

## Digital Reality: The Good. The Bad. The Dystopic

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Speaker 1: Tech Reimagined, redefining the relationship between people and technology. Brought to you by Endava. This is Tech Reimagined.

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Bradley Howard: Hello and welcome back to Tech Reimagined. I'm Bradley Howard. I'm glad to welcome you to this year's first episode of our show. We're now running into season three in which we explore how technology's influencing the fabric of our society, how we live, the way we work, and how we do business. Follow us on your podcast platform of choice to learn from our experienced guests.

Now, we sometimes stumble upon examples of unethical outcomes when it comes to technology's involvement in our day-to-day human existence, whether it was a biased training hiring algorithm like in Amazon's case or something skewed in the targeting strategy like in Facebook's ad algorithm, allowing to target according to gender, race, and religion, we see technology constantly pushing our boundaries and making us rethink our old ways. Times are changing and digital reality seems to dominate more and more aspects of our lives. The subject of today's episode is Ethics in Digital Reality, and here to discuss some examples with us is Thomas Bedenk, our VP of Extended Reality.

Hello, Thomas. Glad you could be here today. Can you start off by telling us a little bit about yourself and how you see immersive experiences concurring with real life ones?

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Thomas Bedenk: Hey Bradley, thanks for having me on the show. I'm VP of Extended Reality here at Endava, involved in all kinds of projects for clients that want to explore virtual reality, augmented reality, the Metaverse, 3D realtime visualization, things like that as a business case, and also connecting to the people internally as well as speaking on conferences about these topics. I have a bit of a background in design psychology as well as I had my own game studio for a while. I try to usually look at these things combining tech, creativity, and business on some kind of level and speaking the language of the different people involved.

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Bradley Howard: I'm really looking forward to discussing some of the ethics around that as we go through the show. So let's start with the good side of this then. Can you name some potential do-gooders or projects in the technology landscape that enrich the world around us through their projects?

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Thomas Bedenk: I would recommend looking at Mel Slater's work. He's a researcher. He has spent years on looking at what virtual reality can do to, for example, influence implicit racial bias. You have experience where you're embodying yourself into someone else in virtual reality and it actually influences how close you get to your other talking person in a spatial environment. So if I would look at myself having Black skin and I'm talking to someone having Black skin, I would get closer to them even though I'm still the same person when I'm embodied in the same kind of context. This tells you a lot about human psychology and it also tells you about the impact a medium like this can have onto our behavior, but also the way we reflect about things like our biases.

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Bradley Howard: Wow, I've never even thought about that. That's amazing. How do you spell the name of the researcher?

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Thomas Bedenk: His name is Mel Slate, M- E- L S- L- A- T- E- R. He works with a lot of research associates, of course. Another one who is very interesting to look at his work in that context is Jeremy Bailenson at the Human Virtual Research Lab in Stanford University.

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Bradley Howard: Are there any examples you can share around health in virtual reality?

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Thomas Bedenk: Yeah, just this year there was a big news that conjoined twins were separated with the help of virtual reality in Brazil, and it's just the tip of the iceberg of what you can do with this kind of new technology across different domains.

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Bradley Howard: That's phenomenal. What about the rise of AI trained conversational models such as chat GPT?

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Thomas Bedenk: Yeah, so I've been in digital tech for a long time, over 25 years, and I still remember even in the nineties there were ideas to create chat bots. Then just in the last five years there were, it kind of came back up again and a lot of websites now feature chat bots, but I think they were all a bit too early to really show you the power of what something like this can do. Now that AI and language models advanced a lot in this area, I think it's really the right time to dive into that again, because it is really phenomenal what advances have been made in only the last two years with language model, but also with generative AI where you can create a pictures, text, but also 3D models just from text prompts. This will have a massive impact to how virtual worlds of the future will be generated, how user generated content can be done and how big production can become much more efficient by using machine learning to generate some of their props and environments for their 3D games.

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Bradley Howard: Do you think there's an ethical boundary here where if you are in the Metaverse and you got to a person, you can't actually tell if the person is a real another human in the virtual reality headset or whether it's a robot, whether that's chat GPT or something else. You think there's some ethical consideration there?

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Thomas Bedenk: Of course. It is a discussion already, not just this, but would you have to flag someone as a chat bot just to make it crystal clear that you're not talking to a human being if once you can't distinct that anymore, it might be necessary to do that. But it's also going into a lot of other thought experiments of how to deal with this. What does identity mean when you can switch out your identity with a click of a button, basically? What does this mean for, especially if you look in those models, how they're pulling the data from the internet? What does this mean for copyright? Is it just inspiration that you're tapping into the publicly available pictures and texts, or is it somehow

converted to something completely new? Is it actually a creative algorithm or is it inflicting copyright issues with the original artists and writers?

