CapTech

Merging the Physical and the Digital to Meet Customer Expectations

CAPTECH TRENDS PODCAST | EPISODE 38

Vinnie

Hello and welcome back to the CapTech Trends Podcast. Hate to use the word trends twice in an intro, but we're talking about the tech trends that we see for this year. With me, I have Bree Basham and Brian Bischoff. They're both principals. Bree is the leader in our CX practice, and Brian leads all things services, both internal and externally facing. Both have been on the podcast many times, so welcome back, Bree and Brian.

Brian

Thank you.

Bree

Thanks, Vinnie.

Vinnie

Bree, you always do a better job of describing these tech trends, what we do every year, and why we do it. So, why don't you kick us off and then we'll get into discussing the three trends?

Bree

Sure. So, every year, we publish tech trends at CapTech and we track these trends through the course of each year. We track them through various industries. We additionally have a team that looks at the cross-industry roundup, the individual industry trends to see where we're able to see themes across the landscape of industries we serve. In this year, in studying the landscape and pulling leaders across multiple industry verticals, we've identified three trends that we're going to talk about today, the focus use of generative AI, winning the experience, and the race for engagement and loyalty. We also theme these trends each year. So, this year, we're calling this set of trends merging the physical and the digital, because as technology continues to take over our daily lives, consumers are expecting to interact very seamlessly with brands across both the physical and digital spaces in their lives.

Vinnie

Great. Thanks, Bree. To remind the audience for those who have watched our trends throughout the

years, we're not like the national analyst firms where we're being futurists. We do futurist work in other areas and think about those things, but when we talk about our trends, we're talking about things that are more pragmatic, more immediate, 6, 12, 18, 24 months out. So, these are actionable. So, a lot of these things I think people are thinking about. We like to bring unique perspective to it from a usability and an engineering discipline and rigor, where the rubber meets the road, what's really happening, pipe from reality.

So, I don't think any of these are going to be shocking from a futurist perspective, but I do think we have interesting opinions and takes on where things are and where they're going and what's achievable in the near term. Does that make sense, Brian?

Brian

It does, yeah.

Vinnie

Cool. Great. So, we're going to break these up. Normally, I host this, but we're going to take turns and round robin this. So, Bree, why don't you introduce the three trends and get us kickstarted?

Bree

Yeah. So, again, the three trends are focus use of generative AI, winning the experience, and the race for engagement and loyalty. Thought we could kick off with winning the experience. Vinnie, it would be great if you could just help to, I think for the audience, define what we mean by that.

Vinnie

Yeah, I feel like I'm in school and the teacher has called on me because you are all things experienced. So, you should be doing this, Bree, but I will do my best. I definitely have a perspective on this that I think comes from a technology background. That is every year, everyone looks at the emerging technologies and what's going to be exciting and what people should invest in. Most people don't care. Consumers get interested and tech is interesting, but when you go to use an app or go to a website or go to a hotel or go to a restaurant, you want the benefits of all the latest and greatest technology, but you don't necessarily want to feel that friction.

So, I want an immersive experience, I want to be engaged, I want to feel known and valued, but I don't want to feel like I've got to jump through seven hoops to do that. A great example would be going to a

hotel, I should just walk to my room and put my watch in front of the door and have it open. I shouldn't have to go through the trouble of checking in, getting a key that sometimes doesn't work when I go to my room. All those steps need to be removed. There's a lot of technology behind that to enable that, but we don't see it. Same thing with artificial intelligence. A lot of the personalization that we see in apps, the reduction of steps, the automated workflow that things take place for us on our behalf, we don't go through and touch all of those things. They just happen. We don't experience that friction. Because of that, it feels more immersive.

Brian

So Vinnie, you talk about friction specifically in the context of, I guess, not really seeing the technology or not experiencing the technology. Things just happen in the way that they're supposed to, but a lot of times that isn't the case. You mentioned the hotel example, right? I don't know how many times, yes, a lot of hotels have the ability to use your mobile device to be able to walk into your room, but I've had experiences where that just doesn't work. So, while they've gone through the exercise of creating that experience and allowing it to work, if I don't take my MagSafe case off of my phone, it sometimes blocks the Bluetooth receiver. So, that's an example of while they're using frictionless, they're trying to be frictionless in the experience and the overall experience, that technology sometimes still doesn't support it.

