AI and You

Transcript

Guest: Mark van Rijmenam, part 1

Episode 126

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Hello, and welcome to episode 126! Today my guest is Mark van Rijmenam, a future tech strategist who thinks about how technology changes organizations, society and the metaverse. He has a PhD in management from the University of Technology Sydney on how organizations should deal with Big Data, Blockchain and (Responsible) AI. He is the founder of Datafloq and the author of the book *Step into the Metaverse: How the Immersive Internet Will Unlock a Trillion-Dollar Social Economy.* So guess what we are going to be talking about – the metaverse. As you'll hear, I'm pretty new to that as well. Here we go.

So, Mark, welcome to *AI and You*.

Thank you very much Peter for having me. It's great to be on your show.

Well, I am in for an education here because I am pretty old fashioned when it comes to this kind of stuff. The Metaverse, I have to admit I have never had a headset, as in the stereoscopic immersive headset. The only metaverse I might claim to have done any dabbling in is Second Life some years ago, and I don't play video games. So, it might be a hard sell here and we're going to want to tackle this from how it intersects with artificial intelligence. But perhaps we should start earlier. Because we need to get a good definition of what the metaverse is and maybe you can start out by telling us just how you got into this field. How did you get interested in things to do with the metaverse?

Yeah, well, I'm happy to explain that and just to counter your here's to your beginning story, you have experienced the metaverse, I would argue, because I think this conversation we're having is perceived as being part of the metaverse because you're physically in America and physically in Australia and we meeting in the digital realm, which is for me also part of the metaverse. But that's just an aside, we can go in deeper, more into that in a second. But how do I get into this? I've been a keynote speaker and author for over a decade and flying around all around the world to help organizations understand how emerging technologies are changing over major organizations and when the pandemic hit, obviously, I couldn't fly anymore. Just like so many others. My business was impacted quite significantly by the by the Coronavirus, so I had to reinvent myself and that's sort of how I stepped into the metaverse myself. I digitalized myself, I thought why don't I practice what I preach? So, I turned myself into an avatar took myself to a hologram. I delivered the world's first TEDx talk in virtual reality. I created my own podcast series where my digital twin interviews people in the digital realm and that was two and a half years ago. So, way before anything known about the metaverse, and I'm currently turning my rough avatar, which is quite low quality from 12 years ago, into a metahuman, digital twin, and hopefully, at some point, looks like me, sounds like me, talks like me, and obviously, there's a lot of AI involved in that part. But that's sort of how I got involved. The Metaverse to me is very

much a convergence of different technologies such as big data, such as blockchain, such as AI and I've been involved in these technologies for over a decade. So, for me, the next iteration of the Internet was just a next logical step to investigate and to understand.

Then let's get into how we define the metaverse because it's obviously bleeding out into some areas where as you say, I'm already in it, but I don't think of it that way; and maybe other people don't. So, perhaps some examples. You know I'm reminded of something I saw New Year's Eve or a year or two ago, and it was in Seattle, and they were showing the Space Needle on TV and there were fireworks and then the fireworks started doing stuff that fireworks don't usually do. I got pretty sure that they were it was an effect and I thought, well, maybe this is a sort of metaverse thing. I was actually wondering how the people at the Space Needle were seeing things like that, or if it was simply done so that people who had to stay home anyway because of the pandemic could see something a bit more interesting than just what you could do with real fireworks. But is that the sort of thing that just as one example that we might experience in the metaverse?

Yeah, definitely, I think it will be even more exciting if the fireworks explode into your house through an augmented reality filter. That would really be part of the metaverse and so obviously one on TV and it probably editor and in fact, an overlay probably would only be seen on TV and not in real life. Because in real life, physics sort of determine what fireworks can do what they cannot do and in a digital world of course, you don't have the laws of physics so you can be much more creative or whatever you want to do and I think that's that. I think that that sort of really shows you what the metaverse is. To me. It's where the physical and the digital meets converge and where you have all kinds of new opportunities, new things that can be achieved and all kinds of magic to some extent can happen, just as you say about fireworks it might have seen almost magical what this fireworks was all of a sudden it was doing and that's sort of I think, what the metaverse will bring in the coming decade.

Right. Well, perhaps you could outline for us where the edges of the metaverse are. It's clearly something that Mark Zuckerberg thinks is going to be huge, because he renamed his entire company for it. So, if that's going to be as big as something or bigger than Facebook, then what is it going to look like to us?