The point that I think is important here is it won't go away. The technology's here and it will only become stronger. As an organization, you have to think about how do you want to deal with this, into what kind of future you want to push this? What are your responsibilities, building these kind of technologies? While doing and pursuing your regular business, can you moderate it into a more positive outcome than ignoring some of those things? Of course, that doesn't mean that in every single project you can make it a better world. You cannot change human beings as how they generally are, but you can try to push it towards the direction that is more positive for our society.

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Bradley Howard: One of the other things that we talked about in another episode is in augmented reality and also of course virtual reality is removing those parts of the world that we don't associate with, we don't want to associate with, whether that's litter, graffiti, even homeless people, God forbid, et cetera. Where do you think the borderline should be when designing augmented and virtual reality environments?

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Thomas Bedenk: Yeah, that's a very important discussion to be had and I don't think you can trace those lines very clearly right now because again, you have to reflect on the context. Is this an entertainment product? Is this actually walking through your city and you just don't want to deal with things that trouble you? Is this about your personal comfort or is it really about seeing the world, perceiving it completely different to how it is? We're already dealing with social media influencing our thoughts fundamentally with bubbles of the same opinion kind of resonating with each other. This will only be elevated to a whole new level in a virtual environment, in an augmented reality environment, and so the questions of everyone involved have has to be, how can I avoid those situation? It's going to be a very difficult question to answer, whether it is a regulatory approach, whether it is really installing councils on organizational level. I think we will see a huge debate about this in the years to come, some more practical, some were aspirational and theoretical, but it is important to deal with these issues and in a sense that we're still looking at a technology, but in the end it's a new medium that really has the potential to connect us in different ways globally and therefore we can try to push it into a more positive outcome.

You can already see with big corporations like Microsoft and Apple, they're already trying to push towards a perception of privacy is now an even more important topic to us. You can see that in the last years already. Probably being aware of what future is coming, you need to position yourself that way. Even Meta is trying to position themselves for an open internet. Whether this is just positioning or this will land in a practical difference is to be seen when you look at what's going on at the same time. Let's take Epic as an example. They're fighting for the unfair situation in the digital distribution world like the Apple store and the 30% that Apple takes for every purchase to be resolved, to be more open, to not handicap other business models. At the same time, Epic was just fined \$500 million for intruding into kit's privacy with Fortnite. You can see this even with the best intentions, it is very hard to navigate this world and these emerging business models.

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Bradley Howard: That's such a great rounded answer. Thank you very much for that. Moving on a little bit, what do you think is going to be the next big technology wave? Do you think it's going to be virtual reality headsets? What do you think's going to be the next big thing?

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Thomas Bedenk: So I see virtual reality and augmented reality as a device class still as a very potential growing market, and therefore we will see a lot of fighting about controlling those marketplaces and platforms, that's for sure. On the other hand, I think the important things we see is the convergence of those technologies. Virtual reality and augmented reality are only possible because of the advances in computer vision. They're only possible because of our advances in 3D real-time technology and in even the possibilities that the cloud has created for us. I think the important inflection point here is kind of how all of those advanced technologies come together to shape them, something truly transformational. I think machine learning, AI, but also 3D and real time will play a huge role in this.

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Bradley Howard: Final question. What's your favorite science fiction book or movie?

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Thomas Bedenk: That's a tricky one, picking a favorite one. I think it was definitely different phases. There was a time when I loved Space Odyssey because it just has this grand pictures it's 2001 and really takes its time. It was a different time of making science fiction movies, of course. But then there are also, of course the classical Star Wars movies. They're just so exciting, and specifically because I've worked in the movie industry a little bit after studying design, I did some special effects as well, or visual effects, and watching a show on Disney that taps into industrial light and magic's history is just so fascinating for me. In that context, I think Star Wars is still probably number one, but there are more interesting stories and context in other movies, I would say.

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Bradley Howard: Yeah, I didn't know about your background doing special effects. Did you contribute to any films that I might know?

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Thomas Bedenk: This is something I never mention because I don't want it to be pretentious or anything, but I actually worked on an Oscar nominated movie.

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Bradley Howard: Which one?

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Thomas Bedenk: It was Sophie (foreign language). I don't know exactly the English title, The Last Days I think, or something like that? But I only did some digital snow, some matte painting of the city where the pamphlets were thrown from the air airplanes and stuff like that. For me, it was a bit too much. Hundreds and hundreds of people working on this creative artifact but you're working on 15 frames in minute 15 and that's not going to make it a better movie, but it's definitely a very interesting industry.

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Bradley Howard: It's the ultimate sum of all parts, isn't it? Thank you so much, Thomas, for this captivating talk on the broad and debatable subtleties of digital reality. Thank you very much for helping us kick off 2023 with this first episode of the year.



To all of our listeners, thank you for having me, Bradley Howard, as your host on another edition of Tech Reimagined. Until next Thursday, I'm Bradley Howard and this has been Tech Reimagined. Wish you all a happy and prosperous New Year.