Vinnie

Trying and failing is worse. I agree. There's this comedy bit about the first time Wi-Fi was available in a plane and they had to shut it down for 15 minutes and people were outraged, right? They're outraged about something that didn't exist 15 minutes ago. So, similarly, you're promised, "Oh, I can use my phone to get into my hotel room." If that doesn't work, your level of frustration goes up. Think about voice-to-text, all the times you try to speak to Siri, for instance, to send a text to somebody. When it works, it's great. When it doesn't work, you're more frustrated than if you had just had to type it. So, yeah, you got to do it right. I was thinking some other frictionless things too.

For instance, my television, all televisions that I have multiple inputs and that can be confusing for people who grew up with channel three as your one input. So, now, if I touch my PS5 controller or if I touch my Apple TV controller, whatever I touch, the TV senses that I've done that and it switches the input for me. That's another example of anticipating what I want to do and just doing it for me. That's

what I mean by that frictionless technology. Take those steps out of the equation.

Brian

So that's frictionless. We talk about immersive technology too. Explain what that means to you.

Vinnie

Well, I'll explain what it means to CapTech, right? Because Bree and I go back and forth on this and I find it interesting. So, words and their meaning. We define, we being CapTech, immersive as... How do you phrase it, Bree?

Bree

Multisensory interaction.

Vinnie

Multisensory interaction. So, more than one of your senses working. It could be debated that an incredibly well-written app is immersive and some of our clients talk to us in that way. We would say that they're highly engaging apps, but we're going to reserve the word immersive for things that are multisensory. But in thinking about this too, to me, a guitar is multisensory. It's highly, highly immersive, right? It looks like a piece of art. It smells a certain way. When you take a Martin out of a guitar case, they have vanilla extract in the case. You smell that. You touch the guitar, you play it, you hear it. So, those types of things are multisensory and feel incredibly immersive. So, when we talk about immersive experiences, we jump to things like augmented reality or virtual reality, but you can also talk about haptic feedback. Your phone buzzing, your smartwatch buzzing, or giving you different sensory input or holograms or projected displays. There's all sorts of other ways to engage the other senses to create those immersive experiences. What's interesting is where it starts to become in conflict with frictionless.

Brian

Right? Because you can have a frictionless experience and an immersive experience, but they obviously complement each other. You're getting into that right there is hitting on how they could conflict with each other, but what's the opportunity? Where do we see the potential for both frictionless and immersive experiences at the same time?

Vinnie

Immersive experiences when they're done great are also frictionless. You walk into a hotel and four or

five things are hitting you at once. You don't have to do anything to make that happen and your experience is improved. But if you take augmented reality and virtual reality as example, it's very, very, very immersive. Nothing more immersive than good VR that I've seen. It's incredibly immersive. But the good VR, you have to be hooked up to a good gaming computer with a headset that's not easy to acquire and use and set up and you're blocking out the rest of the room. You got to move furniture out of the way. There's a tethered cable. Yes, there are wireless options, but cumbersome, high friction, incredibly immersive.

Whether it's Steam's headset or Facebook Meta Quest headset or whatever, these headsets are lower friction, because they're wireless, they're all in one unit. You pop them on your head and you go. The capabilities are not anywhere near as good as the other ones, but people are preferring them and buying them because they're good enough and they're frictionless. So, it's interesting to look at where the consumer is going to spend time and money based on the proper intersection of friction and immersiveness.

Bree

I think people are looking for frictionless in everything they do. They're not necessarily looking for things to be immersive, but I think as we continue down this road of the merging of the physical and digital experiences, again, your guitar analogy was an interesting one, but we're headed more in that direction. So, I think frictionless is table stakes. To your point, Vinnie, when it doesn't work, it is worse than just not trying it at all because that failure is a big risk. But that's really what we want every experience to be as frictionless. Then certainly when you are playing in the space of immersive experiences, frictionless becomes so much more important because of the shifting between those platforms.

