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Paul: Published just a little over 100 years ago, T.S. Eliot's *The Waste Land* is one of the most critically celebrated and important artistic works of the 20th century. A poem in five parts for 434 lines. It is a tour de force of cultural references ranging from the Holy Bible, Homer, Sophocles, Shakespeare, Dante, St. Augustine, Chaucer, Richard Wagner, John Milton, Charles Baudelaire, Aldous Huxley, *The Upanishads*, Buddha's Fire Sermon, *The Fisher King*, and *The Quest for the Holy Grail*. That's just for starters.

Eliot's allusion saturated masterpiece is the cultural grandfather to any number of works of the last century. From the Sergeant Pepper's album cover, to *Watership Down's* collection of chapter epigraphs to the '80s drenched dynasty of Steven Spielberg's *Ready Player One*. *The Waste Land* brought to the cultural forefront the idea of a creative works stitched together from a host of previous works to create something new. Consider that Eliot did this way before anyone might have recourse to things like Google, YouTube, and Wikipedia. In the realm of creative and intellectual endeavors, a new force is rising that owes a debt of gratitude to the mosaic-like work of Eliot, and other authors of the modernist era.

I'm speaking of generative artificial intelligence, which in a way carries on the work of the modernist movement by pulling together something new from a collection of previous works. Generative AI has captured the headlines and imaginations of people across business, technology, and the creative arts. The ramifications of this new technology are still largely unpacked. Hello, I'm your host, Paul Thies. On this episode of *If/When*, we discuss the impact of generative AI with a focus on the legal, creative, and user experience impact of then technology.

Joining me for this episode are Todd Marks, founder and CEO of Mindgrub Technologies, a digital experience agency, and Darrell Collett, Associate General Counsel for Jacobs. In his work at Mindgrub, Todd and his team use AI technology to enhance the digital solutions their agency provides to clients. While at Jacobs, Darrell studies and evaluates the intellectual property implications posed by generative AI. In the discussion that follows, I ask Todd and Darrell to share their insights on generative AI development and regulation. Todd and Darrell, thank you both so much for joining me today. I'm looking forward to unpacking the topic of generative AI.

It is been in the news an awful lot, and of course, the release of ChatGPT and other generative AI tools. There's just a lot of disruption. I will leave it to the listeners to determine their views on whether that's a positive or a negative disruption, but there's certainly a lot of disruption, a lot of news, a lot of commentary out there about the impacts of generative AI. I'm looking forward to sitting down with you, getting your insights from where you sit in your respective disciplines on the impacts that generative AI are going to have on us in the professional landscape here and the years ahead. Thank you both so much for joining me today.

Todd: Thanks for having us, Paul.

Darrell: Looking forward to it. Thanks, Paul.

Paul: Let me start with you, Todd. Now Todd, you are the CEO of Mindgrub, a digital experience agency. You do a lot of really interesting work in the digital space. My first question I'm going to direct to you. How is generative AI impacting the digital user experience now? How do you see that evolving in the near future?

Todd: AI, in general, is impacting what we do in a number of ways. I actually equated to throwing Jimmies on an ice cream cone, and that AI is used all over the place from recommendation of engines to chat bots to generative content. Where the biggest disruptions are is in the places where organizations will generate a lot of content. Marketing teams, for instance, we're seeing a lot of marketing teams displaced.

We've seen the whole companies take 100-plus person marketing teams, and largely replace them with AI generated content, and then retool them for higher and better use cases of their time. We also see organizations, they have to produce the number of RFPs and proposals, which is largely a human manual effort with a lot of human capital, that is also getting displaced with AI to at least produce a draft. I think human intervention is needed in anything AI produces, but it can have a lot of time savings these days.

Paul: Now, that's really interesting. I think we're going to unpack that. Darrell, I'm going to bring you in on this here in a moment or two because I think that with generating the content, while there's a lot of ease and efficacy to generate lots of content, of course, there's a danger in trademarking and intellectual property. Like you said, Todd, you have to make sure that the human is inserted in the process so that a proper caution is in place. Todd, you're the head of a digital experience agency, and you provide creative and technical solutions for your clients, a whole number of clients. How do you see generative AI impacting firms such as yours?

Todd: We use it in a number of places. Our developers right now are basically doing pair programming with AI tools. We use Copilot, which is a Git tool. We also use ChatGPT for producing some draft methods for a larger program that we might be writing. That's really a technical spot that we're using it. Then our marketing team now, unless it has to be original content, I happen to write for *Forbes* and *Fast Company*, and they forbid using AI. I might actually have it clean up a sentence or two, but I originate all the content there because of those copyright issues.