Yes. So, the metaverse is really the next iteration of the Internet and the metaverse does not equal gaming. The Metaverse does not equal Web 3. The Metaverse does not equal virtual reality. I think these are three misconceptions that we have to get out of the way first. As I said, the metaverse is the convergence of the physical and the digital and you can interact with this convergence through different means: you can interact with it through virtual reality, you can interact with it through augmented reality, you can interact with your computer, or with your phone, or with your tablet with your smartwatch whatsoever. And obviously Mark Zuckerberg sees that this is a meal. Pretty big. Obviously, he wants to grasps a grasp that just like he did with Web 2. I'm not a proponent of whatever he wants to do. I think he will have a good have a negative impact on society. If we end up in the metaverse that sort of mimics Ready Player One, or the metaphors as portrayed in Snow Crash and, that's why I don't think we should end up in a

in a metaphor. It's that sort of walled garden owned by one centralized entity, which is controlled by one person. I think we should avoid that at all costs for the benefit of humanity. So, when we talk about the metaverse, it's super early days, I jokingly said at the start, you know that what you expect, what we are currently doing is sort of part of the metaverse because it is a convergence of physical and digital. But it's not the metaverse, as we can expect towards the end of this decade, where we will have this immersive internet that surrounds us, that's as pervasive as the air we breathe, that you can interact with, in very very intuitive ways that's hyper realistic, that allows you to, to show to see that fireworks that you mentioned, or actually in the real world, but through your glasses. But then if you take off your glasses, you see the normal fireworks, obviously. And I think that's sort of where I see the metaverse, it's super early days, but we are moving towards a world where the physical move into the digital and the digital moved into the physical, and that convergence is super exciting, offers tremendous opportunities for humanity, will deliver trillions of dollars to the global world economy and it's just a very exciting space to be in.

So, how could we with more technology today make what we're doing right now, more metaversey?

Well, you can imagine that it feels like we would be in the same room, literally, and I could be in a small room doesn't look like, through my beautiful background. But maybe we could be I could be in a larger room and I could have an augmented reality glasses wearing or maybe even virtual reality. But if I were to wear augmented reality, I would see you sitting across from me through my augmented reality glasses. I would be in a room which would sort of record my movements it would record my facial expressions, and you would wear the same glasses, and you would see me sitting across the table in your room, just as if we were to be present in a physical room, and it would look hyperrealistic. But of course, if you will turn off your glasses, I wouldn't be there. But as long would you put on your glasses, you would see me there and it would feel as if I am there. That's the metaverse of where we are going to take at least another seven to 10, maybe 12 years. Because in order to achieve that as that is for technical perspective really really hard. But that's where we're moving into and that's why I'm so excited about this.

What's the gap between where we are now and that then because I understood that we have headsets right now that are doing things similar to what you describe; so is it a matter of fidelity and performance and latency, or something more qualitative?

Well, it's a combination of both. So, what we have at the moment is a virtual reality headset, where we are in together in a virtual room, we're not together in a physical room, we're in a virtual room with avatars that look cartoony, that don't have legs that don't have arms, but just have hands and you know I struggled, very low polygon. So, not very detailed and that's sort of where we are at the moment. That already in itself offers a lot of benefits. But it doesn't offer the benefit of hyperrealistic, immersive experience, where it feels like as if we are in the same room. In order to achieve that we need to - for example, one thing that we will need to solve is to have a mocap system or motion capture system that is so accurate, that it can capture the mocap in real time and streaming markup in real time, without any latency without any delay without any buffering, etc. and you know if you can think of the most advanced mocap systems that are sort

of capable of that cost over $50,000 already. So, that sort of shows you to know that there's a huge gap to bridge, if we want to achieve the vision that I just portrayed.

Just to get technical for a moment, that mocap and the facial expression capture's got to be done by something you're not wearing, right? It's got to be far enough away from you to be able to see those things that you don't have to be on a stalk in front of your head otherwise, is that not the case?

Doesn't have to be oh, so you see now hardware devices being developed with from a virtual reality perspective, enable you to capture your facial expressions, as well as your eye movements. Of course, we want to move from VR glasses, which is quite bulky today to like a sleek AR/X eyeglass, we need to miniaturize all that technology in your glasses so that it can understand your facial expression. Because that is really, really important if we want to have a conversation that feels natural. But then, of course, from a MOcap system from capturing your movements, we would always have some kinds of either a suit, - we will need to wear a special suit, but I don't see, you know, everyone in business wearing suits that you know like mocap suits, or we need to wear sandals on our body, I don't see that happening in the future either. So, we need some kind of external system that does this, ideally, not at a price tag of $50,000. But something that can be installed, plug-and-play in any room with a few cameras, and can do the same thing, as the $50,000 systems that we have today. That is sort of the challenge that we face here and we will get there, I'm 100% convinced that eventually we'll be able to have such a motion capture system that is easy to plug in, to plug and play, that is not expensive and that we can use. Maybe we can install it at some point in our living room and if you have it in your living room, and I have in my living room, we can share a beer together watching a TV show while being geographically apart. And I think that will change the world dramatically and that to me, is very much part of the metaverse and if not the most important part of the metaverse.