Vinnie

Right, and know the use case. If I'm going through a Chick-fil-A drive-through, I don't want an immersive experience. I want no friction. I want them to know my order. I want to drive through. I want to automatically pay. I want it fast and I want to get out of there. I don't need a cow on my augmented reality coming out of the fast food window. That doesn't help me. So, save that immersive experience for home or maybe indoors when you're in the play area or something like that, but know your time and place on how to deploy these technologies.

Brian

A lot of these technologies you mentioned aren't new, right? So AR has been around on phones for a long period of time, a number of years and VR even beyond that. Smart speakers and things have been around for a long period of time, six, seven years now, but some of them have evolved to the point where they are really frictionless. So, they're immersive experiences the way you're interacting with them, but they're not necessarily that friction. They're still creating friction as part of the overall experience. I think a lot of where these technologies are moving now is yes, they're immersive, but they're also removing a lot of that friction. So, the smart speaker experience of having to have prompts that you go through and have that say the exact same thing the right way in order to get the response that you're intending is friction. It creates friction in the usage of it.

Vinnie

There's three things on a smart speaker that I find a high friction experience. One is understanding what I'm saying. It's getting better. Two, there's no context. I don't know why they haven't fixed this. We've done it at CapTech. We've created contextual natural language processing where you could say, "Is it going to rain today?" Yes, it looks like raining today. How about tomorrow? I don't understand. So, I've got to say, "Is it going to rain tomorrow?" It is a caveman way of speaking where you have to always put the intent, and I use that word specifically, you have to put the intent in every time as opposed to following primary and secondary contexts to know what the person's really asking. That would be a huge benefit. The other is learn from how I speak and people around me speak. I don't know how many times I got that friend, his last name is Baichi. It'll come back and say, texting Bagsky. I've said it a thousand times. It should know that I'm saying it different than they're saying it and it doesn't learn. So, these things should be easily fixed, but they just tend to linger on. Now, I will say one of the things I've loved about Apple's new Vision Pro announcement and for those who haven't seen it, it's all-in-one AR/VR mixed reality headset. They solved all the problems as best they could around the immersive friction tie in. It was validating to see the keynote because I was like, "Yes, this is what I've been thinking and is what CapTech's been talking about." Even addressing things I didn't even consider. So, yes, it's expensive, but what I love about it is they've basically set the bar of this is what a good experience is in AR and VR. I'm just going to hit a couple points and then we'll move on. One is there's no AR/VR with the headset. You put it on and there's a crown you can rotate where you could be fully augmented reality where you see your reality and everything else in it. By the way, your windows cast shadows and the objects cast shadows in your real environment, it feels totally real. But as you rotate that crown, actual

reality goes away and you go into more virtual reality. So, it's a spectrum. It's not a one or other. It's not like a visor you flip down like some of these less sophisticated devices. Two, it's on Apple Silicon. So, it actually has a full computer on your head. It has dedicated chips so you don't have to tether to a machine. You actually have the full power of a computer on your head. It's got 12 cameras built into it. So, wherever your hands happen to be, wherever your eyes happen to be looking, it's picking that up. There's no controllers. Controllers are friction. Your hands are better, but every single headset so far has done that poorly. So, it's worse. So, Apple is doing it right with 12 cameras. Hopefully, this will work and reduce that friction. It can scan your face and put artificially intelligent rendition of what your face is doing on the outside of the device. So, other people don't feel friction when talking to you. So, I never considered that, but it's true. They considered the friction of other people interacting with you, not just your friction. So, it was interesting to see a company as strong in CX as Apple go down that path and identify immersiveness versus friction and do everything they can cost be damned to address that and really put the stake in the ground.

Bree

Vinnie, how long before you have that Vision Pro on your head?

Vinnie

CapTech has signed up for the early adopter beta thing to get a device in here so we can start programming against it and actually see what we can do and really put it to the test and see if it lives up to those claims. So, that's one. So, we'll be having one here. They're very strict about that. It has to stay in the same location. We can't drive it around to a bunch of places. So, people if they want to experience will have to come to us, but we are enrolling in that program. Then obviously, the second, there's a pre-order, I'm going to be on there, Bree, so get ready for that. So, I went on a little bit long, so I want to turn this around and switch to you, Bree, on the race for engagement and loyalty. You've heard me talk a lot about the low friction, high immersion. How does that tie into what you speak about when you talk about engagement and loyalty?