In some cases where we're supporting clients that have large e-commerce websites, and it's a matter of getting as much volume of content out there as possible in a number of different genres, or to different user personas to drive traffic back to the e-commerce site, a lot of that now we're basically setting up automation to produce that content, and deploy it to the internet to drive those links back where that used to be entirely a human capital effort before.

Paul: Then Darrell, like I said, let me bring you in on this. As with other cutting-edge technologies, but sometimes regulation has an uphill battle to keep pace with development. Things just develop so fast that unless you're an AI lawyer, it's probably hard to keep up with that. Can you share how some of the current laws and regulations apply to generative AI?

Darrell: As we know, technology just seems to be moving at a more rapid pace at all times. Yet, the joke is the law moves at a glacial pace. We already rely on laws today to govern internet issues that were past decades before the existence of the internet. The law is always catching up. What's interesting in the AI space, there actually are a number of existing laws that are relevant, and that do apply, and that do technically already regulate elements of AI. A good place to start is actually in the privacy space. The European Union passed its General Data Protection Regulation about five years ago. What's interesting about that law, it deals specifically with personal data elements.

One of its main concerns was the processing of that data in some type of automated decision-making way without the use of a human element. We keep coming back again and again to this issue of what a difference the human can make. What we're seeing is now an evolution actually of this concept of a fallback option so that if businesses are going to offer AI as an option, they also have to at least in some of the early regulations, there's a consideration that they may also have to offer an alternative fallback option which includes some type of human element or a final human decision maker, but in any event.

Within the regulation space as well, today literally, the EU Parliament passed a new AI regulation in draft form. It has to go through some additional EU parliamentary procedures for final passage later this year. The committee to draft that law was first created back in October of 2020. That's already been in progress for almost three years. Again, just to show how fast the technology is moving, when that committee first met back in 2020, there was no concept of generative AI at all. Even between 2020 and now, that is now inserted into the proposed law draft legislation to address generative AI specifically.

We have the privacy law space on the US side, that's very different because it's more state-based and it's sector specific laws, but the White House has issued a blueprint for AI Bill of Rights with, again, common principles we're seeing everywhere. There has to be a safety element, there has to be a protection against discrimination, there has to be a protection of privacy, there has to be some type of notice that the AI is being used. Again, there's this concept of a fallback. There has to be a human alternative option as well. The last thing I think I'll say on the regulatory space, Paul, what's interesting is we're already talking about some intellectual property issues. That's a whole other area of law that gets implicated by the rise of AI, in particular generative AI. There's two sides to it. One side is the potential concern of IP infringement, the AI that's maybe relying on preexisting artist work. Then the other flip side of it that's also fascinating is whether or not AI itself can actually generate intellectual property.

As of today, at least within United States, both in the patent space and in the copyright space, attempts to formally register AI generative content has been denied because within those laws, it has to be an explicit element of human authorship or human inventorship. Where that doesn't exist is in the trade secret space. There's no human element requirement there. The one area where it appears AI can be used as a potential intellectual property is within the trade secret space. It's just fascinating the two sides to the same.

Todd: The interesting thing on that is that ultimately a man doesn't create intellectual property either. It's a combination of lots of ideas. Anybody that comes up with unique idea, they weren't born in the cave independent of every other human, and they pop out of the cave and say, "I have a great idea." They actually learn from a history of other humans to then basically change the product by a certain percent. Then it becomes something that they can patent or copyright as new intellectual property. AI does the same thing, except when it really glitches like stable diffusion whereas there, they use open AI and they actually create generative imagery.

In doing so, they were pulling from the internet and they pulled Getty images. Getty images watermark actually showed back up in the images it was generating. It was really obvious that it wasn't coming up with something entirely new. We're changing it enough of a percent because then they could go back and see a lot of that used in Getty. Computers aren't any different than man that we have learned through learning and teaching just like computers do today. It's just a matter of, is the work enough of a derivation off the original that you can recopyright it? I think computers are almost there.

Darrell: That's exactly right. It's the concept of derivative art, right, Todd? That's exactly spot on. It'll just be interesting to see how that concept is again, considered within the AI space.

Todd: Copyright issues are very important in this country. That's why we're first investor in marketing a lot of things because we do believe in a lot of property, but most of the rest of the world doesn't. I know we're here to talk about generative AI, but the most scary thing is where AI will kill humans in the future. That's why you see Elon Musk and a thousand other technologists asked for a six month moratorium on AI because we really need to figure out how to regulate this stuff so it doesn't bring down power grids and turn off hospitals and stuff because people have been trying to do that too.

