able to actually make use of that information. So where it gets really valuable in some of these broadcast workflows, well you know over the last few years, the systems prior to a large hardware and software developer saying were going to support the standard. There's no way to actually embed that information in the assets as they move

through a broadcast facility so that you can identify the asset and you can pull the required metadata down and share that with the systems. I think EIDR is gathering ahead of steam as new systems come online that support the actual standard and the identifier. I think, I always saw the future of media distribution the analogy would be in The Matrix when Neo looks up and everything is code towards the end of the first movie. So, a movie or a TV show would just be a collection of identifiers to the systems that have to manage it and track it and report on it. We're not there yet but I think that logic dictates that has to be the way eventually.

Dave: Yeah, but I think we're getting pretty close to that. If you look at how everybody's doing their infrastructure, you look at something like in Netflix who's really at the forefront of a lot of metadata collection and interoperability within their platform. I think from what I understand of how they built things its actually pretty close to that. As far as their systems are concerned, it's just a bunch of numbers and then it knows what rights are available on the back-end and knows what were to push that out to as far as territories. It's actually pretty interesting how things have moved so quickly around all of this.

Josh: It's great to hear and I think it's necessary when you're working with digital media assets especially consumer facing assets. It seems like the only way to scale like in that flex wants to scale globally but it doesn't happen quickly. I was in working groups of Netflix going back to 2010, actually before 2010. So it takes years to sort of see the field to be able to do those things at scale. I think Netflix is the great example. Everybody who had worked there is very bright and very forward looking about how they are going to accomplish their mission is to scale their operations globally and efficiently. I think that's a perfect example of a company that made the investment and built out the systems overtime to be able to do that.

Dave: And like you said built for the future. It wasn't a building for 2010, was building for 2015, 2020, a world where they're going to have multiple territories. At the time, they were starting to rev up their operations in the US. I remember everybody was like who's going to watch a movie on the internet.

Josh: Say we're not called DiskFlix, we're called Netflix. Like this was always the plan when I was doing a lot of work for Microsoft, we digitized I think the first Harry Potter movie when it was getting ready to come out on home video. There's a scene in a big dining hall when I don't know thousands of computer-generated bats go flying in. We had digitized the Windows Media File for at that time broadband distribution which was like 756kb I think and it held up, like all of the bats held up. Our counterparts over at Microsoft, our offices we're actually right across the street from Microsoft at the time so we called them up and they ran over. We were looking at it on a High Def monitor and for that bit rate it was truly astonishing. A couple days later we were in Dallas meeting with the then Sherman blockbuster - it was me, couple of guys from Microsoft, a couple other guys who ran Cinema Now whose blockbuster had invested in Cinema Now. We showed the clip to the chairman, Cinema Now at the time was looking for another round of investment. Microsoft was in, Blockbuster was in, the chairman looked at it and he said, just don't see this business in a scale right now. Our big business effort in the next year is actually rolling out used DVD buying and selling in our stores so we're going to pass. I just felt right then that Blockbuster was dead.

Dave: Yeah, that's fascinating.

Josh: Yeah, I witnessed the beginning and the end right there.

Dave: All the musical labels back in the day when they had their chance to go digital, you know, Apple was there knocking on the door very early. A lot of people have been telling them they need to go digital until things started to fall apart. Napster took hold. Piracy was main way people are getting their music. They didn't see that digital was a great solution and I think they trained a whole generation of people to totally undervalue music. Back in the day, people would have killed just to be able to put things right into their iPod or even before that so they could listen on their computer. Napster was so easy that it just trained everybody to go off and steal it rather than go pay for it.

Josh: Absolutely. I totally agree with you. When Apple was the one where we all said, if somebody would just come out of the really easy way to buy a song, I would pay the money and they came out with it and we all paid the money.

Dave: And look how much things have changed. It used to be piracy was a huge traffic on the internet and now its Netflix. It goes to prove if you give somebody a value proposition that makes sense for them, they're not going to pirate. They're going to actually follow the rules and they're going to get content the way that you want them to get the content and you're still going to make money, you're just going to have to make money on volume and not make as much money off of each consumer but hey as long as you're making money, you're making money.

Josh: I agree on that. If you make it easy for me to follow the rules, I'll follow the rules. I'm happy to pay just don't make it a pain in my ass.

Dave: So let me ask you this, if you could wave your magic wand and mandate one industry wide standard, what would it be?

Josh: I think my vision going back to launching Secure Path in 2006 is the same vision I have today about not one metadata standard to rule them all but a collection of identifier that address content identification, entity identification so actors, producers, directors, writers, people who you know create content and music identifiers. And so EIDR's coming along pretty well, the music industry has got their identifiers that are pretty well and grained. Entity identification is coming along slower I think and people would like as a standard that's been in development for years. I don't know that's anybody's in a rush to implement it yet. I hope they are or I hope it's happening behind the scenes. And I think once you get to the ability to identify all of the things that make up a piece rich media then I think the world becomes a better place for people who create content and self-content. The reason is once you can identify all of those entities and titles within an asset and people get paid. It's a business and if you can make the process for reporting and paying for content easier and more accurate and efficient, then it becomes a more robust business.



Dave: And it doesn't have to be one standard I totally agree with you about that but there needs to be some sweet standards or something so that there's some agreement. It can't just be everybody going off doing things their own way which is what's going on in a lot of ways these days.

Josh: Yup so I think a green on the set of standards that allow us to identify intellectual property that we want to pay for. People want to get paid for creating. I think at different rates in different parts of the industry its happening, I think it's a lot of people are in a race to be second place it seems. When I was in that part of the business, it certainly felt that way. A lot of people leaning in, waiting for somebody else to make a big commitment to adopt something. I think it's inevitable. I really do. I think the friction exist and with more and more channels at distribution for content, it makes the lack of standard to the option, an unsustainable way of doing business I believe.

Dave: I think it's going to happen because at some point, all of these distribution platforms, the Netflix, the Amazons who lose, they're going to demand that because they don't want to all be dealing with this on a day in and day out basis, it doesn't scale for them either.

Josh: I certainly hope so.

Dave: So to wrap everything up today, what's your definition of an elegant workflow?

Josh: It's funny because I've always thought of myself in terms of production technology or media technology, somebody who thought more about workflow than anything else because I'm not a software engineer. I don't write codes. I depend on people I work with or people out there that are building things to create tools to accomplish the things I'm trying to accomplish so if I can boil it down to one word, my definition of an elegant workflow is interoperability.