Bree

Yeah. I think just even backing up for a second on the problem statement, you and I have talked on the podcast about engagement and loyalty before, but really where we're seeing the root of that is the fragmented markets. The people spread across so many brands, channels, and devices and customers

are pulled in so many different directions. So, it's tough for a brand to secure a customer's loyalty as a result of that. But as we think about how it ties into everything else that we've talked about, frictionless and seamlessness are important as you're thinking about loyalty, because we're doing everything we can to create that great experience for our customer that keeps them engaged and keeps them feeling loyal. So, those are table stakes absolutely in trying to secure a customer's business and their long-term play with you.

Vinnie

Yeah, I was looking at the survey we did, the AI consumer survey, and what I found interesting is that it probably goes against what you would think. Most people put a high value on what they think AI can do for them and they're not as afraid of it as we thought they were. I was thinking about that and it reminds me of the value versus cost equation that people subconsciously do in their brains in terms of what makes them feel good or bad about a brand and technology they use. Can you help me understand that a little bit more deeply?

Bree

I think about it as risk versus reward. So, what we heard from the survey, we heard respondents that indicated that the help that they were receiving with day-to-day tasks, so where they perceive AI to be the most helpful, was in time savings and efficiency. Those were really key drivers that were moving people to adoption of AI, specifically with productivity related tasks. So, being more effective, being more efficient, and making a complex task easier. So, for those of us that have used generative AI tools, I think everybody would see those benefits pretty quickly, but those were really the top reasons why people are exploring AI technologies. So, our belief and what we've heard through the surveys, the benefits are outweighing the concerns. So, while there is this, I'll say, low grade worry about privacy, that is something that's existed in the online space really for a while, right, prior to all the buzz we're seeing around AI certainly these days. So, we believe companies can overcome that worry by offering value in the form of an information and an exchange. So, again, it's that risk versus reward. Tech adoption has long been about that. If a brand can figure out how to deliver and derive value for a customer, they can overcome the customer's hesitancy and I think certainly being transparent about data and privacy can actually help to further drive that adoption. So, that's where we really see the opportunity.

Vinnie

It's interesting to me, people who I talk to in my personal life will talk about how much they value their privacy and they don't like companies knowing too much about them as they drive to the grocery store with location services on their phone and use their Kroger card to reduce what they're paying. You'll say one thing, but then if you value the services you're getting, it becomes invisible to you. We don't really know how companies secure this data. We have a belief that a company is more secure than others or is more in line with our belief around security than others, but really that belief isn't based on knowledge that we know how they're securing it from a technology standpoint. It comes from an emotional response to how we interact with them and how we believe they're valuing from that interaction. So, it really is a false sense of secure feeling based on a positive interaction experience. Is that correct?

Bree

It is. You mentioned data. I mean that's long been the probably most important factor in loyalty and that's where tying in that seamless and frictionless experience comes in, because by intimately understanding the customer and their patterns, we can best serve them in that way. You talk about AI, but by harnessing the power of research and data and even adding in that accelerator with AI modeling, we're able to better understand customers' interests, their pain points, and their routines and adjust to meet them accordingly. So, if you are served in the right way as a customer, you're loyal. When a digital offering is able to streamlessly merge into your daily routine, it feels natural to you, it feels personalized. Why would you look elsewhere? Why would you make a switch to something else? That's where the start of the loyalty journey begins.

Brian

If you look at building on our consumer survey, the majority of consumers are open to having AI as a part of the overall experience with the brand that they're interfacing with. I guess my point on this is that consumers typically don't care about a technology per se. There's a segment of the population that does, right? Vinnie cares about Apple when they release new Vision Pro, right? There's segments of the population that care about AR and VR and blockchain, whatever it is, but consumers don't care about that. Most consumers care about really what value and what experience are you driving that allows me to either make this a better experience or a more efficient experience or that's differentiated from somebody else. The two trends are very closely tied together, both promotes the frictionless concept,

the immersive aspect of it, but also use cases and things that actually drive new engagements or new experiences or the way that we're seeing our clients are talking about using these techs.