Paul: You mentioned the derivative nature of the creative works. That's something that literary scholars like Harold Bloom and *The Anxiety of Influence*, they've been tackling for decades and maybe generations. It's that whole, the work that has gone on before has an influence on the work that comes after. I think Darrell, like you said, it's the glacial pace of regulations trying to tackle that. It's like predicating it on enough of a creative difference gives a piece its distinction. Todd, I think you mentioned it in one of your *Forbes* columns, you mentioned that example about the Getty images, where I think the artist had gone.

I think it was a comic book or something had gone and was trying to-- He had used AI to source the images, but then he had modified the images that it had picked, and was trying to copyright that work, trying to make the case that he had been involved, but I think the court ruled against him. I think it's interesting because I think when you look at the Writers Guild of America and these creative artists, they're unionized. I almost wonder if there's a labor law aspect to some of the creative artists. I don't know if we'll see that develop at some point, but let me ask--

Todd: Look at Hollywood, not even the writers, the actors themselves. We use a product here called Synthesia, which you can take pictures of yourself on a green screen and you can upload your own voice, and then it'll create an avatar that if you

look at it still, it looks just like you. If you listen to the audio, it sounds really similar to you. You can tell it's AI though. It's a little chunky. It's not as smooth as the video that we're looking at now.

As that technology improves, you could just insert a script in AI and it'll generate an entire movie for you at a fraction of the cost. Not just the writers, but the actors themselves, the video, the imagery is going to be produced by AI as well. Super interesting and fine.

Paul: I know. I remember, years ago I had talked to somebody at a global organization, and she had been at an AI conference in Beijing, I think it was. This is when Trump was still president of the United States. The conference organizers in Beijing, they had used AI to create a video of Trump speaking in perfect Mandarin or Sichuan to welcome the attendees. It was like, and it begat like this whole conversation because it was so real that it fooled people and it's-

Todd: That was deep fakes. You can't trust anything you see online anymore.

Paul: What David Brin would call the End of Photography as the Proof of Anything. Now, Darrell let me ask you, going back to the regulatory process. It seems like there's got to be a place for the technicians to help us unpack the ramifications of what is being developed because the technology is so cutting edge. In your experience Darrell, how have developers engaged in the regulatory process to date? Do they need to become even more involved? If so, how and why?

Darrell: They have been engaged. I think we've probably all seen some pretty high profile recent engagements. The Open AI, CEO Sam Altman, recently spoke before Congress. Then I think it may have been just last week, the CEO of Microsoft, Brad Smith had also had some press releases and discussions very openly calling for government regulation. It's clear and obviously OpenAI and Microsoft are partners. Microsoft has obviously invested heavily in OpenAI. We're seeing a very similar message from those two organizations. It's clear that they recognize regulation is coming.

It appears as though the game plan is, they should participate in those discussions, and probably help drive them certain directions. I absolutely think they should be engaged. It is interesting that they also appear to be very frankly and openly discussing about their own concerns about the power of these new technologies, and their concern of how they can be abused. Both Mr. Altman and Mr. Smith were calling for at least within the United States, some type of licensing regime for companies, and some type of government regulatory authority that would oversee the licensing.

Again, depending upon the spectrum of how sophisticated the AI tools may be, just more progressive safety standards and testing standards for government regulatory oversight. I think that's only going to continue, Paul. I know that Mr. Altman had also, I think, traveled and spoke with various EU leaders as well about, again, similar regulatory concerns. I think invitation of regulation in general, I think with a bit more sensitivity that as with the GDPR law in the privacy space, it does appear as though the European regulators are much more comfortable being much more aggressive, I think than the US regulators are.

I think there was a bit of some interesting comments made during his European remarks that perhaps also somewhat of a warning for EU to not get too aggressive or too prohibitive in innovation and technology developments. More to come on all that.

Paul: That's interesting. I remember I had done some work on messaging around the GDPR, when it was coming out about five years ago. One of the things that had been shared with me is that the European concept or culture around privacy is quite different than the US concept or culture around privacy. For instance, getting notifications from say, an Amazon that it's your birthday, and that they've noticed you bought these other things, and maybe you would enjoy buying these suggested items, in the US, we would see that as a convenience.

In the EU, they would see that as a creepy intrusion. I think there's a bit of a culture clash there. Todd, let me ask you, with all the conversation and buzz around generative AI right now, what is something that seems to be missing from the conversation? What's your perspective that you feel is not getting enough attention right now?

Todd: I think the thing that's not getting enough attention is really for organizations to understand how to use it. A lot of people see ChatGPT, it was the first thing that really got from an early majority or I should say the innovators into the early majority. People started using it, and they think it's amazing, I can write letters and emails and all this. Individually there's a number of tools that we can use, but I think right now what's missing is businesses to figure out what's the change management around AI right now. Everyone realizes it's super powerful, and there's individualized use cases for it like My Developer is using it to help them write code.