And I'm looking forward to that because I've been full time teleworking for two decades and the better the video got, the better the audio got, the higher quality those interactions got, but there's still a step to between that and in-person that this technology you're describing would go a long way to closing. So I'm looking forward to that. Now, you mentioned earlier, the walled garden when we were talking about Facebook, and it sounded like a reaction to havin a closed platform where one vendor controls the access to that. So, describe what the opposite of the walled garden would be for the metaverse.

So the opposite of a walled garden would be an open metaverse where we have full control over our own data, full control over digital assets, full control over our own identity. You can move those assets in your identity across platforms. You're not dependent on any centralized authority or centralized entity that then determines what you can and cannot do with your identity with your assets and you can move freely across different platforms.

And what are the odds that we're going to get that? I mean, if Apple or Google and Meta decide that they want to do something different, what are the odds that we can do that we can fight back?

Well, that's a very good question and that's one of my biggest worries that I have at the moment, my latest book Step up into the Metaverse published is meant as a blueprint for the open metaverse how we can achieve that and to achieve an open metaphor as ideally needs to be fully decentralized, which in the next decade, or maybe 15 years will not happen, because it's simply currently impossible to stream hyperrealistic volumetric data with low latency, high compute and high bandwidth over a decentralized network. It's difficult in a centralized way, let alone on a decentralized network. So, in my book, I describe miniature kind of a hybrid web where we use the combination of the best of both worlds, we use centralized cloud infrastructure to stream all that hyper realistic data and we need decentralized infrastructure, such as the blockchain to ensure that we own and control our own data and identity and that we have interoperability across different platforms. Now, I'm very realistic that Facebook does not like that. And Google does not like that, that Alibaba or Tencent does not like that, And it's one of the reasons I've started a new research institute called the Digital Futures Institute to sort of ensure that we end up in a fair digital future because I'm not convinced that we will end up in a fair digital future, because the way it looks like now is we'll end up and we'll make the same mistakes as we did with Web 1. And the reason being for that is quite simple, to be honest, and it's why I see also history repeating, and there's a lot of enthusiasm within the Web 3 space within the decentralized finance space within the metaverse space that we need to build the metaverse as a de-cent class component and a decentralized network just as the original Internet, the original World Wide Web was envisioned by the founders by its founders. But just like with Web 1 it was we had that already with Web 1 to a certain extent. But it was very difficult to launch a website was very difficult to launch an application was very difficult to send an email to have a social connection. So, what happened? We had all these startups with great ideas. We thought, we'll make it easy for you and everyone thought, "Oh, that's nice. I got free email, get free social connections, I get easy to launch any application on the internet." As, a consequence, we ended up with big tech that now controls our lives. I think the same is happening with the metaverse because the metaverse to build augmented reality to build virtual reality to build on these technologies is very very hard. It's very difficult to build a decentral land and or to build a spatial or to build any of the other platforms that are being created. So, I envision that there will be starting to say, "Okay, let's make it easy for you," and then we'll end up in the same situation as before. So, if we want to create a decentralized Metaverse, we need to work very hard, requires education of all levels of society, why we need a decentralized Metaverse, because only then I think we are we have a chance to move that needle and to end up in a decentralized world where we have more control over our own data than we have today.

So, I wonder where that might come from, because the reason Web 1 was so successful was that it used open standards. So, it was based on the internet, which was an open standard developed by people that morphed into the IETF, and then you had the HTML markup language, you had HTTP, and they were just given away to begin with. And they were competing with things that Microsoft and others were trying to do with networking protocols

and the like, but the fact that they were open sourced, defeated any of the proprietary options, and that just worked well at the time. So now, I wonder, are there any bodies that would have a vested interest in - or just out of the goodness of their heart, develop open standards for the things that you're talking about, like identity verification, and Avatar representation, making those portable, where those might get a foothold before someone like meta owns the whole space?