Bree

When you think about frictionless, Brian, using AI can offer and bring so much as an accelerator to the loyalty experience, but it's something we don't want to see or feel or even really understand that's there. So, what it's providing is the purchase history, browsing history, how to engage with me to get my loyalty and engagement as a customer, and a business can then better understand how to personalize offers for me, how to bring me experiences that I find valuable, but I want all of that to happen without knowing that's happening and that's what makes it frictionless experience.

Vinnie

Again, I go back to doing it poorly is worse than not doing it at all. When you get ads on all your social media for something you bought a week ago and you're still getting ads for those things, it's very frustrating. So, I think from a consumer standpoint, that is on our marketing side, so if anyone wants to go check that out, they can go take a look at it. But there's a lot of AI happening that people don't realize as AI. My car has a microphone in the tire wheels and it knows when there's rain on the ground by the sound changing from a dry sound to a wet sound and automatically puts the car in wet mode. That's machine learning. Most people don't know that's going on. They value it. A Tesla can see brake lights three cars ahead and anticipating that there's going to be a problem. People wouldn't feel violated that it knew. That's going to be a positive experience when that car helps save your life. When there's fraud detection on your account and saves you the hassle, I have an Apple Card, go figure. I made a purchase the other day. Normally, it was tires, so it didn't really buy tires very often. So, it rejected it, but instead of it me having the vendor call me, me having to call the bank, it just popped up on my phone. I touched it and said, "No, actually this is okay," and everything worked. So, those types of AI or machine learning things, those are all examples of it fading to the background and being there and making the experience better while the consumer is not being confronted with that and see it. So, as we're talking about all this AI stuff, we're switching into that topic now. So, the focus use of generative AI was one of the topics. So, Brian, this is your area. We're slipping into it. So, we've talked about different areas of AI. How do you categorize them or break them down when we talk about them?

Brian

Yeah, we actually have danced around this a little bit because Bree mentioned this during some of the consumers study about how consumers think about this also, but the way that we think about it is really in three large buckets. So, first around generative AI is the creative inspiration side of things. So, how can you use generative AI to really support and enhance your creative process? I'll talk a little bit more about that. The other one, which is what Bree mentioned, the consumers expect how can I use generative AI to really make myself more productive, do things faster, more efficiently, take out repetition, take out tasks that I normally have to do on a regular basis and use AI tool sets in order to support that. The last one would be, which is somewhat related, but it also is around automation. This is more in the corporate setting. How can I take business processes that really it could take long periods of time or again, are repetitive and automate that in a way that allows you to inject generative tool sets that create an overall better experience? So those are the three general buckets that we like to think things of. If I start primarily in the creative inspiration side of things, the easiest example for me and one of the most poignant things is to be able to see images created in front of your eyes.

Vinnie

Like Midjourney?

Brian

Like Midjourney, Dall-E, there's Leonardo. There's a whole bunch of those types of tool sets that are out there.

Vinnie

If the people on this podcast haven't seen this in action, I highly encourage you to go experiment with that. It is not copying and pasting. It's creating original art based on what you're typing in and it's mind blowing.

Brian

I mean the power of an image to be able to express thought to me is unmatched. I mean it could also be done with sound and video, but the concept of creating a very small prompt, a sentence or two and putting it into a system and basically your words, your thoughts, and it create in less than 30 seconds. A series of images that represent that based off of what that model knows about you, that to me is a powerful tool but also is a way that can support the creative process. The analogy that comes up for me is that you could ask for early year elementary school students to draw a duck and you could just ask

them to draw a duck. They're probably going to have four completely different perspectives on what a duck looks like. One of them would be one you've probably never thought of. It could be completely off the wall concept, but you're going to get four different views of that. That allows you to build your own perspective of, "Oh, I never really thought about a duck that way." Think about the exact same thing with these generative AI tools and specifically these large language models towards image generation. The ability to create a prompt like that, a very short, small prompt of draw me an image of a spaceship going to refuel the space station, things like that. You could get different perspectives on what that would look like to have you inform your creative process. Whole purpose is not to take that and then use that whatever image is created, plop it on whatever source you want to use it for, and have that be the final product.