At scale, I think businesses aren't realizing how they can leverage AI. For instance, healthcare systems can drastically improve patient outcomes because they have this treasure trove of data right now. If they were to add simple tools to search against that data and put it in the hands of physicians as they're prescribing medicines or treatments, they can drastically change patient outcomes.

Right now, they're probably using it to write their use mails or help their newsletters. They're not quite figuring out how to leverage it at scale in a lot of cases, and that goes for a lot of industries. It really is a matter of really defining those use cases and making it more than just novelty in a lot of cases to harnessing the power that it can provide.

Paul: Darrell, let me pick that up with you. We'll use Jacobs as an example here, and you can speak to what Jacobs is doing from an enterprise. Jacobs as a company is involved in a lot of different industries that has just tons of domain expertise across the globe. It generates a lot of data, and a lot of information, and also has digital solutions tools, and things like that. There's a lot of ingredients in this generative AI discussion that Jacobs can leverage. What I'd be curious to learn as a potential example to other enterprises, what steps and guidance has Jacobs taken to adopt generative AI in its business and to its culture and its values?

Darrell: Exactly to Todd's comment, it was the sudden rise of generative AI interest within our business caused us to just step back and think how could we combine this

new technology with our decades of experience of solving very complex problems. We thought, "Well, this is still very exploratory in so many ways. We still don't know certain legal ramifications." What we did was we came up with a set of guidelines that we've issued broadly across the business. Those guidelines try to come at the various AI issues for all sides.

First and foremost, we maintain obviously, a lot of very proprietary type of information that we've developed internally. We also maintain a lot of proprietary information on behalf of our clients. The number one thing was we just need to make sure we need to protect the confidentiality of any type of proprietary or business-sensitive information. What that means is we've recommended to our employees that at this point, we should not be uploading or in any way sharing that type of information on any type of AI platform that is outside of our control.

That then dovetails into our current efforts to enter into partnering agreements with potential AI developers so that we can bring some of this incredible technology in house, and use it in a way where we can take advantage of the technological offerings that AI has to provide and incredible data analytics in site, but do it in a safe and secure environment that is dedicated within our Jacobs environments. Number one was, again, protecting the information that we hold as a business. Secondly, respecting intellectual property rights. Like we talked about earlier, we wanted to be sensitive and make sure that in no way are we infringing upon the artistic work of other individuals.

For right now, the guideline is that we should not be using any type of generative AI derived from public content to the extent we can determine it is from public content in any type of our client or external work product. Again, we're exploring ways that we can do this once we have a better understanding of the data sets that are being used, and once we have greater control over the technology itself by bringing it within our environment. Another thing we've told people is there's this concept of hallucinations that we recommend that all of our employees verify any type of data output independently.

What's interesting is, especially in the generative AI space, it's fascinating that it can do that so well. It can actually create new content or provide thought prompts for creative brainstorming sessions. They can do that so well, but what it doesn't do so well is actual factual recitations of things of actual historical events. The irony there from my perspective, the irony is that I think we tend to look at technology as being the reason we go to technology is to verify the factual accuracy of things. In the generative AI space, it's really more of a creative value that I see right now more than any type of true independent factual resource.

In any event, we've cautioned our employees to just make sure you verify any kind of output independently if you're using it for that purpose. Then we get into other concepts too in just making sure we maintain a secure environment. We give guidance to our employees about if they are going to use these tools, here are some recommendations on how you can do that, but still maintain the security within our environment, and user access rights, and the credentials, and all that kind of stuff.

We recognize it's not perfect, we recognize it's going to be evolving questions. We do have a generative AI group within the company that is always fielding new

questions that come in. We keep FAQs updated on our internal intranet site poll. That's how we've approached it to date so far.

Paul: Interesting. I think it's going to be interesting to see how we culturally walk this path with generative AI in terms of the creative arts or that creativity. Even like an engineering or a company that was predominantly an engineering firm has moved into the digital space. There's a lot of different stuff, but highly technical enterprise like Jacobs, there's a lot of creative thinking that goes in, a lot of creative content that's generated. It's going to be interesting to see how a tool like this impacts whether or not people--

I'm just curious, this is just me idly wondering if people will get creatively lazy, where it's like we have this super power, super brain that's super creative, and is able to access all this content to pull together. It's like why do I need to be creative? In fact, creativity could be dangerous because there's so much content out there and it's so searchable now. How could I possibly create something that's original and doesn't fall afoul of an intellectual property or trademark law?