Well, yeah, I hope so for my book, I interviewed the president of the Chronos group, which is involved with making standards. He said, "we need a constellation of standards", which sort of shows the challenge and standards take time, that's a feature of it, not a bug. Because it means that we think about the stuff and we think hard about this stuff and so yes, standards are really important and without standards, can you imagine the internet without standards if you would create a website for the Chrome browser, it means you would have to create another website for the Firefox browser and if you had a Gmail account, you could only send emails to other Gmail accounts and not to HotMailor to Outlook or to whatever. Can you imagine a world like that? Well that world already sort of exists. Because we haven't with mobile messaging, you know, if you've ever watched WhatsApp message, I can't send a WhatsApp message from my WhatsApp account to your Signal or Telegram and that sort of shows why haven't a lot of big techs worked very hard to achieve that. They all say, you know, yeah, it's because of encryption because of security. But I think that's nonsense, to be honest, because we managed with email. So, why can't we manage with mobile messaging So, but obviously, they make tons of money with it. You know, there is a reason why Facebook bought WhatsApp for $19 billion a few years ago. And so we need these standards. But we also need an educated public that understands that, especially in the beginning, decentralized applications are hard work, they require more work. It's not as a as easy as any website that we have in the Web 2 space, it's not as easy as uploading a video to YouTube, or whatever. And it also requires work from the developers to make this kind of stuff easy. So, it's difficult because you can see already things happening you know in odd have a platform within the metaverse that focus on identity that did solve this identity that sort of solved the interoperability of your identity between different platforms, but then it's owned by one company which is backed by traditional Web 2 investors. And then, what's going to happen in long term? I think that I worry about you want to have a truly open shore, truly sort of decentralized identity such as system should be open source should be given to the public, instead of being and owned by a group of investors and the founders of that particular company. Because yes, it offers interoperability, but it doesn't offer the ownership of the data. If they don't like me, they can still just delete my account. Yes, I have interoperability. But if they don't like me, I don't have any accounts. I don't have any interoperability. So I think we need to move away from that.

And as we're talking here, there's this assumption, this implicit, underlying assumption that what we're talking about is something transformational, that's the next evolution of the Internet that is going to represent - you made it explicit - trillions of dollars of investment. That's world-changing. Can you outline some of the case for why this is going to be that impactful and represent that much business value?

Well, let's simply look at the impact that the current internet had on the global economy. Let's look at the top 10 biggest big tech firms, I think they're worth well, maybe not at the moment, but you know they used to be worth more than $10 trillion and that's just simply looking at that part, we are really early days of the digital transformation of humanity, we are early days move to becoming *homo digitalis*, where as I said, the incidence as pervasive as the air we breathe and just simply looking at that also the amount of data that's being collected in the immersive incident will be 10 to 100 times more than the data we create today, and you can already see the enormous impact data has on our global economy from an economic perspective. So, do those 10 or 100 times, then you sort of have an idea of what we can expect. Now, you have all these reports, you say that the metaverse will have five or 10 or $13 trillion impact on the global economy by 2030. I think these are underestimates. I think if we move to a system, if we have a world where you and I can be in the same room while being geographically apart, and it feels just as if we are in the same room. That will change everything and that's just a very very small part of this. So, I think the impact will be will be significant across all industries across the entire world. So yeah, from an economic perspective, it will need to deliver trials and trillions of dollars of value.

That's the end of the first half of the interview, which we've split up because it was just a bit too long to want to squeeze into one half.

In today's news ripped from the headlines about AI, Britain's GCHQ, which is their equivalent of America's NSA, published a paper about AI – I know there's some cognitive dissonance in saying a spy agency published anything, but in this case, they did – and it was about how AI might change theit work. "Machine-assisted fact-checking" could spot faked images, check disinformation against trusted sources and identify social-media bots. AI might block cyber-attacks by "analyzing patterns of activity on networks and devices", and fight organized crime by spotting suspicious chains of financial transactions. They say that by 2030 American spy agencies are expected to have built a "federated architecture of continually learning analytic engines" that perform threat analysis on everything from human intelligence to satellite imagery. I don't think any of you are likely to be surprised to learn that the world's spies are all-in on AI, but I think that we should be thinking about the implications of them being able to link together so much information – really, everything about everyone – at a global level, because they will certainly be coming up with ways to share information with other spy agencies where it suits them, or just steal it if they can, the way they always have, only on a vastly larger scale.

Next week, we'll conclude the interview with Mark van Rijmenam, when we'll talk about practical use cases of the metaverse, and some of the opportunities and problems of having a virtual identity there. Mark had a great line from his book relating to how you might want to regulate the extent to which you might be allowed to blend different instances of the metaverse, "We want to prevent you from using your rocket launcher from Grand Theft Auto during the meeting with your colleagues if you think that the meeting takes too long or your colleague is annoying you again." Now, that makes for imagining a very different sort of workplace in the future. Anyway, that's next week on *AI and You*.

Until then, remember: no matter how much computers learn how to do, it's how we come together as *humans* that matters.

http://aiandyou.net