Vinnie

But you're a good person. How many people would use generative AI either from this image creation or the text generation? We've seen it in the news. Lawyers, also good people, I assume, being funny there, but copying and pasting complete segments of text with references that were completely fabricated. So, this is someone who should have used it in a creative process but use it in a very direct copy and paste process.

Brian

I mean what you're branching into is all the ethical and legal considerations of when this should be used, which is still an area that there has to be certainly some self-control and self-reliance on, but also, we have to see how that's going to pan out in the creative process. There was an article yesterday about how AI is going to support politics and lawmaking and that sort of thing. You're talking about the same thing, a bunch of lawyers creating documents. But it's a perfect use case for what's possible. Think about text generation and you want to create an outline for a new policy. That's something that could be used based off of the history of what's been created if the model's been fed that information to at least be a starting point. That is our perspective in all this is that use this as a way to make sure you are thinking about things from a broader perspective, not to replace the entire output and the product, but just use it as a broader creative process.

Vinnie

I do these thought leadership positions that I put out there and I would never use ChatGPT to write my

thought leadership, because all that's going to be is a collection of other people's ideas, not necessarily what I've been thinking and experiencing. I will use it to create an outline for that, but then what I also ask it to do, if I've got a position on something, I will ask it to write a one-pager supporting my position. Then I'll ask it to write a one-pager disagreeing with my position because you'll find out like, "Oh, gosh, I didn't consider that. That's a good argument against my thought." So there is some back and forth creative ways to do that. Bree, I want to pull you into this. Someone wants to create images for a website, for an app, create logos for something. Would you ever go to an image generation thing to get ideas or is that antithetical to how you and your team work? How does the creative mind see these image generation tools in a professional setting?

Bree

Yeah, I wouldn't say we would never do that. I haven't done that at that scale. Of course, I've played around with the technology to your point. I think we're following and watching along and we will find out what the right balance of how to use the tools and technology are. You were describing how it fits into your process and I think I see generative AI really to augment or frankly accelerate the creative process as well as to streamline business processes. So, it's interesting, we talk about humanizing technology. I think of it like a friend. If you're in your office, at home, alone working on this paper, it provides that additional perspective without you having to have a coworker nearby to offer that additional perspective or without you having to make a phone call. So, to use it as a checkpoint, as a validation around idea generation to stretch the boundaries of something you've come up with, that's where I think it's appropriate and in fact super valuable. But as far as replacing original ideas that have the context that AI doesn't have around using the data to make an informed decision, I think that's really still where there's some left to be desired in the process.

Vinnie

More pragmatically, Brian, I guess tell me if this is under your productivity or your efficiency bucket, but we have clients who are using generative AI to consolidate thousands and thousands and thousands of reviews into something that's more consumable for website creation and stuff like that. We have clients who are using this now from a true content creation perspective, not images that I know of so much, but more the text generation. Can you talk about how they're using it and is there a review process? How do they make sure that it still represents what they want to say and what kind of gain are they seeing by

using this type of technology?

Brian

Yeah, that definitely fits in the automation bucket that I had categorized there around really just how can you take and really receive not just individual efficiency through the productivity, like I mentioned before, but mass process efficiency, process automation through using these generative tools. So, we've had retail client, for example, that can review information from thousands of different sources on a particular product and pull all that review information, summarize that using AI generative text tools to take all that information and summarize into very brief statements they can use as marketing statements on their website for that particular product that highlights the pros and cons. So, again, you shouldn't completely trust that process and remove the human element from it. That's where there's the human in the loop review process. I think what we've seen in that specific example is that you can get upwards of an 80% process efficiency just by doing that first step of consolidating all those reviews and then have a human come and say, "Yup, that looks good," or 80% of the time it doesn't need any changes whatsoever. They can just proceed forward and have that published as part of the process. So, it allows you to refocus people that have been working on tedious tasks like that for other highly valued types of interactions.