Just leave it to the AI to go and do that. I'm almost wondering if at some point it's going to squeeze a lot of human creativity out because of efficiency, and maybe potential trademark vulnerability, or what. The jury's completely out on that. That's just me idly speculating, but I think it'll be interesting to see the dynamics at play and how creators evolve in that space.

Todd: We're doing it already in that space, but even if you come up with a new logo and you think it comes from scratch, let's say you won't use any digital tools and you've gone on pen and paper, you still have to go to attorney and go to the Patent and Trademark Office and see if anything in that use case, whether it's an industry or geography has been trademarked or copyrighted before. You can't just assume because AI produces it that suddenly it is original. It's actually the opposite, you're more likely to do something originally if you know you can recollect or you've seen it before. There's a better chance that AI may infringe on copyright issues.

As I said before, AI should be used to shorten a process, but that process still needs to have human gates. Right now, AI can produce thousands of logos in seconds. It's brilliant for logo creation. If you can end with a human eyes to say, "I really like these five," you still need to go and have your attorneys check and see if anything's been patented in that arena before. It doesn't negate the step of checking to make sure things are right, it just saves you a lot of time.

Paul: Todd, let me ask you, and this is my last question for us today. This is in your in your role as the head of a digital agency. The work that you all do is focused on the end-user experience. What is my takeaway when I react with this technology and obviously, there's drivers that you're wanting to promote a positive experience, and that sort of thing. In that vein, what advice would you have for developers who are creating these generative AI tools to ensure that what they are creating is a true value-add for end users?

Todd: Developers themselves, similar to somebody who does logo design, they can save themselves a ton of time having AI generate content for them. The same way that logo developer needs to go check with an attorney and make sure that it hasn't

been trademarked or copyright before. That developer needs to review the code. They need to review their own code. We do code reviews here, particularly if we might be using, in some cases, nearshore or offshore developers. It goes through a rigorous Q&A process to make sure that there's high code quality, and nothing nefarious is baked into that code. We do a lot of audits for third-party companies that also use nearshore and offshore.

We want to make sure that we're validating and providing quality assurance. If we're using AI to do that code, we can't be lazy and say, "Oh look, it compiles and it runs and it does what I want it to do." You still have to check every line and you have to make sure that it's high code quality. It doesn't negate having to do that just because AI generates it. You still need that human gating to make sure that it is of high quality.

Paul: That's interesting. I wonder if at some point there's other AIs that take the place of the human gating so it's like you're applying one level of AI. I don't know.

Todd: Of course, there is.

Paul: Looking like another--

Todd: Look at universities now, they had to put out a lot of language around, only if your teacher allows you to use AI, then you have to cite the AI just like they're citing any other reference. Now universities actually have tools that will catch if something was written by AI. Now, there's tools to rewrite your AI so the tools that catch if it was written by AI can't catch that you used AI. It's like a battle zone right now. It's a fun place to play in.

Paul: To bring this all home, and Darrell, you will appreciate this as an attorney. In talking with David Brin, he was saying that for him it's that whole question. We come back to the Sam Altman's and Elon Musk's, Steve Wozniak, all the luminaries are saying, "Hey, we need to slow down on AI development." David Brin is an author and a commentator. His take on it is that we don't need to slow down development. He's like, "We already have a model in place for how we would deal with AI." He's like, "When you have an entity like a hypersmart entity that can be threatening to you, how do you defend yourself against that?"

Will you hire another hypersmart entity to defend you, and they're called lawyers. We already have this model in place." The key for him was to solve for potentially dangerous AI, was to set other AI at variance, at least in competition, and to check as checks and balances. It sounds like, Todd, that's what we're seeing at the university level. I imagine probably throughout commerce, we'll probably see that.

Todd: You're talking about creating, not just developers using AI to create more code. You're talking about actually creating AI. It's the same thing you think about cars. You can go in your own backyard and make any car you want, you just can't drive it on the road. There's laws to driving on the road. We didn't have seatbelts before, and then there were regulations that said now you have to have a seatbelt unless your car is pre-1950s or something, and it's grandfathered in without having seatbelts. I don't think we should stop the production of AI tools and the development

of AI, but before you can go drive it on the road, we need a regulatory body to make sure it's safe.

Paul: Todd and Darrell, I want to thank you both so much for an engaging conversation on generative AI. I'm sure it's going to continue to dominate the popular imagination, and the news cycle for some time to come. I think it's going to be just a very exciting journey to say the least, to see how this technology rolls out. Thank you both so much for joining me today to share your insights.

Todd: Thanks for having me.

Darrell: Thanks for having us, Paul. It's a great discussion.

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