Vinnie

Pre-COVID, we had a tech challenge and one of our teams did something very similar to this. I think it was a website reviews for products and consolidating it down to a single review and doing sentiment detection and analysis on that. Has anything changed since then or now or were we just using the earlier versions of this technology?

Brian

I think that was certainly some of the earlier versions of models that are specific for that. These large language models that exist now have certainly a broader context that you can narrow a focus on, but it's similar technology that certainly has evolved into the landscape that we see it right now.

Vinnie

Got you. What about code generation? I look at the whole development process. There are integrated development environments pre-artificial intelligence. You had code generation features, getters and setters generating the help, annotations or the help annotations. What do they call it?

Brian

Documentation?

Vinnie

Yeah, documentation, right, with the tagging and such. So, this seems like an extension of that, but now we're getting into actual writing full programs, full code segments. That seems interesting. Also, creating test data, also doing test automation. Where are we with automated code generation and in which areas are we seeing clients step into this?

Brian

This is again going back to the compliance and legal side of things in all different ends of the spectrum. So, this is probably one of the most hotly debated aspects, certainly at least in our industry, about, "Should we use AI to really generate code and what happens with that code? Who owns that code? Are there any rights to that code that was previously owned by somebody that now we're violating because transferring forward as part of this language model generation?" So I won't get into any of that because all that's still flushing out as part of the-

Vinnie

We'll do another podcast on the legalities.

Brian

On the legalities of it, but those are all considerations as part of that. The reason why I bring that up is because they have to be considerations for where you want to possibly use these tool sets, right? Can they generate fully fledged business function, business logic related sources as part of your code? Yes, they can. Where's that information coming from? It's coming from what's been learned through that model and the sources are hard to trace. So, what we're seeing is certainly a lot of exploration in the space. So, whether it be I need to understand how to build a Lambda service in AWS, right? What is a boilerplate framework for that looks like? Most of that stuff is open type of information that is easily attainable on the internet if you know where to find it, but now it's just a singular place to get it that can shell out exactly what you're looking for.

Vinnie

Well, the shell out is the interesting part because it goes back to the creative aspect we were talking

about before. Maybe don't have it do your homework for you, but create the structure. My oldest son is graduating Tech. One of his last classes, they were in BIT, they were doing website creation for this project that we're working on. The teacher actually said, "I know you guys are going to use ChatGPT or other generation tools to do this. That's fine, go for it, but it better work." So maybe have it create the outline or the structure of the site for you and then you go through and you add all the elements of fields and all the other functionality that you need to add. But yeah, people are starting to expect the use of it. So, now we're going more into, you could say ethical use of it, but it's also just from an engineering perspective, if you overtrust the technology, it's going to bite you.

Brian

If you put too much trust in one single source, then your creativity is limited too. So, your ability to think outside the box and what it possibly can do is only limited to something returns to you. Then where we go in the future might be somewhat limited as far as what new creative ways we think about using technology, but you're exactly right. The framing out, shelling out of functions, the efficiency we get by having a singular place that does that, that doesn't require hours or days of research to figure out how to build a particular component, that's where these tool sets are helping accelerate the development process to a point that allows you to get to developing core functions faster. I think that's important.

Vinnie

I'm trying to stay away from all the legality stuff, but one thing I find interesting is when people debate the idea of this and the legalities of it is it's unfair because these tools are learning from my work. You know how to paint these pictures of all these other pictures you've looked at. You know how to write this code because of all the code you've analyzed on the internet, but that's how we learn. People go to Stack Overflow. They go to all these different websites. They learn these things and they use that knowledge to write code. Or you look at thousands of works of art or you listen to thousands of pieces of music and then all that information is in your brain and you use that to assemble new aspects of those things you've collected. That's no different than what these models are doing. They're just doing it at a scale and a speed that is disconcerting.

Brian

It's a scale and a speed that's grabbing the attention of a lot of people, and that's the reason why there's so much focus on it right now. You're exactly right. I think that's the reason why there is an intention on

this is because of the fact it's so easy and the scalability of this is somewhat limitless.

Vinnie

Well, I think recorded, so this is now analyzed later by machines. I welcome our new overlords.

Brian

Where I think this is going, we can talk about generating code the way we've done it right now with generating the user stories, the way we've always done things, all that stuff, but that's just being more efficient in the way we currently do things. Where I think there's a power in the future is instead of using AI to generate code that does the same thing we've always done is actually use AI as a part of the solution, as a part of the running engine that then makes the decisions for you in real time.

That's the part we haven't built trust on yet and built the experience and understand really how possible is that. I think that's where we take the next leap into generative AI, and I don't think we're doing that yet. I'd be surprised if there's a lot of companies that are really embracing that shift in a development pattern, but that's the next thing that I think is coming.

Vinnie

It goes to workflow too. How do you take a non-destructive workflow on these things? I was talking to Jason Snuck, we're actually doing another podcast later today on that AI consumer research. He said, "From a healthcare perspective, recommendations, finance, humans will always have the last word." I said, "I don't think so because that's not how it's happening now." For instance, if my watch senses I'm having AFib, it doesn't go to a doctor to confirm it. It tells me I have AFib. If it detects a fall, it calls 911. It doesn't call a doctor to call me to see if I've fallen. Now, these are non-destructive things. It doesn't hurt me to make that analysis and phone call. When we look at X-rays of lungs to see if there's lung cancer, we don't say, "Oh, you're fine," because that could be dangerous if you're not. We say, "These are highly obvious to the computer. You should look at this. We think there's a problem." So it's taking the data in a workflow way that doesn't hurt anybody if the computer was wrong, but if the computer is right and it's non-destructive, then it already is taking that action. Real quick then we'll wrap up, you broke out efficiency and productivity and you talked about some internal things. Are you talking about things like software as a service, whether it's CRM or Salesforce or Workday from an HR perspective? Are you thinking about those tools having AI built into it as something different from co-generation tools?

Brian

I think it is. I think it goes into just really the overall automation bucket. We've seen a huge push. Pretty much every software vendor out there in the last nine months has come up with some new strategy for how AI is built in their products. Salesforce for example, in that same space and how now they're releasing basically 13 or 14 different aspects of their product that all have generated AI built into it so that you can actually have a campaign that you define in Salesforce and that can generate emails. You can still have a human in the loop for to review and make sure it's right, but it's generated and really automates a lot of that processing. I think we're seeing a lot of software companies see how they can embrace that and see how it can again, increase efficiency of the users of these platforms, specifically B2B platforms like Salesforce, but also in some of the consumer platforms too.

Vinnie

Got you. Great.

Bree

Before we wrap too, I think as we've gotten into the AI space here, but to originate back to where we started from, with winning the experience and with the race for engagement and loyalty, think too about how AI plays there. So, it's not only capable of these efficiency plays around consumer facing interactions, but really adding and enhancing to create that exceptional experience that adds new dimension to a relationship that a consumer might have with a brand. So, thinking about those personalized product recommendations or a more tailored marketing campaign that's super targeted to your interest or something that rewards you for your loyalty. So, when you think about it in those spaces, it can really give a brand the edge in a marketplace that's already experienced saturated.

Vinnie

Thanks, Bree. I was going to ask you how we could summarize this or wrap this up, so I think that did a good job. Is there anything else you would add bringing these three things back to a single thing before we close or do you think that covered it?

Bree

Yeah. I think in general, we should think about AI affecting everything we talked about today. It can augment the creative process. It can streamline business process, thinking about immersive and frictionless technologies, giving brands the edge and the marketplace, especially when those work well together, and thinking about how those amazing experiences will create loyalty and create those

lifelong customers.

Vinnie

Knowing how friction and immersion relate to each other, knowing when and how to apply them, knowing that doing it wrong is worse than not doing it at all, and knowing that doing it in a transparent way that's of value to your customers will create buy-in and loyalty and engagement from their side. I think that's the summary of what we're talking about. Bree, Brian, thanks for joining me again. Like I said, we're going to have another podcast. I don't know what the order of these are going to come out on the AI consumer research, and that'll be on the website. Thanks for joining us. Please share and we'll see you next time.

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